

IHI Pre-Implementation Project

Deliverable Release Note – Release 1

Authorised by the Victoria Government, Melbourne.

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1. Overview

The purpose of this document is to provide information regarding the release of deliverables from the Victorian IHI Pre-Implementation project, jointly conducted by the Department of Health, Victoria and NEHTA.

This is the first release of project deliverables for public access, with a focus on Requirements and Functional Design documents. A later release will include the Clinical Risk Assessment, Best Practice Guide, and Architecture deliverables.

This release note is relevant to project deliverables published on the Victorian Department of Health website.

1.1 Project Overview

The primary objective of the Victorian IHI Pre-Implementation project is to develop a suite of system design artefacts to support integration of the national Individual Healthcare Identifier into health services' patient administration systems.

The project has been conducted by the Department of Health, Victoria, under the HealthSMART program, and NEHTA. Subject matter experts in health information management primarily from HealthSMART health services in Victoria have provided their expertise in the development of requirements and the functional design. They have also provided valuable reviews of the project deliverables.

In keeping with the original Victorian IHI Pre-Implementation Project brief, the IHI integration design is aligned with the requirements and capabilities of HealthSMART and major Victorian public health services. The design may be scaled down as required to suit smaller health services.

Project deliverables include:

- Business Requirements
- IHI Integration Functional Design
- IHI Clinical Risk Assessment
- IHI Best Practice Guide
- IHI Integration Technical Design
- IHI Integration Solution Architecture.

A design goal, established early in the project, was to make full use of available services as implemented by Medicare Australia in the HI Service. To this end the design supports the use and management of Provisional and Unverified IHIs, even though Victorian health service representatives were very averse to using these types of IHI record.

The Victorian IHI integration design is tightly bound to IHI related documents in release 3.02 of Medicare Australia's HI Service Specifications. Ideally the reader should be familiar with the HI Service Specifications before reading these documents.

1.2 Audience

The Victorian IHI Pre-Implementation project deliverables are available for all to access, however the detailed design documents are intended for those working in the area of health IT applications, including users, solution or system architects, system analysts, application designers, IT developers, testers and implementers.

A basic understanding of the Unified Modelling Language (UML) and its conventions is assumed.

1.3 Documents in this Release

The following documents are included in Vic IHI Pre-Implementation Project Deliverable Release 1:

- Release Note v1.0
- Business Requirements Specification v1.1
- IHI Clinical Risk Assessment v1.1
- Simplified Functional Design v2.1
- IHI Best Practice Guide v1.1
- The detailed functional design consists of the following documents:
 - IHI functional design (Summary & Business Processes) v2.1
 - IHI functional design (Care Coordination) v2.1
 - IHI functional design (HI Service) v2.1
 - IHI functional design (HIMs) v2.1
 - IHI functional design (IHI Processing) v2.1
 - Vic IHI Integration IHI functional design (Patient) v2.1
 - Vic IHI Integration IHI Exceptions v2.1
- IHI Technical Design v1.1.

1.4 Other Project Documents

The following document is in the final stages of development and/or review and will be released as soon as finalised:

- IHI Solution Architecture.

Due to project constraints a number of deliverables were removed from the scope of this project phase. These will be developed early in the next project phase.

2. Release Notes

These notes apply to Release 1 of the deliverables from the Victorian IHI Pre-Implementation Project.

2.1 Business Requirements

The reader should begin with this document.

The business requirements deliverable is set at a high level and includes sections on principles, characteristics of the HI Service, functional requirements, non-functional requirements, and design decisions made during the development of the functional design.

File: Vic IHI Integration Business Requirements Specification v1.1.pdf

Addenda: none

2.2 Clinical Risk Assessment

This document provided an important input to the Vic IHI Integration Design, and much of the design exists to address the risk areas identified. This document was prepared by the project team with input from health service and other staff well versed in evaluating and mitigating clinical risks.

This document is user and clinician focussed, but may also be of interest to designers and architects of health IT systems.

File: Vic IHI Integration Clinical Risk Assessment v1.1.pdf

Addenda: none

2.3 Simplified Functional Design

The reader should progress to this document after having read the business requirements.

The Simplified Functional Design provides an end to end overview of the IHI integration design, including the business processes and use cases. It does not include full details on the alternate flows, and nor does it cover the detailed application logic.

This document provides a useful overview for those interested in the IHI integration design, but for whom the detailed design is not relevant.

File: Vic IHI Integration Simplified Functional Design v2.1.pdf

Addenda:

1. The Victorian design caters for receiving the date of death when the IHI record has a deceased Status. This functionality is no longer available in the HI Service (change early November 2010).
2. The Reset Merge use case (UC55) may not deliver the outcomes expected, and will require redesign in a later release of the functional design.
3. There is an issue with the iterative processing design of the Obtain IHI use case (UC8), with data related iterations occurring both at the Obtain IHI level and also in child use cases (Search for IHI, Check IHI). This has implications for exception handling, in that many errors may be raised when one would be appropriate. This will be addressed in a subsequent release of the Functional Design.

2.4 Best Practice Guide

The Best Practice Guide provides guidance to all those wishing to adopt Individual healthcare Identifiers (IHIs) into their systems and business processes. This document is user focussed, though it should also be read by designers and architects of health IT systems.

File: Vic IHI Integration Best Practice Guide v1.1.pdf

Addenda: none

2.5 Detailed Functional Design

Elements of the detailed design have been grouped into functional or user areas, with each of these forming a separate document, as listed below.

As is consistent with software development best practice, the functional design does not provide any information about where use cases should be implemented.¹

2.5.1 Summary & Business Processes

This is the introduction to the functional design, and the document includes all business processes developed during the project.

Of the detailed design documents, this one should be read first.

File: Vic IHI Integration IHI functional design (Summary & Business Processes) v2.1.pdf

Addenda: none.

2.5.2 Care Coordination

This use case grouping focuses on functions that support coordination of care for a patient, such as referrals, orders and discharge summary. The design provides detailed support for the use of the IHI in these areas, but does not seek to provide a detailed design for the business functions in themselves, ie the project team has not prepared a detailed design for all aspects of referral.

The material in these use cases has largely been obtained from earlier projects conducted within the department, and from health service representatives.

File: Vic IHI Integration IHI functional design (Care Coordination) v2.1.pdf

Addenda: none

2.5.3 HI Service

This functional grouping focuses on functions available in the HI Service, with the design providing the local processing components needed to make optimum use of the HI Service.

There is a one to one mapping between the use cases in this document and the IHI functions implemented by Medicare Australia in the HI Service. Note especially the coverage of the HI Service exceptions, all of which must be handled within local (health service) systems.

Files: Vic IHI Integration IHI functional design (HI Service) v2.1.pdf

¹ Use cases that have the PAS or a user as the actor are likely to be implemented in the PAS. Use cases that have a system as the actor may potentially be implemented in the PAS, in another system, or in a specialised interfacing tool such as an Enterprise Service Bus.

Addendum: 1. The Victorian design caters for receiving the date of death from the HI Service when the IHI record has a deceased Status. The date of death data is no longer available from the HI Service (change made in early November 2010).

2.5.4 HIMs

This group of use cases focuses on functions usually performed by Health Information Managers in larger health services. This includes patient merges, patient duplicate and other reporting, and a number of use cases to help them to resolve IHI related exceptions.

The dedicated role of the HIM may not exist in a small health service, though ideally there will be a staff member or contractor who takes responsibility for maintaining data quality within the PAS, and who will be the actor in these use cases.

File: Vic IHI Integration IHI functional design (HIMs) v2.1.pdf

Addenda: none

2.5.5 IHI Processing

These use cases effectively form the intermediary layer between business processes and user initiated functions, and the HI Service. This includes the functions to search for an IHI, to check the IHI, and to perform batch processing of the IHI.

This document contains the bulk of the complex processing in the IHI integration design. The Validate IHI is especially complex and caters for comparison of an IHI held in the PAS and one presented on a referral, for example.

Due to the size of this document it has been released in two parts, as below.

Files: Vic IHI Integration IHI functional design (IHI Processing) v2.1.pdf

- Addenda:
2. The Reset Merge use case (UC55) may not deliver the outcomes expected, and will require redesign in a later release of the functional design.
 3. There is an issue with the iterative processing design of the Obtain IHI use case (UC8), with data related iterations occurring both at the Obtain IHI level and also in child use cases (Search for IHI, Check IHI). This has implications for exception handling, in that many errors may be raised when one would be appropriate. This will be addressed in a subsequent release of the Functional Design.
 4. Another possible issue exists with the detection of multiple local patient records that match the search criteria to be sent to the HI Service as part of a Search for IHI (UC7), i.e. the IHI retrieved could potentially be allocated to any or all records matching the criteria. The design specifies that an exception be raised in this circumstance and the Search for IHI is prevented from executing.²
 - a. The original intent of the design was to allow the search to complete and allocate the IHI to the patient's record (there is no conflict as the local system can identify the patient record uniquely), so that the IHI could be used in any care coordination use cases. A potential duplicate exception would be raised for subsequent resolution. This will be revisited in a subsequent release.

² Note that the design specifies that the system should add additional data to the HI Service IHI search criteria in order to achieve uniqueness within the local PAS, prior to executing the Search for IHI use case, or any exception being raised.

2.5.6 Patient

These use cases focus on patient record centred use cases, such as searching for a patient record in the PAS, creating a patient record and updating a patient record.

The documented patient use cases identify the changes or enhancements to these operations that result from adoption of the IHI. It is not the goal of this design to fully define these use cases.

File: Vic IHI Integration IHI functional design (Patient) v2.1.pdf

Addenda: none

2.5.7 Exceptions

This document list the exceptions raised within the Victorian IHI integration design, and the available resolutions. The exception handling is a major part of the design, with some IHI related functions only available through the IHI exception resolution process. The Best Practice Guide should be referenced for more information.

Note that the Best Practice Guide has undergone more recent revision than this document. In the case of any misalignment, the Best Practice Guide should take precedence.

File: Vic IHI Integration IHI Exceptions v2.1.pdf

Addenda: none

2.6 Technical Design

The IHI Technical Design uses a use case approach to identifying some of the technical processes required to support the IHI Integration Functional Design. The document is more aligned with the HealthSMART architecture and services than the other documents in this release.

This document provides information about the proposed use of HL7 messages to transport the IHI between health IT systems, expands upon the reporting capabilities in the Functional Design, and includes a small number of high level use cases to support governance activities relating to the IHI.

This document is intended for a technical audience.

File: Vic IHI Integration IHI Technical Design v1.1.pdf

Addenda: none