

jUCMNav Report



<http://softwareengineering.ca/jucmnav>

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UCM Scenario Groups documentation

- TypicalDischargeScenarios:

1. S1. NoEmergency_Discharge_To_EE: Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in careplan; no changes in discharge plan; discharge to non-original other places; no readmission
2. S2. Emergency_Discharge_To_OS: Patient enters emergency department; careplan2; dischargeplan3; no changes in careplan; no changes in discharge plan; discharge to original source; no readmission
3. S3. Changes_In_CarePlan: Patient enters clinic; no emergency; careplan1; dischargeplan1; changes in careplan (due to failure in evaluation of implementation); no changes in discharge plan; discharge to non-original other places; no readmission
4. S4. Changes_In_DischargePlan: Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; changes in discharge plan (due to failure in admission of external entites); discharge to non-original other places; no readmission
5. S5. Send_Patient_To_WaitingPlace: Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; no changes in discharge plan; discharge to non-original other places; send patient to waiting place; no readmission
6. S6. Change_DischargePlan_AfterWP: Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; changes in discharge plan (due to failure in admission of external entites); discharge to non-original other places; send patient to waiting place; no readmission
7. S7. Changes_In_CarePlan_NoFollowUpArranged: Patient enters clinic; no emergency; careplan1; dischargeplan4; changes in careplan (due to failure in evaluation of implementation); no changes in discharge plan; discharge to home; no readmission

- TypicalDischargeScenariosWithPostDischarge:

1. S1.1. NoEmergency_Discharge_To_EE: Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in careplan; no changes in discharge plan; discharge to non-original other places; no readmission
2. S2.1. Emergency_Discharge_To_OS: Patient enters emergency department; careplan2; dischargeplan3; no changes in careplan; no changes in discharge plan; discharge to original source; no readmission
3. S3.1. Changes_In_CarePlan: Patient enters clinic; no emergency; careplan1; dischargeplan1; changes in careplan (due to failure in evaluation of implementation); no changes in discharge plan; discharge to non-original other places; no readmission
4. S4.1. Changes_In_DischargePlan: Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; changes in discharge plan (due to failure in admission of external entites); discharge to non-original other places; no readmission
5. S5.1. Send_Patient_To_WaitingPlace: Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; no changes in discharge plan; discharge to non-original other places; send patient to waiting place; no readmission
6. S6.1. Change_DischargePlan_AfterWP: Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; changes in discharge plan (due to failure in admission of external entites); discharge to non-original other places; send patient to waiting place; no readmission

- ScenarioDefinitions:

1. Basic_Initialization
2. PatientDies_Initialization

- AdverseEvents:

1. S1.2. PatientDies_In_Implementation: Patient enters clinic; no emergency; careplan1; dischargeplan1; patient dies in implementation

2. S4.2. PatientDies_In_WaitingForExternalEntities: Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; changes in discharge plan (due to failure in admission of external entites); patient dies in waiting for external entities
3. S7.1. PatientReadmission_NoFollowUpArranged: AD10[Alan, The Incidence and Severity of Adverse Events]. The patient was admitted with new-onset congestive heart failure, and no follow-up was arranged at discharge. The patient was readmitted for congestive heart failure due to nonadherence to therapy.

Variables

1. readmissionNeeded (boolean)
2. admittedByGM (boolean)
3. currentCarePlan (Enum CarePlans)
4. numOfStepsInCarePlan (integer)
5. nextStepInCarePlan (integer)
6. currentPatientStatus (Enum PatientStatus)
7. admittedByHospital (boolean)
8. _gotoAD_ED (integer)
9. _admittedByHospital (boolean)
10. _admittedByGM (boolean)
11. _chooseCarePlan (integer)
12. _chooseDischargePlan (integer)
13. currentDischargePlan (Enum DischargePlans)
14. nextStepInDischargePlan (integer)
15. numOfStepsInDischargePlan (integer)
16. currentConsultationPlanService (Enum ConsultationPlanService)
17. _evaluationOfImplementationPassed (boolean)
18. _admittedByExternalEntities (boolean)
19. isBedAvailableInExternalEntities (boolean)
20. timesOfChangingCarePlan (integer)
21. timesOfChangingDischargePlan (integer)
22. needToChangeCarePlan (integer)
23. needToChangeDischargePlan (integer)
24. isHomeCareActivated (boolean)
25. isBedAvailableInWP (boolean)
26. toPerformFollowUpVisit (boolean)
27. toFollowUpLabTests (boolean)
28. toFollowUpRadiologyTests (boolean)
29. toMonitorPhoneSystem (boolean)
30. toAnswerQuestions (boolean)
31. toManageChronicHealthProblems (boolean)
32. numOfStepsInPostDischarge (integer)
33. e_isPatientDiedInImplementation (boolean)
34. e_isPatientDiedInWaitingForExternalEntities (boolean)

35. e_adverseEvent_10 (boolean)

Enumeration Types

1. ImplementationProcesses: RADIOLOGYTESTS, CONSULTATIONPLANSERVICE, REHABILITANT, PROCEDURES, LABORATORYTESTS, MEDICATING, ALLIEDHELP
2. CarePlans: CAREPLAN1, CAREPLAN2
3. PatientStatus: UNKNOWN, PATIENT_DIES, GOTO_OTHERHOSPITALS, GOTO_CLINIC, GOTO_EMERGENCYDEPARTMENT, GOTO_HOSPITALADMISSION, ENTER_GENERALMEDICINE, GOTO_ESTABLISH_CAREPLAN, BACKF_TO_CHANGE_CAREPLAN, GOTO_IMPLEMENT_CAREPLAN, GOTO_DISCHARGE
4. DischargeProcesses: EDUCATEPATIENT, WRITEDISCHARGEPRESCRIPTION, WRITEDISCHARGELETTER, FINALASSESSMENT, DICTATEPROCESS, ENLISTFAMILYCAREGIVER, BOOKFOLLOWUPVISITS, CALLCAREPROVIDERS, BOOKFOLLOWUPLABORATORYTESTS, ENTERPATIENTINTOFOLLOWUPPHONESYSTEM, ACTIVATEHOMECARE
5. DischargePlans: DISCHARGEPLAN1, DISCHARGEPLAN2, DISCHARGEPLAN3, DISCHARGEPLAN4
6. ConsultationPlanService: OCCUPATIONALTHERAPY, PHYSICALTHERAPY
7. PostDischargeProcesses: PERFORMFOLLOWUPVISIT, FOLLOWUPLABTESTS, FOLLOWUPRADIOLOGYTESTS, MONITORPHONESYSTEM, ANSWERQUESTIONS, MANAGECHRONICHEALTHPROBLEMS

Intentional Elements

1. Adequate Monitoring
2. Correct Medication
3. Understanding Medication
4. Correct Therapy
5. Decrease Over Therapy
6. Monitoring Tests (laboratory, radiology, others)
7. Monitoring Medication
8. Monitoring Patient Condition
9. Adequate Communication
10. Adequate Follow-up
11. Reducing Post-Discharging Advers Events
12. Improving Discharging Process
13. Improve Patient Safty
14. Reducing Length of Stay
15. Reducing Rate of Readmission

16. Improve Patient Education
17. Sharing Treatment Plan With Family Doctors / Clinics / Community Doctors
18. Follow-up Phone Calls To Patients
19. Reducing During-Stay Advers Events
20. Correct Diagnosis
21. Tests (laboratory, radiology, others)
22. Consultation
23. Physician Evaluation
24. Dictate Discharge Summary
25. Transcription
26. Transmission
27. Improving Healthcare Outcomes
28. Improving Patient Self-Efficacy
29. Dictation Process
30. Verbal Communication
31. Physician Follow-up
32. Improving Patient Compliance
33. Time (12679)
34. KPI-Average time lag between discharge and dictation
35. Time (12703)
36. KPI-Average time lap between dictation and transcription
37. Time (12719)
38. KPI-Average Time lag between Transcription and Transmision
39. Book Follow-up Phone Calls
40. Make Follow-up Phone Calls
41. Follow-up Visits
42. Follow-up Tests
43. Book Follow-up Visits
44. Make Follow-up Visits
45. Book Follow-up Tests
46. Make Follow-up Tests
47. Occupational Therapy
48. Physical Therapy
49. Quality (12886)
50. KPI-Percentage of patients booking follow-up tests
51. Adequate Post-discharge Services
52. Home Care Service
53. Other External Services
54. Activate Home Care
55. Time (12943)
56. KPI-Time Lag of Home Care Referral and Discharge
57. Qualiy (12956)

- 58. KPI-Percentage of Patients Referred to Home Care
- 59. Home Care Referral
- 60. Time (13269)
- 61. KPI- Average length of stay

PostDischarge

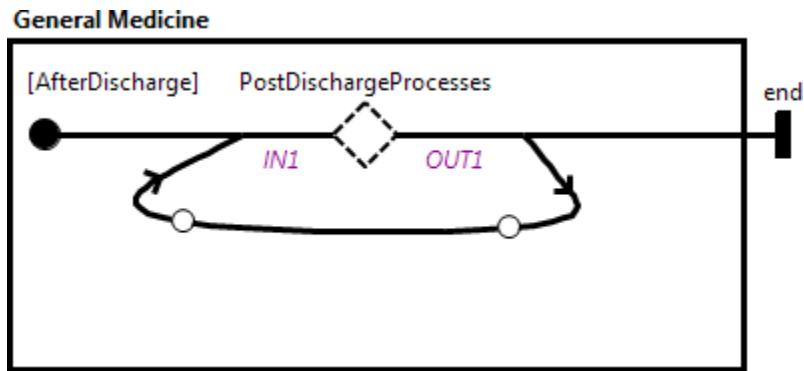


Figure 1 - PostDischarge

Stubs

Dynamic Stub - PostDischargeProcesses

Plugin Map - PerformFollowingVisit

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: toPerformFollowUpVisit == true

Transaction: false

Probability: 1.0

Plugin Map - FollowUpLabTests

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: toFollowUpLabTests == true

Transaction: false

Probability: 1.0

Plugin Map - FollowUpRadiologyTests

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: toFollowUpRadiologyTests == true

Transaction: false

Probability: 1.0

Plugin Map - MonitorPhoneSystem

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: toMonitorPhoneSystem == true

Transaction: false

Probability: 1.0

Plugin Map - AnswerQuestions

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: toAnswerQuestions == true

Transaction: false

Probability: 1.0

Plugin Map - ManageChronicHealthProblems

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: toManageChronicHealthProblems == true

Transaction: false

Probability: 1.0

Or Fork Description

(probability: 1.0)

(probability: 1.0)

DischargeToOtherPlaces

General Medicine

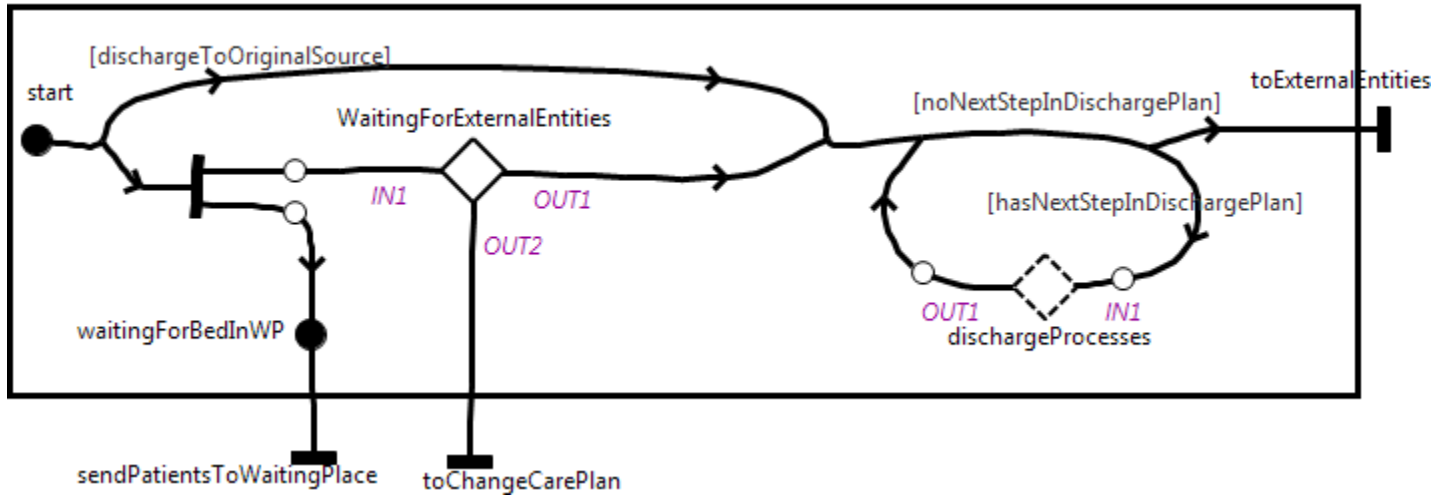


Figure 2 - DischargeToOtherPlaces

Stubs

Dynamic Stub - dischargeProcesses

Plugin Map - EducatePatient

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 1)) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 1)) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 1))

Transaction: false

Probability: 1.0

Plugin Map - BookFollowUpVisits

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: false

Transaction: false

Probability: 1.0

Plugin Map - WriteDischargePrescription

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 2) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 2) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 2))

Transaction: false

Probability: 1.0

Plugin Map - WriteDischargeLetter

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 3) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 3) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 3))

Transaction: false

Probability: 1.0

Plugin Map - CallCareProviders

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 7) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 8) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 7))

Transaction: false

Probability: 1.0

Plugin Map - BookFollowUpLaboratoryTests

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 10)) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 7))

Transaction: false

Probability: 1.0

Plugin Map - EnterPatientIntoFollowUpPhoneSystem

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 8)) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 9) ||
((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 8))

Transaction: false

Probability: 1.0

Plugin Map - ActivateHomeCare

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 9) ||
((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 10))

Transaction: false

Probability: 1.0

Plugin Map - FinalAssessment

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 4) ||
((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 4) ||
((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 4)

Transaction: false

Probability: 1.0

Plugin Map - EnlistFamilyCareGiver

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 6) ||
((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 6) ||
((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 6)

Transaction: false

Probability: 1.0

Plugin Map - DictateProcess

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> endOfDictate

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 5) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 5) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 5))

Transaction: false

Probability: 1.0

Plugin Map - BookFollowUpRadiologyTests

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 11))

Transaction: false

Probability: 1.0

Static Stub - WaitingForExternalEntities

Plugin Map - WaitingForExternalEntities

Input Bindings:

IN 1 <-> startWaitingForExternalEntities

Output Bindings:

OUT 1 <-> toDischargePatient

OUT 2 <-> toChangeCarePlan

Precondition:

Expression: true

Transaction: false

Probability: 1.0

Or Fork Description

[dischargeToOriginalSource] ==> currentDischargePlan == DISCHARGEPLAN3 (probability: 1.0)
(probability: 1.0)

[hasNextStepInDischargePlan] ==> nextStepInDischargePlan <= numOfStepsInDischargePlan (probability: 1.0)

[noNextStepInDischargePlan] ==> nextStepInDischargePlan > numOfStepsInDischargePlan (probability: 1.0)

LaboratoryTests

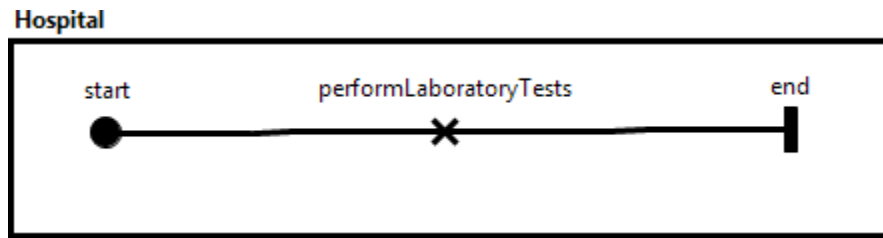


Figure 3 - LaboratoryTests

Responsibilities

performLaboratoryTests

Expression: $\text{nextStepInCarePlan} = \text{nextStepInCarePlan} + 1;$

AlliedHelp

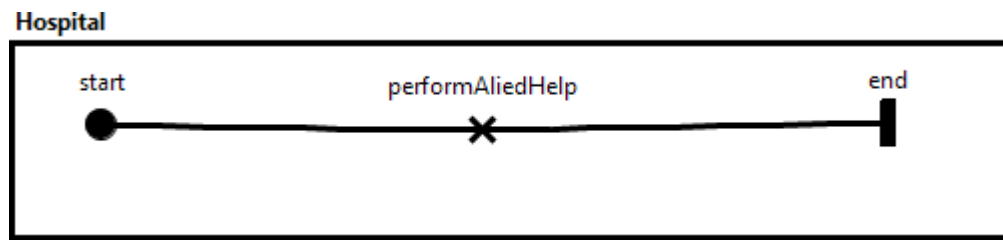


Figure 4 - AlliedHelp

Description

Allied Help

Responsibilities

performAlieidHelp

Expression: $\text{nextStepInCarePlan} = \text{nextStepInCarePlan} + 1;$

ManageChronicHealthProblems

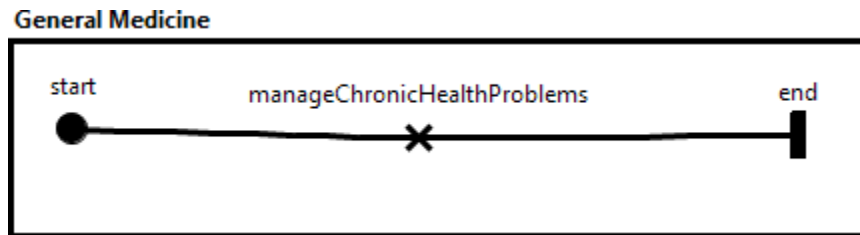


Figure 5 - ManageChronicHealthProblems

Description

manage chronic health problems

Responsibilities

manageChronicHealthProblems

Expression

toManageChronicHealthProblems = false;

numOfStepsInPostDischarge = numOfStepsInPostDischarge - 1;

PhysicalTherapy

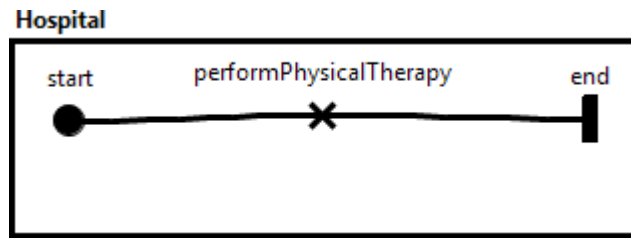


Figure 6 - PhysicalTherapy

Description

Physical Therapy

Responsibilities

performPhysicalTherapy

Expression: $\text{nextStepInCarePlan} = \text{nextStepInCarePlan} + 1;$

Procedures

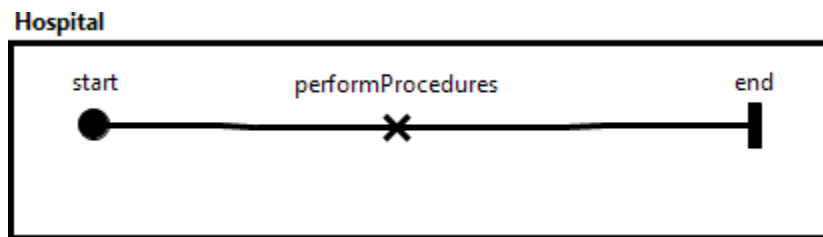


Figure 7 - Procedures

Responsibilities

performProcedures

Expression: $\text{nextStepInCarePlan} = \text{nextStepInCarePlan} + 1;$

GRL-Adequate Follow-up

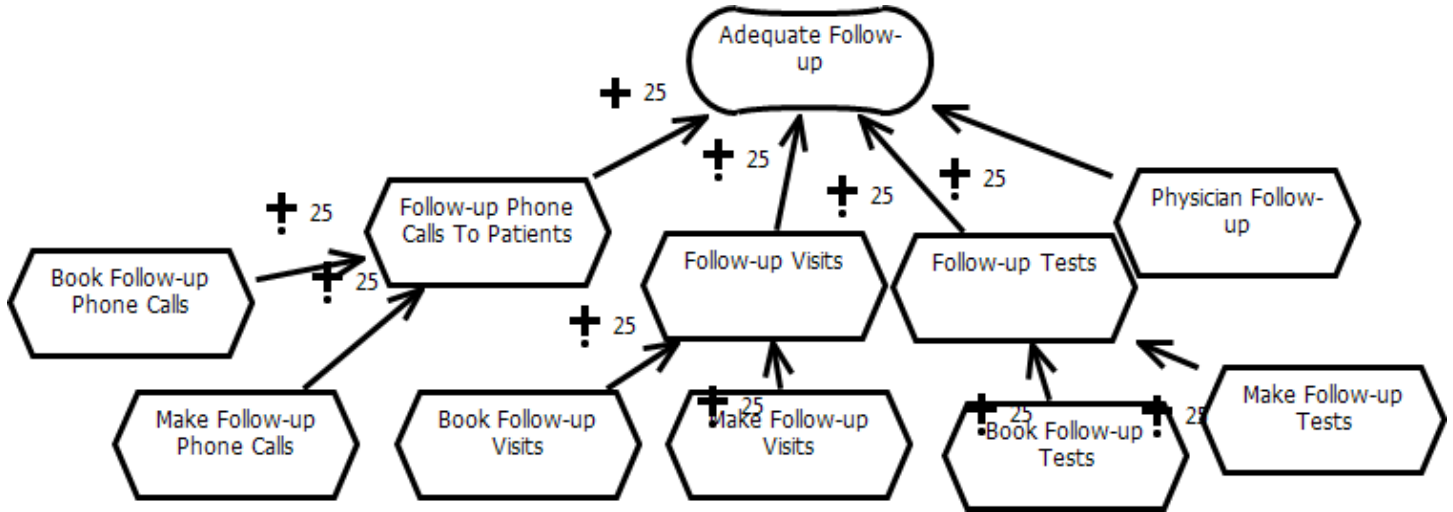


Figure 8 - GRL-Adequate Follow-up

BookFollowUpRadiologyTests

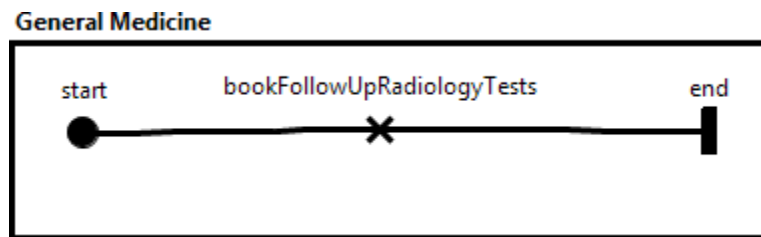


Figure 9 - BookFollowUpRadiologyTests

Responsibilities

bookFollowUpRadiologyTests

Expression

nextStepInDischargePlan = nextStepInDischargePlan + 1;

toFollowUpRadiologyTests = true;

numOfStepsInPostDischarge = numOfStepsInPostDischarge + 1;

FollowUpRadiologyTests

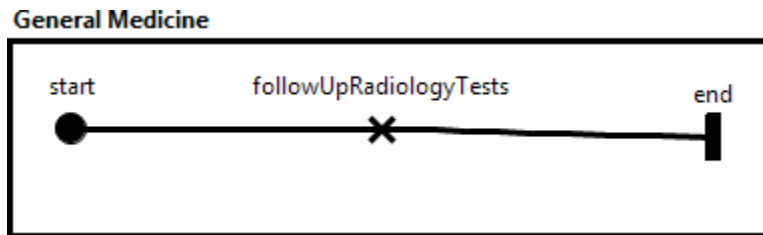


Figure 10 - FollowUpRadiologyTests

Description

f/u radiology tests (including review results)

Responsibilities

followUpRadiologyTests

Expression

toFollowUpRadiologyTests = false;

numOfStepsInPostDischarge = numOfStepsInPostDischarge - 1;

GRL-Discharging Process Improvement - Readmission

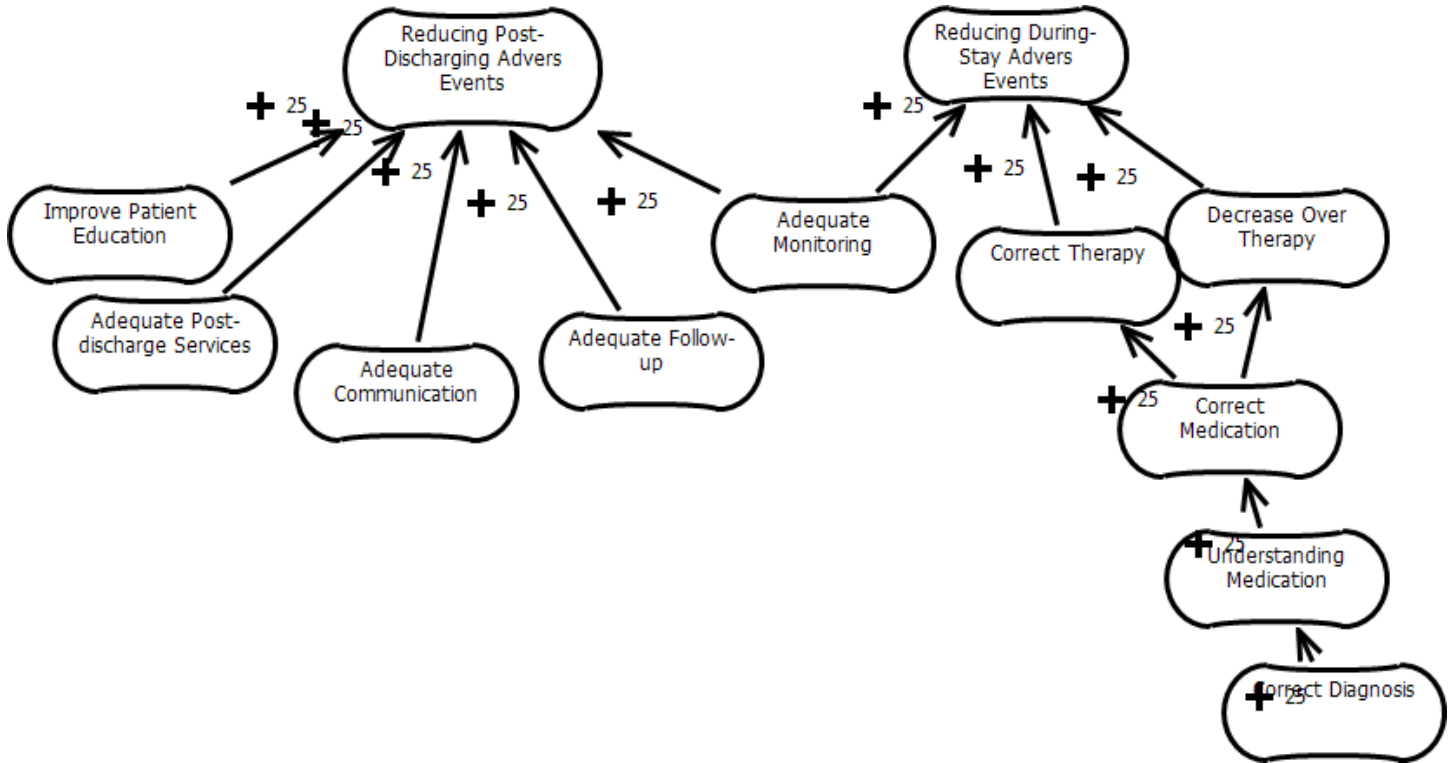


Figure 11 - GRL-Discharging Process Improvement - Readmission

WaitingForExternalEntities

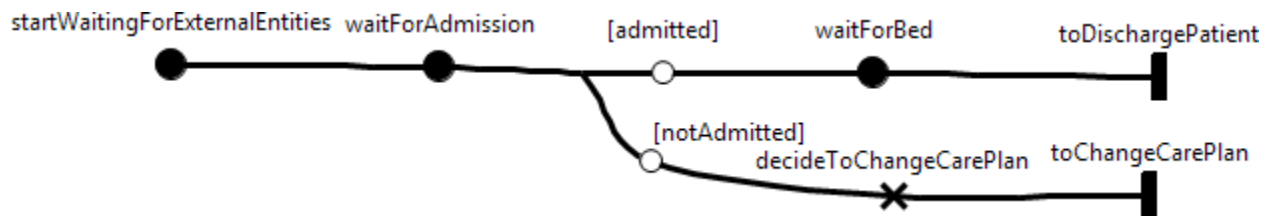


Figure 12 - WaitingForExternalEntities

Responsibilities

decideToChangeCarePlan

Expression

```
if (e_isPatientDiedInWaitingForExternalEntities) {  
    currentPatientStatus = PATIENT_DIES;  
} else {  
    needToChangeDischargePlan = needToChangeDischargePlan + 1;  
    currentPatientStatus = BACKF_TO_CHANGE_CAREPLAN;  
}
```

Or Fork Description

(probability: 1.0)

(probability: 1.0)

WaitingPlace

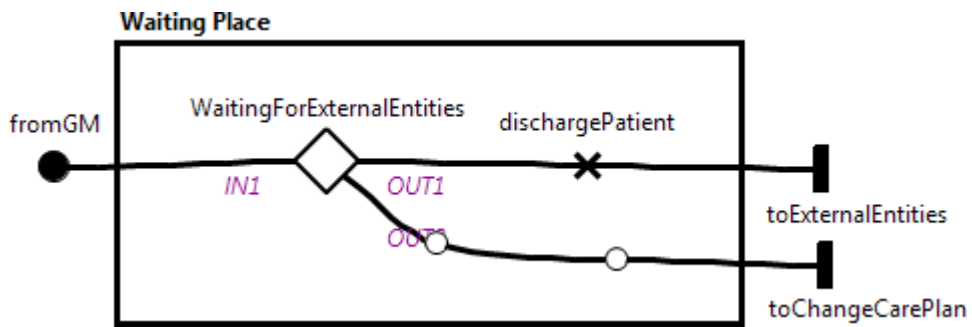


Figure 13 - WaitingPlace

Responsibilities

dischargePatient

Stubs

Static Stub - WaitingForExternalEntities

Plugin Map - WaitingForExternalEntities

Input Bindings:

IN 1 <-> startWaitingForExternalEntities

Output Bindings:

OUT 1 <-> toDischargePatient

OUT 2 <-> toChangeCarePlan

Precondition:

Expression: true

Transaction: false

Probability: 1.0

DischargingProcess

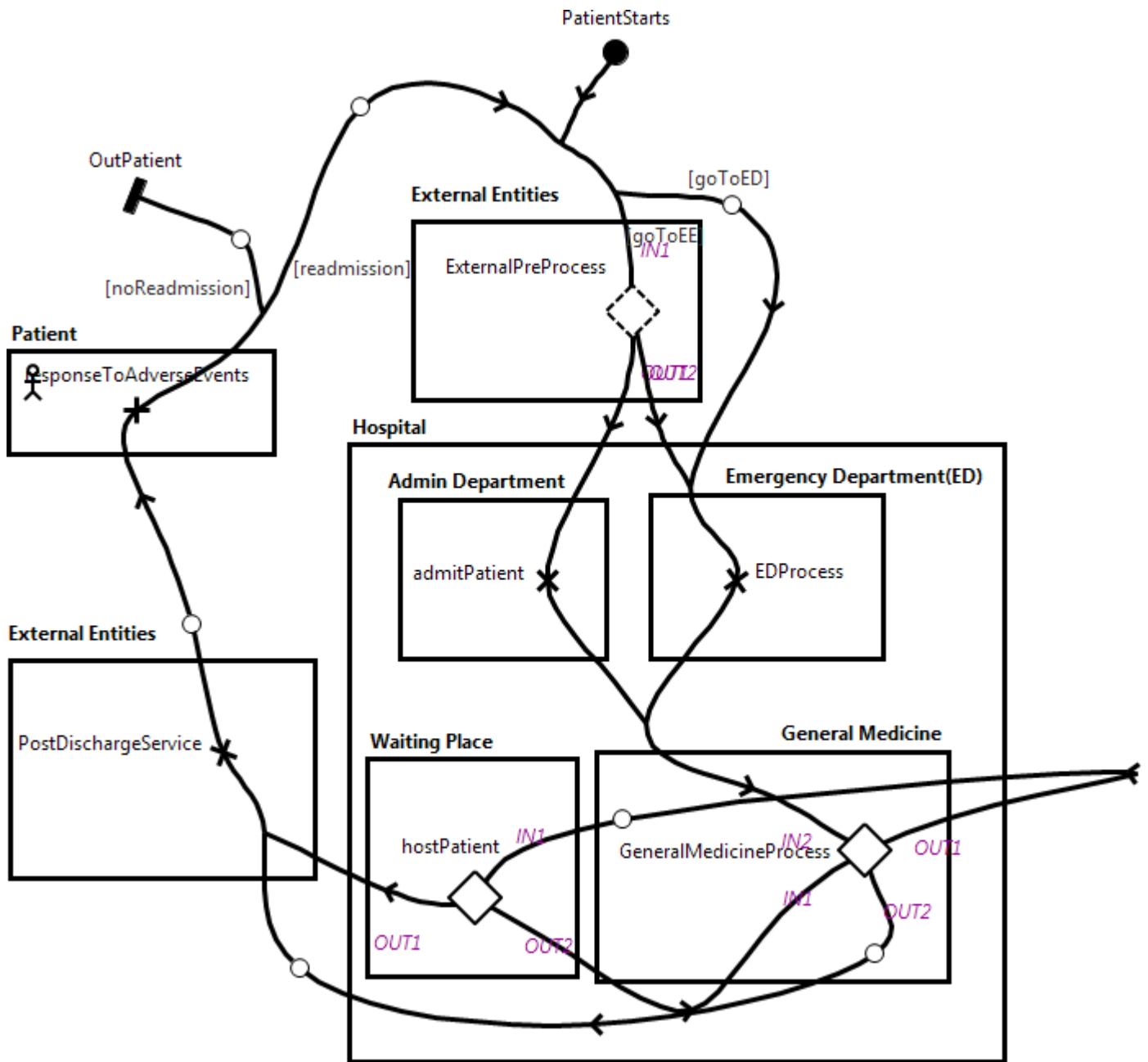


Figure 14 - DischargingProcess

Description

Discharging Process

Responsibilities

admitPatient

Expression

```
if (_admittedByHospital) {
  admittedByHospital = true;
  currentPatientStatus = ENTER_GENERALMEDICINE;
} else {
  currentPatientStatus = UNKNOWN;
  admittedByHospital = false;
}
```

EDProcess

Expression: currentPatientStatus = ENTER_GENERALMEDICINE;

PostDischargeService

responseToAdverseEvents

Expression

```
if (e_adverseEvent_10 == true) {
  readmissionNeeded = true;
  currentPatientStatus = GOTO_EMERGENCYDEPARTMENT;
  _chooseDischargePlan=1;
  _evaluationOfImplementationPassed = true;
  e_adverseEvent_10 = false;
} else {
  readmissionNeeded = false;
}
```

Stubs

Dynamic Stub - ExternalPreProcess

Plugin Map - Clinic

Input Bindings:

IN 1 <-> enterClinic

Output Bindings:

OUT 2 <-> sendToER

OUT 1 <-> sendToAD

Precondition:

Expression: currentPatientStatus == GOTO_CLINIC

Transaction: false

Probability: 1.0

Plugin Map - OtherHospitals

Input Bindings:

IN 1 <-> enterHospitals

Output Bindings:

OUT 1 <-> sendToAD

OUT 2 <-> sendToED

Precondition:

Expression: *currentPatientStatus == GOTO_OTHERHOSPITALS*

Transaction: false

Probability: 1.0

Static Stub - GeneralMedicineProcess

Plugin Map - GeneralMedicineProcess

Input Bindings:

IN 1 <-> enterGeneralMedicine

IN 1 <-> backFromWaitingPlace

Output Bindings:

OUT 1 <-> sendToWaitingPlace

OUT 2 <-> sendToExternalEntities

Precondition:

Expression: *true*

Transaction: false

Probability: 1.0

Static Stub - hostPatient

Plugin Map - WaitingPlace

Input Bindings:

IN 1 <-> fromGM

Output Bindings:

OUT 1 <-> toExternalEntities

OUT 2 <-> toChangeCarePlan

Precondition:

Expression: *true*

Transaction: false

Probability: 1.0

Or Fork Description

[readmission] ==> readmissionNeeded (probability: 1.0)

[noReadmission] ==> !readmissionNeeded (probability: 1.0)

[goToEE] ==> currentPatientStatus == GOTO_CLINIC ||

currentPatientStatus == GOTO_OTHERHOSPITALS (probability: 1.0)

[goToED] ==> currentPatientStatus == GOTO_EMERGENCYDEPARTMENT (probability: 1.0)

Medicating

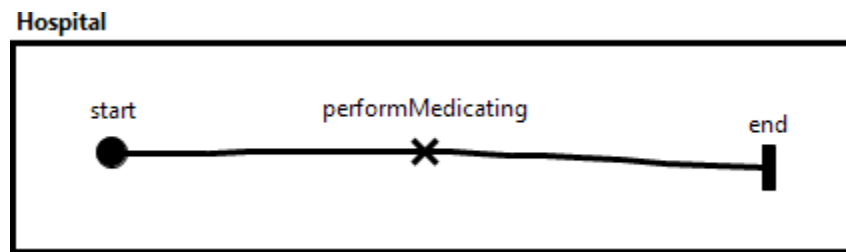


Figure 15 - Medicating

Responsibilities

performMedicating

Expression: $\text{nextStepInCarePlan} = \text{nextStepInCarePlan} + 1;$

DeathDischarging

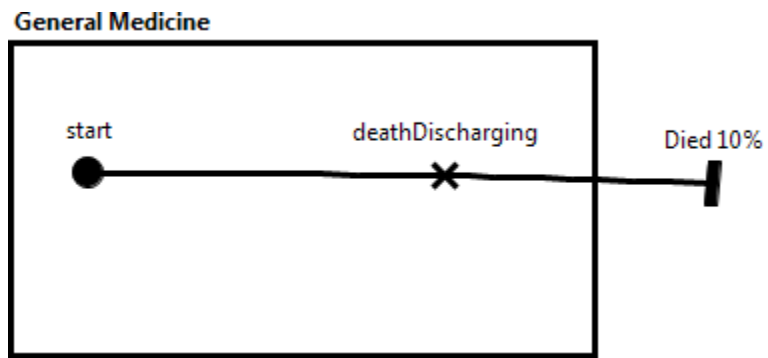


Figure 16 - DeathDischarging

Responsibilities

deathDischarging

OtherHospitals

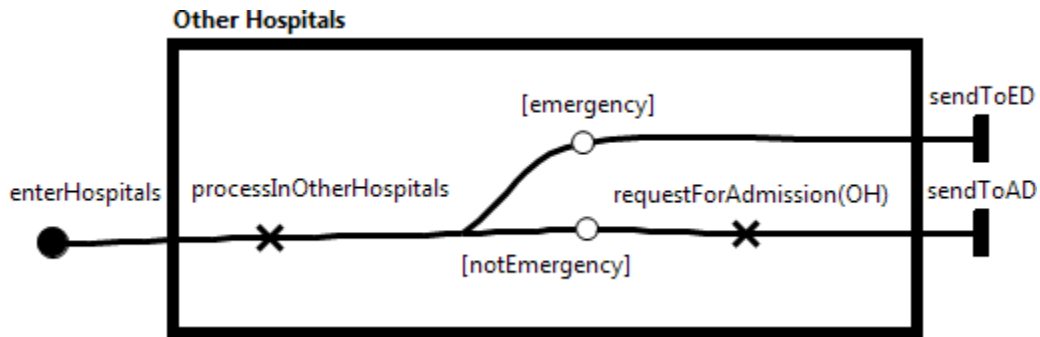


Figure 17 - OtherHospitals

Responsibilities

requestForAdmission(OH)

processInOtherHospitals

Expression

```
if (_gotoAD_ED == 1) {  
    currentPatientStatus = GOTO_HOSPITALADMISSION;  
} else if (_gotoAD_ED == 2) {  
    currentPatientStatus = GOTO_EMERGENCYDEPARTMENT;  
}
```

Or Fork Description

(probability: 1.0)

(probability: 1.0)

KPI-Book Follow-up Tests

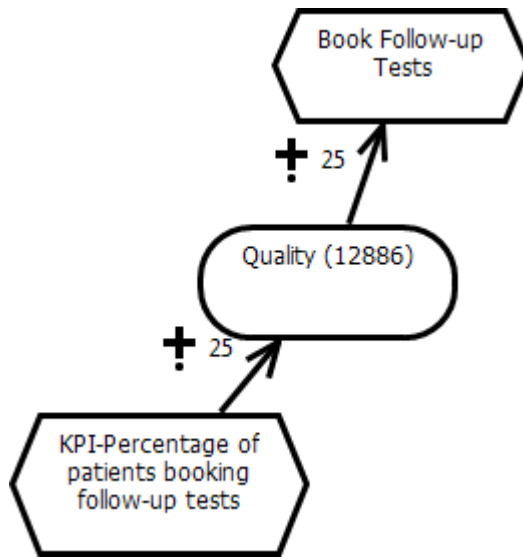


Figure 18 - KPI-Book Follow-up Tests

WriteDischargePrescription

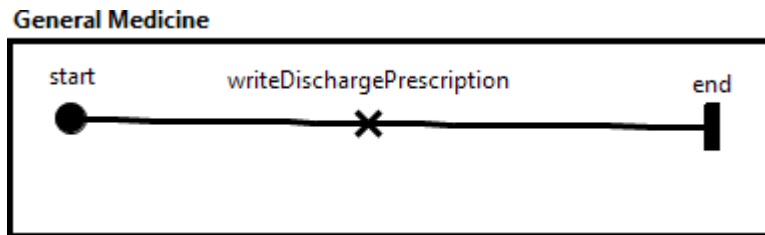


Figure 19 - WriteDischargePrescription

Description

write d/c prescription

Responsibilities

writeDischargePrescription

Expression: $\text{nextStepInDischargePlan} = \text{nextStepInDischargePlan} + 1;$

Transcription

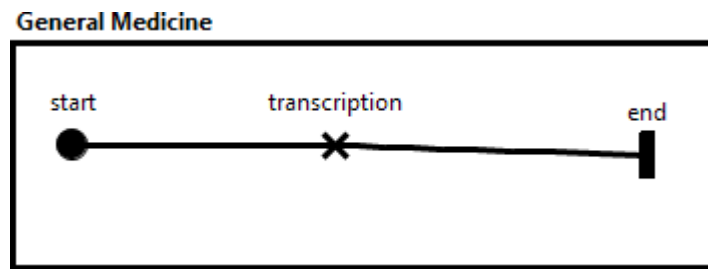


Figure 20 - Transcription

Responsibilities

transcription

FinalAssessment

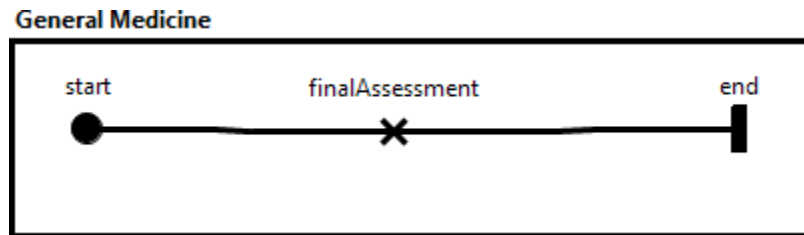


Figure 21 - FinalAssessment

Description

final assessment of vital signs and other important physiological/functional parameters

Responsibilities

finalAssessment

Expression: $\text{nextStepInDischargePlan} = \text{nextStepInDischargePlan} + 1;$

EducatePatient

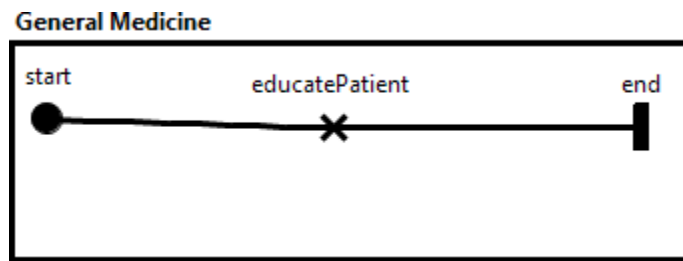


Figure 22 - EducatePatient

Description

educate patient (and/ or family) regarding medications, medical condition,required f/u

Responsibilities

educatePatient

Expression: $\text{nextStepInDischargePlan} = \text{nextStepInDischargePlan} + 1;$

ActivateHomeCare

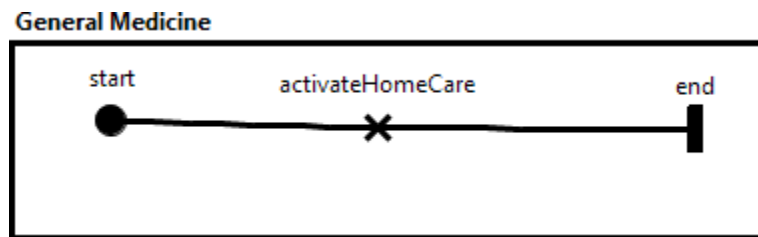


Figure 23 - ActivateHomeCare

Description

activate home care

Responsibilities

activateHomeCare

Expression

```
nextStepInDischargePlan = nextStepInDischargePlan + 1;  
isHomeCareActivated = true;
```

DictateDischargeSummary

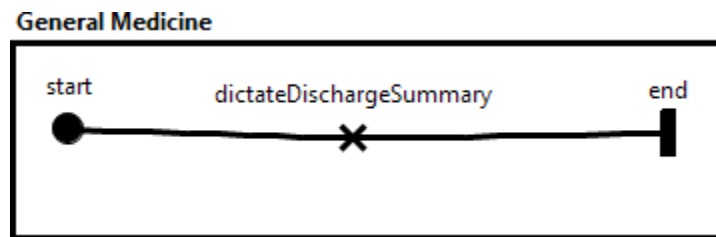


Figure 24 - DictateDischargeSummary

Description

dictate d/c summary

Responsibilities

dictateDischargeSummary

EnlistFamilyCareGiver

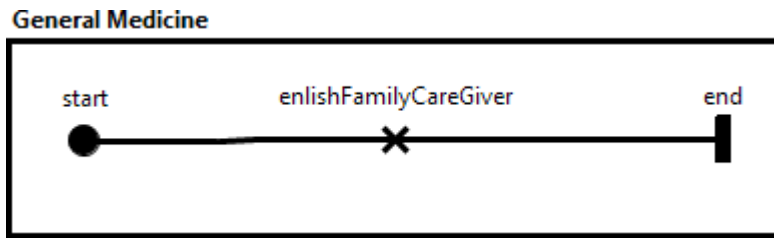


Figure 25 - EnlistFamilyCareGiver

Description

enlist family care giver

Responsibilities

enlishFamilyCareGiver

Expression: $\text{nextStepInDischargePlan} = \text{nextStepInDischargePlan} + 1;$

ConsultationPlanService

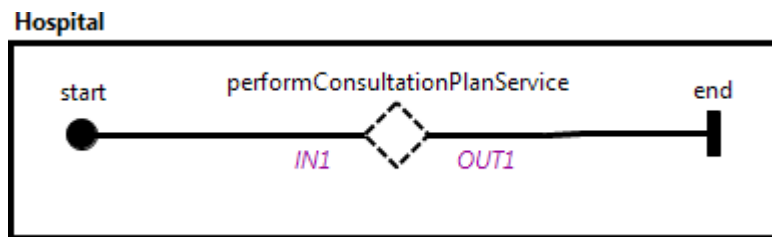


Figure 26 - ConsultationPlanService

Stubs

Dynamic Stub - performConsultationPlanService

Plugin Map - OccupationalTherapy

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: currentConsultationPlanService == OCCUPATIONALTHERAPY

Transaction: false

Probability: 1.0

Plugin Map - PhysicalTherapy

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: currentConsultationPlanService == PHYSICALTHERAPY

Transaction: false

Probability: 1.0

AnswerQuestions

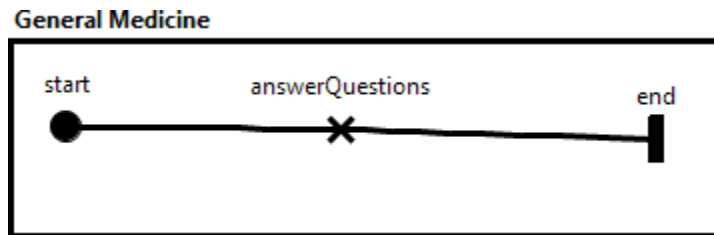


Figure 27 - AnswerQuestions

Description

answer questions from: community pharmacist, homecare, doctor, patient

Responsibilities

answerQuestions

Expression

toAnswerQuestions = false;

numOfStepsInPostDischarge = numOfStepsInPostDischarge - 1;

GRL-Adequate Monitoring

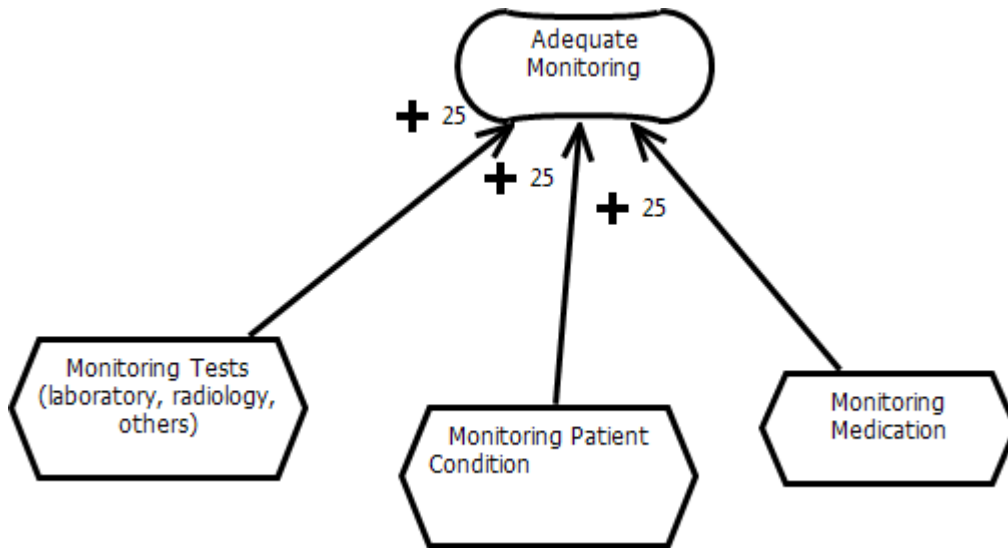


Figure 28 - GRL-Adequate Monitoring

Transmission

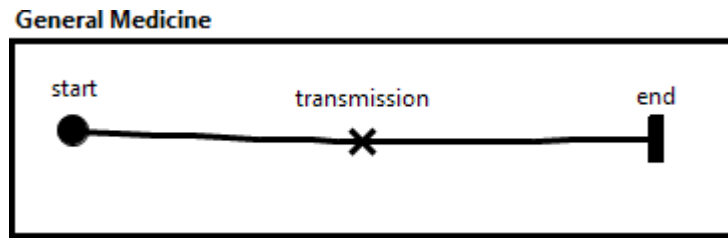


Figure 29 - Transmission

Responsibilities

transmission

Expression: $\text{nextStepInDischargePlan} = \text{nextStepInDischargePlan} + 1;$

DictateProcess

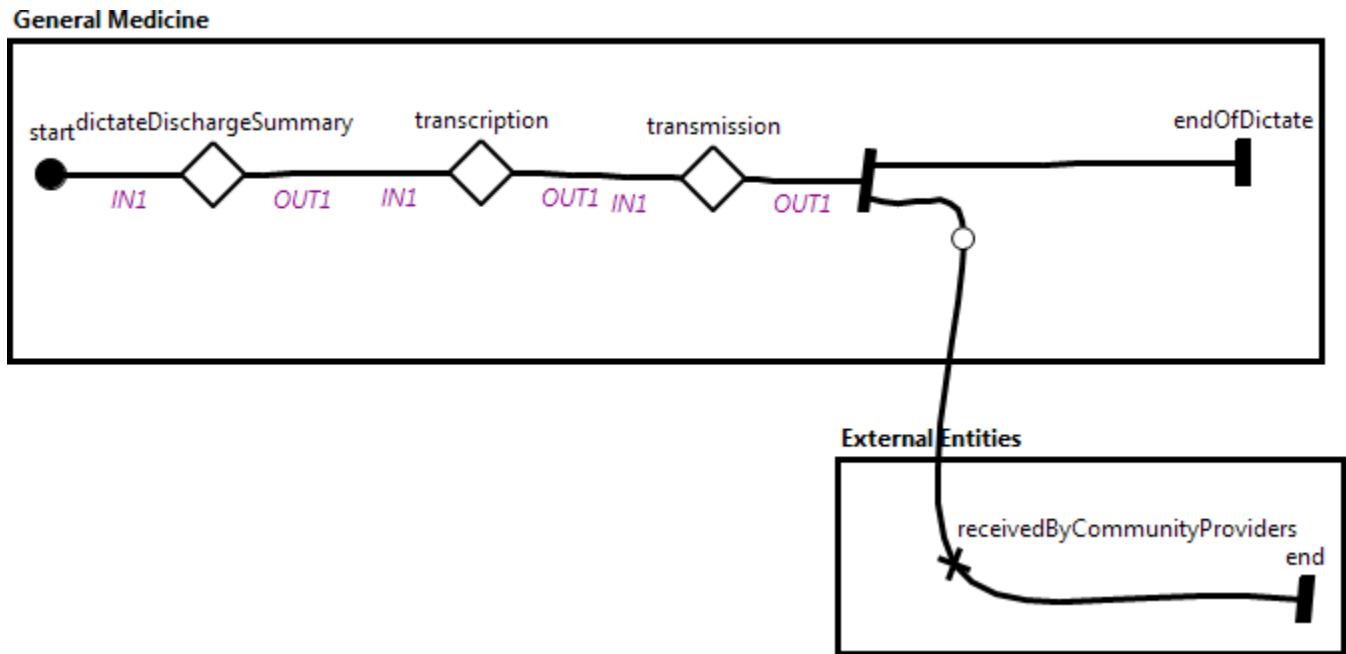


Figure 30 - DictateProcess

Responsibilities

receivedByCommunityProviders

Expression

admittedByGM=true;

admittedByHospital=true;

Stubs

Static Stub - dictateDischargeSummary

Plugin Map - DictateDischargeSummary

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: true

Transaction: false

Probability: 1.0

Static Stub - transcription

Plugin Map - Transcription

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: true

Transaction: false

Probability: 1.0

Static Stub - transmission

Plugin Map - Transmission

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: true

Transaction: false

Probability: 1.0

BookFollowUpVisits



Figure 31 - BookFollowUpVisits

Description

book f/u visits

Responsibilities

bookFollowUpVisits

Expression

nextStepInDischargePlan = nextStepInDischargePlan + 1;

toPerformFollowUpVisit = true;

numOfStepsInPostDischarge = numOfStepsInPostDischarge + 1;

GRL-Discharging Process Improvement - Top Level Goals

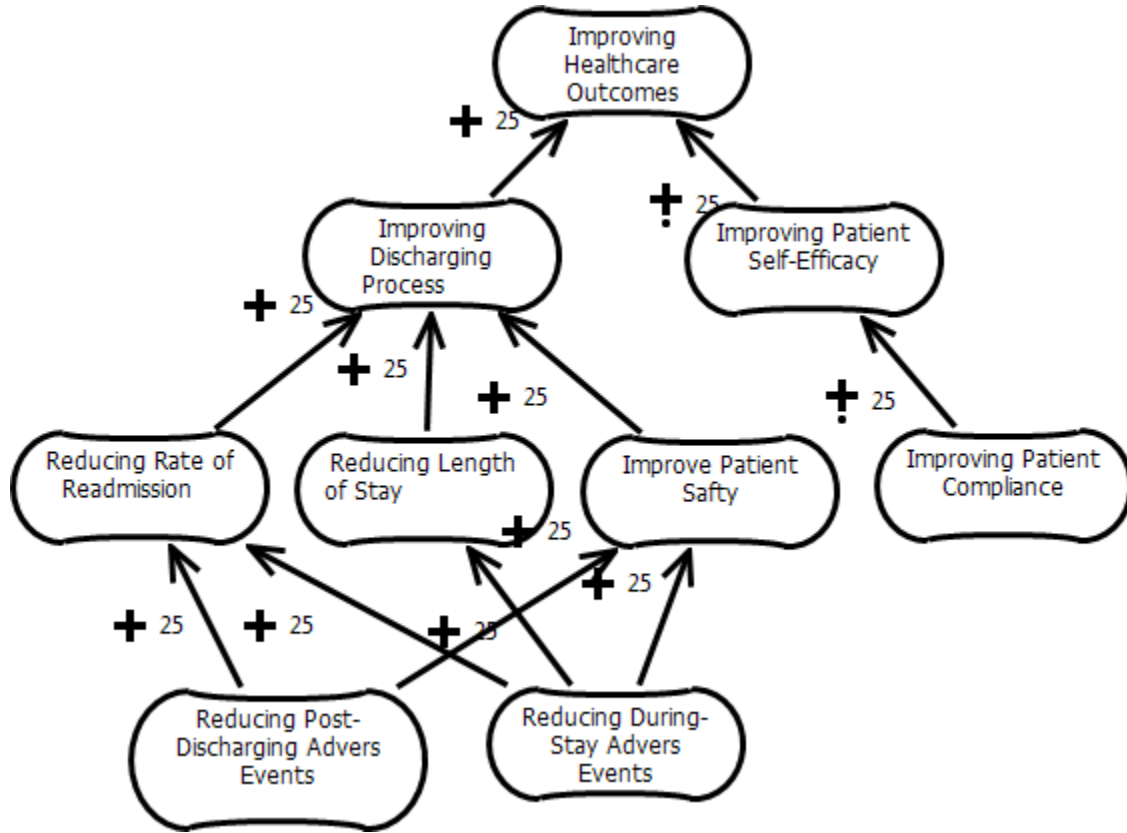


Figure 32 - GRL-Discharging Process Improvement - Top Level Goals

FollowUpLabTests

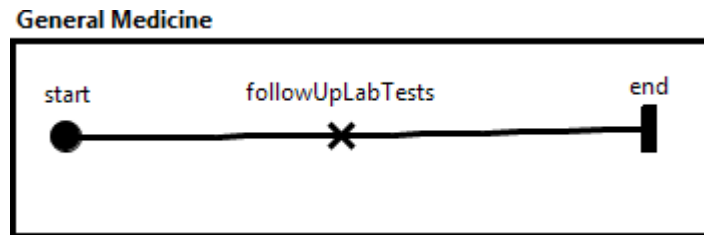


Figure 33 - FollowUpLabTests

Description

f/u lab tests (including review results)

Responsibilities

followUpLabTests

Expression

toFollowUpLabTests = false;

numOfStepsInPostDischarge = numOfStepsInPostDischarge - 1;

KPI-Transcription

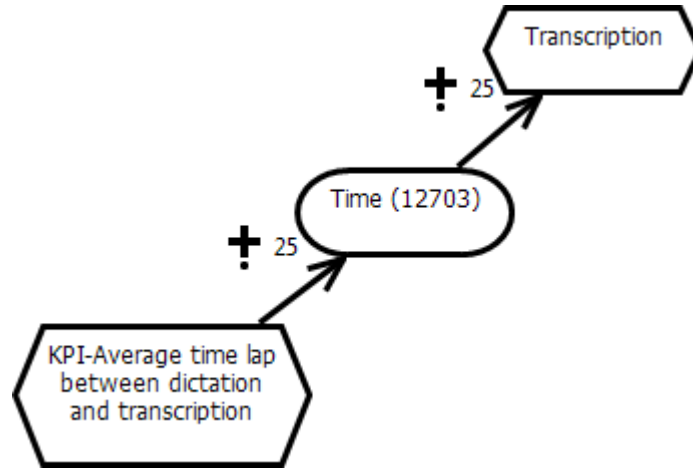


Figure 34 - KPI-Transcription

EnterPatientIntoFollowUpPhoneSystem

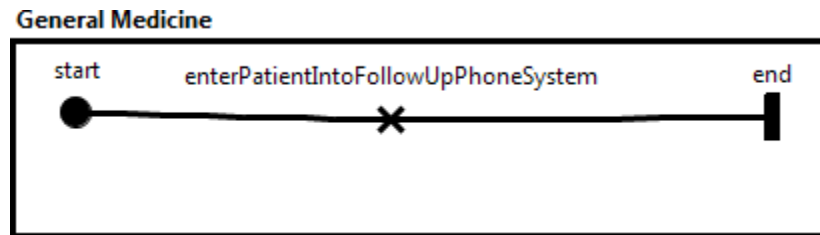


Figure 35 - EnterPatientIntoFollowUpPhoneSystem

Description

enter patient into f/u phone system

Responsibilities

enterPatientIntoFollowUpPhoneSystem

Expression

nextStepInDischargePlan = nextStepInDischargePlan + 1;

toMonitorPhoneSystem = true;

numOfStepsInPostDischarge = numOfStepsInPostDischarge + 1;

KPI-Reducing Length of Stay

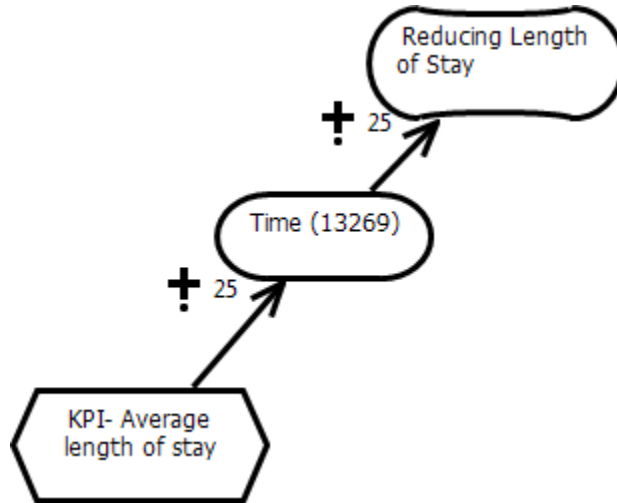


Figure 36 - KPI-Reducing Length of Stay

Rehabilitant

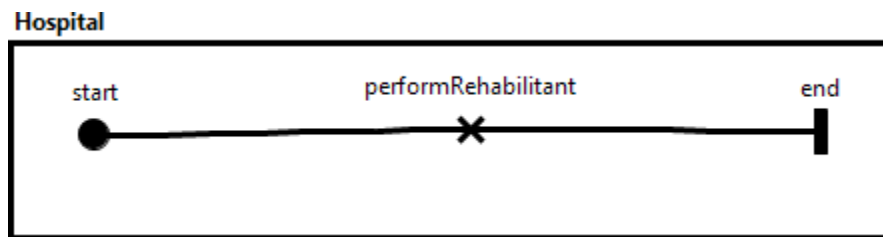


Figure 37 - Rehabilitant

Responsibilities

performRehabilitant

Expression: $\text{nextStepInCarePlan} = \text{nextStepInCarePlan} + 1;$

AdmissionProcess

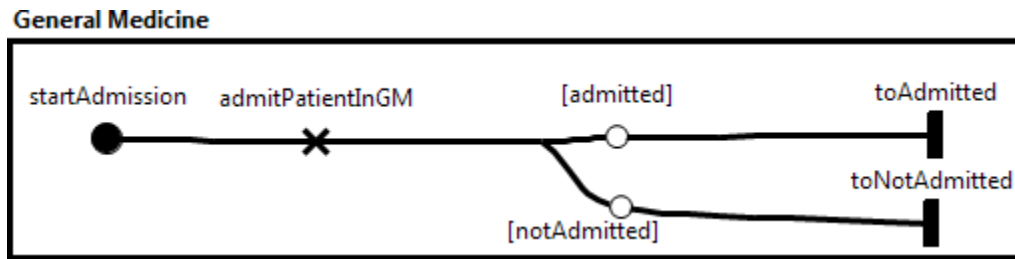


Figure 38 - AdmissionProcess

Responsibilities

admitPatientInGM

Expression

```
nextStepInCarePlan = 0;
numOfStepsInCarePlan = 0;
needToChangeCarePlan = 0;
timesOfChangingCarePlan = 0;
```

```
nextStepInDischargePlan = 0;
numOfStepsInDischargePlan = 0;
needToChangeDischargePlan = 0;
timesOfChangingDischargePlan = 0;
isHomeCareActivated = false;
```

```
if (_admittedByGM) {
    admittedByGM = true;
    currentPatientStatus = GOTO_ESTABLISH_CAREPLAN;
} else {
    admittedByGM = false;
    currentPatientStatus = UNKNOWN;
}
```

Or Fork Description

(probability: 1.0)

(probability: 1.0)

OccupationalTherapy

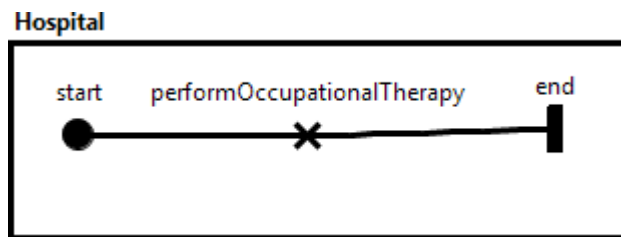


Figure 39 - OccupationalTherapy

Description

Occupational Therapy

Responsibilities

performOccupationalTherapy

Expression: $\text{nextStepInCarePlan} = \text{nextStepInCarePlan} + 1;$

DischargeToHome

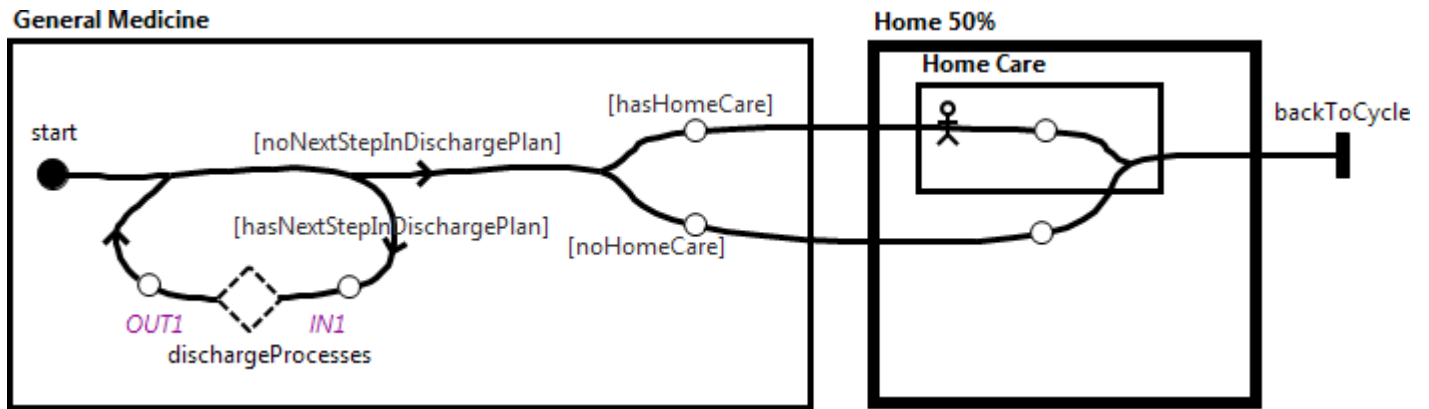


Figure 40 - DischargeToHome

Stubs

Dynamic Stub - dischargeProcesses

Plugin Map - EducatePatient

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 1) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 1) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 1) ||

((currentDischargePlan == DISCHARGEPLAN4) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 1))

Transaction: false

Probability: 1.0

Plugin Map - BookFollowUpVisits

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: false

Transaction: false

Probability: 1.0

Plugin Map - WriteDischargePrescription

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 2)) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 2)) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 2)) ||

((currentDischargePlan == DISCHARGEPLAN4) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 2))

Transaction: false

Probability: 1.0

Plugin Map - WriteDischargeLetter

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 3) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 3) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 3) ||

((currentDischargePlan == DISCHARGEPLAN4) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 3))

Transaction: false

Probability: 1.0

Plugin Map - CallCareProviders

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 7) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 8) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 7))

Transaction: false

Probability: 1.0

Plugin Map - BookFollowUpLaboratoryTests

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 10) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 7))

Transaction: false

Probability: 1.0

Plugin Map - EnterPatientIntoFollowUpPhoneSystem

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 8) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 9) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 8))

Transaction: false

Probability: 1.0

Plugin Map - ActivateHomeCare

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 9) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 10))

Transaction: false

Probability: 1.0

Plugin Map - FinalAssessment

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 4) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 4) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 4))

Transaction: false

Probability: 1.0

Plugin Map - EnlistFamilyCareGiver

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 6) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 6) ||
((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 6))

Transaction: false

Probability: 1.0

Plugin Map - DictateProcess

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> endOfDictate

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 5) ||
((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 5) ||
((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 5) ||
((currentDischargePlan == DISCHARGEPLAN4) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 4))

Transaction: false

Probability: 1.0

Plugin Map - BookFollowUpRadiologyTests

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(nextStepInDischargePlan == 11))

Transaction: false

Probability: 1.0

Or Fork Description

[noHomeCare] ==> isHomeCareActivated == false (probability: 1.0)

[hasHomeCare] ==> isHomeCareActivated == true (probability: 1.0)

[hasNextStepInDischargePlan] ==> nextStepInDischargePlan <= numOfStepsInDischargePlan (probability: 1.0)

[noNextStepInDischargePlan] ==> nextStepInDischargePlan > numOfStepsInDischargePlan (probability: 1.0)

CallCareProviders

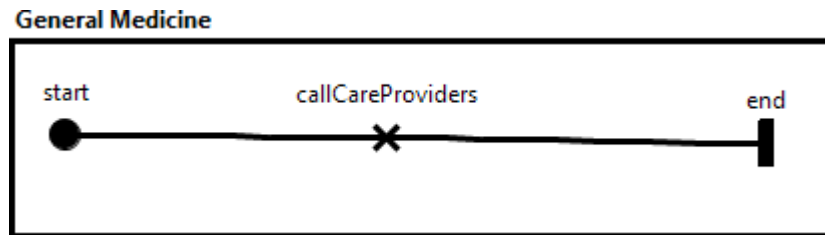


Figure 41 - CallCareProviders

Description

Call family doctor and other continuing care providers

Responsibilities

callCareProviders

Expression: $\text{nextStepInDischargePlan} = \text{nextStepInDischargePlan} + 1;$

GRL-Adequate Communication

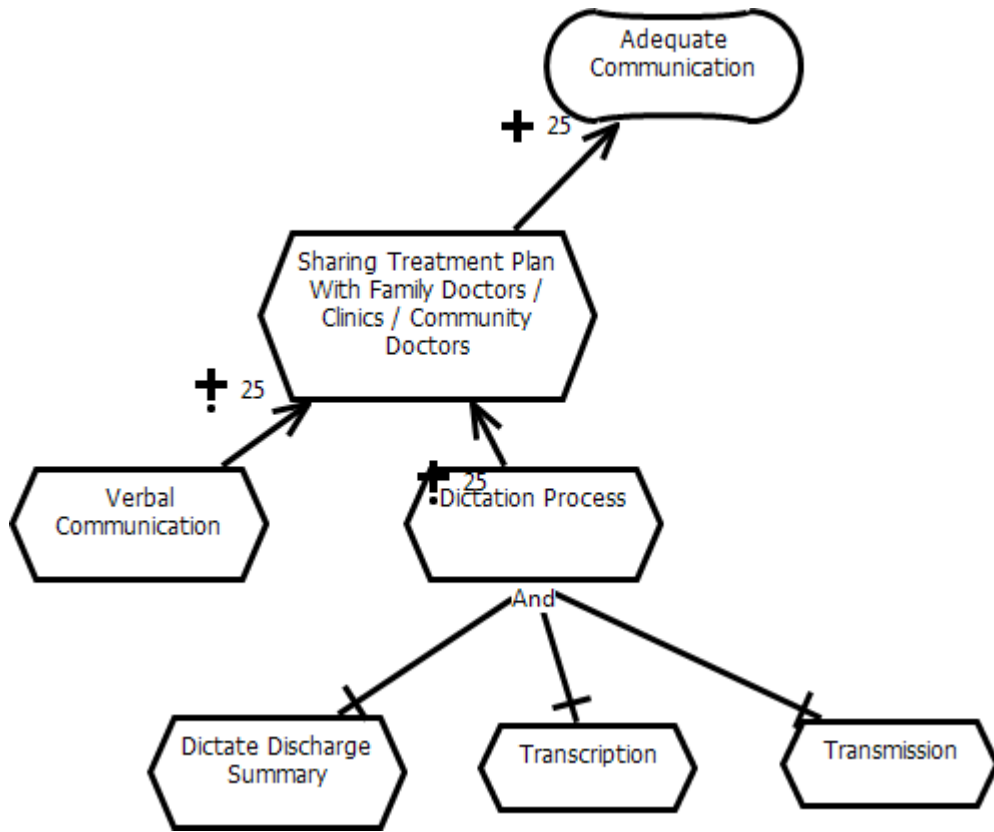


Figure 42 - GRL-Adequate Communication

RadiologyTests

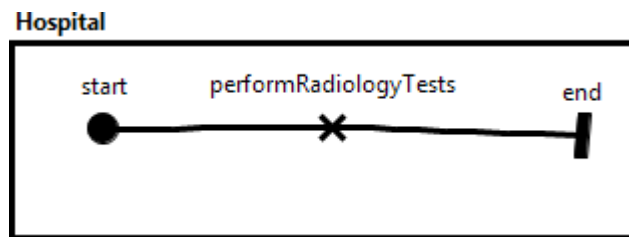


Figure 43 - RadiologyTests

Responsibilities

performRadiologyTests

Expression: $\text{nextStepInCarePlan} = \text{nextStepInCarePlan} + 1;$

KPI-Transmission

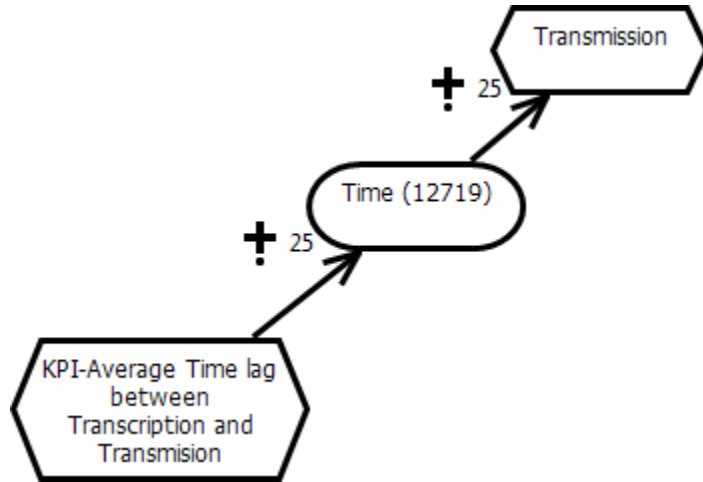


Figure 44 - KPI-Transmission

GeneralMedicineProcess

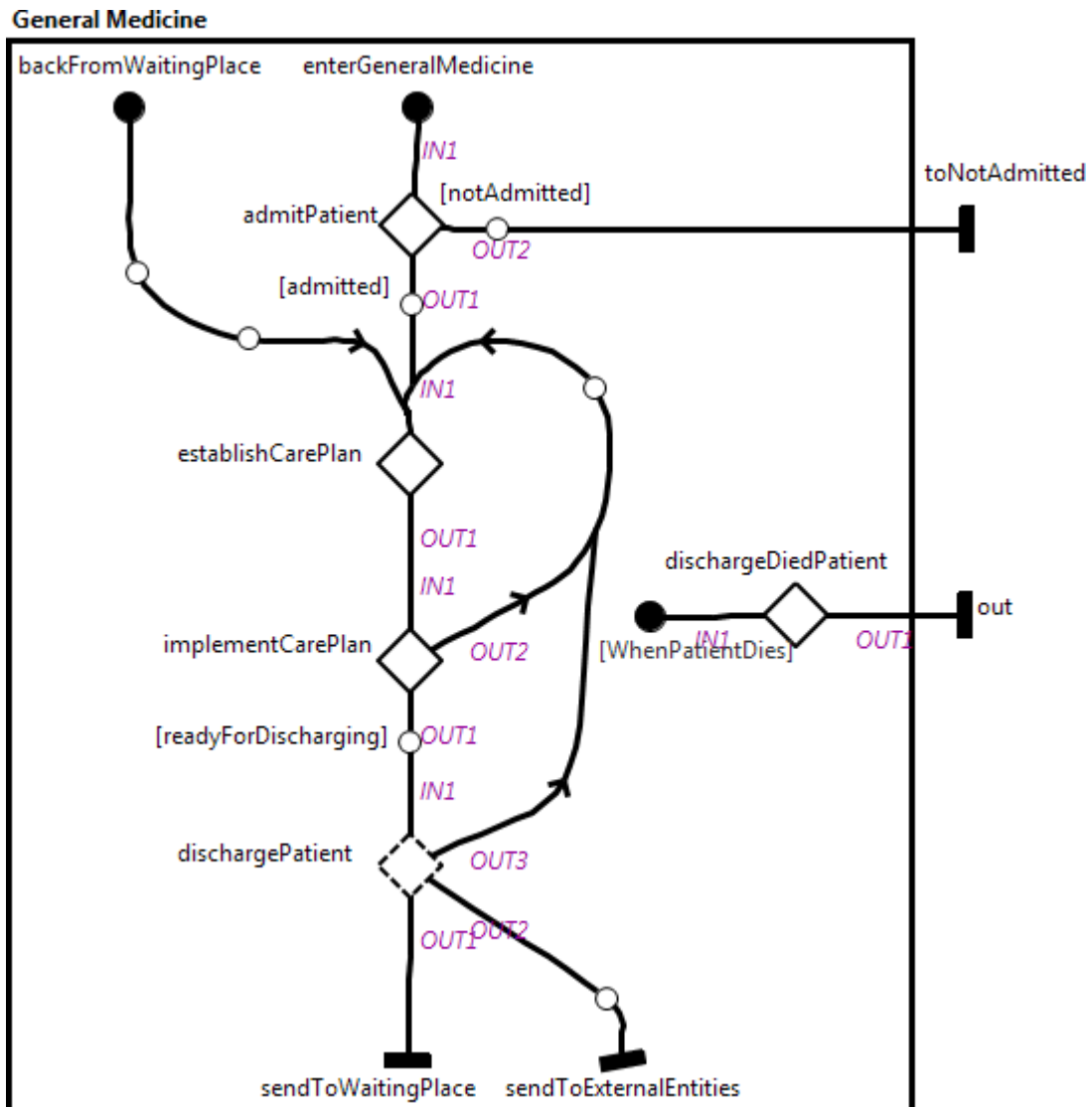


Figure 45 - GeneralMedicineProcess

Stubs

Static Stub - admitPatient

Plugin Map - AdmissionProcess

Input Bindings:

IN 1 <-> startAdmission

Output Bindings:

OUT 1 <-> toAdmitted

OUT 2 <-> toNotAdmitted

Precondition:

Expression: true

Transaction: false

Probability: 1.0

Static Stub - establishCarePlan

Plugin Map - establishCarePlan

Input Bindings:

IN 1 <-> startEstablishingCarePlan

Output Bindings:

OUT 1 <-> toImplementCarePlan

Precondition:

Expression: true

Transaction: false

Probability: 1.0

Dynamic Stub - dischargePatient

Plugin Map - DischargeToHome

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 2 <-> backToCycle

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(timesOfChangingDischargePlan == 1)) ||

((currentDischargePlan == DISCHARGEPLAN2) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan)) ||

((currentDischargePlan == DISCHARGEPLAN4) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan))

Transaction: false

Probability: 1.0

Plugin Map - DischargeToOtherPlaces

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> sendPatientsToWaitingPlace

OUT 2 <-> toExternalEntities

OUT 3 <-> toChangeCarePlan

Precondition:

Expression: ((currentDischargePlan == DISCHARGEPLAN1) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan) &&

(timesOfChangingDischargePlan == 0)) ||

((currentDischargePlan == DISCHARGEPLAN3) &&

(nextStepInDischargePlan <= numOfStepsInDischargePlan))

Transaction: false

Probability: 1.0

Static Stub - implementCarePlan

Plugin Map - CarePlanImplementation

Input Bindings:

IN 1 <-> startImplementingCarePlan

Output Bindings:

OUT 1 <-> toDischarge

OUT 2 <-> toEstablishCarePlan

Precondition:

Expression: true

Transaction: false

Probability: 1.0

Static Stub - dischargeDiedPatient

Plugin Map - DeathDischarging

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> Died 10%

Precondition:

Expression: currentPatientStatus == PATIENT_DIES

Transaction: false

Probability: 1.0

Start Point

[WhenPatientDies]

Precondition [WhenPatientDies] ==> currentPatientStatus == PATIENT_DIES

establishCarePlan

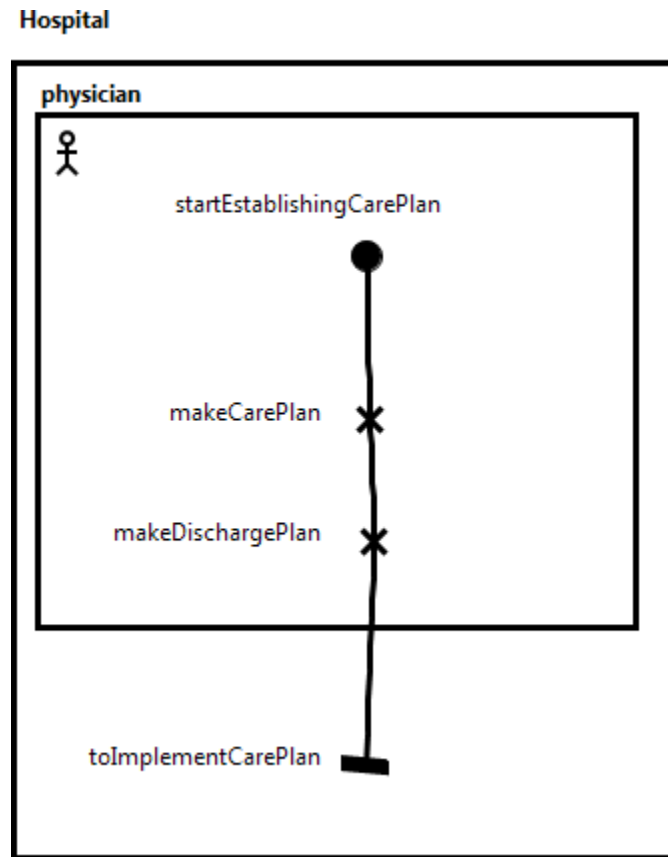


Figure 46 - establishCarePlan

Responsibilities

makeCarePlan

Expression

```
if (_chooseCarePlan == 1) {
  if (currentPatientStatus == GOTO_ESTABLISH_CAREPLAN) {
    currentCarePlan = CAREPLAN1;
    nextStepInCarePlan = 1;
    numOfStepsInCarePlan = 4;
    currentConsultationPlanService = OCCUPATIONALTHERAPY;
    needToChangeCarePlan = 0;
    timesOfChangingCarePlan = 0;
  } else if (currentPatientStatus == BACKF_TO_CHANGE_CAREPLAN) {
    if (needToChangeCarePlan > 0 && timesOfChangingCarePlan < needToChangeCarePlan) {
      numOfStepsInCarePlan = numOfStepsInCarePlan + 4;
    }
  }
}
```

```
    timesOfChangingCarePlan = timesOfChangingCarePlan + 1;
  }
}
} else if (_chooseCarePlan == 2) {
  if (currentPatientStatus == GOTO_ESTABLISH_CAREPLAN) {
    currentCarePlan = CAREPLAN2;
    nextStepInCarePlan = 1;
    numOfStepsInCarePlan = 5;
    currentConsultationPlanService = PHYSICALTHERAPY;
    needToChangeCarePlan = 0;
  } else if (currentPatientStatus == BACKF_TO_CHANGE_CAREPLAN) {
    if (needToChangeCarePlan > 0 && timesOfChangingCarePlan < needToChangeCarePlan) {
      timesOfChangingCarePlan = timesOfChangingCarePlan + 1;
    }
  }
}
```

makeDischargePlan

Expression

```
if (_chooseDischargePlan == 1) {
  if (currentPatientStatus == GOTO_ESTABLISH_CAREPLAN) {
    currentDischargePlan = DISCHARGEPLAN1;
    nextStepInDischargePlan = 1;
    numOfStepsInDischargePlan = 8;
    needToChangeDischargePlan = 0;
    timesOfChangingDischargePlan = 0;
    numOfStepsInPostDischarge = 0;
  } else if (currentPatientStatus == BACKF_TO_CHANGE_CAREPLAN) {
    if (needToChangeDischargePlan > 0 && timesOfChangingDischargePlan < needToChangeDischargePlan) {
      numOfStepsInDischargePlan = numOfStepsInDischargePlan + 3;
      timesOfChangingDischargePlan = timesOfChangingDischargePlan + 1;
    }
  }
} else if (_chooseDischargePlan == 2) {
  if (currentPatientStatus == GOTO_ESTABLISH_CAREPLAN) {
    currentDischargePlan = DISCHARGEPLAN2;
    nextStepInDischargePlan = 1;
    numOfStepsInDischargePlan = 10;
    needToChangeDischargePlan = 0;
    timesOfChangingDischargePlan = 0;
  }
}
```

```
    numOfStepsInPostDischarge = 0;
  } else if (currentPatientStatus == BACKF_TO_CHANGE_CAREPLAN) {
    if (needToChangeDischargePlan > 0 && timesOfChangingDischargePlan < needToChangeDischargePlan) {
      timesOfChangingDischargePlan = timesOfChangingDischargePlan + 1;
    }
  }
} else if (_chooseDischargePlan == 3) {
  if (currentPatientStatus == GOTO_ESTABLISH_CAREPLAN) {
    currentDischargePlan = DISCHARGEPLAN3;
    nextStepInDischargePlan = 1;
    numOfStepsInDischargePlan = 8;
    needToChangeDischargePlan = 0;
    timesOfChangingDischargePlan = 0;
    numOfStepsInPostDischarge = 0;
  } else if (currentPatientStatus == BACKF_TO_CHANGE_CAREPLAN) {
    if (needToChangeDischargePlan > 0 && timesOfChangingDischargePlan < needToChangeDischargePlan) {
      timesOfChangingDischargePlan = timesOfChangingDischargePlan + 1;
    }
  }
} else if (_chooseDischargePlan == 4) {
  if (currentPatientStatus == GOTO_ESTABLISH_CAREPLAN) {
    currentDischargePlan = DISCHARGEPLAN4;
    nextStepInDischargePlan = 1;
    numOfStepsInDischargePlan = 4;
    needToChangeDischargePlan = 0;
    timesOfChangingDischargePlan = 0;
    numOfStepsInPostDischarge = 0;
  } else if (currentPatientStatus == BACKF_TO_CHANGE_CAREPLAN) {
    if (needToChangeDischargePlan > 0 && timesOfChangingDischargePlan < needToChangeDischargePlan) {
      timesOfChangingDischargePlan = timesOfChangingDischargePlan + 1;
    }
  }
}

currentPatientStatus = GOTO_IMPLEMENT_CAREPLAN;
```

GRL-Adequate Post-discharge Services

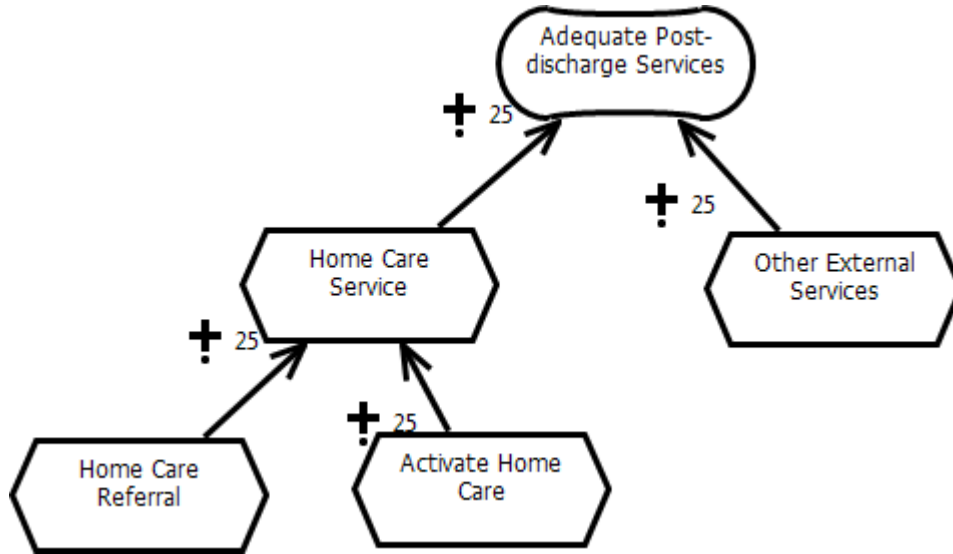


Figure 47 - GRL-Adequate Post-discharge Services

CarePlanImplementation

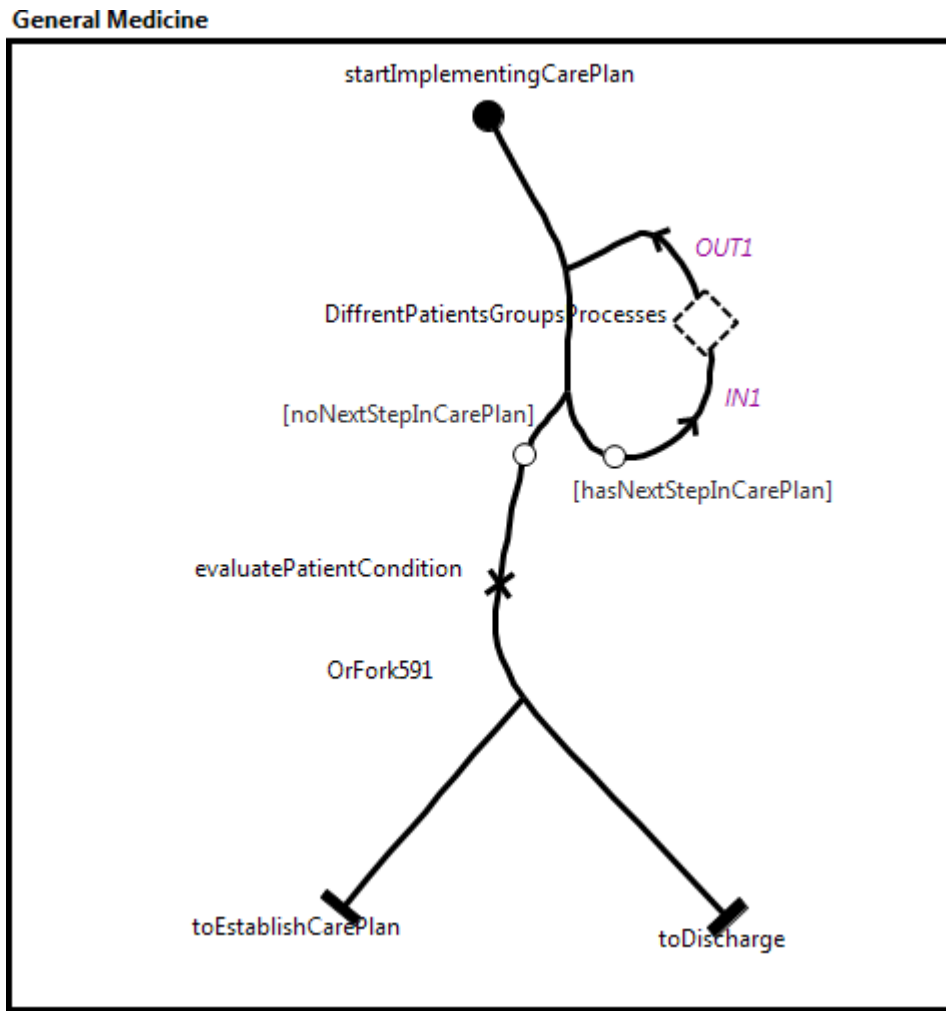


Figure 48 - CarePlanImplementation

Description

Care Plan Implementation

Responsibilities

evaluatePatientCondition

Expression

```
if (e_isPatientDiedInImplementation) {
    currentPatientStatus = PATIENT_DIES;
} else {
    if (_evaluationOfImplementationPassed) {
```

```
currentPatientStatus = GOTO_DISCHARGE;
} else if (!_evaluationOfImplementationPassed) {
currentPatientStatus = BACKF_TO_CHANGE_CAREPLAN;
needToChangeCarePlan = needToChangeCarePlan + 1;

if (timesOfChangingCarePlan == needToChangeCarePlan - 1) {
_evaluationOfImplementationPassed = true;
}
}
}
```

Stubs

Dynamic Stub - DiffrentPatientsGroupsProcesses

Plugin Map - RadiologyTests

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentCarePlan == CAREPLAN1) &&

(nextStepInCarePlan <= numOfStepsInCarePlan) &&

(nextStepInCarePlan == 1))

Transaction: false

Probability: 1.0

Plugin Map - ConsultationPlanService

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentCarePlan == CAREPLAN1) &&

(nextStepInCarePlan <= numOfStepsInCarePlan) &&

(nextStepInCarePlan == 2)) ||

((currentCarePlan == CAREPLAN2) &&

(nextStepInCarePlan <= numOfStepsInCarePlan) &&

(nextStepInCarePlan == 2))

Transaction: false

Probability: 1.0

Plugin Map - Rehabilitant

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: false

Transaction: false

Probability: 1.0

Plugin Map - Procedures

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentCarePlan == CAREPLAN1) &&
(nextStepInCarePlan <= numOfStepsInCarePlan) &&
(nextStepInCarePlan == 3 || nextStepInCarePlan == 7)) ||
((currentCarePlan == CAREPLAN2) &&
(nextStepInCarePlan <= numOfStepsInCarePlan) &&
(nextStepInCarePlan == 4))

Transaction: false

Probability: 1.0

Plugin Map - LaboratoryTests

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentCarePlan == CAREPLAN2) &&
(nextStepInCarePlan <= numOfStepsInCarePlan) &&
(nextStepInCarePlan == 1)) ||
((currentCarePlan == CAREPLAN1) &&
(nextStepInCarePlan <= numOfStepsInCarePlan) &&

(nextStepInCarePlan == 5))

Transaction: false

Probability: 1.0

Plugin Map - Medicating

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentCarePlan == CAREPLAN1) &&
(nextStepInCarePlan <= numOfStepsInCarePlan) &&
(nextStepInCarePlan == 4 || nextStepInCarePlan == 8)) ||
((currentCarePlan == CAREPLAN2) &&
(nextStepInCarePlan <= numOfStepsInCarePlan) &&
(nextStepInCarePlan == 5))

Transaction: false

Probability: 1.0

Plugin Map - AlliedHelp

Input Bindings:

IN 1 <-> start

Output Bindings:

OUT 1 <-> end

Precondition:

Expression: ((currentCarePlan == CAREPLAN2) &&
(nextStepInCarePlan <= numOfStepsInCarePlan) &&
(nextStepInCarePlan == 3)) ||
((currentCarePlan == CAREPLAN1) &&
(nextStepInCarePlan <= numOfStepsInCarePlan) &&
(nextStepInCarePlan == 6))

Transaction: false

Probability: 1.0

Or Fork Description

(probability: 1.0)

(probability: 1.0)

[hasNextStepInCarePlan] ==> nextStepInCarePlan <= numOfStepsInCarePlan (probability: 1.0)

[noNextStepInCarePlan] ==> nextStepInCarePlan > numOfStepsInCarePlan (probability: 1.0)

WriteDischargeLetter

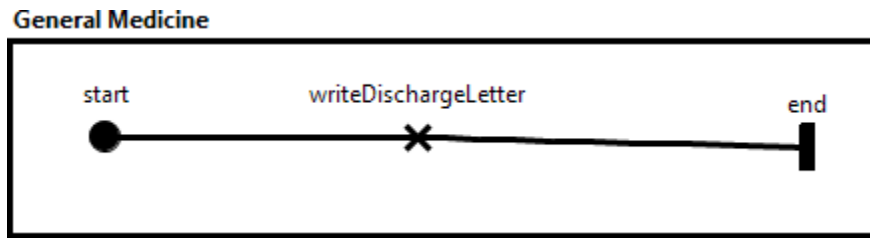


Figure 49 - WriteDischargeLetter

Description

write d/c letter

Responsibilities

writeDischargeLetter

Expression: $\text{nextStepInDischargePlan} = \text{nextStepInDischargePlan} + 1;$

KPI-Activate Home Care

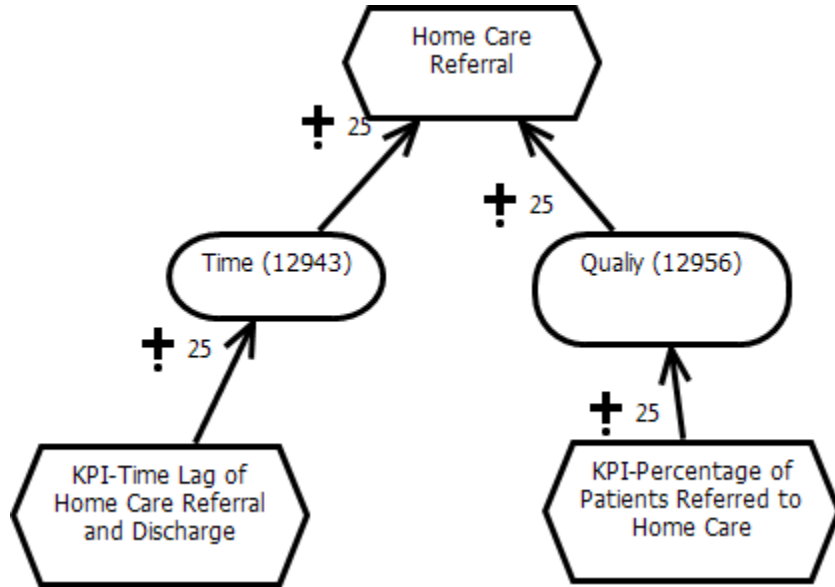


Figure 50 - KPI-Activate Home Care

BookFollowUpLaboratoryTests

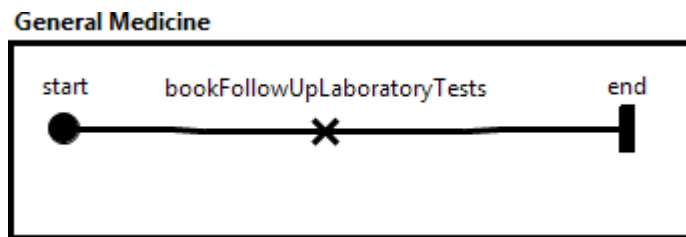


Figure 51 - BookFollowUpLaboratoryTests

Description

book f/u tests

Responsibilities

bookFollowUpLaboratoryTests

Expression

nextStepInDischargePlan = nextStepInDischargePlan + 1;

toFollowUpLabTests = true;

numOfStepsInPostDischarge = numOfStepsInPostDischarge + 1;

Clinic

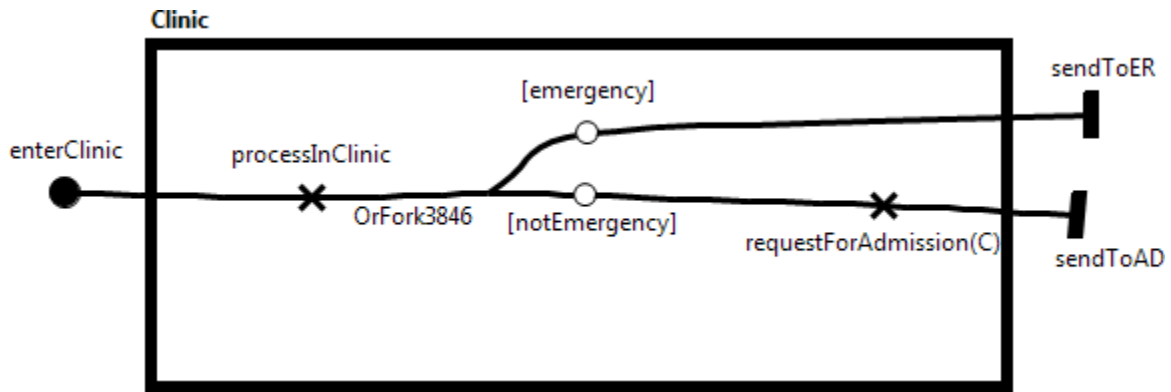


Figure 52 - Clinic

Responsibilities

requestForAdmission(C): requestForAdmitting(c)

processInClinic

Expression

```
if (_gotoAD_ED == 1) {
    currentPatientStatus = GOTO_HOSPITALADMISSION;
} else if (_gotoAD_ED == 2) {
    currentPatientStatus = GOTO_EMERGENCYDEPARTMENT;
}
```

Or Fork Description

(probability: 1.0)

(probability: 1.0)

MonitorPhoneSystem

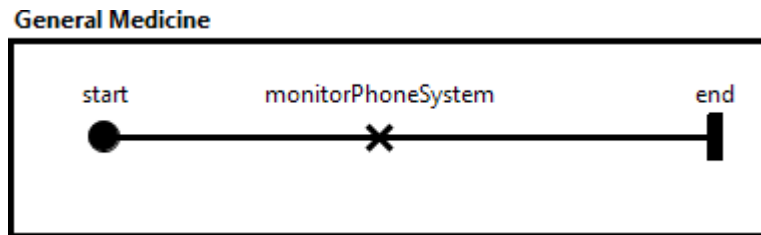


Figure 53 - MonitorPhoneSystem

Description

monitor phone system

Responsibilities

monitorPhoneSystem

Expression

toMonitorPhoneSystem = false;

numOfStepsInPostDischarge = numOfStepsInPostDischarge - 1;

PerformFollowingVisit

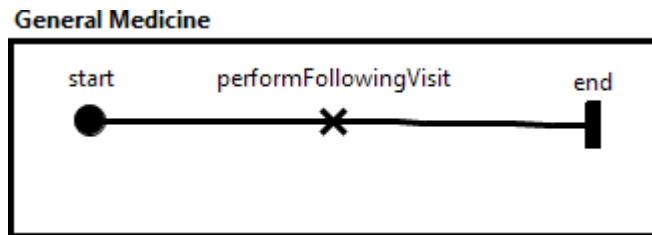


Figure 54 - PerformFollowingVisit

Description

perform f/u visit for assessment of hospital problems

Responsibilities

performFollowingVisit

Expression

toPerformFollowUpVisit = false;

numOfStepsInPostDischarge = numOfStepsInPostDischarge - 1;

KPI-Dictate Discharge Summary

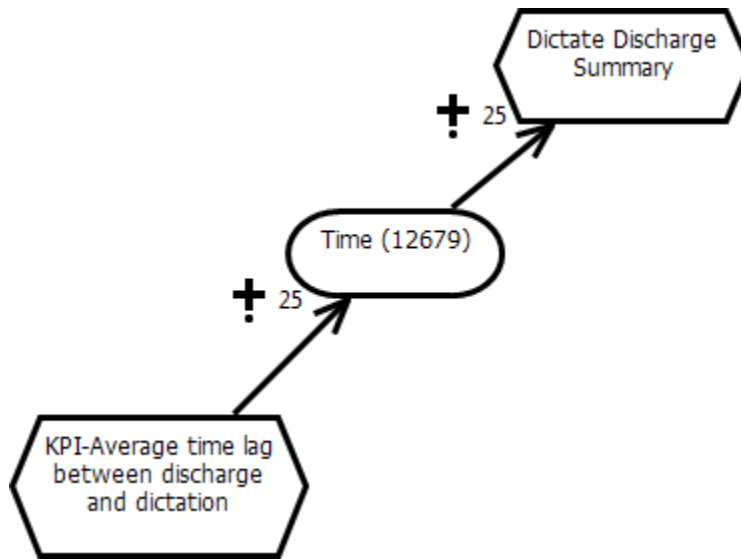


Figure 55 - KPI-Dictate Discharge Summary

GRL-Correct Diagnosis

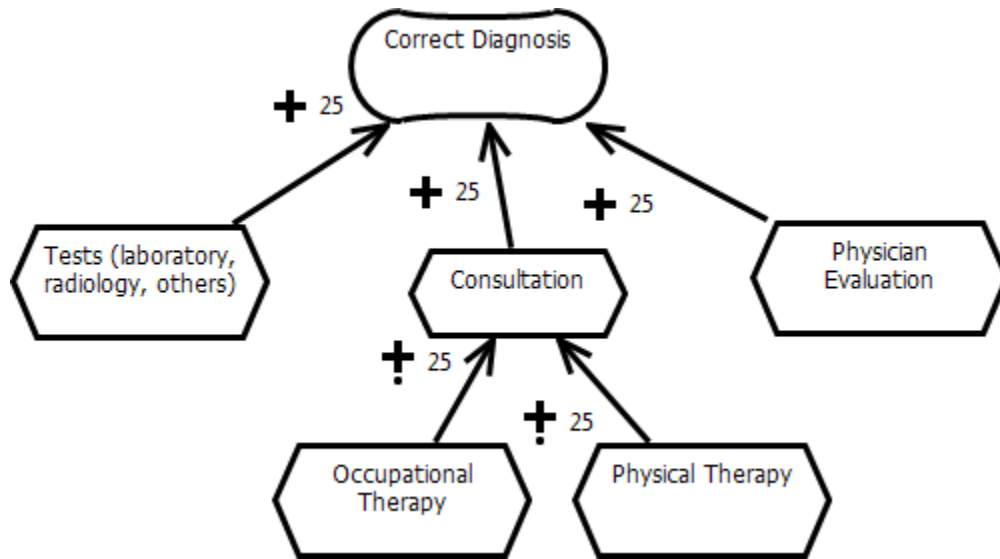


Figure 56 - GRL-Correct Diagnosis

Scenario Documentation

Scenario Execution Summary

Group TypicalDischargeScenarios (ID:12669)

Scenario	Result	Message(s)
S1. NoEmergency_Discharge_To_EE (ID: 12686)	FAILED	Traversal blocked on ucm.map.impl.WaitingPlaceImpl@78ea668 (name: waitingForBedInWP) (id: 45358, description: null) (x: 195, y: 195) (waitType: Transient)
S2. Emergency_Discharge_To_OS (ID: 38341)	PASSED	
S3. Changes_In_Care Plan (ID: 38356)	PASSED	
S4. Changes_In_DischargePlan (ID: 38690)	FAILED	Traversal blocked on ucm.map.impl.WaitingPlaceImpl@78ea668 (name: waitingForBedInWP) (id: 45358, description: null) (x: 195, y: 195) (waitType: Transient)
S5. Send_Patient_To_WaitingPlace (ID: 44663)	PASSED	
S6. Change_DischargePlan_AfterWP (ID: 46035)	FAILED	Traversal blocked on ucm.map.impl.StubImpl@47198a64 (name: dischargePatient) (id: 4048, description: null) (x: 228, y: 434) (dynamic: true, shared: false, repetitionCount: 1, pointcut: false, synchronization: false, blocking: false, aopointcut: None, aspect: None)
S7.	PASSED	

Changes_In_Care Plan_NoFollowUp Arranged (ID: 62098)		
---	--	--

Group TypicalDischargeScenariosWithPostDischarge (ID:46095)

Scenario	Result	Message(s)
S1.1. NoEmergency_Dis charge_To_EE (ID: 46096)	FAILED	Traversal blocked on ucm.map.impl.WaitingPlaceImpl@78ea668 (name: waitingForBedInWP) (id: 45358, description: null) (x: 195, y: 195) (waitType: Transient)
S2.1. Emergency_Disch arge_To_OS (ID: 46099)	PASSED	
S3.1. Changes_In_Care Plan (ID: 46100)	FAILED	Traversal has multiple alternatives at Stub "PostDischargeProcesses (46074)". Taking first option to remain deterministic.
S4.1. Changes_In_Disch argePlan (ID: 46101)	FAILED	Traversal has multiple alternatives at Stub "PostDischargeProcesses (46074)". Taking first option to remain deterministic.
		Traversal has multiple alternatives at Stub "PostDischargeProcesses (46074)". Taking first option to remain deterministic.
		Traversal blocked on ucm.map.impl.WaitingPlaceImpl@78ea668 (name: waitingForBedInWP) (id: 45358, description: null) (x: 195, y: 195) (waitType: Transient)
S5.1. Send_Patient_To_	PASSED	

WaitingPlace (ID: 46102)		
S6.1. Change_DischargePlan_AfterWP (ID: 46103)	FAILED	Traversal has multiple alternatives at Stub "PostDischargeProcesses (46074)". Taking first option to remain deterministic.
		Traversal has multiple alternatives at Stub "PostDischargeProcesses (46074)". Taking first option to remain deterministic.

Group ScenarioDefinitions (ID:48442)

Scenario	Result	Message(s)
Basic_Initialization (ID: 48443)	FAILED	No start points defined! Nothing to execute!
PatientDies_Initialization (ID: 52320)	FAILED	No start points defined! Nothing to execute!

Group AdverseEvents (ID:52292)

Scenario	Result	Message(s)
S1.2. PatientDies_In_Implementation (ID: 52321)	FAILED	Traversal blocked on ucm.map.impl.OrForkImpl@3338057a (name: OrFork591) (id: 591, description: null) (x: 272, y: 351) (orientation: null)
		Scenario should have reached end point: ucm.map.impl.EndPointImpl@7cf4b9d7 (name: OutPatient) (id: 4169, description: null) (x: 106, y: 138) (local: false)
S4.2. PatientDies_In_WaitingForExternalE	FAILED	Postcondition to End Point "toChangeCarePlan (12261)" did not evaluate to true.

ntities (ID: 62082)		
		Traversal blocked on ucm.map.impl.WaitingPlaceImpl@78ea668 (name: waitingForBedInWP) (id: 45358, description: null) (x: 195, y: 195) (waitType: Transient)
		Scenario should have reached end point: ucm.map.impl.EndPointImpl@7cf4b9d7 (name: OutPatient) (id: 4169, description: null) (x: 106, y: 138) (local: false)
S7.1. PatientReadmission_NoFollowUpArranged (ID: 62088)	FAILED	Traversal blocked on ucm.map.impl.WaitingPlaceImpl@78ea668 (name: waitingForBedInWP) (id: 45358, description: null) (x: 195, y: 195) (waitType: Transient)

Scenario Information

Group TypicalDischargeScenarios (ID: 12669)

Scenario S1. NoEmergency_Discharge_To_EE (ID: 12686)

Included UCM Scenario(s):

Scenario Basic_Initialization (ID: 48443)

Scenario Start Point(s):

PatientStarts (ID: 29)

Initialization(s):

Variable Name	ID	Description	Type	Initial Value
isBedAvailableInWP	44664		boolean	false

Precondition(s):

Precondition expression: true

Precondition expression: true

Scenario End Point(s):

OutPatient (ID: 4169)

Postcondition(s):

Scenario S2. Emergency_Discharge_To_OS (ID: 38341)

Included UCM Scenario(s):

Scenario Basic_Initialization (ID: 48443)

Scenario Start Point(s):

PatientStarts (ID: 29)

Initialization(s):

Variable Name	ID	Description	Type	Initial Value

currentPatientStatus	21584		enumeration	GOTO_EMERGENCYDEPARTMENT
_chooseCarePlan	31007		integer	2
_chooseDischargePlan	31190		integer	3
isBedAvailableInWP	44664		boolean	false

Precondition(s):

Precondition expression: true

Precondition expression: true

Scenario End Point(s):

OutPatient (ID: 4169)

Postcondition(s):

Scenario S3. Changes In CarePlan (ID: 38356)

Included UCM Scenario(s):

Scenario Basic_Initialization (ID: 48443)

Scenario Start Point(s):

PatientStarts (ID: 29)

Initialization(s):

Variable Name	ID	Description	Type	Initial Value
_evaluationOfImplementationPassed	34277		boolean	false
isBedAvailableInWP	44664		boolean	false
_chooseDischargePlan	31190		integer	2

Precondition(s):

Precondition expression: true

Precondition expression: true

Scenario End Point(s):

OutPatient (ID: 4169)

Postcondition(s):

Scenario S4. Changes_In_DischargePlan (ID: 38690)

Included UCM Scenario(s):

Scenario Basic_Initialization (ID: 48443)

Scenario Start Point(s):

PatientStarts (ID: 29)

Initialization(s):

Variable Name	ID	Description	Type	Initial Value
_admittedByExternalEntities	35332		boolean	false
isBedAvailableInWP	44664		boolean	false

Precondition(s):

Precondition expression: true

Precondition expression: true

Scenario End Point(s):

OutPatient (ID: 4169)

Postcondition(s):

Scenario S5. Send_Patient_To_WaitingPlace (ID: 44663)

Included UCM Scenario(s):

Scenario Basic_Initialization (ID: 48443)

Scenario Start Point(s):

PatientStarts (ID: 29)

Precondition(s):

Precondition expression: true

Precondition expression: true

Scenario End Point(s):

OutPatient (ID: 4169)

Postcondition(s):

Scenario S6. Change_DischargePlan_AfterWP (ID: 46035)

Included UCM Scenario(s):

Scenario Basic_Initialization (ID: 48443)

Scenario Start Point(s):

PatientStarts (ID: 29)

Initialization(s):

Variable Name	ID	Description	Type	Initial Value
_admittedByExternalEntities	35332		boolean	false

Precondition(s):

Precondition expression: true

Precondition expression: true

Scenario End Point(s):

OutPatient (ID: 4169)

Postcondition(s):

Scenario S7. Changes_In_CarePlan_NoFollowUpArranged (ID: 62098)

Included UCM Scenario(s):

Scenario Basic_Initialization (ID: 48443)

Scenario Start Point(s):

PatientStarts (ID: 29)

Initialization(s):

Variable Name	ID	Description	Type	Initial Value
_evaluationOfImplementationPassed	34277		boolean	false
isBedAvailableInWP	44664		boolean	false
_chooseDischargePlan	31190		integer	4

Precondition(s):

Precondition expression: true

Precondition expression: true

Scenario End Point(s):

OutPatient (ID: 4169)

Postcondition(s):

Group TypicalDischargeScenariosWithPostDischarge (ID: 46095)

Scenario S1.1. NoEmergency_Discharge_To_EE (ID: 46096)

Included UCM Scenario(s):

Scenario S1. NoEmergency_Discharge_To_EE (ID: 12686): Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in careplan; no changes in discharge plan; discharge to non-original other places; no readmission

Scenario Start Point(s):

[AfterDischarge] (ID: 46062)

Scenario End Point(s):

end (ID: 46064)

Scenario S2.1. Emergency_Discharge_To_OS (ID: 46099)

Included UCM Scenario(s):

Scenario S2. Emergency_Discharge_To_OS (ID: 38341): Patient enters emergency department; careplan2; dischargeplan3; no changes in careplan; no changes in discharge plan; discharge to original source; no readmission

Scenario Start Point(s):

[AfterDischarge] (ID: 46062)

Scenario End Point(s):

end (ID: 46064)

Scenario S3.1. Changes_In_CarePlan (ID: 46100)

Included UCM Scenario(s):

Scenario S3. Changes_In_CarePlan (ID: 38356): Patient enters clinic; no emergency; careplan1; dischargeplan1; changes in careplan (due to failure in evaluation of implementation); no changes in discharge plan; discharge to non-original other places; no readmission

Scenario Start Point(s):

[AfterDischarge] (ID: 46062)

Scenario End Point(s):

end (ID: 46064)

Scenario S4.1. Changes_In_DischargePlan (ID: 46101)

Included UCM Scenario(s):

Scenario S4. Changes_In_DischargePlan (ID: 38690): Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; changes in discharge plan (due to failure in admission of external entites); discharge to non-original other places; no readmission

Scenario Start Point(s):

[AfterDischarge] (ID: 46062)

Scenario End Point(s):

end (ID: 46064)

Scenario S5.1. Send_Patient_To_WaitingPlace (ID: 46102)

Included UCM Scenario(s):

Scenario S5. Send_Patient_To_WaitingPlace (ID: 44663): Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; no changes in discharge plan; discharge to non-original other places; send patient to waiting place; no readmission

Scenario Start Point(s):

[AfterDischarge] (ID: 46062)

Scenario End Point(s):

end (ID: 46064)

Scenario S6.1. Change_DischargePlan_AfterWP (ID: 46103)

Included UCM Scenario(s):

Scenario S6. Change_DischargePlan_AfterWP (ID: 46035): Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; changes in discharge plan (due to failure in admission of external entites); discharge to non-original other places; send patient to waiting place; no readmission

Scenario Start Point(s):

[AfterDischarge] (ID: 46062)

Scenario End Point(s):

end (ID: 46064)

Group ScenarioDefinitions (ID: 48442)

Scenario Basic_Initialization (ID: 48443)

Initialization(s):

Variable Name	ID	Description	Type	Initial Value
readmissionNeeded	12989		boolean	false
currentPatientStatus	21584		enumeration	GOTO_CLINIC
_gotoAD_ED	30886		integer	1
_admittedByHospital	31000		boolean	true

_admittedByGM	31001		boolean	true
_chooseCarePlan	31007		integer	1
_chooseDischargePlan	31190		integer	1
_evaluationOfImplementationPassed	34277		boolean	true
_admittedByExternalEntities	35332		boolean	true
isBedAvailableInExternalEntities	35334		boolean	true
isBedAvailableInWP	44664		boolean	true
toPerformFollowUpVisit	48432		boolean	false
toFollowUpLabTests	48433		boolean	false
toFollowUpRadiologyTests	48434		boolean	false
toMonitorPhoneSystem	48436		boolean	false
toAnswerQuestions	48438		boolean	false
toManageChronicHealthProblems	48440		boolean	false
e_isPatientDiedInImplementation	52319		boolean	false
e_isPatientDiedInWaitingForExternalEntities	61910		boolean	false
e_adverseEvent_10	62090		boolean	false

Scenario PatientDies_Initialization (ID: 52320)

Included UCM Scenario(s):

Scenario Basic_Initialization (ID: 48443)

Group AdverseEvents (ID: 52292)

Scenario S1.2. PatientDies_In_Implementation (ID: 52321)

Included UCM Scenario(s):

Scenario PatientDies_Initialization (ID: 52320)

Scenario S1. NoEmergency_Discharge_To_EE (ID: 12686): Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in careplan; no changes in discharge plan; discharge to non-original other places; no readmission

Scenario Start Point(s):

[WhenPatientDies] (ID: 4337)

Initialization(s):

Variable Name	ID	Description	Type	Initial Value
e_isPatientDiedInImplementation	52319		boolean	true

Scenario End Point(s):

out (ID: 4339)

Scenario S4.2. PatientDies_In_WaitingForExternalEntities (ID: 62082)

Included UCM Scenario(s):

Scenario S4. Changes_In_DischargePlan (ID: 38690): Patient enters clinic; no emergency; careplan1; dischargeplan1; no changes in care plan; changes in discharge plan (due to failure in admission of external entites); discharge to non-original other places; no readmission

Scenario Start Point(s):

[WhenPatientDies] (ID: 4337)

Initialization(s):

Variable Name	ID	Description	Type	Initial Value
e_isPatientDiedInWaitingForExternalEntities	61910		boolean	true

Scenario End Point(s):

out (ID: 4339)

Scenario S7.1. PatientReadmission_NoFollowUpArranged (ID: 62088)

Included UCM Scenario(s):

Scenario S7. Changes_In_CarePlan_NoFollowUpArranged (ID: 62098): Patient enters clinic; no emergency; careplan1; dischargeplan4; changes in careplan (due to failure in evaluation of implementation); no changes in discharge plan; discharge to home; no readmission

Initialization(s):

Variable Name	ID	Description	Type	Initial Value
e_adverseEvent_10	62090		boolean	true