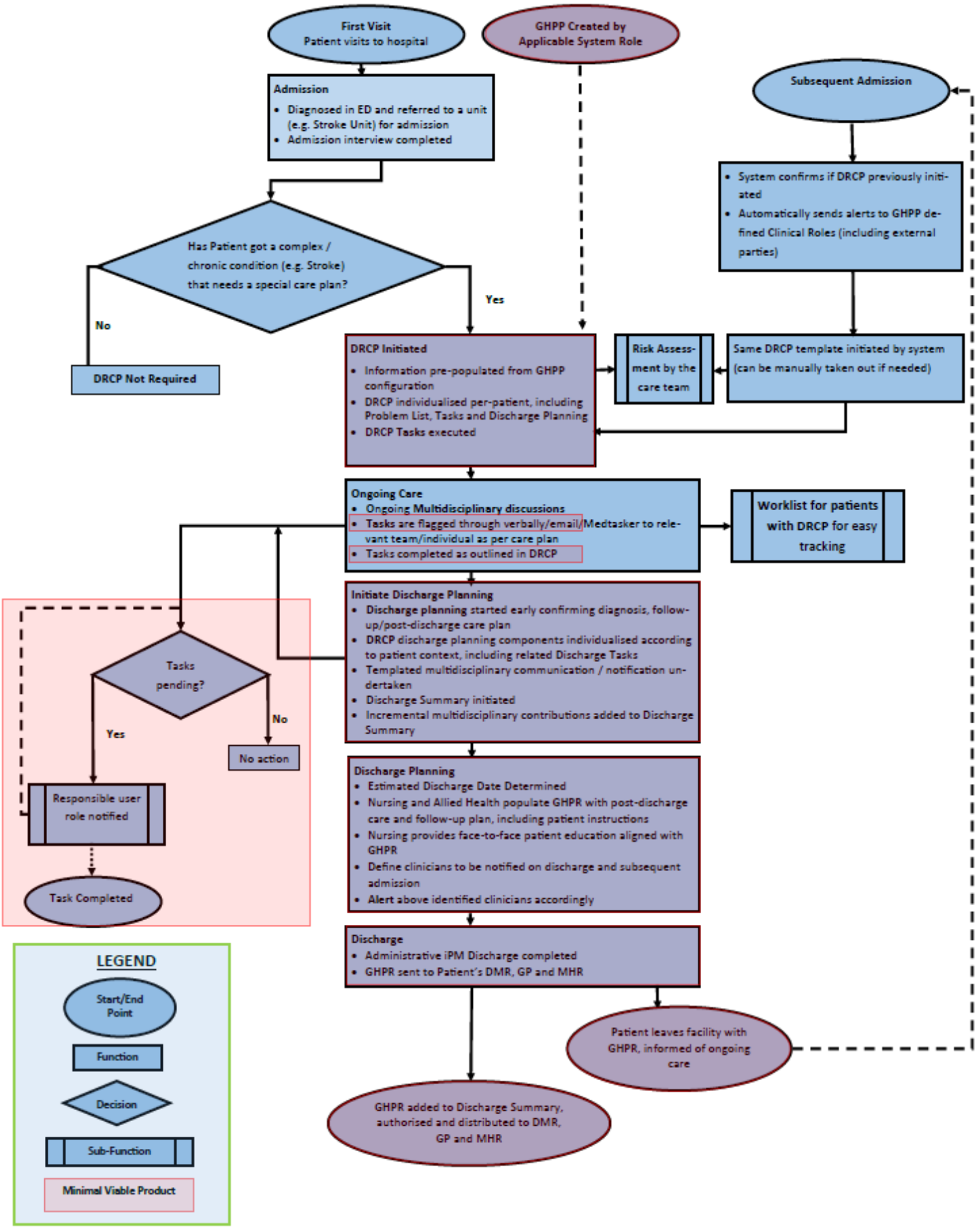
80.L. Care Profile Creation - Requirement Specification

Original 'Going Home Plan & Alerts' – Process Map

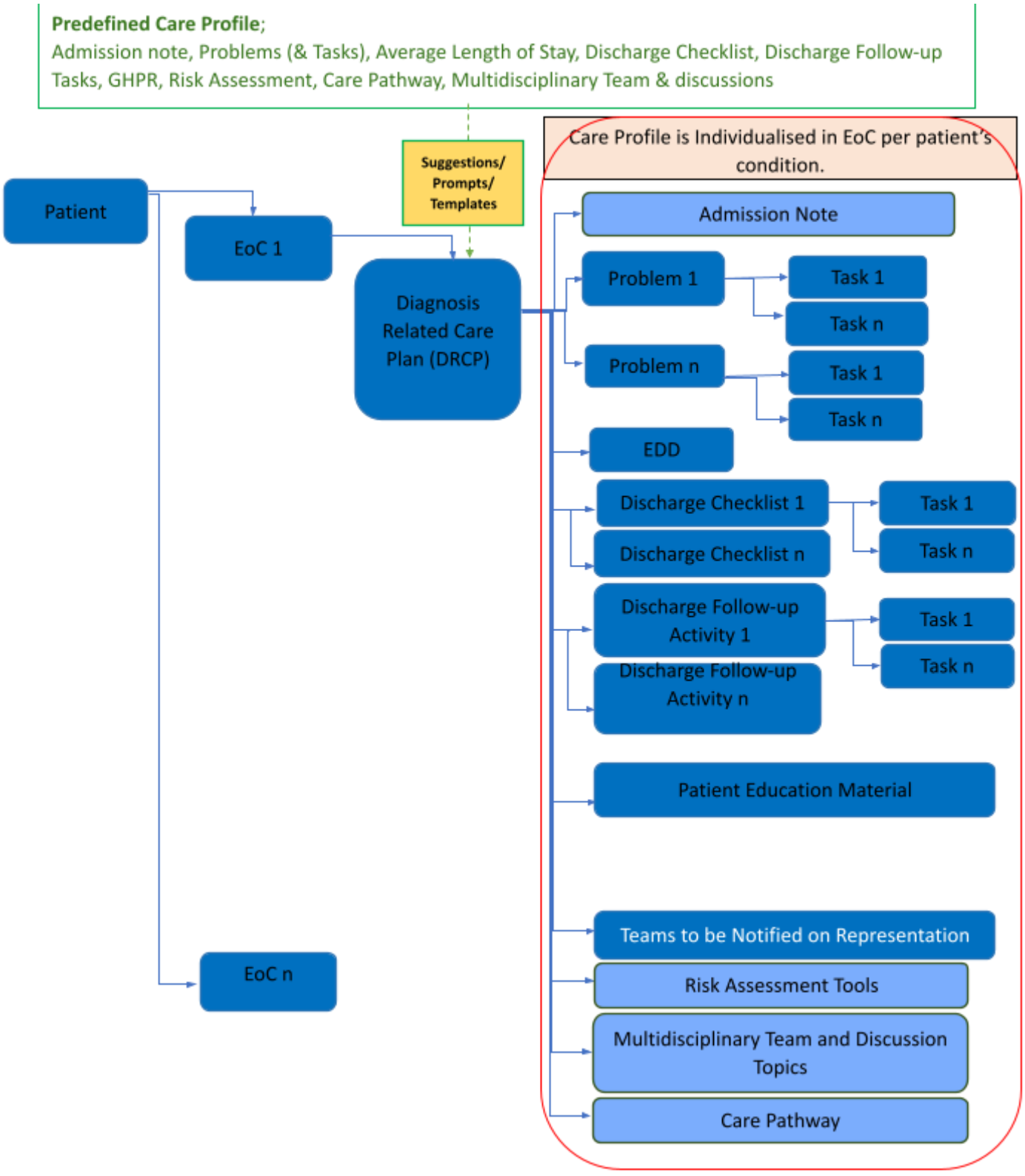


User Interface and System Functional Requirements

High-Level Functional Model

For any given Inpatient Episode of Care (EoC) associated to a patient identified with a Tasmanian Health Client Index (THCI), it is anticipated that a single DRCP is created on Admission or during the inpatient stay, based on a patient's Primary Diagnosis. The contents of a DRCP are defined by agreed, privileged system user roles, within an appropriately titled GHPP.

From a high-level, the association between GHPPs, DRCPs and GHPRs is as such:



Setting the Diagnosis Related Care Plan

Diagnosis Related Care Plan is a set of electronically predefined directions, suggestions, prompts, templates, or decision support tools embedded in clinical workflow information management through Going Home plan and alerts initiative.

A patient with specific diagnosis can be assigned into a predefined Care Plan which subsequently directs the care providers in multiple steps in the clinical workflow to capture information and make appropriate decisions.

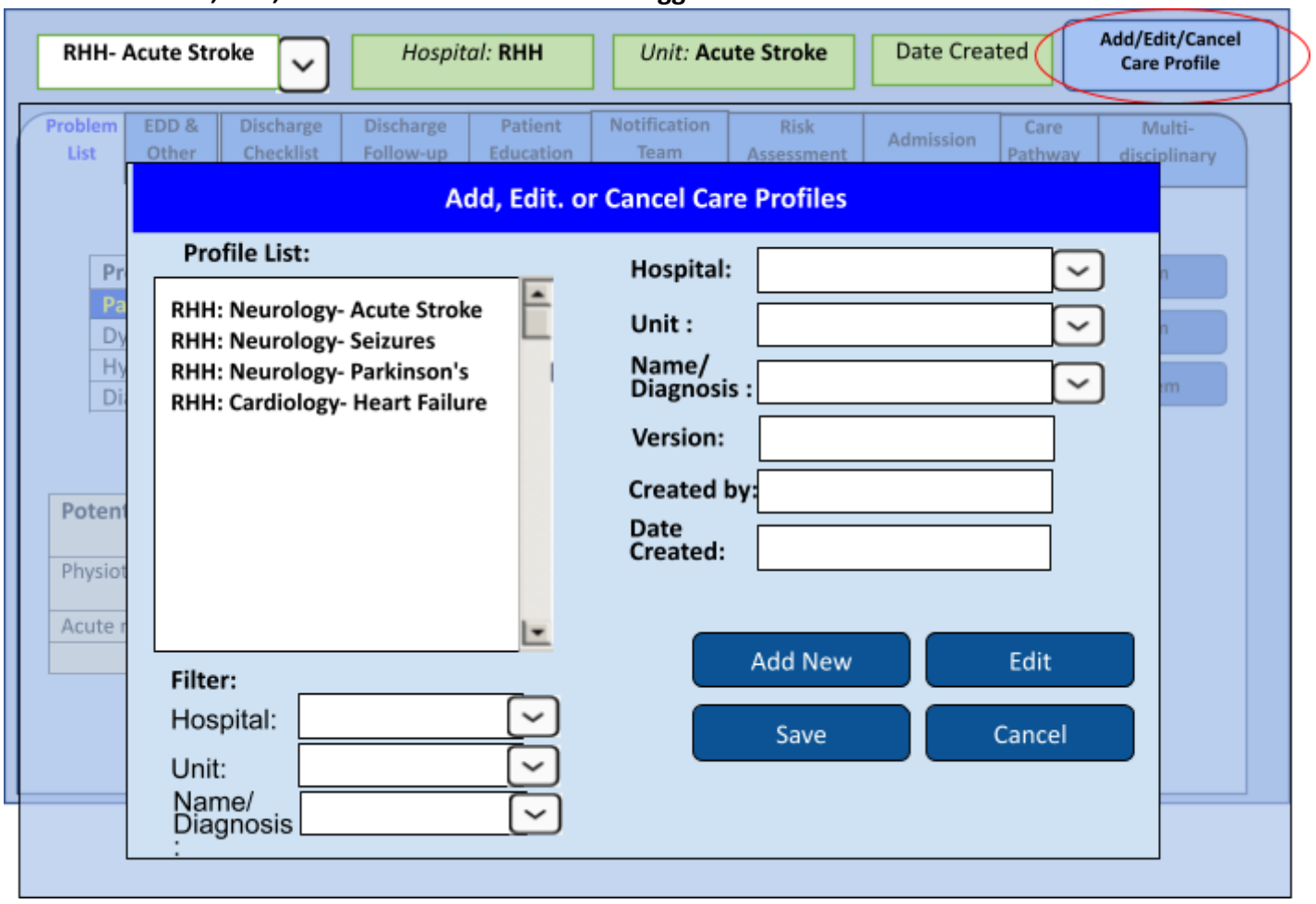
More information on the Diagnosis Related Care plan is available **Appendix 1** below.

Requirements and needed function from the system.

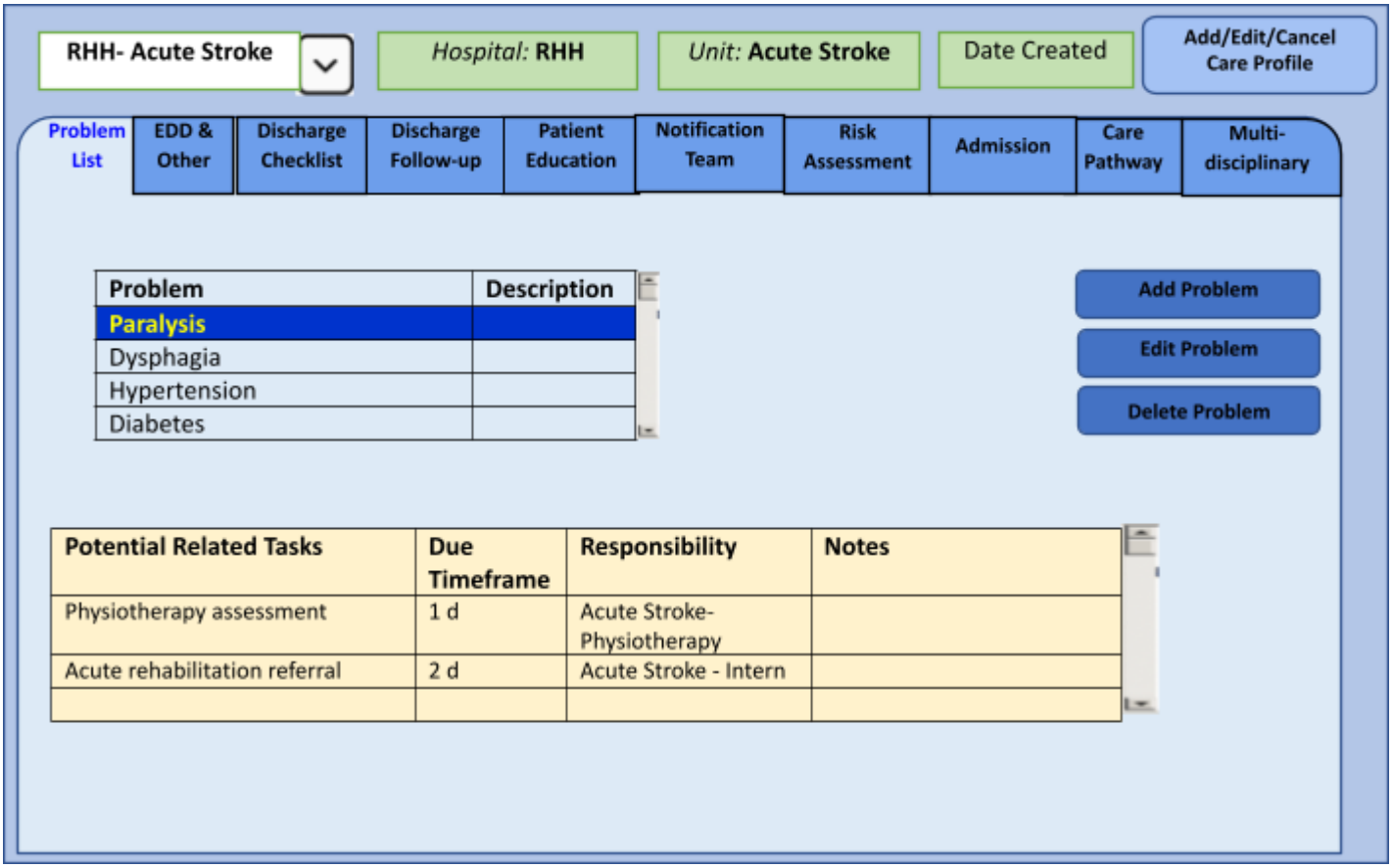
Requirements	Needed function
- User with administrative privileges load the Creating **Diagnosis Related Care Plan** user interface (UI) - This user should be able to create new **Diagnosis Related Care Plan**, search existing Care Plans, and edit existing Care Plans and its related lists, templates, pathways, tasks.	On authentication with system, present the user with one of three interfaces: - Click-through to existent Patient Record with existent EoC with existent GHP (i.e. GHP interface) - Click-through to existent Patient Record with existent EoC with No GHP (i.e. Patient Interface) - Authenticated and presented with list a of current EoCs (+/- current GHPs) (i.e. Search interface)
● Creating new Care Plan Type the name of the new Care Plan. System flags if the given care plan name exists. User defines the unit and the healthcare facility which the Care Plan is created from.	
● Set other attributes of the Care Plan. Add/Edit the **Problem List** of the Care Plan with related tasks, responsible personal to the tasks, and timeline to achieve tasks. Set/Edit the Average Length of stay for the diagnosis (DRG)/care plan to obtain **Estimated Date of Discharge (EDD)** Define/Edit **Discharge Planning checklist** for the care plan. Define/Edit **Discharge follow-up tasks** for the care plan, responsible personal to the tasks, and timeline to achieve tasks Set/Edit **Going Home Plan report** (Patient education material) for the care plan. Set/Edit **Care Pathway** for the care plan. Set/Edit **Multidisciplinary (MD) team** for the care plan. Set/Edit **MD discussion topics** for the care plan.	PFM has EDD Average LoS from Health Round-Table Editable (with role authority) Mandatory comment field

▯ Set/Edit **Risk Assessment tools** for the care plan.	

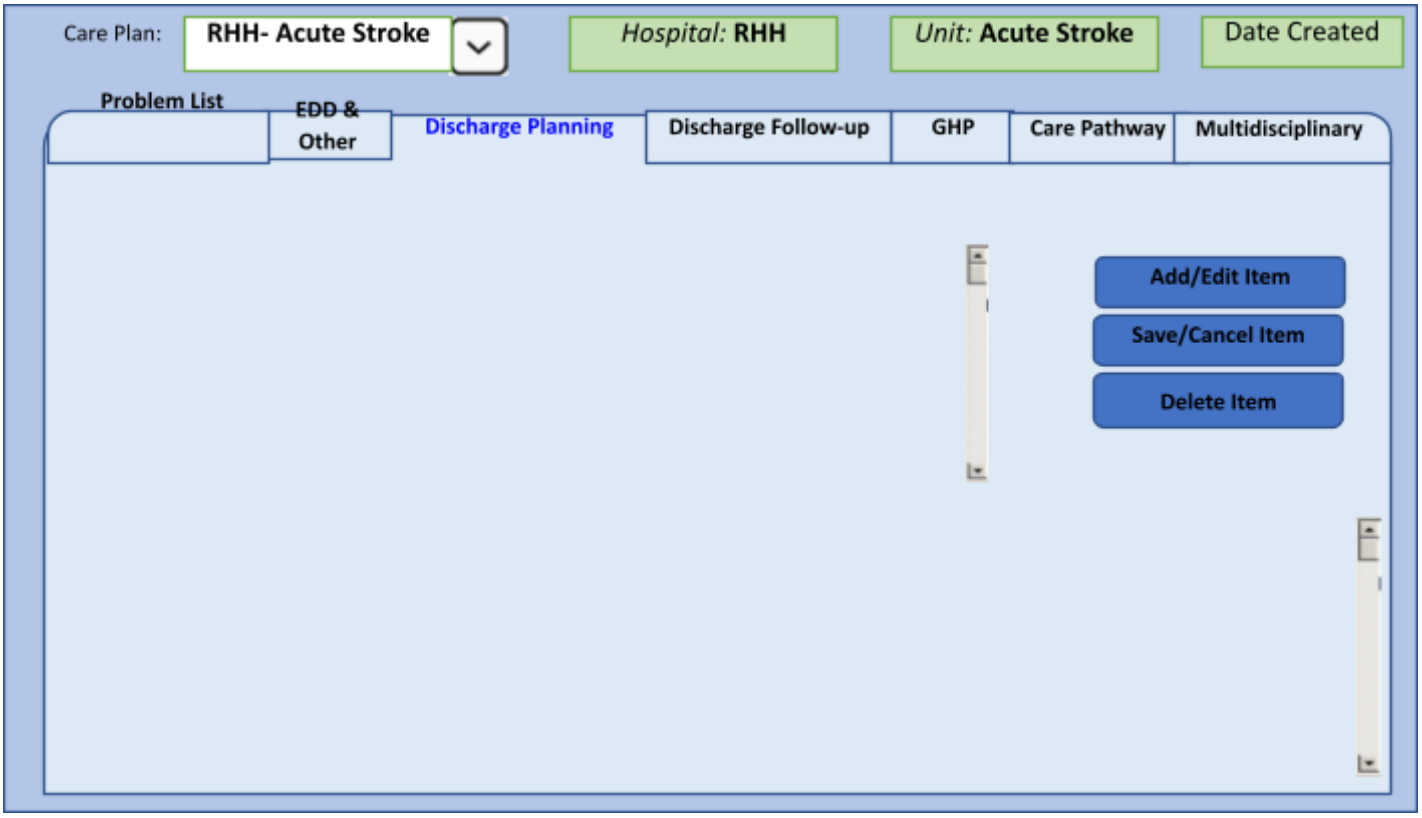
80.I.1 Add, Edit, or Cancel New Care Profile: Suggested UI

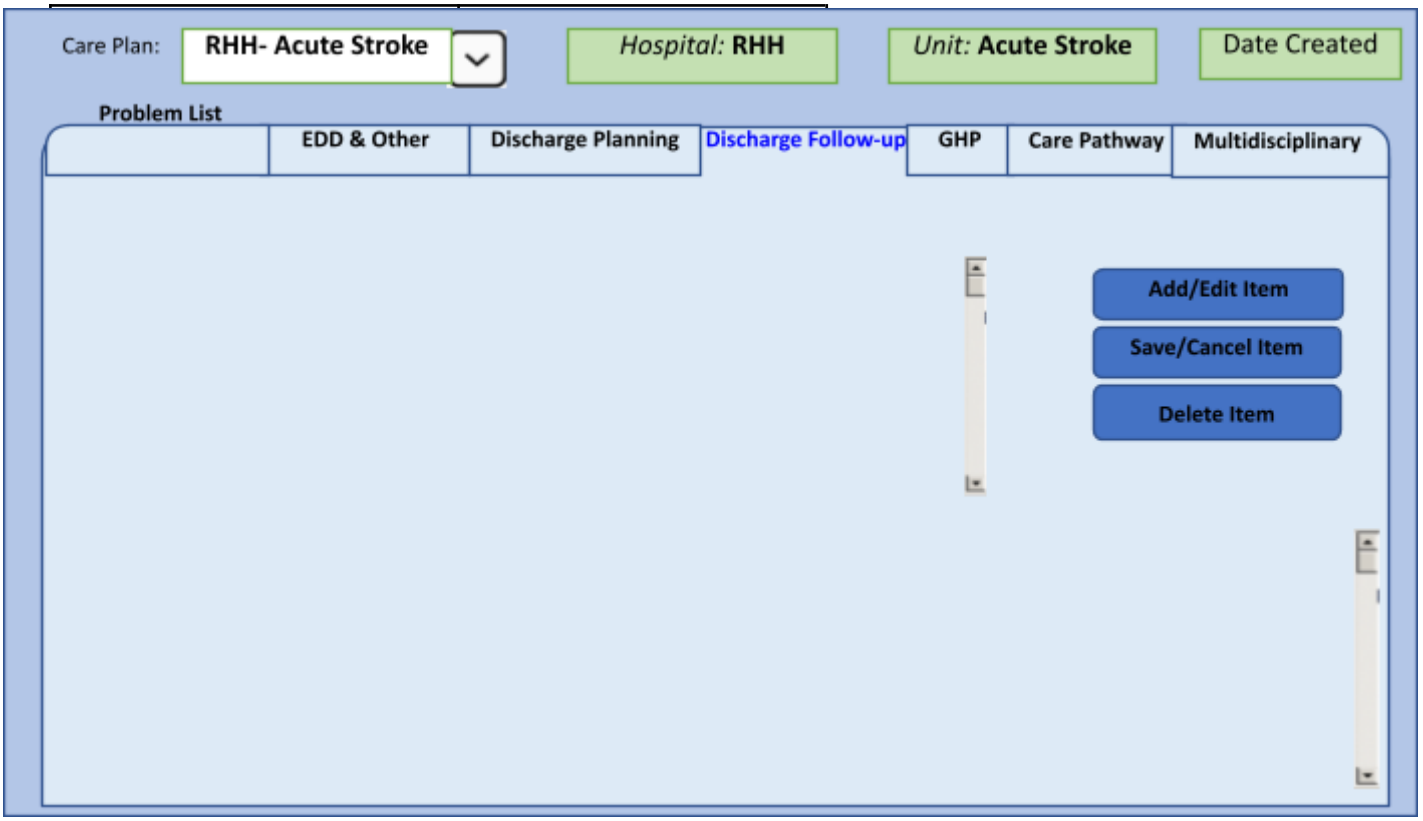


80.I.2 Set Problem List: Suggested UI

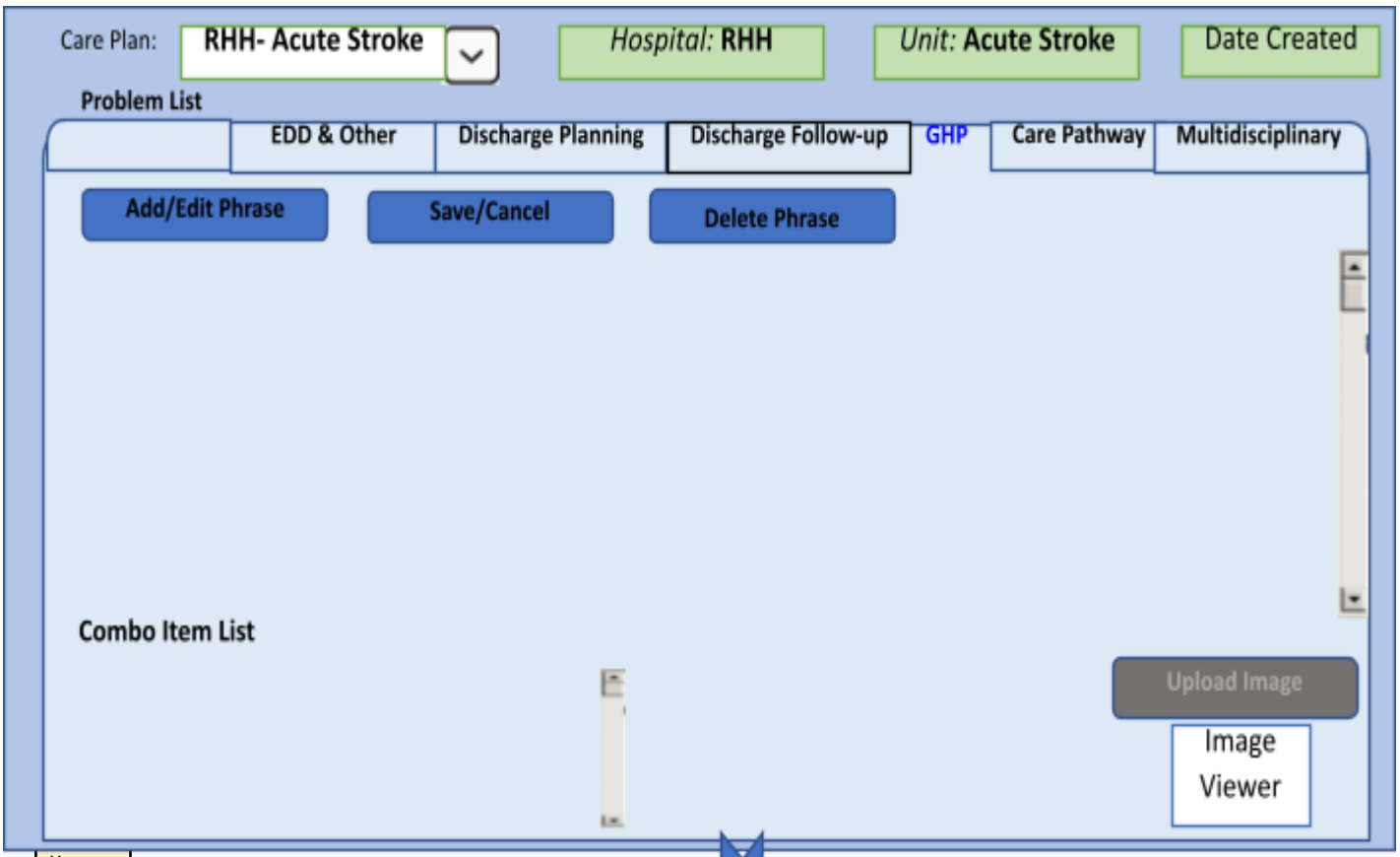


6.2. Set Discharge Planning: Suggested UI




Care Plan:
RHH- Acute Stroke
Hospital: RHH
Unit: Acute Stroke
Date Created
Problem List
EDD & Other
Discharge Planning
Discharge Follow-up
GHP
Care Pathway
Multidisciplinary
Add/Edit Item
Save/Cancel Item
Delete Item

6.4 Set Going Home Plan Report: Suggested U

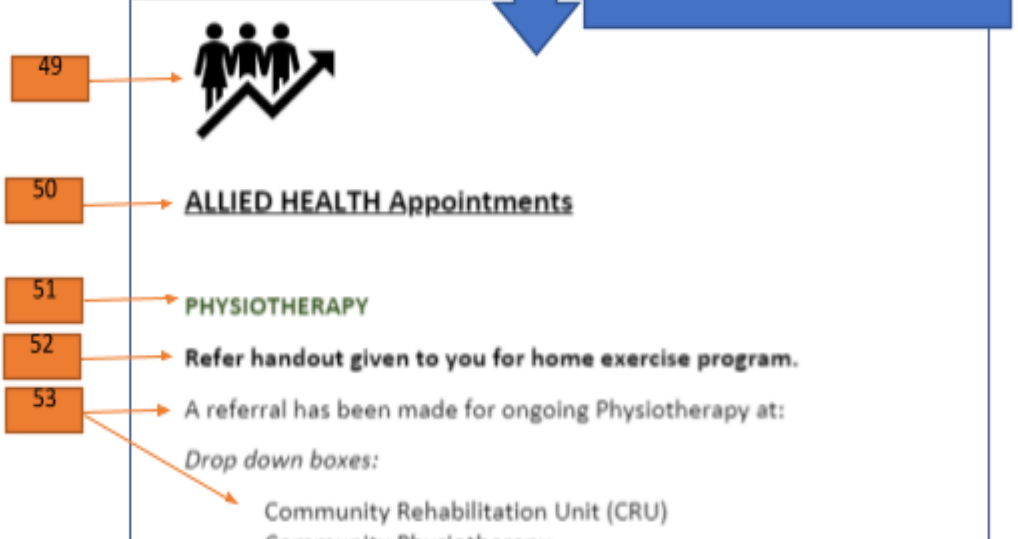


y

Community Transitional Care Program (CTCP)

Private Physiotherapy

The template appears as this:



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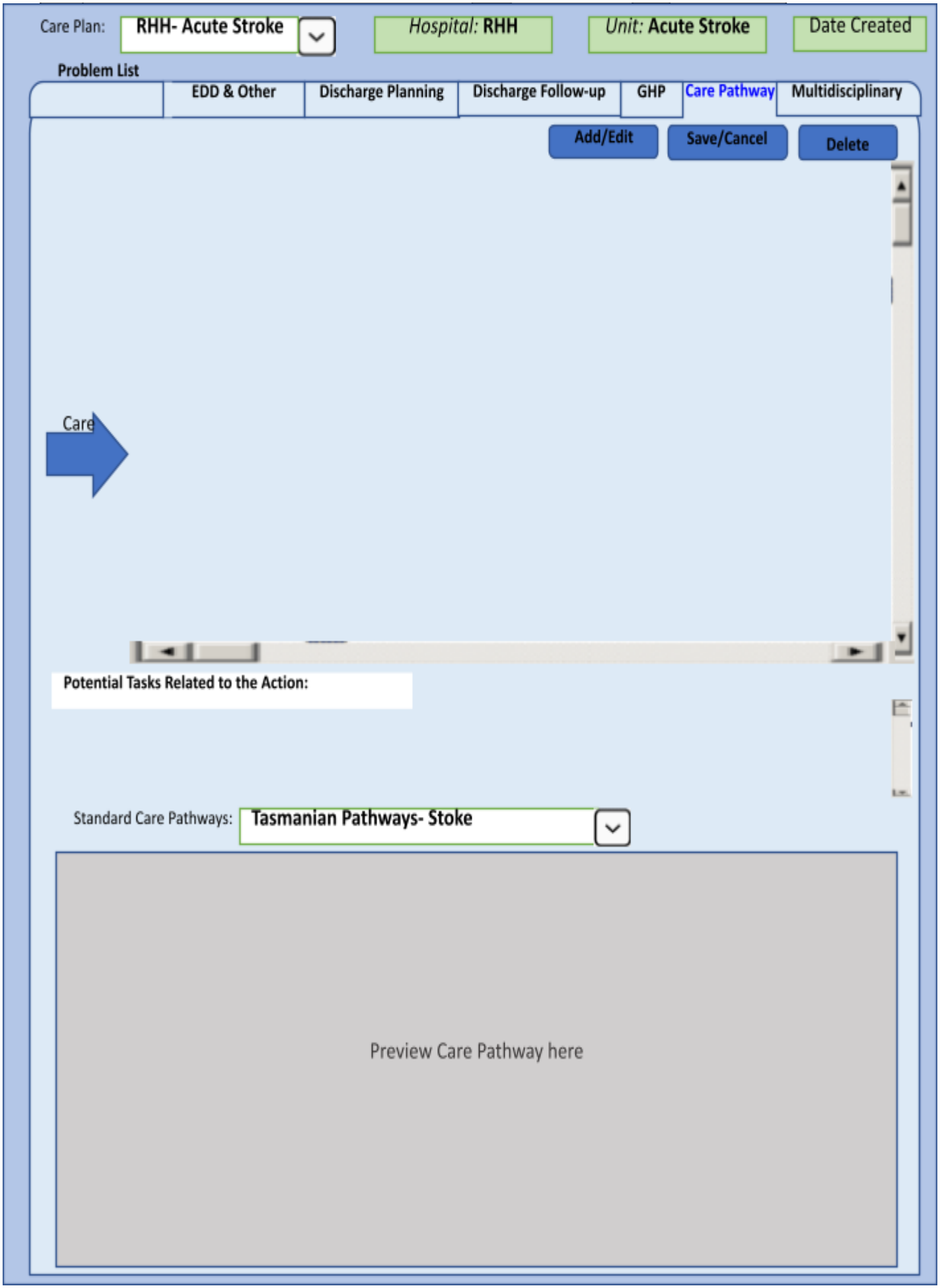
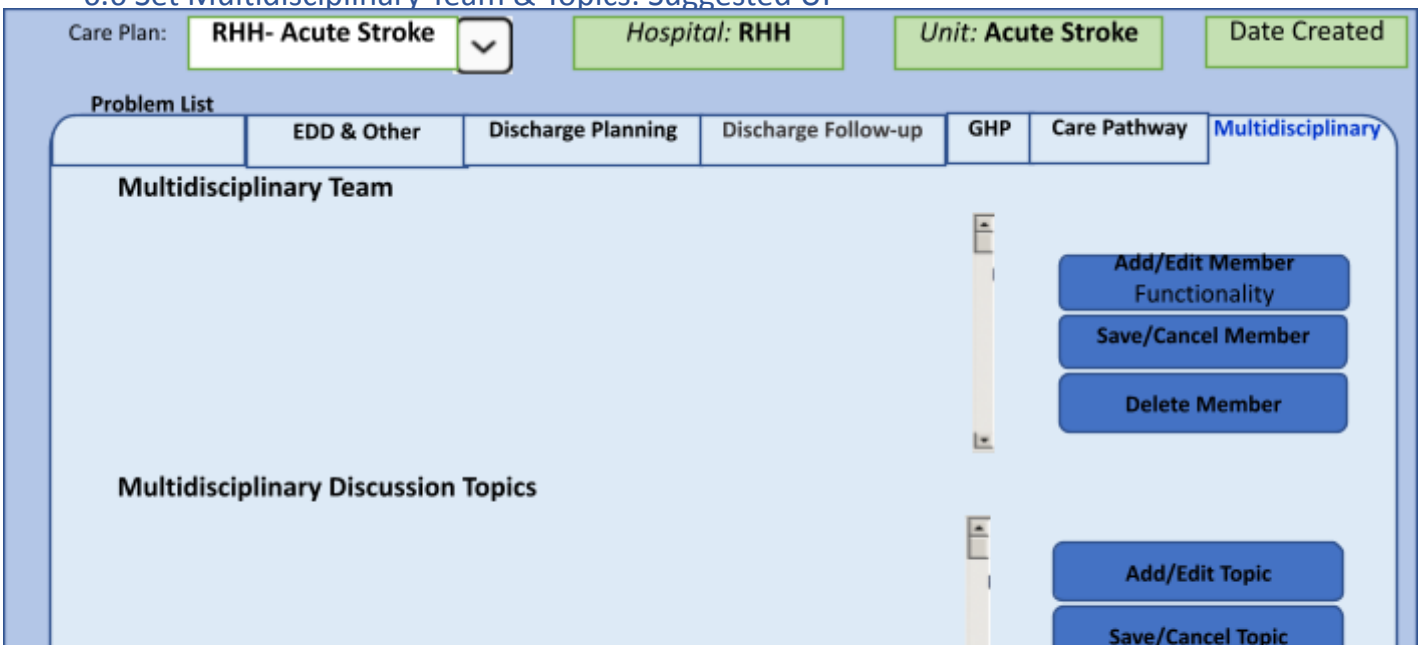
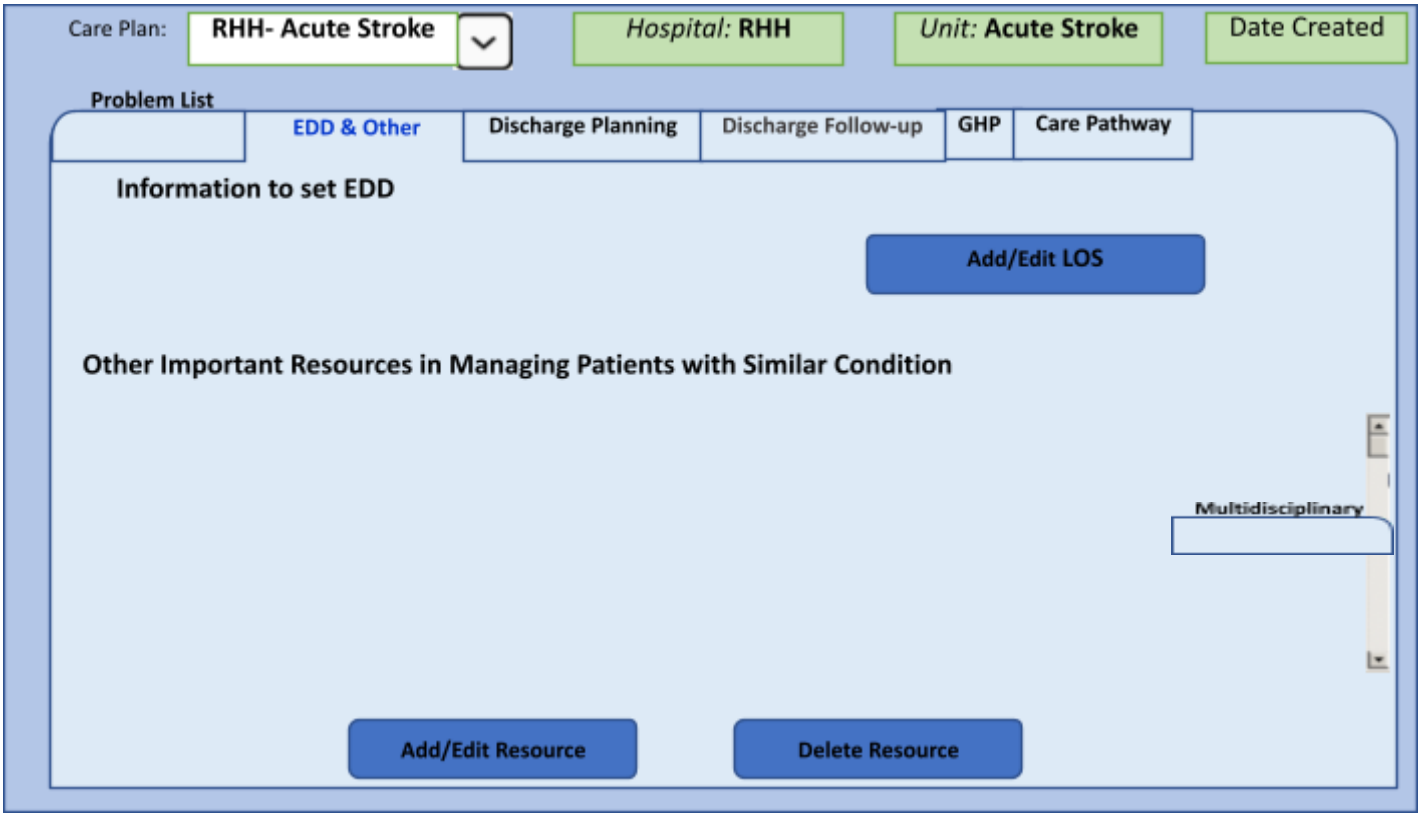
6.5 Set Care Pathway: Suggested UI



6.6 Set Multidisciplinary Team & Topics: Suggested UI

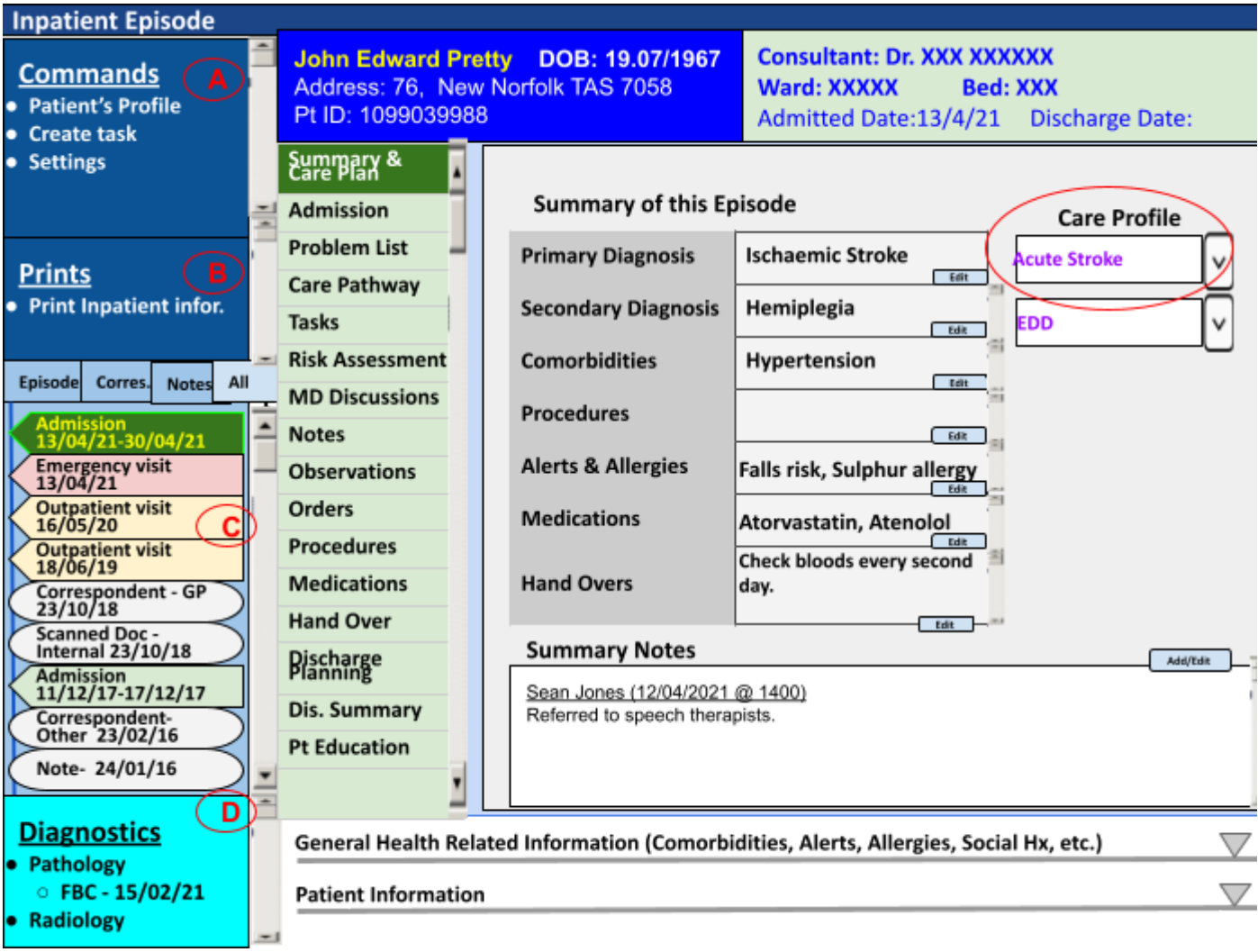


Speech therapy	
Diet & Nutrition	



UI 2. Allocating an Admitted Eligible Patient into a Care Profile

Requirements	Needed function
● User should be able to select/search the patient in the GHP system once admitted through iPM	- There may be direct links from DMR/PFM/HCS which direct users to relevant patient's episode in the GHP interface
● Some of the patient's administrative data may be auto-populated in the patient's profile/episode of the GHP interface	
● If patient is having a condition/diagnosis that needs a care plan the user should be able to allocate the patient into a relevant diagnosis related care plan with predefined problem list and related tasks, EDD, Care Pathway, Discharge checklist. Discharge follow-up tasks, Going Home Plan template for patient education, and risk assessment tools, MD discussion topics and team members.	
● During this process there should be the facility for the user to check/view the attributes/predefined settings of the Care Plans readily (may be without going to the Care Plan Add/Edit interface).	

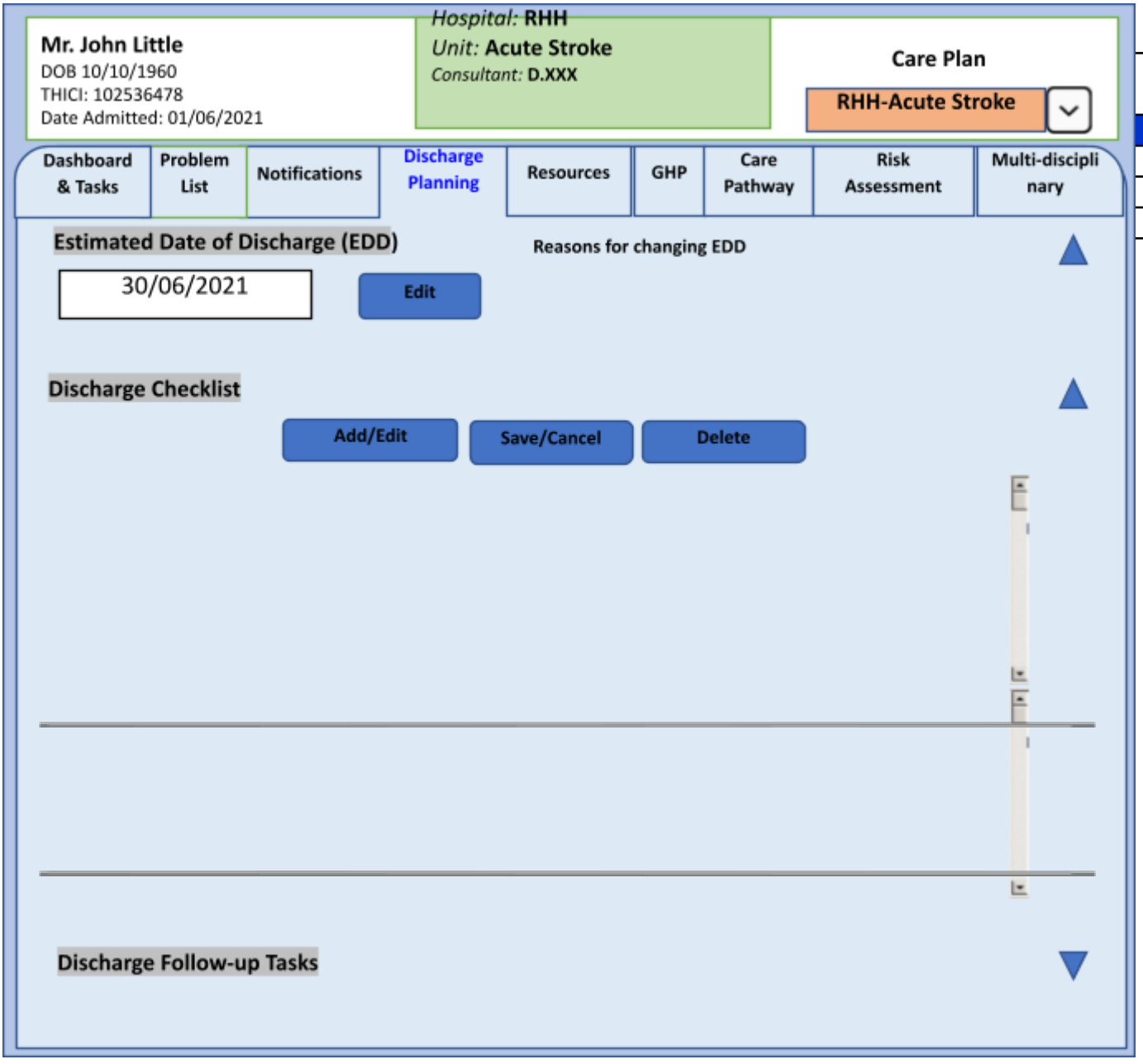

Inpatient Episode
Commands
A
Patient's Profile
Create task
Settings
Prints
B
Print Inpatient infor.
Episode
Corres.
Notes
All
Admission 13/04/21-30/04/21
Emergency visit 13/04/21
Outpatient visit 16/05/20
C
Outpatient visit 18/06/19
Correspondent - GP 23/10/18
Scanned Doc - Internal 23/10/18
Admission 11/12/17-17/12/17
Correspondent-Other 23/02/16
Note- 24/01/16
D
Diagnostics
Pathology
FBC - 15/02/21
Radiology
John Edward Pretty DOB: 19.07/1967
Address: 76, New Norfolk TAS 7058
Pt ID: 1099039988
Consultant: Dr. XXX XXXXXX
Ward: XXXXX Bed: XXX
Admitted Date:13/4/21 Discharge Date:
Summary & Care Plan
Admission
Problem List
Care Pathway
Tasks
Risk Assessment
MD Discussions
Notes
Observations
Orders
Procedures
Medications
Hand Over
Discharge Planning
Dis. Summary
Pt Education
Summary of this Episode
Care Profile
Primary Diagnosis
Ischaemic Stroke
Acute Stroke
Secondary Diagnosis
Hemiplegia
EDD
Comorbidities
Hypertension
Procedures
Alerts & Allergies
Falls risk, Sulphur allergy
Medications
Atorvastatin, Atenolol
Hand Overs
Check bloods every second day.
Edit
Summary Notes
Add/Edit
Sean Jones (12/04/2021 @ 1400)
Referred to speech therapists.
General Health Related Information (Comorbidities, Alerts, Allergies, Social Hx, etc.)
Patient Information

8. UI 3. Setting the Problem List for the Patient

Problem	Date & Time Created	Author	Status	Notes
Left sided paralysis	**01-06-21 @ 0900**	**James Fraser**	**Attended**	**L/S haemorrhagic stroke**
Swallowing difficulty	01-06-21 @ 0900	James Fraser	Attended	
Hypertension	01-06-21 @ 0900	James Fraser	Attended	Not on regular meds
No medication information	01-06-21 @ 0915	Kim Homes	Sorted	No inform in DMR
Related Tasks	**Due Date & Time**	**Responsibility**	**Completed**	**Notes**
Physiotherapy assessment	02-06-21 @ 0900	Acute Stroke-Physiotherapy	Yes	
Acute rehabilitation referral	02-06-21 @ 1500	Acute Stroke - Intern	Yes	

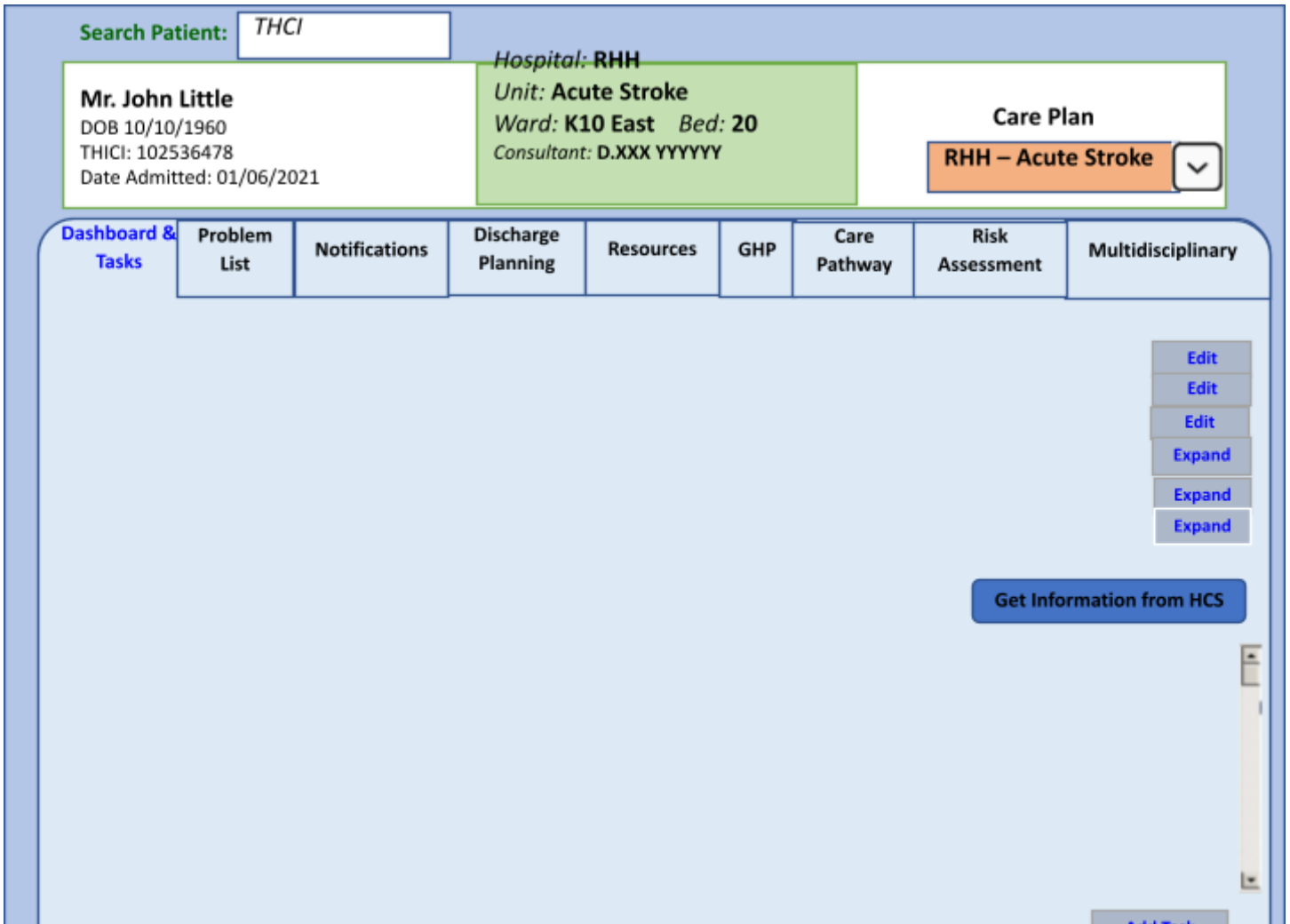
9. UI 10. Discharge Planning

Requirements	Needed function
● At any point of inward care, the users should be able to initiate discharge planning process through a user-friendly interface setting the following. - EDD - Discharge check list (and relevant tasks) - Discharge follow-up tasks which will be under the patient's inward episode.	
● Once the user goes into discharge planning for the first time, tentative EDD, potential discharge checklist with tasks, discharge follow-up tasks for the assigned Diagnosis Related Care Plan will be suggested as per predefined attributes of the Care Plan	
● User should be able to add the suggested EDD into patient's episode. ● This EDD can be amended at any point of care as per patient's condition or the context of care provision. However, in that case the user should be prompted to enter the reason for changing the EDD.	- In the backend system should capture any changes for the EDD and the reason for the change.
● User should be able to add the suggested discharge checklist and related tasks, responsible personal, and timeframe to complete them or define new discharge checklist items as per patient's condition (individualisation of the discharge checklist). System should facilitate this with a list of possible discharge checklist items in a clinical context (may be from a predefined list, or evolving list as per clinical inputs/entries).	
● User should be able to add the suggested discharge follow-up tasks, responsible personal, and timeframe to complete them (as per given care plan) or define different follow-up tasks as per patient's condition (individualisation of the discharge follow-up). System should facilitate this with a list of possible discharge follow-up tasks a clinical context (may be from a predefined list, or evolving list as per clinical inputs/entries).	
● Users should be able to view the discharge checklist/follow-ups, relevant tasks, responsible personal to complete the task with timeframe in a user-friendly interface.	


Mr. John Little
DOB 10/10/1960
THICI: 102536478
Date Admitted: 01/06/2021
Hospital: RHH
Unit: Acute Stroke
Consultant: D.XXX
Care Plan
RHH-Acute Stroke
Dashboard & Tasks
Problem List
Notifications
Discharge Planning
Resources
GHP
Care Pathway
Risk Assessment
Multi-disciplinary
Estimated Date of Discharge (EDD)
30/06/2021
Edit
Reasons for changing EDD
Discharge Checklist
Add/Edit
Save/Cancel
Delete
Discharge Follow-up Tasks

10. UI 6. Setting and Tracking Clinical Tasks

Requirements	Needed function
Clinical tasks can be originated from the problem list, care pathway, discharge checklist, or discharge follow-up activities. Users should be able view and track these tasks in a single list (in an interactive, user-friendly interface) with the information of whom responsible to complete the task, timeframe to complete the task, how the task should be flagged/alerted to the owner of the task, how often it should be reflagged and whether the tasks is completed or not. Further, provision of entering ad hoc tasks (arising for MD discussions, ward rounds, or senior/expert advice) under the patient's episode should be also facilitated.	In MVP, task can be manually marked as completed when done, but in future iteration this should be automatically indicated according to acknowledgement/response of the task owner.

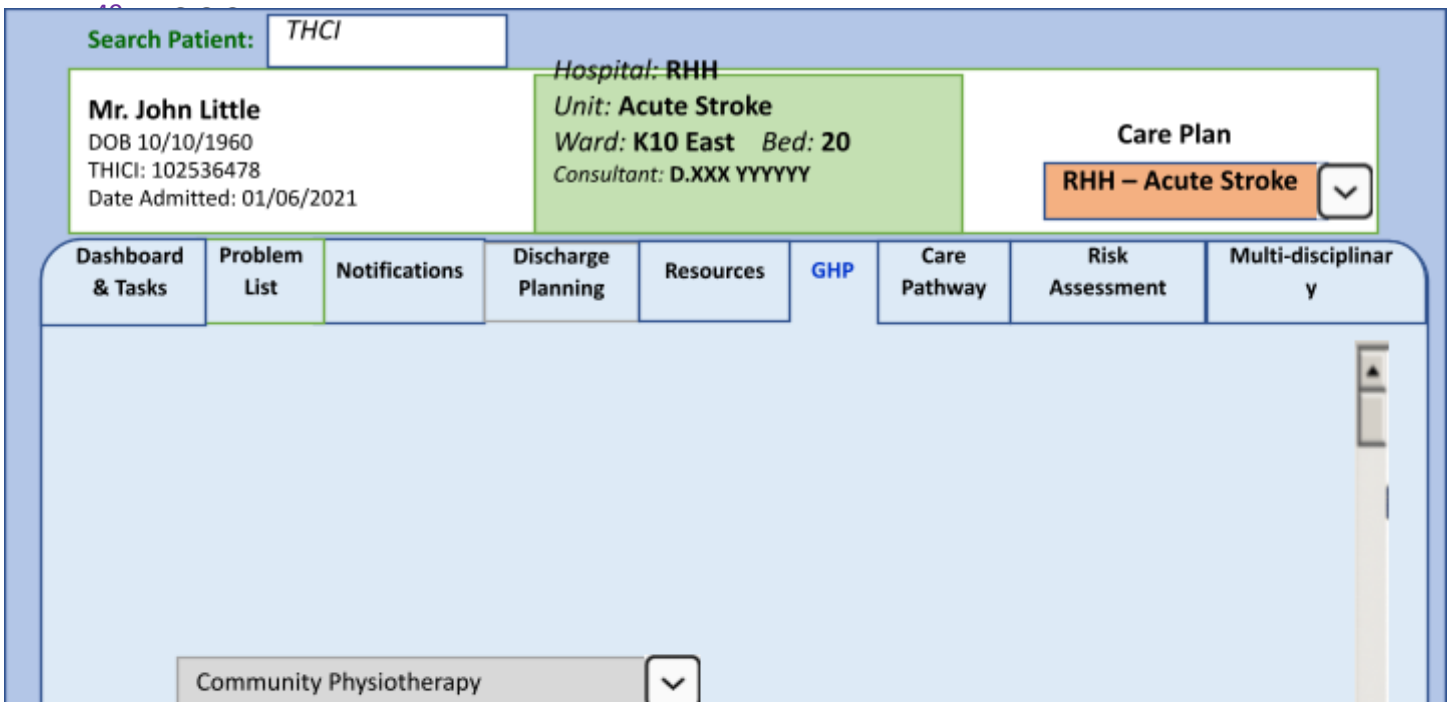


	ce Clinic
Medication	Metformin, Aspirin, Atorvastatin, Losartan

Tasks	Set By	Due Date & Time	Responsibility	Status	Alerting Method	Alerting Frequency	Notes
Physiotherapy assessment	Dr. Carter	01-06-21 @ 0900	Acute Stroke-Physiotherapy	Overdue			
Acute rehabilitation referral	Jane Cooley	02-06-21 @ 1500	Acute Stroke - Intern	Done			
Speech therapy referral	Jane Cooley	03-06-21 @ 1500	Acute Stroke - Intern	Pending			

UI 11. Going Home Plan Report

Requirements	Needed function
Going Home Plan report has mainly three components. 1. Patient's administration information (Name, THCI, Date of Birth, Address, Admission Date, Discharge Date, Admitted Consultant, Admitted Ward, and GP's name) which should be auto-populated from the iPM. 2. Patient's episode/discharge related clinical information such as Primary Diagnosis, Secondary Diagnosis, Comorbidities, Alerts/Allergies, Procedures undergone, Medications which should be auto-populated from both iPM and HCS. 3. Patient education information, which the user should individualise as per patient's context utilising a template (as per Care Plan) and the available dropdown lists and free text fields in the template.	- iPM and HCS integration is needed - In case HCS integration (HCS GHP) is challenging at least there should be a window to see HCS discharge summary entries (in case doctor has initiated the summary) in order to avoid information mismatch (Diagnosis, Comorbidities etc.) in two systems.
User should be able to initiate this even in the absence of the pending/finalised discharge summary in HCS.	
Once the Going Home Plan Report is finalised PDF copies should be sent to the DMR, GP communication portal (generic email) and My Health Record.	DMR integration to send the report as PDF under patients' episode. Communication with MHR.



56 You have been given these Fact Sheet handouts for information:

[redacted]

Patient Infor. From iPM

Mr. John Little
DOB 10/10/1960
THICI: 102536478
Date Admitted: 01/06/2021
Discharge Date: 15/06/2021

Hospital: **RHH**
Unit: **Acute Stroke**
Ward: **K10 East** *Bed:* **20**
Consultant: **D.XXX YYYYYY**
GP & Practice: Dr.Jonathan Styne at Clarence Clinic

Care Plan:
RHH Acute Stroke

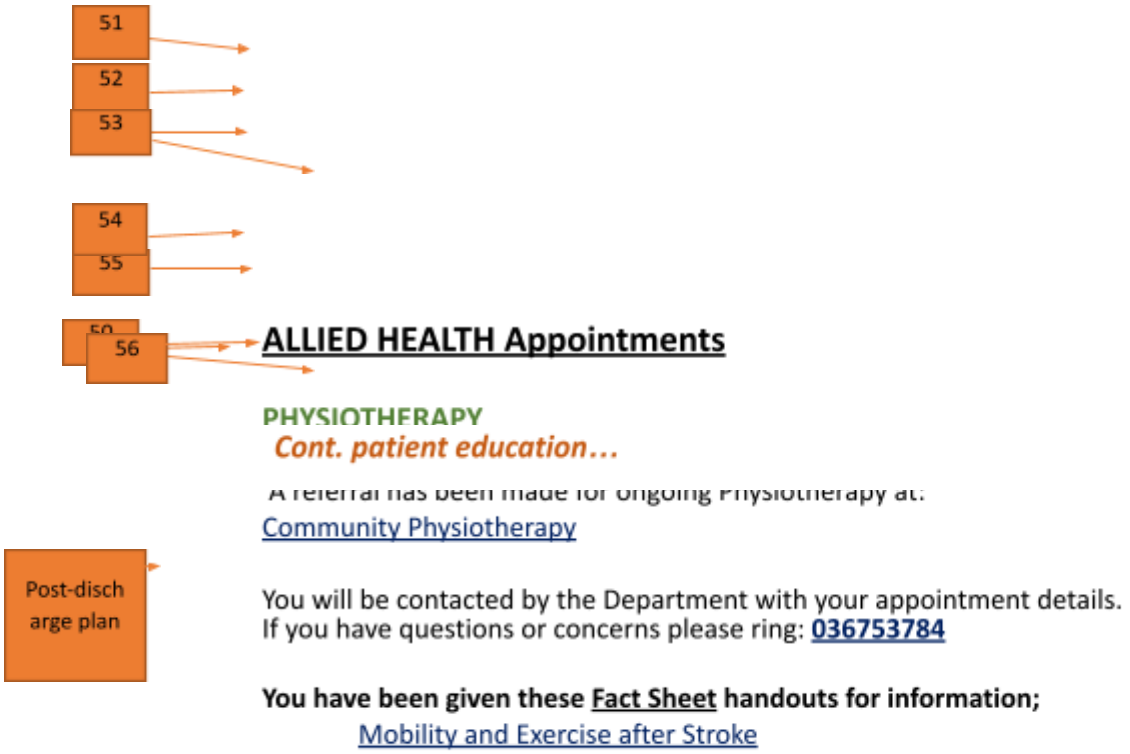
Clinical data from summary

Information for the Patient

Body of patient education…

Body of the GHP Report

49



Post-Discharge Tasks for Healthcare Providers

Related Tasks	Due Date & Time	Responsibility	Notes
Physiotherapy assessment	06-07-21 @ 0900	Acute Stroke-Physiotherapy	Mobility to be assessed in the outpatient clinic in 6 weeks. Clinic appointment done.
Check bloods	Clinic date	Acute Stroke-Medical	Outpatient clinic booked in 6 weeks
Assess hypertension	2 weeks	GP	GP to check BP and review antihypertensives

11. UI 4. Risk Assessment

Requirements	Needed function
Risk assessment tools have components/questions care provider has to fill, while some of them may auto fill from existing data, and in the end, system calculates a score or risk and inform the care provider.	
Setting / editing risk assessment tools.	

User should be able to create/edit any risk assessment tool in a UI which facilitates this. Then through the UI for Care Plan setting it should provide the provision of assigning these assessment tools (one or more) into a care plan. Once the care plan is assigned to a patient, predefined risk assessment tools should be prompted during clinical workflow. Completion of the risk assessment through these tools should be tracked as clinical tasks. User must be able to assign any predefined risk assessment tool as per patient's condition, even tools which are not assigned to a care plan of the patient.	

12. UI 5. Care Pathway

Requirements	Needed function
Care pathway gives the directions to the care providers to manage a patient with a specific diagnosis, which make care provision more standardised and safer. This may guide the care providers to complete number of tasks in the chronological order or any point of care. Thus, care pathway leads to a set of tasks, responsible personnel, and timeframe to complete them. Care pathway can be set/predefined as per the Diagnosis Related Care Plan which is assigned to a patient in GHP programme. - There should a UI for the Care Pathway under the patient's episode. In the beginning the system should auto-populate the already predefined care pathway for the Diagnosis Related Care Plan. - As per patient's context/problems care providers should be able to accept, change, or add steps/tasks as per the patient's context. - This UI should be user-friendly, a graphical interface may be used.	

13. UI 7. Multidisciplinary Team and Discussions

Requirements	Needed functions
Multidisciplinary (MD) team discussions around patient care is paramount of importance in clinical practice. This team includes doctors, nurses, allied health staff who provide care for the patient. They discuss around topics (generic, special as per patient's condition) at least weekly and take collective decisions around that. These discussions should be transparent to care team and there should be the facility to communicate around the issues. Ultimately decisions arising from the MD discussions may lead to clinical tasks which should be allocated to responsible personnel with a timeframe.	

- There should an interactive UI for multidisciplinary communication under the patient's episode. In this UI team members should be identified, further topics, decisions and tasks also should be highlighted. - Once the user goes into this MD UI for a given patient's episode MD team and MD discussion topics should be suggested from the system as per Diagnosis Related Care Plan (from its predefined attributes) which the patient is assigned to. - User should be able to accept these MD members and topics and add more as per patient's context. - There may be a summary of the patient's condition in the top of the UI - There might be a summary for each topic - Discussions under the topic should be captured with team members name, position, date and time in the chronological order. - Decisions and tasks coming out of the discussions should also be highlighted for each topic.	

14. UI 8. Automatically Alerting Tasks in Ongoing Clinical Care

Requirements	**Needed function**
Clinical tasks are originated from several entry points (problem list, care pathway, discharge checklist, discharge follow-up activities, and manual entry). In the initial step (MVP), these will be listed in a user-friendly interface and to be tracked manually by the care provision team. However, system may indicate/highlight overdue tasks. In the subsequent steps these should be automatically tracked by the system according to the given responsible personnel and time frame. As per predefined other attributes of the tasks (such as how the task should be flagged/alerted to the owner of the task, how often it should be reflagged) pending tasks will be alerted through email, SMS, or Medtasker (staff mobile app). - There should a UI to view the pending and completed tasks and their attributes under the patient's episode (as suggested above) - Further, this UI should indicate the number of sent/set alerts for the tasks - It also should facilitate manual alerting by the care provider when needed (a button to trigger the alert through SMS/Medtasker overriding the flagging schedule as per requirement)	Either the GHP system should do this task tracking internally or use a third party workflow management tool such as Nintex Workflow. - System should integrate with third party automated SMS service with an API - System should integrate with Medtasker through a direct link or an API using HL7/FHIR messaging. - Need proper integration with a third partly workflow management tool if going in that pathway

- Tasks and their completion (completed within timeframe) should be tracked from the backend for reporting	Tracking of task completion from GHP system or from Medtasker.

15. UI 9. Chronic Disease Worklists

Requirements	Needed function
- The user should be able to list all the present and past patients who were assigned to any Diagnostic Related Care Plan. - There should be the facility to go to patient's profile episode by just clicking the relevant patient in the list - Pending/overdue tasks can be indicated in this worklist - Further filtering according to the admission date, discharge date, unit, consultant, ward and searching as per name, THCI (patient ID), DOB, and address should be facilitated - User should be able to get a printout of this list	

16. UI 12. Clarification of Care Providers to be Notified

Requirements	Needed function
Care providers in the home team should be able to define the list of internal/external care providers that should be notified before the discharge and in subsequent admissions/readmissions. - There should be an UI to assign these - Once the user first goes into this interface in the discharge planning process, the system should pick the potential team to be notified from the MD team list, and suggest that list to use/consider using. Or else this list can be prompted as a predefined list for given Care Plan of the patient. - User should be able to accept, edit, and add the care provider list who should be notified - Further, the user should be able to set when to notify (on discharge, readmission, or both), how to notify (email, SMS, Medtasker) through an interactive interface - System admin should be able to edit the generic message/template used for these messaging.	- According to this predefined list, notification timing and method to notify to relevant care provider prior to discharge planning (when the EDD is confirmed) and when the patient is registered in the iPM (during readmissions/subsequent admissions) alert is automatically sent from the system. - iPM link is needed to capture new admissions in GHP programme and automatically triggering the alerts according to the admissions created in iPM database.

Appendix 1

Diagnosis Related Care Plan

Diagnosis Related Care plan is a set of electronically predefined directions, suggestions, prompts, templates, or decision support tools embedded in clinical workflow information management through Going Home plan and alerts initiative.

A patient with specific diagnosis can be assigned into a predefined Care Plan which subsequently directs the care providers to capture information and make appropriate decisions in multiple steps in the clinical workflow. Once the patient is allocated into a predefined care Plan by the user on admission or start of the patient journey, in several steps in the clinical workflow (creating problem list, forming care pathway, discharge planning, creating Going Home Plan report, etc.) system would prompt potential lists, suggestions, tasks, templates, etc.

This would make work easy of the user as well as improve capturing of information, utilisation, decision making, sharing information, and patient education safer and more effective. Further, this approach would give more flexibility to shape up clinical modules as per the requirements of various diagnosis, units, clinicians, and hospitals without changing the core system.

Following components can be added into a care plan.

(**Red**- in Minimal Viable Product, **Blue**- in sequent steps, **Purple** – Potential opportunities in the future)

Module/Activity	**Example (Care Plan: Acute Stroke)**
Problem List Tasks	Following problems can be prompted as suggestions/guidance. - Paralysis hemiparesis, quadriplegia - Swallowing difficulty - Hypertension - Diabetes - Living alone
Care Pathway Tasks	Standardised activities/tasks to provide care for stroke pts. May use Tasmanian HealthPathways, modified as per clinical needs of the home team. Every pathway component/step may include related tasks, responsible personal, and timeline to achieve.
MD Discussions - MD Team - MD Discussion Topics	Stroke Consultant, Stroke Registrar, Stroke JMO, Stroke NUM, Stroke OT, Stroke Physiotherapist, Social Worker, Speech therapist - Acute Medical Condition - Physical functionality - Speech therapy - Social work
Discharge Planning - Estimated Date of Discharge (EDD)	Flexible EDD - Electrolyte checklist

- Discharge Checklist Tasks - Post discharge plan Tasks (External + Internal)	- Physiotherapy assessment - Follow-up plan - Going Home Plan Report - Outpatient booking - Discharge Summary - Discharge script - Check electrolytes in 2 days by GP - Review by GP for driving in 6 weeks - To be seen by physio in the outpatient follow-up
Pt Education (GHP report)	Templated individualised patient education document
Risk Assessment Tools	- Myoclinic tool - Frailty score
Discharge Summary	Templated discharge communication
Admission Information - Essential information - Additional information - Investigations - Management plan	Admission note with structured entry/template
Comprehensive care plan	Templated individualised comprehensive care plan as per patients' condition, risk assessment, and to be provided to the community care providers and hospital care providers in subsequent admissions in addition to discharge summary and going home plan report.