

Xt-EHR T7.2 Sub-team for Imaging Reports Model

Xt-EHR Analysis Platform

Document: xt-ehr-imaging-report-elements

Generated: November 05, 2025

Analysis based on PARROT v1.0 dataset and Xt-EHR FHIR Implementation Guide

Xt-EHR Imaging Report Data Elements Analysis

Source Model: EHDSImagingReport v0.2.1 **Analysis Date:** October 2025 **Model Version:** Xt-EHR FHIR IG v0.2.1 (October 10, 2025)

Model Overview

The Xt-EHR Imaging Report model (EHDSImagingReport) provides a comprehensive structure for diagnostic imaging reports within the European Health Data Space (EHDS). This analysis examines each data element for real-world usage patterns and implementation priority.

Model Reference

fsh Logical: EHDSImagingReport Title: "Imaging report model" Parent: EHDSDocument Description: ""Imaging report reflects the observations and interpretations of one or more imaging studies, contains elements such as the reason why the study is requested, relevant contextual medical information, the modality used to acquire images and its settings, procedures and body localisations that were used, a description of the observations and findings, exposure information, conclusion and advice.""

Source: imagingReport.fsh

Legend

Cardinality: - 1..1 = Required (exactly one) - 1..* = Required (one or more) - 0..1 = Optional (zero or one) - 0..* = Optional (zero or more) - **Base Elements**: Elements with Status="Base" (fundamental to the model)

Header Section (Required: 1..1)

Core Header Elements (Base)

Element	Path	Cardinalit y	Status	Type	Description
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Subject	`header.subject`	1..1	Base	EHDSPatient	Patient/subject information
Identifier	`header.identifier`	1..*	Base	Identifier	Unique identifier of the document
Authorship	`header.authorship`	1..*	Base	Base	Report authoring details
Author	`header.authorship.author[x]`	1..1	Base	Choice	Author by whom the document was authored
Authoring DateTime	`header.authorship.datetime`	1..1	Base	dateTime	Date and time of authoring/issuing
Status	`header.status`	1..1	Base	CodeableConcept	Status of the document
Document Type	`header.documentType`	1..1	Base	CodeableConcept	Type of document (medical imaging report)
Document Title	`header.documentTitle`	1..1	Base	string	Human readable document title

Optional Header Elements (Base)

Element	Path	Cardinality	Status	Type	Description
Last Update	`header.lastUpdate`	0..1	Base	dateTime	Date and time of the last update
Status Reason	`header.statusReason[x]`	0..1	Base	Choice	Reason for the current status
Language	`header.language`	0..1	Base	CodeableConcept	Language in which the resource is written

Period	`header.period`	0..1	Base	Period	Time of service being documented
Version	`header.version`	0..1	Base	string	Business version of the document
Attestation	`header.attestation`	0..*	Base	Base	Document attestation details
Legal Authentication	`header.legalAuthentication`	0..1	Base	Base	Document legal authentication details
Event Type	`header.eventType`	0..*	Base	CodeableConcept	Categorisation of the event covered
Service Specialty	`header.serviceSpecialty`	0..*	Base	CodeableConcept	Clinical specialty details
Custodian	`header.custodian`	0..1	Base	EHDSOrganisation	Organisation maintaining the document
Confidentiality	`header.confidentiality`	0..1	Base	CodeableConcept	Level of confidentiality
Accession Number	`header.accessionNumber`	0..1	Base	string	RIS identifier for the imaging procedure
Health Insurance Info	`header.healthInsuranceAndPaymentInformation`	0..*	Base	EHSDSCoverage	Health insurance and payment information
Intended Recipient	`header.intendedRecipient[x]`	0..*	Base	Choice	Information recipient

Body Section (Optional: 0..1)

Order Information (Optional: 0..*)

Element	Path	Cardinality	Status	Type	Description
Order ID	`body.orderInformation.orderId`	1..*	Base	Identifier	Identifier(s) of the imaging service order
Order Date Time	`body.orderInformation.orderDateAndTime`	0..1	Base	dateTime	Date and time of the order placement
Order Placer	`body.orderInformation.orderPlacer[x]`	0..1	Base	Choice	Person/organisation placing the order
Order Reason Text	`body.orderInformation.orderReasonText`	0..*	Base	string	Textual explanation for the service request
Order Reason	`body.orderInformation.orderReason[x]`	0..*	Base	Choice	Coded explanation for the service request
Clinical Question	`body.orderInformation.clinicalQuestion`	0..1	Base	string	Clinical question to be answered

Supporting Information (Optional: 0..1)

Element	Path	Cardinality	Status	Type	Description
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Observation	`body.supportingInformation.observat ion`	0..*	Base	EHDSobservati on	Clinical findings and observations
Condition	`body.supportingInformation.condition `	0..*	Base	EHDSCondition	Conditions affecting service/interpretation
Medication Administration	`body.supportingInformation.medicati onAdministration`	0..*	Base	EHDSPedicatio nAdministration	Medications for the procedure
Devices	`body.supportingInformation.devices`	0..*	Base	EHDSDDevice	Implants/devices affecting examination
Pregnancy Status	`body.supportingInformation.pregnan cyStatus`	0..1	Base	EHDSCurrentPr egnancy	Pregnancy status during examination
Sex for Clinical Use	`body.supportingInformation.sexForCl inicalUse`	0..*	Base	CodeableConce pt	Sex parameter for clinical decision making
Other Supporting Info	`body.supportingInformation.otherSu pportingInformation`	0..*	Base	Resource	Any other relevant supporting information

Specimen Information (Optional: 0..*)

Element	Path	Cardinalit y	Status	Type	Description
Specimen	`body.specimen`	0..*	Base	EHDSSpecime n	Specimen information

Service Request (Optional: 0..*)

Element	Path	Cardinality	Status	Type	Description
Service Request	`body.serviceRequest`	0..*	Base	EHDSServiceRequest	Specification of requested service(s)

Exposure Information (Optional: 0..1)

Element	Path	Cardinality	Status	Type	Description
Effective Dose	`body.exposureInformation.effectiveDose`	0..*	Base	Quantity	Effective dose in mSv
Equivalent Dose Info	`body.exposureInformation.equivalentDoseInformation`	1..1	Base	Base	Equivalent dose information
Equivalent Dose	`body.exposureInformation.equivalentDoseInformation.equivalentDose`	1..1	Base	Quantity	Equivalent dose in mSv
Tissue Type	`body.exposureInformation.equivalentDoseInformation.tissueType`	1..1	Base	CodeableConcept	Type of tissue for dosage enumeration

Examination Report Section (Required if body present: 1..1)

Core Examination Elements

Element	Path	Cardinality	Status	Type	Description
Modality	`body.examinationReport.modality`	1..*	Base	CodeableConcept	Imaging modality used
Body Part	`body.examinationReport.bodyPart`	0..*	Base	EHDSBodyStructure	All body parts investigated
Imaging Procedures	`body.examinationReport.imagingProcedures`	0..*	Base	EHDSProcedure	Imaging procedures performed
Medication	`body.examinationReport.medication`	0..*	Base	EHDSMedicationAdministration	Medication administered (contrast, etc.)
Adverse Reaction	`body.examinationReport.adverseReaction`	0..*	Base	EHDSAllergyIntolerance	Adverse reactions during investigation

Result Data (Optional: 0..1)

Element	Path	Cardinality	Status	Type	Description
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Result Text	`body.examinationReport.resultData.resultText`	1..1	Base	string	Narrative representation of results
Observation Results	`body.examinationReport.resultData.observationResults`	0..*	Base	EHDSPersonObservation	Detailed observation results

Conclusion (Required if examination report present: 1..1)

Element	Path	Cardinality	Status	Type	Description
Impression	`body.examinationReport.conclusion.impression`	1..1	Base	string	Narrative clinical conclusion
Condition or Finding	`body.examinationReport.conclusion.conditionOrFinding[x]`	0..*	Base	Choice	Structured findings from investigation

Recommendation (Optional: 0..1)

Element	Path	Cardinality	Status	Type	Description
Description	`body.recommendation.description`	1..1	Base	string	Narrative description of recommendations
Care Plan	`body.recommendation.carePlan`	0..*	Base	EHDSCarePlan	Structured care plan information

Comparison Study (Optional: 0..*)

Element	Path	Cardinalit y	Status	Type	Description
Comparison Study	`body.comparisonStudy`	0..*	Base	EHDSImagingR eport	Reference to prior imaging reports

Additional Sections

DICOM Study Metadata (Optional: 0..*)

Element	Path	Cardinalit y	Status	Type	Description
DICOM Study Metadata	`dicomStudyMetadata`	0..*	Base	EHDSImagingS tudy	Metadata of the DICOM study

Attachments (Optional: 0..*)

Element	Path	Cardinality	Status	Type	Description
Attachments	`attachments[x]`	0..*	Base	Choice	Report attachments

Presented Form (Optional: 0..*)

Element	Path	Cardinality	Status	Type	Description
Presented Form	`presentedForm`	0..*	Base	EHDSAttachment	PDF version or narrative representation

Summary Statistics

Required Elements (Base Status)

Always Required (1..1 or 1..*): 8 elements - **Conditionally Required:** 4 elements (when parent is present)

Optional Elements (Base Status)

Header Optional: 11 elements - **Body Optional:** 25+ elements - **Total Optional:** 35+ elements

Total Base Elements: ~47 elements

Notes

All elements listed have "Base" status in the terminology bindings - Choice elements (indicated by [x]) can have multiple type options - Complex elements contain sub-elements that expand the total count - Many optional elements are designed for comprehensive clinical documentation - Required elements focus on core identification, authorship, and clinical findings