

8. Alerts & Allergies - Requirements Specification

Introduction

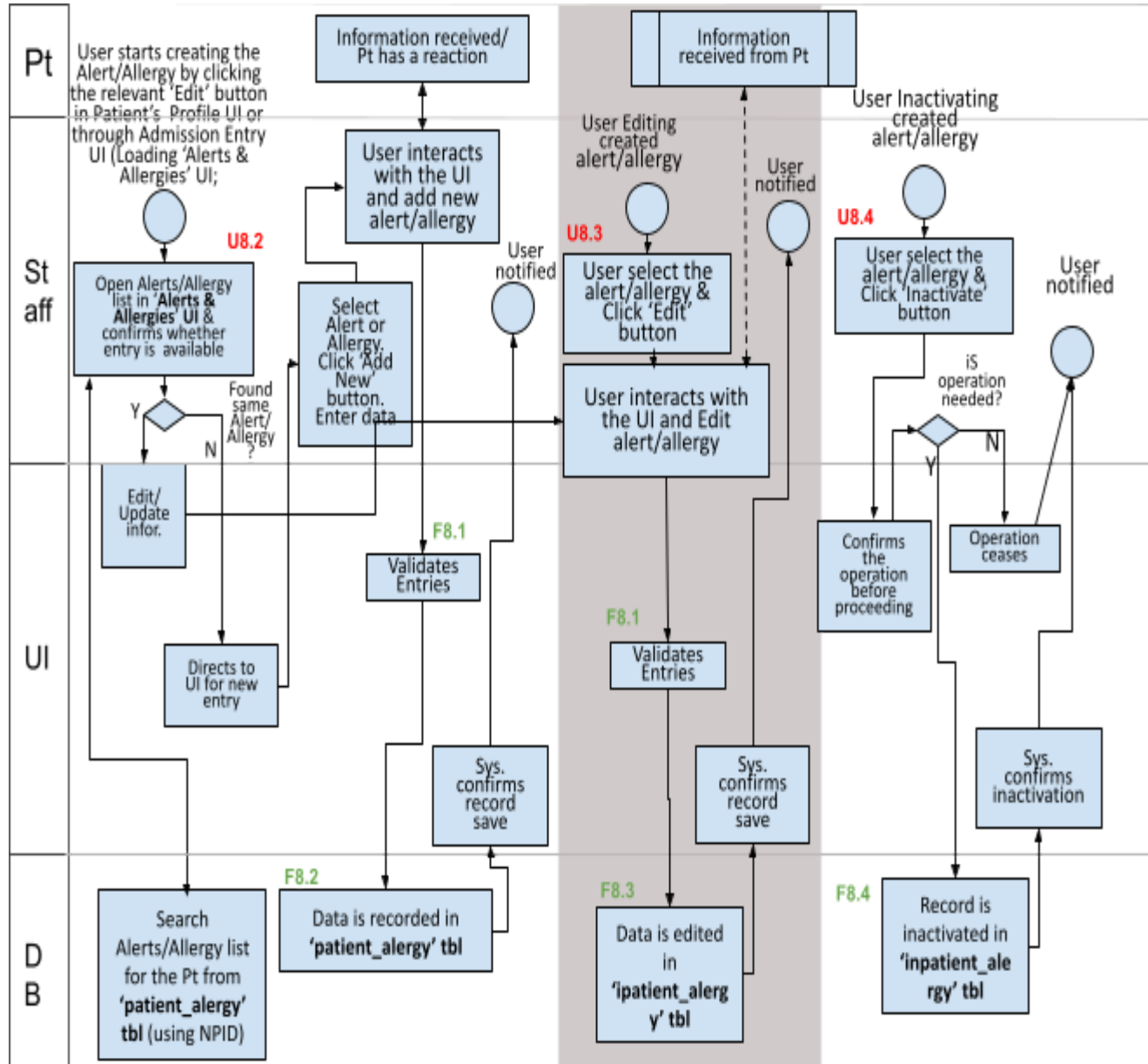
This is a piece of key information captured during the admission process, inward care, ED, or outpatient department. Sometimes these are flagged by the community and GPs. This includes alerts such as the already identified risk for fall, threat for the staff (disturbed patient), in a Mental Health Order, etc. Besides, there are medication/food-related allergies such as medication/vaccination/food allergies. These are entered at the admission, inward stay, outpatient direct patient communication, or as per GPs/community inputs by the clinical or ward-based clerical staff.

- There is a dedicated interface for this; **'Alerts & Allergies'** UI (**Alerts_Allergies**) which has the **'patient_allergy'** as the main backend table. For the alert and non-medication allergy list **'alert_list'** tbl is used. **'Item_notes'** tbl is used to save notes related to an item (comorbidity/Past History).
- Need to upgrade old **'Add/Edit Allergy'** UI in Dompe
- This should be used by all clinical and ward clerks/admin staff (Accessibility is available in the 'Group_Permission' tbl [link to DB Schema](#) ; goto 'Group_Permission' sheet)

Needed additional functions

- This should be captured into the patient profile with the date (not into the episode) as special information related to the patient.
- These entries should be auto-populated from past records.
- Should be validated during entries (drop-down lists).
- Should be used in decision-making in other modules (allergies in medication management).
- May need communication/integration with already available Pt administration systems.
- In the UI a list of all alerts and allergies of the patient should be listed
- The interface should facilitate entry of new alerts/allergies for the Pt, if there is already an entered same alerts/allergies for the same Pt that should be flagged to the user.
- Auto-filling, dropdown menus should be provided to validate entries and improve user-friendliness.
- In some systems, alerts/allergies creation may be done by a dedicated system for patient administration. In that case, that data should be obtained from different databases through an API/direct entry.
- Once executing user actions (**U8.1 - U8.4**) always should check for the accessibility and privileges of the user (User Access Level)
- Any change in the data (through **F4.2- F4.4**) of the main table should be recorded in the system log with Date, Time, User Name, Table, Field & Change
- Consumer entered Patient alerts/allergies data should be shown in this UI. Consumer data recorded in **'patient_allergy_CI'** tbl (which has more or less the same fields as per **'patient_allergy'** tbl).
- Further consumer should be able to validate provider entered alerts/allergies data and flagged into this UI (as 'Confirmed' or marked as 'Wrong')
- Further, correction of these entries as per consumer validation should be enabled. Consumer App gets provider data from the **'patient_allergy'** tbl to be checked by the consumer.
- In this comparison another field in the **'patient_allergy'** ('Consumer_Checked' field) captures whether the consumer marks the record as 'Wrong' or 'Confirmed' as correct. Last Update date of the both consumer and provider entries should be taken into account in flagging mismatch.

Application Process - Create/Edit/Inactivate Allergies & Alerts of a patient



User Functions

- U8.1 - Loading - Alerts_Allergies
- U8.2 - Create the new Alert/Allergy
- U8.3 - Edit Alert/Allergy
- U8.4 - Inactivate Alert/Allergy

System/DB Functions

- F8.1 - Validating entries in creating a alert/allergy
- F8.2 - Creating a alert/allergy
- F8.3 - Edit alert/allergy
- F8.4 - Inactivate alert/allergy

Current UI 'Add/Edit Allergy'

Add / Edit Allergy

Mr. KS KAVEE RODRI / Male / ~73yrs 22dys / Single

PID: 157

DOB: ~1948-03-01

Village: Alliyawatta

*Allergy

Egg

Status

Past

Status of the allergy

Remarks

Active

Yes

Date created :

2021-03-06 00:59:49

Dr. Suresh Kumar

Data accessed on :

0000-00-00 00:00:00

Save

Cancel

Suggested UI Improvements (Name: 'Add/Edit Allergy' → Alerts & Allergies)

Patient Allergies & Alerts

PID: 1221335622 Name: John Doel DOB: 23-05-1967 Address: 67, Main St, Rosetta, TAS 7028 Patient Profile Patient Search

Allergies

Penicilline - (12/01/2000)
Benzodiazepines - (05/10/1999)
Sulphasalazine - (04/02/1995)

Alerts

Falls Risk - (12/01/2016)
Language Issue - (05/10/2010)
No GP - (04/02/1999)

Toggle Button; shows inactive alerts/allergies when clicked.

Show Inactives

- Consumer has flagged issues with this entry

Entries from Consumer

Penicilline - (12/01/2000)
Benzodiazepines - (05/10/1999)
Egg - (04/02/2021)

Data from 'patient_allergy_CI' tbl. Once clicked on an item should show a pop-up menu with the details of the entry and button to copy consumer entry into this provider end.

☒ Drug Allergy ☐ Non-Drug Allergy ☐ Alert One of the options should be selected

Date Reported: 21/02/2021

Alert Category: This appears only in Alerts

Allergen/Alert: Egg

Status: Past/Present

Reactions: Reaction1, Reaction2 Add Reaction

Severity: Mild/Moderate/Severe/Life threatening This appears only when Alert selected

Description:

Do not view in the Consumer side: ☐

Include in Discharge Summary: ☐

Activated only after new entry is saved

Notes:

Note	Author	Date
Seen by immunologist Caused anaphylaxis	Joe Noel (Doctor) Mary Price (Nurse)	12/01/21 04/08/19

Add Note

Active: Yes/No This is changed from 'Inactivate/Activate' button

Date Entered: 21/01/2021

Created by: Shan Rodrigo

Last Edited by: Emma Johnson

Auto-assigned

Add Edit Save Cancel Inactivate/Activate

In form load 'Save' & 'Cancel' should be disabled. Once 'Add'/'Edit' is clicked 'Add'/'Edit' should be disabled while 'Save'/'Cancel' enabled. After 'Save'/'Cancel' clicked 'Add'/'Edit' enabled while 'Save'/'Cancel' disabled.

Alert Category & Allergy/Alert Combos

- 'Alert Category' appears only when 'Alert' selected.
- Allergen/Alert list & Categories come from 'Alert_list' tbl.

Consumer Seen / Marked Incorrect Label

- As per text in the 'Consumer_Checked' field for the record (Alert/Allergy) in the 'patient_allergy' tbl this label will indicate whether consumer has seen the record; 'Consumer seen' or once consumer has marked the record as incorrect (indicates 'Wrong' in 'Consumer_Checked' field) this label should show 'Consumer marked Incorrect'.
- Further, clicking on this should show the comment by the consumer (if any) as a pop-up.
- However, once the consumer changes the record; 'Wrong' of the 'Consumer_Checked' field should be replaced with a blank which blanks this label as well.

'Reactions' input

- 'Reactions' textbox and 'Add Reaction' button, and 'Severity' combo are invisible by default and appear only when Drug/Non-Drug 'Allergy' selected.
- Reactions' textbox is locked for editing.
- 'Add Reaction' button leads to a popup form with symptoms list from SNOMED to select (see below) & edit this.

Highlighting with Pink in the Alert/Allergy lists

- Alerts/Allergies marked as 'Wrong' by the consumer (as per text 'Wrong' in the 'Consumer_Checked' field for the record in 'patient_allergy' tbl) should be highlighted in 'pink' in these lists.
- Moving the cursor over them should show the comment from consumer ('Consumer_Comment' field in 'patient_allergy' tbl) as a tooltip text.

Adding Reactions

Create Inpatient Episodes

PID: 1221335622 Name: John Doel DOB: 23-05-1967 Address: 67, Main St, Rosetta, TAS 7028 Patient Profile Patient Search

☐ Allergies ☐ Drug Allergy ☐ Non-Drug Allergy ☐ Alert *This appears only when 'Alert' selected*

Reactions : **Reaction1, Reaction 2** *Current Reactions from the form. Editing/deleting is allowed in this text box*

Reaction : **Ab** *Open Combo + Free text*

- Abdominal distension
- Abdominal pain
- Abnormal crying

Symptoms list from Snowmed.

- Filtered as per entry.
- Sorted alphabetically

Add **Cancel**

Once 'Add' clicked new reaction should be added into the 'Reactions' text box in 'Alerts & Allergies' form.

Active : **Yes/No**

Date Entered : 21/01/2021

Add **Edit** **Save** **Cancel** **Inactivate**

Adding/Viewing Notes

- When the 'Add Note' button is clicked this should appear with blank input for add new.
- When a Note from the note list is clicked it should view the whole note as below and the provision for the user who entered the note should be able to edit/inactivate (Thus user name should be checked when trying to edit/update; except for Sys. Admin.).
- Once saved the Note should be recorded in 'Item_Notes' table filling the fields as follows; **Note_ID** (auto increment), **NPID** (Pt ID), **Item_ID** (ALERGYID, PATHISTORYID, etc.), **Table_ID** (tbl of the items), **UI_ID**, **Note_Body**, **CreateDate**, **CreateUser**, **CreateTime**, **LastUpDate**, **Active**

Create Inpatient Episodes

PID: 1221335622 Name: John Doel DOB: 23-05-1967 Address: 67, Main St, Rosetta, TAS 7028 Patient Profile Patient Search

Allergies Drug Allergy Non-Drug Allergy Alert

Penicilline - (12/01/2000)
Benzodiazepines - (05/1/2010)
Sulphasalazine - (04/02/1999)

Notes on Alerts/Allergies

Note : Max 500 characters, should indicate as a tool tip text

Created by: Date & Time:

Add Edit Save Inactivate Back

Alerts

Falls Risk - (12/01/2016)
Language Issue - (05/10/2010)
No GP - (04/02/1999)

Show Inactives

Notes :

Note	Author	Date
Seen by immunologist Caused anaphylaxis	Joe Noel (Doctor) Mary Price (Nurse)	12/01/21 04/08/19

Active :

Date Entered :

Created by :

Last Edited by :

Add Edit Save Cancel Inactivate/Activate

One of the options should be selected

when 'Alert' selected

Auto-assigned

Max 500 characters, should indicate as a tool tip text

These should be enabled for the same user only.

Toggle Button; shows inactive alerts/allergies when clicked.

Activated only after new entry is saved

This is changed from 'Inactivate/Activate' button

Auto-assigned

List of entered notes. Saved in 'Item_Notes' tbl. Once clicked on the item popup subform should show the values.

When form load 'Save' & 'Cancel' should be disabled. Once 'Add'/'Edit' is clicked 'Add'/'Edit' should be disabled while 'Save'/'Cancel' enabled. After 'Save'/'Cancel' clicked 'Add'/'Edit' enabled while 'Save'/'Cancel' disabled.

Consumer side entry

Create Inpatient Episodes	
PID: 1221335622 Name: John Doel DOB: 23-05-1967 Address: 67, Main St, Rosetta, TAS 7028	
<div>Patient Profile</div> <div>Patient Search</div>	
Allergies	<div><input type="radio"/> Drug Allergy <input type="radio"/> Non-Drug Allergy <input type="radio"/> Alert</div> <div>Date Reported: 21/02/2021</div> <div>Alert Category: <div></div></div> <div>Allergen/Alert: Egg</div> <div>Status: Past/Present</div> <div>Reaction1 Reaction2</div>
Alerts	
Falls Risk - (12/01/2016) Language Issue - (05/10/2010) No GP - (04/02/1999)	
<div>Show Inactives</div>	
Entries from Consumer	
Penicilline - (12/01/2000) Benzodiazepines - (05/10/1999) Egg - (04/02/2021)	

Allergies: Entries from Consumer side

Allergy type: Drug Allergy / Non-Drug Allergy

Reported Date:

Date

Allergen : List to consumer to select from 'alert_list' tbl (Non-Drug) or Drug database (Drug)

Status : Current / Past

Reaction : Reaction1, Reaction2, Reaction3...

Severity : Mild/ Moderate/ Severe/ Life Threatening

Description:

Created Date:

Date

Add to Provide side

Back

Add

Edit

Save

Cancel

Inactivate/Activate

Table: patient_allergy, table ID: 33 (Modify table)

Blue - Using old fields | Red - New field | Black- Not using fields

(Table added to the MySQL DB)

Table_ID	Table_Name	Field_Name	Field_ID	Type	Type_Txt	Size	Null	Key	Default	Extra	Comment	Add_Entry	Auto_Fill	Default_val	Add_Entry_Order	Add_Entry_Section	Missing_Item
33	patient_allergy	ALLERGYID	33_1	int(11)	int	11	NO	PRI	NULL	auto_increment							
33	patient_allergy	PID	33_2	int(11)	int	11	YES		NULL								
33	patient_allergy	NPID	33_3	varchar(20)	varchar	20	YES		NULL								
33	patient_allergy	Name	33_4	varchar(200)	varchar	200	YES		NULL		Free Combo: Allergen/Alert						
33	patient_allergy	Category	33_5	varchar(60)	varchar	60	NO		NULL		Options; Drug/Non Drug/Alert						
33	patient_allergy	Status	33_6	varchar(50)	varchar	50	NO		NULL		Combo: Past/Present						
33	patient_allergy	Description	33_7	varchar(500)	varchar	500	NO		NULL		Textbox						
33	patient_allergy	Remarks	33_8	varchar(500)	varchar	500	NO		NULL		Textbox						
33	patient_allergy	Reactions	33_9	varchar(500)	varchar	500	NO		NULL		Multiple reactions should be entered in one field						
33	patient_allergy	ReportDate	33_10	datetime	datetime		YES		NULL		Date Reported						
33	patient_allergy	CreateDate	33_11	datetime	datetime		YES		NULL		Date Entered						

33	patient_alergy	CreateUser	33_12	varchar(200)	varchar	200	YES	NULL	Created by							
33	patient_alergy	LastUpDate	33_13	datetime	datetime		YES	NULL								
33	patient_alergy	LastUpDateUser	33_14	varchar(200)	varchar	200	YES	NULL	Last Edited by							
33	patient_alergy	Active	33_15	tinyint(1)	tinyint	1	YES	1	'Active' label (Yes/No)							
33	patient_alergy	Severity	33_16	varchar(30)	varchar	30	YES	NULL	'Severity' combo; <i>Mild/Moderate/Severe/Life threatening</i>							
33	patient_alergy	O_PID	33_17	varchar(100)	varchar	100	YES	NULL								
33	patient_alergy	Not_view_consumer	33_18	tinyint(1)	tinyint	1	YES	NULL	Whether enable view by the consumer							
33	patient_alergy	Consumer_Checked	33_19	varchar(10)	varchar	10	YES	NULL								
33	patient_alergy	Consumer_Checked_Date	33_20	datetime	datetime		YES	NULL								
33	patient_alergy	Consumer_comment	33_21	varchar(250)	varchar	250	YES	NULL								
35	patient_history	Include_Discharge_Summary	35_22	tinyint(1)	tinyint	1	YES	NULL	Include in discharge summary							

Alert & Allergy List (tbl- 'alert_list' - added to the MySQL DB): System admin should be able to edit this list

Drug Allergy	List from medication directory + Free text	
Non-Drug Allergy	Fish, Milk, Peanut, Shellfish, Soy, Tree nut, Wheat, Latex, Sticking Plaster, Other + Free text	

Alert		
Category	Alert	Comment
Administrative	Record Retention - Clinical Trial Participant Record Retention - Donor Patient – do not destroy records for 50 yrs from death	<ul style="list-style-type: none"> - When patients are involved in research or clinical trials. - Organ or tissue donation has occurred
Behavioural	Affecting Client	
Blood Products	Antibodies Irradiated blood products Jehovah Witness Reaction	
Client Care	ACAT Client Benzodiazepine Dependent Child Protection Advice and Referral Service Community Care Services Complex Care Current Chemotherapy/Radiotherapy Falls Risk History of Falls Home Environment Multiple client records Opioid Dependent Patient with Same/Similar Name Potential Substitute Decision Making Registered for Opioid Pharmacotherapy	<ul style="list-style-type: none"> - Patients undergoing chemotherapy/radiotherapy - Where a patient has a medical record held outside of the DMR it is recommended that an alert is created to advise other care providers of its existence. - If a potential substitute maker has been identified - Notifications provided by the Pharmaceutical Services Branch for patients are registered

	Vulnerable Client	<ul style="list-style-type: none"> - A vulnerable client is defined as someone living in the community who is frail, and/or physically or cognitively impaired; and unable to comprehend warnings and directions and/or respond in an emergency situation.
Clinical	Advanced Health Directives	
Drug Allergy		
Homer Migration Alert		
Mental Health Legal	Administration Order Assessment Order Emergency Order Guardianship Order Instrument Appointing Enduring Guardian Medical Consent Order Supervision Order Treatment Order	
Register	Patient - Register Record	
Allergy		
Infection Control	Case Contact - Infection Control CPE - Carbapenemase producing Entorobacteriaceae MRSA History MRSA Current VRE History VRE Current MRGN (Multi Resistant Gram Negative) History MRGN (Multi Resistant Gram Negative) Current	
Invasive Devices	Implantable Device	

	Invasive Device	
Other	No General Practitioner ATSI Language Issues Cultural barriers Asylum Seeker Other (not listed)	

'Alert_list' table (- added to the MySQL DB)

alert_id	type	category	alert_name	description
1	Non-Drug Allergy		Fish	
2	Non-Drug Allergy		Milk	
3	Non-Drug Allergy		Peanut	
4	Non-Drug Allergy		Shellfish	
5	Non-Drug Allergy		Soy	
6	Non-Drug Allergy		Tree nut	
7	Non-Drug Allergy		Wheat	
8	Non-Drug Allergy		Latex	
9	Non-Drug Allergy		Sticking Plaster	
10	Non-Drug Allergy		Other	
11	Alert	Administrative	Record Retention - Clinical Trial Participant	When patients are involved in research or clinical trials.

12	Alert	Administrative	Record Retention - Donor Patient – do not destroy records for 50 yrs from death	Organ or tissue donation has occurred
13	Alert	Behavioural	Affecting Client	
14	Alert	Blood Products	Antibodies	
15	Alert	Blood Products	Irradiated blood products	
16	Alert	Blood Products	Jehovah Witness	
17	Alert	Blood Products	Reaction	
18	Alert	Client Care	ACAT Client	
19	Alert	Client Care	Benzodiazepine Dependent	
20	Alert	Client Care	Child Protection Advice and Referral Service	
21	Alert	Client Care	Community Care Services	
22	Alert	Client Care	Complex Care	
23	Alert	Client Care	Current Chemotherapy/Radiotherapy	Patients undergoing chemotherapy/radiotherapy
24	Alert	Client Care	Falls Risk	
25	Alert	Client Care	History of Falls	
26	Alert	Client Care	Home Environment	
27	Alert	Client Care	Multiple client records	Where a patient has a medical record held outside of the DMR it is recommended that an alert is created to advise other care providers of its existence.
28	Alert	Client Care	Opioid Dependent	
29	Alert	Client Care	Patient with Same/Similar Name	
30	Alert	Client Care	Potential Substitute Decision Making	If a potential substitute maker has been identified
31	Alert	Client Care	Registered for Opioid Pharmacotherapy	Notifications provided by the Pharmaceutical Services Branch for patients are registered

				A vulnerable client is defined as someone living in the community who is frail, and/or physically or cognitively impaired; and unable to comprehend warnings and directions and/or respond in an emergency situation.
32	Alert	Client Care	Vulnerable Client	
33	Alert	Clinical	Advanced Health Directives	
34	Alert	Homer Migration Alert	Homer Migration Alert	
35	Alert	Mental Health Legal	Administration Order	
36	Alert	Mental Health Legal	Assessment Order	
37	Alert	Mental Health Legal	Emergency Order	
38	Alert	Mental Health Legal	Guardianship Order	
39	Alert	Mental Health Legal	Instrument Appointing Enduring Guardian	
40	Alert	Mental Health Legal	Medical Consent Order	
41	Alert	Mental Health Legal	Supervision Order	
42	Alert	Mental Health Legal	Treatment Order	
43	Alert	Register	Patient - Register Record	
44	Alert	Infection Control	Case Contact - Infection Control	
45	Alert	Infection Control	CPE - Carbapenemase producing Enterobacteriaceae	
46	Alert	Infection Control	MRSA History	
47	Alert	Infection Control	MRSA Current	
48	Alert	Infection Control	VRE History	
49	Alert	Infection Control	VRE Current	
50	Alert	Infection Control	MRGN (Multi Resistant Gram Negative) History	
51	Alert	Infection Control	MRGN (Multi Resistant Gram Negative) Current	
52	Alert	Invasive Devices	Implantable Device	

53	Alert	Invasive Devices	Invasive Device	
54	Alert	Other	No General Practitioner	
55	Alert	Other	ATSI	
56	Alert	Other	Language Issues	
57	Alert	Other	Cultural barriers	
58	Alert	Other	Asylum Seeker	
59	Alert	Other	Other (not listed)	


Examples
HCS system

~~Adams, Sally Anne~~ THCI 107324278 53 year old FEMALE HT 175cm WT 85kg



Add Drug Allergy

Status: CURRENT

Allergen: Metformin  

Reactions: [+ Add](#)

Severity: Not Known 

Onset Date: 24/03/2021 

Date Withdrawn: dd/MM/yyyy 

Description:

Date Reported: 24/03/2021 

Note Text:

Save

Cancel

Adams, Sally Adams

THCI 107324278

53 year old FEMALE

HT 175cm

WT 85kg

✕

✕

Add Reaction

Reaction:

3 result(s) found.

Urticaria

Angioedema

Hives

Cancel

Onset Date:

Date Withdrawn:

Description:

Date Reported:

Note Text:

Save

Cancel

Add Non Drug Allergy

Status:

CURRENT

Allergen:

Reactions:

+ Add

Severity:

Not Known

Onset Date:

24/03/2021



Date Withdrawn:

dd/MM/yyyy



Description:

Date Reported:

24/03/2021



Note Text:

Save

Cancel

Add Non Drug Allergy

Status:

CURRENT

Allergen:

Reactions:

Severity:

Onset Date:

Date Withdrawn:

Description:

Fish
Milk
Peanut
Shellfish
Soy
Tree nut
Wheat
Latex
Sticking Plaster
Other

Alerts, Safety Alerts THCI 107324278 53 year old FEMALE HT 175cm WT 85kg

3 Alerts

POMS Alert: Narcotics in safe



Returned Date

Recorded Date 29/01/2019

Location Pharmacy

Notes Narcotics in safe

PAS Alert: NSAIDS



Warning Type PAS Drug Allergy

Text NSAIDS

Start Date

End Date 10/10/2019

Comment

PAS Alert: PENICILLINS



Warning Type PAS Drug Allergy

Text PENICILLINS


Start Date

End Date 10/10/2019


Comment

iPM System

[illegible]

 Add New Patient Alert - [REDACTED] 105172116 Female 03/01/... X

Alert

Category: 

- Administrative
- Behavioural
- Blood Products
- Client Care
- Clinical
- Drug Allergy
- Homer Migration Alert
- Mental Health Legal


Comment:

Start date: End date:

Review date:


OK Cancel









Alert

Category: 

- Clinical
- Drug Allergy
- Homer Migration Alert
- Mental Health Legal
- Register
- Allergy
- Infection Control
- Invasive Device

Alert

Category:  Mental Health Legal

-  Administration Order
-  Assessment Order
-  Emergency Order
-  Guardianship Order
-  Instrument Appointing Enduring Guardian
-  Medical Consent Order
-  Supervision Order
-  Treatment Order

Administration Order

Comment: