

10c. Vaccination History - Requirements Specification

Introduction

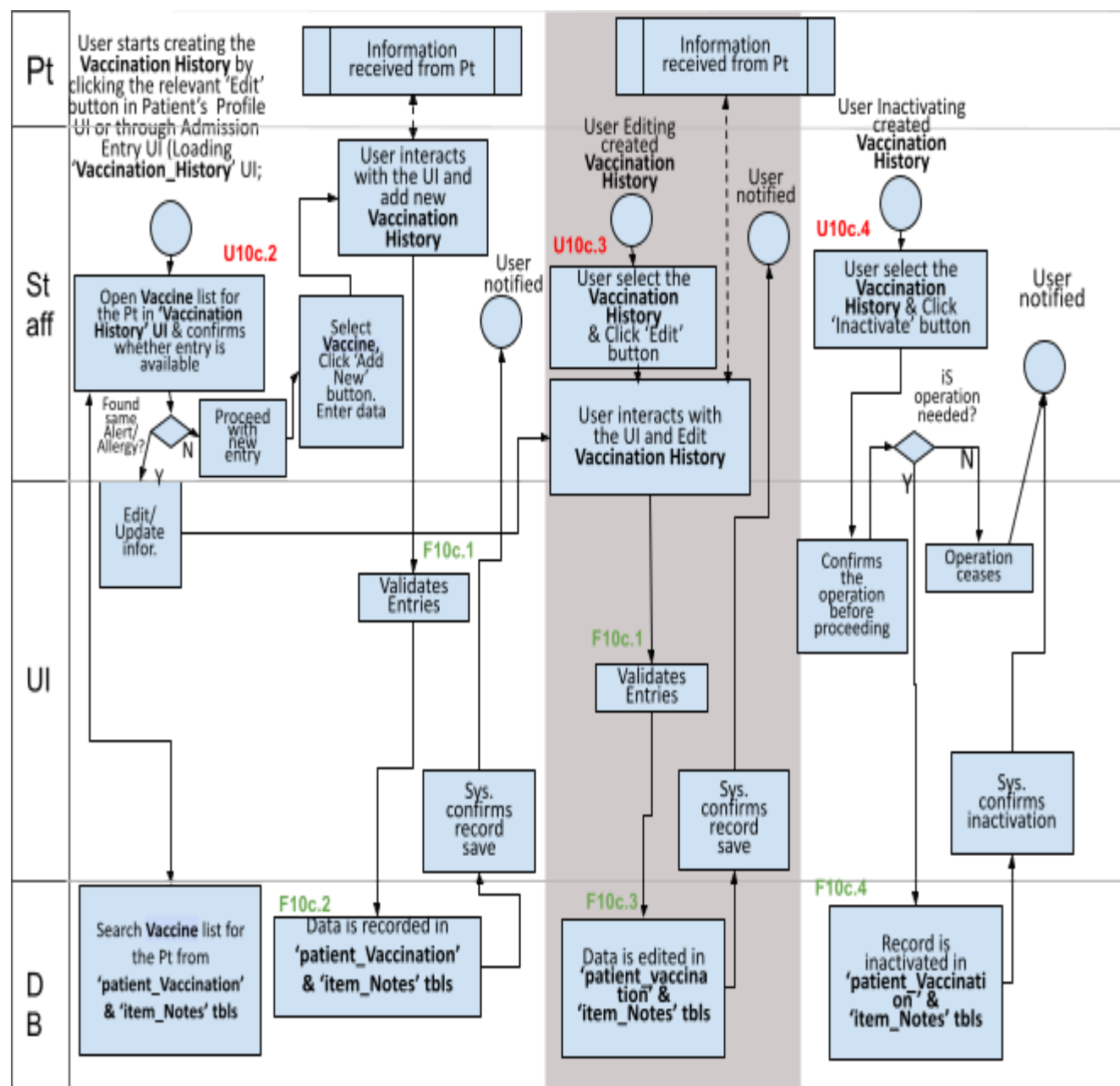
This information is captured during the admission process, inward care, ED, or outpatient department. Sometimes also flagged by the community and GPs. This is important in the decision-making process in care and to include in the discharge communication to the community/GPs. These are entered at the admission, inward stay, outpatient direct patient communication, or as per GPs/community inputs by the clinical staff.

- There is a dedicated interface for this; **'Vaccination History' UI (Vaccination_History)** which has the **'patient_vaccination'** as the main backend table. **'Item_notes'** tbl is used to save notes related to an item (Family History/fact).
- To list Vaccines → **'vaccine_list'** is used
- To get Description labels for (all) vaccines → **'PatientFacts_ItemList'** tbl is used
(SQL: "SELECT * FROM **PatientFacts_ItemList** WHERE UI_ID='10c' AND GROUP BY item_name")
- DropDownList for Descriptions is taken from the **'PatientFacts_Comboltems'** tbl
- This should be used by all clinical and some non-clinical 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 effective (given) date (not into the episode) as special information related to the patient.
- Should be validated during entries (drop-down lists) and free text should also be allowed
- Should be used in decision-making in other modules (Special care for patients with pneumonia and not vaccinated for pneumococcal vaccine).
- If there is already an entered same vaccine administration record 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.
- This data might be received from other care providers, national vaccination record or MHR electronically. In that case, that data should be obtained from different sources through an API/direct entry. Further, may need to provide this data into already available clinical systems, vaccine databases and MHR
- Once executing user actions (**U10c.1 - U10c.4**) always should check for the accessibility and privileges of the user (User Access Level) (Accessibility is available in the 'Group_Permission' tbl [link to DB Schema](#) ; goto 'Group_Permission' sheet)
- Any change in the data (through **F10c.2- F10c.4**) of the main table (**'patient_vaccination'**) should be recorded in the system log with Date, Time, User Name, Table, Field & Change
- Consumer entered Patient's Vaccination facts should be shown in this UI. Consumer data recorded in **'patient_vaccination_CI'** tbl located in the consumer side database ([see DB Main Structure](#)) which has more or less the same fields as per 'Patient_vaccination' tbl; see below.
- Further, consumer should be able to validate provider entered vaccination history/facts and flag 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_vaccination'** tbls for the relevant provider side database ([see DB Main Structure](#)) to be checked by the consumer.
- In this comparison another field in the **'patient_vaccination'** ('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 Vaccination History of a patient



User Functions

- U10c.1 - Loading - Vaccination_History
- U10c.2 - Create the new Vaccination History
- U10c.3 - Edit Vaccination History
- U10c.4 - Inactivate Vaccination History

System/DB Functions

- F10c.1 - Validating entries in creating a Vaccination History
- F10c.2 - Creating a Vaccination History
- F10c.3 - Edit Vaccination History
- F10c.4 - Inactivate Vaccination History

Suggested UI Improvements (Name: Vaccination History - 'Vaccination_History')

Vaccination History

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

Vaccine	Date Received	Status
Hepatitis B	21/02/1965	Given
Pneumococcal	05/10/1970	Given
Influenza	04/02/2021	Given
Covid 19	10/04/2021	1st Dose

Vaccine: *Free text combo, list is provided from 'Vaccine_List' tbl*

Other Name/ Disease : *One of these should be entered in Add New*

Date Received: *Once consumer seen the record from app - 'Consumer seen' or once marked as wrong 'Consumer marked incorrect'.*

Status: *Once consumer seen the record from app - 'Consumer seen' or once marked as wrong 'Consumer marked incorrect'.*

Description 1: (Where given-) GP

Description 2: (Reactions -) Yes

Description 3: (What was the Reaction?) Local swelling

Description 4: (Other Remarks-) Local reaction was mild, no interventions done.

Do not view in the Consumer side : ☐

Include in Discharge Summary : ☐ *Activated only after new entry is saved*

Notes :

Note	Author	Date
Antibodies for Hep. B done, Pt has the immunity...	Joe Noel (Doctor)	12/01/20

Active : *This is changed from 'Inactivate/Activate' button*

Date Entered : *Auto-assigned*

Created by : **Last Edited by :**

Buttons: Add Edit Save Cancel Inactivate/Activate

In form loading '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.

Entries from Consumer

Hepatitis B - (21/02/1965)
Pneumococcal
Influenza - (04/02/2021)
Covid 19 - (10/04/1965)
Pertussis

Toggle Button Show Inactives
- Consumer has flagged issues with this entry

Getting values of Vaccination History

- Once the History item is clicked; its values should be viewed in the textboxes.
- 4 X Descriptions should show values according to the data of the 'patient_vaccination_CI' tbl (see below) (Description1_Label→ label name for Desc. 1, Description1_value→ value for that description)
- 'PatientFacts_ItemList' tbl (see below) data is used to check whether a relevant description text box is needed or not. Ex: if Description4_Label is blank, visibility of both Description 4 label and the relevant textbox should be false.
- Description combos dropdown lists may get items from 'PatientFacts_ComboItems' tbl (see below). These list items should grow as per free text entries of the users.

Highlighting Items with Pink when issues with the entry notice by consumer

- When a vaccination History item is marked as 'Wrong' by the consumer (as per text 'Wrong' in the 'Consumer_Checked' field for the record in 'patient_vaccination' tbl) should be highlighted in 'pink' in this list.
- Moving the cursor over the item should show the comment from the consumer ('Consumer_Comment' field for the past medical issue (record) in 'patient_vaccination' tbl).

Entries from Consumer

- Data from 'patient_vaccination_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 view (see below).

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' tbl (provider side), filling the fields as follows; **Note_ID** (auto increment), **NPID** (Pt ID), **Item_ID** (ALERGYID, PATVACCINATIONID, etc.), **Table_ID** (tbl of the items), **UI_ID**, **Note_Body**, **CreateDate**, **CreateUser**, **CreateTime**, **LastUpDate**, **Active**

Vaccination History

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

Vaccine: Hepatitis B

Vaccine	Date Received
Hepatitis B	21/02/1965
Pneumococcal	05/10/1965
Influenza	04/02/2021
Covid 19	10/04/1965

Vaccination History

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

Created by: Author Date & Time : Date Time Auto-assigned

Add Edit Save Inactivate Back

Show Inactives

- Consumer has flagged issues with this entry

Description 3: (What was the Reaction?-) Local swelling

Description 4: (Other Remarks-) Local reaction was mild, no interventions done.

Do not view in the Consumer side : ☐

Include in Discharge Summary : ☐

Notes :

Note	Author	Date
Antibodies for Hep. B done, Pt has the immunity...	Joe Noel (Doctor)	12/01/20

Add Note

Active :

Date Entered : 21/01/2021 Created by : Shan Rodrigo Last Edited by : Emma Johnson

Add Edit Save Cancel Inactivate/Activate

Entries from Consumer

Hepatitis B - (21/02/1965)
Pneumococcal
Influenza - (04/02/2021)
Covid 19 - (10/04/1965)
Pertussis

Consumer side entry

Vaccination History

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

Vaccine	Date Received	Status
Hepatitis B	21/02/1965	Given
Pneumococcal	05/10/1970	Given
Influenza	04/02/2021	Given
Covid 19	10/04/2021	1st Dose

Show Inactives

- Consumer has flagged issues with this entry

Entries from Consumer

Hepatitis B - (21/02/1965)
Pneumococcal
Influenza - (04/02/2021)
Covid 19 - (10/04/2021)
Pertussis

Vaccination History: Entries from Consumer side

Vaccine: Covid 19

Other Name/Brand Name Diseases covered: Astra Zenica

Given Date: 10/04/2021 Or Given age: 73

Status: 1st Dose *Given/ Not Given/1st Dose/2nd Dose/Reaction*

Remarks: No issues

Created Date: 15/04/2021

Add to Provider side Back

Add Edit Save Cancel Inactivate/Activate

- Once the entry from the consumer is clicked details should appear in subform like this.
- Once 'Add to Provider side' is clicked information from the Consumer side should be auto-populated into the provider side input boxes, where the provider user can update/edit and then save.

Table: patient_vaccination, table ID: 81 (New table)

#	Column	Type	Collation	Attributes	Null	Default	Extra	
1	<u>PATVACCINATIONID</u>	int(11)			No	None	AUTO_INCREMENT	
2	NPID	varchar(20)	utf8_general_ci		No	None		
3	Vaccine_Name	varchar(200)	utf8_general_ci		No	None		
4	Other_Name	varchar(250)	utf8_general_ci		Yes	NULL		
5	<u>Effective_Date</u>	date			No	None		
6	Description1_Label	varchar(50)	utf8_general_ci		Yes	NULL		
7	Description1_Value	varchar(500)	utf8_general_ci		Yes	NULL		
8	Description2_Label	varchar(50)	utf8_general_ci		Yes	NULL		
9	Description2_Value	varchar(500)	utf8_general_ci		Yes	NULL		
10	Description3_Label	varchar(50)	utf8_general_ci		Yes	NULL		
11	Description3_Value	varchar(500)	utf8_general_ci		Yes	NULL		
12	Description4_Label	varchar(50)	utf8_general_ci		Yes	NULL		
13	Description4_Value	varchar(500)	utf8_general_ci		Yes	NULL		
14	<u>Status</u>	varchar(10)	utf8_general_ci		No	Present		
15	CreateDate	datetime			Yes	NULL		
16	CreateUser	varchar(200)	utf8_general_ci		Yes	NULL		
17	LastUpDate	datetime			Yes	NULL		
18	LastUpDateUser	varchar(200)	utf8_general_ci		Yes	NULL		
19	Active	tinyint(1)			Yes	1		
20	Not_view_consumer	tinyint(1)			Yes	0		
21	Consumer_Checked	varchar(10)	utf8_general_ci		Yes	NULL		
22	Consumer_Checked_Date	datetime			Yes	NULL		
23	Consumer_comment	varchar(250)	utf8_general_ci		Yes	NULL		
24	Include_Discharge_Summary	tinyint(1)			No	1		

- 'Vaccine_Name' :
Frequently used name
- 'Other_Name' :
Diseases covered/
Brand Name
- 'Effective_Date' - Given
Date
- 'Status': Given/ Not
Given/1st Dose/2nd
Dose/Reaction
- 'Not_view_consumer' :
Sharing with the
Consumer activated or
not
- 'Consumer_Checked':
Once check consumer
mark 'Wrong' here
- 'Consumer_comment':
Consumer can put a
comment on this entry
- 'Include_Discharge_Su
mmmary': Whether to
include in the
discharge summary or
not

Patient Facts Item list (Table : 'PatientFacts_ItemList') table ID: 76 (This data is used to show description labels and their combos in Vaccination History UI. Same Description labels are used for all vaccines)

item_id	UI_ID	UI_Name	type	item_name	Description1_Label	Description2_Label	Description3_Label	Description4_Label	Get_Value_From	Explained_Term
28	10c	Vaccination_History		Vaccine	Where Given?	Any Reaction?	Other Remarks			Mental Health Issues

Vaccine list (Table : 'vaccine_list') table ID: 83 (This data is used to list vaccine list and their details in tooltip text in Vaccine_History UI. Further, this can be used for flagging due vaccines for a given pt)

Time	Vaccine_Name	Diseases	Brand_Names	Remarks
Birth	Hepatitis B	Hepatitis B	H-B-Vax II Paediatric, Engerix B Paediatric	
2 months	Infanrix hexa	Diphtheria, tetanus, pertussis (whooping cough), hepatitis B, polio, Haemophilus influenzae type b (Hib)	Infanrix hexa	
2 months	Rotavirus	Rotavirus	Rotarix	
2 months	Pneumococcal	Pneumococcal disease	Prevenar 13	
2 months	Meningococcal B	Meningococcal disease	Bexsero	Only for ATSI
4 months	Infanrix hexa	Diphtheria, tetanus, pertussis (whooping cough), hepatitis B, polio, Haemophilus influenzae type b (Hib)	Infanrix hexa	
4 months	Rotavirus	Rotavirus	Rotarix	
4 months	Pneumococcal	Pneumococcal disease	Prevenar 13	
4 months	Meningococcal B	Meningococcal disease	Bexsero	Only for ATSI
6 months	Infanrix hexa	Diphtheria, tetanus, pertussis (whooping cough), hepatitis B, polio, Haemophilus influenzae type b (Hib)	Infanrix hexa	
6 months	Pneumococcal	Pneumococcal disease	Prevenar 13	Additional dose for children with specified medical risk conditions

6 months	Meningococcal B	Meningococcal disease	Bexsero	Only for ATSI, Additional dose for children with specified medical risk conditions
12 months	Meningococcal ACWY	Meningococcal disease	Nimenrix	
12 months	MMR	Measles, Mumps, Rubella	M-M-R II, Priorix	
12 months	Pneumococcal	Pneumococcal disease	Prevenar 13	
12 months	Meningococcal B	Meningococcal disease	Bexsero	Only for ATSI
18 months	HIB	Haemophilus influenzae type b (Hib)	ActHIB	
18 months	MMR-Vericella	Measles, Mumps, Rubella, Chickenpox (varicella)	Priorix-Tetra, ProQuad	
18 months	DPT	Diphtheria, Pertussis (whooping cough), Tetanus	Infanrix, Tripacel	
4 years	DPT-IPV	Diphtheria, Pertussis (whooping cough), Polio	Infanrix IPV, Quadracel	
4 years	Pneumococcal	Pneumococcal disease	Pneumovax 23	Additional dose for children with specified medical risk conditions
12–13 years	HPV	Human papillomavirus (HPV)	Gardasil9	
12–13 years	DPT	Diphtheria, Pertussis (whooping cough), Tetanus	Boostrix	
14–16 years	Meningococcal ACWY	Meningococcal disease	Nimenrix	
>=70 years	Pneumococcal	Pneumococcal disease	Prevenar 13	
70–79 years	Herpes Zoster	Shingles	Zostavax	
Pregnant women	Pertussis	Whooping cough	Boostrix, Adacel	
>18 Years	COVID 19	COVID 19	Pfiser, Aster Zenica	
>6m	Influenza	Influenza		

Combo list items for Patient Facts (Table : 'PatientFacts_Comboltems') table ID: 77 (This data is used to fill the dropdown lists of description combos. In addition to available these combo items the list should grow as per inputs of the user; adding user entries for relevant descriptions into this table. Thus every new entry will be available in the relevant description combo for subsequent entries)

Combo_Ite m_id	UI_ID	item_name	Description	Description_Label	Combo_Item
53	10c	Vaccine	Description1	Where Given?	GP
54	10c	Vaccine	Description1	Where Given?	Hospital
55	10c	Vaccine	Description1	Where Given?	Residential care center
56	10c	Vaccine	Description1	Where Given?	Community clinic
57	10c	Vaccine	Description2	Any Reaction?	None
58	10c	Vaccine	Description2	Any Reaction?	Local reaction
59	10c	Vaccine	Description2	Any Reaction?	Rash
60	10c	Vaccine	Description2	Any Reaction?	Restless/Irritable/Crying
61	10c	Vaccine	Description2	Any Reaction?	Fever
62	10c	Vaccine	Description2	Any Reaction?	Respiratory symptoms
63	10c	Vaccine	Description2	Any Reaction?	Angioedema
64	10c	Vaccine	Description2	Any Reaction?	Anaphylaxis
65	10c	Vaccine	Description2	Any Reaction?	Severe Anaphylaxis- ICU admission
66	10c	Vaccine	Description2	Any Reaction?	Blood clotting
67	10c	Vaccine	Description2	Any Reaction?	Other

Table: patient_vaccination_CI, table ID: 82 (New table) Consumer side Vaccination History information table

#	Column	Type	Collation	Attributes	Null	Default	Extra	
1	<u>PATVACCINATIONID</u>	int(11)			No	None	AUTO_INCREMENT	- Vaccine Name :
2	<u>CI_ID</u>	int(11)			No	None		Frequently used name
3	<u>Vaccine_Name</u>	varchar(200)	utf8_general_ci		No	None		- Other Name :
4	<u>Other_Name</u>	varchar(250)	utf8_general_ci		Yes	NULL		Diseases covered/ Brand Name
5	<u>Effective_Date</u>	date			Yes	NULL		- Effective Date - Given Date
6	<u>Description1_Label</u>	varchar(50)	utf8_general_ci		Yes	NULL		
7	<u>Description1_Value</u>	varchar(500)	utf8_general_ci		Yes	NULL		
8	<u>Description2_Label</u>	varchar(50)	utf8_general_ci		Yes	NULL		
9	<u>Description2_Value</u>	varchar(500)	utf8_general_ci		Yes	NULL		
10	<u>Description3_Label</u>	varchar(50)	utf8_general_ci		Yes	NULL		
11	<u>Description3_Value</u>	varchar(500)	utf8_general_ci		Yes	NULL		
12	<u>Description4_Label</u>	varchar(50)	utf8_general_ci		Yes	NULL		
13	<u>Description4_Value</u>	varchar(500)	utf8_general_ci		Yes	NULL		
14	<u>Remarks</u>	varchar(250)	utf8_general_ci		Yes	NULL		
15	<u>Status</u>	varchar(10)	utf8_general_ci		No	Present		- Status - Given/ Not Given/1st Dose/2nd Dose/Reaction
16	<u>CreateDate</u>	datetime			Yes	NULL		
17	<u>CreateUser</u>	varchar(200)	utf8_general_ci		Yes	NULL		
18	<u>LastUpDate</u>	datetime			Yes	NULL		
19	<u>LastUpDateUser</u>	varchar(200)	utf8_general_ci		Yes	NULL		- Share - Sharing with the Providers activated or not
20	<u>Active</u>	tinyint(1)			Yes	1		
21	<u>Share</u>	tinyint(1)			No	1		