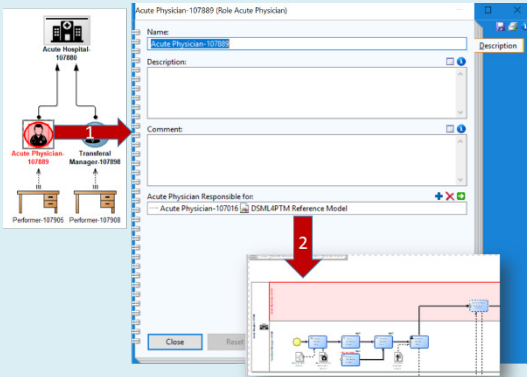
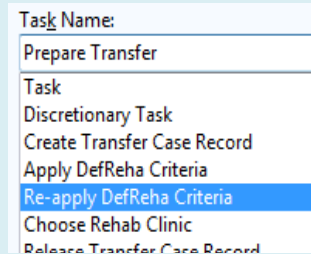
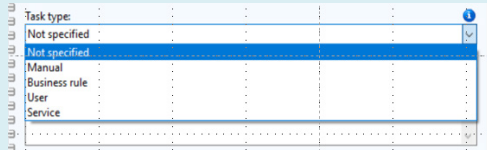
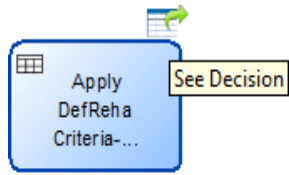


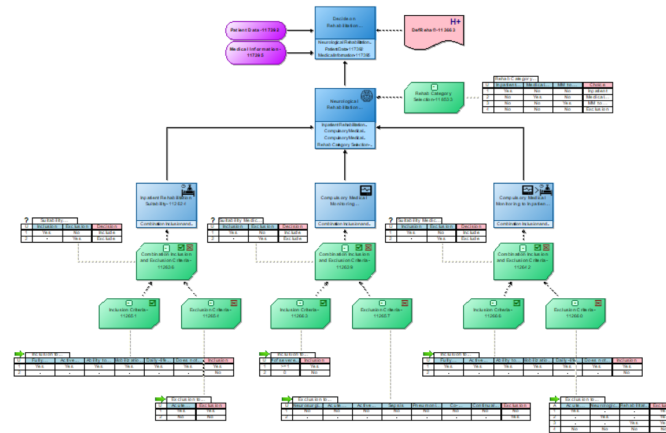
## Fulfilment of Information Systems and Data Requirements for DSML4PTM

The below table describes the fulfilment of each process requirement for DSML4PTM.

| Number | Process Requirement  | Fulfilment   |
|--------|--|--|
| R1.1.1 | The DSML should accommodate constructs to model specific actors. | <p>The following domain-specific concepts are available in DSML4PTM:</p> <p>In the process modelling view-</p> <p>Nurse, acute physician, rehabilitation physician, transferal manager and patient disposition.</p> <p>In the organizational modelling view - Nurse, acute physician, rehabilitation physician, transferal manager, administrative staff, patient and patient disposition.</p> <p>DSML4PTM would still allow to model general actors as the related modelling construct is available.</p> <p>Bridging properties were created to make possible the navigation from the main process view to the organizational model and vice versa. In particular, this applies between roles and lanes. The below figure shows the result of the implemented bridging connector, which in ADOxx is called INTERREF. In particular the screenshot shows the identification of the pool in the main view starting from the physician role in the organizational model.</p>  |
| R1.1.2 | The DSML should accommodate constructs to model different units. | The following domain specific concepts are available in DSML4PTM:  |

|        |   |  |
|--------|---|--|
|        |   | <p>In the process modelling view - Acute hospital, rehabilitation clinic and health insurance.</p> <p>In the organizational modelling view: Acute hospital, rehabilitation clinic, health insurance, care unit, non-intensive care unit, intensive care unit and emergency room. These can be used to model respective units while other relevant units can be modelled with the general pool/organizational unit concept.</p> <p>Like in R1.1.1, bridging properties between pools and organization units are possible.</p>     |
| R1.1.3 | The DSML should accommodate modelling constructs to model specific activities.  | <p>DSML4PTM features a task that can be modeled in the process modelling view. All tasks from the reference process are available for modeling.</p> <p>In the ADOxx modelling toolkit, after a task is instantiated the user can select a specific task (see screenshot (a)), specific type (see screenshot (b)) and loop type.</p> <p>(a)</p>  <p>(b)</p>  |
| R1.1.4 | The DSML should accommodate constructs to model a suitable rehabilitation type. | <p>DSML4PTM foresees the integration of DMN. A business rule task leads to the decision modelling view.</p>  <p>In ADOxx modelling toolkit, this was implemented as an INTERREF that from the top-right decision icon of the business rule task leads to a decision construct.</p>  |

In the decision modelling view, modelling constructs from the DMN standard are adapted to accommodate specific aspects used to model suitable rehabilitation types.



R1.1.6

The DSML should accommodate constructs to model time.

DSML4PTM features a timer event that can be modeled in the process modelling view. All timer events from the reference process are available for modelling. In ADOxx, when a timer event is instantiated, the appropriate name and event type can be chosen.

|                             |  |
|-----------------------------|--|
| Start Event Name:           |  |
| Start Event                 |  |
| Start Event                 |  |
| Patient admission available |  |

|                             |  |
|-----------------------------|--|
| Intermediate Event Name:    |  |
| 48-24 hours before transfer |  |
| Intermediate Event          |  |
| KoGu accepted               |  |
| 48-24 hours before transfer |  |
| Transfer date               |  |
| Patient in reha             |  |

|                    |  |
|--------------------|--|
| End Event Name:    |  |
| End Event          |  |
| End Event          |  |
| Transfer completed |  |
| Transfer confirmed |  |

Events can also be modeled as conditions in a sentry in the control element modelling view.

R1.1.7

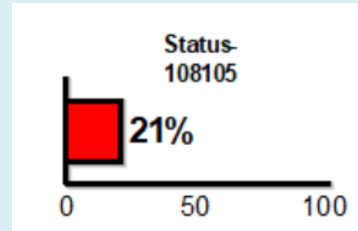
The DSML should accommodate constructs to model alternative process flow.

DSML4PTM features exclusive and non-exclusive gateways to model alternative process flow in the process modelling view. Additionally, it is possible to start a flow based on conditions evaluating to true. Conditions are modeled in a sentry in the control element modelling view.

R1.1.8

The DSML should accommodate constructs to model a status.

DSML4PTM features a new status element in the business process modelling view (see picture below). In ADOxx, this status element aggregates six sub-status elements, which contains crucial steps of the transferal management process. The status elements are modelled as attributes in the status notebook.



Status-108105 (Status)

**Process Status**

☒ Data released

☒ First assessment done

☒ Reha conference done

☒ Transfer date

**Physical Transfer Status**

☐ Hospital approval

☐ Reha approval

☐ Patient in reha

**KoGu Status**

☐ KoGu ready

☐ KoGu sent

☐ KoGu rejected

☐ KoGu accepted

**ICF Qualifiers Status**

☐ Information filled in

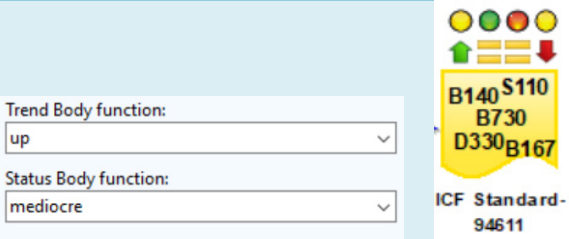
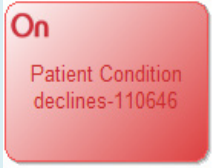

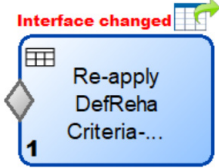
Close Reset

1/2

Additionally, status are also expressed in the document modelling construct representing the ICF standard. Namely, for each of the four categories (i.e. body function, body structure, activity and participation and environmental factors) it is shown the trend and the actual status.

|                            |
|----------------------------|
| Body function              |
| Body structure             |
| Activity and Participation |
| Environmental factors      |

A change in either the actual status or the trend correspond to a change in the color or the symbol, respectively. For instance, if trend is up a green arrow is shown while if status is mediocre a yellow round is shown.

|         |  |   |
|---------|--|---|
|         |  |  <p>Changes in the condition of a patient are also expressed via the on-part of the sentry.</p>    |
| R1.1.9  | The DSML should accommodate constructs to model an information exchange.                   | <p>DSML4PTM features concepts in the process modelling view to model data/document and message flow. Four new domain specific data objects can be instantiated, i.e. KoGu data object, medical data object, process progress data object, administrative data object, care status data object, hospitalization document data object.</p>                               |
| R1.1.10 | The DSML should accommodate constructs to model condition-based activities and conditions. | <p>DSML4PTM features sentries that can be attached to any task in the process modelling view. These are implemented in ADOxx with an IN-TERREF connection that leads to the control and element modelling view. In the latter conditions can be explicitly modelled.</p>  |
| R1.1.11 | The DSML should accommodate constructs to model a reoccurring activity.                    | <p>DSML4PTM features the loop marker in the process modelling view. Additionally, it is possible to restart an activity or an entire path of a process when conditions in a sentry are valued as true. For instance, see task «Re-apply DefReha Criteria». The number on the bottom left of the below task expresses the number of times a task has reoccurred.</p>  |
| R1.1.12 | The DSML should accommodate con-   | <p>DSML4PTM features a manual task to represent the transfer of a patient.</p>  |

|         |  |   |
|---------|--|---|
|         | structs to model the transfer of a patient.  |  Perform Transfer-107655                                   |
| R2.1.1  | The DSML should accommodate constructs to model different actors.  | Fulfilled in R1.1.1.  |
| R2.1.2  | The DSML should accommodate constructs to model different units/processes.   | Fulfilled in R1.1.2.  |
| R2.1.3  | The DSML should accommodate constructs to model activities.  | Fulfilled in R1.1.3.  |
| R2.1.4  | The DSML should accommodate constructs to model a decision/business rule activity.   | Fulfilled in R1.1.4.  |
| R2.1.5  | The DSML should accommodate constructs to model parallel activities.   | DSML4PTM features the parallel marker for a task and non-exclusive gateway. These are available in the business process modelling view.     |
| R2.1.6  | The DSML should accommodate constructs to model manual activity.   | DSML4PTM features a manual task, which is implemented as a type of task in ADOxx. The construct is available in the process modelling view. |
| R2.1.7  | The DSML should accommodate constructs to model time.  | Fulfilled in R1.1.6.  |
| R2.1.8  | The DSML should accommodate constructs to model separate paths (AND and XOR).  | Fulfilled in R1.1.7.  |
| R2.1.9  | The DSML should accommodate constructs to model information.   | Fulfilled in R1.1.9   |
| R2.1.10 | The DSML should accommodate constructs to model the transfer of a patient.   | Fulfilled in R1.1.12.   |
| R2.1.11 | The DSML should accommodate constructs to model the activity rehab conference, which can start at any time on request of the rehab physician | Fulfilled in R1.4.3   |