Table of Contents - Resources & Profiles	Standard
NHSN Protocol Subject Matter Expert (SME)	
dQM Lead **Back-up dQM Analyst**	
Measure Submission Frequency	
Initial Population - CQL Definition	
Initial Population - Protocol Definition	
Condition - US Core	US Core v3.1.1
Coverage	FHIR R4 v4.0.1
Device R-4	FHIR R4 v4.0.1
Diagnostic Report -R-4	FHIR R4 v.4.0.1
Diagnostic Report (Lab) - US Core	US Core v3.1.1
Diagnostic Report Profile for Report and Note Exchange	US Core v3.1.1
Encounter-US Core	US Core v3.1.1
Implantable Device - US Core	US Core v3.1.1
Laboratory Result Observation - US Core	US Core v3.1.1
Location-US Core	US Core v3.1.1
Medication-US Core	US Core v3.1.1
MedicationAdministration	FHIR R4 v4.0.1
MedicationRequest-US Core	US Core v3.1.1
Observation	FHIR R4 v4.0.1

Observation-Vital Signs	FHIR R4 v4.0.1
Patient - US Core	US Core v3.1.1
Procedure - US Core	US Core v3.1.1
Service Request	FHIR R4 v4.0.1
Specimen	FHIR R4 v4.0.1

Comment:
* 3.1.0 Version cited in 21 st Centuries Cures Act https://www.federalregister.gov/documents/2020/05/01/2020-07419/21st-century-cures-act-interoperability-information-blocking-and-the-onc-health-it-certification

FHIR R4:
http://hl7.org/fhir/R4/downloads.html

Link to Change Log

ACH dQM
All
Kim Figueroa Lynn Perrine & Mary-Margaret Richter
Monthly
Patients of all ages with Inpt, ED, OBS, SS encounter type or with Inpt, ED, OBS, SS encounter class or with an Inpt, ED, OBS, SS location during MP.
All encounters for patients of any age in an ED, observation, or inpatient location or all encounters for patients of any age with an ED, observation, inpatient, or short stay status during the measurement period.
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MS In the ACH dQM, the CQL logic for the Observation Supplemental Data Element (SDE) is constrained to the following categories: lab, social history, vital signs, survey, imaging, and procedure

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Date of Request	Data Element
4/4/2023	DiagnosticReport.id
4/4/2023	Observation.id
4/4/2023	Observation.subject
4/4/2023	Medication.ingredient.item[x]
4/4/2023	Encounter.identifier.system
4/13/2023	MedicationRequest.status
4/14/2023	NA
4/14/2023	Encounter.location
4/14/2023	Encounter.location.location
4/18/2023	{Resource}.language
4/18/2023	{Resource}.implicitRules
4/18/2023	{Resource}.Identifier.period
4/18/2023	{Resource}.Identifier.assigner
4/18/2023	Encounter.EpisodeOfCare
4/18/2023	Encounter.BasedOn
4/18/2023	Encounter.serviceProvider
4/18/2023	Encounter.appointment
4/18/2023	Condition.recorder
4/18/2023	Condition.asserter
4/18/2023	Coverage.type
4/18/2023	Coverage.dependent
4/18/2023	Coverage.costToBeneficiary
4/18/2023	Observation.category.extension
4/18/2023	Medication.ingredient.isActive
4/18/2023	MedicationRequest.statusReason
4/18/2023	MedicationRequest.supportingInformation
4/18/2023	MedicationRequest.performer
4/18/2023	MedicationRequest.performerType
4/18/2023	MedicationRequest.instantiatesCanonical
4/18/2023	MedicationRequest.instantiatesUri
4/18/2023	MedicationRequest.basedOn
4/18/2023	MedicationRequest.groupIdentifier
4/18/2023	MedicationRequest.insurance
4/18/2023	MedicationRequest.note
4/18/2023	MedicationRequest.dosageInstruction.sequence
4/18/2023	MedicationRequest.dosageInstruction.additionalInstruction
4/18/2023	MedicationRequest.dosageInstruction.site
4/18/2023	MedicationRequest.dosageInstruction.maxDosePerPeriod
4/18/2023	MedicationRequest.dosageInstruction.maxDosePerAdministration

4/18/2023	MedicationRequest.dosageInstruction.maxDosePerLifetime
4/18/2023	MedicationRequest.substitution
4/18/2023	MedicationRequest.dispenseRequest
4/18/2023	MedicationRequest.priorPrescription
4/18/2023	MedicationRequest.detectedIssue
4/18/2023	MedicationRequest.eventHistory
4/17/2023	Device.patient
4/18/2023	Observation.dateAbsentReason
5/1/2023	MedicationRequest.statusReason
5/1/2023	MedicationRequest.authoredOn
5/1/2023	MedicationRequest.instantiatesCanonical
5/1/2023	MedicationRequest.courseOfTherapyType
5/1/2023	MedicationRequest.dosageInstruction
5/1/2023	MedicationRequest.dosageInstruction.doseAndRate.id
5/1/2023	MedicationRequest.dosageInstruction.doseAndRate.extension
5/1/2023	MedicationRequest.dosageInstruction.doseAndRate.type
5/1/2023	Medication.status
5/1/2023	Medication.ingredient.itemCodeableConcept
5/1/2023	Medication.ingredient.itemReference
5/2/2023	MedicationRequest.requester
5/3/2023	Encounter.episodeOfCare
5/8/2023	MedicationRequest.dosageInstruction.doseAndRate.dose[x]
5/8/2023	MedicationRequest.priority
5/8/2023	MedicationRequest.reasonReference
5/8/2023	MedicationRequest.instantiatesCanonical
5/8/2023	MedicationRequest.instantiatesUri
5/15/2023	Medication.ingredient.itemCodeableConcept Medication.ingredient.itemReference
5/15/2023	NA

5/15/2023	Condition.onset.onsetDateTime Condition.onset.onsetAge Condition.onset.Period Condition.onset.Range Condition.onset.String
5/15/2023	Condition.abatement.onsetDateTime Condition.abatement.onsetAge Condition.abatement.Period Condition.abatement.Range Condition.abatement.String
5/15/2023	Observation.encounter NR to MS
5/15/2023	Observation.hasMember NR to MS
5/16/2023	DiagnosticReport.effective.effectiveDateTime DiagnosticReport.effective.Period
5/22/2023	Observation.category
6/4/2023	Encounter.episodeOfCare
6/5/2023	Procedure.subject
6/5/2023	Procedure.encounter
6/5/2023	Procedure.location
6/5/2023	Procedure.reasonCode
6/6/2023	Observation.encounter
6/6/2023	Observation.dataAbsentReason
6/6/2023	Location
6/6/2023	MedicationRequest.dosageInstruction.doseAnd
6/6/2023	MedicationRequest.dosageInstruction.doseAnd
6/6/2023	Specimen.type (not required for Hypo, but if necessary for alignment)
6/6/2023	Medication.status
6/6/2023	Condition.encounter
6/6/2023	Condition.onset[x]
6/6/2023	Condition.abatement[x]
6/6/2023	Condition.recordedDate
6/21/2023	Location resource designation in TOC
6/28/2023	Medication.code
7/5/2023	TOC, dQM Measure Lead/Back-up Clinical Analyst Row
7/5/2023	Initial Population-CQL on TOC
7/10/2023	Specimen.subject
7/10/2023	Specimen.collection

7/10/2023	Specimen.collection.id
7/10/2023	Specimen.collection.extension
7/10/2023	Specimen.collection.modifierExtension
7/31/2023	MedicationAdministration.context
7/31/2023	MedicationAdministration.request
7/31/2023	Condition.clinicalStatus
7/31/2023	Condition.verificationStatus
8/1/2023	Patient.contact.modifierExtension
8/1/2023	Patient.communication.modifierExtension
8/1/2023	Patient.identifier.period
8/1/2023	Specimen.processing.modifierExtension
8/1/2023	Specimen.container.modifierExtension
8/1/2023	Specimen.container.identifier
8/1/2023	Specimen.text
8/1/2023	Specimen.contained
8/1/2023	Specimen.extension
8/1/2023	Specimen.processing.id
8/1/2023	Specimen.processing.extension
8/1/2023	Specimen.container.id
8/1/2023	Specimen.container.extension
8/1/2023	N/A
8/1/2023	Specimen.meta
8/1/2023	Specimen.modifierExtension
8/1/2023	Specimen.collection.id
8/1/2023	Specimen.collection.extension
8/1/2023	Specimen.collection.modifierExtension
8/1/2023	(Abbreviation Tab)
8/1/2023	Condition.meta
8/1/2023	Condition.text
8/1/2023	Condition.contained
8/1/2023	Condition.extension
8/1/2023	Condition.modifierExtension
8/1/2023	Condition.identifier
8/1/2023	Condition.stage.id
8/1/2023	Condition.stage.extension
8/1/2023	Condition.stage.modifierExtension
8/1/2023	Condition.evidence.id
8/1/2023	Condition.evidence.extension
8/1/2023	Condition.evidence.modifierExtension
8/1/2023	Coverage.meta
8/1/2023	Coverage.text
8/1/2023	Coverage.contained
8/1/2023	Coverage.extension
8/1/2023	Coverage.modifierExtension
8/1/2023	Coverage.identifier
8/1/2023	Coverage.class.id
8/1/2023	Coverage.class.extension

8/1/2023	Coverage.class.modifierExtension
8/1/2023	DiagnosticReport.meta
8/1/2023	DiagnosticReport.implicitRules
8/1/2023	DiagnosticReport.language
8/1/2023	DiagnosticReport.contained
8/1/2023	DiagnosticReport.extension
8/1/2023	DiagnosticReport.modifierExtension
8/1/2023	DiagnosticReport.identifier
8/1/2023	DiagnosticReport.category:LaboratorySlice.id
8/1/2023	DiagnosticReport.category:LaboratorySlice.id.extension
8/1/2023	DiagnosticReport.category:LaboratorySlice.coding.id
8/1/2023	DiagnosticReport.media.id
8/1/2023	DiagnosticReport.media.extension
8/1/2023	DiagnosticReport.media.modifierExtension
8/1/2023	DocumentReference.meta
8/1/2023	DocumentReference.text
8/1/2023	DocumentReference.contained
8/1/2023	DocumentReference.extension
8/1/2023	DocumentReference.modifierExtension
8/1/2023	DocumentReference.masterIdentifier
8/1/2023	DocumentReference.identifier
8/1/2023	DocumentReference.relatesTo.id
8/1/2023	DocumentReference.relatesTo.extension
8/1/2023	DocumentReference.relatesTo.modifierExtension
8/1/2023	DocumentReference.content.id
8/1/2023	DocumentReference.content.extension
8/1/2023	DocumentReference.content.modifierExtension
8/1/2023	DocumentReference.content.attachment.id
8/1/2023	DocumentReference.content.attachment.extension
8/1/2023	DocumentReference.content.attachment.language
8/1/2023	DocumentReference.context.id
8/1/2023	DocumentReference.context.extension
8/1/2023	DocumentReference.context.modifierExtension
8/1/2023	Encounter.meta
8/1/2023	Encounter.text
8/1/2023	Encounter.contained
8/1/2023	Encounter.extension
8/1/2023	Encounter.modifierExtension
8/1/2023	Encounter.identifier.id

8/1/2023	Encounter.identifier.extension
8/1/2023	Encounter.statusHistory.id
8/1/2023	Encounter.statusHistory.extension
8/1/2023	Encounter.statusHistory.modifierExtension
8/1/2023	Encounter.classHistory.id
8/1/2023	Encounter.classHistory.extension
8/1/2023	Encounter.classHistory.modifierExtension
8/1/2023	Encounter.participant.id
8/1/2023	Encounter.participant.extension
8/1/2023	Encounter.participant.modifierExtension
8/1/2023	Encounter.diagnosis.id
8/1/2023	Encounter.diagnosis.extension
8/1/2023	Encounter.diagnosis.modifierExtension
8/1/2023	Encounter.diagnosis.condition
8/1/2023	Encounter.hospitalization.id
8/1/2023	Encounter.hospitalization.extension
8/1/2023	Encounter.hospitalization.modifierExtension
8/1/2023	Encounter.location.id
8/1/2023	Encounter.location.extension
8/1/2023	Encounter.location.modifierExtension
8/1/2023	Immunization.meta
8/1/2023	Immunization.implicitRules
8/1/2023	Immunization.language
8/1/2023	Immunization.text
8/1/2023	Immunization.contained
8/1/2023	Immunization.extension
8/1/2023	Immunization.modifierExtension
8/1/2023	Immunization.performer.id
8/1/2023	Immunization.performer.extension
8/1/2023	Immunization.performer.modifierExtension
8/1/2023	Immunization.education.id
8/1/2023	Immunization.education.extension
8/1/2023	Immunization.education.modifierExtension
8/1/2023	Immunization.reaction.id
8/1/2023	Immunization.reaction.extension
8/1/2023	Immunization.reaction.modifierExtension
8/1/2023	Immunization.protocolApplied.id
8/1/2023	Immunization.protocolApplied.extension
8/1/2023	Immunization.protocolApplied.modifierExtens ion
8/1/2023	Device.meta
8/1/2023	Device.implicitRules

8/1/2023	Device.language
8/1/2023	Device.text
8/1/2023	Device.contained
8/1/2023	Device.extension
8/1/2023	Device.modifierExtension
8/1/2023	Device.identifier
8/1/2023	Device.deviceName.id
8/1/2023	Device.deviceName.extension
8/1/2023	Device.deviceName.modifierExtension
8/1/2023	Device.specialization.id
8/1/2023	Device.specialization.extension
8/1/2023	Device.specialization.modifierExtension
8/1/2023	Device.version.id
8/1/2023	Device.version.extension
8/1/2023	Device.version.modifierExtension
8/1/2023	Device.property.id
8/1/2023	Device.property.extension
8/1/2023	Device.property.modifierExtension
8/1/2023	Observation.meta
8/1/2023	Observation.text
8/1/2023	Observation.contained
8/1/2023	Observation.extension
8/1/2023	Observation.modifierExtension
8/1/2023	Observation.identifier
8/1/2023	Observation.category.id
8/1/2023	Observation.referenceRange.id
8/1/2023	Observation.referenceRange.extension
8/1/2023	Observation.referenceRange.modifierExtension
8/1/2023	Observation.component.id
8/1/2023	Observation.component.extension
8/1/2023	Observation.component.modifierExtension
8/1/2023	Location.meta
8/1/2023	Location.text
8/1/2023	Location.contained
8/1/2023	Location.extension
8/1/2023	Location.modifierExtension
8/1/2023	Location.address.id
8/1/2023	Location.address.extension
8/1/2023	Location.position.id
8/1/2023	Location.position.extension
8/1/2023	Location.position.modifierExtension
8/1/2023	Location.hoursOfOperation.id
8/1/2023	Location.hoursOfOperation.extension
8/1/2023	Location.hoursOfOperation.modifierExtension
8/1/2023	Medication.meta
8/1/2023	Medication.text
8/1/2023	Medication.contained

8/1/2023	Medication.extension
8/1/2023	Medication.modifierExtension
8/1/2023	Medication.identifier
8/1/2023	Medication.ingredient.id
8/1/2023	Medication.ingredient.extension
8/1/2023	Medication.ingredient.modifierExtension
8/1/2023	Medication.batch.id
8/1/2023	Medication.batch.extension
8/1/2023	Medication.batch.modifierExtension
8/1/2023	MedicationAdministration.meta
8/1/2023	MedicationAdministration.text
8/1/2023	MedicationAdministration.contained
8/1/2023	MedicationAdministration.extension
8/1/2023	MedicationAdministration.modifierExtension
8/1/2023	MedicationAdministration.identifier
8/1/2023	MedicationAdministration.performer.id
8/1/2023	MedicationAdministration.performer.extension
8/1/2023	MedicationAdministration.performer.modifierExtension
8/1/2023	MedicationAdministration.dosage.id
8/1/2023	MedicationAdministration.dosage.extension
8/1/2023	MedicationAdministration.dosage.modifierExtension
8/1/2023	MedicationRequest.meta
8/1/2023	MedicationRequest.text
8/1/2023	MedicationRequest.contained
8/1/2023	MedicationRequest.extension
8/1/2023	MedicationRequest.modifierExtension
8/1/2023	MedicationRequest.identifier
8/1/2023	MedicationRequest.dosageInstruction.id
8/1/2023	MedicationRequest.dosageInstruction.extension
8/1/2023	MedicationRequest.dosageInstruction.modifierExtension
8/1/2023	MedicationRequest.substitution.id
8/1/2023	MedicationRequest.substitution.extension
8/1/2023	MedicationRequest.substitution.modifierExtension
8/1/2023	Observation.meta
8/1/2023	Observation.implicitRules
8/1/2023	Observation.language
8/1/2023	Observation.text
8/1/2023	Observation.contained
8/1/2023	Observation.extension

8/1/2023	Observation.modifierExtension
8/1/2023	Observation.identifier
8/1/2023	Observation.referenceRange.id
8/1/2023	Observation.referenceRange.extension
8/1/2023	Observation.referenceRange.modifierExtension
8/1/2023	Observation.component.id
8/1/2023	Observation.component.extension
8/1/2023	Observation.component.modifierExtension
8/1/2023	Procedure.meta
8/1/2023	Procedure.implicitRules
8/1/2023	Procedure.language
8/1/2023	Procedure.text
8/1/2023	Procedure.contained
8/1/2023	Procedure.extension
8/1/2023	Procedure.modifierExtension
8/1/2023	Procedure.identifier
8/1/2023	Procedure.performer.id
8/1/2023	Procedure.performer.extension
8/1/2023	Procedure.performer.modifierExtension
8/1/2023	Procedure.focalDevice.id
8/1/2023	Procedure.focalDevice.extension
8/1/2023	Procedure.focalDevice.modifierExtension
8/1/2023	ServiceRequest.meta
8/1/2023	ServiceRequest.text
8/1/2023	ServiceRequest.contained
8/1/2023	ServiceRequest.extension
8/1/2023	ServiceRequest.modifierExtension
8/1/2023	ServiceRequest.identifier
8/2/2023	Patient.meta
8/2/2023	Patient.implicitRules
8/2/2023	Patient.language
8/2/2023	Patient.text
8/2/2023	Patient.contained
8/2/2023	Patient.modifierExtension
8/2/2023	Patient.telecom.id
8/2/2023	Patient.telecom.extension
8/4/2023	Observation.code

8/7/2023	MedicationRequest.dosageInstruction.site
8/7/2023	Encounter.diagnosis.condition
8/7/2023	Encounter.diagnosis.condition
8/8/2023	Device R4 Resource
8/9/2023	Diagnostic Report Profile for Report and Note Exchange
8/17/2023	MedicationRequest.dosageInstruction.text
8/18/2023	MedicationRequest.statusReason
9/6/2023	NA
10/2/2023	All data element aligment analysis
10/2/2023	All data element aligment analysis
10/3/2023	NHSN IG - Cross Measure, Monthly Column
10/4/2023`	Added an "ACH dQM" column with requirements
1010/2023	Medication and Medication Request Resources in ACH dQM
10/18/2023	Medication.status
10/18/2023	Specimen.status
10/20/2023	Observation - Vital Signs Resource/Profile
10/25/2023	Observation.component.code
10/30/2023	Encounter.status
10/31/2023	Encounter.status
11/1/2023	Observation.specimen (in Lab Result Observation -US Core)
11/7/2023	Patient.extension (gender identity)
11/8/2023	Observation-Vital Signs R4
	Observation.referenceRange
11/8/2023	Observation-Vital Signs R4
	Observation.component.referenceRange

11/8/2023	Observation-R4 Observation.referenceRange
11/8/2023	Observation-R4 Observation.component.referenceRange
11/9/2023	Observation-Vital Signs R4 Observation.referenceRange.age
11/9/2023	Observation-R4 Observation.referenceRange.age
11/9/2023	Observation-R4 Observation.referenceRange.low
11/9/2023	Observation-Vital Signs R4 Observation.referenceRange.low
11/9/2023	Observation-R4 Observation.referenceRange.high
11/9/2023	Observation-Vital Signs R4 Observation.referenceRange.high
11/9/2023	Observation-R4 Observation.component.referenceRange.low
11/9/2023	Observation-Vital Signs R4 Observation.component.referenceRange.low
11/9/2023	Observation-R4 Observation.component.referenceRange.high
11/9/2023	Observation-Vital Signs R4 Observation.component.referenceRange.high
11/13/2023	DiagnosticReport.imagingStudy DiagnosticReport.media DiagnosticReport.presentedForm
11/21/2023	Encounter.type
11/21/2023	Encounter.diagnosis.use
11/21/2023	Encounter.hospitalization.admitSource
11/21/2023	Encounter.location.status
11/21/2023	Device.status

11/21/2023	Device.deviceName.type
11/21/2023	Observation.category
11/21/2023	Observation.interpretation
11/21/2023	Observation.component.interpretation
11/30/2023	MedicationRequest-US Core
12/6/2023	DiagnosticReport.status
12/13/2023	Implantable Device (US Core) Device.owner
12/13/2023	Implantable Device (UsCore) Device.contact
12/13/2023	Implantable Device (UsCore) Device.location
12/13/2023	Implantable Device (UsCore) Device.url
12/13/2023	Implantable Device (UsCore) Device.note
12/13/2023	Implantable Device (UsCore) Device.safety
12/13/2023	Implantable Device (UsCore) Device.parent
12/13/2023	Observation Vital Signs (R4) Observation.component.referenceRange.low
12/13/2023	Observation Vital Signs (R4) Observation.component.referenceRange.high
12/13/2023	Observation Vital Signs (R4) Observation.component.referenceRange.type
12/13/2023	Observation Vital Signs (R4) Observation.component.referenceRange.appliesTo
12/13/2023	Observation Vital Signs (R4) Observation.component.referenceRange.age
12/13/2023	Observation Vital Signs (R4) Observation.component. referenceRange.text
1/2/2024	Observation.component.id
1/2/2024	Observation.component.extension
1/2/2024	Observation.component.modifierExtension

1/2/2024	Observation.component.dataAbsentReason
1/2/2024	Observation.value[x]
1/2/2024	Observation.note
1/2/2024	Condition.onset[x]
1/2/2024	Condition.abatement[x]
1/2/2024	Condition.recordedDate
1/2/2024	Location.alias
1/2/2024	**Medication**
1/2/2024	**Medication.form**
1/2/2024	**Medication.amount**
1/2/2024	**Medication.ingredient**
1/2/2024	Encounter.statusHistory
1/4/2024	Observation.encounter (Lab Result Observation)
1/4/2024	DiagnosticReport.specimen
1/4/2024	**Location.partOf**
1/4/2024	**MedicationAdministration**
1/4/2024	**MedicationAdministration.statusReason**
1/4/2024	**MedicationAdministration.category**
1/4/2024	**MedicationAdministration.reasonCode**
1/4/2024	**MedicationAdministration.reasonReference**
1/4/2024	MedicationRequest.dosageInstruction.method
1/4/2024	**MedicationRequest.dosageInstruction.doseAndRate**
1/4/2024	MedicationRequest.dosageInstruction.doseAndRate.type
1/4/2024	MedicationRequest.dosageInstruction.doseAndRate.dose[x]
1/4/2024	MedicationRequest.dosageInstruction.doseAndRate.rate[x]
1/4/2024	Procedure
1/4/2024	Procedure.encounter
1/4/2024	Procedure.location
1/4/2024	ServiceRequest
1/4/2024	ServiceRequest.category
1/4/2024	ServiceRequest.priority
1/4/2024	ServiceRequest.doNotPerform
1/4/2024	ServiceRequest.code
1/4/2024	ServiceRequest.encounter
1/4/2024	ServiceRequest.occurrence[x]

1/4/2024	ServiceRequest.asNeeded[x]
1/4/2024	ServiceRequest.reasonReference
1/4/2024	ServiceRequest.specimen
1/16/2024	DiagnosticReport.imagingStudy
1/16/2024	DiagnosticReport.media
1/16/2024	DiagnosticReport.presentedForm
1/24/2024	Diagnostic Report Report and Note DiagnosticReport.text
1/24/2024	Diagnostic Report- Lab DiagnosticReport.text
1/24/2024	Location.identifier
1/29/2024	location.managingOrg
1/29/2024	patient.managingOrganization
1/30/2024	DiagnosticReport.media.link
1/30/2024	DiagnosticReport.media.comment
1/30/2024	MedicationRequest.substitution.allowed[x]
1/30/2024	MedicationRequest.substitution.reason
2/9/2024	DiagnosticReport.presentedForm
2/15/2023	**Implantable Device** Device.deviceName
2/15/2024	Updates to binding strengths for ACH
3/1/2024	Encounter.participant
3/1/2024	Encounter.participant.id
3/1/2024	Encounter.participant.extension
3/1/2024	Encounter.participant.modifierExtension
3/1/2024	Encounter.participant.type
3/1/2024	Encounter.participant.period
3/1/2024	Encounter.participant.individual
3/7/2024	Service Request resource
4/2/2024	Diagnostic Report - R4 (Tab and TOC)
6/12/2024	MedicationRequest.requester

Changed From	Changed To
NR	R[1..1]
NR	R[1..1]
NR	R[1..1]
NR	R[1..1]
NA	R[1..1]
R [1..1]	R [1..1]
CQL is constrained to: 'completed'	
Entire Resource - R	Entire Resource – MS
R [0..*]	R [1..*]
NR	R [1..1]
NR	NRT
NR	NRT
MS[0..1] in Encounte Resource	NRT only in Technical column
NR	NRT
MS [0..1]	NRT only in Technical column
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
MS [0..1]	NRT only in Technical column
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
MS[0..1] for Hypo and CDI/HOB	NRT only in Technical column
NR	NRT
NR	NRT

NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	R [1..1]
NR	MS [0..1]
NR	NRT
MS [0..*]	R [1..1]
MS [0..*]	NRT
MS [0..1]	NRT
R [1..1]	MS [0..*]
NR	NRT
NR	NRT
NR	MS [0..1]
R [1..1]	NR
NR	MS [0..1]
NR	MS [0..1]
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-practitioner|http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient|http://hl7.org/fhir/us/core/StructureDefinition/us-core-organization|http://hl7.org/fhir/us/core/StructureDefinition/us-core-practitionerrole|http://hl7.org/fhir/us/core/StructureDefinition/us-core-relatedperson|Device)	Reference(US Core Practitioner Profile | US Core Organization Profile | US Core Patient Profile)
MS [0..1]	NRT
NR	MS [0..1]
NR	MS [0..1]
NR	MS [0..*]
NRT	MS [0..*]
NRT	MS [0..*]
MS [0..1]	Removed from table
NA	N/A

NR	Removed from table
N/A	Removed from table
NR	MS [0..1]
NR	MS [0..1]
NR	N/A
NR	R [1..*]
MS [0..1]	NRT
NR	R [1..1]
NR	MS [0..1]
NR	MS [0..1]
NR	MS [0..*]
NR	MS [0..1]
NR	MS [0..1]
MS [0..*]	R [1..*]
NR	MS [0..1]
NR	MS [0..1]
MS [0..1]	R [1..1]
R [1..1]	NR
MS [0..1]	MS [0..1]
MS [0..1]	MS [0..1]
MS [0..1]	MS [0..1]
MS [0..1]	MS [0..1]
MS	R
N/A	Updated
all Inpt, ED, OBS + ADD	all Inpt (includes ED or OBS within 1 hour of Inpt) + ADD
NR	MS [0..1]
MS [0..1]	R [1..1]

NR	NRT
NR	NRT
NR	NRT
NR	MS [0..1]
NR	MS [0..1]
NA	added a note to FHIR Definition column G
NA	added a note to FHIR Definition column G
[0..1]	NRT
[0..1]	NRT
NRT - in technical column	removed
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
Y or N	removed
NR	NRT
NR	NRT
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NR	NRT
R [1..1]	R [1..1]

The following constraint is written into the CQL: "Blood Glucose Laboratory and Point of Care Tests" http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113762.1.4.1190.38

NRT	blank
NRT	R [1..1]
NRT	(left blank)
N/A	N/A
N/A	N/A
MS [0..1]	MS [0..1]
NRT	MS[0..1]
NA	NA
NA	NA
NA	NA
NA	NA
NR	MS[0..*]
NR	MS[0..1]
NA	NA
MS [1..1]	R [1..1]
R [1..1]	R [1..1]
The following constraints are written into the CQL: 'in-progress', 'finished', 'triaged'	The following constraints are written into the CQL: 'in-progress', 'finished', 'triaged', 'onleave', 'entered-in-error'
R [1..1]	R [1..1]
The following constraints are written into the CQL: 'in-progress', 'finished', 'triaged', 'entered-in-error'	The following constraints are written into the CQL: 'in-progress', 'finished', 'triaged', 'onleave', 'entered-in-error'
MS [0..*]	MS [0..1]
MS [0..1]	MS [0..*]
NR	MS [0..*]
NR	MS[0..*]

NR	MS [0..*]
NR	MS [0..1]
NR	MS [0..1]
NR	MS [0..1]
NR	MS [0..1]
NR	MS [0..1]
NR	MS [0..1]
NR	MS [0..1]
NR	MS [0..1]
NR	MS [0..1]
NR	MS [0..1]
NR	NRT
http://hl7.org/fhir/us/core/ValueSet/us-core-encount	https://hl7.org/fhir/us/core
http://hl7.org/fhir/ValueSet/diagnosis-role	https://hl7.org/fhir/R4/valu
http://hl7.org/fhir/ValueSet/encounter-admit-source	https://hl7.org/fhir/R4/valu
http://hl7.org/fhir/ValueSet/encounter-location-statu	https://hl7.org/fhir/R4/valu
http://hl7.org/fhir/ValueSet/device-status|4.0.1	https://hl7.org/fhir/R4/valu

http://hl7.org/fhir/ValueSet/device-nametype|4.0.1	https://hl7.org/fhir/R4/valu	
http://hl7.org/fhir/ValueSet/observation-category	https://hl7.org/fhir/R4/valu	
http://hl7.org/fhir/ValueSet/observation-interpretati	https://hl7.org/fhir/R4/valu	
http://hl7.org/fhir/ValueSet/observation-interpretati	https://hl7.org/fhir/R4/valu	
R	MS	
R[1..]	R[1..1]	
N/A	N/A	
N/A	N/A	
N/A	N/A	
N/A	N/A	
N/A	N/A	
N/A	N/A	
N/A	N/A	
N/A	N/A	
N/A	N/A	
N/A	N/A	
N/A	N/A	
N/A	N/A	
R [1..1]	NRT	
MS [0..1]	NRT	
MS [0..*]	NRT	

MS [0..*]	NR
MS [0..1]	MS [0..1]
(could have a null if lab result/status is not yet finalized)	
MS [0..1]	NR
MS [0..1]	MS [0..1]
MS [0..1]	MS [0..1]
MS [0..1]	MS [0..1]
MS [0..*]	MS [0..*]
MS [0..*]	MS [0..*]
MS [0..1]	MS [0..1]
MS [0..1]	MS [0..1]
MS [0..*]	MS [0..*]
	NR
MS [0..1]	MS [0..1]
MS [0..*]	MS [0..*]
MS [0..1]	MS [0..1]
MS [0..*]	MS [0..*]
MS [0..*]	MS [0..*]
MS [0..*]	MS [0..*]
MS [0..*]	MS [0..*]
MS [0..*]	MS [0..*]
MS [0..1]	MS [0..1]
MS [0..*]	MS [0..*]
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MS [0..1]	MS [0..1]
MS [0..*]	MS [0..*]
MS [0..*]	MS [0..*]
NR	NRT
NR	NRT
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NR	NRT
NR	NRT
MS	NR
MS	NR
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
MS [0..1*]	MS [0..*]
NA	NA
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
NR	NRT
N	**MS**
none	added
R[1..1]	NR

Details	Monthly FHIR Master Data Dictionar
Version of Document:	2.2
Date of Document	7/16/2024
Draft Purpose	This FHIR Master Data Dictionary docum
Authors	dQM Leads, FHIR Analysts, Protocol Lead
Scope	All monthly NHSN Measures

Abbreviation	Name
MS	Must Support
R	Required
NR	Not Required
NRT	Not Required by Technical Team
AI	Action Item
CQL	Clinical Quality Language

Key for use of colors, fonts, and tabs	
Red Font	Cardinality differs from FHIR R4 or US Co
Bold Font	In the FHIR Resource tabs, it indicates th
Teal Tab	FHIR R4 v.4.0.1 Profiles *Disclaimer: If UI
Maroon Tab	US Core v.3.1.1 Profiles *Disclaimer: If UI

NHSN Technical Guidance provided by Mamadou Bass Toure

Mark all **{Resource}.{dataElement}.identifiers** as NRT.
Mark all **{Resource}.contained** as NRT.
Mark all **{Resource}.meta** as NRT.
Mark all **{Resource}.text** as NRT.

y

ents the NHSN specific measure requirements to inform the development of the CI
s

Details

If available, it will be queried by NHSNLink for measure calculation or risk adjustment.
Required to be queried by NHSNLink for the NHSN Application to determine initial population.
Queried by NHSNLink but not required to calculate the measures.

Not queried by NHSNLink and determined by the technical team as not needed.

In the change log tab, the dQM leads will indicate if an update requires an action item.
CQL is machine-readable and structured on the FHIR data model.
The NHSN dQM CQL defines the following items:

- The initial population eligible for the measure
- Line-level data required to calculate measure metrics
- Additional line-level data for stratification, risk adjustment, social determinants of health, and patient matching

re standards or conformance is more constrained against FHIR R4 or US Core profi
e parent data elements.
RL links are directed to a different version of this standard, please email the dQM p
RL links are directed to a different version of this standard, please email the dQM p

e

DC NHSN dQM IG for monthly measures.

Comments

Must be designated as MS or R if wanted in the Silver table.

Must be designated as MS or R if wanted in the Silver table.

Elements designated as NR will go into the Bronze table but will not progress to Silver.
NRT elements will not be included in the bundle.

If an AI is identified, a Jira ticket is typically assigned to a responsible party.
FHIR bundle validation will occur against the CDC NHSN dQM IG, version 3.1.1 of US Core Profiles, and version 4.0.1 of FHIR R4.

iles.

project manager to correct the hyperlink.
project manager to correct the hyperlink.

Back to TOC

FHIR Path	Min	Max	Must Support?
Condition	0	*	
Condition.id	0	1	
Condition.meta	0	1	
Condition.implicitRules	0	1	
Condition.language	0	1	
Condition.text	0	1	
Condition.contained	0	*	
Condition.extension	0	*	

Condition.modifierExtension	0	*	
Condition.identifier	0	*	
Condition.clinicalStatus	0	1	Y
Condition.verificationStatus	0	1	Y
Condition.category	1	*	Y
Condition.severity	0	1	
Condition.code	1	1	Y
Condition.bodySite	0	*	

Condition.subject	1	1	Y
Condition.encounter	0	1	
Condition.onset[x]	0	1	
Condition.abatement[x]	0	1	
Condition.recordedDate	0	1	
Condition.recorder	0	1	
Condition.asserter	0	1	
Condition.stage	0	*	
Condition.stage.id	0	1	
Condition.stage.extension	0	*	

Condition.stage.modifierExtension	0	*	
Condition.stage.summary	0	1	
Condition.stage.assessment	0	*	
Condition.stage.type	0	1	
Condition.evidence	0	*	
Condition.evidence.id	0	1	
Condition.evidence.extension	0	*	

Condition.evidence.modifierExtension	0	*	
Condition.evidence.code	0	*	
Condition.evidence.detail	0	*	
Condition.note	0	*	

Data Type(s)	FHIR Short Description
Condition	Detailed information about conditions, problems or diagnoses **us-core-1**: A code in Condition.category SHOULD be from US Core Condition Category Codes value set.
string	Logical id of this artifact
Meta	Metadata about the resource
uri	A set of rules under which this content was created
code	Language of the resource content
Narrative	Text summary of the resource, for human interpretation
Resource	Contained, inline Resources
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored
Identifier	External Ids for this condition
CodeableConcept	active | recurrence | relapse | inactive | remission | resolved
CodeableConcept	unconfirmed | provisional | differential | confirmed | refuted | entered-in-error
CodeableConcept	problem-list-item | encounter-diagnosis | health-concern
CodeableConcept	Subjective severity of condition
CodeableConcept	Identification of the condition, problem or diagnosis
CodeableConcept	Anatomical location, if relevant

Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)	Who has the condition?
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-encounter)	Encounter created as part of
dateTime Age Period Range String	Estimated or actual date, date-time, or age
dateTime Age Period Range String	When in resolution/remission
dateTime	Date record was first recorded
Reference(Practitioner|PractitionerRole|Patient|RelatedPerson)	Who recorded the condition
Reference(Practitioner|PractitionerRole|Patient|RelatedPerson)	Person who asserts this condition
BackboneElement	Stage/grade, usually assessed formally
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
CodeableConcept	Simple summary (disease specific)
Reference(ClinicalImpression|DiagnosticReport|Observation)	Formal record of assessment
CodeableConcept	Kind of staging
BackboneElement	Supporting evidence
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
CodeableConcept	Manifestation/symptom
Reference(Resource)	Supporting information found elsewhere
Annotation	Additional information about the Condition

FHIR Definition	Binding Strength
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	
The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.	
A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	
The base language in which the resource is written.	preferred
A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	
These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.	
An Extension	

May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
Business identifiers assigned to this condition by the performer or other systems which remain constant as the resource is updated and propagates from server to server.	
The clinical status of the condition. ***NOTE (7/31/2023): This is an invariant. When clinicalStatus is not present (empty), then a verificationStatus of "entered in error " is required. This will not be captured in FHIR validation.***	required
The verification status to support the clinical status of the condition. ***NOTE (7/31/2023): This is an invariant. When clinicalStatus is not present (empty), then a verificationStatus of "entered in error " is required. This will not be captured in FHIR validation.***	required
A category assigned to the condition.	extensible
A subjective assessment of the severity of the condition as evaluated by the clinician.	preferred
Identification of the condition, problem or diagnosis.	extensible
The anatomical location where this condition manifests itself.	example

Indicates the patient or group who the condition record is associated with.	
The Encounter during which this Condition was created or to which the creation of this record is tightly associated.	
Estimated or actual date or date-time the condition began, in the opinion of the clinician.	
The date or estimated date that the condition resolved or went into remission. This is called "abatement" because of the many overloaded connotations associated with "remission" or "resolution" - Conditions are never really resolved, but they can abate.	
The recordedDate represents when this particular Condition record was created in the system, which is often a system-generated date.	
Individual who recorded the record and takes responsibility for its content.	
Individual who is making the condition statement.	
Clinical stage or grade of a condition. May include formal severity assessments.	
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
A simple summary of the stage such as "Stage 3". The determination of the stage is disease-specific.	example
Reference to a formal record of the evidence on which the staging assessment is based.	
The kind of staging, such as pathological or clinical staging.	example
Supporting evidence / manifestations that are the basis of the Condition's verification status, such as evidence that confirmed or refuted the condition.	
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
A manifestation or symptom that led to the recording of this condition.	example
Links to other relevant information, including pathology reports.	
Additional information about the Condition. This is a general notes/comments entry for description of the Condition, its diagnosis and prognosis.	

Binding Description	FHIR Binding Value Set	ACH dQM
		MS [0.*]
		R [1..1]
		NRT
		NRT
Common Languages.	http://hl7.org/fhir/R4/valueset-lan	NRT
		NRT
		NRT
		NRT

		NRT
		NRT
ConditionClinicalStatusCodes	http://hl7.org/fhir/R4/ValueSet/cor	MS [0..1]
ConditionVerificationStatus	http://hl7.org/fhir/R4/ValueSet/cor	MS [0.1]
US Core Condition Category Codes	http://hl7.org/fhir/us/core/STU3.1.	R [1..*]
Condition/ DagnosisSeverity	http://hl7.org/fhir/R4/ValueSet/cor	NR
US Core Condition Code	https://hl7.org/fhir/us/core/STU3.1	R [1..1]
SNOMEDCTBodyStructures	https://hl7.org/fhir/R4/valueset-bo	NR

		R [1..1]
		MS [0.1]
		MS [0..1]
		MS [0..1]
		MS [0..1]
		NRT
		NRT
		NR
		NRT
		NRT

		NRT
ConditionStage	https://hl7.org/fhir/R4/valueset-co	NR
		NR
ConditionStage Type	https://hl7.org/fhir/R4/valueset-co	NR
		NR
		NRT
		NRT

		NRT
ManifestationAndSymptomCodes	https://hl7.org/fhir/R4/valueset-ma	NR
		NR
		NR

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FHIR Path	Min	Max	Type(s)
Coverage			DomainResource
Coverage.id	0	1	id
Coverage.meta	0	1	Meta
Coverage.implicitRules	0	1	uri
Coverage.language	0	1	code

Coverage.text	0	1	Narrative
Coverage.contained	0	*	Resource

Coverage.extension	0	*	Extension

Coverage.modifierExtension	0	*	Extension
Coverage.identifier	0	*	Identifier
Coverage.status	1	1	code
Coverage.type	0	1	CodeableConcept

Coverage.policyHolder	0	1	Reference(Patient| RelatedPerson| Organization)
Coverage.subscriber	0	1	Reference(Patient| RelatedPerson)
Coverage.subscriberId	0	1	string
Coverage.beneficiary	1	1	Reference(Patient)
Coverage.dependent	0	1	string
Coverage.relationship	0	1	CodeableConcept
Coverage.period	0	1	Period

Coverage.payor	1	*	Reference(Organization|Patient|RelatedPerson)
Coverage.class	0	*	BackboneElement
Coverage.class.id	0	1	string
Coverage.class.extension	0	*	Extension

Coverage.class.modifierExtension	0	*	Extension
Coverage.class.type	1	1	CodeableConcept
Coverage.class.value	1	1	string
Coverage.class.name	0	1	string

Coverage.order	0	1	positiveInt
Coverage.network	0	1	string
Coverage.costToBeneficiary	0	*	BackboneElement
Coverage.costToBeneficiary.id	0	1	string

Coverage.costToBeneficiary .extension	0	*	Extension

Coverage.costToBeneficiary .modifierExtension	0	*	Extension
Coverage.costToBeneficiary.type	0	1	CodeableConcept
Coverage.costToBeneficiary.value[x] **valueQuantity** **valueMoney**	1	1	SimpleQuantity Money
Coverage.costToBeneficiary.exception	0	*	BackboneElement

Coverage.costToBeneficiary.exception.id	0	1	string
Coverage.costToBeneficiary.exception.extension	0	*	Extension

Coverage.costToBeneficiary.exception.modifierExtension	0	*	Extension
Coverage.costToBeneficiary.exception.type	1	1	CodeableConcept
Coverage.costToBeneficiary.exception.period	0	1	Period
Coverage.subrogation	0	1	boolean

Coverage.contract	0	*	Reference(Contract)

FHIR Short Description	FHIR Definition	Binding Strength
Insurance or medical plan or a payment agreement Elements defined in Ancestors: id, meta, implicitRules, language, text, contained, extension, modifierExtension	Financial instrument which may be used to reimburse or pay for health care products and services. Includes both insurance and self-payment.	
Logical id of this artifact	The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	
Metadata about the resource	The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.	
A set of rules under which this content was created	A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	
Language of the resource content	The base language in which the resource is written.	preferred

Text summary of the resource, for human interpretation	A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	
Contained, inline Resources	These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.	

Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

Extensions that cannot be ignored	May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check	
Business Identifier for the coverage	A unique identifier assigned to this coverage.	
active | cancelled | draft | entered-in-error	The status of the resource instance.	required
Coverage category such as medical or accident	The type of coverage: social program, medical plan, accident coverage (workers compensation, auto), group health or payment by an individual or organization.	extensible

Owner of the policy	The party who 'owns' the insurance policy.	
Subscriber to the policy	The party who has signed-up for or 'owns' the contractual relationship to the policy or to whom the benefit of the policy for services rendered to them or their family is due.	
ID assigned to the subscriber	The insurer assigned ID for the Subscriber.	
Plan beneficiary	The party who benefits from the insurance coverage; the patient when products and/or services are provided.	
Dependent number	A unique identifier for a dependent under the coverage.	
Beneficiary relationship to the subscriber	The relationship of beneficiary (patient) to the subscriber.	extensible
Coverage start and end dates	Time period during which the coverage is in force. A missing start date indicates the start date isn't known, a missing end date means the coverage is continuing to be in force.	

Issuer of the policy	The program or plan underwriter or payor including both insurance and non-insurance agreements, such as patient-pay agreements.	
Additional coverage classifications	A suite of underwriter specific classifiers.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier	
Type of class such as 'group' or 'plan'	The type of classification for which an insurer-specific class label or number and optional name is provided, for example may be used to identify a class of coverage or employer group, Policy, Plan.	extensible
Value associated with the type	The alphanumeric string value associated with the insurer issued label.	
Human readable description of the type and value	A short description for the class.	

Relative order of the coverage	The order of applicability of this coverage relative to other coverages which are currently in force. Note, there may be gaps in the numbering and this does not imply primary, secondary etc. as the specific positioning of coverages depends upon the episode of care.	
Insurer network	The insurer-specific identifier for the insurer-defined network of providers to which the beneficiary may seek treatment which will be covered at the 'in-network' rate, otherwise 'out of network' terms and conditions apply.	
Patient payments for services/products	A suite of codes indicating the cost category and associated amount which have been detailed in the policy and may have been included on the health card.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	

Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier	
Cost category	The category of patient centric costs associated with treatment.	extensible
The amount or percentage due from the beneficiary	The amount due from the patient for the cost category.	
Exceptions for patient payments	A suite of codes indicating exceptions or reductions to patient costs and their effective periods.	

Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier	
Exception category	The code for the specific exception.	example
The effective period of the exception	The timeframe during when the exception is in force.	
Reimbursement to insurer	When 'subrogation=true' this insurance instance has been included not for adjudication but to provide insurers with the details to recover costs.	

Contract details	The policy(s) which constitute this insurance coverage.	

Binding Description	Binding Value Set	ACH dQM
		MS [0..*]
		R[1..1]
		NRT
		NRT
IETF language tag	https://hl7.org/fhir/value	NRT

		NRT
		NRT

		NRT

		NRT
		NRT
FinancialResourceStatusCodes	https://hl7.org/fhir/R4/v	R[1..1]
CoverageTypeAndSelf-PayCodes	https://vsac.nlm.nih.gov	MS [0..1]

		MS [0..1]
		MS [0..1]
		MS [0..1]
		R[1..1]
		MS [0..1]
SubscriberRelationship Codes	https://hl7.org/fhir/R4/v	MS [0..1]
		MS [0..1]

		R[1..*]
		NR
		NRT
		NRT

		NRT
CoverageClassCodes	https://hl7.org/fhir/R4/v	NRT
		NR
		NR

		NR
		NR
		NRT
		NRT

		NRT

		NRT
CoverageCopayTypeCodes	https://hl7.org/fhir/R4/v	NRT
		NRT
		NRT

		NRT
		NRT

		NRT
ExampleCoverageFinancialExceptionCodes	https://hl7.org/fhir/R4/v	NRT
		NRT
		NR

		NR

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Path	Min	Max	Data Type(s)
Device	0	*	
Device.id	0	1	id
Device.meta	0	1	Meta

Device.implicitRules	0	1	uri
Device.language	0	1	code
Device.text	0	1	Narrative
Device.contained	0	*	Resource

Device.extension	0	*	Extension
Device.modifierExtension	0	*	Extension
Device.identifier	0	*	Identifier
Device.definition	0	1	CodeableReference(DeviceDefinition)

Device.udiCarrier	0	*	BackboneElement
Device.udiCarrier.id	0	1	string
Device.udiCarrier.extension	0	*	Extension
Device.udiCarrier.modifierExtension	0	*	Extension
Device.udiCarrier.deviceIdentifier	0	1	string

Device.udiCarrier.issuer	0	1	uri
Device.udiCarrier.jurisdiction	0	1	uri
Device.udiCarrier.carrierAIDC	0	1	base64Binary

Device.udiCarrier.carrierHRF	0	1	string
Device.udiCarrier.entryType	0	1	code
Device.status	0	1	code
Device.statusReason	0	*	Extensible/Codeable Concept
Device.distinctIdentifier	0	1	string
Device.manufacturer	0	1	string

Device.manufactureDate	0	1	dateTime
Device.expirationDate	0	1	dateTime
Device.lotNumber	0	1	string

Device.serialNumber	0	1	string
Device.deviceName	0	*	BackboneElement
Device.deviceName.id	0	1	string
Device.deviceName.extension	0	*	Extension

Device.deviceName.modifierExtension	0	*	Extension
Device.deviceName.name	1	1	string
Device.deviceName.type	1	1	code
Device.modelNumber	0	1	string
Device.partNumber	0	1	string
Device.type	0	1	CodeableConcept
Device.specialization	0	*	Backbone Element
Device.specialization.systemType	1	1	Codeable Concept
Device.specialization.version	0	1	string

Device.version	0	*	BackboneElement
Device.version.type	0	1	CodeableConcept
Device.version.component	0	1	Identifier
Device.version.value	1	1	string
Device.property	0	*	BackboneElement
Device.property.id	0	1	string
Device.property.extension	0	*	Extension

Device.property.modifierExtension	0	*	Extension
Device.property.type	1	1	CodeableConcept
Device.property.valueQuantity	0	*	Quantity
Device.property.valueCode	0	*	Codeable Concept
Device.patient	0	1	Reference (Patient)
Device.owner	0	1	Reference(Organization)
Device.contact	0	*	ContactPoint
Device.location	0	1	Reference(Location)
Device.url	0	1	uri
Device.note	0	*	Annotation

Device.safety	0	*	CodeableConcept
Device.parent	0	1	Reference(Device)

FHIR Short Description
Item used in healthcare
Logical id of this artifact
Metadata about the resource

A set of rules under which this content was created
Language of the resource content
Text summary of the resource, for human interpretation
Contained, inline Resources

Additional content defined by implementations
Extensions that cannot be ignored
Instance identifier
The reference to the definition for the device

Unique Device Identifier (UDI) Barcode string
Unique id for inter-element referencing
Additional content defined by implementations
Extensions that cannot be ignored even if unrecognized
Mandatory fixed portion of UDI

UDI Issuing Organization
Regional UDI authority
UDI Machine Readable Barcode String

UDI Human Readable Barcode String
barcode | rfid | manual | card | self-reported | electronic-transmission | unknown
Name of device manufacturer

Date when the device was made
Date and time of expiry of this device (if applicable)
Lot number of manufacture

Serial number assigned by the manufacturer
The name or names of the device as known to the manufacturer and/or patient
Unique id for inter-element referencing
Additional content defined by implementations

Extensions that cannot be ignored even if unrecognized
The name of the device.
The manufacturer's model number for the device
The part number or catalog number of the device
The kind or type of device

The actual design of the device or software version running on the device
The type of the device version, e.g. manufacturer, approved, internal
The version text
Unique id for inter-element referencing
Additional content defined by implementations

Extensions that cannot be ignored even if unrecognized
Value of the property
Organization responsible for device
Details for human/organization for support
Where the device is found
Network address to contact device
Device notes and comments

Safety Characteristics of Device

FHIR Definition	Comments
A type of a manufactured item that is used in the provision of healthcare without being substantially changed through that activity. The device may be a medical or non-medical device.	
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	Within the context of the FHIR RESTful interactions, the resource has an id except for cases like the create and conditional update. Otherwise, the use of the resouce id depends on the given use case.
The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.	

A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	Asserting this rule set restricts the content to be only understood by a limited set of trading partners. This inherently limits the usefulness of the data in the long term. However, the existing health eco-system is highly fractured, and not yet ready to define, collect, and exchange data in a generally computable sense. Wherever possible, implementers and/or specification writers should avoid using this element. Often, when used, the URL
The base language in which the resource is written.	Language is provided to support indexing and accessibility (typically, services such as text to speech use the language tag). The html language tag in the narrative applies to the narrative. The language tag on the resource may be used to specify the language of other presentations generated from the data in the
A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	Contained resources do not have a narrative. Resources that are not contained SHOULD have a narrative. In some cases, a resource may only have text with little or no additional discrete data (as long as all minOccurs=1 elements are satisfied). This may be necessary for data
These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, nor can they have their own independent transaction scope. This is allowed to be a Parameters resource if and only if it is referenced by a resource that provides context/meaning.	This should never be done when the content can be identified properly, as once identification is lost, it is extremely difficult (and context dependent) to restore it again. Contained resources may have profiles and tags in their meta elements, but SHALL NOT have security labels.

May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and managable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.
May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and managable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of
Unique instance identifiers assigned to a device by manufacturers other organizations or owners.	Certain attributes, like serial number and UDI Carrier (the HRF or AIDC barcode string) are not device instance identifiers as they are not consistently able to uniquely identify the instance of a device, thus are not appropriate to be used to value Device.identifier. The barcode string from a
The reference to the definition for the device.	

Unique device identifier (UDI) assigned to device label or package. Note that the Device may include multiple udiCarriers as it either may include just the udiCarrier for the jurisdiction it is sold, or for multiple jurisdictions it could have been sold.	UDI may identify an unique instance of a device, or it may only identify the type of the device. See [UDI mappings](device-mappings.html#udi) for a complete mapping of UDI parts to Device.
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and managable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.
May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and managable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows
The device identifier (DI) is a mandatory, fixed portion of a UDI that identifies the labeler and the specific version or model of a device.	

Organization that is charged with issuing UDIs for devices. For example, the US FDA issuers include: 1) GS1: http://hl7.org/fhir/NamingSystem/gs1-di, 2) HIBCC: http://hl7.org/fhir/NamingSystem/hibcc-dil, 3) ICCBBA for blood containers: http://hl7.org/fhir/NamingSystem/iccbba-blood-di, 4) ICCBA for other devices: http://hl7.org/fhir/NamingSystem/iccbba-other-di # Informationsstelle für Arzneispezialitäten (IFA GmbH) (EU only): http://hl7.org/fhir/NamingSystem/ifa-gmbh-di.	
The identity of the authoritative source for UDI generation within a jurisdiction. All UDIs are globally unique within a single namespace with the appropriate repository uri as the system. For example, UDIs of devices managed in the U.S. by the FDA, the value is http://hl7.org/fhir/NamingSystem/us-fda-udi or in the European Union by the European Commission http://hl7.org/fhir/NamingSystem/eu-ec-udi.	
The full UDI carrier of the Automatic Identification and Data Capture (AIDC) technology representation of the barcode string as printed on the packaging of the device - e.g., a barcode or RFID. Because of limitations on character sets in XML and the need to round-trip JSON data through XML, AIDC Formats *SHALL* be base64 encoded.	The AIDC form of UDIs should be scanned or otherwise used for the identification of the device whenever possible to minimize errors in records resulting from manual transcriptions. If separate barcodes for DI and PI are present, concatenate the string with DI first and in order of human readable expression on label.

The full UDI carrier as the human readable form (HRF) representation of the barcode string as printed on the packaging of the device.	If separate barcodes for DI and PI are present, concatenate the string with DI first and in order of human readable expression on label.
A coded entry to indicate how the data was entered.	
Status of the Device availability.	
Reason for the status of the Device availability.	
The distinct identification string as required by regulation for a human cell, tissue, or cellular and tissue-based product.	For example, this applies to devices in the United States regulated under Code of Federal Regulation 21CFR§1271.290(c).
A name of the manufacturer or entity legally responsible for the device.	

The date and time when the device was manufactured.	
The date and time beyond which this device is no longer valid or should not be used (if applicable).	
Lot number assigned by the manufacturer.	

The serial number assigned by the organization when the device was manufactured.	Alphanumeric Maximum 20. While a serial number is a type of identifier, in the context of devices for which a UDI is required, thus a serial number may be part of the production identifier, it is more informative to have the serial number as a dedicated attribute together with the other UDI production identifier. When the device is not subject to including the UDI (e.g., its presence and exchange is not mandated by local regulatory requirements or specific use case at hand), thus the concept of production identifiers is not relevant as a set, it remains helpful for consistency to still use Device.serialNumber rather than using Device.identifier with an appropriate type. Systems that do not realize an identifier is a serial number may place it in Device.identifier or if the identifier.system is known for the serial number, it may
This represents the manufacturer's name of the device as provided by the device, from a UDI label, or by a person describing the Device. This typically would be used when a person provides the name(s) or when the device represents one of the names available from DeviceDefinition.	
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and managable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and managable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.
Name of the device	
udi-label-name | user-friendly-name | patient-reported-name | manufacturer-name | model-name | other	
The manufacturer's model number for the device.	
The part number or catalog number of the device.	Alphanumeric Maximum 20.
The kind or type of device. A device instance may have more than one type - in which case those are the types that apply to the specific instance of the device.	Multiple device types are use when a device is categorized in more than one context – for example, hybrid devices in which the device is both of type gateway and sensor.
The capabilities supported on a device, the standards to which the device conforms for a particular purpose, and used for the communication.	
The standard that is used to operate and communicate.	
The version of the standard that is used to operate and communicate	This is a business versionId, not a resource version id

The actual design of the device or software version running on the device.	
The type of the device version, e.g. manufacturer, approved, internal.	
A single component of the device version	
The version text.	
The actual configuration settings of a device as it actually operates, e.g., regulation status, time properties.	
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and managable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and managable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions.Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.
Updated definition-Code that specifies the property DeviceDefinitionPropetyCode (Extensible)	
Property value as a quantity.	
Property value as a code, e.g., NTP4 (synced to NTP).	
Patient information, If the device is affixed to a person.	If the device is implanted in a patient, then need to associate the device to the patient.
An organization that is responsible for the provision and ongoing maintenance of the device.	
Contact details for an organization or a particular human that is responsible for the device.	used for troubleshooting etc.
The place where the device can be found.	
A network address on which the device may be contacted directly.	If the device is running a FHIR server, the network address should be the Base URL from which a conformance statement may be retrieved.
Descriptive information, usage information or implantation information that is not captured in an existing element.	

Provides additional safety characteristics about a medical device. For example devices containing latex.	
The parent device.	For example a vital signs monitor (parent) where three separate modules can be plugged into such as interchangeable blood pressure, oximeter, temperature modules. These modules are represented as devices with the .parent valued to the vital signs monitor when plugged in.

Binding Strength	Binding Description	FHIR Binding Value Set	ACH dQM
			MS[0..*]
			R[1..1]
			NRT

			NRT
required	IETF language tag for a human language	https://hl7.org/fhir/value	NRT
			NRT
			NRT

			NRT
			NRT
			NRT
			NR

			MS[0..*]
			NRT
			NRT
			NRT
			MS[0..1]

			NR
			NR
			MS[0..1]

			MS[0..1]
required	Codes to identify how UDI data was entered.	http://hl7.org/fhir/R4/va	MS[0..1]
required	The record status of the device.	http://hl7.org/fhir/R4/va	MS[0..1]
			NR
			MS[0..1]
			NR

			NR
			NR
			NR

			NR
			MS [0..*]
			NRT
			NRT

			NRT
			R[1..1]
required	Device Name Type	https://hl7.org/fhir/R4/va	R[1..1]
			NR
			NR
Extensible	Codes to identify medical devices.	https://hl7.org/fhir/R4/va	R[1..1]
			NR
			NR
			NR

			NR
example **Note:** This element does not have an example value set in v4.0.1 so we have listed Version 5 value set	The type of version indicated for the device.	http://hl7.org/fhir/Value	NR
			NR
			NR
			NR
			NR
			NRT

			NRT
example **Note:** This element does not have an example value set in v4.0.1 so we have listed Version 5 value set	Device property type.	http://hl7.org/fhir/Value	NR
			NR
			NR
			R[1..1]
			NR
			NR
			NR
			NR
			NR

example **Note:** This element does not have an example value set in v4.0.1 so we have listed Version 5 value set		http://hl7.org/fhir/Value	NR
			NR

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Path	Min	Max
DiagnosticReport	0	*
DiagnosticReport.id	0	1
DiagnosticReport.basedOn	0	*
DiagnosticReport.status	1	1
DiagnosticReport.category	0	*

DiagnosticReport.code	1	1
DiagnosticReport.subject	0	1
DiagnosticReport.encounter	0	1
DiagnosticReport.effective[x]	0	1

DiagnosticReport.issued	0	1
DiagnosticReport.conclusionCode	0	*
DiagnosticReport.meta	0	1
DiagnosticReport.implicitRules	0	1

DiagnosticReport.language	0	1
DiagnosticReport.text	0	1

DiagnosticReport.contained	0	*
DiagnosticReport.extension	0	*

DiagnosticReport.modifierExtension	0	*
DiagnosticReport.identifier	0	*
DiagnosticReport.performer	0	*
DiagnosticReport.resultsInterpreter	0	*

DiagnosticReport.specimen	0	*
DiagnosticReport.result	0	*
DiagnosticReport.imagingStudy	0	*
DiagnosticReport.media	0	*
DiagnosticReport.media.link	0	1
DiagnosticReport.conclusion	0	1

DiagnosticReport.presentedForm	0	*

Data Type(s)	FHIR Short Description	FHIR Definition
	US Core Diagnostic Report Profile for Report and Note exchange	Clinical Testing and Imaging tests performed on a patient that results in structured or unstructured (narrative) findings specific to the patient.
string	Logical id of this artifact	The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.
Reference(CarePlan| ImmunizationRecommendation| MedicationRequest| NutritionOrder|ServiceRequest)	What was requested	Details concerning a service requested.
code	registered | partial | preliminary | final +	The status of the diagnostic report.
CodeableConcept	Service category	A code that classifies the clinical discipline, department or diagnostic service that created the report (e.g. cardiology, biochemistry, hematology, MRI). This is used for searching, sorting and display purposes.

CodeableConcept	US Core Report Code	The test, panel, report, or note that was ordered.
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)	The subject of the report - usually, but not always, the patient	The subject of the report. Usually, but not always, this is a patient. However, diagnostic services also perform analyses on specimens collected from a variety of other sources.
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-encounter)	Health care event when test ordered	The healthcare event (e.g. a patient and healthcare provider interaction) which this DiagnosticReport is about.
dateTime Period	Clinically relevant time/time-period for report	The time or time-period the observed values are related to. When the subject of the report is a patient, this is usually either the time of the procedure or of specimen collection(s), but very often the source of the date/time is not known, only the date/time itself.

instant	DateTime this version was made	The date and time that this version of the report was made available to providers, typically after the report was reviewed and verified.
CodeableConcept	Codes for the clinical conclusion of test results	One or more codes that represent the summary conclusion (interpretation/impression) of the diagnostic report.
Meta	Metadata about the resource	The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.
uri	A set of rules under which this content was created	A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.

code	Language of the resource content	The base language in which the resource is written.
Narrative	Text summary of the resource, for human interpretation	A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.

Resource	Contained, inline Resources	These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.

Extension	Extensions that cannot be ignored	May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the
Identifier	Business identifier for report	Identifiers assigned to this report by the performer or other systems.
Reference(US Core Practitioner Profile | US Core Organization Profile)	Responsible Diagnostic Service	The diagnostic service that is responsible for issuing the report.
Reference(Practitioner| PractitionerRole|Organization| CareTeam)	Primary result interpreter	The practitioner or organization that is responsible for the report's conclusions and interpretations.

Reference(Specimen)	Specimens this report is based on	Details about the specimens on which this diagnostic report is based.
Reference(US Core Laboratory Result Observation Profile)	Observations	[Observations](http://hl7.org/fhir/R4/observation.html) that are part of this diagnostic report.
Reference(ImagingStudy)	Reference to full details of imaging associated with the diagnostic report	One or more links to full details of any imaging performed during the diagnostic investigation. Typically, this is imaging performed by DICOM enabled modalities, but this is not required. A fully enabled PACS viewer can use this information to provide views of the source images.
BackboneElement	Key images associated with this report	A list of key images associated with this report. The images are generally created during the diagnostic process, and may be directly of the patient, or of treated specimens (i.e. slides of interest).
Reference(Media)	Reference to the image source	Reference to the image source.
string	Clinical conclusion (interpretation) of test results	Concise and clinically contextualized summary conclusion (interpretation/impression) of the diagnostic report.

Attachment	Entire report as issued	Rich text representation of the entire result as issued by the diagnostic service. Multiple formats are allowed but they SHALL be semantically

Comments	Binding Strength	Binding Description
This is intended to capture a single report and is not suitable for use in displaying summary information that covers multiple reports. For example, this resource has not been designed for laboratory cumulative reporting formats nor detailed structured reports for sequencing.		
The only time that a resource does not have an id is when it is being submitted to the server using a create operation.		
Note: Usually there is one test request for each result, however in some circumstances multiple test requests may be represented using a single test result resource. Note that there are also cases where one request leads to multiple reports.		
	required	DiagnosticReportStatus
Multiple categories are allowed using various categorization schemes. The level of granularity is defined by the category concepts in the value set. More fine-grained filtering can be performed using the metadata and/or terminology hierarchy in DiagnosticReport.code.	extensible	DiagnosticServiceSectionCodes

The typical patterns for codes are: 1) a LOINC code either as a translation from a "local" code or as a primary code, or 2) a local code only if no suitable LOINC exists, or 3) both the local and the LOINC translation. Systems SHALL be capable of sending the local code if one exists.	extensible	LOINCDiagnosticReportCodes
This will typically be the encounter the event occurred within, but some events may be initiated prior to or after the official completion of an encounter but still be tied to the context of the encounter (e.g. pre-admission laboratory tests).		
If the diagnostic procedure was performed on the patient, this is the time it was performed. If there are specimens, the diagnostically relevant time can be derived from the specimen collection times, but the specimen information is not always available, and the exact relationship between the specimens and the diagnostically relevant time is not always automatic.		

May be different from the update time of the resource itself, because that is the status of the record (potentially a secondary copy), not the actual release time of the report.		
	example	Diagnosis codes provided as adjuncts to the report.
Asserting this rule set restricts the content to be only understood by a limited set of trading partners. This inherently limits the usefulness of the data in the long term. However, the existing health eco-system is highly fractured, and not yet ready to define, collect, and exchange data in a generally computable sense. Wherever possible, implementers and/or specification writers should avoid using this element. Often, when used, the URL is a reference to an implementation guide that defines these special rules as part of it's narrative along with other profiles, value sets, etc.		

Language is provided to support indexing and accessibility (typically, services such as text to speech use the language tag). The html language tag in the narrative applies to the narrative. The language tag on the resource may be used to specify the language of other presentations generated from the data in the resource. Not all the content has to be in the base language. The Resource.language should not be assumed to apply to the narrative automatically. If a language is specified, it should it also be specified on the div element in the html (see rules in HTML5 for information about the relationship between xml:lang and the html lang attribute).	preferred	A human language.
Contained resources do not have narrative. Resources that are not contained SHOULD have a narrative. In some cases, a resource may only have text with little or no additional discrete data (as long as all minOccurs=1 elements are satisfied). This may be necessary for data from legacy systems where information is captured as a "text blob" or where text is additionally entered raw or narrated and encoded information is added later.		

This should never be done when the content can be identified properly, as once identification is lost, it is extremely difficult (and context dependent) to restore it again. Contained resources may have profiles and tags In their meta elements, but SHALL NOT have security labels.		
There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.		

There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.		
Usually assigned by the Information System of the diagnostic service provider (filler id).		
This is not necessarily the source of the atomic data items or the entity that interpreted the results. It is the entity that takes responsibility for the clinical report.		
Might not be the same entity that takes responsibility for the clinical report.		

If the specimen is sufficiently specified with a code in the test result name, then this additional data may be redundant. If there are multiple specimens, these may be represented per observation or group.		
Observations can contain observations.		
ImagingStudy and the image element are somewhat overlapping - typically, the list of image references in the image element will also be found in one of the imaging study resources. However, each caters to different types of displays for different types of purposes. Neither, either, or both may be provided.		

"application/pdf" is recommended as the most reliable and interoperable in this context.		

FHIR Binding Value Set	ACH dQM
	MS [0..*]
	R[1..1]
	MS [0..*]
https://hl7.org/fhir	R[1..1]
http://hl7.org/fhir/	R[1..*]

https://hl7.org/fhir/R4/valueset-report-codes.html	R[1..1]
http://hl7.org/fhir/ValueSet/report-codes	R[1..1]
	MS [0..1]
	R[1..1]

	MS[0..1]
http://hl7.org/fhir/\	MS[0..*]
	NRT
	NRT

http://hl7.org/fhir/	NRT
	NRT

	NRT
	NRT

	NRT
	NRT
	NR
	NR

	NR
	NR
	NRT
	NRT
	NRT
	NR

	NRT

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FHIR Path	Min	Max	Must Support?
DiagnosticReport	0	*	
DiagnosticReport.id	0	1	
DiagnosticReport.meta	0	1	

DiagnosticReport.implicitRules	0	1	

DiagnosticReport.language	0	1	
DiagnosticReport.text	0	1	

DiagnosticReport.contained	0	*	
DiagnosticReport.extension	0	*	
DiagnosticReport.modifierExtension	0	*	
DiagnosticReport.identifier	0	*	
DiagnosticReport.basedOn	0	*	
DiagnosticReport.status	1	1	Y

DiagnosticReport.category	1	*	Y
DiagnosticReport.category:LaboratorySlice	1	1	Y
DiagnosticReport.category:LaboratorySlice.id	0	1	
DiagnosticReport.category:LaboratorySlice.id.extension	0	*	
DiagnosticReport.category:LaboratorySlice.coding	1	*	
DiagnosticReport.category:LaboratorySlice.coding.id	0	1	
DiagnosticReport.category:LaboratorySlice.coding.system	1	1	
DiagnosticReport.category:LaboratorySlice.coding.version	0	1	
DiagnosticReport.category:LaboratorySlice.coding.code	0	2	
DiagnosticReport.category:LaboratorySlice.coding.display	0	1	
DiagnosticReport.category:LaboratorySlice.coding.userSelected	0	1	

DiagnosticReport.code	1	1	Y
DiagnosticReport.subject	1	1	Y
DiagnosticReport.encounter	0	1	
DiagnosticReport.effective[x]	1	1	Y

DiagnosticReport.issued	1	1	Y
DiagnosticReport.performer	0	*	Y
DiagnosticReport.resultsInterpreter	0	*	
DiagnosticReport.specimen	0	*	
DiagnosticReport.result	0	*	Y
DiagnosticReport.imagingStudy	0	*	

DiagnosticReport.media	0	*	
DiagnosticReport.media.id	0	1	
DiagnosticReport.media.extension	0	*	

DiagnosticReport.media.modifierExtension	0	*	
DiagnosticReport.media.comment	0	1	
DiagnosticReport.media.link	1	1	
DiagnosticReport.conclusion	0	1	

DiagnosticReport.conclusionCode	0	*	
DiagnosticReport.presentedForm	0	*	

Data Type(s)	FHIR Short Description
	A Diagnostic report - a combination of request information, atomic results, images, interpretation, as well as formatted reports
string	Logical id of this artifact
Meta	Metadata about the resource

uri	A set of rules under which this content was created

code	Language of the resource content
Narrative	Text summary of the resource, for human interpretation

Resource	Contained, inline Resources
Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored
Identifier	Business identifier for report
Reference(CarePlan| ImmunizationRecommendation| MedicationRequest| NutritionOrder| ServiceRequest)	What was requested
code	registered | partial | preliminary | final +

CodeableConcept	Service category
CodeableConcept	Service category
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations
Coding	Code defined by a terminology system
string	Unique id for inter-element referencing
url	identity of the terminology system
string	Version of the system - if relevant
code	Symbol in syntax defined by the system
string	Representation defined by the system
boolean	If this coding was chosen directly by the user

CodeableConcept	US Core Laboratory Report Order Code
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)	The subject of the report - usually, but not always, the patient
Reference(Encounter)	Health care event when test ordered
dateTime Period	Specimen Collection Datetime or Period

instant	DateTime this version was made
Reference(US Core Practitioner Profile | US Core Organization Profile)	Responsible Diagnostic Service
Reference(Practitioner|PractitionerRole|Organization|CareTeam)	Primary result interpreter
Reference(Specimen)	Specimens this report is based on
Reference(US Core Laboratory Result Observation Profile)	Observations
Reference(ImagingStudy)	Reference to full details of imaging associated with the diagnostic report

BackboneElement	Key images associated with this report
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
string	Comment about the image (e.g. explanation)
Reference(Media)	Reference to the image source
string	Clinical conclusion (interpretation) of test results

CodeableConcept	Codes for the clinical conclusion of test results
Attachment	Entire report as issued

FHIR Definition	Comments	Binding Strength
The US Core Diagnostic Report Profile is based upon the core FHIR DiagnosticReport Resource and created to meet the 2015 Edition Common Clinical Data Set 'Laboratory test(s) and Laboratory value(s)/result(s)' requirements.	This is intended to capture a single report and is not suitable for use in displaying summary information that covers multiple reports. For example, this resource has not been designed for laboratory cumulative reporting formats nor detailed structured reports for sequencing.	
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	The only time that a resource does not have an id is when it is being submitted to the server using a create operation.	
The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.		

A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	Asserting this rule set restricts the content to be only understood by a limited set of trading partners. This inherently limits the usefulness of the data in the long term. However, the existing health eco-system is highly fractured, and not yet ready to define, collect, and exchange data in a generally computable sense. Wherever possible, implementers and/or specification writers should avoid using this element. Often, when used, the URL is a reference to an implementation guide that defines these special rules as part of it's narrative along with other profiles, value sets, etc.	

The base language in which the resource is written.	Language is provided to support indexing and accessibility (typically, services such as text to speech use the language tag). The html language tag in the narrative applies to the narrative. The language tag on the resource may be used to specify the language of other presentations generated from the data in the resource. Not all the content has to be in the base language. The Resource.language should not be assumed to apply to the narrative automatically. If a language is specified, it should it also be specified on the div element in the html (see rules in HTML5 for information about the relationship between xml:lang and the html lang attribute).	preferred
A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	Contained resources do not have narrative. Resources that are not contained SHOULD have a narrative. In some cases, a resource may only have text with little or no additional discrete data (as long as all minOccurs=1 elements are satisfied). This may be necessary for data from legacy systems where information is captured as a "text blob" or where text is additionally entered raw or narrated and encoded information is added later.	

These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.	This should never be done when the content can be identified properly, as once identification is lost, it is extremely difficult (and context dependent) to restore it again. Contained resources may have profiles and tags In their meta elements, but SHALL NOT have security labels.	
May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	
May be used to represent additional information that is not part of the basic definition of the	There can be no stigma associated with the use of extensions by any	
Identifiers assigned to this report by the performer or other systems	Usually assigned by the Information System of the diagnostic service provider	
Details concerning a service requested.	Note: Usually there is one test request for each result, however in some circumstances multiple test requests may be represented using a single test result resource. Note that there are also cases where one request leads to multiple reports.	
The status of the diagnostic report.		required

A code that classifies the clinical discipline, department or diagnostic service that created the report (e.g. cardiology, biochemistry, hematology, MRI). This is used for searching, sorting and display purposes.	Multiple categories are allowed using various categorization schemes. The level of granularity is defined by the category concepts in the value set. More fine-grained filtering can be performed using the metadata and/or terminology hierarchy in DiagnosticReport.code.	example
A code that classifies the clinical discipline, department or diagnostic service that created the report (e.g. cardiology, biochemistry, hematology, MRI). This is used for searching, sorting and display purposes.	Multiple categories are allowed using various categorization schemes. The level of granularity is defined by the category concepts in the value set. More fine-grained filtering can be performed using the metadata and/or terminology hierarchy in DiagnosticReport.code.	example
		Complex
		Fixed Value
		Fixed Value

The test, panel or battery that was ordered.	UsageNote= The typical patterns for codes are: 1) a LOINC code either as a translation from a "local" code or as a primary code, or 2) a local code only if no suitable LOINC exists, or 3) both the local and the LOINC translation. Systems SHALL be capable of sending the local code if one exists.	extensible
The subject of the report. Usually, but not always, this is a patient. However, diagnostic services also perform analyses on specimens collected from a variety of other sources.		
The healthcare event (e.g. a patient and healthcare provider interaction) which this DiagnosticReport is about.	This will typically be the encounter the event occurred within, but some events may be initiated prior to or after the official completion of an encounter but still be tied to the context of the encounter (e.g. pre-admission laboratory tests).	
The time or time-period the observed values are related to. When the subject of the report is a patient, this is usually either the time of the procedure or of specimen collection(s), but very often the source of the date/time is not known, only the date/time itself.	If the diagnostic procedure was performed on the patient, this is the time it was performed. If there are specimens, the diagnostically relevant time can be derived from the specimen collection times, but the specimen information is not always available, and the exact relationship between the specimens and the diagnostically relevant time is not always automatic.	

The date and time that this version of the report was made available to providers, typically after the report was reviewed and verified.	May be different from the update time of the resource itself, because that is the status of the record (potentially a secondary copy), not the actual release time of the report.	
The diagnostic service that is responsible for issuing the report.	This is not necessarily the source of the atomic data items or the entity that interpreted the results. It is the entity that takes responsibility for the clinical report.	
The practitioner or organization that is responsible for the report's conclusions and interpretations.	Might not be the same entity that takes responsibility for the clinical report.	
Details about the specimens on which this diagnostic report is based.	If the specimen is sufficiently specified with a code in the test result name, then this additional data may be redundant. If there are multiple specimens, these may be represented per observation or group.	
[Observations](http://hl7.org/fhir/R4/observation.html) that are part of this diagnostic report.	Observations can contain observations.	
One or more links to full details of any imaging performed during the diagnostic investigation. Typically, this is imaging performed by DICOM enabled modalities, but this is not required. A fully enabled PACS viewer can use this information to provide views of the source images.	ImagingStudy and the image element are somewhat overlapping - typically, the list of image references in the image element will also be found in one of the imaging study resources. However, each caters to different types of displays for different types of purposes. Neither, either, or both may be provided.	

A list of key images associated with this report. The images are generally created during the diagnostic process, and may be directly of the patient, or of treated specimens (i.e. slides of interest).		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	
A comment about the image. Typically, this is used to provide an explanation for why the image is included, or to draw the viewer's attention to important features.	The comment should be displayed with the image. It would be common for the report to include additional discussion of the image contents in other sections such as the conclusion.	
Reference to the image source.		
Concise and clinically contextualized summary conclusion (interpretation/impression) of the diagnostic report.		

One or more codes that represent the summary conclusion (interpretation/impression) of the diagnostic report.		example
Rich text representation of the entire result as issued by the diagnostic service. Multiple formats are allowed but they SHALL be semantically equivalent.	"application/pdf" is recommended as the most reliable and interoperable in this context.	

Binding Description	FHIR Binding Value Set	ACH dQM
		MS [0..*]
		R [1..1]
		NRT

		NRT

CommonLanguages Max Binding: All Languages	http://hl7.org/fhir/Value	NRT
		NRT

		NRT
		NRT
		NRT
		NRT
		NR
	http://hl7.org/fhir/R4/Va	R [1..1]

Codes for diagnostic service sections.	http://hl7.org/fhir/R4/Va	R [1..*]
Required Pattern: At least the following		R [1..1]
		NRT
		NRT
Fixed Value: (complex)		NR
		NRT
diagnostiServiceSectionID	https://terminology.hl7.org/5.2.0/CodeSystem-v2-0074.html	NR
		NR
		NR
		NR
		NR

US Core Diagnostic Report Laboratory Codes (LOINC codes)	https://www.hl7.org/fhir	R [1..1]
		R [1..1]
		NR
		R [1..1]

		R [1..1]
		NR
		NR
		MS [0..*]
		MS [0..*]
		NRT

		NRT
		NRT
		NRT

		NRT
		NRT
		NRT
		NR

SNOMEDCTCLinicalFindings	https://hl7.org/fhir/R4/v	NR
		NRT

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Path	Min	Max	Must Support?
DiagnosticReport	0	*	
DiagnosticReport.id	0	1	
DiagnosticReport.meta	0	1	

DiagnosticReport.implicitRules	0	1	

DiagnosticReport.language	0	1	
DiagnosticReport.text	0	1	

DiagnosticReport.contained	0	*	
DiagnosticReport.extension	0	*	

DiagnosticReport.modifierExtension	0	*	
DiagnosticReport.identifier	0	*	
DiagnosticReport.basedOn	0	*	
DiagnosticReport.status	1	1	Y

DiagnosticReport.category	0	*	Y
DiagnosticReport.code	1	1	Y
DiagnosticReport.subject	1	1	Y
DiagnosticReport.encounter	0	1	Y

DiagnosticReport.effective[x]	1	1	Y
DiagnosticReport.issued	0	1	Y
DiagnosticReport.performer	0	*	Y
DiagnosticReport.resultsInterpreter	0	*	
DiagnosticReport.specimen	0	*	
DiagnosticReport.result	0	*	Y

DiagnosticReport.imagingStudy	0	*	Y
DiagnosticReport.media	0	*	Y
DiagnosticReport.media.id	0	1	
DiagnosticReport.media.extension	0	*	

DiagnosticReport.media.modifierExtension	0	*	
DiagnosticReport.media.comment	0	1	
DiagnosticReport.media.link	1	1	Y
DiagnosticReport.conclusion	0	1	
DiagnosticReport.conclusionCode	0	*	

DiagnosticReport.presentedForm	0	*	Y

Data Type(s)	FHIR Short Description	FHIR Definition
	US Core Diagnostic Report Profile for Report and Note exchange	Clinical Testing and Imaging tests performed on a patient that results in structured or unstructured (narrative) findings specific to the patient.
string	Logical id of this artifact	The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.
Meta	Metadata about the resource	The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.

uri	A set of rules under which this content was created	A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.

code	Language of the resource content	The base language in which the resource is written.
Narrative	Text summary of the resource, for human interpretation	A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.

Resource	Contained, inline Resources	These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.

Extension	Extensions that cannot be ignored	May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the
Identifier	Business identifier for report	Identifiers assigned to this report by the performer or other systems.
Reference(CarePlan| ImmunizationRecommendation| MedicationRequest| NutritionOrder|ServiceRequest)	What was requested	Details concerning a service requested.
code	registered | partial | preliminary | final +	The status of the diagnostic report.

CodeableConcept	Service category	A code that classifies the clinical discipline, department or diagnostic service that created the report (e.g. cardiology, biochemistry, hematology, MRI). This is used for searching, sorting and display purposes.
CodeableConcept	US Core Report Code	The test, panel, report, or note that was ordered.
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)	The subject of the report - usually, but not always, the patient	The subject of the report. Usually, but not always, this is a patient. However, diagnostic services also perform analyses on specimens collected from a variety of other sources.
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-encounter)	Health care event when test ordered	The healthcare event (e.g. a patient and healthcare provider interaction) which this DiagnosticReport is about.

dateTime Period	Clinically relevant time/time-period for report	The time or time-period the observed values are related to. When the subject of the report is a patient, this is usually either the time of the procedure or of specimen collection(s), but very often the source of the date/time is not known, only the date/time itself.
instant	DateTime this version was made	The date and time that this version of the report was made available to providers, typically after the report was reviewed and verified.
Reference(US Core Practitioner Profile | US Core Organization Profile)	Responsible Diagnostic Service	The diagnostic service that is responsible for issuing the report.
Reference(Practitioner| PractitionerRole|Organization| CareTeam)	Primary result interpreter	The practitioner or organization that is responsible for the report's conclusions and interpretations.
Reference(Specimen)	Specimens this report is based on	Details about the specimens on which this diagnostic report is based.
Reference(US Core Laboratory Result Observation Profile)	Observations	[Observations](http://hl7.org/fhir/R4/observation.html) that are part of this diagnostic report.

Reference(ImagingStudy)	Reference to full details of imaging associated with the diagnostic report	One or more links to full details of any imaging performed during the diagnostic investigation. Typically, this is imaging performed by DICOM enabled modalities, but this is not required. A fully enabled PACS viewer can use this information to provide views of the source images.
BackboneElement	Key images associated with this report	A list of key images associated with this report. The images are generally created during the diagnostic process, and may be directly of the patient, or of treated specimens (i.e. slides of interest).
string	Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.

Extension	Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions
string	Comment about the image (e.g. explanation)	A comment about the image. Typically, this is used to provide an explanation for why the image is included, or to draw the viewer's attention to important features.
Reference(Media)	Reference to the image source	Reference to the image source.
string	Clinical conclusion (interpretation) of test results	Concise and clinically contextualized summary conclusion (interpretation/impression) of the diagnostic report.
CodeableConcept	Codes for the clinical conclusion of test results	One or more codes that represent the summary conclusion (interpretation/impression) of the diagnostic report.

Attachment	Entire report as issued	Rich text representation of the entire result as issued by the diagnostic service. Multiple formats are allowed but they SHALL be semantically

Comments	Binding Strength	Binding Description	FHIR Binding Value Set
This is intended to capture a single report and is not suitable for use in displaying summary information that covers multiple reports. For example, this resource has not been designed for laboratory cumulative reporting formats nor detailed structured reports for sequencing.			
The only time that a resource does not have an id is when it is being submitted to the server using a create operation.			

Asserting this rule set restricts the content to be only understood by a limited set of trading partners. This inherently limits the usefulness of the data in the long term. However, the existing health eco-system is highly fractured, and not yet ready to define, collect, and exchange data in a generally computable sense. Wherever possible, implementers and/or specification writers should avoid using this element. Often, when used, the URL is a reference to an implementation guide that defines these special rules as part of it's narrative along with other profiles, value sets, etc.			

Language is provided to support indexing and accessibility (typically, services such as text to speech use the language tag). The html language tag in the narrative applies to the narrative. The language tag on the resource may be used to specify the language of other presentations generated from the data in the resource. Not all the content has to be in the base language. The Resource.language should not be assumed to apply to the narrative automatically. If a language is specified, it should it also be specified on the div element in the html (see rules in HTML5 for information about the relationship between xml:lang and the html lang attribute).	preferred	A human language.	http://hl7.org/fhir/
Contained resources do not have narrative. Resources that are not contained SHOULD have a narrative. In some cases, a resource may only have text with little or no additional discrete data (as long as all minOccurs=1 elements are satisfied). This may be necessary for data from legacy systems where information is captured as a "text blob" or where text is additionally entered raw or narrated and encoded information is added later.			

This should never be done when the content can be identified properly, as once identification is lost, it is extremely difficult (and context dependent) to restore it again. Contained resources may have profiles and tags In their meta elements, but SHALL NOT have security labels.			
There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.			

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Usually assigned by the Information System of the diagnostic service provider (filler id).			
Note: Usually there is one test request for each result, however in some circumstances multiple test requests may be represented using a single test result resource. Note that there are also cases where one request leads to multiple reports.			
	required		https://hl7.org/fhir

Multiple categories are allowed using various categorization schemes. The level of granularity is defined by the category concepts in the value set. More fine-grained filtering can be performed using the metadata and/or terminology hierarchy in DiagnosticReport.code.	required		https://hl7.org/fhir
The typical patterns for codes are: 1) a LOINC code either as a translation from a "local" code or as a primary code, or 2) a local code only if no suitable LOINC exists, or 3) both the local and the LOINC translation. Systems SHALL be capable of sending the local code if one exists.	extensible	LOINC codes	https://hl7.org/fhir
This will typically be the encounter the event occurred within, but some events may be initiated prior to or after the official completion of an encounter but still be tied to the context of the encounter (e.g. pre-admission laboratory tests).			

If the diagnostic procedure was performed on the patient, this is the time it was performed. If there are specimens, the diagnostically relevant time can be derived from the specimen collection times, but the specimen information is not always available, and the exact relationship between the specimens and the diagnostically relevant time is not always automatic.			
May be different from the update time of the resource itself, because that is the status of the record (potentially a secondary copy), not the actual release time of the report.			
This is not necessarily the source of the atomic data items or the entity that interpreted the results. It is the entity that takes responsibility for the clinical report.			
Might not be the same entity that takes responsibility for the clinical report.			
If the specimen is sufficiently specified with a code in the test result name, then this additional data may be redundant. If there are multiple specimens, these may be represented per observation or group.			
Observations can contain observations.			

ImagingStudy and the image element are somewhat overlapping - typically, the list of image references in the image element will also be found in one of the imaging study resources. However, each caters to different types of displays for different types of purposes. Neither, either, or both may be provided.			
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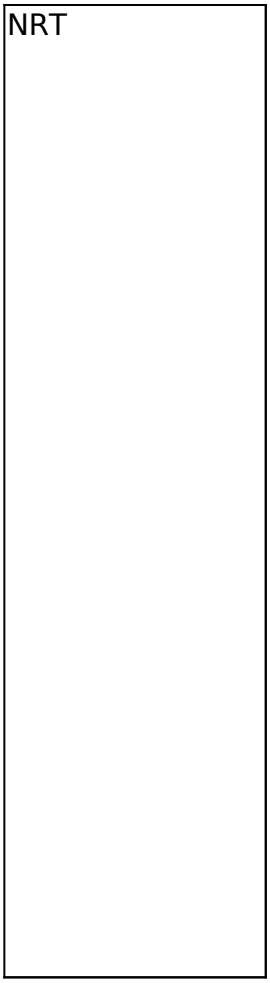
The comment should be displayed with the image. It would be common for the report to include additional discussion of the image contents in other sections such as the conclusion.			
	example	Diagnosis codes provided as adjuncts to the report.	https://hl7.org/fhir

"application/pdf" is recommended as the most reliable and interoperable in this context.			

ACH dQM
MS [0..*]
R[1..1]
NRT


NRT

NRT

NRT

NRT

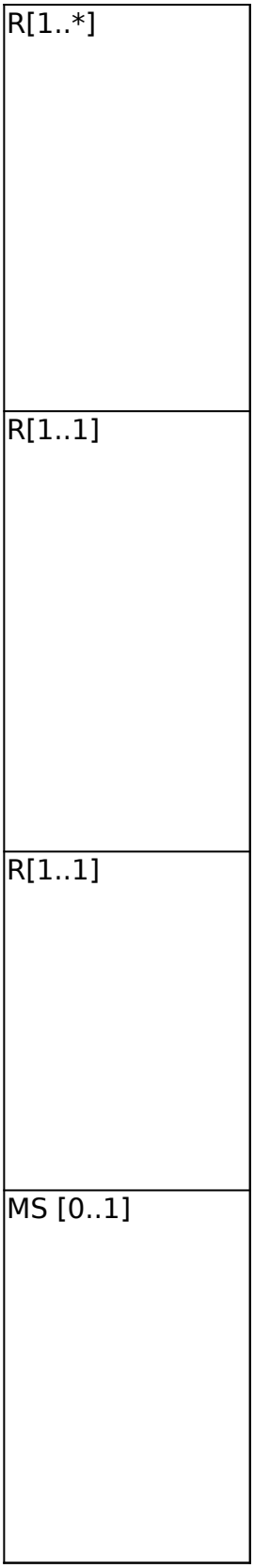
NRT

NRT

NRT

MS [0..*]

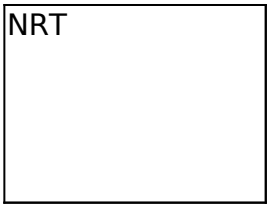
R[1..1]


R[1..*]
R[1..1]
R[1..1]
MS [0..1]

R[1..1]
MS[0..1]
NR
NR
NR
NR

NRT
NRT
NRT
NRT

NRT
NRT
NRT
NR
MS[0..*]


NRT

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FHIR Path	Min	Max	Must Support?	Data Type(s)
Encounter	0	*		Encounter
Encounter.id	0	1		string
Encounter.meta	0	1		Meta
Encounter.implicitRules	0	1		uri
Encounter.language	0	1		code
Encounter.text	0	1		Narrative
Encounter.contained	0	*		Resource

Encounter.extension	0	*		Extension
Encounter.modifierExtension	0	*		Extension
Encounter.identifier	0	*	Y	Identifier
Encounter.identifier.id	0	1		string

Encounter.identifier.extension	0	*		Extension
Encounter.identifier.use	0	1		code
Encounter.identifier.type	0	1		CodeableConcept
Encounter.identifier.system	1	1	Y	uri
Encounter.identifier.value	1	1	Y	string

Encounter.identifier.period	0	1		Period
Encounter.identifier.assigner	0	1		Reference(Organization)
Encounter.status	1	1	Y	code
Encounter.statusHistory	0	*		BackboneElement
Encounter.statusHistory.id	0	1		string

Encounter.statusHistory.extension	0	*		Extension
Encounter.statusHistory.modifierExtension	0	*		Extension
Encounter.statusHistory.status	1	1		code
Encounter.statusHistory.period	1	1		Period

Encounter.class	1	1	Y	Coding
Encounter.classHistory	0	*		BackboneElement
Encounter.classHistory.id	0	1		string
Encounter.classHistory.extension	0	*		Extension

Encounter.classHistory.modifierExtension	0	*		Extension
Encounter.classHistory.class	1	1		Coding
Encounter.classHistory.period	1	1		Period

Encounter.type	1	*	Y	CodeableConcept
Encounter.serviceType	0	1		CodeableConcept
Encounter.priority	0	1		CodeableConcept
Encounter.subject	1	1	Y	Reference(US Core Patient Profile)

Encounter.episodeOfCare	0	*		Reference(EpisodeOfCare)
Encounter.basedOn	0	*		Reference(ServiceRequest)
Encounter.participant	0	*	Y	BackboneElement
Encounter.participant.id	0	1		string
Encounter.participant.extension	0	*		Extension

Encounter.participant.modifierExtension	0	*		Extension
Encounter.participant.type	0	*	Y	CodeableConcept
Encounter.participant.period	0	1	Y	Period
Encounter.participant.individual	0	1	Y	Reference(US Core Practitioner Profile)

Encounter.appointment	0	*		Reference(Appointment)
Encounter.period	0	1	Y	Period
Encounter.length	0	1		Duration
Encounter.reasonCode	0	*	Y	CodeableConcept
Encounter.reasonReference	0	*	Y	Reference(Condition | Procedure | Observation | ImmunizationRecommendation)
Encounter.diagnosis	0	*		BackboneElement
Encounter.diagnosis.id	0	1		string

Encounter.diagnosis.extension	0	*		Extension
Encounter.diagnosis.modifierExtension	0	*		Extension
Encounter.diagnosis.condition	1	1		Reference(Condition|Procedure)

Encounter.diagnosis.use	0	1		CodeableConcept
Encounter.diagnosis.rank	0	1		positiveInt
Encounter.account	0	*		Reference(Account)
Encounter.hospitalization	0	1	Y	BackboneElement
Encounter.hospitalization.id	0	1		string
Encounter.hospitalization.extension	0	*		Extension

Encounter.hospitalization.modifierExtension	0	*		Extension
Encounter.hospitalization.preAdmissionIdentifier	0	1		Identifier
Encounter.hospitalization.origin	0	1		Reference(Location|Organization)
Encounter.hospitalization.admitSource	0	1		CodeableConcept

Encounter.hospitalization.reAdmission	0	1		CodeableConcept
Encounter.hospitalization.dietPreference	0	*		CodeableConcept
Encounter.hospitalization.specialCourtesy	0	*		CodeableConcept
Encounter.hospitalization.specialArrangement	0	*		CodeableConcept
Encounter.hospitalization.destination	0	1		Reference(Location|Organization)
Encounter.hospitalization.dischargeDisposition	0	1	Y	CodeableConcept

Encounter.location	0	*	Y	BackboneElement
Encounter.location.id	0	1		string
Encounter.location.extension	0	*		Extension

Encounter.location.modifierExtension	0	*		Extension
Encounter.location.location	1	1	Y	Reference(Location)
Encounter.location.status	0	1		code
Encounter.location.physicalType	0	1		CodeableConcept

Encounter.location.period	0	1		Period
Encounter.serviceProvider	0	1	Y	Reference(Organization)
Encounter.partOf	0	1		Reference(Encounter)

FHIR Short Description	FHIR Definition	Binding Strength
An interaction during which services are provided to the patient	This is basic constraint on Encounter for use in US Core resources.	
Logical id of this artifact	The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	
Metadata about the resource	The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.	
A set of rules under which this content was created	A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	
Language of the resource content	The base language in which the resource is written.	Preferred Max Binding
Text summary of the resource, for human interpretation	A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	
Contained, inline Resources	These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.	

Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
Extensions that cannot be ignored	May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
Identifier(s) by which this	Identifier(s) by which this encounter is known.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	

Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
usual | official | temp | secondary | old (If known)	The purpose of this identifier.	required
Description of identifier	A coded type for the identifier that can be used to determine which identifier to use for a specific purpose.	extensible
The namespace for the identifier value	Establishes the namespace for the value - that is, a URL that describes a set values that are unique.	
The value that is unique	The portion of the identifier typically relevant to the user and which is unique within the context of the system.	

Time period when id is/was valid for use	Time period during which identifier is/was valid for use.	
Organization that issued id (may be just text)	Organization that issued/manages the identifier.	
planned | arrived | triaged | in-progress | onleave | finished | cancelled +	planned | arrived | triaged | in-progress | onleave | finished | cancelled +.	required
List of past encounter statuses	The status history permits the encounter resource to contain the status history without needing to read through the historical versions of the resource, or even have the server store them.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	

Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions.	
planned | arrived | triaged | in-progress | onleave | finished | cancelled +	planned | arrived | triaged | in-progress | onleave | finished | cancelled +.	required
The time that the episode was in the specified status	The time that the episode was in the specified status.	

Classification of patient encounter	Concepts representing classification of patient encounter such as ambulatory (outpatient), inpatient, emergency, home health or others due to local variations.	extensible
List of past encounter classes	The class history permits the tracking of the encounters transitions without needing to go through the resource history. **This would be used for a case where an admission starts of as an emergency encounter, then transitions into an inpatient scenario.** Doing this and not restarting a new encounter ensures that any lab/diagnostic results can more easily follow the patient and not require re-processing and not get lost or cancelled during a kind of discharge from emergency to inpatient.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

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inpatient | outpatient | ambulatory | emergency +	inpatient | outpatient | ambulatory | emergency +.	extensible
The time that the episode was in the specified class	The time that the episode was in the specified class.	

Specific type of encounter	Specific type of encounter (e.g. e-mail consultation, surgical day-care, skilled nursing, rehabilitation).	extensible
Specific type of service	Broad categorization of the service that is to be provided (e.g. cardiology).	example
Indicates the urgency of the encounter	Indicates the urgency of the encounter.	example
The patient or group present at the encounter	The patient or group present at the encounter.	

Episode(s) of care that this encounter should be recorded against	Where a specific encounter should be classified as a part of a specific episode(s) of care this field should be used. This association can facilitate grouping of related encounters together for a specific purpose, such as government reporting, issue tracking, association via a common problem. The association is recorded on the encounter as these are typically created after the episode of care and grouped on entry rather than editing the episode of care to append another encounter to it (the episode of care could span years).	
The ServiceRequest that initiated this encounter	The request this encounter satisfies (e.g. incoming referral or procedure request).	
List of participants involved in the encounter	The list of people responsible for providing the service.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

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Role of participant in encounter	Role of participant in encounter.	extensible
Period of time during the encounter that the participant participated	The period of time that the specified participant participated in the encounter. These can overlap or be sub-sets of the overall encounter's period.	
Persons involved in the encounter other than the patient	Persons involved in the encounter other than the patient.	

The appointment that scheduled this encounter	The appointment that scheduled this encounter.	
The start and end time of the encounter	The start and end time of the encounter.	
Quantity of time the encounter lasted (less time absent)	Quantity of time the encounter lasted. This excludes the time during leaves of absence.	
Coded reason the encounter takes place	Reason the encounter takes place, expressed as a code. For admissions, this can be used for a coded admission diagnosis.	preferred
Reason the encounter takes place (reference)	Reason the encounter takes place, expressed as a code. For admissions, this can be used for a coded admission diagnosis.	
The list of diagnosis relevant to this encounter	The list of diagnosis relevant to this encounter.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	

Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
The diagnosis or procedure relevant to the encounter	Reason the encounter takes place, as specified using information from another resource. For admissions, this is the admission diagnosis. The indication will typically be a Condition (with other resources referenced in the evidence.detail), or a Procedure.	

Role that this diagnosis has within the encounter (e.g. admission, billing, discharge …)	Role that this diagnosis has within the encounter (e.g. admission, billing, discharge …).	preferred
Ranking of the diagnosis (for each role type)	Ranking of the diagnosis (for each role type).	
The set of accounts that may be used for billing for this Encounter	The set of accounts that may be used for billing for this Encounter.	
Details about the admission to a healthcare service	Details about the admission to a healthcare service.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

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Pre-admission identifier	Pre-admission identifier.	
The location/organization from which the patient came before admission	The location/organization from which the patient came before admission.	
From where patient was admitted (physician referral, transfer)	From where patient was admitted (physician referral, transfer).	preferred

The type of hospital re-admission that has occurred (if any). If the value is absent, then this is not identified as a readmission	Whether this hospitalization is a readmission and why if known.	preferred
Diet preferences reported by the patient	Diet preferences reported by the patient.	preferred
Special courtesies (VIP, board member)	Special courtesies (VIP, board member).	preferred
Wheelchair, translator, stretcher, etc.	Any special requests that have been made for this hospitalization encounter, such as the provision of specific equipment or other things.	preferred
Location/ organization to which the patient is discharged	Location/organization to which the patient is discharged.	
Category or kind of location after discharge	Category or kind of location after discharge.	preferred

List of locations where the patient has been	List of locations where the patient has been during this encounter.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

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Location the encounter takes place	The location where the encounter takes place.	
planned | active | reserved | completed	The status of the participants' presence at the specified location during the period specified. If the participant is no longer at the location, then the period will have an end date/time.	required
The physical type of the location (usually the level in the location hierachy - bed room ward etc.)	This will be used to specify the required levels (bed/ward/room/etc.) desired to be recorded to simplify either messaging or query.	extensible

Time period during which the patient was present at the location	Time period during which the patient was present at the location.	
The organization (facility) responsible for this encounter	The organization that is primarily responsible for this Encounter's services. This MAY be the same as the organization on the Patient record, however it could be different, such as if the actor	
Another Encounter this encounter is part of	Another Encounter of which this encounter is a part of (administratively or in time).	

Binding Description	FHIR Binding Value Set	ACH dQM
		R [1..*]
		R [1..1]
		NRT
		NRT
CommonLanguages AllLanguages	https://hl7.org/fhir/R4/v	NRT
		NRT
		NRT

		NRT
		NRT
		R [1..*]
		NRT

		NRT
IdentifierUse	http://hl7.org/fhir/R4/Va	MS [0..1]
IdentifierType	http://hl7.org/fhir/R4/Va	MS[0..1]
		R[1..1]
		R [1..1]

		MS [0..1]
		NRT
EncounterStatus	https://hl7.org/fhir/R4/v	R [1..1] **The following constraints are written into the CQL:** 'in-progress', 'finished', 'triaged', 'onleave', 'entered-in-error'
		NR
		NRT

		NRT
		NRT
EncounterStatus	http://hl7.org/fhir/R4/Va	NR
		NR

ActEncounterCode	http://hl7.org/fhir/R4/v3	R [1..1] **The following constraints are written into the CQL:** 'inpatient acute', 'inpatient encounter', 'inpatient non-acute' 'observation encounter', short stay', 'emergency'
		MS [0..*]
		NRT
		NRT

		NRT
ActEncounterCode	https://terminology.hl7.	R [1..1]
		R [1..1]

USCoreEncounterType	https://hl7.org/fhir/us/cc	R [1..*] **The following constraints are written into the CQL:** "Emergency Department Visit": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113883.3.117.1.7.1.292' "Observation Services": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113762.1.4.1111.143' "Encounter Inpatient": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113883.3.666.5.307'
ServiceType	http://hl7.org/fhir/R4/Va	NR
ActPriority	https://terminology.hl7.	NR
		R [1..1]

		NRT
		NRT
		NRT
		NRT
		NRT

		NRT
ParticipantType	http://hl7.org/fhir/R4/Va	NRT
		NRT
		NRT

		NRT
		R[1..1]
		NR
EncounterReasonCodes	http://hl7.org/fhir/R4/Va	MS [0..*]
		NR
		MS [0..*]
		NRT

		NRT
		NRT
		R [1..1]

DiagnosisRole	https://hl7.org/fhir/R4/v	MS [0..1]
		MS [0..1]
		NR
		MS [0..1]
		NRT
		NRT

		NRT
		NR
		MS [0..1]
AdmitSource	https://hl7.org/fhir/R4/v	R [1..1]

Hl7VSReAdmissionIndicator	https://terminology.hl7.	MS [0..1]
Diet	http://hl7.org/fhir/R4/Va	MS [0..1]
SpecialCourtesy	http://hl7.org/fhir/R4/Va	NR
SpecialArrangements	http://hl7.org/fhir/R4/Va	NR
		NR
DischargeDisposition	http://hl7.org/fhir/R4/Va	MS [0..1]

		R [1..*] **The following constraints are written into the CQL:** Inpatient, Emergency, and Observation Locations 2.16.840.1.113762.1.4.1046.265
		NRT
		NRT

		NRT
		R [1..1]
EncounterLocationStatus	http://hl7.org/fhir/R4/Va	MS [0..1]
LocationType	http://hl7.org/fhir/R4/va	MS [0..1]

		R [1..1]
		NRT
		NR

Back to TOC

FHIR Path	Min	Max	Must Support?
Device	0	*	
Device.id	0	1	
Device.meta	0	1	
Device.implicitRules	0	1	
Device.language	0	1	

Device.text	0	1	
Device.contained	0	*	
Device.extension	0	*	

Device.modifierExtension	0	*	
Device.identifier	0	*	
Device.definition	0	1	
Device.udiCarrier	0	1	Y

Device.udiCarrier.carrierAIDC	0	1	Y
Device.udiCarrier.carrierHRF	0	1	Y
Device.udiCarrier.deviceIdentifier	1	1	Y
Device.udiCarrier.entryType	0	1	
Device.udiCarrier.issuer	0	1	
Device.udiCarrier.jurisdiction	0	1	

Device.status	0	1	
Device.statusReason	0	*	
Device.distinctIdentifier	0	1	
Device.manufacturer	0	1	
Device.manufactureDate	0	1	Y
Device.expirationDate	0	1	Y
Device.lotNumber	0	1	Y
Device.serialNumber	0	1	Y
Device.deviceName	0	*	
Device.deviceName.extension	0	*	

Device.deviceName.id	0	1	
Device.deviceName.modifierExtension	0	*	
Device.deviceName.name	1	1	
Device.deviceName.type	1	1	
Device.modelNumber	0	1	
Device.partNumber	0	1	
Device.type	1	1	Y

Device.specialization	0	*	
Device.specialization.id	0	1	
Device.specialization.extension	0	*	

Device.specialization.modifierExtension	0	*	
Device.specialization.systemType	1	1	
Device.specialization.version	0	1	
Device.version	0	*	
Device.version.id	0	1	

Device.version.extension	0	*	
Device.version.modifierExtension	0	*	
Device.version.type	0	1	
Device.version.component	0	1	
Device.version.value	1	1	

Device.property	0	*	
Device.property.id	0	1	
Device.property.extension	0	*	

Device.property.modifierExtension	0	*	
Device.property.type	1	1	
Device.property.valueQuantity	0	*	
Device.property.valueCode	0	*	
Device.patient	1	1	Y
Device.owner	0	1	
Device.contact	0	*	

Device.location	0	1	
Device.url	0	1	
Device.note	0	*	
Device.safety	0	*	
Device.parent	0	1	

Data Type(s)	FHIR Short Description	FHIR Definition
	Item used in healthcare	The US Core Implantable Device Profile is based upon the core FHIR Device Resource and created to meet the 2015 Edition Common Clinical Data Set 'Unique device identifier(s) for a patient’s implantable device(s)' requirements.
string	Logical id of this artifact	The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.
Meta	Metadata about the resource	The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.
uri	A set of rules under which this content was created	A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.
code	Language of the resource content	The base language in which the resource is written.

Narrative	Text summary of the resource, for human interpretation	A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.
Resource	Contained, inline Resources	These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.

Extension	Extensions that cannot be ignored	May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).
Identifier	Instance identifier	Unique instance identifiers assigned to a device by manufacturers other organizations or owners.
Reference(DeviceDefinition)	The reference to the definition for the device	The reference to the definition for the device.
BackboneElement	Unique Device Identifier (UDI) Barcode string	Unique device identifier (UDI) assigned to device label or package. Note that the Device may include multiple udiCarriers as it either may include just the udiCarrier for the jurisdiction it is sold, or for multiple jurisdictions it could have been sold.

base64Binary	UDI Machine Readable Barcode String	The full UDI carrier of the Automatic Identification and Data Capture (AIDC) technology representation of the barcode string as printed on the packaging of the device - e.g., a barcode or RFID. Because of limitations on character sets in XML and the need to round-trip JSON data through XML, AIDC Formats *SHALL* be base64 encoded.
string	UDI Human Readable Barcode String	The full UDI carrier as the human readable form (HRF) representation of the barcode string as printed on the packaging of the device.
string	Mandatory fixed portion of UDI	The device identifier (DI) is a mandatory, fixed portion of a UDI that identifies the labeler and the specific version or model of a device.
code	barcode | rfid | manual +	A coded entry to indicate how the data was entered.
uri	UDI Issuing Organization	Organization that is charged with issuing UDIs for devices. For example, the US FDA issuers include : 1) GS1: http://hl7.org/fhir/NamingSystem/gs1-di, 2) HIBCC: http://hl7.org/fhir/NamingSystem/hibcc-dI, 3) ICCBBA for blood containers: http://hl7.org/fhir/NamingSystem/iccbba-blood-di, 4) ICCBA for other devices: http://hl7.org/fhir/NamingSystem/iccbba-other-di.
uri	Regional UDI authority	The identity of the authoritative source for UDI generation within a jurisdiction. All UDIs are globally unique within a single namespace with the appropriate repository uri as the system. For example, UDIs of devices managed in the U.S. by the FDA, the value is http://hl7.org/fhir/NamingSystem/fda-udi.

code	active | inactive | entered-in-error | unknown	Status of the Device availability.
CodeableConcept	online | paused | standby | offline | not-ready | transduc-discon | hw-discon | off	Reason for the status of the Device availability.
string	The distinct identification string	The distinct identification string as required by regulation for a human cell, tissue, or cellular and tissue-based product.
string	Name of device manufacturer	A name of the manufacturer.
dateTime	Date when the device was made	The date and time when the device was manufactured.
dateTime	Date and time of expiry of this device (if applicable)	The date and time beyond which this device is no longer valid or should not be used (if applicable).
string	Lot number of manufacture	Lot number assigned by the manufacturer.
string	Serial number assigned by the manufacturer	The serial number assigned by the organization when the device was manufactured.
BackboneElement	The name of the device as given by the manufacturer	This represents the manufacturer's name of the device as provided by the device, from a UDI label, or by a person describing the Device. This typically would be used when a person provides the name(s) or when the device represents one of the names available from DeviceDefinition.
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.

string	Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.
Extension	Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).
string	The name of the device	The name of the device.
code	udi-label-name | user-friendly-name | patient-reported-name | manufacturer-name | model-name | other	The type of deviceName. UDILabelName | UserFriendlyName | PatientReportedName | ManufactureDeviceName | ModelName.
string	The model number for the device	The model number for the device.
string	The part number of the device	The part number of the device.
CodeableConcept	The kind or type of device	The kind or type of device.

BackboneElement	The capabilities supported on a device, the standards to which the device conforms for a particular purpose, and used for the communication	The capabilities supported on a device, the standards to which the device conforms for a particular purpose, and used for the communication.
string	Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.

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CodeableConcept	The standard that is used to operate and communicate	The standard that is used to operate and communicate.
string	The version of the standard that is used to operate and communicate	The version of the standard that is used to operate and communicate.
BackboneElement	The actual design of the device or software version running on the device	The actual design of the device or software version running on the device.
string	Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.

Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.
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CodeableConcept	The type of the device version	The type of the device version.
Identifier	A single component of the device version	A single component of the device version.
string	The version text	The version text.

BackboneElement	The actual configuration settings of a device as it actually operates, e.g., regulation status, time properties	The actual configuration settings of a device as it actually operates, e.g., regulation status, time properties.
string	Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.

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CodeableConcept	Code that specifies the property DeviceDefinitionPropetyCode (Extensible)	Code that specifies the property DeviceDefinitionPropetyCode (Extensible).
Quantity	Property value as a quantity	Property value as a quantity.
CodeableConcept	Property value as a code, e.g., NTP4 (synced to NTP)	Property value as a code, e.g., NTP4 (synced to NTP).
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)	Patient to whom Device is affixed	Patient information, If the device is affixed to a person.
Reference(http://hl7.org/fhir/R4/organization.html)	Organization responsible for device	An organization that is responsible for the provision and ongoing maintenance of the device.
contactPoint	Details for human/organization for support	Contact details for an organization or a particular human that is responsible for the device.

Reference(http://hl7.org/fhir/R4/location.html)	Where the device is found	The place where the device can be found.
uri	Network address to contact device	A network address on which the device may be contacted directly.
Annotation	Device notes and comments	Descriptive information, usage information or implantation information that is not captured in an existing element.
CodeableConcept	Safety Characteristics of Device	Provides additional safety characteristics about a medical device. For example devices containing latex.
Reference(http://hl7.org/fhir/R4/device.html)	The parent device	The parent device.

Comments	Binding Strength	Binding Description
The only time that a resource does not have an id is when it is being submitted to the server using a create operation.		
Asserting this rule set restricts the content to be only understood by a limited set of trading partners. This inherently limits the usefulness of the data in the long term. However, the existing health eco-system is highly fractured, and not yet ready to define, collect, and exchange data in a generally computable sense. Wherever possible, implementers and/or specification writers should avoid using this element. Often, when used, the URL is a reference to an implementation guide that defines these special rules as part of it's narrative along with other profiles, value sets, etc.		
Language is provided to support indexing and accessibility (typically, services such as text to speech use the language tag). The html language tag in the narrative applies to the narrative. The language tag on the resource may be used to specify the language of other presentations generated from the data in the resource. Not all the content has to be in the base language. The Resource.language should not be assumed to apply to the narrative automatically. If a language is specified, it should it also be specified on the div element in the html (see rules in HTML5 for information about the relationship between xml:lang and the html lang attribute).	preferred	A human language.

Contained resources do not have narrative. Resources that are not contained SHOULD have a narrative. In some cases, a resource may only have text with little or no additional discrete data (as long as all minOccurs=1 elements are satisfied). This may be necessary for data from legacy systems where information is captured as a "text blob" or where text is additionally entered raw or narrated and encoded information is added later.		
This should never be done when the content can be identified properly, as once identification is lost, it is extremely difficult (and context dependent) to restore it again. Contained resources may have profiles and tags In their meta elements, but SHALL NOT have security labels.		
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The barcode string from a barcode present on a device label or package may identify the instance, include names given to the device in local usage, or may identify the type of device. If the identifier identifies the type of device, Device.type element should be used.		
Some devices may not have UDI information (for example. historical data or patient reported data).		

The AIDC form of UDIs should be scanned or otherwise used for the identification of the device whenever possible to minimize errors in records resulting from manual transcriptions. If separate barcodes for DI and PI are present, concatenate the string with DI first and in order of human readable expression on label.		
If separate barcodes for DI and PI are present, concatenate the string with DI first and in order of human readable expression on label.		
	required	Codes to identify how UDI data was entered.

This element is labeled as a modifier because the status contains the codes inactive and entered-in-error that mark the device (record)as not currently valid.	required	The availability status of the device.
	extensible	The availability status reason of the device.
For example, this applies to devices in the United States regulated under *Code of Federal Regulation 21CFR§1271.290(c)*.		
Alphanumeric Maximum 20.		
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	required	The type of name the device is referred by.
Alphanumeric Maximum 20.		
	extensible	Codes to identify medical devices

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used for troubleshooting etc.		

If the device is running a FHIR server, the network address should be the Base URL from which a conformance statement may be retrieved.		
	Example	

Binding Value Set ***Note: if the***	**ACH dQM**
	MS [0..*]
	R [1..1]
	NRT
	NRT
https://hl7.org/fhir/R4	NRT

	NRT
	NRT
	NRT

	NRT
	NRT
	NR
	MS [0..1]

	MS [0..1]
	MS [0..1]
	R [1..1]
http://hl7.org/fhir/ValueSet/udi-entry-type|4.0.1	NR
	NR
	NR

https://hl7.org/fhir/R4	MS [0..1]
http://hl7.org/fhir/R4	NR
	MS[0..1]
	NR
	MS [0..1]
	MS [0..1]
	MS [0..1]
	MS [0..1]
	MS [0..*]
	NRT

	NRT
	NRT
	R [1..1]
https://hl7.org/fhir/R4	R [1..1]
	NR
	NR
http://hl7.org/fhir/R4	R [1..1]

	NR
	NRT
	NRT

	NRT
	NR
	NR
	NR
	NRT

	NRT
	NRT
	NR
	NR
	NR

	NR
	NRT
	NRT

	NRT
	NR
	NR
	NR
	R [1..1]
	NR
	NR

	NR
	NR
	NR
https://hl7.org/fhir/ST	NR
	NR

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FHIR Path	Min	Max
Observation	0	*
Observation.id	0	1
Observation.meta	0	1
Observation.implicitRules	0	1
Observation.language	0	1
Observation.text	0	1
Observation.contained	0	*

Observation.extension	0	*
Observation.modifierExtension	0	*
Observation.identifier	0	*
Observation.basedOn	0	*

Observation.partOf	0	*
Observation.status	1	1
Observation.category	1	*
Observation.category:Laboratory	1	1
Observation.category:Laboratory.id	0	1
Observation.category:Laboratory.extension	0	*
Observation.category:Laboratory.coding	1	*
Observation.category:Laboratory.coding.id	0	1

Observation.category:Laboratory.coding.extension	0	*
Observation.category:Laboratory.coding.system	1	1
Observation.category:Laboratory.coding.version	0	1
Observation.category:Laboratory.coding.code	1	1
Observation.category:Laboratory.coding.display	0	1
Observation.category:Laboratory.coding.userSelected	0	1

Observation.category:Laboratory.text	0	1
Observation.code	1	1
Observation.subject	1	1
Observation.focus	0	*
Observation.encounter	0	1

Observation.effective[x]	0	1
Observation.issued	0	1
Observation.performer	0	*
Observation.value[x]	0	1
Observation.dataAbsentReason	0	1
Observation.interpretation	0	*
Observation.note	0	*
Observation.bodySite	0	1
Observation.method	0	1
Observation.specimen	0	1

Observation.device	0	1
Observation.referenceRange	0	*
Observation.referenceRange.id	0	1
Observation.referenceRange.extension	0	*

Observation.referenceRange.modifierExtension	0	*
Observation.referenceRange.low	0	1
Observation.referenceRange.high	0	1
Observation.referenceRange.type	0	1

Observation.referenceRange.appliesTo	0	*
Observation.referenceRange.age	0	1
Observation.referenceRange.text	0	1
Observation.hasMember	0	*
Observation.derivedFrom	0	*
Observation.component	0	*

Observation.component.id	0	1
Observation.component.extension	0	*
Observation.component.modifierExtension	0	*
Observation.component.code	1	1

Observation.component.value[x]	0	1
Observation.component.dataAbsentReason	0	1
Observation.component.interpretation	0	*
Observation.component.referenceRange	0	*

Must Support?	Data Type(s)	FHIR Short Description
	Observation	Measurements and simple assertions
	string	Logical id of this artifact
	Meta	Metadata about the resource
	uri	A set of rules under which this content was created
	code	Language of the resource content
	Narrative	Text summary of the resource, for human interpretation
	Resource	Contained, inline Resources

	Extension	Additional content defined by implementations
	Extension	Extensions that cannot be ignored
	Identifier	Business Identifier for observation
	Reference(CarePlan| DeviceRequest| ImmunizationRecommendation|MedicationRequest| NutritionOrder| ServiceRequest)	Fulfills plan, proposal or order

	Reference(MedicationAdministration|MedicationDispense|MedicationStatement|Procedure|Immunization|ImagingStudy)	Part of referenced event
Y	code	registered | preliminary | final | amended +
Y	Slice Definition	Classification of type of observation **Slice**: Unordered, Open by pattern:$this
Y	CodeableConcept	Classification of type of observation
	string	Unique id for inter-element referencing
	Extension	Additional content defined by implementations
Y	Coding	Code defined by a terminology system
	string	Unique id for inter-element referencing

	Extension	Additional content defined by implementations
Y	uri	Identity of the terminology system Fixed Value: http://terminology.hl7.org/CodeSystem/observation-category
	string	Version of the system - if relevant
Y	code	Symbol in syntax defined by the system Fixed Value: laboratory
	string	Representation defined by the system
	boolean	If this coding was chosen directly by the user

	string	Plain text representation of the concept
Y	CodeableConcept	Laboratory Test Name
Y	Reference(US Core Patient Profile)	Who and/or what the observation is about
	Reference(Resource)	What the observation is about, when it is not about the subject of record
	Reference(Encounter)	Healthcare event during which this observation is made

Y	dateTime Period	Clinically relevant time/time-period for observation us-core-1: Datetime must be at least to day.
	instant	Date/Time this version was made available
	Reference(Practitioner| PractitionerRole|Organization| CareTeam|Patient| RelatedPerson)	Who is responsible for the observation
Y	Quantity CodeableConcept string boolean integer Range Ratio SampledData time dateTime Period	Result Value
Y	CodeableConcept	Why the result is missing
	CodeableConcept	High, low, normal, etc.
	Annotation	Comments about the observation
	CodeableConcept	Observed body part
	CodeableConcept	How it was done
	Reference(Specimen)	Specimen used for this observation

	Reference(Device|DeviceMetric)	(Measurement) Device
	BackboneElement	Provides guide for interpretation
	string	Unique id for inter-element referencing
	Extension	Additional content defined by implementations

	Extension	Extensions that cannot be ignored even if unrecognized
	SimpleQuantity	Low Range, if relevant
	SimpleQuantity	High Range, if relevant
	CodeableConcept	Reference range qualifier

	CodeableConcept	Reference range population
	Range	Applicable age range, if relevant
	string	Text based reference range in an observation
	Reference(Observation| QuestionnaireResponse| MolecularSequence)	Related resource that belongs to the Observation group
	Reference(DocumentReference|ImagingStudy|Media| QuestionnaireResponse| Observation| MolecularSequence)	Related measurements the observation is made from
	BackboneElement	Component results

	string	Unique id for inter-element referencing
	Extension	Additional content defined by implementations
	Extension	Extensions that cannot be ignored even if unrecognized
	CodeableConcept	Type of component observation (code / type)

	Quantity CodeableConcept string boolean integer Range Ratio SampledData time dateTime Period	Actual component result
	CodeableConcept	Why the component result is missing
	CodeableConcept	High, low, normal, etc.
		Provides guide for interpretation of component result

FHIR Definition	Binding Strength	Binding Description (Value Set Name)
This profile is created to meet the 2015 Edition Common Clinical Data Set 'Laboratory test(s) and Laboratory value(s)/result(s)' requirements.		
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.		
The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.		
A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.		
The base language in which the resource is written.	preferred	CommonLanguages
A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.		
These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.		

May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		
May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
A unique identifier assigned to this observation.		
A plan, proposal or order that is fulfilled in whole or in part by this event. For example, a MedicationRequest may require a patient to have laboratory test performed before it is dispensed.		

A larger event of which this particular Observation is a component or step. For example, an observation as part of a procedure.		
The status of the result value.	required	ObservationStatus
A code that classifies the general type of observation being made.	preferred	ObservationCategoryCodes
A code that classifies the general type of observation being made.	preferred	ObservationCategoryCodes
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		
A reference to a code defined by a terminology system.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		

May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		
The identification of the code system that defines the meaning of the symbol in the code.		
The version of the code system which was used when choosing this code. Note that a well-maintained code system does not need the version reported, because the meaning of codes is consistent across versions. However this cannot consistently be assured, and when the meaning is not guaranteed to be consistent, the version SHOULD be exchanged.		
A symbol in syntax defined by the system. The symbol may be a predefined code or an expression in a syntax defined by the coding system (e.g. post-coordination).		
A representation of the meaning of the code in the system, following the rules of the system.		
Indicates that this coding was chosen by a user directly - e.g. off a pick list of available items (codes or displays).		

A human language representation of the concept as seen/selected/uttered by the user who entered the data and/or which represents the intended meaning of the user.		
The test that was performed. A LOINC **SHALL** be used if the concept is present in LOINC.	extensible	LOINCCodes
The patient, or group of patients, location, or device this observation is about and into whose record the observation is placed. If the actual focus of the observation is different from the subject (or a sample of, part, or region of the subject), the `focus` element or the `code` itself specifies the actual focus of the observation.		
The actual focus of an observation when it is not the patient of record representing something or someone associated with the patient such as a spouse, parent, fetus, or donor. For example, fetus observations in a mother's record. The focus of an observation could also be an existing condition, an intervention, the subject's diet, another observation of the subject, or a body structure such as tumor or implanted device. An example use case would be using the Observation resource to capture whether the mother is trained to change her child's tracheostomy tube. In this example, the child is the patient of record and the mother is the focus.		
The healthcare event (e.g. a patient and healthcare provider interaction) during which this observation is made.		

For lab tests this is the specimen collection date. For Ask at Order Entry Questions (AOE)'s this is the date the question was asked.		
The date and time this version of the observation was made available to providers, typically after the results have been reviewed and verified.		
Who was responsible for asserting the observed value as "true".		
The Laboratory result value. If a coded value, the valueCodeableConcept.code **SHOULD** be selected from [SNOMED CT](http://hl7.org/fhir/ValueSet/uslab-obs-codedresults) if the concept exists. If a numeric value, valueQuantity.code **SHALL** be selected from [UCUM](http://unitsofmeasure.org). A FHIR [UCUM Codes value set](http://hl7.org/fhir/STU3/valueset-ucum-units.html) that defines all UCUM codes is in the FHIR specification.		
Provides a reason why the expected value in the element Observation.value[x] is missing.	extensible	DataAbsentReason
A categorical assessment of an observation value. For example, high, low, normal.	extensible	ObservationInterpretationCodes
Comments about the observation or the results.		
Indicates the site on the subject's body where the observation was made (i.e. the target site).	example	SNOMEDCTBodyStructures
Indicates the mechanism used to perform the observation.	extensible	ObservationMethods
The specimen that was used when this observation was made.		

The device used to generate the observation data.		
Guidance on how to interpret the value by comparison to a normal or recommended range. Multiple reference ranges are interpreted as an "OR". In other words, to represent two distinct target populations, two `referenceRange` elements would be used.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
The value of the low bound of the reference range. The low bound of the reference range endpoint is inclusive of the value (e.g. reference range is >=5 - <=9). If the low bound is omitted, it is assumed to be meaningless (e.g. reference range is <=2.3).		
The value of the high bound of the reference range. The high bound of the reference range endpoint is inclusive of the value (e.g. reference range is >=5 - <=9). If the high bound is omitted, it is assumed to be meaningless (e.g. reference range is >= 2.3).		
Codes to indicate the what part of the targeted reference population it applies to. For example, the normal or therapeutic range.	preferred	ObservationReferenceRangeMeaningCodes

Codes to indicate the target population this reference range applies to. For example, a reference range may be based on the normal population or a particular sex or race. Multiple `appliesTo` are interpreted as an "AND" of the target populations. For example, to represent a target population of African American females, both a code of female and a code for African American would be used.	example	ObservationReferenceRangeAppliesToCodes
The age at which this reference range is applicable. This is a neonatal age (e.g. number of weeks at term) if the meaning says so.		
Text based reference range in an observation which may be used when a quantitative range is not appropriate for an observation. An example would be a reference value of "Negative" or a list or table of "normals".		
This observation is a group observation (e.g. a battery, a panel of tests, a set of vital sign measurements) that includes the target as a member of the group.		
The target resource that represents a measurement from which this observation value is derived. For example, a calculated anion gap or a fetal measurement based on an ultrasound image.		
Some observations have multiple component observations. These component observations are expressed as separate code value pairs that share the same attributes. Examples include systolic and diastolic component observations for blood pressure measurement and multiple component observations for genetics observations.		

Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		
May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
Describes what was observed. Sometimes this is called the observation "code".	extensible	LOINCCodes

The information determined as a result of making the observation, if the information has a simple value.		
Provides a reason why the expected value in the element Observation.component.value[x] is missing.	extensible	DataAbsentReason
A categorical assessment of an observation value. For example, high, low, normal.	extensible	ObservationInterpretationCodes
Guidance on how to interpret the value by comparison to a normal or recommended range.		

Binding Value Set	ACH dQM
	MS [0..*]
	R [1..1]
	NRT
	NRT
https://hl7.org/fhir/R4/valueset-lan	NRT
	NRT
	NRT

	NRT
	NRT
	NRT
	NR

	NR
http://hl7.org/fhir/R4/ValueSet/obse	R [1..1]
https://hl7.org/fhir/R4/valueset-obs	R [1..*]
http://hl7.org/fhir/ValueSet/observa	R [1..1]
	NRT
	NRT
	NR
	NR

	NR
	NR
	NR
	NR
	NR
	NR

	NR
https://hl7.org/fhir/R4/valueset-obs	R [1..1]
	R [1..1]
	NR
	MS [0..1]

	R [1..1]
	MS [0..1]
	NR
	MS [0..1]
http://hl7.org/fhir/R4/ValueSet/data	MS [0..1]
https://hl7.org/fhir/R4/valueset-obs	MS [0..*]
	NR
https://hl7.org/fhir/R4/valueset-boo	MS [0..1]
https://hl7.org/fhir/R4/valueset-obs	MS [0..1]
	MS [0..1]

	NR
	NR
	NRT
	NRT

	NRT
	NR
	NR
https://hl7.org/fhir/R4/valueset-refe	NR

https://hl7.org/fhir/R4/valueset-refe	NR
	NR
	NR
	NR
	NR
	MS [0..*]

	NRT
	NRT
	NRT
http://hl7.org/fhir/R4/valueset-obse	R [1..1]

	MS [0..1]
http://hl7.org/fhir/R4/ValueSet/data	NR
https://hl7.org/fhir/R4/valueset-obs	MS [0..*]
	NR

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FHIR Path	Min	Max	Must Support
Location	0	*	
Location.id	0	1	Y
Location.meta	0	1	
Location.implicitRules	0	1	
Location.language	0	1	
Location.text	0	1	
Location.contained	0	*	
Location.extension	0	*	

Location.modifierExtension	0	*	
Location.identifier	0	*	
Location.status	0	1	Y
Location.operationalStatus	0	1	
Location.name	1	1	Y
Location.alias	0	*	

Location.description	0	1	
Location.mode	0	1	
Location.type	0	*	
Location.telecom	0	*	Y
Location.address	0	1	Y
Location.address.id	0	1	

Location.address.extension	0	*	
Location.address.use	0	1	
Location.address.type	0	1	
Location.address.text	0	1	
Location.address.line	0	*	Y
Location.address.city	0	1	Y
Location.address.district	0	1	
Location.address.state	0	1	Y
Location.address.postalCode	0	1	Y
Location.address.country	0	1	
Location.address.period	0	1	
Location.physicalType	0	1	
Location.position	0	1	

Location.position.id	0	1	
Location.position.extension	0	*	
Location.position.modifierExtension	0	*	
Location.position.longitude	1	1	
Location.position.latitude	1	1	
Location.position.altitude	0	1	
Location.managingOrganization	0	1	Y
Location.partOf	0	1	

Location.hoursOfOperation	0	*	
Location.hoursOfOperation.id	0	1	
Location.hoursOfOperation.extension	0	*	
Location.hoursOfOperation.modifierExtension	0	*	
Location.hoursOfOperation.daysOfWeek	0	*	
Location.hoursOfOperation.allDay	0	1	
Location.hoursOfOperation.openingTime	0	1	
Location.hoursOfOperation.closingTime	0	1	
Location.availabilityExceptions	0	1	
Location.endpoint	0	*	

Data Type(s)	FHIR Short Description
	Details and position information for a physical place
string	Logical id of this artifact
Meta	Metadata about the resource
uri	A set of rules under which this content was created
code	Language of the resource content
Narrative	Text summary of the resource, for human interpretation
Resource	Contained, inline Resources
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored
Identifier	Unique code or number identifying the location to its users
code	active | suspended | inactive
Coding	The operational status of the location (typically only for a bed/room)
string	Name of the location as used by humans
string	A list of alternate names that the location is known as, or was known as, in the past

string	Additional details about the location that could be displayed as further information to identify the location beyond its name
code	instance | kind
CodeableConcept	Type of function performed
ContactPoint	Contact details of the location
Address	Physical location
string	Unique id for inter-element referencing

Extension	Additional content defined by implementations
code	home | work | temp | old | billing - purpose of this address
code	postal | physical | both
string	Text representation of the address
string	Street name, number, direction & P.O. Box etc.
string	Name of city, town etc.
string	District name (aka county)
string	Sub-unit of country (abbreviations ok)
string	US Zip Codes
string	Country (e.g. can be ISO 3166 2 or 3 letter code)
Period	Time period when address was/is in use
CodeableConcept	Physical form of the location
BackboneElement	The absolute geographic location

string	Unique id for inter-element referencing
Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored even if unrecognized
decimal	Longitude with WGS84 datum
decimal	Latitude with WGS84 datum
decimal	Altitude with WGS84 datum
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-organization)	Organization responsible for provisioning and upkeep
Reference(Location)	Another Location this one is physically a part of

BackboneElement	What days/times during a week is this location usually open
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored even if unrecognized
code	mon | tue | wed | thu | fri | sat | sun
boolean	The Location is open all day
time	Time that the Location opens
time	Time that the Location closes
string	Description of availability exceptions
Reference(Endpoint)	Technical endpoints providing access to services operated for the location

FHIR Definition	Binding Strength
Details and position information for a physical place where services are provided and resources and participants may be stored, found, contained, or accommodated.	
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	
The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.	
A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	
The base language in which the resource is written.	preferred
A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	
These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.	
May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
Unique code or number identifying the location to its users.	
The status property covers the general availability of the resource, not the current value which may be covered by the operationStatus, or by a schedule/slots if they are configured for the location.	required
The operational status covers operation values most relevant to beds (but can also apply to rooms/units/chairs/etc. such as an isolation unit/dialysis chair). This typically covers concepts such as contamination, housekeeping, and other activities like maintenance.	preferred
Name of the location as used by humans. Does not need to be unique.	
A list of alternate names that the location is known as, or was known as, in the past.	

Description of the Location, which helps in finding or referencing the place.	
Indicates whether a resource instance represents a specific location or a class of locations.	required
Indicates the type of function performed at the location.	extensible
The contact details of communication devices available at the location. This can include phone numbers, fax numbers, mobile numbers, email addresses and web sites.	
Physical location.	
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	

May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
The purpose of this address.	required
Distinguishes between physical addresses (those you can visit) and mailing addresses (e.g. PO Boxes and care-of addresses). Most addresses are both.	required
Specifies the entire address as it should be displayed e.g. on a postal label. This may be provided instead of or as well as the specific parts.	
This component contains the house number, apartment number, street name, street direction, P.O. Box number, delivery hints, and similar address information.	
The name of the city, town, suburb, village or other community or delivery center.	
The name of the administrative area (county).	
Sub-unit of a country with limited sovereignty in a federally organized country. A code may be used if codes are in common use (e.g. US 2 letter state codes).	extensible
A postal code designating a region defined by the postal service.	
Country - a nation as commonly understood or generally accepted.	
Time period when address was/is in use.	
Physical form of the location, e.g. building, room, vehicle, road.	extensible
The absolute geographic location of the Location, expressed using the WGS84 datum (This is the same co-ordinate system used in KML).	

Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
Longitude. The value domain and the interpretation are the same as for the text of the longitude element in KML (see notes below).	
Latitude. The value domain and the interpretation are the same as for the text of the latitude element in KML (see notes below).	
Altitude. The value domain and the interpretation are the same as for the text of the altitude element in KML (see notes below).	
The organization responsible for the provisioning and upkeep of the location.	
Another Location of which this Location is physically a part of.	

What days/times during a week is this location usually open.	
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
Indicates which days of the week are available between the start and end Times.	required
The Location is open all day.	
Time that the Location opens.	
Time that the Location closes.	
A description of when the locations opening ours are different to normal, e.g. public holiday availability. Succinctly describing all possible exceptions to normal site availability as detailed in the opening hours Times.	
Technical endpoints providing access to services operated for the location.	

Binding Description	Binding Value Set	ACH dQM
		R [1..*]
		R [1..1]
		NRT
		NRT
CommonLanguages	https://hl7.org/fhir/R4/valu	NRT
		NRT
		NRT
		NRT

		NRT
		NRT
LocationStatus	https://hl7.org/fhir/R4/valu	MS [0..1]
hl7VS-bedStatus	http://terminology.hl7.org/	NR
		R [1..1]
		MS [0..*]

		NR
LocationMode	https://hl7.org/fhir/R4/valu	NR
ServiceDeliveryLocationRoleType	http://terminology.hl7.org/	R [1..*] **The following constraint is written into the CQL:** valueset "Inpatient, Emergency, and Observation Locations": 'http://cts.nlm.nih.gov/fhir/ValueSet/2.16.840.1.113762.1.4.1046.265'
		MS [0..*]
		MS [0..1]
		NRT

		NRT
AddressUse	https://hl7.org/fhir/R4/valu	MS [0..1]
AddressType	https://hl7.org/fhir/R4/valu	NR
		NR
		NR
		NR
		NR
USPS Two Letter Alphabetic Codes	https://hl7.org/fhir/us/core	NR
		NR
		NR
		NR
Physical form of the location.	https://hl7.org/fhir/R4/valu	MS [0..1]
		NR

		NRT
		NRT
		NRT
		NR
		NR
		NR
		NR
		MS [0..1]

		NR
		NRT
		NRT
		NRT
The days of the week.	https://hl7.org/fhir/R4/valu	NR
		NR
		NR
		NR
		NR
		NR

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FHIR Path	Min	Max	Must Support?
Medication	0	*	
Medication.id	0	1	
Medication.meta	0	1	
Medication.implicitRules	0	1	
Medication.language	0	1	

Medication.text	0	1	
Medication.contained	0	*	
Medication.extension	0	*	

Medication.modifierExtension	0	*	
Medication.identifier	0	*	
Medication.code	1	1	Y
Medication.status	0	1	

Medication.manufacturer	0	1	
Medication.form	0	1	
Medication.amount	0	1	
Medication.ingredient	0	*	
Medication.ingredient.id	0	1	
Medication.ingredient.extension	0	*	

Medication.ingredient.modifierExtension	0	*	
Medication.ingredient.item[x]	1	1	
Medication.ingredient.isActive	0	1	
Medication.ingredient.strength	0	1	

Medication.batch	0	1	
Medication.batch.id	0	1	
Medication.batch.extension	0	*	
Medication.batch.modifierExtension	0	*	
Medication.batch.lotNumber	0	1	
Medication.batch.expirationDate	0	1	

Data Type(s)	FHIR Short Description	FHIR Definition	Binding Strength
Medication	Definition of a Medication	The US Core Medication Profile is based upon the core FHIR Medication Resource and created to meet the 2015 Edition Common Clinical Data Set 'Medications' requirements.	
string	Logical id of this artifact	The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	
Meta	Metadata about the resource	The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.	
uri	A set of rules under which this content was created	A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	
code	Language of the resource content	The base language in which the resource is written. (ex English)	preferred

Narrative	Text summary of the resource, for human interpretation	A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	
Resource	Contained, inline Resources	These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.	
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

Extension	Extensions that cannot be ignored	May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
Identifier	Business identifier for this medication	Business identifier for this medication.	
CodeableConcept	Codes that identify this medication	A code (or set of codes) that specify this medication, or a textual description if no code is available. Usage note: This could be a standard medication code such as a code from RxNorm, SNOMED CT, IDMP etc. It could also be a national or local formulary code, optionally with translations to other code systems.	extensible
code	active | inactive | entered-in-error	A code to indicate if the medication is in active use.	required

Reference(Organization)	Manufacturer of the item	Describes the details of the manufacturer of the medication product. This is not intended to represent the distributor of a medication product.	
CodeableConcept	powder | tablets | capsule +	Describes the form of the item. Powder; tablets; capsule.	extensible
Ratio	Amount of drug in package	Specific amount of the drug in the packaged product. For example, when specifying a product that has the same strength (For example, Insulin glargine 100 unit per mL solution for injection), this attribute provides additional clarification of the package amount (For example, 3 mL, 10mL, etc.).	
BackboneElement	Active or inactive ingredient	Identifies a particular constituent of interest in the product.	
string	Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

Extension	Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
CodeableConcept Reference(Substance| Medication)	The actual ingredient or content	The actual ingredient - either a substance (simple ingredient) or another medication of a medication.	
boolean	Active ingredient indicator	Indication of whether this ingredient affects the therapeutic action of the drug.	
Ratio	Quantity of ingredient present	Specifies how many (or how much) of the items there are in this Medication. For example, 250 mg per tablet. This is expressed as a ratio where the numerator is 250mg and the denominator is 1 tablet.	

BackboneElement	Details about packaged medications	Information that only applies to packages (not products).	
string	Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
Extension	Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is	
string	Identifier assigned to batch	The assigned lot number of a batch of the specified product.	
dateTime	When batch will expire	When this specific batch of product will expire.	

Binding Description	Binding Value Set	ACH dQM
		MS [0..*]
		R [1..1]
		NRT
		NRT
CommonLanguages	https://hl7.org/fhir/R4/valueset-	NRT

		NRT
		NRT
		NRT

		NRT
		NRT
USCoreMedication Codes	http://hl7.org/fhir/us/core/STU3	R [1..1]
Medication Status Codes	https://hl7.org/fhir/R4/valueset-	MS [0..*]

		NR
4.0.1 SNOMEDCTFormCodes	https://hl7.org/fhir/R4/valueset-	MS [0..1]
		MS [0..1]
		MS [0..*]
		NRT
		NRT

		NRT
		R [1..1]
		NRT
		NR

		NR
		NRT
		NRT
		NRT
		NR
		NR

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FHIRPath	Min	Max
MedicationAdministration	0	*
MedicationAdministration.id	0	1
MedicationAdministration.meta	0	1
MedicationAdministration.implicitRules	0	1
MedicationAdministration.language	0	1

MedicationAdministration.text	0	1
MedicationAdministration.contained	0	*
MedicationAdministration.extension	0	*

MedicationAdministration.modifierExtension	0	*
MedicationAdministration.identifier	0	*
MedicationAdministration.instantiates	0	*

MedicationAdministration.partOf	0	*
MedicationAdministration.status	1	1
MedicationAdministration.statusReason	0	*
MedicationAdministration.category	0	1
MedicationAdministration.medication[x]	1	1
MedicationAdministration.subject	1	1
MedicationAdministration.context	0	1

MedicationAdministration.supportingInformation	0	*
MedicationAdministration.effective[x]	1	1
MedicationAdministration.performer	0	*
MedicationAdministration.performer.id	0	1
MedicationAdministration.performer.extension	0	*

MedicationAdministration.performer.modifierExtension	0	*
MedicationAdministration.performer.function	0	1
MedicationAdministration.performer.actor	1	1
MedicationAdministration.reasonCode	0	*
MedicationAdministration.reasonReference	0	*
MedicationAdministration.request	0	1

MedicationAdministration.device	0	*
MedicationAdministration.note	0	*
MedicationAdministration.dosage	0	1
MedicationAdministration.dosage.id	0	1
MedicationAdministration.dosage.extension	0	*

MedicationAdministration.dosage.modifierExtension	0	*
MedicationAdministration.dosage.text	0	1
MedicationAdministration.dosage.site	0	1

MedicationAdministration.dosage.route	0	1
MedicationAdministration.dosage.method	0	1
MedicationAdministration.dosage.dose	0	1
MedicationAdministration.dosage.rate[x]	0	1
MedicationAdministration.eventHistory	0	*

Data Type(s)	FHIR Short Description
	Administration of medication to a patient
id	Logical id of this artifact
Meta	Metadata about the resource
uri	A set of rules under which this content was created
code	Language of the resource content

Narrative	Text summary of the resource, for human interpretation
Resource	Contained, inline Resources
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored
Identifier	External identifier
uri	Instantiates protocol or definition

Reference(MedicationAdministration|Procedure)	Part of referenced event
code	in-progress | not-done | on-hold | completed | entered-in-error | stopped | unknown
CodeableConcept	Reason administration not performed
CodeableConcept	Type of medication usage
CodeableConcept Reference(Medication)	What was administered
Reference(Patient|Group)	Who received medication
Reference(Encounter|EpisodeOfCare)	Encounter or Episode of Care administered as part of

Reference(Any)	Additional information to support administration
dateTime Period	Start and end time of administration
BackboneElement	Who performed the medication administration and what they did
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
CodeableConcept	Type of performance
Reference(Practitioner|PractitionerRole|Patient|RelatedPerson|Device)	Who performed the medication administration
CodeableConcept	Reason administration performed
Reference(Condition|Observation|DiagnosticReport)	Condition or observation that supports why the medication was administered
Reference(MedicationRequest)	Request administration performed against

Reference(Device)	Device used to administer
Annotation	Information about the administration
BackboneElement	Details of how medication was taken + Rule: SHALL have at least one of dosage.dose or dosage.rate[x]
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
string	Free text dosage instructions e.g. SIG
CodeableConcept	Body site administered to

CodeableConcept	Path of substance into body
CodeableConcept	How drug was administered
SimpleQuantity	Amount of medication per dose
Ratio SimpleQuantity	Dose quantity per unit of time
Reference(Provenance)	A list of events of interest in the lifecycle

FHIR Definition	Binding Strength	Binding Description (Value Set Name)
Describes the event of a patient consuming or otherwise being administered a medication. This may be as simple as swallowing a tablet or it may be a long running infusion. Related resources tie this event to the authorizing prescription, and the specific encounter between patient and health care practitioner.		
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.		
The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.		
A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.		
The base language in which the resource is written.	preferred but limited to AllLanguages	CommonLanguages

A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.		
These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.		
May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		

May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
Identifiers associated with this Medication Administration that are defined by business processes and/or used to refer to it when a direct URL reference to the resource itself is not appropriate. They are business identifiers assigned to this resource by the performer or other systems and remain constant as the resource is updated and propagates from server to server.		
A protocol, guideline, orderset, or other definition that was adhered to in whole or in part by this event.		

A larger event of which this particular event is a component or step.		
Will generally be set to show that the administration has been completed. For some long running administrations such as infusions, it is possible for an administration to be started but not completed or it may be paused while some other process is under way.	required	MedicationAdministration Status Codes
A code indicating why the administration was not performed.	extensible	SNOMEDCTReasonMedicationNotGivenCodes
Indicates where the medication is expected to be consumed or administered.	extensible	MedicationAdministration Category Codes
Identifies the medication that was administered. This is either a link to a resource representing the details of the medication or a simple attribute carrying a code that identifies the medication from a known list of medications.	extensible	MedicationClinicalDrug (RxNorm code system)
The person or animal or group receiving the medication.		
The visit, admission, or other contact between patient and health care provider during which the medication administration was performed.		

Additional information (for example, patient height and weight) that supports the administration of the medication.		
A specific date/time or interval of time during which the administration took place (or did not take place, when the 'notGiven' attribute is true). For many administrations, such as swallowing a tablet the use of dateTime is more appropriate.		
Indicates who or what performed the medication administration and how they were involved.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
Distinguishes the type of involvement of the performer in the medication administration.	example	MedicationAdministration Performer Function Codes
Indicates who or what performed the medication administration.		
A code indicating why the medication was given.	example	ReasonMedicationGivenCodes
Condition or observation that supports why the medication was administered.		
The original request, instruction or authority to perform the administration.		

The device used in administering the medication to the patient. For example, a particular infusion pump.		
Extra information about the medication administration that is not conveyed by the other attributes.		
Describes the medication dosage information details e.g. dose, rate, site, route, etc.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
Free text dosage can be used for cases where the dosage administered is too complex to code. When coded dosage is present, the free text dosage may still be present for display to humans._x000D__x000D_The dosage instructions should reflect the dosage of the medication that was administered.		
A coded specification of the anatomic site where the medication first entered the body. For example, "left arm".	example	SNOMEDCTAnatomicalStructureForAdministrationSiteCodes

A code specifying the route or physiological path of administration of a therapeutic agent into or onto the patient. For example, topical, intravenous, etc.	extensible	SNOMEDCTRouteCodes
A coded value indicating the method by which the medication is intended to be or was introduced into or on the body. This attribute will most often NOT be populated. It is most commonly used for injections. For example, Slow Push, Deep IV.	example	SNOMEDCTAdministrationMethodCodes
The amount of the medication given at one administration event. Use this value when the administration is essentially an instantaneous event such as a swallowing a tablet or giving an injection.		
Identifies the speed with which the medication was or will be introduced into the patient. Typically, the rate for an infusion e.g. 100 ml per 1 hour or 100 ml/hr. May also be expressed as a rate per unit of time, e.g. 500 ml per 2 hours. Other examples: 200 mcg/min or 200 mcg/1 minute; 1 liter/8 hours.		
A summary of the events of interest that have occurred, such as when the administration was verified.		

Binding Value Set	ACH dQM
	MS [0..*]
	R [1..1]
	NRT
	NRT
https://hl7.org/fhir/R4/values	NRT

	NRT
	NRT
	NRT

	NRT
	NRT
	NR

	NR
https://hl7.org/fhir/R4/values	R [1..1]
https://hl7.org/fhir/R4/values	MS [0..*]
https://hl7.org/fhir/R4/values	MS [0..*]
https://vsac.nlm.nih.gov/valu	R [1..1]
	R [1..1]
	MS [0..1]

	NR
	R [1..1]
	NR
	NRT
	NRT

	NRT
https://hl7.org/fhir/R4/values	NR
	NR
https://hl7.org/fhir/R4/values	MS [0..*]
	MS [0..*]
	MS [0..1]

	NR
	NR
	R [1..1]
	NRT
	NRT

	NRT
	NR
https://hl7.org/fhir/R4/values	NR

https://hl7.org/fhir/R4/values(	R [1..1]
https://hl7.org/fhir/R4/values(	MS [0..1]
	R [1..1]
	NR
	NR

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FHIR Path	Min	Max	Must Support?
MedicationRequest	0	*	
MedicationRequest.id	0	1	
MedicationRequest.meta	0	1	
MedicationRequest.implicitRules	0	1	

MedicationRequest.language	0	1	
MedicationRequest.text	0	1	
MedicationRequest.contained	0	*	

MedicationRequest.extension	0	*	
MedicationRequest.modifierExtension	0	*	

MedicationRequest.identifier	0	*	
MedicationRequest.status	1	1	Y
MedicationRequest.statusReason	0	1	
MedicationRequest.intent	1	1	Y

MedicationRequest.category	0	*	
MedicationRequest.priority	0	1	
MedicationRequest.doNotPerform	0	1	
MedicationRequest.reported[x]	0	1	Y
MedicationRequest.medication[x]	1	1	Y
MedicationRequest.subject	1	1	Y

MedicationRequest.encounter	0	1	Y
MedicationRequest.supportingInformation	0	*	
MedicationRequest.authoredOn	1	1	Y
MedicationRequest.requester	1	1	Y
MedicationRequest.performer	0	1	
MedicationRequest.performerType	0	1	
MedicationRequest.recorder	0	1	
MedicationRequest.reasonCode	0	*	
MedicationRequest.reasonReference	0	*	

MedicationRequest.instantiatesCanonical	0	*	
MedicationRequest.instantiatesUri	0	*	
MedicationRequest.basedOn	0	*	
MedicationRequest.groupIdentifier	0	1	
MedicationRequest.courseOfTherapyType	0	1	
MedicationRequest.insurance	0	*	
MedicationRequest.note	0	*	

MedicationRequest.dosageInstruction	0	*	Y
MedicationRequest.dosageInstruction.id	0	1	
MedicationRequest.dosageInstruction.extension	0	*	

MedicationRequest.dosageInstruction.modifierExtension	0	*	
MedicationRequest.dosageInstruction.sequence	0	1	
MedicationRequest.dosageInstruction.text	0	1	Y
MedicationRequest.dosageInstruction.additionalInstruction	0	*	
MedicationRequest.dosageInstruction.patientInstruction	0	1	

MedicationRequest.dosageInstruction.timing	0	1	
MedicationRequest.dosageInstruction.asNeeded[x]	0	1	
MedicationRequest.dosageInstruction.site	0	1	
MedicationRequest.dosageInstruction.route	0	1	
MedicationRequest.dosageInstruction.method	0	1	
MedicationRequest.dosageInstruction.doseAndRate	0	*	

MedicationRequest.dosageInstruction.doseAndRate.id	0	1	
MedicationRequest.dosageInstruction.doseAndRate.extension	0	*	
MedicationRequest.dosageInstruction.doseAndRate.type	0	1	

MedicationRequest.dosageInstruction.doseAndRate.dose[x]	0	1	

MedicationRequest.dosageInstruction.doseAndRate.rate[x]	0	1	
MedicationRequest.dosageInstruction.maxDosePerPeriod	0	1	
MedicationRequest.dosageInstruction.maxDosePerAdministration	0	1	
MedicationRequest.dosageInstruction.maxDosePerLifetime	0	1	

MedicationRequest.dispenseRequest	0	1	
MedicationRequest.dispenseRequest.id	0	1	
MedicationRequest.dispenseRequest.extension	0	*	

MedicationRequest.dispenseRequest.modifierExtension	0	*	
MedicationRequest.dispenseRequest.initialFill	0	1	
MedicationRequest.dispenseRequest.initialFill.id	0	1	

MedicationRequest.dispenseRequest.initialFill.extension	0	*	
MedicationRequest.dispenseRequest.initialFill.modifierExtension	0	*	
MedicationRequest.dispenseRequest.initialFill.quantity	0	1	
MedicationRequest.dispenseRequest.initialFill.duration	0	1	

MedicationRequest.dispenseRequest.dispenseInterval	0	1	
MedicationRequest.dispenseRequest.validityPeriod	0	1	
MedicationRequest.dispenseRequest.numberOfRepeatsAllowed	0	1	
MedicationRequest.dispenseRequest.quantity	0	1	

MedicationRequest.dispenseRequest.expectedSupplyDuration	0	1	
MedicationRequest.dispenseRequest.performer	0	1	
MedicationRequest.substitution	0	1	
MedicationRequest.substitution.id	0	1	
MedicationRequest.substitution.extension	0	*	

MedicationRequest.substitution.modifierExtension	0	*	
MedicationRequest.substitution.allowed[x]	1	1	
MedicationRequest.substitution.reason	0	1	
MedicationRequest.priorPrescription	0	1	

MedicationRequest.detectedIssue	0	*	
MedicationRequest.eventHistory	0	*	

Data Type(s)	FHIR Short Description
	Ordering of medication for patient or group
string	Logical id of this artifact
Meta	Metadata about the resource
uri	A set of rules under which this content was created

code	Language of the resource content
Narrative	Text summary of the resource, for human interpretation
Resource	Contained, inline Resources

Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored

Identifier	External ids for this request
code	active | on-hold | cancelled | completed | entered-in-error | stopped | draft | unknown
CodeableConcept	Reason for current status+F14
code	proposal | plan | order | original-order | reflex-order | filler-order | instance-order | option

CodeableConcept	Type of medication usage
code	routine | urgent | asap | stat
boolean	True if request is prohibiting action
boolean Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-practitioner|http://hl7.org/fhir/us/core/StructureDefinition/us-core-organization|http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient|http://hl7.org/fhir/us/core/StructureDefinition/us-core-practitionerrole|http://hl7.org/fhir/us/core/StructureDefinition/us-core-relatedperson)	Reported rather than primary record
CodeableConcept Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-medication)	Medication to be taken
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)	Who or group medication request is for

Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-encounter)	Encounter created as part of encounter/admission/stay
Reference(Resource)	Information to support ordering of the medication
dateTime	When request was initially authored
Reference(US Core Practitioner Profile | US Core Organization Profile | US Core Patient Profile)	Who/What requested the Request
Reference(Practitioner|PractitionerRole|Organization|Patient|Device|RelatedPerson|CareTeam)	Intended performer of administration
CodeableConcept	Desired kind of performer of the medication administration
Reference(Practitioner|PractitionerRole)	Person who entered the request
CodeableConcept	Reason or indication for ordering or not ordering the medication
Reference(Condition|Observation)	Condition or observation that supports why the prescription is being written

canonical	Instantiates FHIR protocol or definition
uri	Instantiates external protocol or definition
Reference(CarePlan| MedicationRequest| ServiceRequest| ImmunizationRecommendation)	What request fulfills
Identifier	Composite request this is part of
CodeableConcept	Overall pattern of medication administration
Reference(Coverage| ClaimResponse)	Associated insurance coverage
Annotation	Information about the prescription

Dosage	How the medication should be taken
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
integer	The order of the dosage instructions
string	Free text dosage instructions e.g. SIG
CodeableConcept	Supplemental instruction or warnings to the patient - e.g. "with meals", "may cause drowsiness"
string	Patient or consumer oriented instructions

Timing	When medication should be administered
boolean CodeableConcept	Take "as needed" (for x)
CodeableConcept	Body site to administer to
CodeableConcept	How drug should enter body
CodeableConcept	Technique for administering medication
Element	Amount of medication administered

string	Unique id for inter-element referencing
Extension	Additional content defined by implementations
CodeableConcept	The kind of dose or rate specified

Range Quantity {SimpleQuantity}	Amount of medication per dose

Ratio RangeQuantity {SimpleQuantity}	Amount of medication per unit of time
Ratio	Upper limit on medication per unit of time
Quantity {SimpleQuantity}	Upper limit on medication per administration
Quantity {SimpleQuantity}	Upper limit on medication per lifetime of the patient

BackboneElement	Medication supply authorization
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
BackboneElement	First fill details
string	Unique id for inter-element referencing

Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored even if unrecognized
Quantity {SimpleQuantity}	First fill quantity
Duration	First fill duration

Duration	Minimum period of time between dispenses
Period	Time period supply is authorized for
unsignedInt	Number of refills authorized
Quantity {SimpleQuantity}	Amount of medication to supply per dispense

Duration	Number of days supply per dispense
Reference(Organization)	Intended dispenser
BackboneElement	Any restrictions on medication substitution
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
boolean CodeableConcept	Whether substitution is allowed or not
CodeableConcept	Why should (not) substitution be made
Reference(MedicationRequest)	An order/prescription that is being replaced

Reference(DetectedIssue)	Clinical Issue with action
Reference(Provenance)	A list of events of interest in the lifecycle

FHIR Definition	Comments	Binding Strength
The US Core Medication Request (Order) Profile is based upon the core FHIR MedicationRequest Resource and created to meet the 2015 Edition Common Clinical Data Set 'Medications' requirements.		
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	The only time that a resource does not have an id is when it is being submitted to the server using a create operation.	
The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.		
A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	Asserting this rule set restricts the content to be only understood by a limited set of trading partners. This inherently limits the usefulness of the data in the long term. However, the existing health eco-system is highly fractured, and not yet ready to define, collect, and exchange data in a generally computable sense. Wherever possible, implementers and/or specification writers should avoid using this element. Often, when used, the URL is a reference to an implementation guide that defines these special rules as part of it's narrative along with other profiles, value sets, etc.	

The base language in which the resource is written.	Language is provided to support indexing and accessibility (typically, services such as text to speech use the language tag). The html language tag in the narrative applies to the narrative. The language tag on the resource may be used to specify the language of other presentations generated from the data in the resource. Not all the content has to be in the base language. The Resource.language should not be assumed to apply to the narrative automatically. If a language is specified, it should it also be specified on the div element in the html (see rules in HTML5 for information about the relationship between xml:lang and the html lang attribute).	preferred
A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	Contained resources do not have narrative. Resources that are not contained SHOULD have a narrative. In some cases, a resource may only have text with little or no additional discrete data (as long as all minOccurs=1 elements are satisfied). This may be necessary for data from legacy systems where information is captured as a "text blob" or where text is additionally entered raw or narrated and encoded information is added later.	
These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.	This should never be done when the content can be identified properly, as once identification is lost, it is extremely difficult (and context dependent) to restore it again. Contained resources may have profiles and tags In their meta elements, but SHALL NOT have security labels.	

May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	
May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	

Identifiers associated with this medication request that are defined by business processes and/or used to refer to it when a direct URL reference to the resource itself is not appropriate. They are business identifiers assigned to this resource by the performer or other systems and remain constant as the resource is updated and propagates from server to server.	This is a business identifier, not a resource identifier.	
A code specifying the current state of the order. Generally, this will be active or completed state.	This element is labeled as a modifier because the status contains codes that mark the resource as not currently valid.	required
Captures the reason for the current state of the MedicationRequest.	This is generally only used for "exception" statuses such as "suspended" or "cancelled". The reason why the MedicationRequest was created at all is captured in reasonCode, not here.	extensible
Whether the request is a proposal, plan, or an original order.	It is expected that the type of requester will be restricted for different stages of a MedicationRequest. For example, Proposals can be created by a patient, relatedPerson, Practitioner or Device. Plans can be created by Practitioners, Patients, RelatedPersons and Devices. Original orders can be created by a Practitioner only. An instance-order is an instantiation of a request or order and may be used to populate Medication Administration Record. This element is labeled as a modifier because the intent alters when and how the resource is actually applicable.	required

Indicates the type of medication request (for example, where the medication is expected to be consumed or administered (i.e. inpatient or outpatient)).	The category can be used to include where the medication is expected to be consumed or other types of requests.	extensible
Indicates how quickly the Medication Request should be addressed with respect to other requests.		required
If true indicates that the provider is asking for the medication request not to occur.	If do not perform is not specified, the request is a positive request e.g. "do perform".	
Indicates if this record was captured as a secondary 'reported' record rather than as an original primary source-of-truth record. It may also indicate the source of the report.		
Identifies the medication being requested. This is a link to a resource that represents the medication which may be the details of the medication or simply an attribute carrying a code that identifies the medication from a known list of medications.	If only a code is specified, then it needs to be a code for a specific product. If more information is required, then the use of the Medication resource is recommended. For example, if you require form or lot number or if the medication is compounded or extemporaneously prepared, then you must reference the Medication resource.	extensible
A link to a resource representing the person or set of individuals to whom the medication will be given.	The subject on a medication request is mandatory. For the secondary use case where the actual subject is not provided, there still must be an anonymized subject specified.	

The Encounter during which this [x] was created or to which the creation of this record is tightly associated.	This will typically be the encounter the event occurred within, but some activities may be initiated prior to or after the official completion of an encounter but still be tied to the context of the encounter." If there is a need to link to episodes of care they will be handled with an extension.	
Include additional information (for example, patient height and weight) that supports the ordering of the medication.		
The date (and perhaps time) when the prescription was initially written or authored on.		
The individual, organization, or device that initiated the request and has responsibility for its activation.		
The specified desired performer of the medication treatment (e.g. the performer of the medication administration).		
Indicates the type of performer of the administration of the medication.	If specified without indicating a performer, this indicates that the performer must be of the specified type. If specified with a performer then it indicates the requirements of the performer if the designated performer is not available.	example
The person who entered the order on behalf of another individual for example in the case of a verbal or a telephone order.		
The reason or the indication for ordering or not ordering the medication.	This could be a diagnosis code. If a full condition record exists or additional detail is needed, use reasonReference.	example
Condition or observation that supports why the medication was ordered.	This is a reference to a condition or observation that is the reason for the medication order. If only a code exists, use reasonCode.	

The URL pointing to a protocol, guideline, orderset, or other definition that is adhered to in whole or in part by this MedicationRequest.	can include a version number (FHIR based)	
The URL pointing to an **externally** maintained protocol, guideline, orderset or other definition that is adhered to in whole or in part by this MedicationRequest.		
A plan or request that is fulfilled in whole or in part by this medication request.		
A shared identifier common to all requests that were authorized more or less simultaneously by a single author, representing the identifier of the requisition or prescription.		
The description of the overall pattern of the administration of the medication to the patient.	This attribute should not be confused with the protocol of the medication.	example
Insurance plans, coverage extensions, pre-authorizations and/or pre-determinations that may be required for delivering the requested service.		
Extra information about the prescription that could not be conveyed by the other attributes.		

Indicates how the medication is to be used by the patient.	There are examples where a medication request may include the option of an oral dose or an Intravenous or Intramuscular dose. For example, "Ondansetron 8mg orally or IV twice a day as needed for nausea" or "Compazine® (prochlorperazine) 5-10mg PO or 25mg PR bid prn nausea or vomiting". In these cases, two medication requests would be created that could be grouped together. The decision on which dose and route of administration to use is based on the patient's condition at the time the dose is needed.	
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	
Indicates the order in which the dosage instructions should be applied or interpreted.		
Free text dosage instructions e.g. SIG.		
Supplemental instructions to the patient on how to take the medication (e.g. "with meals" or"take half to one hour before food") or warnings for the patient about the medication (e.g. "may cause drowsiness" or "avoid exposure of skin to direct sunlight or sunlamps").	Information about administration or preparation of the medication (e.g. "infuse as rapidly as possibly via intraperitoneal port" or "immediately following drug x") should be populated in dosage.text.	example
Instructions in terms that are understood by the patient or consumer.		

When medication should be administered.	This attribute might not always be populated while the Dosage.text is expected to be populated. If both are populated, then the Dosage.text should reflect the content of the Dosage.timing.	
Indicates whether the Medication is only taken when needed within a specific dosing schedule (Boolean option), or it indicates the precondition for taking the Medication (CodeableConcept).	Can express "as needed" without a reason by setting the Boolean = True. In this case the CodeableConcept is not populated. Or you can express "as needed" with a reason by including the CodeableConcept. In this case the Boolean is assumed to be True. If you set the Boolean to False, then the dose is given according to the schedule and is not "prn" or "as needed".	example
Body site to administer to.	If the use case requires attributes from the BodySite resource (e.g. to identify and track separately) then use the standard extension [bodySite](http://hl7.org/fhir/R4/extension-bodysite.html). May be a summary code, or a reference to a very precise definition of the location, or both.	example
How drug should enter body.		extensible
Technique for administering medication.	Terminologies used often pre-coordinate this term with the route and or form of administration.	example
The amount of medication administered.		

Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	
The kind of dose or rate specified, for example, ordered or calculated.		example

Amount of medication per dose.	Note that this specifies the quantity of the specified medication, not the quantity for each active ingredient(s). Each ingredient amount can be communicated in the Medication resource. For example, if one wants to communicate that a tablet was 375 mg, where the dose was one tablet, you can use the Medication resource to document that the tablet was comprised of 375 mg of drug XYZ. Alternatively if the dose was 375 mg, then you may only need to use the Medication resource to indicate this was a tablet. If the example were an IV such as dopamine and you wanted to communicate that 400mg of dopamine was mixed in 500 ml of some IV solution, then this would all be communicated in the Medication resource. If the administration is not intended to be instantaneous (rate is present or timing has a duration), this can be specified to convey the total amount to be administered over the period of time as indicated by the schedule e.g. 500 ml in dose, with timing used to convey that this should be done over 4 hours.	

Amount of medication per unit of time.	It is possible to supply both a rate and a doseQuantity to provide full details about how the medication is to be administered and supplied. If the rate is intended to change over time, depending on local rules/regulations, each change should be captured as a new version of the MedicationRequest with an updated rate, or captured with a new MedicationRequest with the new rate._x000D__x000D_It is possible to specify a rate over time (for example, 100 ml/hour) using either the rateRatio and rateQuantity. The rateQuantity approach requires systems to have the capability to parse UCUM grammer where ml/hour is included rather than a specific ratio where the time is specified as the denominator. Where a rate such as 500ml over 2 hours is specified, the use of rateRatio may be more semantically correct than specifying using a rateQuantity of 250 mg/hour.	
Upper limit on medication per unit of time.	This is intended for use as an adjunct to the dosage when there is an upper cap. For example "2 tablets every 4 hours to a maximum of 8/day".	
Upper limit on medication per administration.	This is intended for use as an adjunct to the dosage when there is an upper cap. For example, a body surface area related dose with a maximum amount, such as 1.5 mg/m2 (maximum 2 mg) IV over 5 – 10 minutes would have doseQuantity of 1.5 mg/m2 and maxDosePerAdministration of 2 mg.	
Upper limit on medication per lifetime of the patient.		

Indicates the specific details for the dispense or medication supply part of a medication request (also known as a Medication Prescription or Medication Order). Note that this information is not always sent with the order. There may be in some settings (e.g. hospitals) institutional or system support for completing the dispense details in the pharmacy department.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	

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Indicates the quantity or duration for the first dispense of the medication.	If populating this element, either the quantity or the duration must be included.	
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		

May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	
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The amount or quantity to provide as part of the first dispense.		
The length of time that the first dispense is expected to last.		

The minimum period of time that must occur between dispenses of the medication.		
This indicates the validity period of a prescription (stale dating the Prescription).	It reflects the prescribers' perspective for the validity of the prescription. Dispenses must not be made against the prescription outside of this period. The lower-bound of the Dispensing Window signifies the earliest date that the prescription can be filled for the first time. If an upper-bound is not specified then the Prescription is open-ended or will default to a stale-date based on regulations.	
An integer indicating the number of times, in addition to the original dispense, (aka refills or repeats) that the patient can receive the prescribed medication. Usage Notes: This integer does not include the original order dispense. This means that if an order indicates dispense 30 tablets plus "3 repeats", then the order can be dispensed a total of 4 times and the patient can receive a total of 120 tablets. A prescriber may explicitly say that zero refills are permitted after the initial dispense.	If displaying "number of authorized fills", add 1 to this number.	
The amount that is to be dispensed for one fill.		

Identifies the period time over which the supplied product is expected to be used, or the length of time the dispense is expected to last.	In some situations, this attribute may be used instead of quantity to identify the amount supplied by how long it is expected to last, rather than the physical quantity issued, e.g. 90 days supply of medication (based on an ordered dosage). When possible, it is always better to specify quantity, as this tends to be more precise. expectedSupplyDuration will always be an estimate that can be influenced by external factors.	
Indicates the intended dispensing Organization specified by the prescriber.		
Indicates whether or not substitution can or should be part of the dispense. In some cases, substitution must happen, in other cases substitution must not happen. This block explains the prescriber's intent. If nothing is specified substitution may be done.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	

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True if the prescriber allows a different drug to be dispensed from what was prescribed.	This element is labeled as a modifier because whether substitution is allow or not, it cannot be ignored.	example
Indicates the reason for the substitution, or why substitution must or must not be performed.		example
A link to a resource representing an earlier order related order or prescription.		Y

Indicates an actual or potential clinical issue with or between one or more active or proposed clinical actions for a patient; e.g. Drug-drug interaction, duplicate therapy, dosage alert etc.	This element can include a detected issue that has been identified either by a decision support system or by a clinician and may include information on the steps that were taken to address the issue.	Y
Links to Provenance records for past versions of this resource or fulfilling request or event resources that identify key state transitions or updates that are likely to be relevant to a user looking at the current version of the resource.	This might not include provenances for all versions of the request – only those deemed “relevant” or important. This SHALL NOT include the provenance associated with this current version of the resource. (If that provenance is deemed to be a “relevant” change, it will need to be added as part of a later update. Until then, it can be queried directly as the provenance that points to this version using _revinclude All Provenances should have some historical version of this Request as their subject.).	Y

Binding Description	Binding Value Set	ACH dQM
		MS [0..*]
		R [1..1]
		NRT
		NRT

CommonLanguages	https://hl7.org/fhir/R	NRT
		NRT
		NRT

		NRT
		NRT

		NRT
medicationrequest Status	https://hl7.org/fhir/R	R [1..1]
medicationRequest Status Reason Codes	https://hl7.org/fhir/R	MS[0..1]
medicationRequest Intent	https://hl7.org/fhir/R	R [1..1]

medicationRequest Category Codes	https://hl7.org/fhir/R	MS [0..*]
RequestPriority	https://hl7.org/fhir/R	MS [0..1]
		MS [0..1]
		MS [0..1]
US Core Medication Codes (RxNorm)	http://cts.nlm.nih.go	R [1..1]
		R [1..1]

		MS [0..1]
		NRT
		R [1..1]
		NR
		NRT
Procedure Performer Role Codes	https://hl7.org/fhir/F	NRT
		NR
Condition/ Problem/Diagnosis Codes	https://hl7.org/fhir/F	MS [0..*]
		MS [0..*]

		MS [0..*]
		MS [0..*]
		NRT
		NRT
Medication request course of therapy codes	http://hl7.org/fhir/R4	MS[0..1]
		NRT
		NRT

		MS [0..*]
		NRT
		NRT

		NRT
		NRT
		MS [0..1]
A coded concept identifying additional instructions such as "take with water" or "avoid operating heavy machinery".	http://hl7.org/fhir/R4	NRT
		NR

		MS [0..1]
A coded concept identifying the precondition that should be met or evaluated prior to consuming or administering a medication dose. For example "pain", "30 minutes prior to sexual intercourse", "on flare-up" etc.	https://hl7.org/fhir/F	MS [0..1]
A coded concept describing the site location the medicine enters into or onto the body.	https://hl7.org/fhir/F	MS [0..1]
A coded concept describing the route or physiological path of administration of a therapeutic agent into or onto the body of a subject.	http://hl7.org/fhir/R4	R [1..1]
A coded concept describing the technique by which the medicine is administered.	http://hl7.org/fhir/R4	MS [0..1]
		MS [0..*]

		NRT
		NRT
The kind of dose or rate specified.	http://hl7.org/fhir/R4	MS [0..1]

		MS [0..1]

		MS [0..1]
		NRT
		NRT
		NRT

		NRT
		NRT
		NRT

		NRT
		NRT
		NRT

		NRT
		NRT
		NRT
		NRT

		NRT
		NRT
		NRT
		NRT

		NRT
		NRT
		NRT
		NRT
		NRT

		NRT
ActSubstanceAdminSubstitutionCode	https://terminology.	NRT
SubstanceAdminSubstitutionReason	http://terminology.h	NRT
		NRT

		NRT
		NRT

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FHIR Path	Min	Max	Data Type(s)
Observation	0	*	DomainResource
Observation.id	0	1	id
Observation.meta	0	1	Meta
Observation.implicitRules	0	1	uri
Observation.language	0	1	code
Observation.text	0	1	Narrative

Observation.contained	0	*	Resource
Observation.extension	0	*	Extension

Observation.modifierExtension	0	*	Extension
Observation.identifier	0	*	Identifier
Observation.basedOn	0	*	Reference(CarePlan| DeviceRequest| ImmunizationRecommendation|MedicationRequest| NutritionOrder| ServiceRequest)
Observation.partOf	0	*	Reference(MedicationAdministration| MedicationDispense| MedicationStatement| Procedure|Immunization| ImagingStudy)
Observation.status	1	1	code

Observation.category	0	*	CodeableConcept
Observation.code	1	1	CodeableConcept
Observation.subject	0	1	Reference(Patient | Group | Device | Location)

Observation.focus	0	*	Reference(Any)
Observation.encounter	0	1	Reference(Encounter)
Observation.effective[x]	0	1	dateTime Period Timing Instant
Observation.issued	0	1	instant

Observation.performer	0	*	Reference(Practitioner| PractitionerRole| Organization|CareTeam| Patient|RelatedPerson)
Observation.value[x]	0	1	Quantity CodeableConcept string boolean integer Range Ratio SampledData time dateTime Period
Observation.dataAbsentReason	0	1	CodeableConcept
Observation.interpretation	0	*	CodeableConcept
Observation.note	0	*	Annotation
Observation.bodySite	0	1	CodeableConcept
Observation.method	0	1	CodeableConcept
Observation.specimen	0	1	Reference(Specimen)
Observation.device	0	1	Reference(Device| DeviceMetric)

Observation.referenceRange	0	*	BackboneElement
Observation.referenceRange.id	0	1	string
Observation.referenceRange.extension	0	*	Extension

Observation.referenceRange.modifierExtension	0	*	Extension
Observation.referenceRange.low	0	1	SimpleQuantity
Observation.referenceRange.high	0	1	SimpleQuantity

Observation.referenceRange.type	0	1	CodeableConcept
Observation.referenceRange.appliesTo	0	*	CodeableConcept
Observation.referenceRange.age	0	1	Range
Observation.referenceRange.text	0	1	string
Observation.hasMember	0	*	Reference(Observation| QuestionnaireResponse| MolecularSequence)

Observation.derivedFrom	0	*	Reference(DocumentReference|ImagingStudy|Media|QuestionnaireResponse|Observation|MolecularSequence)
Observation.component	0	*	BackboneElement
Observation.component.id	0	1	string
Observation.component.extension	0	*	Extension

Observation.component.modifierExtension	0	*	Extension
Observation.component.code	1	1	CodeableConcept
Observation.component.value[x]	0	1	Quantity CodeableConcept string boolean integer Range Ratio SampledData time dateTime Period
Observation.component.dataAbsentReason	0	1	CodeableConcept

Observation.component.interpretation	0	*	CodeableConcept
Observation.component.referenceRange	0	*	

FHIR Short Description	FHIR Definition
Measurements and simple assertions	Measurements and simple assertions made about a patient, device or other subject.
Logical id of this artifact	The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.
Metadata about the resource	The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.
A set of rules under which this content was created	A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.
Language of the resource content	The base language in which the resource is written.
Text summary of the resource, for human interpretation	A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.

Contained, inline Resources	These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.

Extensions that cannot be ignored	May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).
Business Identifier for observation	A unique identifier assigned to this observation.
Fulfills plan, proposal or order	A plan, proposal or order that is fulfilled in whole or in part by this event. For example, a MedicationRequest may require a patient to have laboratory test performed before it is dispensed.
Part of referenced event	A larger event of which this particular Observation is a component or step. For example, an observation as part of a procedure.
registered | preliminary | final | amended +	The status of the result value.

Classification of type of observation	A code that classifies the general type of observation being made.
Type of observation (code / type)	Describes what was observed. Sometimes this is called the observation "name".
Who and/or what the observation is about	The patient, or group of patients, location, or device this observation is about and into whose record the observation is placed. If the actual focus of the observation is different from the subject (or a sample of, part, or region of the subject), the `focus` element or the `code` itself specifies the actual focus of the observation.

What the observation is about, when it is not about the subject of record	The actual focus of an observation when it is not the patient of record representing something or someone associated with the patient such as a spouse, parent, fetus, or donor. For example, fetus observations in a mother's record. The focus of an observation could also be an existing condition, an intervention, the subject's diet, another observation of the subject, or a body structure such as tumor or implanted device. An example use case would be using the Observation resource to capture whether the mother is trained to change her child's tracheostomy tube. In this example, the child is the patient of record and the mother is the focus.
Healthcare event during which this observation is made	The healthcare event (e.g. a patient and healthcare provider interaction) during which this observation is made.
Clinically relevant time/time-period for observation	The time or time-period the observed value is asserted as being true. For biological subjects - e.g. human patients - this is usually called the "physiologically relevant time". This is usually either the time of the procedure or of specimen collection, but very often the source of the date/time is not known, only the date/time itself.
Date/Time this version was made available	The date and time this version of the observation was made available to providers, typically after the results have been reviewed and verified.

Who is responsible for the observation	Who was responsible for asserting the observed value as "true".
Actual result	The information determined as a result of making the observation, if the information has a simple value.
Why the result is missing	Provides a reason why the expected value in the element Observation.value[x] is missing.
High, low, normal, etc.	A categorical assessment of an observation value. For example, high, low, normal.
Comments about the observation	Comments about the observation or the results.
Observed body part	Indicates the site on the subject's body where the observation was made (i.e. the target site).
How it was done	Indicates the mechanism used to perform the observation.
Specimen used for this observation	The specimen that was used when this observation was made.
(Measurement) Device	The device used to generate the observation data.

Provides guide for interpretation *+ Rule: Must have at least a low or a high or text*	Guidance on how to interpret the value by comparison to a normal or recommended range. Multiple reference ranges are interpreted as an "OR". In other words, to represent two distinct target populations, two `referenceRange` elements would be used.
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.

Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).
Low Range, if relevant	The value of the low bound of the reference range. The low bound of the reference range endpoint is inclusive of the value (e.g. reference range is >=5 - <=9). If the low bound is omitted, it is assumed to be meaningless (e.g. reference range is <=2.3).
High Range, if relevant	The value of the high bound of the reference range. The high bound of the reference range endpoint is inclusive of the value (e.g. reference range is >=5 - <=9). If the high bound is omitted, it is assumed to be meaningless (e.g. reference range is >= 2.3).

Reference range qualifier	Codes to indicate the what part of the targeted reference population it applies to. For example, the normal or therapeutic range.
Reference range population	Codes to indicate the target population this reference range applies to. For example, a reference range may be based on the normal population or a particular sex or race. Multiple `appliesTo` are interpreted as an "AND" of the target populations. For example, to represent a target population of African American females, both a code of female and a code for African American would be used.
Applicable age range, if relevant	The age at which this reference range is applicable. This is a neonatal age (e.g. number of weeks at term) if the meaning says so.
Text based reference range in an observation	Text based reference range in an observation which may be used when a quantitative range is not appropriate for an observation. An example would be a reference value of "Negative" or a list or table of "normals".
Related resource that belongs to the Observation group	This observation is a group observation (e.g. a battery, a panel of tests, a set of vital sign measurements) that includes the target as a member of the group.

Related measurements the observation is made from	The target resource that represents a measurement from which this observation value is derived. For example, a calculated anion gap or a fetal measurement based on an ultrasound image.
Component results	Some observations have multiple component observations. These component observations are expressed as separate code value pairs that share the same attributes. Examples include systolic and diastolic component observations for blood pressure measurement and multiple component observations for genetics observations.
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.

Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).
Type of component observation (code / type)	Describes what was observed. Sometimes this is called the observation "code".
Actual component result	The information determined as a result of making the observation, if the information has a simple value.
Why the component result is missing	Provides a reason why the expected value in the element Observation.component.value[x] is missing.

High, low, normal, etc.	A categorical assessment of an observation value. For example, high, low, normal.
Provides guide for interpretation of component result	Guidance on how to interpret the value by comparison to a normal or recommended range.

Binding Strength	Binding Description (Value Set Name)
preferred but limited to AllLanguages	CommonLanguages

required	ObservationStatus

preferred	ObservationCategoryCodes
extensible	LOINCCodes

extensible	DataAbsentReason
extensible	ObservationInterpretationCodes
extensible	SNOMEDCTBodyStructures
extensible	ObservationMethods

preferred	ObservationReferenceRangeMeaningCodes
example	ObservationReferenceRangeAppliesToCodes

extensible	LOINCCodes
extensible	DataAbsentReason

extensible	ObservationInterpretationCodes

Binding Value Set	ACH dQM
	MS [0..*]
	R[1..1]
	NRT
	NRT
https://hl7.org/fhir/R4/valueset-la	NRT
	NRT

	NRT
	NRT

	NRT
	NRT
	NRT
	MS[0..*]
https://hl7.org/fhir/R4/valueset-ob	R [1..1]

https://hl7.org/fhir/R4/valueset-ob	R [1..*] **CQL constrains to these Categories:** Social-history, vital-signs, imaging, laboratory, procedure, survey
https://hl7.org/fhir/R4/valueset-ob	R [1..1]
	R [1..1]

	NR
	MS [0..1]
	R [1..1]
	MS [0..1]

	NR
	MS [0..1]
https://hl7.org/fhir/R4/valueset-da	NR
https://hl7.org/fhir/R4/valueset-ob	MS [0..*]
	NR
https://hl7.org/fhir/R4/valueset-bo	MS [0..1]
https://hl7.org/fhir/R4/valueset-ob	MS [0..1]
	NR
	NR

	MS[0..*]
	NRT
	NRT

	NRT
	MS [0..1]
	MS [0..1]

https://hl7.org/fhir/R4/valueset-re	NR
https://hl7.org/fhir/R4/valueset-re	NR
	MS [0..1]
	NR
	MS [0..*]

	NR
	MS [0..*]
	NRT
	NRT

	NRT
https://hl7.org/fhir/R4/valueset-ob	R [1..1]
	MS [0..1]
https://hl7.org/fhir/R4/valueset-da	NR

https://hl7.org/fhir/R4/valueset-ob	MS [0..*]
	MS [0..*]

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FHIR Path	Min	Max	Must Support?
Observation	0	*	
Observation.id	0	1	
Observation.meta	0	1	
Observation.implicitRules	0	1	
Observation.language	0	1	

Observation.text	0	1	
Observation.contained	0	*	
Observation.extension	0	*	

Observation.modifierExtension	0	*	
Observation.identifier	0	*	
Observation.basedOn	0	*	
Observation.partOf	0	*	

Observation.status	1	1	Y
Observation.category	1	*	Y
Observation.category(VSCat)	1	1	Y
Observation.category.id	0	1	
Observation.category.extension	0	*	

Observation.category.coding	1	*	Y
Observation.category.coding.id	0	1	Y
Observation.category.coding.extension	0	*	
Observation.category.coding.system	1	1	Y
Observation.category.coding.version	0	1	

Observation.category.coding.code	1	1	Y
Observation.category.coding.display	0	1	
Observation.category.coding.userSelected	0	1	
Observation.category.text	0	1	
Observation.code	1	1	Y
Observation.subject	1	1	Y

Observation.focus	0	*	
Observation.encounter	0	1	
Observation.effective[x]	1	1	Y
Observation.issued	0	1	

Observation.performer	0	*	
Observation.value[x]	0	1	Y
Observation.dataAbsentReason	0	1	Y
Observation.interpretation	0	*	
Observation.note	0	*	
Observation.bodySite	0	1	
Observation.method	0	1	
Observation.specimen	0	1	
Observation.device	0	1	

Observation.referenceRange	0	*	
Observation.referenceRange.id	0	1	
Observation.referenceRange.extension	0	*	

Observation.referenceRange.modifierExtension	0	*	
Observation.referenceRange.low	0	1	
Observation.referenceRange.high	0	1	

Observation.referenceRange.type	0	1	
Observation.referenceRange.appliesTo	0	*	
Observation.referenceRange.age	0	1	
Observation.referenceRange.text	0	1	
Observation.hasMember	0	*	

Observation.derivedFrom	0	*	
Observation.component	0	*	Y
Observation.component.id	0	1	
Observation.component.extension	0	*	

Observation.component.modifierExtension	0	*	
Observation.component.code	1	1	Y
Observation.component.value[x]	0	1	Y
Observation.component.dataAbsentReason	0	1	Y

Observation.component.interpretation	0	*	
Observation.component.referenceRange	0	*	
Observation.component.referenceRange.low	0	1	
Observation.component.referenceRange.high	0	1	
Observation.component.referenceRange.type	0	1	
Observation.component.referenceRange.appliesTo	0	*	
Observation.component.referenceRange.age	0	1	

Observation.component.referenceRange.text	0	1	

Data Type(s)	FHIR Short Description	FHIR Definition	Binding Strength
DomainResource	Measurements and simple assertions	Measurements and simple assertions made about a patient, device or other subject.	
id	Logical id of this artifact	The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	
Meta	Metadata about the resource	The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.	
uri	A set of rules under which this content was created	A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	
code	Language of the resource content	The base language in which the resource is written.	preferred but limited to AllLanguages

Narrative	Text summary of the resource, for human interpretation	A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	
Resource	Contained, inline Resources	These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.	
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

Extension	Extensions that cannot be ignored	May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
Identifier	Business Identifier for observation	A unique identifier assigned to this observation.	
Reference(CarePlan| DeviceRequest| ImmunizationRecommendation| MedicationRequest| NutritionOrder| ServiceRequest)	Fulfills plan, proposal or order	A plan, proposal or order that is fulfilled in whole or in part by this event. For example, a MedicationRequest may require a patient to have laboratory test performed before it is dispensed.	
Reference(MedicationAdministration| MedicationDispense| MedicationStatement| Procedure| Immunization| ImagingStudy)	Part of referenced event	A larger event of which this particular Observation is a component or step. For example, an observation as part of a procedure.	

code	registered | preliminary | final | amended +	The status of the result value.	required
CodeableConcept	Classification of type of observation	A code that classifies the general type of observation being made.	preferred
CodeableConcept		A code that classifies the general type of observation being made	preferred
string		Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
extension		May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the	

coding		A reference to a code defined by a terminology system.	
string		Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
extension		May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
uri		The identification of the code system that defines the meaning of the symbol in the code.	
string		The version of the code system which was used when choosing this code. Note that a well-maintained code system does not need the version reported, because the meaning of codes is consistent across versions. However this cannot consistently be assured, and when the meaning is not guaranteed to be consistent, the version SHOULD be exchanged.	

code		A symbol in syntax defined by the system. The symbol may be a predefined code or an expression in a syntax defined by the coding system (e.g. post-coordination).	
string		A representation of the meaning of the code in the system, following the rules of the system.	
boolean		Indicates that this coding was chosen by a user directly - e.g. off a pick list of available items (codes or displays).	
string		A human language representation of the concept as seen/selected/uttered by the user who entered the data and/or which represents the intended meaning of the user.	
CodeableConcept	Type of observation (code / type)	Describes what was observed. Sometimes this is called the observation "name".	extensible
Reference(Patient | Group | Device | Location)	Who and/or what the observation is about	The patient, or group of patients, location, or device this observation is about and into whose record the observation is placed. If the actual focus of the observation is different from the subject (or a sample of, part, or region of the subject), the `focus` element or the `code` itself specifies the actual focus of the observation.	

Reference(Any)	What the observation is about, when it is not about the subject of record	The actual focus of an observation when it is not the patient of record representing something or someone associated with the patient such as a spouse, parent, fetus, or donor. For example, fetus observations in a mother's record. The focus of an observation could also be an existing condition, an intervention, the subject's diet, another observation of the subject, or a body structure such as tumor or implanted device. An example use case would be using the Observation resource to capture whether the mother is trained to change her child's tracheostomy tube. In this example, the child is the patient of record and the mother is the focus.	
Reference(Encounter)	Healthcare event during which this observation is made	The healthcare event (e.g. a patient and healthcare provider interaction) during which this observation is made.	
dateTime Period Timing Instant	Clinically relevant time/time-period for observation	The time or time-period the observed value is asserted as being true. For biological subjects - e.g. human patients - this is usually called the "physiologically relevant time". This is usually either the time of the procedure or of specimen collection, but very often the source of the date/time is not known, only the date/time itself.	
instant	Date/Time this version was made available	The date and time this version of the observation was made available to providers, typically after the results have been reviewed and verified.	

Reference(Practitioner|PractitionerRole|Organization|CareTeam|Patient|RelatedPerson)	Who is responsible for the observation	Who was responsible for asserting the observed value as "true".	
Quantity CodeableConcept string boolean integer Range Ratio SampledData time dateTime Period	Actual result *Vital Signs value are recorded using the Quantity data type. For supporting observations such as Cuff size could use other datatypes such as CodeableConcept.	The information determined as a result of making the observation, if the information has a simple value.	
CodeableConcept	Why the result is missing	Provides a reason why the expected value in the element Observation.value[x] is missing.	extensible
CodeableConcept	High, low, normal, etc.	A categorical assessment of an observation value. For example, high, low, normal.	extensible
Annotation	Comments about the observation	Comments about the observation or the results.	
CodeableConcept	Observed body part	Indicates the site on the subject's body where the observation was made (i.e. the target site).	extensible
CodeableConcept	How it was done	Indicates the mechanism used to perform the observation.	extensible
Reference(Specimen)	Specimen used for this observation	The specimen that was used when this observation was made.	
Reference(Device|DeviceMetric)	(Measurement) Device	The device used to generate the observation data.	

BackboneElement	Provides guide for interpretation *+ Rule: Must have at least a low or a high or text*	Guidance on how to interpret the value by comparison to a normal or recommended range. Multiple reference ranges are interpreted as an "OR". In other words, to represent two distinct target populations, two `referenceRange` elements would be used.	
string	Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

Extension	Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
SimpleQuantity	Low Range, if relevant	The value of the low bound of the reference range. The low bound of the reference range endpoint is inclusive of the value (e.g. reference range is >=5 - <=9). If the low bound is omitted, it is assumed to be meaningless (e.g. reference range is <=2.3).	
SimpleQuantity	High Range, if relevant	The value of the high bound of the reference range. The high bound of the reference range endpoint is inclusive of the value (e.g. reference range is >=5 - <=9). If the high bound is omitted, it is assumed to be meaningless (e.g. reference range is >= 2.3).	

CodeableConcept	Reference range qualifier	Codes to indicate the what part of the targeted reference population it applies to. For example, the normal or therapeutic range.	preferred
CodeableConcept	Reference range population	Codes to indicate the target population this reference range applies to. For example, a reference range may be based on the normal population or a particular sex or race. Multiple `appliesTo` are interpreted as an "AND" of the target populations. For example, to represent a target population of African American females, both a code of female and a code for African American would be used.	example
Range	Applicable age range, if relevant	The age at which this reference range is applicable. This is a neonatal age (e.g. number of weeks at term) if the meaning says so.	
string	Text based reference range in an observation	Text based reference range in an observation which may be used when a quantitative range is not appropriate for an observation. An example would be a reference value of "Negative" or a list or table of "normals".	
Reference(Observation | QuestionnaireResponse|MolecularSequence)	Related resource that belongs to the Observation group	This observation is a group observation (e.g. a battery, a panel of tests, a set of vital sign measurements) that includes the target as a member of the group.	

Reference(DocumentReference|ImagingStudy|Media|QuestionnaireResponse|Observation|MolecularSequence)	Related measurements the observation is made from	The target resource that represents a measurement from which this observation value is derived. For example, a calculated anion gap or a fetal measurement based on an ultrasound image.	
BackboneElement	Component results *Used when reporting systolic and diastolic blood pressure. vs-3: If there is no a value a data absent reason must be present	Some observations have multiple component observations. These component observations are expressed as separate code value pairs that share the same attributes. Examples include systolic and diastolic component observations for blood pressure measurement and multiple component observations for genetics observations.	
string	Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

Extension	Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
CodeableConcept	Type of component observation (code / type)	Describes what was observed. Sometimes this is called the observation "code".	extensible
Quantity CodeableConcept string boolean integer Range Ratio SampledData time dateTime Period	Actual component result	The information determined as a result of making the observation, if the information has a simple value.	required
CodeableConcept	Why the component result is missing	Provides a reason why the expected value in the element Observation.component.value[x] is missing.	extensible

CodeableConcept	High, low, normal, etc.	A categorical assessment of an observation value. For example, high, low, normal.	extensible
	Provides guide for interpretation of component result	Guidance on how to interpret the value by comparison to a normal or recommended range.	
SimpleQuantity	Low Range, if relevant	The value of the low bound of the reference range. The low bound of the reference range endpoint is inclusive of the value (e.g. reference range is >=5 - <=9). If the low bound is omitted, it is assumed to be meaningless (e.g. reference range is <=2.3).	
SimpleQuantity	High Range, if relevant	The value of the high bound of the reference range. The high bound of the reference range endpoint is inclusive of the value (e.g. reference range is >=5 - <=9). If the high bound is omitted, it is assumed to be meaningless (e.g. reference range is >= 2.3).	
CodeableConcept	Reference range qualifier	Codes to indicate the what part of the targeted reference population it applies to. For example, the normal or therapeutic range.	Preferred
CodeableConcept	Reference range population	Codes to indicate the what part of the targeted reference population it applies to. For example, the normal or therapeutic range.	Example
Range	Applicable age range, if relevant	The age at which this reference range is applicable. This is a neonatal age (e.g. number of weeks at term) if the meaning says so.	

String	Text based reference range in an observation	Text based reference range in an observation which may be used when a quantitative range is not appropriate for an observation. An example would be a reference value of "Negative" or a list or table of "normals".	

Binding Description (Value Set Name)	Binding Value Set	ACH dQM
		MS [0..*]
		R[1..1]
		NRT
		NRT
CommonLanguages	https://hl7.org/fhir/R4/valueset-la	NRT

		NRT
		NRT
		NRT

		NRT
		NRT
		NRT
		MS[0..*]

ObservationStatus	https://hl7.org/fhir/R4/valueset-ob	R [1..1]
ObservationCategoryCodes		R [1..*]
		R [1..1]
		NRT
		NRT

		R[1..*]
		NRT
		NRT
	https://hl7.org/fhir/R4/valueset-ob	R[1..1]
		NR

		R[1..1]
		NR
		NR
		NR
LOINCCodes	http://hl7.org/fhir/R4/valueset-obs	R [1..1]
		R [1..1]

		NR
		MS [0..1]
		R [1..1]
		MS [0..1]

		NR
		MS [0..1]
DataAbsentReason	https://hl7.org/fhir/R4/valueset-da	NR
ObservationInterpretationCodes	https://hl7.org/fhir/R4/valueset-ob	MS [0..*]
		NR
SNOMEDCTBodyStructures	https://hl7.org/fhir/R4/valueset-bo	MS [0..1]
ObservationMethods	https://hl7.org/fhir/R4/valueset-ob	MS [0..1]
		NR
		NR

		MS[0..*]
		NRT
		NRT

		NRT
		MS [0..1]
		MS [0..1]

ObservationReferenceRangeMeaningCodes	hl7.org/fhir/R4/valueset-reference	NR
ObservationReferenceRangeAppliesToCodes	https://hl7.org/fhir/R4/valueset-re	NR
		MS [0..1]
		NR
		MS [0..*]

		NR
		MS [0..*]
		NRT
		NRT

		NRT
LOINCCodes	https://hl7.org/fhir/R4/valueset-ob	R [1..1]
	https://hl7.org/fhir/R4/valueset-ud	MS [0..1]
DataAbsentReason	https://hl7.org/fhir/R4/valueset-ud	NR

ObservationInterpretationCodes	https://hl7.org/fhir/R4/valueset-ob	MS [0..*]
		MS [0..*]
		MS[0..1]
		MS[0..1]
ObservationReferenceRangeMeaningCodes	https://hl7.org/fhir/R4/valueset-referencerange-meaning.html	NR
ObservationReferenceRangeAppliesToCodes	https://hl7.org/fhir/R4/valueset-re	NR
		MS[0..1]

		NR

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FHIR Path	Min	Max	Must Support?
Patient	0	*	
Patient.id	0	1	
Patient.meta	0	1	
Patient.implicitRules	0	1	
Patient.language	0	1	
Patient.text	0	1	
Patient.contained	0	*	

Patient.extension	0	*	
Patient.extension (race)	0	1	Y
Patient.extension (ethnicity)	0	1	Y

Patient.extension (sex at birth)	0	1	Y
Patient.extension (gender identity)	0	1	
Patient.modifierExtension	0	*	
Patient.identifier	1	*	Y
Patient.identifier.id	0	1	

Patient.identifier.extension	0	*	
Patient.identifier.use	0	1	
Patient.identifier.type	0	1	
Patient.identifier.system	1	1	Y
Patient.identifier.value	1	1	Y
Patient.identifier.period	0	1	
Patient.identifier.assigner	0	1	
Patient.active	0	1	

Patient.name	1	*	Y
Patient.name.id	0	1	
Patient.name.extension	0	*	
Patient.name.use	0	1	
Patient.name.text	0	1	
Patient.name.family	0	1	Y
Patient.name.given	0	*	Y
Patient.name.prefix	0	*	

Patient.name.suffix	0	*	
Patient.name.period	0	1	
Patient.telecom	0	*	Y
Patient.telecom.id	0	1	
Patient.telecom.extension	0	*	
Patient.telecom.system	1	1	Y
Patient.telecom.value	1	1	Y
Patient.telecom.use	0	1	Y
Patient.telecom.rank	0	1	
Patient.telecom.period	0	1	

Patient.gender	1	1	Y
Patient.birthDate	0	1	Y
Patient.deceased[x]	0	1	
Patient.address	0	*	Y
Patient.address.id	0	1	
Patient.address.extension	0	*	
Patient.address.use	0	1	
Patient.address.type	0	1	
Patient.address.text	0	1	
Patient.address.line	0	*	Y
Patient.address.city	0	1	Y
Patient.address.district	0	1	

Patient.address.state	0	1	Y
Patient.address.postalCode	0	1	Y
Patient.address.country	0	1	
Patient.address.period	0	1	Y
Patient.maritalStatus	0	1	
Patient.multipleBirth[x]	0	1	
Patient.photo	0	*	
Patient.contact	0	*	
Patient.contact.id	0	1	
Patient.contact.extension	0	*	

Patient.contact.modifierExtension	0	*	
Patient.contact.relationship	0	*	
Patient.contact.name	0	1	
Patient.contact.telecom	0	*	
Patient.contact.address	0	1	
Patient.contact.gender	0	1	
Patient.contact.organization	0	1	

Patient.contact.period	0	1	
Patient.communication	0	*	Y
Patient.communication.id	0	1	
Patient.communication.extension	0	*	

Patient.communication.modifierExtension	0	*	
Patient.communication.language	1	1	Y
Patient.communication.preferred	0	1	
Patient.generalPractitioner	0	*	
Patient.managingOrganization	0	1	
Patient.link	0	*	

Patient.link.id	0	1	
Patient.link.extension	0	*	
Patient.link.modifierExtension	0	*	
Patient.link.other	1	1	
Patient.link.type	1	1	

Data Type(s)	FHIR Short Description
	Information about an individual or animal receiving health care services
string	Logical id of this artifact
Meta	Metadata about the resource
uri	A set of rules under which this content was created
code	Language of the resource content
Narrative	Text summary of the resource, for human interpretation
Resource	Contained, inline Resources

Extension	Extension
(Complex) optional ‘ombCategory’, optional ‘detailed’ and a required ‘text’. - ‘ombCategory’ component is optional, but allows for up to 5 races from ombCategory-race ValueSet (note this is denoted by the 0..5 cardinality on the 3.1.1 definition of us-core-race o When present, the structure will always following a ‘coding’ datatype, as denoted by ‘valueCoding’ - ‘detailed’ component is also optional, but may be present an infinite number of times, each ‘detailed’ containing one of the 917 race codes o When present,	US Core Race Extension
(Complex)	US Core ethnicity Extension

code	Extension
Extension {http://hl7.org/fhir/us/core/StructureDefinition/us-core-genderIdentity}	Extension
Extension	Extensions that cannot be ignored
Identifier	An identifier for this patient
string	Unique id for inter-element referencing

Extension	Additional content defined by implementations
code	usual | official | temp | secondary | old (If known)
CodeableConcept	Description of identifier
uri	The namespace for the identifier value Example General: http://www.acme.com/identifiers/patient
string	The value that is unique within the system.
Period	Time period when id is/was valid for use
Reference(Organization)	Organization that issued id (may be just text)
boolean	Whether this patient's record is in active use

HumanName	A name associated with the patient **us-core-8:** Either Patient.name.given and/or Patient.name.family SHALL be present or a Data Absent Reason Extension SHALL be present.
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations
code	usual | official | temp | nickname | anonymous | old | maiden
string	Text representation of the full name
string	Family name (often called 'Surname')
string	Given names (not always 'first'). Includes middle names This repeating element order: Given Names appear in the correct order for presenting the name
string	Parts that come before the name This repeating element order: Prefixes appear in the correct order for presenting the name

string	Parts that come after the name This repeating element order: Suffixes appear in the correct order for presenting the name
Period	Time period when name was/is in use
ContactPoint	A contact detail for the individual
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations
code	phone | fax | email | pager | url | sms | other
string	The actual contact point details
code	home | work | temp | old | mobile - purpose of this contact point
positiveInt	Specify preferred order of use (1 = highest)
Period	Time period when the contact point was/is in use

code	male | female | other | unknown
date	The date of birth for the individual
boolean dateTime	Indicates if the individual is deceased or not
Address	An address for the individual
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations
code	home | work | temp | old | billing - purpose of this address
code	home|postal | physical | both
string	Text representation of the address
string	Street name, number, direction & P.O. Box etc. This repeating element order: The order in which lines should appear in an address label
string	Name of city, town etc.
string	District name (aka county)

string	Sub-unit of country (abbreviations ok)
string	US Zip Codes
string	Country (e.g. can be ISO 3166 2 or 3 letter code)
Period	Time period when address was/is in use
CodeableConcept	Marital (civil) status of a patient
boolean integer	Whether patient is part of a multiple birth
Attachment	Image of the patient
BackboneElement	A contact party (e.g. guardian, partner, friend) for the patient
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
CodeableConcept	The kind of relationship
HumanName	A name associated with the contact person
ContactPoint	A contact detail for the person
Address	Address for the contact person
code	male | female | other | unknown
Reference(Organization)	Organization that is associated with the contact

Period	The period during which this contact person or organization is valid to be contacted relating to this patient
BackboneElement	A language which may be used to communicate with the patient about his or her health
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
CodeableConcept	The language which can be used to communicate with the patient about his or her health
boolean	Language preference indicator
Reference(Organization|Practitioner|PractitionerRole)	Patient's nominated primary care provider
Reference(Organization)	Organization that is the custodian of the patient record
BackboneElement	Link to another patient resource that concerns the same actual person

string	Unique id for inter-element referencing
Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored even if unrecognized
Reference(Patient| RelatedPerson)	The other patient or related person resource that the link refers to
code	replaced-by | replaces | refer | seealso

FHIR Definition	Binding Strength	Binding Description
The US Core Patient Profile is based upon the core FHIR Patient Resource and designed to meet the applicable patient demographic data elements from the 2015 Edition Common Clinical Data Set.		
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.		
The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.		
A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.		
The base language in which the resource is written.	preferred	A human language.
A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.		
These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.		

An Extension		
Concepts classifying the person into a named category of humans sharing common history, traits, geographical origin or nationality. The **race codes** used to represent these concepts are based upon the [CDC Race and Ethnicity Code Set Version 1.0](http://www.cdc.gov/phin/resources/vocabulary/index.html) which includes over 900 concepts for representing race and ethnicity of which 921 reference race. The race concepts are grouped by and pre-mapped to the 5 OMB race categories: - American Indian or Alaska Native - Asian - Black or African American - Native Hawaiian or Other Pacific Islander - White.		US Core Race Extension
Concepts classifying the person into a named category of humans sharing common history, traits, geographical origin or nationality. The **ethnicity codes** used to represent these concepts are based upon the [CDC ethnicity and Ethnicity Code Set Version 1.0](http://www.cdc.gov/phin/resources/vocabulary/index.html) which includes over 900 concepts for representing race and ethnicity of which 43 reference ethnicity. The ethnicity concepts are grouped by and pre-mapped to the 2 OMB ethnicity categories: - Hispanic or Latino - Not Hispanic or Latino.		US Core ethnicity Extension

A code classifying the person's **sex assigned at birth** as specified by the [Office of the National Coordinator for Health IT (ONC)](https://www.healthit.gov/newsroom/about-onc).	required	Birth Sex
An Extension		
May be used to ***represent additional information that is not part of the basic definition of the resource*** and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
An identifier for this patient.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		

May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		
The purpose of this identifier.	required	Identifier Use
A coded type for the identifier that can be used to determine which identifier to use for a specific purpose.	extensible	Identifier Type Codes
Establishes the namespace for the value - that is, a URL that describes a set values that are unique.		
The portion of the identifier typically relevant to the user and which is unique within the context of the system.		
Time period during which identifier is/was valid for use.		
Organization that issued/manages the identifier.		
Whether this patient record is in active use. Many systems use this property to mark as non-current patients, such as those that have not been seen for a period of time based on an organization's business rules. It is often used to filter patient lists to exclude inactive patients Deceased patients may also be marked as inactive for the same reasons, but may be active for some time after death.		

A name associated with the individual.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be u***sed to represent additional information that is not part of the basic definition of the element***. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		
Identifies the purpose for this name.	required	NameUse
Specifies the entire name as it should be displayed e.g. on an application UI. This may be provided instead of or as well as the specific parts.		
The part of a name that links to the genealogy. In some cultures (e.g. Eritrea) the family name of a son is the first name of his father.		
Given name.		
Part of the name that is acquired as a title due to academic, legal, employment or nobility status, etc. and that appears at the start of the name.		

Part of the name that is acquired as a title due to academic, legal, employment or nobility status, etc. and that appears at the end of the name.		
Indicates the period of time when this name was valid for the named person.		
A contact detail (e.g. a telephone number or an email address) by which the individual may be contacted.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		
Telecommunications form for contact point - what communications system is required to make use of the contact.	required	ContactPointSystem
The actual contact point details, in a form that is meaningful to the designated communication system (i.e. phone number or email address).		
Identifies the purpose for the contact point.	required	ContactPointUse
Specifies a preferred order in which to use a set of contacts. ContactPoints with lower rank values are more preferred than those with higher rank values.		
Time period when the contact point was/is in use.		

Administrative Gender - the gender that the patient is considered to have for administration and record keeping purposes.	required	AdminstrativeGender
The date of birth for the individual.		
Indicates if the individual is deceased or not.		
An address for the individual.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be ***used to represent additional information that is not part of the basic definition of the element.*** To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		
The purpose of this address.	required	AddressUse
Distinguishes between physical addresses (those you can visit) and mailing addresses (e.g. PO Boxes and care-of addresses). Most addresses are both.	required	AddressType
Specifies the entire address as it should be displayed e.g. on a postal label. This may be provided instead of or as well as the specific parts.		
This component contains the house number, apartment number, street name, street direction, P.O. Box number, delivery hints, and similar address information.		
The name of the city, town, suburb, village or other community or delivery center.		
The name of the administrative area (county).		

Sub-unit of a country with limited sovereignty in a federally organized country. A code may be used if codes are in common use (e.g. US 2 letter state codes).	extensible	USPS Two Letter Alphabetic Codes
A postal code designating a region defined by the postal service.		
Country - a nation as commonly understood or generally accepted.		
Time period when address was/is in use.		
This field contains a patient's most recent marital (civil) status.	extensible	Marital Status Codes
Indicates whether the patient is part of a multiple (boolean) or indicates the actual birth order (integer).		
Image of the patient.		
A contact party (e.g. guardian, partner, friend) for the patient.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be ***used to represent additional information that is not part of the basic definition of the element***. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
The nature of the relationship between the patient and the contact person.	extensible	The nature of the relationship between a patient and a contact person for that patient.
A name associated with the contact person.		
A contact detail for the person, e.g. a telephone number or an email address.		
Address for the contact person.		
Administrative Gender - the gender that the contact person is considered to have for administration and record keeping purposes.	required	The gender of a person used for administrative purposes.
Organization on behalf of which the contact is acting or for which the contact is working.		

The period during which this contact person or organization is valid to be contacted relating to this patient.		
A language which may be used to communicate with the patient about his or her health.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		

May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
The ISO-639-1 alpha 2 code in lower case for the language, optionally followed by a hyphen and the ISO-3166-1 alpha 2 code for the region in upper case; e.g. "en" for English, or "en-US" for American English versus "en-EN" for England English.	extensible	
Indicates whether or not the patient prefers this language (over other languages he masters up a certain level).		
Patient's nominated care provider.		
Organization that is the custodian of the patient record.		
Link to another patient resource that concerns the same actual patient.		

Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		
May be used to ***represent additional information that is not part of the basic definition of the element.*** To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		
May be used to ***represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element*** in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
The other patient resource that the link refers to.		
The type of link between this patient resource and another patient resource.	required	LinkType

Binding Value Set	ACH dQM (cross-setting for all measures)
	R [1..1]
	R [1..1]
	NRT
	NRT
http://hl7.org/fhir/ValueSet/languages	NRT
	NRT
	NRT

	NR
http://hl7.org/fhir/us/core/Structu	MS[0...*]
http://hl7.org/fhir/us/core/Structu	MS[0..*]

http://hl7.org/fhir/us/core/Structu	MS [0..1]
	MS [0.. *]
	NRT
	R [1..*]
	NR

	NR
https://hl7.org/fhir/R4/valueset-id	MS[0..1]
https://hl7.org/fhir/R4/valueset-id	MS[0..1]
	NR
	R [1..1]
	MS [0..1]
	NR
	NR

	R [1..*]
	NR
	NR
https://hl7.org/fhir/R4/valueset-n	MS[0..1]
	MS[0..1]
	MS[0..1]
	MS[0..*]
	MS[0..*]

	MS[0..*]
	MS[0..1]
	MS[0..*]
	NRT
	NRT
https://hl7.org/fhir/R4/valueset-c	R [1..1]
	R [1..1]
https://hl7.org/fhir/R4/valueset-c	MS[0..1]
	MS[0..1]
	MS[0..1]

https://hl7.org/fhir/R4/valueset-a	R [1..1]
	R [1..1]
	MS[0..1]
	MS[0..*]
	NR
	NR
https://hl7.org/fhir/R4/valueset-a	MS[0..1]
https://hl7.org/fhir/R4/valueset-a	MS[0..1]
	MS[0..1]
	MS[0..*]
	MS[0..1]
	MS[0..1]

https://hl7.org/fhir/us/core/STU3.	MS[0..1]
	MS[0..1]
	MS[0..1]
	MS[0..1]
https://hl7.org/fhir/R4/valueset-n	NR
	NR
	NR
	MS[0..*]
	NR
	NR

	NRT
https://hl7.org/fhir/R4/valueset-p	MS[0..*]
	MS[0..1]
	MS[0..*]
	MS[0..1]
https://hl7.org/fhir/R4/valueset-a	NR
	NR

	MS[0..1)
	MS[0..*]
	NR
	NR

	NRT
https://hl7.org/fhir/us/core/STU3.	R [1..1]
	MS[0..1]
	NR
	NR
	MS[0..*]

	MS [0..*]
	MS [0..*]
	MS [0..*]
	R [1..1]
https://hl7.org/fhir/R4/valueset-li	R [1..1]

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FHIR Path	Min	Max	Must Support?
Procedure	0	*	
Procedure.id	0	1	
Procedure.meta	0	1	

Procedure.implicitRules	0	1	

Procedure.language	0	1	

Procedure.text	0	1	
Procedure.contained	0	*	

Procedure.extension	0	*	
Procedure.modifierExtension	0	*	

Procedure.identifier	0	*	
Procedure.instantiatesCanonical	0	*	
Procedure.instantiatesUri	0	*	
Procedure.basedOn	0	*	

Procedure.partOf	0	*	
Procedure.status	1	1	Y

Procedure.statusReason	0	1	
Procedure.category	0	1	
Procedure.code	1	1	Y
Procedure.subject	1	1	Y
Procedure.encounter	0	1	

Procedure.performed[x]	1	1	Y
Procedure.recorder	0	1	
Procedure.asserter	0	1	
Procedure.performer	0	*	
Procedure.performer.id	0	1	

Procedure.performer.extension	0	*	
Procedure.performer.modifierExtension	0	*	

Procedure.performer.function	0	1	
Procedure.performer.actor	1	1	
Procedure.performer.onBehalfOf	0	1	
Procedure.location	0	1	
Procedure.reasonCode	0	*	

Procedure.reasonReference	0	*	
Procedure.bodySite	0	*	
Procedure.outcome	0	1	

Procedure.report	0	*	
Procedure.complication	0	*	
Procedure.complicationDetail	0	*	
Procedure.followUp	0	*	
Procedure.note	0	*	
Procedure.focalDevice	0	*	
Procedure.focalDevice.id	0	1	

Procedure.focalDevice.extension	0	*	
Procedure.focalDevice.modifierExtension	0	*	
Procedure.focalDevice.action	0	1	

Procedure.focalDevice.manipulated	1	1	
Procedure.usedReference	0	*	
Procedure.usedCode	0	*	

Data Type(s)	FHIR Short Description
	An action that is being or was performed on a patient
string	Logical id of this artifact
Meta	Metadata about the resource

uri	A set of rules under which this content was created

code	Language of the resource content

Narrative	Text summary of the resource, for human interpretation
Resource	Contained, inline Resources

Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored

Identifier	External Identifiers for this procedure
canonical(PlanDefinition|ActivityDefinition|Measure|OperationDefinition|Questionnaire)	Instantiates FHIR protocol or definition
uri	Instantiates external protocol or definition
Reference(CarePlan|ServiceRequest)	A request for this procedure

Reference(Procedure| Observation| MedicationAdministration)	Part of referenced event
code	preparation | in-progress | not-done | on-hold | stopped | completed | entered-in-error | unknown

CodeableConcept	Reason for current status
CodeableConcept	Classification of the procedure
CodeableConcept	Identification of the procedure
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)	Who the procedure was performed on
Reference(Encounter)	Encounter created as part of

dateTime Period string Age Range	When the procedure was performed
Reference(Patient| RelatedPerson|Practitioner| PractitionerRole)	Who recorded the procedure
Reference(Patient| RelatedPerson|Practitioner| PractitionerRole)	Person who asserts this procedure
BackboneElement	The people who performed the procedure
string	Unique id for inter-element referencing

Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored even if unrecognized

CodeableConcept	Type of performance
Reference(Practitioner| PractitionerRole|Organization| Patient|RelatedPerson| Device)	The reference to the practitioner
Reference(Organization)	Organization the device or practitioner was acting for
Reference(Location)	Where the procedure happened
CodeableConcept	Coded reason procedure performed

Reference(Condition| Observation|Procedure| DiagnosticReport| DocumentReference)	The justification that the procedure was performed
CodeableConcept	Target body sites
CodeableConcept	The result of procedure

Reference(DiagnosticReport| DocumentReference| Composition)	Any report resulting from the procedure
CodeableConcept	Complication following the procedure
Reference(Condition)	A condition that is a result of the procedure
CodeableConcept	Instructions for follow up
Annotation	Additional information about the procedure
BackboneElement	Manipulated, implanted, or removed device
string	Unique id for inter-element referencing

Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored even if unrecognized
CodeableConcept	Kind of change to device

Reference(Device)	Device that was changed
Reference(Device|Medication|Substance)	Items used during procedure
CodeableConcept	Coded items used during the procedure

FHIR Definition	Comments	Binding Strength
The US Core Condition Profile is based upon the core FHIR Procedure Resource and created to meet the 2015 Edition Common Clinical Data Set 'Procedures' requirements.		
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	The only time that a resource does not have an id is when it is being submitted to the server using a create operation.	
The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.		

A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	Asserting this rule set restricts the content to be only understood by a limited set of trading partners. This inherently limits the usefulness of the data in the long term. However, the existing health eco-system is highly fractured, and not yet ready to define, collect, and exchange data in a generally computable sense. Wherever possible, implementers and/or specification writers should avoid using this element. Often, when used, the URL is a reference to an implementation guide that defines these special rules as part of it's narrative along with other profiles, value sets, etc.	

The base language in which the resource is written.	Language is provided to support indexing and accessibility (typically, services such as text to speech use the language tag). The html language tag in the narrative applies to the narrative. The language tag on the resource may be used to specify the language of other presentations generated from the data in the resource. Not all the content has to be in the base language. The Resource.language should not be assumed to apply to the narrative automatically. If a language is specified, it should it also be specified on the div element in the html (see rules in HTML5 for information about the relationship between xml:lang and the html lang attribute).	preferred

A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	Contained resources do not have narrative. Resources that are not contained SHOULD have a narrative. In some cases, a resource may only have text with little or no additional discrete data (as long as all minOccurs=1 elements are satisfied). This may be necessary for data from legacy systems where information is captured as a "text blob" or where text is additionally entered raw or narrated and encoded information is added later.	
These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.	This should never be done when the content can be identified properly, as once identification is lost, it is extremely difficult (and context dependent) to restore it again. Contained resources may have profiles and tags In their meta elements, but SHALL NOT have security labels.	

May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	
May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	

Business identifiers assigned to this procedure by the performer or other systems which remain constant as the resource is updated and is propagated from server to server.	This is a business identifier, not a resource identifier (see [discussion](http://hl7.org/fhir/R4/resource.html#identifiers)). It is best practice for the identifier to only appear on a single resource instance, however business practices may occasionally dictate that multiple resource instances with the same identifier can exist - possibly even with different resource types. For example, multiple Patient and Person resource instances might share the same social insurance number.	
The URL pointing to a FHIR-defined protocol, guideline, order set or other definition that is adhered to in whole or in part by this Procedure.		
The URL pointing to an externally maintained protocol, guideline, order set or other definition that is adhered to in whole or in part by this Procedure.	This might be an HTML page, PDF, etc. or could just be a non-resolvable URI identifier.	
A reference to a resource that contains details of the request for this procedure.		

A larger event of which this particular procedure is a component or step.	The MedicationAdministration resource has a partOf reference to Procedure, but this is not a circular reference. For example, the anesthesia MedicationAdministration is part of the surgical Procedure (MedicationAdministration.partOf = Procedure). For example, the procedure to insert the IV port for an IV medication administration is part of the medication administration (Procedure.partOf = MedicationAdministration).	
A code specifying the state of the procedure. Generally, this will be the in-progress or completed state.	The "unknown" code is not to be used to convey other statuses. The "unknown" code should be used when one of the statuses applies, but the authoring system doesn't know the current state of the procedure. This element is labeled as a modifier because the status contains codes that mark the resource as not currently valid.	required

Captures the reason for the current state of the procedure.	This is generally only used for "exception" statuses such as "not-done", "suspended" or "aborted". The reason for performing the event at all is captured in reasonCode, not here.	example
A code that classifies the procedure for searching, sorting and display purposes (e.g. "Surgical Procedure").		example
The specific procedure that is performed. Use text if the exact nature of the procedure cannot be coded (e.g. "Laparoscopic Appendectomy").		extensible
The person, animal or group on which the procedure was performed.		
The Encounter during which this Procedure was created or performed or to which the creation of this record is tightly associated.	This will typically be the encounter the event occurred within, but some activities may be initiated prior to or after the official completion of an encounter but still be tied to the context of the encounter.	

Estimated or actual date, date-time, period, or age when the procedure was performed. Allows a period to support complex procedures that span more than one date, and also allows for the length of the procedure to be captured.	Age is generally used when the patient reports an age at which the procedure was performed. Range is generally used when the patient reports an age range when the procedure was performed, such as sometime between 20-25 years old. dateTime supports a range of precision due to some procedures being reported as past procedures that might not have millisecond precision while other procedures performed and documented during the encounter might have more precise UTC timestamps with timezone.	
Individual who recorded the record and takes responsibility for its content.		
Individual who is making the procedure statement.		
Limited to "real" people rather than equipment.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		

May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	
May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	

Distinguishes the type of involvement of the performer in the procedure. For example, surgeon, anaesthetist, endoscopist.		example
The practitioner who was involved in the procedure.		
The organization the device or practitioner was acting on behalf of.		
The location where the procedure actually happened. E.g. a newborn at home, a tracheostomy at a restaurant.		
The coded reason why the procedure was performed. This may be a coded entity of some type, or may simply be present as text.	Use Procedure.reasonCode when a code sufficiently describes the reason. Use Procedure.reasonReference when referencing a resource, which allows more information to be conveyed, such as onset date. Procedure.reasonCode and Procedure.reasonReference are not meant to be duplicative. For a single reason, either Procedure.reasonCode or Procedure.reasonReference can be used. Procedure.reasonCode may be a summary code, or Procedure.reasonReference may be used to reference a very precise definition of the reason using Condition | Observation | Procedure | DiagnosticReport | DocumentReference. Both	extensible

The justification of why the procedure was performed.	It is possible for a procedure to be a reason (such as C-Section) for another procedure (such as an epidural). Other examples include endoscopy for dilatation and biopsy (a combination of diagnostic and therapeutic use). Use Procedure.reasonCode when a code sufficiently describes the reason. Use Procedure.reasonReference when referencing a resource, which allows more information to be conveyed, such as onset date. Procedure.reasonCode and Procedure.reasonReference are not meant to be duplicative. For a single reason, either Procedure.reasonCode or Procedure.reasonReference can be used. Procedure.reasonCode may be a summary code,	
Detailed and structured anatomical location information. Multiple locations are allowed - e.g. multiple punch biopsies of a lesion.	If the use case requires attributes from the BodySite resource (e.g. to identify and track separately) then use the standard extension [procedure-targetbodystructure] (http://hl7.org/fhir/R4/extension-procedure-targetbodystructure.html).	extensible
The outcome of the procedure - did it resolve the reasons for the procedure being performed?	If outcome contains narrative text only, it can be captured using the CodeableConcept.text.	example

This could be a histology result, pathology report, surgical report, etc.	There could potentially be multiple reports - e.g. if this was a procedure which took multiple biopsies resulting in a number of anatomical pathology reports.	
Any complications that occurred during the procedure, or in the immediate post-performance period. These are generally tracked separately from the notes, which will typically describe the procedure itself rather than any 'post procedure' issues.	If complications are only expressed by the narrative text, they can be captured using the CodeableConcept.text.	example
Any complications that occurred during the procedure, or in the immediate post-performance period.		
If the procedure required specific follow up - e.g. removal of sutures. The follow up may be represented as a simple note or could potentially be more complex, in which case the CarePlan resource can be used.		example
Any other notes and comments about the procedure.		
A device that is implanted, removed or otherwise manipulated (calibration, battery replacement, fitting a prosthesis, attaching a wound-vac, etc.) as a focal portion of the Procedure.		
Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.		

May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	
May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	There can be no stigma associated with the use of extensions by any application, project, or standard - regardless of the institution or jurisdiction that uses or defines the extensions. The use of extensions is what allows the FHIR specification to retain a core level of simplicity for everyone.	
The kind of change that happened to the device during the procedure.		preferred

The device that was manipulated (changed) during the procedure.		
Identifies medications, devices and any other substance used as part of the procedure.	For devices actually implanted or removed, use Procedure.device.	
Identifies coded items that were used as part of the procedure.	For devices actually implanted or removed, use Procedure.device.	example

Binding Description	Binding Value Set	ACH dQM
		MS [0..*]
		R [1..1]
		NRT

		NRT

A human language.	https://hl7.org/fhir/R	NRT

		NRT
		NRT

		NRT
		NRT

		NRT
		NR
		NR
		NR

		NR
	http://hl7.org/fhir/R4	R [1..1]

A code that identifies the reason a procedure was not performed.	https://hl7.org/fhir/F	NR
A code that classifies a procedure for searching, sorting and display purposes.	https://hl7.org/fhir/F	NR
Codes describing the type of Procedure	https://hl7.org/fhir/u	R [1..1]
		R [1..1]
		MS[0..1]

		R [1..1] change to R [1..1] Restrict data type to DateTime and Period
		NR
		NR
		NR
		NRT

		NRT
		NRT

A code that identifies the role of a performer of the procedure.	https://hl7.org/fhir/R	NR
		NR
		NR
		MS [0..1]
A code that identifies the reason a procedure is required.	https://hl7.org/fhir/R	MS [0..*]

		MS [0..*]
Codes describing anatomical locations. May include laterality.	https://hl7.org/fhir/R	MS [0..*]
An outcome of a procedure - whether it was resolved or otherwise.	https://hl7.org/fhir/R	NR

		NR
Codes describing complications that resulted from a procedure.	https://hl7.org/fhir/F	NR
		NR
Specific follow up required for a procedure e.g. removal of sutures.	https://hl7.org/fhir/F	NR
		NR
		NR
		NRT

		NRT
		NRT
A kind of change that happened to the device during the procedure.	https://hl7.org/fhir/F	NR

		NR
		NR
Codes describing items used during a procedure.	https://hl7.org/fhir/F	NR

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FHIR Path	Min	Max
ServiceRequest	0	*
ServiceRequest.id	0	1
ServiceRequest.meta	0	1
ServiceRequest.implicitRules	0	1
ServiceRequest.language	0	1
ServiceRequest.text	0	1
ServiceRequest.contained	0	*

ServiceRequest.extension	0	*
ServiceRequest.modifierExtension	0	*
ServiceRequest.identifier	0	*
ServiceRequest.instantiatesCanonical	0	*
ServiceRequest.instantiatesUri	0	*

ServiceRequest.basedOn	0	*
ServiceRequest.replaces	0	*
ServiceRequest.requisition	0	1
ServiceRequest.status	1	1
ServiceRequest.intent	1	1
ServiceRequest.category	0	*
ServiceRequest.priority	0	1
ServiceRequest.doNotPerform	0	1
ServiceRequest.code	0	1
ServiceRequest.orderDetail	0	*
ServiceRequest.quantity[x]	0	1

ServiceRequest.subject	1	1
ServiceRequest.encounter	0	1
ServiceRequest.occurrence[x]	0	1
ServiceRequest.asNeeded[x]	0	1
ServiceRequest.authoredOn	0	1
ServiceRequest.requester	0	1
ServiceRequest.performerType	0	1
ServiceRequest.performer	0	*
ServiceRequest.locationCode	0	*
ServiceRequest.locationReference	0	*
ServiceRequest.reasonCode	0	*

ServiceRequest.reasonReference	0	*
ServiceRequest.insurance	0	*
ServiceRequest.supportingInfo	0	*
ServiceRequest.specimen	0	*
ServiceRequest.bodySite	0	*
ServiceRequest.note	0	*
ServiceRequest.patientInstruction	0	1
ServiceRequest.relevantHistory	0	*

Data Type(s)	FHIR Short Description
	A request for a service to be performed
id	Logical id of this artifact
Meta	Metadata about the resource
uri	A set of rules under which this content was created
code	Language of the resource content
Narrative	Text summary of the resource, for human interpretation
Resource	Contained, inline Resources

Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored
Identifier	Identifiers assigned to this order
canonical(ActivityDefinition|PlanDefinition)	Instantiates FHIR protocol or definition
uri	Instantiates external protocol or definition

Reference(CarePlan| ServiceRequest| MedicationRequest)	What request fulfills
Reference(ServiceRequest)	What request replaces
Identifier	Composite Request ID
code	draft | active | on-hold | revoked | completed | entered-in-error | unknown
code	proposal | plan | directive | order | original-order | reflex-order | filler-order | instance-order | option
CodeableConcept	Classification of service
code	routine | urgent | asap | stat
boolean	True if service/procedure should not be performed
CodeableConcept	What is being requested/ordered
CodeableConcept	Additional order information
Quantity RatioRange	Service amount

Reference(Patient|Group| Location|Device)	Individual or Entity the service is ordered for
Reference(Encounter)	Encounter in which the request was created
dateTime Period Timing	When service should occur
boolean CodeableConcept	Preconditions for service
dateTime	Date request signed
Reference(Practitioner| PractitionerRole| Organization|Patient| RelatedPerson|Device)	Who/what is requesting service
CodeableConcept	Performer role
Reference(Practitioner| PractitionerRole| Organization|CareTeam| HealthcareService|Patient| Device|RelatedPerson)	Requested performer
CodeableConcept	Requested location
Reference(Location)	Requested location
CodeableConcept	Explanation/Justification for procedure or service

Reference(Condition| Observation| DiagnosticReport| DocumentReference)	Explanation/Justification for service or service
Reference(Coverage| ClaimResponse)	Associated insurance coverage
Reference(Resource)	Additional clinical information
Reference(Specimen)	Procedure Samples
CodeableConcept	Location on Body
Annotation	Comments
string	Patient or consumer-oriented instructions
Reference(Provenance)	Request provenance

FHIR Definition	Binding Strength	Binding Description
A record of a request for service such as diagnostic investigations, treatments, or operations to be performed.		
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.		
The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.		
A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.		
The base language in which the resource is written.	preferred	Common Languages
A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.		
These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.		

May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.		
May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the element that contains it and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer is allowed to define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).		
Identifiers assigned to this order instance by the orderer and/or the receiver and/or order fulfiller.		
The URL pointing to a FHIR-defined protocol, guideline, orderset or other definition that is adhered to in whole or in part by this ServiceRequest.		
The URL pointing to an externally maintained protocol, guideline, orderset or other definition that is adhered to in whole or in part by this ServiceRequest.		

Plan/proposal/order fulfilled by this request.		
The request takes the place of the referenced completed or terminated request(s).		
A shared identifier common to all service requests that were authorized more or less simultaneously by a single author, representing the composite or group identifier.		
The status of the order.	required	RequestStatus
Whether the request is a proposal, plan, an original order or a reflex order.	required	RequestIntent
A code that classifies the service for searching, sorting and display purposes (e.g. "Surgical Procedure").	extensible	Service Request Category Codes
Indicates how quickly the ServiceRequest should be addressed with respect to other requests.	required	Request priority
Set this to true if the record is saying that the service/procedure should NOT be performed.		
A code that identifies a particular service (i.e., procedure, diagnostic investigation, or panel of investigations) that have been requested.	extensible	Procedure Codes (SNOMED CT)
Additional details and instructions about the how the services are to be delivered. For example, and order for a urinary catheter may have an order detail for an external or indwelling catheter, or an order for a bandage may require additional instructions specifying how the bandage should be applied.	example	Service Request Order Details Codes
An amount of service being requested which can be a quantity (for example $1,500 home modification), a ratio (for example, 20 half day visits per month), or a range (2.0 to 1.8 Gy per fraction).		

On whom or what the service is to be performed. This is usually a human patient, but can also be requested on animals, groups of humans or animals, devices such as dialysis machines, or even locations (typically for environmental scans).		
An encounter that provides additional information about the healthcare context in which this request is made.		
The date/time at which the requested service should occur.		
If a CodeableConcept is present, it indicates the pre-condition for performing the service. For example "pain", "on flare-up", etc.	example	SNOMED CT Medication As Needed Reason Codes
When the request transitioned to being actionable.		
The individual who initiated the request and has responsibility for its activation.		
Desired type of performer for doing the requested service.	example	Participant Roles
The desired performer for doing the requested service. For example, the surgeon, dermatopathologist, endoscopist, etc.		
The preferred location(s) where the procedure should actually happen in coded or free text form. E.g. at home or nursing day care center.	example	V3 Value SetServiceDelivery LocationRoleType
A reference to the the preferred location(s) where the procedure should actually happen. E.g. at home or nursing day care center.		
An explanation or justification for why this service is being requested in coded or textual form. This is often for billing purposes. May relate to the resources referred to in `supportingInfo`.	example	Procedure Reason Codes

Indicates another resource that provides a justification for why this service is being requested. May relate to the resources referred to in `supportingInfo`.		
Insurance plans, coverage extensions, pre-authorizations and/or pre-determinations that may be needed for delivering the requested service.		
Additional clinical information about the patient or specimen that may influence the services or their interpretations. This information includes diagnosis, clinical findings and other observations. In laboratory ordering these are typically referred to as "ask at order entry questions (AOEs)". This includes observations explicitly requested by the producer (filler) to provide context or supporting information needed to complete the order. For example, reporting the amount of inspired oxygen for blood gas measurements.		
One or more specimens that the laboratory procedure will use.		
Anatomic location where the procedure should be performed. This is the target site.	example	SNOMED CT Body Structures
Any other notes and comments made about the service request. For example, internal billing notes.		
Instructions in terms that are understood by the patient or consumer.		
Key events in the history of the request.		

Binding Value Set	ACH dQM
	MS [0..*]
	R [1..1]
	NRT
	NRT
https://hl7.org/fhir/R4/valueset-lan	NRT
	NRT
	NRT

	NRT
	NRT
	NRT
	NR
	NR

	NR
	NR
	NR
https://hl7.org/fhir/R4/valueset-req	R [1..1]
https://hl7.org/fhir/R4/valueset-req	R [1..1]
https://hl7.org/fhir/R4/valueset-ser	MS [0..*]
https://hl7.org/fhir/R4/valueset-req	MS [0..1]
	MS [0..1]
https://hl7.org/fhir/R4/valueset-pro	MS [0..1]
https://hl7.org/fhir/R4/valueset-ser	NR
	NR

	R [1..1]
	MS [0..1]
	MS [0..1]
https://hl7.org/fhir/R4/valueset-me	MS [0..1]
	R [1..1]
	NR
https://hl7.org/fhir/R4/valueset-par	NR
	NR
https://hl7.org/fhir/R4/v3/ServiceD	NR
	NR
https://hl7.org/fhir/R4/valueset-prc	NR

	MS [0..*]
	NR
	NR
	MS [0..*]
https://hl7.org/fhir/R4/valueset-boo	NR
	NR
	NR
	NR

Back to TOC

FHIR Path	Min	Max	Data Type(s)
Specimen	0	*	
Specimen.id	0	1	id
Specimen.meta	0	1	Meta
Specimen.implicitRules	0	1	uri
Specimen.language	0	1	code
Specimen.text	0	1	Narrative

Specimen.contained	0	*	Resource
Specimen.extension	0	*	Extension
Specimen.modifierExtension	0	*	Extension
Specimen.identifier	0	*	Identifier
Specimen.accessionIdentifier	0	1	Identifier

Specimen.status	0	1	code
Specimen.type	0	1	CodeableConcept
Specimen.subject	0	1	Reference(Patient|Group|Device|Substance|Location)
Specimen.receivedTime	0	1	dateTime
Specimen.parent	0	*	Reference(Specimen)
Specimen.request	0	*	Reference(ServiceRequest)
Specimen.collection	0	1	BackboneElement

Specimen.collection.id	0	1	string
Specimen.collection.extension	0	*	Extension
Specimen.collection.modifierExtension	0	*	Extension
Specimen.collection.collector	0	1	Reference(Practitioner|PractitionerRole)
Specimen.collection.collected[x]	0	1	dateTime Period
Specimen.collection.duration	0	1	Duration
Specimen.collection.quantity	0	1	Quantity {SimpleQuantity}
Specimen.collection.method	0	1	CodeableConcept
Specimen.collection.bodySite	0	1	CodeableConcept

Specimen.collection.fastingStatus[x]	0	1	CodeableConcept Duration
Specimen.processing	0	*	BackboneElement
Specimen.processing.id	0	1	string
Specimen.processing.extension	0	*	Extension

Specimen.processing.modifierExtension	0	*	Extension
Specimen.processing.description	0	1	string
Specimen.processing.procedure	0	1	CodeableConcept
Specimen.processing.additive	0	*	Reference(Substance)
Specimen.processing.time[x]	0	1	dateTime Period
Specimen.container	0	*	BackboneElement
Specimen.container.id	0	1	string

Specimen.container.extension	0	*	Extension
Specimen.container.modifierExtension	0	*	Extension
Specimen.container.identifier	0	*	Identifier
Specimen.container.description	0	1	string

Specimen.container.type	0	1	CodeableConcept
Specimen.container.capacity	0	1	Quantity {SimpleQuantity}
Specimen.container.specimenQuantity	0	1	Quantity {SimpleQuantity}
Specimen.container.additive[x]	0	1	CodeableConcept Reference(Substance)
Specimen.condition	0	*	CodeableConcept
Specimen.note	0	*	Annotation

FHIR Short Description	FHIR Definition	Binding Strength
Sample for analysis	A sample to be used for analysis.	
Logical id of this artifact	The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.	
Metadata about the resource	The metadata about the resource. This is content that is maintained by the infrastructure. Changes to the content might not always be associated with version changes to the resource.	
A set of rules under which this content was created	A reference to a set of rules that were followed when the resource was constructed, and which must be understood when processing the content. Often, this is a reference to an implementation guide that defines the special rules along with other profiles etc.	
Language of the resource content	The base language in which the resource is written.	preferred
Text summary of the resource, for human interpretation	A human-readable narrative that contains a summary of the resource and can be used to represent the content of the resource to a human. The narrative need not encode all the structured data, but is required to contain sufficient detail to make it "clinically safe" for a human to just read the narrative. Resource definitions may define what content should be represented in the narrative to ensure clinical safety.	

Contained, inline Resources	These resources do not have an independent existence apart from the resource that contains them - they cannot be identified independently, and nor can they have their own independent transaction scope.	
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the resource. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
Extensions that cannot be ignored	May be used to represent additional information that is not part of the basic definition of the resource and that modifies the understanding of the	
External Identifier	Id for specimen.	
Identifier assigned by the lab	The identifier assigned by the lab when accessioning specimen(s). This is not necessarily the same as the specimen identifier, depending on local lab procedures.	

available | unavailable | unsatisfactory | entered-in-error	The availability of the specimen.	required
Kind of material that forms the specimen	The kind of material that forms the specimen.	required
Where the specimen came from. This may be from patient(s), from a location (e.g., the source of an environmental sample), or a sampling of a substance or a device	Where the specimen came from. This may be from patient(s), from a location (e.g., the source of an environmental sample), or a sampling of a substance or a device.	
The time when specimen was received for processing	Time when specimen was received for processing or testing.	
Specimen from which this specimen originated	Reference to the parent (source) specimen which is used when the specimen was either derived from or a component of another specimen.	
Why the specimen was collected	Details concerning a service request that required a specimen to be collected.	
Collection details	Details concerning the specimen collection.	

Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and	
Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or	
Who collected the specimen	Person who collected the specimen.	
Collection time	Time when specimen was collected from subject - the physiologically relevant time.	
How long it took to collect specimen	The span of time over which the collection of a specimen occurred.	
The quantity of specimen collected	The quantity of specimen collected; for instance the volume of a blood sample, or the physical measurement of an anatomic pathology sample.	
Technique used to perform collection	A coded value specifying the technique that is used to perform the procedure.	example
Anatomical collection site	Anatomical location from which the specimen was collected (if subject is a patient). This is the target site. This element is not used for environmental specimens.	extensible

Whether or how long patient abstained from food and/or drink	Abstinence or reduction from some or all food, drink, or both, for a period of time prior to sample collection.	extensible
Processing and processing step details	Details concerning processing and processing steps for the specimen.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	
Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	

Extensions that cannot be ignored even if unrecognized	May be used to represent additional information that is not part of the basic definition of the element and that modifies the understanding of the element in which it is contained and/or the understanding of the containing element's descendants. Usually modifier elements provide negation or qualification. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension. Applications processing a resource are required to check for modifier extensions. Modifier extensions SHALL NOT change the meaning of any elements on Resource or DomainResource (including cannot change the meaning of modifierExtension itself).	
Textual description of procedure	Textual description of procedure.	
Indicates the treatment step applied to the specimen	A coded value specifying the procedure used to process the specimen.	example
Material used in the processing step	Material used in the processing step.	
Date and time of specimen processing	A record of the time or period when the specimen processing occurred. For example the time of sample fixation or the period of time the sample was in formalin.	
Direct container of specimen (tube/slide, etc.)	The container holding the specimen. The recursive nature of containers; i.e. blood in tube in tray in rack is not addressed here.	
Unique id for inter-element referencing	Unique id for the element within a resource (for internal references). This may be any string value that does not contain spaces.	

Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the element. To make the use of extensions safe and manageable, there is a strict set of governance applied to the definition and use of extensions. Though any implementer can define an extension, there is a set of requirements that SHALL be met as part of the definition of the extension.	
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Id for the container	Id for container. There may be multiple; a manufacturer's bar code, lab assigned identifier, etc. The container ID may differ from the specimen id in some circumstances.	
Textual description of the container	Textual description of the container.	

Kind of container directly associated with specimen	The type of container associated with the specimen (e.g. slide, aliquot, etc.).	example
Container volume or size	The capacity (volume or other measure) the container may contain.	
Quantity of specimen within container	The quantity of specimen in the container; may be volume, dimensions, or other appropriate measurements, depending on the specimen type.	
Additive associated with container	Introduced substance to preserve, maintain or enhance the specimen. Examples: Formalin, Citrate, EDTA.	example
State of the specimen	A mode or state of being that describes the nature of the specimen.	extensible
Comments	To communicate any details or issues about the specimen or during the specimen collection. (for example: broken vial, sent with patient, frozen).	

Binding Description	Binding Value Set	ACH dQM
		MS [0..*]
		R [1..1]
		NRT
		NRT
Common Languages	https://hl7.org/fhir/R4/valu	NRT
		NRT

		NRT
		NRT
		NRT
		MS [0..*]
		MS [0..1]

SpecimenStatus	https://hl7.org/fhir/R4/valu	MS[0..1]
V2 Specimen Type	https://hl7.org/fhir/R4/v2/0	R [1..1]
		MS [0..1]
		NR
		NR
		NR
		R [1..1]

		NRT
		NRT
		NRT
		NR
		R [1..1]
		NR
		NR
FHIR Specimen Collection Method	https://hl7.org/fhir/R4/valu	NR
SNOMED CT Body Structures	http://hl7.org/fhir/R4/value	R [1..1]

v2 Relevant Clinical Inforrmation	https://hl7.org/fhir/R4/v2/0	NR
		NR
		NRT
		NRT

		NRT
		NR
Specimen processing procedure	https://hl7.org/fhir/R4/valueset-specimen-processing-procedure.html	NR
		NR
		NR
		NR
		NRT

		NRT
		NRT
		NRT
		NR

Specimen container	https://hl7.org/fhir/R4/valu	NR
		NR
		NR
v2 Additive	http://terminology.hl7.org/	NR
v2 Specimen Condition	http://terminology.hl7.org/	NR
		NR

Property
URL
Version
Name
Title
Status
Experimental
Date
Publisher
Contact
Jurisdiction
Description
Purpose
Copyright
FHIR Version
Kind
Type
Base Definition
Abstract
Derivation

Property
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Version
Name
Title
Status
Experimental
Date
Publisher
Contact
Jurisdiction
Description
Purpose
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FHIR Version
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Base Definition
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Experimental
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FHIR Version
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Description
Purpose
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FHIR Version
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Purpose
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FHIR Version
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Date
Publisher
Contact
Jurisdiction

Description
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FHIR Version
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Base Definition
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Derivation

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Purpose
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FHIR Version
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Purpose
Copyright
FHIR Version
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Base Definition
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Description
Purpose
Copyright
FHIR Version
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Type
Base Definition
Abstract
Derivation

Property
URL
Version
Name
Title
Status
Experimental
Date
Publisher
Contact
Contact
Description
Purpose
Copyright

FHIR Version
Kind
Type
Base Definition
Abstract
Derivation

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-condition
4.1.0
USCoreCondition
US Core Condition Profile
active
false
2020-06-27
HL7 International - Cross-Group Projects
No display for ContactDetail
United States of America
Defines constraints and extensions on the Condition resource for the minimal set of data to query concerns information.
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4.0.1
resource
Condition
http://hl7.org/fhir/StructureDefinition/Condition
false
constraint

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-condition
4.1.0
USCoreCondition
US Core Condition Profile
active
false
2020-06-27
HL7 International - Cross-Group Projects
No display for ContactDetail
United States of America
Defines constraints and extensions on the Condition resource for the minimal set of data to query concerns information.
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4.0.1
resource
Condition
http://hl7.org/fhir/StructureDefinition/Condition
false
constraint

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-documentreference
4.1.0
USCoreDocumentReferenceProfile
US Core DocumentReference Profile
active
false
2020-07-02
HL7 International - Cross-Group Projects
No display for ContactDetail

United States of America
The document reference profile used in US Core.
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4.0.1
resource
DocumentReference
http://hl7.org/fhir/StructureDefinition/DocumentReference
false
constraint

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-encounter
4.1.0
USCoreEncounterProfile
US Core Encounter Profile
active
false
2019-05-21
HL7 International - Cross-Group Projects
No display for ContactDetail
United States of America
The Encounter referenced in the US Core profiles.
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4.0.1
resource
Encounter
http://hl7.org/fhir/StructureDefinition/Encounter
false
constraint

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-immunization
4.1.0
USCoreImmunizationProfile
US Core Immunization Profile
active
false
2019-08-26
HL7 International - Cross-Group Projects
No display for ContactDetail
United States of America
Defines constraints and extensions on the Immunization resource for the minimal set of data to qu information.
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4.0.1
resource
Immunization
http://hl7.org/fhir/StructureDefinition/Immunization
false
constraint

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-location
4.1.0
USCoreLocation
US Core Location Profile
active
false
2019-05-21
HL7 International - Cross-Group Projects
No display for ContactDetail
United States of America
Defines basic constraints and extensions on the Location resource for use with other US Core resou
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4.0.1
resource
Location
http://hl7.org/fhir/StructureDefinition/Location
false
constraint

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-medication
4.1.0
USCoreMedicationProfile
US Core Medication Profile
active
false
2019-05-21
HL7 International - Cross-Group Projects
No display for ContactDetail
United States of America
Defines constraints and extensions on the Medication resource for the minimal set of data to query medication information.
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4.0.1
resource
Medication
http://hl7.org/fhir/StructureDefinition/Medication
false
constraint

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-medicationrequest
4.1.0
USCoreMedicationRequestProfile
US Core MedicationRequest Profile
active
false
2020-06-26
HL7 International - Cross-Group Projects
No display for ContactDetail
United States of America

Defines constraints and extensions on the MedicationRequest resource for the minimal set of data information.
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4.0.1
resource
MedicationRequest
http://hl7.org/fhir/StructureDefinition/MedicationRequest
false
constraint

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-observation-lab
4.1.0
USCoreLaboratoryResultObservationProfile
US Core Laboratory Result Observation Profile
active
false
2020-06-27
HL7 International - Cross-Group Projects
No display for ContactDetail
United States of America
Defines constraints and extensions on the Observation resource for the minimal set of data to que
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4.0.1
resource
Observation
http://hl7.org/fhir/StructureDefinition/Observation
false
constraint

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-procedure
4.1.0
USCoreProcedureProfile
US Core Procedure Profile
active
false
2020-06-29
HL7 International - Cross-Group Projects
No display for ContactDetail
United States of America
Defines constraints and extensions on the Procedure resource for the minimal set of data to query information. This profile can be used to record a service or intervention that is or was performed o
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4.0.1
resource
Procedure
http://hl7.org/fhir/StructureDefinition/Procedure

false
constraint

Value
http://hl7.org/fhir/us/core/StructureDefinition/us-core-servicerequest
4.1.0
USCoreServiceRequest
US Core Service Request
active
2018-08-22T00:00:00+00:00
HL7 International - Cross-Group Projects
No display for ContactDetail
United States of America
Defines constraints and extensions on the ServiceRequest resource for the minimal set of data to c with diagnostic and clinical tests and clinical interventions for a patient
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4.0.1
resource
ServiceRequest
http://hl7.org/fhir/StructureDefinition/ServiceRequest
false
constraint

Value
http://hl7.org/fhir/StructureDefinition/Coverage
4.3.0
Coverage
draft
false
2022-05-28T12:47:40+10:00
Health Level Seven International (Financial Management)
No display for ContactDetail
No display for ContactDetail
Financial instrument which may be used to reimburse or pay for health care products and services payment.
Coverage provides a link between covered parties (patients) and the payors of their healthcare cos
4.3.0
resource
Coverage
http://hl7.org/fhir/StructureDefinition/DomainResource
false
specialization

Value
http://hl7.org/fhir/StructureDefinition/MedicationAdministration
4.3.0
MedicationAdministration

draft
false
2022-05-28T12:47:40+10:00
Health Level Seven International (Pharmacy)
No display for ContactDetail
No display for ContactDetail
Describes the event of a patient consuming or otherwise being administered a medication. This m or it may be a long running infusion. Related resources tie this event to the authorizing prescriptio patient and health care practitioner.
4.3.0
resource
MedicationAdministration
http://hl7.org/fhir/StructureDefinition/DomainResource
false
specialization

Value
http://hl7.org/fhir/StructureDefinition/Observation
4.3.0
Observation
active
false
2022-05-28T12:47:40+10:00
Health Level Seven International (Orders and Observations)
No display for ContactDetail
No display for ContactDetail
Measurements and simple assertions made about a patient, device or other subject.
Observations are a key aspect of healthcare. This resource is used to capture those that do not re
4.3.0
resource
Observation
http://hl7.org/fhir/StructureDefinition/DomainResource
false
specialization

Value
http://hl7.org/fhir/StructureDefinition/Specimen
4.3.0
Specimen
draft
false
2022-05-28T12:47:40+10:00
Health Level Seven International (Orders and Observations)
No display for ContactDetail
No display for ContactDetail
A sample to be used for analysis.

4.3.0
resource
Specimen
http://hl7.org/fhir/StructureDefinition/DomainResource
false
specialization