

# USE CASE 1 – Receive Clinical Data

## Description of Use Case:

Receive clinical data from an external system and combine the data with an existing patient record.

- System A: system containing the existing patient record e.g., a health system data warehouse
- System B: external system containing additional clinical data e.g., an EHR somewhere in an external health system

### Goals:

- Have the correct trigger fire in system B (push model) or system A (pull model)
- Successfully establish a connection between system A and system B
- Successfully transfer new external clinical data from system B to an existing patient record in system A
- Record this new clinical data in an existing patient record in system A in a way that preserves the intended meaning of the information being transferred
- Close the transaction

## Identify the Actor(s) Involved:

### Who is sending and/or receiving this information?

Identify people or things outside the system that act on the system (primary) or are acted on by the system (secondary). Primary actors invoke the use case and benefit from successfully completing it. Actors can be people, systems, objects, etc. Briefly describe the role of each actor. Provide a description of both.

### Primary actors:

- System B – connects with system A and transmits data to it (push model)
- System A – connects with system B and asks it to send a data update (pull model)

### Secondary actors:

- Practitioners who use system B and enter or update clinical information about their patients
- Practitioners who use system A and view (or request, in the pull model) up to date clinical information about their patients

## Use Case Specifics

### Preconditions/triggers:

- Existence of business and clinical data governance rules, including those for data exchange, and those rules programmed into both systems
- Existence of an identity and access management (IAM) solution, which reconciles users across both systems to ensure that practitioners using system A have rights to access clinical data in system B

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## *Push model:*

- System B obtains new data
- System B senses one or more preconditions under which it will connect to system A and transmit new clinical data e.g., the patient record in system B is updated
- System A requests data from system B

## *Pull model:*

- System A is programmed to periodically query system B for new data, or practitioner using system A manually requests data from system B

## **Basic flow**

### *Push model:*

- System B obtains new data
- System B is triggered e.g., a patient record is updated
- System B requests to open a connection with system A
- System A accepts the connection request and a connection is opened
- System B packages the updated clinical information in a format that system A can understand
- System B sends the updated clinical data to system A
- System A validates the updated clinical data
- System A accepts the data transfer
- System A translates the data into its own format and updates the relevant patient record
- System A closes the connection
- Practitioner using system A views the patient record containing the updated clinical data

## **Alternate flow**

### *Pull model:*

System B obtains new data

System A is programmed to request an update from system B, or practitioner using system A manually requests an update

System A requests to open a connection with system B, with the request containing a query

System B accepts the connection request and a connection is opened

System B packages the updated clinical information in a format that system A can understand

System B sends the updated clinical data to system A

System A accepts the data transfer

System A translates the data into its own format and updates the relevant patient record

System A closes the connection

### These failure modes might occur:

- Trigger on system B doesn't occur
- System A rejects system B's request for a connection

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- System B sends the data but system A can't translate it into its own format
- New clinical data from system B fails validation by system A
- System A updates its patient record with the new data but the data definitions don't match and the data are successfully updated but the meaning has been altered
- The connection hangs and doesn't successfully close

Are there post conditions that will be true about the system after the use case has been accomplished? List them.

- System A and system B will have the new clinical data in sync with each other

### Key Resources Recommended:

- Set of resources that must be made available and/or configured to execute the use case. Data, services, systems, etc.

1. System A
2. System B
3. Appropriate triggers programmed into system A
4. Connectivity between systems A and B
5. Appropriate data standards so that A can understand updates from B