IHI Pre-Implementation Project

Care Coordination Detailed IHI Functional Design

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1. Preface

1.1 Document Purpose

The purpose of the document is to define the initial functional design for the integration of the Individual Health Identifier into the Victorian Health*SMART* P&CMS solution, i.e. iSOFT iPM.

1.2 Intended Audience

The intended audience of this document includes:

- Victorian Department of Health Project Sponsor;
- Victorian Department of Health Project Staff;
- Victorian IHI Workshop attendees;
- Victorian health services;
- Other jurisdictional Health departments;
- Health services in other States and Territories;
- Vendors of health IT systems; and
- NEHTA staff.

1.3 References and Related Documents

- NEHTA HI Service Concept of Operations v 1.0 FINAL Nov 2009
- NEHTA Individual Healthcare Identifiers Business Requirements v 1.0 FINAL Nov 2009
- NEHTA HI Security and Access framework v 1.0 FINAL Nov 2009
- NEHTA HI Business Use Case Catalogue v 1.0 FINAL Nov 2009
- NEHTA HI Service Catalogue v 1.0 Final Nov 2009
- NEHTA HI Service Glossary v 1.0 DRAFT Nov 2009
- Vic IHI Integration Simplified Functional Design
- Vic IHI Integration Business Requirements Speciification
- Medicare Australia HI Service - Technical Services Catalogue R3A v3.0.2.doc
- Medicare Australia TECH.SIS.HI.01 - SIS - Common Document for SIS v3.0.2.doc
- Medicare Australia TECH.SIS.HI.02- SIS - Common field processing reference document for SIS v3.0.2.doc
- Medicare Australia TECH.SIS.HI.03 - Update Provisional IHI via B2B v3.0.2.doc
- Medicare Australia TECH.SIS.HI.04 - Search for HPI-I via B2B v3.0.2.doc
- Medicare Australia TECH.SIS.HI.05 - Update IHI via B2B v3.0.2.doc
- Medicare Australia TECH.SIS.HI.06 - IHI Inquiry Search via B2B v3.0.2.doc
- Medicare Australia TECH.SIS.HI.07 - Search for HPI-O via B2B v3.0.2.doc
- Medicare Australia TECH.SIS.HI.08 - Resolve Provisional IHI- Merge Records via B2B v3.0.2.doc
- Medicare Australia TECH.SIS.HI.09 - Resolve Provisional IHI- Create Unverified IHI via B2B v3.0.2.doc
- Medicare Australia TECH.SIS.HI.10 - Create Provisional IHI via B2B v3.0.2.doc

- Medicare Australia TECH.SIS.HI.11 - Create Unverified IHI via B2B v3.0.2.doc
- Medicare Australia TECH.SIS.HI.12 - IHI Batch Searching v3.0.2.doc
- Medicare Australia HI Service - IHI Searching Guide v0.3 Draft.doc
- FR.SVI.SPEC.01.232 Notify Duplicate Replica IHI via_B2B v3.25 (R3b).doc
- Healthcare Identifiers Act 2010.

2. Introduction

2.1 Background

The Victorian IHI Pre Implementation Project is responsible for identifying and documenting processes that will enable the rollout of IHIs to all Victorians with patient records in HealthSMART health services, and all operational processes that support use and maintenance of the IHI over time.

Victorian health services operate largely independently, due to the nature of the enabling legislation, with each health service owning and maintaining a dedicated patient register. Victorian HealthSMART health services collectively store over 50 million individual patient records.

A key element of the IHI integration design for the IHI Pre Implementation Project is to understand each "problem" and requirement, so that effective and workable solutions can be defined. The deliverables for the IHI Pre-Implementation Project include a Best Practice Guide for health services capturing and utilising the IHI. For the initial load of IHI data, given the Victorian data volumes, a reasonably high match ratio is essential to overall success.

While the focus of the project is upon HealthSMART health services, this deliverable is intended to be used by all health services, Health departments, and vendors looking to integrate the IHI into their systems and processes.

2.2 Aims and Objectives

The aim of the project is to produce artefacts that will support successful implementation of IHI, including a Solution Architecture Design, Business Requirements, Business practice Guides and a sample Business Case. See the Project Brief for more details.

It will achieve these aims through meeting the following objectives:

- Define and incorporate reference solution designs and principles for the integration of Individual Healthcare Identifiers into the HealthSMART solution architecture.

- Defining an architecture, or architectures, that supports other models for patient administration, eg EMPI based.

- Use the reference solution design & principles to identify requirements and validate enhancements to Victorian Health IT environments and applications utilising NEHTA services (both HealthSMART and non-HealthSMART):

- Document requirements, functional specifications and technical specifications for IHI integration with a nominated and agreed PAS product.

- Based on this experience and knowledge gained recommend any proposed changes to the national IHI implementation approach in consultation with other jurisdictions and NEHTA reference groups.

- Leverage the NEHTA architecture and engagement teams capabilities to best use in the Victorian implementation/s, etc.

The aim of this deliverable is to present a simplified view of the functional design for integration of the IHI into health services' systems and processes. A more detailed deliverable is also available, though this will primarily be of interest to implementers (IT vendors).

The goal of the functional design is to ensure that it caters for all HI Service functions relating to the IHI, and associated exception handling, even though Victorian HealthSMART health services may not make active use of some functions.

2.3 Approach to Functional Design

This document comprises Business Processes and Use Cases. Requirements are documented separately.

The Requirements are documented to a high level and comprise the overarching drivers and principles upon which the other functional artefacts elaborate upon.

The Business Processes define an end-to-end process, comprising automated steps that are defined further as Use Cases. Most of the Use Cases identified within the Business Processes are defined within this document. If they are not, they are typically PAS-specific use cases that will differ amongst the different PAS applications and not in scope for definition here.

The remainder of this document has been automatically generated by the Blueprint Requirements Center 2010 tool.

3. Use Cases

3.1 Use Case List

ID	Name	Page
UC18	Send Referral	9
UC19	Send Discharge Summary	13
UC20	Send Order	17
UC21	Process IHI in Referral	21
UC22	Send Referral Update	23
UC23	Send Referral Cancellation	25

3.2 Actor(s)

The following table identifies the relevant Actors for the System. System implementers should consider the mapping between Actors and Use Cases as a guideline for role based access at an agency level.

ID	Name	Aliases
AC2	PAS User	PAS Clerk, Clinician, Nurse, Ancillary Workers, Interpreters, ED User, Intake Manager
AC3	PAS Clerk	Registration Clerk, Admissions Clerk, Ward Clerk, HIM
AC4	Patient	Client
AC5	Clinical System User	Administrative User, Clinician
AC6	The PAS System	The PAS System
AC7	PAS Administrator	
AC8	System Administrator	

3.3 UC18 : Send Referral

Actors	PAS User
Overview	This Use Case represents the Send Referral functionality at a high level only, and is intended for the purposes of identifying the IHI impacts. Further details are provided as part of e-Referral functional specifications.
Pre Condition	A new referral or an on-referral is required. The Actor has requested to Create a Referral for a specific patient, and the service(s) and destination providers have been identified.
Post Condition	Referral has been sent, including the IHI, the IHI Record Status and the IHI Status.
Circumstances of Use	Whenever a suitably authorised healthcare practitioner (the user) wishes to request specialised health related services for a patient
Included In (Other Use Cases)	UC33: Generate Output
Business Processes	BP1: Patient Registration from a Referral BP7: Create Referral BP11: Attend Appointment/Treatment

Pre Condition
A new referral or an on-referral is required.
The Actor has requested to Create a Referral for a specific patient, and the service(s) and destination providers have been identified.

Basic Flow
1. The System presents Referral information to be entered, with certain fields pre-populated from the patient file.
2. The System determines that an IHI exists in the PAS for this patient.
3. The System checks the IHI in the PAS using UC9: Check IHI.
4. The System determines that the returned IHI has a status of "Active".
5. The System populates the referral template with the IHI fields.
6. The Actor enters referral information and attaches any relevant documents, and then requests to proceed with sending the referral.
7. The System generates a unique Referral ID.
8. The System encrypts and sends the referral.
9. The System adds the referral to the Sent Referrals register.
10. The Actor provides a copy of the referral to the Patient (hard copy/email).

Success End

Incl. 2: Check IHI

Post Condition
Referral has been sent, including the IHI, the IHI Record Status and the IHI Status.

IE 4: The Actor enters some inform...
The Actor enters some information and at some point decides to exit the referral.
◎ Save Draft Referral

1. The Actor requests to exit the referral.
2. The System prompts the Actor, asking them if they wish to save the referral.
3. The Actor responds, indicating the preference for saving the referral.
4. The System saves the referral if the Actor has requested it.
5. The System exits the referral.

Success End

Exit

IE 1: The System determines that an IHI does not...
The System determines that an IHI does not exist in the PAS for this patient.
◎ Prompt for permission to search and retrieve an IHI, and if given, proceed with UC8: Obtain IHI.

1. The System prompts the Actor, requesting permission to search and retrieve an IHI from the HI Service for the patient.
2. The Actor responds, requesting the System to obtain the IHI.
3. The System obtains the IHI, using UC8: Obtain IHI.
4. If found, the System populates the referral template with the IHI fields.

Success End

IE 1.1: The Actor responds, reques...
The Actor responds, requesting the System not to obtain the IHI.
◎ Skip IHI step.

Success End

Incl. 1.2: Obtain IHI

IE 3: The System determines that the returned...
The System determines that the returned IHI does not have a status of "Active".
◎ Raise error

1. The System displays an error message.

Success End

Exit

BASIC FLOW:

#	Description	Requirement/ → Include
1	The System presents Referral information to be entered, with certain fields pre-populated from the patient file.	
2	The System determines that an IHI exists in the PAS for this patient.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that an IHI does not exist in the PAS for this patient.	IE 1	6

#	Description	Requirement/ Include
3	The System checks the IHI in the PAS using UC9: Check IHI.	→ UC9: Check IHI
4	The System determines that the returned IHI has a status of "Active".	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that the returned IHI does not have a status of "Active".	IE 3	

#	Description	Requirement/ Include
5	The System populates the referral template with the IHI fields.	
6	The Actor enters referral information and attaches any relevant documents, and then requests to proceed with sending the referral.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The Actor enters some information and at some point decides to exit the referral.	IE 4	

#	Description	Requirement/ Include
7	The System generates a unique Referral ID.	
8	The System encrypts and sends the referral.	
9	The System adds the referral to the Sent Referrals register.	
10	The Actor provides a copy of the referral to the Patient (hard copy/email).	

Internal Extension (Alternate Flow)   IE 1

Condition: The System determines that an IHI does not exist in the PAS for this patient.
Goal: Prompt for permission to search and retrieve an IHI, and if given, proceed with UC8: Obtain IHI.

Requirements:

#	Description	Requirement/ → Include
1	The System prompts the Actor, requesting permission to search and retrieve an IHI from the HI Service for the patient.	
2	The Actor responds, requesting the System to obtain the IHI.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The Actor responds, requesting the System not to obtain the IHI.	IE 1.1	

3	The System obtains the IHI, using UC8: Obtain IHI.	
		🟢UC8: Obtain IHI
4	If found, the System populates the referral template with the IHI fields.	

Next Step:	BF: Basic Flow	6. The Actor enters referral information and attaches any relevant documents, and then requests to proceed with sending the referral.

Internal Extension (Alternate Flow)   IE 1.1

Condition:	The Actor responds, requesting the System not to obtain the IHI.
Goal:	Skip IHI step.
Requirements:	
Next Step:	IE 1: The System determines that an IHI does not exist in the PAS for this patient.	SUCCESS_END

Internal Extension (Alternate Flow)   IE 3

Condition:	The System determines that the returned IHI does not have a status of "Active".
Goal:	Raise error
Requirements:	

#	Description	Requirement/🟢Include
1	The System displays an error message.	

Next Step:	BF: Basic Flow	EXIT

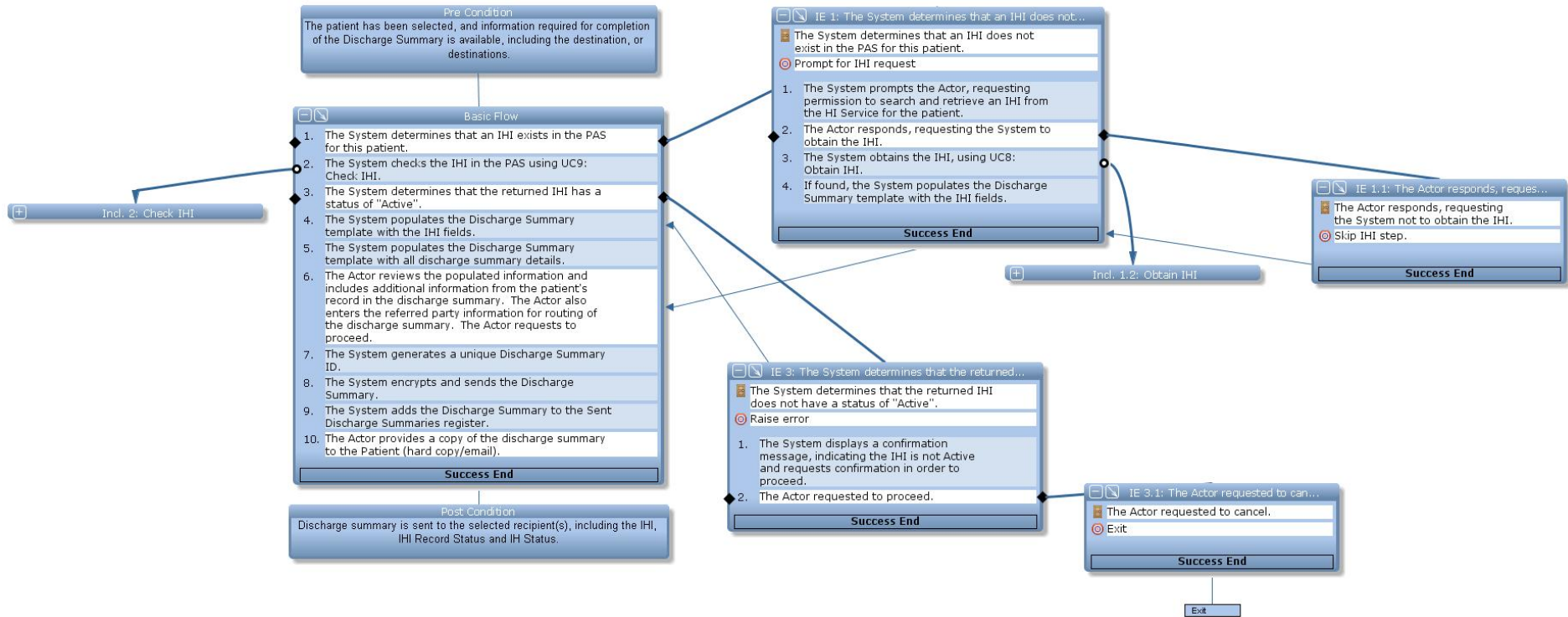Internal Extension (Alternate Flow)   IE 4

Condition:	The Actor enters some information and at some point decides to exit the referral.
Goal:	Save Draft Referral
Requirements:	

#	Description	Requirement/🟢Include
1	The Actor requests to exit the referral.	
2	The System prompts the Actor, asking them if they wish to save the referral.	
3	The Actor responds, indicating the preference for saving the referral.	
4	The System saves the referral if the Actor has requested it.	
5	The System exits the referral.	

Next Step:	BF: Basic Flow	EXIT

3.4 UC19 : Send Discharge Summary

Actors	Clinical System User
Overview	This Use Case represents the Send Discharge Summary functionality at a high level only, and is intended for the purposes of identifying the IHI impacts. Further details are provided as part of Discharge Summary functional specifications.
Pre Condition	The patient has been selected, and information required for completion of the Discharge Summary is available, including the destination, or destinations.
Post Condition	Discharge summary is sent to the selected recipient(s), including the IHI, IHI Record Status and IH Status.
Circumstances of Use	Whenever a patient is being discharged following an episode of care.
Included In (Other Use Cases)	UC33: Generate Output
Business Processes	BP11: Attend Appointment/Treatment

Pre Condition
The patient has been selected, and information required for completion of the Discharge Summary is available, including the destination, or destinations.

Basic Flow
1. The System determines that an IHI exists in the PAS for this patient.
2. The System checks the IHI in the PAS using UC9: Check IHI.
3. The System determines that the returned IHI has a status of "Active".
4. The System populates the Discharge Summary template with the IHI fields.
5. The System populates the Discharge Summary template with all discharge summary details.
6. The Actor reviews the populated information and includes additional information from the patient's record in the discharge summary. The Actor also enters the referred party information for routing of the discharge summary. The Actor requests to proceed.
7. The System generates a unique Discharge Summary ID.
8. The System encrypts and sends the Discharge Summary.
9. The System adds the Discharge Summary to the Sent Discharge Summaries register.
10. The Actor provides a copy of the discharge summary to the Patient (hard copy/email).

Success End

Post Condition
Discharge summary is sent to the selected recipient(s), including the IHI, IHI Record Status and IH Status.

Incl. 2: Check IHI

IE 1: The System determines that an IHI does not...
The System determines that an IHI does not exist in the PAS for this patient.
◎ Prompt for IHI request

1. The System prompts the Actor, requesting permission to search and retrieve an IHI from the HI Service for the patient.
2. The Actor responds, requesting the System to obtain the IHI.
3. The System obtains the IHI, using UC8: Obtain IHI.
4. If found, the System populates the Discharge Summary template with the IHI fields.

Success End

Incl. 1.2: Obtain IHI

IE 1.1: The Actor responds, reques...
The Actor responds, requesting the System not to obtain the IHI.
◎ Skip IHI step.

Success End

IE 3: The System determines that the returned...
The System determines that the returned IHI does not have a status of "Active".
◎ Raise error

1. The System displays a confirmation message, indicating the IHI is not Active and requests confirmation in order to proceed.
2. The Actor requested to proceed.

Success End

IE 3.1: The Actor requested to can...
The Actor requested to cancel.
◎ Exit

Success End

Exit

BASIC FLOW:

#	Description	Requirement/ Include
1	The System determines that an IHI exists in the PAS for this patient.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that an IHI does not exist in the PAS for this patient.	IE 1	6

#	Description	Requirement/ Include
2	The System checks the IHI in the PAS using UC9: Check IHI.	UC9: Check IHI
3	The System determines that the returned IHI has a status of "Active".	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that the returned IHI does not have a status of "Active".	IE 3	4

#	Description	
4	The System populates the Discharge Summary template with the IHI fields.	
5	The System populates the Discharge Summary template with all discharge summary details.	
6	The Actor reviews the populated information and includes additional information from the patient's record in the discharge summary. The Actor also enters the referred party information for routing of the discharge summary. The Actor requests to proceed.	
7	The System generates a unique Discharge Summary ID.	
8	The System encrypts and sends the Discharge Summary.	
9	The System adds the Discharge Summary to the Sent Discharge Summaries register.	
10	The Actor provides a copy of the discharge summary to the Patient (hard copy/email).	

Internal Extension (Alternate Flow)   IE 1

Condition: The System determines that an IHI does not exist in the PAS for this patient.
Goal: Prompt for IHI request
Requirements:

#	Description	Requirement/ Include
1	The System prompts the Actor, requesting permission to search and retrieve an IHI from the HI Service for the patient.	
2	The Actor responds, requesting the System to obtain the IHI.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The Actor responds, requesting the System not to obtain the IHI.	IE 1.1	

#	Description	
3	The System obtains the IHI, using UC8: Obtain IHI.	UC8: Obtain IHI

4	If found, the System populates the Discharge Summary template with the IHI fields.

Next Step:	BF: Basic Flow	6. The Actor reviews the populated information and includes additional information from the patient's record in the discharge summary. The Actor also enters the referred party information for routing of the discharge summary. The Actor requests to proceed.

Internal Extension (Alternate Flow)   IE 1.1

Condition:	The Actor responds, requesting the System not to obtain the IHI.	
Goal:	Skip IHI step.	
Requirements:		
Next Step:	IE 1: The System determines that an IHI does not exist in the PAS for this patient.	SUCCESS_END

Internal Extension (Alternate Flow)   IE 3

Condition:	The System determines that the returned IHI does not have a status of "Active".
Goal:	Raise error
Requirements:	

#	Description	Requirement/ Include
1	The System displays a confirmation message, indicating the IHI is not Active and requests confirmation in order to proceed.	
2	The Actor requested to proceed.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The Actor requested to cancel.	IE 3.1	

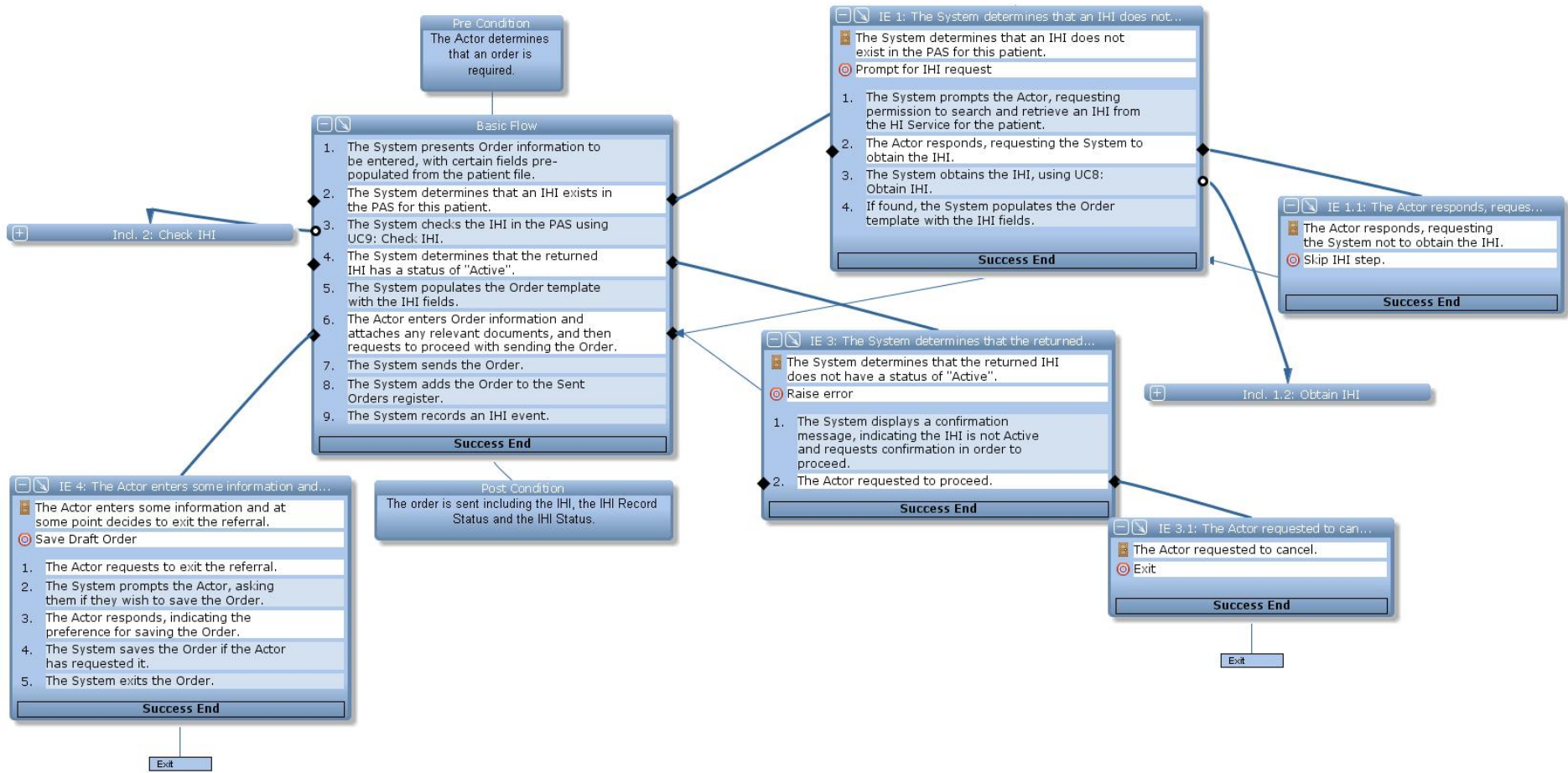| **Next Step:**	BF: Basic Flow	4. The System populates the Discharge Summary template with the IHI fields.

Internal Extension (Alternate Flow)   IE 3.1

Condition:	The Actor requested to cancel.	
Goal:	Exit	
Requirements:		
Next Step:	IE 3: The System determines that the returned IHI does not have a status of "Active".	EXIT

3.5 UC20 : Send Order

Actors	Clinical System User
Overview	This Use Case represents the Send Order functionality at a high level only for the purposes of identifying the IHI impacts. Further details are provided as part of functional specifications prepared for each functional area and Order type. If the IHI is available it should be included on all orders, whether they are being transmitted electronically, or via paper/fax.
Pre Condition	The Actor determines that an order is required.
Post Condition	The order is sent including the IHI, the IHI Record Status and the IHI Status.
Circumstances of Use	Whenever the Actor wishes to request services from: • Pathology • Radiology • Diagnostic Imaging • Pharmacy & prescriptions • Another health service department, or service provider
Included In (Other Use Cases)	UC33: Generate Output
Business Processes	BP11: Attend Appointment/Treatment

Pre Condition

The Actor determines that an order is required.

IE 1: The System determines that an IHI does not...

The System determines that an IHI does not exist in the PAS for this patient.

◎ Prompt for IHI request

1. The System prompts the Actor, requesting permission to search and retrieve an IHI from the HI Service for the patient.
2. The Actor responds, requesting the System to obtain the IHI.
3. The System obtains the IHI, using UC8: Obtain IHI.
4. If found, the System populates the Order template with the IHI fields.

Success End

Basic Flow

1. The System presents Order information to be entered, with certain fields pre-populated from the patient file.
2. The System determines that an IHI exists in the PAS for this patient.
3. The System checks the IHI in the PAS using UC9: Check IHI.
4. The System determines that the returned IHI has a status of "Active".
5. The System populates the Order template with the IHI fields.
6. The Actor enters Order information and attaches any relevant documents, and then requests to proceed with sending the Order.
7. The System sends the Order.
8. The System adds the Order to the Sent Orders register.
9. The System records an IHI event.

Success End

IE 1.1: The Actor responds, reques...

The Actor responds, requesting the System not to obtain the IHI.

◎ Skip IHI step.

Success End

Incl. 2: Check IHI

Incl. 1.2: Obtain IHI

IE 3: The System determines that the returned...

The System determines that the returned IHI does not have a status of "Active".

◎ Raise error

1. The System displays a confirmation message, indicating the IHI is not Active and requests confirmation in order to proceed.
2. The Actor requested to proceed.

Success End

Post Condition

The order is sent including the IHI, the IHI Record Status and the IHI Status.

IE 4: The Actor enters some information and...

The Actor enters some information and at some point decides to exit the referral.

◎ Save Draft Order

1. The Actor requests to exit the referral.
2. The System prompts the Actor, asking them if they wish to save the Order.
3. The Actor responds, indicating the preference for saving the Order.
4. The System saves the Order if the Actor has requested it.
5. The System exits the Order.

Success End

Exit

IE 3.1: The Actor requested to can...

The Actor requested to cancel.

◎ Exit

Success End

Exit

BASIC FLOW:

#	Description	Requirement/ ⮕Include
1	The System presents Order information to be entered, with certain fields pre-populated from the patient file.	
2	The System determines that an IHI exists in the PAS for this patient.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that an IHI does not exist in the PAS for this patient.	IE 1	6

#	Description	Requirement/ Include
3	The System checks the IHI in the PAS using UC9: Check IHI.	⮕UC9: Check IHI
4	The System determines that the returned IHI has a status of "Active".	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that the returned IHI does not have a status of "Active".	IE 3	6

#	Description	Requirement/ Include
5	The System populates the Order template with the IHI fields.	
6	The Actor enters Order information and attaches any relevant documents, and then requests to proceed with sending the Order.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The Actor enters some information and at some point decides to exit the referral.	IE 4	

#	Description	Requirement/ Include
7	The System sends the Order.	
8	The System adds the Order to the Sent Orders register.	
9	The System records an IHI event.	

Internal Extension (Alternate Flow)   IE 1

Condition: The System determines that an IHI does not exist in the PAS for this patient.
Goal: Prompt for IHI request
Requirements:

#	Description	Requirement/ ⮕Include
1	The System prompts the Actor, requesting permission to search and retrieve an IHI from the HI Service for the patient.	
2	The Actor responds, requesting the System to obtain the IHI.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The Actor responds, requesting the System not to obtain the IHI.	IE 1.1	

#	Description	Requirement/ Include
3	The System obtains the IHI, using UC8: Obtain IHI.	⮕UC8: Obtain IHI

4	If found, the System populates the Order template with the IHI fields.

Next Step:	BF: Basic Flow	6. The Actor enters Order information and attaches any relevant documents, and then requests to proceed with sending the Order.

Internal Extension (Alternate Flow)   IE 1.1

Condition:	The Actor responds, requesting the System not to obtain the IHI.
Goal:	Skip IHI step.
Requirements:	
Next Step:	IE 1: The System determines that an IHI does not exist in the PAS for this patient.	SUCCESS_END

Internal Extension (Alternate Flow)   IE 3

Condition:	The System determines that the returned IHI does not have a status of "Active".
Goal:	Raise error
Requirements:	

#	Description	Requirement/ Include
1	The System displays a confirmation message, indicating the IHI is not Active and requests confirmation in order to proceed.	
2	The Actor requested to proceed.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The Actor requested to cancel.	IE 3.1	

Next Step:	BF: Basic Flow	6. The Actor enters Order information and attaches any relevant documents, and then requests to proceed with sending the Order.

Internal Extension (Alternate Flow)   IE 3.1

Condition:	The Actor requested to cancel.
Goal:	Exit
Requirements:	
Next Step:	IE 3: The System determines that the returned IHI does not have a status of "Active".	EXIT

Internal Extension (Alternate Flow)   IE 4

Condition:	The Actor enters some information and at some point decides to exit the referral.
Goal:	Save Draft Order
Requirements:	

#	Description	Requirement/ Include
1	The Actor requests to exit the referral.	
2	The System prompts the Actor, asking them if they wish to save the Order.	
3	The Actor responds, indicating the preference for saving the Order.	
4	The System saves the Order if the Actor has requested it.	
5	The System exits the Order.	

Next Step:	BF: Basic Flow	EXIT

3.6 UC21 : Process IHI in Referral

Actors	The PAS System
Overview	Performs pre-processing on the IHI included in the referral, by checking it and determining if it matches the IHI held in the HI Service for this patient. This provides a degree of surety that the information included in the referral is accurate, and the IHI is "trustworthy".
Pre Condition	The referral and its details are captured into the system (either electronically or manually).
Post Condition	The referral has been processed, including checking the IHI on the referral if applicable.
Circumstances of Use	Whenever a Referral (original) or a Referral Update is received. Applies to other incoming requests with an IHI included, such as Orders, Discharge Summaries, Prescriptions, etc.
Included In (Other Use Cases)	None
Business Processes	BP1: Patient Registration from a Referral
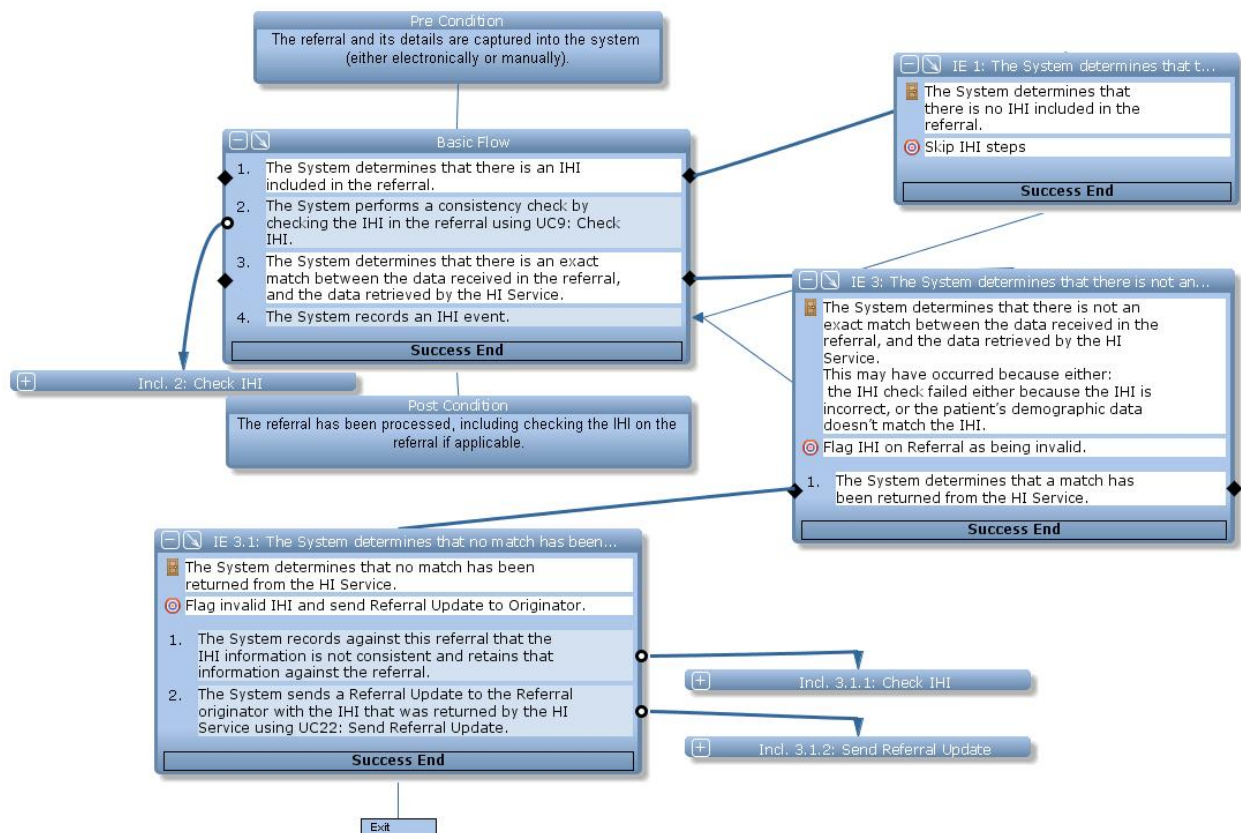
BASIC FLOW:

#	Description	Requirement/ Include
1	The System determines that there is an IHI included in the referral.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that there is no IHI included in the referral.	IE 1	4

#	Description	Requirement/ Include
2	The System performs a consistency check by checking the IHI in the referral using UC9: Check IHI.	⊙UC9: Check IHI
3	The System determines that there is an exact match between the data received in the referral, and the data retrieved by the HI Service.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that there is not an exact match between the data received in the referral, and the data retrieved by the HI Service. This may have occurred because either: the IHI check failed either because the IHI is incorrect, or the patient's demographic data doesn't match the IHI.	IE 3	4

#	Description	Requirement/ Include
4	The System records an IHI event.	

Internal Extension (Alternate Flow)   IE 1

Condition:	The System determines that there is no IHI included in the referral.
Goal:	Skip IHI steps
Requirements:	
Next Step:	BF: Basic Flow 4. The System records an IHI event.

Internal Extension (Alternate Flow)   IE 3

Condition:	The System determines that there is not an exact match between the data received in the referral, and the data retrieved by the HI Service. This may have occurred because either: the IHI check failed either because the IHI is incorrect, or the patient's demographic data doesn't match the IHI.
Goal:	Flag IHI on Referral as being invalid.
Requirements:	

#	Description	Requirement/⊙Include
1	The System determines that a match has been returned from the HI Service.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that no match has been returned from the HI Service.	IE 3.1	

Next Step:	BF: Basic Flow 4. The System records an IHI event.

Internal Extension (Alternate Flow)   IE 3.1

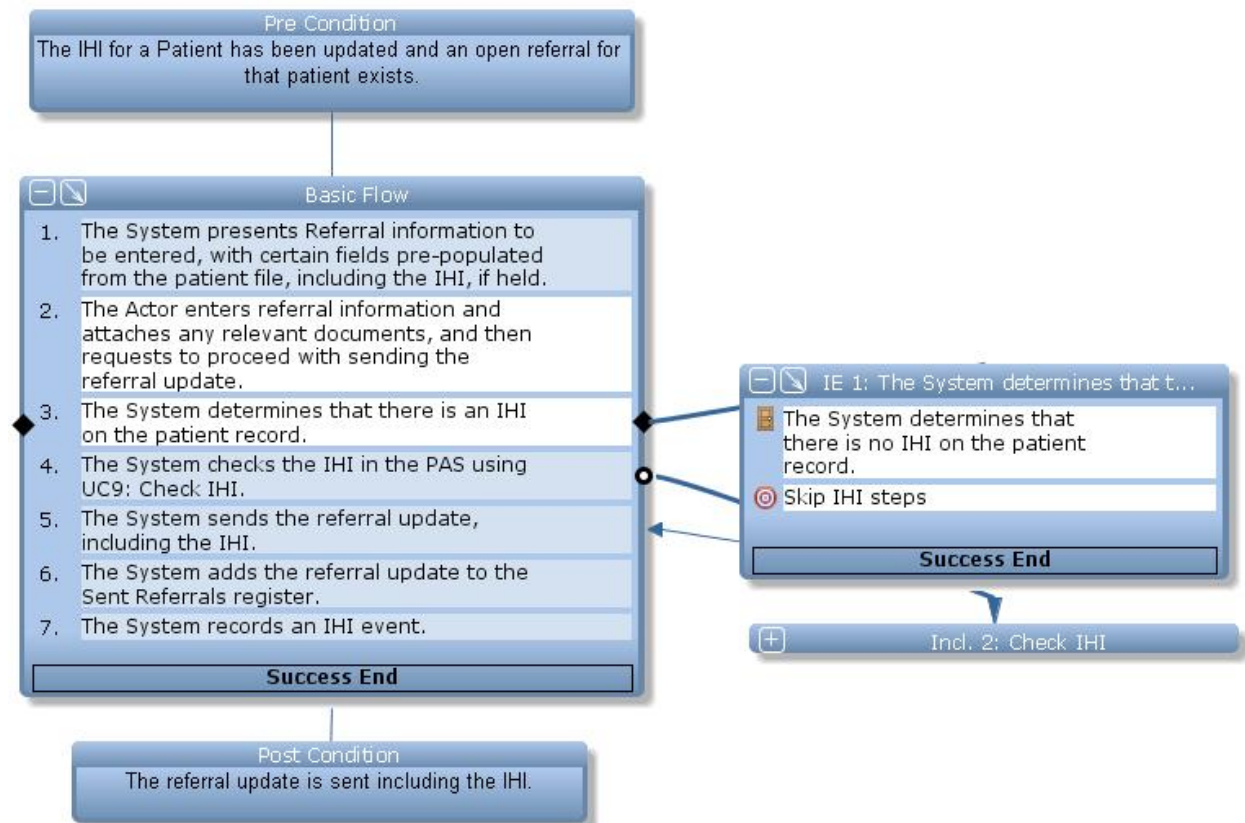|	Condition: Goal: Requirements:	The System determines that no match has been returned from the HI Service. Flag invalid IHI and send Referral Update to Originator.

#	Description	Requirement/ Include
1	The System records against this referral that the IHI information is not consistent and retains that information against the referral.	UC9: Check IHI
2	The System sends a Referral Update to the Referral originator with the IHI that was returned by the HI Service using UC22: Send Referral Update.	UC22: Send Referral Update

Next Step:	IE 3: The System determines that there is not an exact match between the data received in the referral, and the data retrieved by the HI Service. This may have occurred because either: the IHI check failed either because the IHI is incorrect, or the patient's demographic data doesn't match the IHI.	EXIT

3.7 UC22 : Send Referral Update

Actors	PAS User
Overview	This Use Case updates an existing referral, and sends the update to the named destination. It can be initiated either by the originator of the initial referral, or the destination.
Pre Condition	The IHI for a Patient has been updated and an open referral for that patient exists.
Post Condition	The referral update is sent including the IHI.
Circumstances of Use	A request for more information has been requested by the party receiving the referral or More information has been gathered at the referred party end, and this information is updated to the referrer. Information has changed, or more information is available, that should be shared with other parties to the referral: • Client information has changed, e.g. IHI, address or contact details and there are agreed rules that this will be exchanged between originator and destination; • Client/Patient appointment is created; • Client/patient presents for an appointment; • Client/patient diagnosis/assessment complete; • Client/patient treatment starting (with details) • Client/patient treatment ending (with details) • Client/patient care closed. Events in relation to an IHI are: • Where a verified IHI exists or is obtained by the system and no IHI existed in the incoming referral. • Where a verified IHI is retrieved by the System and overrides an Unverified or Provisional IHI contained in the incoming referral.

Included In (Other Use Cases)	UC33: Generate Output
	UC10: Update IHI
	UC21: Process IHI in Referral
	UC28: Merge Patient Records
	UC29: Unmerge Patient Records
Business Processes	None

BASIC FLOW:

#	Description	Requirement/ Include
1	The System presents Referral information to be entered, with certain fields pre-populated from the patient file, including the IHI, if held.	
2	The Actor enters referral information and attaches any relevant documents, and then requests to proceed with sending the referral update.	
3	The System determines that there is an IHI on the patient record.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that there is no IHI on the patient record.	IE 1	5

#	Description	
4	The System checks the IHI in the PAS using UC9: Check IHI.	UC9: Check IHI
5	The System sends the referral update, including the IHI.	

6	The System adds the referral update to the Sent Referrals register.
7	The System records an IHI event.

Internal Extension (Alternate Flow)   IE 1

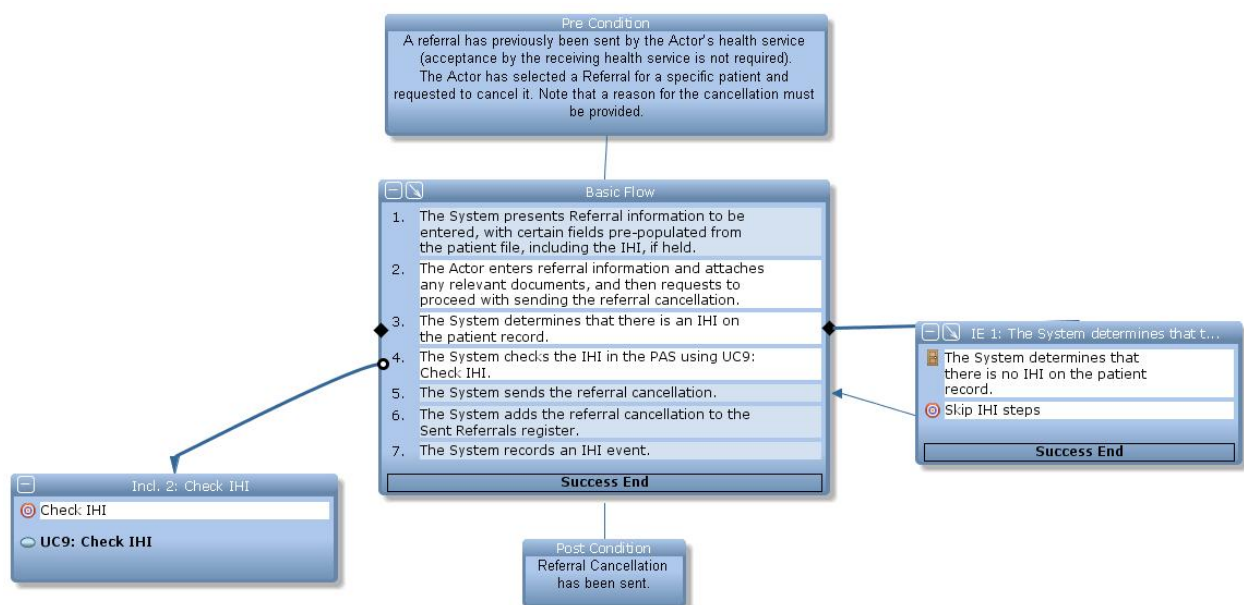| **Condition:**	The System determines that there is no IHI on the patient record.
Goal:	Skip IHI steps
Requirements:	
Next Step:	BF: Basic Flow
	5. The System sends the referral update, including the IHI.

3.8 UC23 : Send Referral Cancellation

Actors	PAS User
Overview	Sends a cancellation of a referral that was previously sent.
Pre Condition	A referral has previously been sent by the Actor's health service (acceptance by the receiving health service is not required). The Actor has selected a Referral for a specific patient and requested to cancel it. Note that a reason for the cancellation must be provided.
Post Condition	Referral Cancellation has been sent.
Circumstances of Use	The referral is no longer required.
Included In (Other Use Cases)	UC33: Generate Output
Business Processes	None – See "Included In" Use Case above.

BASIC FLOW:

#	Description	Requirement/ Include
1	The System presents Referral information to be entered, with certain fields pre-populated from the patient file, including the IHI, if held.	
2	The Actor enters referral information and attaches any relevant documents, and then requests to proceed with sending the referral cancellation.	
3	The System determines that there is an IHI on the patient record.	

ALTERNATE FLOW(S):

Condition	Link	Return Step
The System determines that there is no IHI on the patient record.	IE 1	5

#	Description	Requirement/ Include
4	The System checks the IHI in the PAS using UC9: Check IHI.	UC9: Check IHI
5	The System sends the referral cancellation.	
6	The System adds the referral cancellation to the Sent Referrals register.	
7	The System records an IHI event.	

Internal Extension (Alternate Flow)   IE 1

Condition:	The System determines that there is no IHI on the patient record.
Goal:	Skip IHI steps
Requirements:	
Next Step:	BF: Basic Flow 5. The System sends the referral cancellation.

4. Messages

4.1 Alerts

Alerts are created on individual patient records to alert the Actor to a certain condition that applies to that record. See the Best Practice Guide for procedures for each alert.

ID	Name	Message
AT574	Unstable IHI	The IHI is currently undergoing exception processing.
AT575	Deceased	The patient may be deceased.
AT576	Potential Duplicate	Duplicate record may exist: [Other URN].
AT616	Ineligible for Verified IHI	Ineligible for Verified IHI as at [date].

4.2 IHI Exceptions

ID	Name	Message
EX639	No Match (All Criteria Sets)	No unique match found. All demographic information was exhausted.
EX662	No Match (Single Criteria)	No match found and no criteria refinement available.
EX663	No Match (After Merge)	No match found after merge and updated details.
EX664	No Match	No match was found in the HI Service.
EX640	No Match on Check IHI	No Match found.
EX641	Incomplete Request Criteria	[Message text varies for each Use Case it occurs in.]
EX642	PAS Duplicate	Request for IHI aborted. Duplicate PAS records found on non-TDS Search.
EX643	Status Integrity	Status Hierarchy Mismatch. Held: [Status in PAS], Received [Status to Update]"
EX644	System Failure	System Failure. Contact Help Desk.
EX645	Provisional IHI	Provisional IHI
EX646	Returned IHI PAS Duplicate	Another record in the PAS has this same IHI, [with the Secondary URN field populated with the URN of the duplicate].
EX647	Potential Deceased	Date of Death: [Date of Death].
EX648	Data Error	Error [Error Code]: [Error Reason]". (e.g. "Error 00019: The date of birth must not be in the future.")
EX649	Multiple Matches	Multiple matches found.
EX650	Multiple Matches on Check IHI	Multiple matches found.
EX652	HI Duplicate Data	"Existing Verified or Unverified IHI record with the same details." or blank
EX653	Unknown	Unknown
EX654	Business Rule Violation	Error [Error Code]: [Error Reason]
EX655	HI Merge Failure	HI Merge Failure
EX656	Inconsistent Referral IHI	Inconsistent Referral IHI
EX657	Current Patient IHI Anomaly	Current Patient IHI Anomaly
EX658	HI Service Processing	HI Service Processing