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Minimum Data Set for FHIR Documents & ITK Responses - Transfer of Care

This document is an early pre-review draft document for information only. The information it contains should not be used for development purposes.

Document management

Revision History

Version	Date	Summary of Changes
0.1	15-08-2018	First controlled version following review by Mike Moore

Reviewers

This document must be reviewed by the following people:

Reviewer name	Title / Responsibility	Date	Version

Approved by

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Name	Signature	Title	Date	Version

Glossary of Terms

Term / Abbreviation	What it stands for
dm+d	Dictionary of medicines and devices
FHIR	Fast Healthcare Interoperability Resources
FoT	First of Type, i.e. initial implementer confirming specifications can be used
ITK	Interoperability Toolkit. Version 3 (ITK3) is used for Transfer of Care.
SNOMED CT	Systematised Nomenclature of Medicine - Clinical Terms
ToC	Transfer of Care
TTO	To Take Out – medication provided as part of discharge.
UUID	Universal Unique Identifier

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Contents

1. Overview	4
2. How to Use this Document	4
3. Conformance and Cardinality	5
3.1. At the Profile Level	5
3.2. At the Profile Element Level	5
4. Transfer of Care Documents	6
4.1. ITK - Profile Level Conformance	6
4.2. Transfer of Care Document - Profile Level Conformance	6
4.3. Coded Allergies Profile Conformance	8
4.4. Coded Medication Profile Conformance	8
4.5. Coded Procedures Profile Conformance	8
4.6. Coded Condition (Diagnosis) Profile Conformance	9
4.7. ITK Profile Element Level Conformance	9
4.8. Transfer of Care - Profile Element Level Conformance	13
5. ITK3 Technical Level Response Messages	29
5.1. ITK Response - Profile Level Conformance	29
5.2. ITK Response - Profile Element Level Conformance	29
6. ITK3 Business Level Response Messages	33
6.1. ITK Response - Profile Level Conformance	33
6.2. ITK Response - Profile Element Level Conformance	33
7. Degrading Information to Text Only	37

1. Overview

Early builders of Transfer of Care structured messages and ITK3 messaging distribution resources may be hindered in completing content due to source systems and associated data extracts lacking support for HL-7 FHIR standards, SNOMED-CT and dm+d encoding. The purpose of this guide is to give implementers information on what is an acceptable minimally populated solution based on a pragmatic understanding of published Transfer of Care specifications.

Implementing according to this guide should not be treated as a path to an end-point, but more as a step towards reaching a first stage assurance point that would facilitate an initial go-live. Post go-live, if any remaining gaps in compliance with the full Transfer of Care FHIR specifications exist, then implementers should progress plans to close them.

2. How to Use this Document

This document is a guide to implementers as to which FHIR Resources (and elements within a Resource) must be populated and therefore are required to be mapped to data for a given patient, sourced from the sender's system. As Transfer of Care is document based, the textual content must always be present, and the Composition Resource is therefore mandated along with some Resources mandated by the FHIR standard. The individual sections within the Composition Resource and associated coded data may or may not be needed to be present depending on whether there is data available for the patient. Additionally, each section and associated coded data within a document will have different conformance rules based on the PRSB requirements. These rules are also documented in the Transfer of Care specifications which should be considered as the master copy when implementing Transfer of Care.

This document has three main purposes:

1. To indicate the resources that **MUST** always be in a document
2. To indicate the resources that **SHOULD** be present in a document, assuming the data is available for the patient
3. To indicate the minimum elements that **MUST** be populated to allow a FHIR Resource to be carried within the document.

This allows an implementer to ascertain the following:

1. The minimum content that a document must contain at the resource level – i.e. which Resources are mandatory in every document instance in addition to the textual content.
2. Which coded information should be sent in addition to the text for a given section – i.e. which Resources should be present in every document where the information is available for the given patient.
3. When mapping data to a Resource the minimum FHIR elements that will need to be populated with data to allow a conformant document to be created, based on the Profile and Transfer of Care design rules.

4. When it is acceptable to only send the data as text because the minimum FHIR element requirements of a Resource which is defined as Required cannot be supported by the sender.

3. Conformance and Cardinality

The allowed minimum data content to construct a compliant Transfer of Care document, as presented below, has been achieved by reviewing the relationships between profile, resource and data elements at levels of profile and profile element.

The structure definition of nationally defined FHIR profiles can be found at <https://fhir.nhs.uk/StructureDefinition> . The definition of Transfer of Care profiles can be found at <https://developer.nhs.uk/transfer-care-specification-versions/>

In addition, ITK3 messaging distribution can be found at: <https://developer.nhs.uk/apis/itk3messagedistribution/>

3.1. At the Profile Level

The conformance stated at the profile level indicates whether a profile MUST be supported in an ITK3 message. The term “effective cardinality” indicates how many times the resource may appear in the message, based on the Profile.

- Mandatory 1..1 = The Profile MUST be supported and the Resource MUST be present in every message.
- Required 1..1 = The Profile MUST be supported and the Resource SHOULD be present in every message where the data to populate exists.
- Conditional 1..1 = The Profile SHOULD be supported if the sending system supports the functionality and the Resource SHOULD be in every message where applicable.
- Optional 0..1 = The Profile MAY be supported if the sending system can support the population of the Resource.

3.2. At the Profile Element Level

The conformance stated at the profile element level indicates whether a profile element MUST be supported in an ITK3 message. The term “effective cardinality” indicates how many times the element may appear in a Resource.

- Mandatory 1..1 = The Element MUST be supported MUST be present in every message where the Resource is included.
- Required 1..1 = The Element SHOULD be supported and SHOULD be present in every message where the Resource is included and where the data to populate exists. Some elements defined as Required may be mandated for certain document types. See the relevant Transfer of Care specification for further information.

- Prohibited 0..0 = The element MUST NOT be used.
- Fixed value indicates the fixed value where applicable. This may not be enforced in the profile.

Note 1: The tables in this section only detail the elements that need to be populated with data or fixed / default values and DO NOT include parent elements or sub elements that need to present for correct XML structure (Details of these elements will be found in the profile.) However, where elements repeat some parent elements may be shown for clarity.

Note 2: The FHIR element is shown using the dot notation for resource elements and the @ sign for element attributes.

For example, the value for the Bundle resource identifier would follow the pattern [Resource.element@attribute](#) and be Bundle.identifier@value.

4. Transfer of Care Documents

This section details the profiles used in the document. The profile conformance is stated and the FHIR Profile used is linked to a further table which shows the conformance for the profile at the element level.

4.1. ITK - Profile Level Conformance

This section details the document Bundle Profiles.

FHIR Profile	Conformance	Effective Cardinality
ITK-Message-Bundle-1	Mandatory	1..1
ITK-MessageHeader-2	Mandatory	1..1
CareConnect-ITK-Header-Practitioner-1	Conditional (Used for internal routing)	1..1
CareConnect-ITK-Header-Organization-1	Conditional (Used for internal routing)	1..1

4.2. Transfer of Care Document - Profile Level Conformance

This section gives the conformance for all Transfer of Care Documents. Where there are special requirements for a document type it will be documented in a separate section. 'XXXX' as in the 'CareConnect-ITK-XXXX-Composition-1' profile below, represents either 'EDIS' for Inpatient Discharge, 'MH' for Mental Health Discharge, 'ECD' for Emergency Care Discharge or 'OPL' for Outpatient Letter. For details of the profile conformance for sending Allergies, Medication, Procedures or Diagnosis as coded information see the relevant sections below.

FHIR Profile	Conformance	Effective Cardinality
ITK-Document-Bundle-1	Mandatory	1..1
CareConnect-ITK-XXXX-Composition-1	Mandatory	1..1
CareConnect-ITK-Encounter-1	Mandatory	1..1
CareConnect-Patient-1	Mandatory	1..1
CareConnect-ITK-Medication-List-1	Required	1..*
CareConnect-ITK-MedicationStatement-1	Required	1..*
CareConnect-ITK-Medication-1	Required	1..*
CareConnect-ITK-MedicationDispense-1	Required	1..*
CareConnect-ITK-Allergy-List-1	Required	1..*
CareConnect-ITK-AllergyIntolerance-1	Required	1..*
CareConnect-ITK-Condition-List-1	Required	1..*
CareConnect-ITK-Condition-1	Required	1..*
CareConnect-ITK-Procedure-List-1	Required	1..*
CareConnect-ITK-Procedure-1	Required	1..*
CareConnect-Practitioner-1	Required	1..*
CareConnect-PractitionerRole-1	Required	1..*
ITK-RelatedPerson-1	Required	1..*
CareConnect-Organization-1	Required	1..*
CareConnect-Location-1	Required	1..*
ITK-Device-1	Optional	0..*
ITK-Attachment-Binary-1	Optional	0..*

4.3. Coded Allergies Profile Conformance

This section indicates the conformance at the profile level when sending a coded Allergy in addition to text. It is used with the tables for the FHIR element conformance for each profile to specify the minimum data items that are required. If these minimum requirements cannot be met, then the Allergy information should be degraded to text only. The table does not include profiles required or mandatory in the overall document in the section 4.2 above.

FHIR Profile	Conformance	Effective Cardinality
CareConnect-ITK-Allergy-List-1	Mandatory	1..*
CareConnect-ITK-AllergyIntolerance-1	Mandatory	1..*
CareConnect-Practitioner-1	Mandatory	1..*

4.4. Coded Medication Profile Conformance

This section indicates the conformance at the profile level when sending a coded Medication in addition to text. It used with the tables for the FHIR element conformance for each profile to specify the minimum data items that are required. If these minimum requirements cannot be met, then the Medication information should be degraded to text only. The table does not include profiles required or mandatory in the overall document in the section 4.2 above.

FHIR Profile	Conformance	Effective Cardinality
CareConnect-ITK-Medication-List-1	Mandatory	1..*
CareConnect-ITK-MedicationStatement-1	Mandatory	1..*
CareConnect-ITK-Medication-1	Mandatory	1..*
CareConnect-ITK-MedicationDispense-1	Required **	1..*
CareConnect-Practitioner-1	Mandatory	1..*

Note: Dispense is only required for dispensed medication (for example TTOs).

4.5. Coded Procedures Profile Conformance

This section indicates the conformance at the profile level when sending a coded Procedure in addition to text. It is used with the tables for FHIR element conformance for each profile to specify the minimum data items that are required. If these minimum requirements cannot be met, then the Procedure information should be degraded to text only. The table does not include profiles required or mandatory in the overall document in the section 4.2 above.

FHIR Profile	Conformance	Effective Cardinality
CareConnect-ITK-Procedure-List-1	Required	1..*
CareConnect-ITK-Procedure-1	Required	1..*
CareConnect-Practitioner-1	Required	1..*

4.6. Coded Condition (Diagnosis) Profile Conformance

This section indicates the conformance at the profile level when sending a coded Diagnosis (using the Condition Resource) in addition to text. It is used with the tables for FHIR element conformance for each profile to specify the minimum data items that are required. If these minimum requirements cannot be met, then the Diagnosis information should be degraded to text only. The table does not include profiles required or mandatory in the overall document in the section 4.2 above.

FHIR Profile	Conformance	Effective Cardinality
CareConnect-ITK-Condition-List-1	Required	1..*
CareConnect-ITK-Condition-1	Required	1..*
CareConnect-Practitioner-1	Required	1..*

4.7. ITK Profile Element Level Conformance

4.7.1. ITK-Message-Bundle-1

Element	Conformance	Cardinality	Fixed value / Guidance
Bundle.id@value	Mandatory	1..1	MUST be a UUID
Bundle.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-Message-Bundle-1 "
Bundle.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "
Bundle.identifier@value	Mandatory	1..1	MUST be a UUID
Bundle.type@value	Mandatory	1..1	Fixed value = " message "
Bundle.entry	Mandatory	1..*	
Bundle.entry.fullUrl@value	Mandatory	1..1	A UUID for the referred to resource prefixed by "urn:uuid"
Bundle.entry.resource	Mandatory	1..1	Must be the MessageHeader Resource

4.7.2. ITK-MessageHeader-2

Element	Conformance	Cardinality	Fixed value / Guidance
MessageHeader.id@value	Mandatory	1..1	MUST be a UUID
MessageHeader.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-MessageHeader-2 "
MessageHeader.extension@url	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/Extension-ITK-MessageHandling-2 "
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "BusAckRequested"
MessageHeader.extension.extension.valueBoolean@value	Mandatory	1..1	Fixed value = "true"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "InfAckRequested"
MessageHeader.extension.extension.valueBoolean@value	Mandatory	1..1	Fixed value = "true"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "RecipientType"
MessageHeader.extension.extension.valueCoding.system@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/CodeSystem/ITK-RecipientType-1 "
MessageHeader.extension.extension.valueCoding.code@value	Mandatory	1..1	Fixed value = "FA"
MessageHeader.extension.extension.valueCoding.display@value	Mandatory	1..1	Fixed value = "For Action"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "MessageDefinition"
MessageHeader.extension.extension.valueReference.reference@value	Mandatory	1..1	<p>For Inpatient Discharge eDischarge</p> <p>Fixed value = "https://fhir.nhs.uk/STU3/MessageDefinition/ITK-eDischarge-MessageDefinition-Instance-1"</p> <p>For Emergency Care eDischarge</p> <p>Fixed value = "https://fhir.nhs.uk/STU3/MessageDefinition/ITK-EC-eDischarge-MessageDefinition-Instance-1"</p> <p>For Mental Health eDischarge</p> <p>Fixed value = "https://fhir.nhs.uk/STU3/MessageDefinition/ITK-MH-eDischarge-MessageDefinition-Instance-1"</p> <p>For Outpatient Letter</p>

			Fixed value = "https://fhir.nhs.uk/STU3/MessageDefinition/ITK-OPL-MessageDefinition-Instance-1"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "SenderReference"
MessageHeader.extension.extension.valueString@value	Mandatory	1..1	Not used in ToC but must be sent with the default string Fixed value = "None"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "LocalExtension"
MessageHeader.extension.extension.valueString@value	Mandatory	1..1	Not used in ToC but must be sent with the default string Fixed value = "None"
MessageHeader.event.system@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/CodeSystem/ITK-MessageEvent-2"
MessageHeader.event.code@value	Mandatory	1..1	For eDischarge Fixed value = "ITK003D" For Emergency Care eDischarge Fixed value = "ITK005D" For Mental Health eDischarge Fixed value = "ITK004D" For Outpatient Letter Fixed value = "ITK006D"
MessageHeader.event.display@value	Mandatory	1..1	For eDischarge Fixed value = "ITK eDischarge" For Emergency Care eDischarge Fixed value = "ITK Emergency Care eDischarge" For Mental Health eDischarge Fixed value = "ITK Mental Health eDischarge" For Outpatient Letter Fixed value = "ITK Outpatient Letter"
MessageHeader.receiver.reference@value	Required	1..1	If internal routing is required to reference a real-world recipient.

			A UUID for the referred to resource prefixed by "urn:uuid"
MessageHeader.sender.reference@value	Mandatory	1..1	Reference to the real-world sender of the message. A UUID for the referred to resource prefixed by "urn:uuid"
MessageHeader.timestamp@value	Mandatory	1..1	
MessageHeader.source.endpoint@value	Mandatory	1..1	Sender's MESH mailbox ID
MessageHeader.response	Prohibited	0..0	Only used for response messages (includes all sub-elements)
MessageHeader.details	Prohibited	0..0	Only used for response messages (includes all sub-elements)
MessageHeader.focus.reference@value	Mandatory	1..1	A UUID for the referred to resource prefixed by "urn:uuid" must be to the Bundle Resource (See ITK-Document-Bundle-1)

4.7.3. CareConnect-ITK-Header-Practitioner-1

Element	Conformance	Cardinality	Fixed value / Guidance
Practitioner.id@value	Mandatory	1..1	A UUID
Practitioner.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Header-Practitioner-1 "
Practitioner.identifier.system@value	Required	1..1	fixed value = " https://fhir.nhs.uk/Id/sds-user-id " Note: Either identifier or name elements MUST be populated, or else resource should not be used.
Practitioner.identifier.system.value@value	Required	1..1	The person's SDS ID
Practitioner.identifier.name.family@value	Required	1..1	The person's family name
Practitioner.identifier.name.given@value	Required	1..1	The person's given name
Practitioner.identifier.name.prefix@value	Required	1..1	The person's title

4.7.4. CareConnect-ITK-Header-Organization-1

Element	Conformance	Cardinality	Fixed value / Guidance
Organization.id@value	Mandatory	1..1	A UUID
Organization.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Header-Organization-1 "
Organization.identifier.system@value	Mandatory	1..1	fixed value = " https://fhir.nhs.uk/Id/ods-organization-code " OR Fixed value = " https://fhir.nhs.uk/Id/ods-site-code " This dependant on which level of ODS code is used.
Organization.identifier.system.value@value	Mandatory	1..1	The organisations ODS code

4.8. Transfer of Care - Profile Element Level Conformance

4.8.1. ITK-Document-Bundle-1

Element	Conformance	Cardinality	Fixed value / Guidance
Bundle.id@value	Mandatory	1..1	MUST be a UUID
Bundle.meta.lastUpdated@value	Mandatory	1..1	Must be populated to be a valid FHIR document. Will in most cases be equal to Composition.date.value element unless for example a document is re-bundled.
Bundle.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-Document-Bundle-1 "
Bundle.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "
Bundle.identifier@value	Mandatory	1..1	MUST be a UUID
Bundle.type@value	Mandatory	1..1	Fixed value = " document "
Bundle.entry	Mandatory	1..*	
Bundle.entry.fullUrl@value	Mandatory	1..1	A UUID prefixed by "urn:uuid"
Bundle.entry.resource	Mandatory	1..1	Must be the Composition Resource

4.8.2. CareConnect-ITK-XXXX-Composition-1

This section applies to all Transfer of Care Compositions.

Element	Conformance	Cardinality	Fixed value / Guidance
Composition.id@value	Mandatory	1..1	MUST be a UUID
Composition.meta.profile@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-EDIS-Composition-1"
Composition.extension@url	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/StructureDefinition/Extension-CareSettingType-1"
Composition.extension.valueCodeableConcept.coding.system@value	Mandatory	1..1	Fixed value = "http://snomed.info/sct"
Composition.extension.valueCodeableConcept.coding.code@value	Mandatory	1..1	
Composition.extension.valueCodeableConcept.coding.display@value	Mandatory	1..1	
Composition.identifier.system@value	Mandatory	1..1	Fixed value = "https://tools.ietf.org/html/rfc4122"
Composition.identifier.system.value@value	Mandatory	1..1	Must be a UUID
Composition.status@value	Mandatory	1..1	
Composition.type.coding.system@value	Mandatory	1..1	Fixed value = "http://snomed.info/sct"
Composition.type.coding.code@value	Mandatory	1..1	
Composition.type.coding.display@value	Mandatory	1..1	
Composition.subject.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Patient Resource
Composition.encounter.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Encounter Resource
Composition.date@value	Mandatory	1..1	
Composition.author.reference@value	Mandatory	1..*	A UUID prefixed by "urn:uuid" must be to the Practitioner or Device Resource
Composition.title@value	Mandatory	1..1	
Composition.custodian.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Organization Resource
Composition.relatesTo.target.Identifier	Required	1..1	
Composition.section	Mandatory	1..1	Section is sliced inline with PRSB headings work. All section slices MUST be supported as per Composition Profile for document type.

Composition.section.title@value	Mandatory	1..1	Fixed in document Composition Profile slice.
Composition.section.code.coding.system@value	Mandatory	1..1	Fixed in document Composition Profile slice.
Composition.section.code.coding.code@value	Mandatory	1..1	Fixed in document Composition Profile slice.
Composition.section.code.coding.display@value	Mandatory	1..1	Fixed in document Composition Profile slice.
Composition.text	Mandatory	1..1	
Composition.text.status@value	Mandatory	1..1	
Compostion.entry.reference@value	Required **	1..1**	A UUID prefixed by "urn:uuid" must be to an allowed Resource . ** Actual conformance is dependent on the section type - see Transfer of Care specification for further information

4.8.3. CareConnect-ITK-Encounter-1

Element	Conformance	Cardinality	Fixed value / Guidance
Encounter.id@value	Mandatory	1..1	MUST be a UUID
Encounter.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Encounter-1 "
Encounter.extension@url	Mandatory **	1..1**	** Only for Emergency Care Discharge, Prohibited in other Transfer of Care documents. Fixed value = " https://fhir.hl7.org.uk/STU3/StructureDefinition/Extension-CareConnect-EmergencyCareDischargeStatus-1 "
Encounter.extension.valueCodeableConcept.coding.system@value	Mandatory **	1..1**	** Only for Emergency Care Discharge, Prohibited in other Transfer of Care documents. Fixed value = " http://snomed.info/sct "
Encounter.extension.valueCodeableConcept.coding.code@value	Mandatory **	1..1**	** Only for Emergency Care Discharge, Prohibited in other Transfer of Care documents.
Encounter.extension.valueCodeableConcept.coding.display@value	Mandatory **	1..1**	** Only for Emergency Care Discharge, Prohibited in other Transfer of Care documents.
Encounter.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "

Encounter.identifier.system.value@value	Mandatory	1..1	Must be a UUID
Encounter.status@value	Mandatory	1..1	Fixed value = "finished"
Encounter.type.coding.system@value	Mandatory	1..1	
Encounter.type.coding.code@value	Mandatory	1..1	
Encounter.type.coding.display@value	Mandatory	1..1	
Encounter.subject.Reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to Patient Resource
Encounter.participant.type.coding.system@value	Required	1..1	
Encounter.participant.type.coding.code@value	Required	1..1	
Encounter.participant.type.coding.display@value	Required	1..1	
Encounter.participant.individual.reference@value	Required	1..1	Reference to the Practitioner Resource for participations such as Discharger, Attender etc
Encounter.period.start	Required	1..1	Both start, and end may not be present in all messages, but period must be supported
Encounter.period.end	Required	1..1	
Encounter.reason.coding.system@value	Required	1..1	
Encounter.reason.coding.code@value	Required	1..1	
Encounter.reason.coding.display@value	Required	1..1	
Encounter.extension@url	Mandatory**	1..1**	**For Outpatient Letters only Fixed value = " https://fhir.hl7.org.uk/STU3/StructureDefinition/Extension-CareConnect-OutcomeOfAttendance-1 "
Encounter.extension.valueCodeableConcept.coding.system@value	Mandatory**	1..1**	**For Outpatient Letters only Fixed value = " https://fhir.hl7.org.uk/STU3/CodeSystem/CareConnect-OutcomeOfAttendance-1 "
Encounter.extension.valueCodeableConcept.coding.code@value	Mandatory**	1..1**	**For Outpatient Letters only
Encounter.extension.valueCodeableConcept.coding.display@value	Mandatory**	1..1**	**For Outpatient Letters only
Encounter.extension@url	Mandatory**	1..1**	**For Emergency Care Discharge only

			Fixed value = "https://fhir.hl7.org.uk/STU3/StructureDefinition/Extension-CareConnect-EmergencyCareDischargeStatus-1"
Encounter.extension.valueCodeableConcept.coding.system@value	Mandatory**	1..1**	**For Emergency Care Discharge only Fixed value = "http://snomed.info/sct"
Encounter.extension.valueCodeableConcept.coding.code@value	Mandatory**	1..1**	**For Emergency Care Discharge only
Encounter.extension.valueCodeableConcept.coding.display@value	Mandatory**	1..1**	**For Emergency Care Discharge only
Encounter.hospitalization.extension@url			Fixed value = "https://fhir.hl7.org.uk/STU3/StructureDefinition/Extension-CareConnect-AdmissionMethod-1"
Encounter.extension.valueCodeableConcept.coding.system@value	Required	1..1	
Encounter.extension.valueCodeableConcept.coding.code@value	Required	1..1	
Encounter.extension.valueCodeableConcept.coding.display@value	Required	1..1	
Encounter.hospitalization.extension@url			Fixed value = "https://fhir.hl7.org.uk/STU3/StructureDefinition/Extension-CareConnect-DischargeMethod-1"
Encounter.extension.valueCodeableConcept.coding.system@value	Required	1..1	
Encounter.extension.valueCodeableConcept.coding.code@value	Required	1..1	
Encounter.extension.valueCodeableConcept.coding.display@value	Required	1..1	
Encounter.dischargeDisposition.coding.system@value	Required	1..1	
Encounter.dischargeDisposition.coding.code@value	Required	1..1	
Encounter.dischargeDisposition.coding.display@value	Required	1..1	

4.8.4. CareConnect-ITK-Medication-List-1

Element	Conformance	Cardinality	Fixed value / Guidance
List.id@value	Mandatory	1..1	Must be a UUID
List.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Medication-List-1 "
List.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "
List.identifier.value@value	Mandatory	1..1	MUST be UUID
List.status@value	Mandatory	1..1	
List.mode@value	Mandatory	1..1	
List.code.coding.system@value	Mandatory	1..1	
List.code.coding.code@value	Mandatory	1..1	
List.code.coding.display@value	Mandatory	1..1	
List.subject.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Patient Resource
List.encounter.reference@value	Required	1..1	A UUID prefixed by "urn:uuid" must be to the Encounter Resource
List.source.reference@value	Required	1..1	A UUID prefixed by "urn:uuid" must be to an allowed Resource
List.item.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the MedicationStatement Resource

4.8.5. CareConnect-ITK-MedicationStatement-1

Element	Conformance	Cardinality	Fixed value / Guidance
MedicationStatement.id@value	Mandatory	1..1	MUST be a UUID
MedicationStatement.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-MedicationStatement-1 "
MedicationStatement.extension@url	Required	1..1	Fixed value = " https://fhir.hl7.org.uk/STU3/StructureDefinition/Extension-CareConnect-MedicationChangeSummary-1 "
MedicationStatement.extension.extension@url	Required	1..1	Fixed value = "status"

MedicationStatement.extension.extension.valueCode@value	Required	1..1	
MedicationStatement.extension.extension.url	Required	1..1	Fixed value = "indicationForChange"
MedicationStatement.extension.extension.valueCodeableConcept.coding.system@value	Required	1..1	
MedicationStatement.extension.extension.valueCodeableConcept.coding.code@value	Required	1..1	
MedicationStatement.extension.extension.valueCodeableConcept.coding.display@value	Required	1..1	
MedicationStatement.extension.extension.url	Required	1..1	Fixed value = "dateChanged"
MedicationStatement.extension.extension.valueDateTime@value	Required	1..1	
MedicationStatement.extension.extension.url	Required	1..1	Fixed value = "detailsOfAmendment"
MedicationStatement.extension.extension.valueString@value	Required	1..1	
MedicationStatement.status@value	Mandatory	1..1	
MedicationStatement.medication.reference	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Medication Resource
MedicationStatement.subject.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Patient Resource
MedicationStatementr.taken.code@value	Mandatory	1..1	

4.8.6. CareConnect-ITK-Medication-1

Element	Conformance	Cardinality	Fixed value / Guidance
Medication.id@value	Mandatory	1..1	MUST be a UUID
Medication.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Medication-1 "
Medication.code.coding.system@value	Mandatory	1..1	Fixed value = " http://snomed.info/sct "
Medication.code.coding.code@value	Mandatory	1..1	
Medication.code.coding.display@value	Mandatory	1..1	

4.8.7. CareConnect-ITK-MedicationDispense-1

Element	Conformance	Cardinality	Fixed value / Guidance
MedicationDispense.id@value	Mandatory	1..1	MUST be a UUID
MedicationDispense.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-MedicationDispense-1 "
MedicationDispense.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "
MedicationDispense.identifier.value@value	Mandatory	1..1	MUST be a UUID
MedicationDispense.status@value	Mandatory	1..1	
MedicationDispense.subject.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Patient Resource
MedicationDispense.medicationReference.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Medication Resource
MedicationDispense.quantity.extension@url	Mandatory	1..1	Fixed value = " https://fhir.hl7.org.uk/STU3/StructureDefinition/Extension-CareConnect-MedicationQuantityText-1 "
MedicationDispense.quantity.extension.valueString@value	Mandatory	1..1	

4.8.8. CareConnect-ITK-Allergy-List-1

Element	Conformance	Cardinality	Fixed value / Guidance
List.id@value	Mandatory	1..1	Must be a UUID
List.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Allergy-List-1 "
List.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "
List.identifier.value@value	Mandatory	1..1	MUST be UUID
List.status@value	Mandatory	1..1	
List.mode@value	Mandatory	1..1	
List.code.coding.system@value	Mandatory	1..1	
List.code.coding.code@value	Mandatory	1..1	
List.code.coding.display@value	Mandatory	1..1	

List.subject.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Patient Resource
List.encounter.reference@value	Required	1..1	A UUID prefixed by "urn:uuid" must be to the Encounter Resource
List.source.reference@value	Required	1..1	A UUID prefixed by "urn:uuid" must be to an allowed Resource
List.Item.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the AllergyIntolerance Resource

4.8.9. CareConnect-ITK-AllergyIntolerance-1

Element	Conformance	Cardinality	Fixed value / Guidance
AllergyIntolerance.id@value	Mandatory	1..1	MUST be a UUID
AllergyIntolerance.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-AllergyIntolerance-1 "
AllergyIntolerance.clinicalStatus@value	Mandatory	1..1	
AllergyIntolerance.verificationStatus@value	Mandatory	1..1	
AllergyIntolerance.category@value	Mandatory	1..1	
AllergyIntolerance.code.coding.system@value	Mandatory	1..1	Fixed value = " http://snomed.info/sct "
AllergyIntolerance.code.coding.code@value	Mandatory	1..1	
AllergyIntolerance.code.coding.display@value	Mandatory	1..1	
AllergyIntolerance.patient.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to Patient Resource
AllergyIntolerance.assertedDate@value	Mandatory	1..1	
AllergyIntolerance.reaction.manifestation.coding.system@value	Mandatory	1..*	Fixed value = " http://snomed.info/sct "
AllergyIntolerance.reaction.manifestation.coding.code@value	Mandatory	1..*	
AllergyIntolerance.reaction.manifestation.coding.system@value	Mandatory	1..*	
AllergyIntolerance.reaction.severity@value	Required	1..1	

4.8.10. CareConnect-ITK-Condition-List-1

Element	Conformance	Cardinality	Fixed value / Guidance
List.id@value	Mandatory	1..1	Must be a UUID
List.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Condition-List-1 "
List.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "
List.identifier.value@value	Mandatory	1..1	MUST be UUID
List.status@value	Mandatory	1..1	
List.mode@value	Mandatory	1..1	
List.code.coding.system@value	Mandatory	1..1	
List.code.coding.code@value	Mandatory	1..1	
List.code.coding.display@value	Mandatory	1..1	
List.subject.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to Patient Resource
List.encounter.reference@value	Required	1..1	A UUID prefixed by "urn:uuid" must be to Encounter Resource
List.source.reference@value	Required	1..1	A UUID prefixed by "urn:uuid" must be to an allowed Resource
List.item.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to Condition Resource

4.8.11. CareConnect-ITK-Condition-1

Element	Conformance	Cardinality	Fixed value / Guidance
Condition.id@value	Mandatory	1..1	Must be a UUID
Condition.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Condition-List-1 "
Condition.identifier@value	Mandatory	1..1	
Condition.Status@value	Required	1..1	
Condition.code.coding.system@value	Mandatory	1..1	
Condition.code.coding.code@value	Mandatory	1..1	

Condition.code.coding.display@value	Mandatory	1..1	
Condition.subject.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to Patient Resource

4.8.12. CareConnect-ITK-Procedure-List-1

Element	Conformance	Cardinality	Fixed value / Guidance
List.id@value	Mandatory	1..1	Must be a UUID
List.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Procedure-List-1 "
List.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "
List.identifier.value@value	Mandatory	1..1	MUST be UUID
List.status@value	Mandatory	1..1	
List.mode@value	Mandatory	1..1	
List.code.coding.system@value	Mandatory	1..1	
List.code.coding.code@value	Mandatory	1..1	
List.code.coding.display@value	Mandatory	1..1	
List.subject.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Patient Resource
List.encounter.reference@value	Required	1..1	A UUID prefixed by "urn:uuid" must be to the Encounter Resource
List.source.reference@value	Required	1..1	A UUID prefixed by "urn:uuid" must be to an allowed Resource
List.Item.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Procedure Resource

4.8.13. CareConnect-ITK-Procedure-1

Element	Conformance	Cardinality	Fixed value / Guidance
Procedure.id@value	Mandatory	1..1	MUST be a UUID
Procedure.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-Procedure-1 "
Procedure.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "

Procedure.identifier.value@value	Mandatory	1..1	MUST be a UUID
Procedure.status@value	Mandatory	1..1	
Procedure.code.coding.system@value	Mandatory	1..1	
Procedure.code.coding.code@value	Mandatory	1..1	
Procedure.code.coding.display@value	Mandatory	1..1	
Procedure.subject.reference @value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Patient Resource
Procedure.context.reference @value	Required	1..1	A UUID prefixed by "urn:uuid" must be to the Encounter Resource

4.8.14. CareConnect-Patient-1

Element	Conformance	Cardinality	Fixed value / Guidance
Patient.id@value	Mandatory	1..1	MUST be a UUID
Patient.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-Patient-1 "
Patient.identifier.extension@url	Required	1..1	Fixed value = " https://fhir.hl7.org.uk/STU3/StructureDefinition/Extension-CareConnect-NHSNumberVerificationStatus-1 " Only used with NHS Number
Patient.identifier.extension.valueCodeableConcept.coding.system@value	Required	1..1	Only used with NHS Number
Patient.identifier.extension.valueCodeableConcept.coding.code@value	Required	1..1	Only used with NHS Number
Patient.identifier.extension.valueCodeableConcept.coding.display@value	Required	1..1	Only used with NHS Number
Patient.identifier.system@value	Mandatory	1..*	
Patient.identifier.value@value	Mandatory	1..*	
Patient.name.use@value	Required	1..1	
Patient.name.family@value	Mandatory	1..1	
Patient.name.given@value	Mandatory	1..1	
Patient.name.prefix@value	Mandatory	1..1	
Patient.gender@value	Mandatory	1..1	

Patient.birthDate@value	Mandatory	1..1	
Patient.address.line@value	Mandatory	1..*	
Patient.address.city@value	Mandatory	1..1	
Patient.address.postalCode@value	Mandatory	1..1	

4.8.15. CareConnect-Practitioner-1

Element	Conformance	Cardinality	Fixed value / Guidance
Practitioner.id@value	Mandatory	1..1	A UUID
Practitioner.meta.profile@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-Practitioner-1"
Practitioner.identifier.system@value	Required	1..1	fixed value = "https://fhir.nhs.uk/Id/sds-user-id"
Practitioner.identifier.system.value@value	Required	1..1	The person's SDS ID
Practitioner.name.family@value	Required	1..1	The person's family name
Practitioner.name.given@value	Required	1..1	The person's given name
Practitioner.name.prefix@value	Required	1..1	The person's title
Practitioner.telecom.system@value	Required	1..1	
Practitioner.telecom.value@value	Required	1..1	
Practitioner.telecom.use@value	Required	1..1	

4.8.16. CareConnect-PractitionerRole-1

Element	Conformance	Cardinality	Fixed value / Guidance
PractitionerRole.id@value	Mandatory	1..1	MUST be a UUID
PractitionerRole.meta.profile@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-PractitionerRole-1"
PractitionerRole.practitioner.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Practitioner Resource

PractitionerRole.organization.reference@value	Required	1..1	A UUID prefixed by "urn:uuid" must be to the Organization Resource
PractitionerRole.code.coding.system@value	Mandatory	1..1	
PractitionerRole.code.coding.code@value	Mandatory	1..1	
PractitionerRole.code.coding.display@value	Mandatory	1..1	

4.8.17. ITK-RelatedPerson-1

Element	Conformance	Cardinality	Fixed value / Guidance
RelatedPerson.id@value	Mandatory	1..1	MUST be a UUID
RelatedPerson.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-RelatedPerson-1 "
RelatedPerson.patient.reference@value	Mandatory	1..1	A UUID prefixed by "urn:uuid" must be to the Patient Resource
RelatedPerson.relationship.coding.system@value	Mandatory	1..1	
RelatedPerson.relationship.coding.code@value	Mandatory	1..1	
RelatedPerson.relationship.coding.display@value	Mandatory	1..1	
RelatedPerson.name.use@value	Required	1..1	
RelatedPerson.name.family@value	Required	1..1	
RelatedPerson.name.given@value	Required	1..1	
RelatedPerson.name.prefix@value	Required	1..1	
RelatedPerson.telecom.system@value	Required	1..1	
RelatedPerson.telecom.value@value	Required	1..1	
RelatedPerson.telecom.use@value	Required	1..1	

4.8.18. CareConnect-Organization-1

Element	Conformance	Cardinality	Fixed value / Guidance
Organization.id@value	Mandatory	1..1	A UUID
Organization.meta.profile@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-Organization-1"
Organization.identifier.system@value	Mandatory	1..1	fixed value = "https://fhir.nhs.uk/Id/ods-organization-code"
Organization.identifier.system.value@value	Mandatory	1..1	The organisation's ODS code
Organization.name.@value	Mandatory	1..1	
Organization.address.line@value	Required	1..*	
Organization.address.city@value	Required	1..1	
Organization.address.postalCode@value	Required	1..1	

4.8.19. CareConnect-Location-1

Element	Conformance	Cardinality	Fixed value / Guidance
Location.id@value	Mandatory	1..1	A UUID
Location.meta.profile@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-Location-1"
Organization.identifier.system@value	Required	1..1	
Organization.identifier.system.value@value	Required	1..1	The organisation's ODS code
Organization.name.@value	Mandatory	1..1	

4.8.20. ITK-Device-1

Element	Conformance	Cardinality	Fixed value / Guidance
Device.id@value	Mandatory	1..1	MUST be a UUID
Device.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-Device-1 "
Device.identifier.system@value	Required	1..1	
Device.identifier.value@value	Required	1..1	
Device.type.codeableConcept.coding.system@value	Mandatory	1..1	
Device.type.codeableConcept.coding.system@value	Mandatory	1..1	
Device.type.codeableConcept.coding.system@value	Mandatory	1..1	

4.8.21. ITK-Attachment-Binary-1

Element	Conformance	Cardinality	Fixed value / Guidance
Attachment.id@value	Mandatory	1..1	MUST be a UUID
Attachment.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-Attachment-Binary-1 "
Attachment.contentType.code@value	Mandatory	1..1	
Attachment.content	Mandatory	1..1	

5. ITK3 Technical Level Response Messages

This section details the profiles used in the ITK3 Response messages when used for Transfer of Care and returning a Technical (Infrastructure) level response. The profile conformance is stated and the FHIR Profile used is linked to a further table which shows the conformance for the profile at the element level.

5.1. ITK Response - Profile Level Conformance

FHIR Profile	Conformance	Effective Cardinality
ITK-Message-Bundle-1	Mandatory	1..1
ITK-MessageHeader-2	Mandatory	1..1
CareConnect-ITK-Header-Practitioner-1	Required (Used for internal routing)	1..1
CareConnect-ITK-Header-Organization-1	Required (Used for internal routing)	1..1
ITK-Response-OperationOutcome-1	Mandatory	1..1

5.2. ITK Response - Profile Element Level Conformance

5.2.1. ITK-Message-Bundle-1

Element	Conformance	Cardinality	Fixed value / Guidance
Bundle.id@value	Mandatory	1..1	MUST be a UUID
Bundle.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-Message-Bundle-1 "
Bundle.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "
Bundle.identifier@value	Mandatory	1..1	MUST be a UUID
Bundle.type@value	Mandatory	1..1	Fixed value = " message "
Bundle.entry	Mandatory	1..*	
Bundle.entry.fullUrl@value	Mandatory	1..1	A UUID for the referred to resource prefixed by "urn:uuid"
Bundle.entry.resource	Mandatory	1..1	MUST be the MessageHeader Resource

5.2.2. ITK-MessageHeader-2

Element	Conformance	Cardinality	Fixed value / Guidance
MessageHeader.id@value	Mandatory	1..1	MUST be a UUID
MessageHeader.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-MessageHeader-2 "
MessageHeader.extension@url	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/Extension-ITK-MessageHandling-2 "
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "BusAckRequested"
MessageHeader.extension.extension.valueBoolean@value	Mandatory	1..1	Fixed value = "false"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "InfAckRequested"
MessageHeader.extension.extension.valueBoolean@value	Mandatory	1..1	Fixed value = "false"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "RecipientType"
MessageHeader.extension.extension.valueCoding.system@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/CodeSystem/ITK-RecipientType-1 "
MessageHeader.extension.extension.valueCoding.code@value	Mandatory	1..1	Fixed value = "FA"
MessageHeader.extension.extension.valueCoding.display@value	Mandatory	1..1	Fixed value = "For Action"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "MessageDefinition"
MessageHeader.extension.extension.valueReference.reference@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/MessageDefinition/ITK-Response-MessageDefinition-Instance-1 "
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "SenderReference"
MessageHeader.extension.extension.valueString@value	Mandatory	1..1	Not used in ToC but MUST be sent with the default string Fixed value = "None"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "LocalExtension"
MessageHeader.extension.extension.valueString@value	Mandatory	1..1	Not used in ToC but MUST be sent with the default string Fixed value = "None"
MessageHeader.event.system@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/CodeSystem/ITK-MessageEvent-2 "

MessageHeader.event.code@value	Mandatory	1..1	Fixed value = "ITK008M"
MessageHeader.event.display@value	Mandatory	1..1	Fixed value = "ITK Response"
MessageHeader.receiver.reference@value	Required	1..1	If internal routing is required to reference a real-world recipient. A UUID for the referred to resource prefixed by "urn:uuid"
MessageHeader.sender.reference@value	Mandatory	1..1	Reference to the real-world sender of the message. A UUID for the referred to resource prefixed by "urn:uuid"
MessageHeader.timestamp@value	Mandatory	1..1	
MessageHeader.source.endpoint@value	Mandatory	1..1	Sender's MESH mailbox ID
MessageHeader.response.identifier@value	Mandatory	1..1	UUID of the original message using FHIR element MessageHeader.id
MessageHeader.response.code@value	Mandatory	1..1	
MessageHeader.details.reference	Mandatory	1..1	A UUID for the referred to resource prefixed by "urn:uuid" MUST be the OperationOutcome Resource
MessageHeader.focus.reference@value	Prohibited	0..0	Not used for response messages

5.2.3. CareConnect-ITK-Header-Practitioner-1

Element	Conformance	Cardinality	Fixed value / Guidance
Practitioner.id@value	Mandatory	1..1	A UUID
Practitioner.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Header-Practitioner-1 "
Practitioner.identifier.system@value	Required	1..1	fixed value = " https://fhir.nhs.uk/Id/sds-user-id " Note: Either identifier or name elements MUST be populated, or else resource should not be used.
Practitioner.identifier.system.value@value	Required	1..1	The person's SDS ID
Practitioner.identifier.name.family@value	Required	1..1	The person's family name
Practitioner.identifier.name.given@value	Required	1..1	The person's given name

Practitioner.identifier.name.prefix@value	Required	1..1	The person's title
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5.2.4. CareConnect-ITK-Header-Organization-1

Element	Conformance	Cardinality	Fixed value / Guidance
Organization.id@value	Mandatory	1..1	A UUID
Organization.meta.profile@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Header-Organization-1"
Organization.identifier.system@value	Mandatory	1..1	fixed value = "https://fhir.nhs.uk/Id/ods-organization-code" OR Fixed value = "https://fhir.nhs.uk/Id/ods-site-code" This dependant on which level of ODS code is used.
Organization.identifier.system.value@value	Mandatory	1..1	The organisations ODS code

5.2.5. ITK-Response-OperationOutcome-1

Element	Conformance	Cardinality	Fixed value / Guidance
OperationOutcome.id@value	Mandatory	1..1	A UUID
OperationOutcome.meta.profile@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/StructureDefinition/ITK-Response-OperationOutcome-1"
OperationOutcome.issue.severity@value	Mandatory	1..1	
OperationOutcome.issue.code@value	Mandatory	1..1	
OperationOutcome.details.coding.system@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/CodeSystem/ITK-ResponseCodes-1"
OperationOutcome.details.coding.code@value	Mandatory	1..1	
OperationOutcome.details.coding.display@value	Mandatory	1..1	

6. ITK3 Business Level Response Messages

This section details the profiles used in the ITK3 Response messages when used for Transfer of Care and returning a business level response. The profile conformance is stated and the FHIR Profile used is linked to a further table which shows the conformance for the profile at the element level.

6.1. ITK Response - Profile Level Conformance

FHIR Profile	Conformance	Effective Cardinality
ITK-Message-Bundle-1	Mandatory	1..1
ITK-MessageHeader-2	Mandatory	1..1
CareConnect-ITK-Header-Practitioner-1	Required (Used for internal routing)	1..1
CareConnect-ITK-Header-Organization-1	Required (Used for internal routing)	1..1
ITK-Response-OperationOutcome-1	Mandatory	1..1

6.2. ITK Response - Profile Element Level Conformance

6.2.1. ITK-Message-Bundle-1

Element	Conformance	Cardinality	Fixed value / Guidance
Bundle.id@value	Mandatory	1..1	MUST be a UUID
Bundle.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-Message-Bundle-1 "
Bundle.identifier.system@value	Mandatory	1..1	Fixed value = " https://tools.ietf.org/html/rfc4122 "
Bundle.identifier@value	Mandatory	1..1	MUST be a UUID
Bundle.type@value	Mandatory	1..1	Fixed value = " message "
Bundle.entry	Mandatory	1..*	
Bundle.entry.fullUrl@value	Mandatory	1..1	A UUID for the referred to resource prefixed by "urn:uuid"
Bundle.entry.resource	Mandatory	1..1	MUST be the MessageHeader Resource

6.2.2. ITK-MessageHeader-2

Element	Conformance	Cardinality	Fixed value / Guidance
MessageHeader.id@value	Mandatory	1..1	MUST be a UUID
MessageHeader.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/ITK-MessageHeader-2 "
MessageHeader.extension@url	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/Extension-ITK-MessageHandling-2 "
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "BusAckRequested"
MessageHeader.extension.extension.valueBoolean@value	Mandatory	1..1	Fixed value = "false"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "InfAckRequested"
MessageHeader.extension.extension.valueBoolean@value	Mandatory	1..1	Fixed value = "true"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "RecipientType"
MessageHeader.extension.extension.valueCoding.system@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/CodeSystem/ITK-RecipientType-1 "
MessageHeader.extension.extension.valueCoding.code@value	Mandatory	1..1	Fixed value = "FA"
MessageHeader.extension.extension.valueCoding.display@value	Mandatory	1..1	Fixed value = "For Action"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "MessageDefinition"
MessageHeader.extension.extension.valueReference.reference@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/MessageDefinition/ITK-Response-MessageDefinition-Instance-1 "
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "SenderReference"
MessageHeader.extension.extension.valueString@value	Mandatory	1..1	Not used in ToC but MUST be sent with the default string Fixed value = "None"
MessageHeader.extension.extension@url	Mandatory	1..1	Fixed value = "LocalExtension"
MessageHeader.extension.extension.valueString@value	Mandatory	1..1	Not used in ToC but MUST be sent with the default string Fixed value = "None"
MessageHeader.event.system@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/CodeSystem/ITK-MessageEvent-2 "

MessageHeader.event.code@value	Mandatory	1..1	Fixed value = "ITK008M"
MessageHeader.event.display@value	Mandatory	1..1	Fixed value = "ITK Response"
MessageHeader.receiver.reference@value	Required	1..1	If internal routing is required to reference a real-world recipient. A UUID for the referred to resource prefixed by "urn:uuid"
MessageHeader.sender.reference@value	Mandatory	1..1	Reference to the real-world sender of the message. A UUID for the referred to resource prefixed by "urn:uuid"
MessageHeader.timestamp@value	Mandatory	1..1	
MessageHeader.source.endpoint@value	Mandatory	1..1	Sender's MESH mailbox ID
MessageHeader.response.identifier@value	Mandatory	1..1	UUID of the original message using FHIR element MessageHeader.id
MessageHeader.response.code@value	Mandatory	1..1	
MessageHeader.details.reference	Mandatory	1..1	A UUID for the referred to resource prefixed by "urn:uuid" MUST be the OperationOutcome Resource
MessageHeader.focus.reference@value	Prohibited	0..0	Not used for response messages

6.2.3. CareConnect-ITK-Header-Practitioner-1

Element	Conformance	Cardinality	Fixed value / Guidance
Practitioner.id@value	Mandatory	1..1	A UUID
Practitioner.meta.profile@value	Mandatory	1..1	Fixed value = " https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Header-Practitioner-1 "
Practitioner.identifier.system@value	Required	1..1	fixed value = " https://fhir.nhs.uk/Id/sds-user-id " Note: Either identifier or name elements MUST be populated, or else resource should not be used.
Practitioner.identifier.system.value@value	Required	1..1	The person's SDS ID
Practitioner.identifier.name.family@value	Required	1..1	The person's family name
Practitioner.identifier.name.given@value	Required	1..1	The person's given name

Practitioner.identifier.name.prefix@value	Required	1..1	The person's title
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6.2.4. CareConnect-ITK-Header-Organization-1

Element	Conformance	Cardinality	Fixed value / Guidance
Organization.id@value	Mandatory	1..1	A UUID
Organization.meta.profile@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/StructureDefinition/CareConnect-ITK-Header-Organization-1"
Organization.identifier.system@value	Mandatory	1..1	fixed value = "https://fhir.nhs.uk/Id/ods-organization-code" OR Fixed value = "https://fhir.nhs.uk/Id/ods-site-code" This dependant on which level of ODS code is used.
Organization.identifier.system.value@value	Mandatory	1..1	The organisations ODS code

6.2.5. ITK-Response-OperationOutcome-1

Element	Conformance	Cardinality	Fixed value / Guidance
OperationOutcome.id@value	Mandatory	1..1	A UUID
OperationOutcome.meta.profile@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/StructureDefinition/ITK-Response-OperationOutcome-1"
OperationOutcome.issue.severity@value	Mandatory	1..1	
OperationOutcome.issue.code@value	Mandatory	1..1	
OperationOutcome.details.coding.system@value	Mandatory	1..1	Fixed value = "https://fhir.nhs.uk/STU3/CodeSystem/ITK-ResponseCodes-1"
OperationOutcome.details.coding.code@value	Mandatory	1..1	
OperationOutcome.details.coding.display@value	Mandatory	1..1	

7. Degrading Information to Text Only

When the minimum data set for an Allergy, Medication, Procedure or Diagnosis (Condition) cannot be met then it is allowable for the information to not be coded and sent only as text. This should be a temporary measure for First of Type (FoT) implementations and other later adopters. This workaround should not be a long-term solution.

Standards and deadlines already exist in the NHS for SNOMED CT and dm+d adoption, and the transmission of this information electronically. For example:

- Secondary care, including Acute, and Mental Health organisations are expected to use SNOMED CT as the clinical terminology in direct patient care before the 1st April 2020. The key documents for SNOMED CT can be found at: <https://digital.nhs.uk/services/terminology-and-classifications/snomed-ct>
- The ISB 0052 standard requires that electronic systems that exchange or share information about medicines relating directly to a patient's care must adhere to the standard by using dm+d identifiers and descriptions when transferring data by 30th June 2017.

Organisations need to be proactive in achieving these requirements so there is full adherence as early as possible.