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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

3.1.1 is the bug fix release-use this one.

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

US Core Profile Version 3.1.1	Cross-measure Requirements
3.1.1	MS
	MS
	MS
3.1.1	MS
3.1.1	MS
3.1.1	R
3.1.1	MS
3.1.1	MS
3.1.1	R
3.1.1	R
	MS
3.1.1	R
	R
3.1.1	R
3.1.1	MS
	MS
	MS

Abbreviation	Name
MS	Must Support
R	Required
NR	Not Required
NRT	Not Required by Technical Team

Details
If available in FHIR API/EHR, must send as required for measure calculation or risk adjustment
Required to send for NHSN Application to determine initial population
Not required for calculating the metrics, No current use for technical eval on data side, will not appear in the Bronze table
After review, the technical team determined these data elements were not needed.

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 copied to Bronze and will only exist in the bundle itself, which we archive so in the future we could switch them back as needed.

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

Condition.text	0	1		Narrative
Condition.contained	0	*		Resource
Condition.extension	0	*		Extension

Condition.modifierExtension	0	*		Extension
Condition.identifier	0	*		Identifier

Condition.clinicalStatus	0	1	Y	CodeableConcept
Condition.verificationStatus	0	1	Y	CodeableConcept
Condition.category	1	*	Y	CodeableConcept
Condition.severity	0	1		CodeableConcept
Condition.code	1	1	Y	CodeableConcept
Condition.bodySite	0	*		CodeableConcept
Condition.subject	1	1	Y	Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)
Condition.encounter	0	1		Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-encounter)

Condition.onset[x]	0	1		dateTime Age Period Range String
Condition.abatement[x]	0	1		dateTime Age Period Range String
Condition.recordedDate	0	1		dateTime
Condition.recorder	0	1		Reference(Practitioner| PractitionerRole|Patient| RelatedPerson)
Condition.asserter	0	1		Reference(Practitioner| PractitionerRole|Patient| RelatedPerson)
Condition.stage	0	*		BackboneElement
Condition.stage.id	0	1		string

Condition.stage.extension	0	*		Extension
Condition.stage.modifierExtension	0	*		Extension

Condition.stage.summary	0	1		CodeableConcept
Condition.stage.assessment	0	*		Reference(ClinicalImpression|DiagnosticReport|Observation)
Condition.stage.type	0	1		CodeableConcept
Condition.evidence	0	*		BackboneElement
Condition.evidence.id	0	1		string
Condition.evidence.extension	0	*		Extension

Condition.evidence.modifierExtensio	0	*		Extension
Condition.evidence.code	0	*		CodeableConcept
Condition.evidence.detail	0	*		Reference(Resource)
Condition.note	0	*		Annotation

Description & Constraints	FHIR Definition	Binding Strength
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.		
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	An 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	
External Ids for this condition	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.	

active | recurrence | relapse | inactive | remission | resolved	The clinical status of the condition. ***NOTE (7/31/2023): This is an invariant. Whe clinicalStatus is not present (empty), then a verificationStatus of "entered in error " is required. This will not be captured in FHIR validation.***	required
unconfirmed | provisional | differential | confirmed | refuted | entered-in-error	The verification status to support the clinical status of the condition. ***NOTE (7/31/2023): This is an invariant. Whe clinicalStatus is not present (empty), then a verificationStatus of "entered in error " is required. This will not be captured in FHIR validation.***	required
problem-list-item | encounter-diagnosis | health-concern	A category assigned to the condition.	extensible
Subjective severity of condition	A subjective assessment of the severity of the condition as evaluated by the clinician.	preferred
Identification of the condition, problem or diagnosis	Identification of the condition, problem or diagnosis.	extensible
Anatomical location, if relevant	The anatomical location where this condition manifests itself.	example
Who has the condition?	Indicates the patient or group who the condition record is associated with.	
Encounter created as part of	The Encounter during which this Condition was created or to which the creation of this record is tightly associated.	

Estimated or actual date, date-time, or age	Estimated or actual date or date-time the condition began, in the opinion of the clinician.	
When in resolution/remission	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.	
Date record was first recorded	The recordedDate represents when this particular Condition record was created in the system, which is often a system-generated date.	
Who recorded the condition	Individual who recorded the record and takes responsibility for its content.	
Person who asserts this condition	Individual who is making the condition statement.	
Stage/grade, usually assessed formally	Clinical stage or grade of a condition. May include formal severity assessments.	
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	

Simple summary (disease specific)	A simple summary of the stage such as "Stage 3". The determination of the stage is disease-specific.	example
Formal record of assessment	Reference to a formal record of the evidence on which the staging assessment is based.	
Kind of staging	The kind of staging, such as pathological or clinical staging.	example
Supporting evidence	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 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	
Manifestation/symptom	A manifestation or symptom that led to the recording of this condition.	example
Supporting information found elsewhere	Links to other relevant information, including pathology reports.	
Additional information about the Condition	Additional information about the Condition. This is a general notes/comments entry for description of the Condition, its diagnosis and prognosis.	

Binding Descr	FHIR Binding Value Set	Cross Measure Requirements
		MS [0..*]
		R [1..1]
		NRT
		NRT
Common Langu	http://hl7.org/fhir/R4/valueset-lan	NRT

		NRT
		NRT
		NRT

		NRT
		NRT

ConditionClinic	http://hl7.org/fhir/R4/ValueSet/cor	MS [0..1]
ConditionVerifi	http://hl7.org/fhir/R4/ValueSet/cor	MS [0..1]
US Core Condit	http://hl7.org/fhir/us/core/STU3.1.	R [1..*]
Condition/Dagn	http://hl7.org/fhir/R4/ValueSet/cor	NR
US Core Conditi	http://hl7.org/fhir/us/core/ValueSe	R [1..1]
SNOMEDCTBod	https://hl7.org/fhir/valueset-body-	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/valueset-condit	NR
		NR
ConditionStage	https://hl7.org/fhir/valueset-condit	NR
		NR
		NRT
		NRT

		NRT
Manifestation	https://hl7.org/fhir/valueset-manif	NR
		NR
		NR

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FHIR Path	Min	Max	Type(s)	FHIR Short Description
Coverage			DomainResource	Insurance or medical plan or a payment agreement Elements defined in Ancestors: id, meta, implicitRules, language, text, contained, extension, modifierExtension
Coverage.id	0	1	id	Logical id of this artifact
Coverage.meta	0	1	Meta	Metadata about the resource

Coverage.implicitRules	0	1	uri	A set of rules under which this content was created
Coverage.language	0	1	code	Language of the resource content
Coverage.text	0	1	Narrative	Text summary of the resource, for human interpretation

Coverage.contained	0	*	Resource	Contained, inline Resources
Coverage.extension	0	*	Extension	Additional content defined by implementations

Coverage.modifierExtension	0	*	Extension	Extensions that cannot be ignored
Coverage.identifier	0	*	Identifier	Business Identifier for the coverage
Coverage.status	1	1	code	active | cancelled | draft | entered-in-error
Coverage.type	0	1	CodeableConcept	Coverage category such as medical or accident
Coverage.policyHolder	0	1	Reference(Patient| RelatedPerson| Organization)	Owner of the policy

Coverage.subscriber	0	1	Reference(Patient| RelatedPerson)	Subscriber to the policy
Coverage.subscriberId	0	1	string	ID assigned to the subscriber
Coverage.beneficiary	1	1	Reference(Patient)	Plan beneficiary
Coverage.dependent	0	1	string	Dependent number
Coverage.relationship	0	1	CodeableConcept	Beneficiary relationship to the subscriber
Coverage.period	0	1	Period	Coverage start and end dates
Coverage.payor	1	*	Reference(Organizatio n|Patient| RelatedPerson)	Issuer of the policy

Coverage.class	0	*	BackboneElement	Additional coverage classifications
Coverage.class.id	0	1	string	Unique id for inter-element referencing
Coverage.class.extension	0	*	Extension	Additional content defined by implementations

Coverage.class.modifierExtension	0	*	Extension	Extensions that cannot be ignored even if unrecognized
Coverage.class.type	1	1	CodeableConcept	Type of class such as 'group' or 'plan'
Coverage.class.value	1	1	string	Value associated with the type
Coverage.class.name	0	1	string	Human readable description of the type and value

Coverage.order	0	1	positiveInt	Relative order of the coverage
Coverage.network	0	1	string	Insurer network
Coverage.costToBeneficiary	0	*	BackboneElement	Patient payments for services/products
Coverage.costToBeneficiary.id	0	1	string	Unique id for inter-element referencing

Coverage.costToBeneficiary.extension	0	*	Extension	Additional content defined by implementations

Coverage.costToBeneficiary .modifierExtension	0	*	Extension	Extensions that cannot be ignored even if unrecognized
Coverage.costToBeneficiary.type	0	1	CodeableConcept	Cost category
Coverage.costToBeneficiary.value[x] **valueQuantity** **valueMoney**	1	1	SimpleQuantity Money	The amount or percentage due from the beneficiary
Coverage.costToBeneficiary.exception	0	*	BackboneElement	Exceptions for patient payments

Coverage.costToBeneficiary .exception.id	0	1	string	Unique id for inter-element referencing
Coverage.costToBeneficiary .exception.extension	0	*	Extension	Additional content defined by implementations

Coverage.costToBeneficiary.exception.modifierExtension	0	*	Extension	Extensions that cannot be ignored even if unrecognized
Coverage.costToBeneficiary.exception.type	1	1	CodeableConcept	Exception category
Coverage.costToBeneficiary.exception.period	0	1	Period	The effective period of the exception
Coverage.subrogation	0	1	boolean	Reimbursement to insurer
Coverage.contract	0	*	Reference(Contract)	Contract details

FHIR Definition	Binding Strength	Binding Description
Financial instrument which may be used to reimburse or pay for health care products and services. Includes both insurance and self-payment.		
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	IETF language tag
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		
A unique identifier assigned to this coverage.		
The status of the resource instance.	Required	FinancialResourceStatusCodes
The type of coverage: social program, medical plan, accident coverage (workers compensation, auto), group health or payment by an individual or organization.	Preferred	CoverageTypeAndSelf-PayCodes
The party who 'owns' the insurance 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.		
The insurer assigned ID for the Subscriber.		
The party who benefits from the insurance coverage; the patient when products and/or services are provided.		
A unique identifier for a dependent under the coverage.		
The relationship of beneficiary (patient) to the subscriber.	Extensible	SubscriberRelationship Codes
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.		
The program or plan underwriter or payor including both insurance and non-insurance agreements, such as patient-pay agreements.		

A suite of underwriter specific classifiers.		
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		
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	CoverageClassCodes
The alphanumeric string value associated with the insurer issued label.		
A short description for the class.		

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.		
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.		
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 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		
The category of patient centric costs associated with treatment.	Extensible	CoverageCopayTypeCodes
The amount due from the patient for the cost category.		
A suite of codes indicating exceptions or reductions to patient costs and their effective periods.		

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		
The code for the specific exception.	Example	ExampleCoverageFinancialExceptionCodes
The timeframe during when the exception is in force.		
When 'subrogation=true' this insurance instance has been included not for adjudication but to provide insurers with the details to recover costs.		
The policy(s) which constitute this insurance coverage.		

Binding Value Set	Cross Measure Requirements
	MS [0..*]
	R [1..1]
	NRT

	NRT
https://hl7.org/fhir/value	NRT
	NRT

	NRT
	NRT

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

	MS [0..1]
	MS [0..1]
	R[1..1]
	MS [0..1]
http://hl7.org/fhir/Value	MS [0..1]
	MS [0..1]
	R [1..*]

	NR
	NRT
	NRT

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

	NR
	NR
	NRT
	NRT

	NRT

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

	NRT
	NRT

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

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Path	Min	Max	Must Support?
Device	0	*	
Device.text	0	1	
Device.contained	0	*	
Device.id	0	1	

Device.meta	0	1	
Device.implicitRules	0	1	

Device.language	0	1	
Device.extension	0	*	

Device.modifierExtension	0	*	
Device.identifier	0	*	
Device.definition	0	1	
Device.udiCarrier	0	*	
Device.udiCarrier.id	0	1	
Device.udiCarrier.extension	0	*	

Device.udiCarrier.modifierExtension	0	*	
Device.udiCarrier.deviceIdentifier	0	1	
Device.udiCarrier.issuer	0	1	
Device.udiCarrier.jurisdiction	0	1	
Device.udiCarrier.carrierAIDC	0	1	
Device.udiCarrier.carrierHRF	0	1	
Device.udiCarrier.entryType	0	1	
Device.status	0	1	
Device.statusReason	0	*	
Device.distinctIdentifier	0	1	
Device.manufacturer	0	1	
Device.manufactureDate	0	1	
Device.expirationDate	0	1	

Device.lotNumber	0	1	
Device.serialNumber	0	1	
Device.deviceName	0	*	
Device.deviceName.id	0	1	

Device.deviceName.extension	0	*	
Device.deviceName.modifierExtension	0	*	
Device.deviceName.name	1	1	
Device.deviceName.type	1	1	
Device.modelNumber	0	1	
Device.partNumber	0	1	

Device.type	0	1	
Device.specialization	0	*	
Device.specialization.systemType	1	1	
Device.specialization.version	0	1	
Device.version	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	0	1	
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
	Item used in healthcare
Narrative	Text summary of the resource, for human interpretation
Resource	Contained, inline Resources
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
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored
Identifier	Instance identifier
CodeableReference(DeviceDefini	The reference to the definition for the device
BackboneElement	Unique Device Identifier (UDI) Barcode string
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
string	Mandatory fixed portion of UDI
uri	UDI Issuing Organization
uri	Regional UDI authority
base64Binary	UDI Machine Readable Barcode String
string	UDI Human Readable Barcode String
code	barcode | rfid | manual | card | self-reported |
code	
Extensible/Codeable Concept	
string	
string	Name of device manufacturer
dateTime	Date when the device was made
dateTime	Date and time of expiry of this device (if applicable)

string	Lot number of manufacture
string	Serial number assigned by the manufacturer
BackboneElement	The name or names of the device as known to the manufacturer and/or patient
string	Unique id for inter-element referencing

Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored even if unrecognized
string	The name of the device.
code	
string	The manufacturer's model number for the device
string	The part number or catalog number of the device

CodeableConcept	The kind or type of device
Backbone Element	
Codeable Concept	
string	
BackboneElement	The actual design of the device or software version running on the device
CodeableConcept	The type of the device version, e.g. manufacturer,
Identifier	
string	The version text
BackboneElement	
string	Unique id for inter-element referencing

Extension	Additional content defined by implementations
Extension	Extensions that cannot be ignored even if unrecognized
CodeableConcept	
Quantity	Value of the property
Codeable Concept	
Reference (Patient)	
Reference(Organization)	Organization responsible for device
ContactPoint	Details for human/organization for support
Reference(Location)	Where the device is found

uri	Network address to contact device
Annotation	Device notes and comments
CodeableConcept	Safety Characteristics of Device
Reference(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.	
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 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, 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
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 is a reference to an implementation guide that defines these special rules as part of its 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).
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. 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.
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 barcode present on a device label or package may identify the instance, include names given to the device in local usage, or
The reference to the definition for the device.	
Unique device identifier (UDI) assigned to device label	UDI may identify an unique
Unique id for the element within a resource (for	
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.
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	The AIDC form of UDIs
The full UDI carrier as the human readable form (HRF)	If separate barcodes for DI
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	For example, this applies to
A name of the manufacturer or entity legally	
The date and time when the device was manufactured.	
The date and time beyond which this device is no	

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.
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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	
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,	
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.	

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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	
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

required	IETF language tag for a human language	http://hl7.org/fhir/ValueSet/all-languages|5.0.0

required	Codes to identify how UDI	http://hl7.org/fhir/
required	The record status of the device.	http://hl7.org/fhir/ValueSet/device-status|5.0.0

required	Device Name Type	https://hl7.org/fhir/R4/valueset-device-nametype.html

example	Codes to identify medical devices.	https://hl7.org/fhir/R4/va
example	The type of version	http://hl7.org/fhir/Value

example	Device property type.	http://hl7.org/fhir/ValueSet/device-property-type

example		http://hl7.org/fhir/Value

Cross Measure Requirements
MS[0..*]
NRT
NRT
R[1..1]

NRT

NRT

NRT

NRT

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

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

NR
NR
MS [0..*]
NRT

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

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

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

NR
NR
NR
NR

http://hl7.org/fhir/us/core/StructureDefinition/us-core-dia

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FHIR Path	Min	Max	Must Supp
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(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-careteam|http://hl7.org/fhir/us/core/StructureDefinition/us-core-practitionerrole)	Responsible Diagnostic Service
Reference(Practitioner|PractitionerRole|Organization|CareTeam)	Primary result interpreter
Reference(Specimen)	Specimens this report is based on
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-observation-lab)	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.	

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Identifiers assigned to this report by the performer or other systems.	Usually assigned by the Information System of the diagnostic service provider (filler id).	
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.	

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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	Cross Measure Requirements
		MS [0..*]
		R[1..1]
		NRT

		NRT

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

		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..*]

		NR
		NR
		MS [0..*]
		NRT

		NRT
		NR
		NR
		NR

SNOMEDCTCLinicalFindings	http://hl7.org/fhir/Value	NR
		NR

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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
	US Core Diagnostic Report Profile for Report and Note exchange
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	US Core Report Code
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)	The subject of the report - usually, but not always, the patient
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-encounter)	Health care event when test ordered
dateTime Period	Clinically relevant time/time-period for report
instant	DateTime this version was made

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-practitionerrole|http://hl7.org/fhir/us/core/StructureDefinition/us-core-careteam)	Responsible Diagnostic Service
Reference(Practitioner|PractitionerRole|Organization|CareTeam)	Primary result interpreter
Reference(Specimen)	Specimens this report is based on
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-observation-lab|http://hl7.org/fhir/us/core/StructureDefinition/us-core-observation-clinical-test|http://hl7.org/fhir/us/core/StructureDefinition/us-core-observation-imaging)	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
Clinical Testing and Imaging tests performed on a patient that results in structured or unstructured (narrative) findings specific to the patient.	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).
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 assigned to this report by the performer or other systems.	Usually assigned by the Information System of the diagnostic service provider (filler id).
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.	
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.
The test, panel, report, or note that was ordered.	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.
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.	
Rich text representation of the entire result as issued by the diagnostic service. Multiple formats are allowed but they SHALL be semantically	"application/pdf" is recommended as the most reliable and interoperable in this context.

Binding Strength	Binding Description	FHIR Binding Value Set

preferred	A human language.	http://hl7.org/fhir/ValueSet/languages

required		http://hl7.org/fhir/ValueSet/diagnostic-report-status
required		http://hl7.org/fhir/us/core/Value
extensible	LOINC codes	http://hl7.org/fhir/us/core/ValueSet/us-core-diagnosticreport-report-and-note-codes

example	Diagnosis codes provided as adjuncts to the report.	http://hl7.org/fhir/ValueSet/clinical-findings

Cross Measure Requirements
MS [0..*]
R[1..1]
NRT
NRT

NRT
NR
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
NR

NR
NRT
NRT
NRT

NR
NR
NR
MS[0..*]
NR

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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(EpisodeOf Care)
Encounter.basedOn	0	*		Reference(ServiceReq uest)
Encounter.participant	0	*	Y	BackboneE lement
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 | ImmunizationRecomm
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)

Short Description	FHIR Definition	Binding Strength
An interaction during which	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.	

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).	
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.	

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).	
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.	example
Diet preferences reported by the patient	Diet preferences reported by the patient.	example
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.	example
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.	example
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 performing the services was from an external organization (which may be billed seperately) for an external consultation. Refer to the example bundle showing an abbreviated set of Encounters for a colonoscopy.	
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	Cross Measure Requirements
		R [1..1]
		R [1..1]
		NRT
		NRT
CommonLanguages AllLanguages	http://hl7.org/fhir/Value	NRT
		NRT

		NRT
		NRT
		NRT
		R [1..*]

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

		MS [0..1]
		NRT
EncounterStatus	http://hl7.org/fhir/Value	R [1..1]
		NR
		NRT

		NRT
		NRT
EncounterStatus	http://hl7.org/fhir/Value	NR
		NR
ActEncounterCode	http://hl7.org/fhir/R4/v3	R [1..1]

		MS [0..*]
		NRT
		NRT

		NRT
ActEncounterCode	http://terminology.hl7.c	R [1..1]
		R [1..1]
USCoreEncounterType	http://hl7.org/fhir/us/co	R [1..*]
ServiceType	http://hl7.org/fhir/Value	NR
ActPriority	http://terminology.hl7.c	NR

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

		NRT
ParticipantType	http://hl7.org/fhir/Value	NR
		NR
		NR
		NRT
		R[1..1]

		NR
EncounterReasonCodes	http://hl7.org/fhir/Value	MS [0..*]
		NR
		MS [0..*]
		NRT
		NRT

		NRT
		R [1..1]
DiagnosisRole	http://hl7.org/fhir/Value	MS [0..1]
		MS [0..1]

		NR
		R [1..1]
		NRT
		NRT

		NRT
		NR
		NR
AdmitSource	http://hl7.org/fhir/Value	MS [0..1]

Hl7VSReAdmissionIndicator	http://terminology.hl7.c	MS [0..1]
Diet	http://hl7.org/fhir/Value	MS [0..1]
SpecialCourtesy	http://hl7.org/fhir/Value	NR
SpecialArrangements	http://hl7.org/fhir/Value	NR
		NR
DischargeDisposition	http://hl7.org/fhir/R4/Va	MS [0..1]
		R [1..*]
		NRT

		NRT
		NRT
		R [1..1]

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

Back to TOC

Path	Min	Max	Must Support?
Device.id	0	1	
Device.udiCarrier.deviceIdentifier	1	1	Y
Device.deviceName.name	1	1	
Device.deviceName.type	1	1	
Device.type	1	1	Y
Device.patient	1	1	Y
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.deviceName.id	0	1	
Device.deviceName.extension	0	*	

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

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

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

Device.property.modifierExtension	0	*	
Device.definition	0	1	
Device.udiCarrier.issuer	0	1	

Device.udiCarrier.jurisdiction	0	1	
Device.udiCarrier.entryType	0	1	
Device.statusReason	0	*	
Device.manufacturer	0	1	
Device.modelNumber	0	1	
Device.partNumber	0	1	
Device.specialization	0	*	
Device.specialization.systemType	1	1	
Device.specialization.version	0	1	
Device.version	0	*	
Device.version.type	0	1	
Device.version.component	0	1	
Device.version.value	1	1	

Device.property	0	*	
Device.property.type	1	1	
Device.property.valueQuantity	0	*	
Device.property.valueCode	0	*	
Device.udiCarrier	0	1	Y
Device.udiCarrier.carrierAIDC	0	1	Y
Device.udiCarrier.carrierHRF	0	1	Y
Device.status	0	1	
Device.distinctIdentifier	0	1	Y
Device.manufactureDate	0	1	Y
Device.expirationDate	0	1	Y
Device.lotNumber	0	1	Y

Device.serialNumber	0	1	Y
Device.deviceName	0	*	
Device	0	*	

Type(s)	Short
string	Logical id of this artifact
string	Mandatory fixed portion of UDI
string	The name of the device
code	udi-label-name | user-friendly-name | patient-reported-name | manufacturer-name | model-name | other
CodeableConcept	The kind or type of device
Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)	Patient to whom Device is affixed
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	Instance identifier
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
string	Unique id for inter-element referencing
Extension	Additional content defined by implementations

Extension	Extensions that cannot be ignored even if unrecognized
Reference(DeviceDefinition)	The reference to the definition for the device
uri	UDI Issuing Organization

uri	Regional UDI authority
code	barcode | rfid | manual +
CodeableConcept	online | paused | standby | offline | not-ready | transduc-discon | hw-discon | off
string	Name of device manufacturer
string	The model number for the device
string	The part number of the device
BackboneElement	The capabilities supported on a device, the standards to which the device conforms for a particular purpose, and used for the communication
CodeableConcept	The standard that is used to operate and communicate
string	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
CodeableConcept	The type of the device version
Identifier	A single component of the device version
string	The version text

BackboneElement	The actual configuration settings of a device as it actually operates, e.g., regulation status, time properties
CodeableConcept	Code that specifies the property DeviceDefinitionPropetyCode (Extensible)
Quantity	Property value as a quantity
CodeableConcept	Property value as a code, e.g., NTP4 (synced to NTP)
BackboneElement	Unique Device Identifier (UDI) Barcode string
base64Binary	UDI Machine Readable Barcode String
string	UDI Human Readable Barcode String
code	active | inactive | entered-in-error | unknown
string	The distinct identification string
dateTime	Date when the device was made
dateTime	Date and time of expiry of this device (if applicable)
string	Lot number of manufacture

string	Serial number assigned by the manufacturer
BackboneElement	The name of the device as given by the manufacturer
	Item used in healthcare

Definition
The logical id of the resource, as used in the URL for the resource. Once assigned, this value never changes.
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.
The name of the device.
The type of deviceName. UDILabelName | UserFriendlyName | PatientReportedName | ManufactureDeviceName | ModelName.
The kind or type of device.
Patient information, If the device is affixed to a person.
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.
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 instance identifiers assigned to a device by manufacturers other organizations or owners.
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.

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The reference to the definition for the 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-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.

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.
A coded entry to indicate how the data was entered.
Reason for the status of the Device availability.
A name of the manufacturer.
The model number for the device.
The part number of the device.
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.
The actual design of the device or software version running on the device.
The type of the device version.
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.
Code that specifies the property DeviceDefinitionPropetyCode (Extensible).
Property value as a quantity.
Property value as a code, e.g., NTP4 (synced to NTP).
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.
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 full UDI carrier as the human readable form (HRF) representation of the barcode string as printed on the packaging of the device.
Status of the Device availability.
The distinct identification string as required by regulation for a human cell, tissue, or cellular and tissue-based product.
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.
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.
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.

Comments	Binding Strength
The only time that a resource does not have an id is when it is being submitted to the server using a create operation.	
	required
	extensible
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	preferred
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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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.	
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	required
	extensible
Alphanumeric Maximum 20.	

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.	
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
For example, this applies to devices in the United States regulated under *Code of Federal Regulation 21CFR§1271.290(c)*.	

Alphanumeric Maximum 20.	

Binding Description	Binding Value Set ***Note: if the binding strength is an example, the binding value***	Cross Measure Requirements
		R [1..1]
		R [1..1]
		R [1..1]
The type of name the device is referred by.	http://hl7.org/fhir/Va	R [1..1]
Codes to identify medical devices	http://hl7.org/fhir/Va	R [1..1]
		R [1..1]
		NRT
		NRT

A human language.	http://hl7.org/fhir/ValueSet/languages	NRT
		NRT
		NRT
		NRT

		NRT
		NRT
		NRT
		NRT

		NRT
		NRT
		NRT

		NRT
		NRT
		NRT

		NRT
		NRT
		NRT

		NRT
		NR
		NR

		NR
Codes to identify how UDI data was entered.	http://hl7.org/fhir/ValueSet/udi-entry-type|4.0.1	NR
The availability status reason of the device.	http://hl7.org/fhir/ValueSet/device-status-reason	NR
		NR
		NR
		NR
		NR
		NR
		NR
		NR
		NR
		NR
		NR
		NR

		NR
		NR
		NR
		NR
		MS [0..1]
		MS [0..1]
		MS [0..1]
The availability status of the device.	http://hl7.org/fhir/Va	MS [0..1]
		MS [0..1]
		MS [0..1]
		MS [0..1]
		MS [0..1]

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

Back to TOC link to change log

FHIR Path	Min	Max	Must Support?	Type(s)
Observation	0	*		Observation
Observation.id	0	1		string
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	Y	code
Observation.category	1	*	Y	Slice Definition
Observation.category:Laboratory	1	1	Y	CodeableConcept
Observation.category.id	0	1		string

Observation.category.extension	0	*		Extension
Observation.category.coding	1	*	Y	Coding
Observation.category.coding.id	0	1		string
Observation.category.coding.extension	0	*		Extension
Observation.category.coding.system	1	1	Y	uri

Observation.category.coding.version	0	1		string
Observation.category.coding.code	1	1	Y	code
Observation.category.coding.display	0	1		string
Observation.category.coding.userSelected	0	1		boolean
Observation.category.text	0	1		string
Observation.code	1	1	Y	CodeableConcept

Observation.subject	1	1	Y	Reference(US Core Patient Profile)
Observation.focus	0	*		Reference(Resource)
Observation.encounter	0	1		Reference(Encounter)
Observation.effective[x]	0	1	Y	dateTime Period
Observation.issued	0	1		instant

Observation.performer	0	*		Reference(Practitioner| PractitionerRole|Organization| CareTeam|Patient|RelatedPerson)
Observation.value[x]	0	1	Y	Quantity CodeableConcept string boolean integer Range Ratio SampledData time dateTime Period
Observation.dataAbsentReason	0	1	Y	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	*		

Short	Definition	Binding Strength
Measurements and simple assertions	This profile is created to meet the 2015 Edition Common Clinical Data Set 'Laboratory test(s) and Laboratory value(s)/result(s)' requirements.	
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 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.	required
Classification of type of observation **Slice**: Unordered, Open by pattern:$this	A code that classifies the general type of observation being made.	preferred
Classification of type of observation	A code that classifies the general type of observation being made.	preferred
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.	
Code defined by a terminology system	A reference to a code defined by a terminology system.	
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.	
Identity of the terminology system Fixed Value: http://terminology.hl7.org/CodeSystem/observation-category	The identification of the code system that defines the meaning of the symbol in the code.	

Version of the system - if relevant	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.	
Symbol in syntax defined by the system Fixed Value: laboratory	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).	
Representation defined by the system	A representation of the meaning of the code in the system, following the rules of the system.	
If this coding was chosen directly by the user	Indicates that this coding was chosen by a user directly - e.g. off a pick list of available items (codes or displays).	
Plain text representation of the concept	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.	
Laboratory Test Name	The test that was performed. A LOINC **SHALL** be used if the concept is present in LOINC.	extensible

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 us-core-1: Datetime must be at least to day.	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.	
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".	
Result Value	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.	
Why the result is missing	Provides a reason why the expected value in the element Observation.value[x] is missing.	extensible
High, low, normal, etc.	A categorical assessment of an observation value. For example, high, low, normal.	extensible
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).	example
How it was done	Indicates the mechanism used to perform the observation.	example
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	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.	preferred
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
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".	example
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.	extensible
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.	

Binding Description (Value Set Name)	Binding Value Set	Cross Measure = Requirements
		MS [0..*]
		R [1..1]
		NRT
		NRT
CommonLanguages	http://hl7.org/fhir/ValueSet/languag	NRT
		NRT

		NRT
		NRT
		NRT

		NRT
		NR
		NR
ObservationStatus	http://hl7.org/fhir/R4/ValueSet/obse	R [1..1]
ObservationCategoryCodes	http://hl7.org/fhir/ValueSet/observa	R [1..*]
ObservationCategoryCodes	http://hl7.org/fhir/ValueSet/observa	R [1..1]
		NRT

		NRT
		NR
		NR
		NR
		NR

		NR
		NR
		NR
		NR
		NR
LOINCCodes	http://hl7.org/fhir/ValueSet/observa	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

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

		NR
		MS [0..1]
DataAbsentReason	http://hl7.org/fhir/R4/ValueSet/data	MS [0..1]
ObservationInterpretationCodes	http://hl7.org/fhir/ValueSet/observa	MS [0..*]
		NR
SNOMEDCTBodyStructures	http://hl7.org/fhir/ValueSet/body-si	MS [0..1}
ObservationMethods	http://hl7.org/fhir/ValueSet/observa	MS [0..1}
		MS [0..1]
		NR
		NR

		NRT
		NRT
		NRT

		NR
		NR
ObservationReferenceRangeMeaningCodes	http://hl7.org/fhir/ValueSet/referen	NR
ObservationReferenceRangeAppliesToCodes	http://hl7.org/fhir/ValueSet/referen	NR
		NR
		NR

		NR
		NR
		MS [0..*]
		NRT
		NRT

		NRT
LOINCCodes	http://hl7.org/fhir/R4/valueset-obse	R [1..1]
		MS [0..1]
DataAbsentReason	http://hl7.org/fhir/R4/ValueSet/data	NR
ObservationInterpretationCodes	http://hl7.org/fhir/ValueSet/observa	MS [0..*]

		NR

RPS question for FHIR SME: what does this mean? 5/10/23 Per Dave:
Observation.category notes the classification of the type of the observation. It is a flag that can be use (ie implemented) to represent one or many concepts referring to the type or classification of the observation. Some common examples of classifications we might see (some of the time) are here. I could see a hospital including a local code ‘transmission-based-precaution’ or ‘tbp’ code here; I could also see a hospital using one of these codes or their own other codes to represent the concept of ‘tbp’.

But also, expect some hospitals may not use Observations to convey the concept of a TBP.

In a nutshell, to me, Observation.category is a key element that Link should transmit to NHSN. beyond that, I think we need to wait and see multiple hospitals’ data before we can begin to inform an understanding/expectation regarding what coded concepts we may expect here. And our understanding will need to keep evolving as we onboard more and more hospitals.

Note- while many .category repetitions are allowed for a single Observation, at least 1 is required, so any Observation that does not have at least one Observation.category will be an invalid Observation.

Back to TOC

FHIR Path - http://hl7.org/fhir/us/core/StructureDefinition/us-core-location	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	*	

Type(s)	Short
	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

Definition	Binding Strength	Binding Description
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	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).		
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	LocationStatus
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	hl7VS-bedSta
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	LocationMode

Indicates the type of function performed at the location.	extensible	ServiceDeliveryLocationRoleType
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	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.		

Physical form of the location, e.g. building, room, vehicle, road.	example	Physical form of the location.
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 days of the week.
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		

Binding Value Set	Cross Measure Requirements
	R [1..*]
	R [1..1]
	NRT
	NRT
http://hl7.org/fhir/ValueSet/languages	NRT
	NRT
	NRT
	NRT

	NRT
	NR
http://hl7.org	MS [0..1]
http://terminology.hl7.org/ValueSet/v2-0116	NR
	R [1..1]

	MS [0..*]
	NR
http://hl7.org/fhir/ValueSet/location-mode|4.0.1	NR

http://terminc	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
http://hl7.org	MS [0..1]

http://hl7.org/fhir/ValueSet/address-type|4.0.1	NR
	NR
	NR
	NR
http://hl7.org/fhir/us/core/ValueSet/us-core-usps-state	NR
	NR
	NR
	NR

http://hl7.org	MS [0..1]
	NR
	NRT
	NRT
	NRT

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

	NRT
http://hl7.org/fhir/ValueSet/days-of-week|4.0.1	NR
	NR
	NR
	NR
	NR
	NR

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Link to Change Log

FHIR Path	Min	Max	Must Su
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	

Type(s)	Short	Definition
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)

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.
code	active | inactive | entered-in-error	A code to indicate if the medication is in active use.

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.
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
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 Streng	Binding Description	Binding Value Set
preferred	CommonLanguages	http://hl7.org/fhir/ValueSet/lang

extensible	USCoreMedicationCodes	http://hl7.org/fhir/us/core/STU3
required	Medication Status Codes	http://hl7.org/fhir/ValueSet/med

example	4.0.1 SNOMEDCTFormCodes	http://hl7.org/fhir/ValueSet/med

Cross Measure Requirements
MS [0..*]
R [1..1]
NRT
NRT
NRT

NRT

NRT

NRT

NRT
NRT
R [1..1]
NR

NR
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	Type(s)
MedicationAdministration	0	*	
MedicationAdministration.id	0	1	id
MedicationAdministration.meta	0	1	Meta
MedicationAdministration.implicitRules	0	1	uri
MedicationAdministration.language	0	1	code

MedicationAdministration.text	0	1	Narrative
MedicationAdministration.contained	0	*	Resource
MedicationAdministration.extension	0	*	Extension

MedicationAdministration.modifierExtension	0	*	Extension
MedicationAdministration.identifier	0	*	Identifier
MedicationAdministration.instantiates	0	*	uri

MedicationAdministration.partOf	0	*	Reference(MedicationAdministration|Procedure)
MedicationAdministration.status	1	1	code
MedicationAdministration.statusReason	0	*	CodeableConcept
MedicationAdministration.category	0	1	CodeableConcept
MedicationAdministration.medication[x]	1	1	CodeableConcept Reference(Medication)
MedicationAdministration.subject	1	1	Reference(Patient|Group)
MedicationAdministration.context	0	1	Reference(Encounter|EpisodeOfCare)
MedicationAdministration.supportingInformation	0	*	Reference(Any)
MedicationAdministration.effective[x]	1	1	dateTime Period

MedicationAdministration.performer	0	*	BackboneElement
MedicationAdministration.performer.id	0	1	string
MedicationAdministration.performer.extension	0	*	Extension

MedicationAdministration.performer.modifierExtension	0	*	Extension
MedicationAdministration.performer.function	0	1	CodeableConcept
MedicationAdministration.performer.actor	1	1	Reference(Practitioner|PractitionerRole|Patient|RelatedPerson|Device)
MedicationAdministration.reasonCode	0	*	CodeableConcept
MedicationAdministration.reasonReference	0	*	Reference(Condition|Observation|DiagnosticReport)
MedicationAdministration.request	0	1	Reference(MedicationRequest)

MedicationAdministration.device	0	*	Reference(Device)
MedicationAdministration.note	0	*	Annotation
MedicationAdministration.dosage	0	1	BackboneElement
MedicationAdministration.dosage.id	0	1	string
MedicationAdministration.dosage.extension	0	*	Extension

MedicationAdministration.dosage.modifierExtension	0	*	Extension
MedicationAdministration.dosage.text	0	1	string
MedicationAdministration.dosage.site	0	1	CodeableConcept

MedicationAdministration.dosage.route	0	1	CodeableConcept
MedicationAdministration.dosage.method	0	1	CodeableConcept
MedicationAdministration.dosage.dose	0	1	SimpleQuantity
MedicationAdministration.dosage.rate[x]	0	1	Ratio SimpleQuantity
MedicationAdministration.eventHistory	0	*	Reference(Provenance)

Short	Definition	Binding Strength
Administration of medication to a patient	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.	
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 but limited to AllLanguages

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).	
External identifier	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.	
Instantiates protocol or definition	A protocol, guideline, orderset, or other definition that was adhered to in whole or in part by this event.	

Part of referenced event	A larger event of which this particular event is a component or step.	
in-progress | not-done | on-hold | completed | entered-in-error | stopped | unknown	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
Reason administration not performed	A code indicating why the administration was not performed.	example
Type of medication usage	Indicates where the medication is expected to be consumed or administered.	preferred
What was administered	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.	example
Who received medication	The person or animal or group receiving the medication.	
Encounter or Episode of Care administered as part of	The visit, admission, or other contact between patient and health care provider during which the medication administration was performed.	
Additional information to support administration	Additional information (for example, patient height and weight) that supports the administration of the medication.	
Start and end time of administration	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.	

Who performed the medication administration and what they did	Indicates who or what performed the medication administration and how they were involved.	
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 performance	Distinguishes the type of involvement of the performer in the medication administration.	example
Who performed the medication administration	Indicates who or what performed the medication administration.	
Reason administration performed	A code indicating why the medication was given.	example
Condition or observation that supports why the medication was administered	Condition or observation that supports why the medication was administered.	
Request administration performed against	The original request, instruction or authority to perform the administration.	

Device used to administer	The device used in administering the medication to the patient. For example, a particular infusion pump.	
Information about the administration	Extra information about the medication administration that is not conveyed by the other attributes.	
Details of how medication was taken + Rule: SHALL have at least one of dosage.dose or dosage.rate[x]	Describes the medication dosage information details e.g. dose, rate, site, route, etc.	
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).	
Free text dosage instructions e.g. SIG	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.	
Body site administered to	A coded specification of the anatomic site where the medication first entered the body. For example, "left arm".	example

Path of substance into body	A code specifying the route or physiological path of administration of a therapeutic agent into or onto the patient. For example, topical, intravenous, etc.	example
How drug was administered	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
Amount of medication per dose	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.	
Dose quantity per unit of time	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 list of events of interest in the lifecycle	A summary of the events of interest that have occurred, such as when the administration was verified.	

Binding Description (Value Set Name)	Binding Value Set	Cross Measure Requirements
		MS [0..*]
		R [1..1]
		NRT
		NRT
CommonLanguages	http://hl7.org/fhir/ValueSet/la	NRT

		NRT
		NRT
		NRT

		NRT
		NRT
		NR

		NR
MedicationAdministration Status Codes	http://hl7.org/fhir/ValueSet/m	R [1..1]
SNOMEDCTReasonMedicationNotGivenCodes	http://hl7.org/fhir/ValueSet/re	MS [0..*]
MedicationAdministration Category Codes	http://hl7.org/fhir/R4/valuese	MS [0..*]
SNOMEDCTMedicationCodes	http://hl7.org/fhir/ValueSet/m	R [1..1]
		R [1..1]
		MS [0..1]
		NR
		R [1..1]

		NR
		NRT
		NRT

		NRT
MedicationAdministration Performer Function Codes	http://hl7.org/fhir/ValueSet/m	NR
		NR
ReasonMedicationGivenCodes	http://hl7.org/fhir/ValueSet/re	MS [0..*]
		MS [0..*]
		MS [0..1]

		NR
		NR
		R [1..1]
		NRT
		NRT

		NRT
		NR
SNOMEDCTAnatomicalStructureForAdministrationSiteCodes	http://hl7.org/fhir/ValueSet/a	NR

SNOMEDCTRouteCodes	http://hl7.org/fhir/ValueSet/rc	R [1..1]
SNOMEDCTAdministrationMethodCodes	http://hl7.org/fhir/ValueSet/ac	MS [0..1]
		R [1..1]
		NR
		NR

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FHIR Path	Min	Max	Must Support?	Type(s)
MedicationRequest	0	*		
MedicationRequest.id	0	1		string
MedicationRequest.meta	0	1		Meta

MedicationRequest.implicitRules	0	1		uri
MedicationRequest.language	0	1		code

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

MedicationRequest.extension	0	*		Extension
MedicationRequest.modifierExtension	0	*		Extension

MedicationRequest.identifier	0	*		Identifier
MedicationRequest.status	1	1	Y	code
MedicationRequest.statusReason	0	1		CodeableConcept

MedicationRequest.intent	1	1	Y	code
MedicationRequest.category	0	*		CodeableConcept
MedicationRequest.priority	0	1		code
MedicationRequest.doNotPerform	0	1		boolean

MedicationRequest.reported[x]	0	1	Y	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)
MedicationRequest.medication[x]	1	1	Y	CodeableConcept Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-medication)
MedicationRequest.subject	1	1	Y	Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)

MedicationRequest.encounter	0	1	Y	Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-encounter)
MedicationRequest.supportingInformation	0	*		Reference(Resource)
MedicationRequest.authoredOn	1	1	Y	dateTime
MedicationRequest.requester	1	1	Y	Reference(US Core Practitioner Profile | US Core Organization Profile | US Core Patient Profile)
MedicationRequest.performer	0	1		Reference(Practitioner|PractitionerRole|Organization|Patient|Device|RelatedPerson|CareTeam)
MedicationRequest.performerType	0	1		CodeableConcept

MedicationRequest.recorder	0	1		Reference(Practitioner|PractitionerRole)
MedicationRequest.reasonCode	0	*		CodeableConcept
MedicationRequest.reasonReference	0	*		Reference(Condition|Observation)
MedicationRequest.instantiatesCanonical	0	*		canonical
MedicationRequest.instantiatesUri	0	*		uri
MedicationRequest.basedOn	0	*		Reference(CarePlan|MedicationRequest|ServiceRequest|ImmunizationRecommendation)
MedicationRequest.groupIdentifier	0	1		Identifier

MedicationRequest.courseOfTherapyType	0	1		CodeableConcept
MedicationRequest.insurance	0	*		Reference(Coverage|ClaimResponse)
MedicationRequest.note	0	*		Annotation
MedicationRequest.dosageInstruction	0	*	Y	Dosage
MedicationRequest.dosageInstruction.id	0	1		string

MedicationRequest.dosageInstruction.extension	0	*		Extension
MedicationRequest.dosageInstruction.modifierExtension	0	*		Extension

MedicationRequest.dosageInstruction.sequence	0	1		integer
MedicationRequest.dosageInstruction.text	0	1	Y	string
MedicationRequest.dosageInstruction.additionalInstruction	0	*		CodeableConcept
MedicationRequest.dosageInstruction.patientInstruction	0	1		string
MedicationRequest.dosageInstruction.timing	0	1		Timing

MedicationRequest.dosageInstruction.asNeeded[x]	0	1		boolean CodeableConcept
MedicationRequest.dosageInstruction.site	0	1		CodeableConcept
MedicationRequest.dosageInstruction.route	0	1		CodeableConcept
MedicationRequest.dosageInstruction.method	0	1		CodeableConcept
MedicationRequest.dosageInstruction.doseAndRate	0	*		Element
MedicationRequest.dosageInstruction.doseAndRate.id	0	1		string

MedicationRequest.dosageInstruction.doseAndRate.extension	0	*		Extension
MedicationRequest.dosageInstruction.doseAndRate.type	0	1		CodeableConcept

MedicationRequest.dosageInstruction.doseAndRate.dose[x]	0	1		Range Quantity {SimpleQuantity}

MedicationRequest.dosageInstruction.doseAndRate.rate[x]	0	1		Ratio RangeQuantity {SimpleQuantity}
MedicationRequest.dosageInstruction.maxDosePerPeriod	0	1		Ratio
MedicationRequest.dosageInstruction.maxDosePerAdministration	0	1		Quantity {SimpleQuantity}

MedicationRequest.dosageInstruction.maxDosePerLifetime	0	1		Quantity {SimpleQuantity}
MedicationRequest.dispenseRequest	0	1		BackboneElement
MedicationRequest.dispenseRequest.id	0	1		string
MedicationRequest.dispenseRequest.extension	0	*		Extension

MedicationRequest.dispenseRequest.modifierExtension	0	*		Extension
MedicationRequest.dispenseRequest.initialFill	0	1		BackboneElement
MedicationRequest.dispenseRequest.initialFill.id	0	1		string

MedicationRequest.dispenseRequest.initialFill.extension	0	*		Extension
MedicationRequest.dispenseRequest.initialFill.modifierExtension	0	*		Extension

MedicationRequest.dispenseRequest.initialFill.quantity	0	1		Quantity {SimpleQuantity}
MedicationRequest.dispenseRequest.initialFill.duration	0	1		Duration
MedicationRequest.dispenseRequest.dispenseInterval	0	1		Duration
MedicationRequest.dispenseRequest.validityPeriod	0	1		Period
MedicationRequest.dispenseRequest.numberOfRepeatsAllowed	0	1		unsignedInt

MedicationRequest.dispenseRequest.quantity	0	1		Quantity {SimpleQuantity}
MedicationRequest.dispenseRequest.expectedSupplyDuration	0	1		Duration
MedicationRequest.dispenseRequest.performer	0	1		Reference(Organization)
MedicationRequest.substitution	0	1		BackboneElement
MedicationRequest.substitution.id	0	1		string

MedicationRequest.substitution.extension	0	*		Extension
MedicationRequest.substitution.modifierExtension	0	*		Extension

MedicationRequest.substitution.allowed[x]	1	1		boolean CodeableConcept
MedicationRequest.substitution.reason	0	1		CodeableConcept
MedicationRequest.priorPrescription	0	1		Reference(MedicationRequest)
MedicationRequest.detectedIssue	0	*		Reference(DetectedIssue)
MedicationRequest.eventHistory	0	*		Reference(Provenance)

Short	Definition	Binding Strer	Binding Description
Ordering of medication for patient or group	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.		
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	CommonLanguages

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		

External ids for this request	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.		
active | on-hold | cancelled | completed | entered-in-error | stopped | draft | unknown	A code specifying the current state of the order. Generally, this will be active or completed state.	required	medicationrequest Status
Reason for current status	Captures the reason for the current state of the MedicationRequest.	example	medicationRequest Status Reason Codes

proposal | plan | order | original-order | reflex-order | filler-order | instance-order | option	Whether the request is a proposal, plan, or an original order.	required	medicationRequest Intent
Type of medication usage	Indicates the type of medication request (for example, where the medication is expected to be consumed or administered (i.e. inpatient or outpatient)).	example	medicationRequest Category Codes
routine | urgent | asap | stat	Indicates how quickly the Medication Request should be addressed with respect to other requests.	required	RequestPriority
True if request is prohibiting action	If true indicates that the provider is asking for the medication request not to occur.		

Reported rather than primary record	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.		
Medication to be taken	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.	extensible	US Core Medication Codes (RxNorm)
Who or group medication request is for	A link to a resource representing the person or set of individuals to whom the medication will be given.		

Encounter created as part of encounter/admission/stay	The Encounter during which this [x] was created or to which the creation of this record is tightly associated.		
Information to support ordering of the medication	Include additional information (for example, patient height and weight) that supports the ordering of the medication.		
When request was initially authored	The date (and perhaps time) when the prescription was initially written or authored on.		
Who/What requested the Request	The individual, organization, or device that initiated the request and has responsibility for its activation.		
Intended performer of administration	The specified desired performer of the medication treatment (e.g. the performer of the medication administration).		
Desired kind of performer of the medication administration	Indicates the type of performer of the administration of the medication.	example	Procedure Performer Role Codes

Person who entered the request	The person who entered the order on behalf of another individual for example in the case of a verbal or a telephone order.		
Reason or indication for ordering or not ordering the medication	The reason or the indication for ordering or not ordering the medication.	example	Condition/ Problem/Diagnosis Codes
Condition or observation that supports why the prescription is being written	Condition or observation that supports why the medication was ordered.		
Instantiates FHIR protocol or definition	The URL pointing to a protocol, guideline, orderset, or other definition that is adhered to in whole or in part by this MedicationRequest.		
Instantiates external protocol or definition	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.		
What request fulfills	A plan or request that is fulfilled in whole or in part by this medication request.		
Composite request this is part of	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.		

Overall pattern of medication administration	The description of the overall pattern of the administration of the medication to the patient.	example	Medication request course of therapy codes
Associated insurance coverage	Insurance plans, coverage extensions, pre-authorizations and/or pre-determinations that may be required for delivering the requested service.		
Information about the prescription	Extra information about the prescription that could not be conveyed by the other attributes.		
How the medication should be taken	Indicates how the medication is to be used by the patient.		
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		

The order of the dosage instructions	Indicates the order in which the dosage instructions should be applied or interpreted.		
Free text dosage instructions e.g. SIG	Free text dosage instructions e.g. SIG.		
Supplemental instruction or warnings to the patient - e.g. "with meals", "may cause drowsiness"	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").	example	A coded concept identifying additional instructions such as "take with water" or "avoid operating heavy machinery".
Patient or consumer oriented instructions	Instructions in terms that are understood by the patient or consumer.		
When medication should be administered	When medication should be administered.		

Take "as needed" (for x)	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).	example	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.
Body site to administer to	Body site to administer to.	example	A coded concept describing the site location the medicine enters into or onto the body.
How drug should enter body	How drug should enter body.	example	A coded concept describing the route or physiological path of administration of a therapeutic agent into or onto the body of a subject.
Technique for administering medication	Technique for administering medication.	example	A coded concept describing the technique by which the medicine is administered.
Amount of medication administered	The amount of medication administered.		
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.		
The kind of dose or rate specified	The kind of dose or rate specified, for example, ordered or calculated.	example	The kind of dose or rate specified.

Amount of medication per dose	Amount of medication per dose.		

Amount of medication per unit of time	Amount of medication per unit of time.		
Upper limit on medication per unit of time	Upper limit on medication per unit of time.		
Upper limit on medication per administration	Upper limit on medication per administration.		

Upper limit on medication per lifetime of the patient	Upper limit on medication per lifetime of the patient.		
Medication supply authorization	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 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		
First fill details	Indicates the quantity or duration for the first dispense of the medication.		
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		

First fill quantity	The amount or quantity to provide as part of the first dispense.		
First fill duration	The length of time that the first dispense is expected to last.		
Minimum period of time between dispenses	The minimum period of time that must occur between dispenses of the medication.		
Time period supply is authorized for	This indicates the validity period of a prescription (stale dating the Prescription).		
Number of refills authorized	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.		

Amount of medication to supply per dispense	The amount that is to be dispensed for one fill.		
Number of days supply per dispense	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.		
Intended dispenser	Indicates the intended dispensing Organization specified by the prescriber.		
Any restrictions on medication substitution	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 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		

Whether substitution is allowed or not	True if the prescriber allows a different drug to be dispensed from what was prescribed.	example	ActSubstanceAdminSubstitutionCode
Why should (not) substitution be made	Indicates the reason for the substitution, or why substitution must or must not be performed.	example	SubstanceAdminSubstitutionReason
An order/prescription that is being replaced	A link to a resource representing an earlier order related order or prescription.	Y	
Clinical Issue with action	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.	Y	
A list of events of interest in the lifecycle	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.	Y	

Binding Value Set	Cross Measure Requirements
	MS [0..*]
	R [1..1]
	NRT

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

	NRT
	NRT

	NRT
	NRT

	NRT
http://hl7.org/fhir/V	R [1..1]
http://hl7.org/fhir/V	MS[0..1]

http://hl7.org/fhir/Va	R [1..1]
http://hl7.org/fhir/Va	MS [0..*]
http://hl7.org/fhir/Va	MS [0..1]
	MS [0..1]

	MS [0..1]
http://cts.nlm.nih.gc	R [1..1]
	R [1..1]

	MS [0..1]
	NRT
	R [1..1]
	R [1..1]
	NRT
http://hl7.org/fhir/ValueSet/performer-role	NRT

	NR
http://hl7.org/fhir/V	MS [0..*]
	MS [0..*]
	MS [0..*]
	MS [0..*]
	NRT
	NRT

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

	NRT
	NRT

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

http://hl7.org/fhir/V	MS [0..1]
http://hl7.org/fhir/ValueSet/approach-site-codes	MS [0..1]
http://hl7.org/fhir/R	R [1..1]
http://hl7.org/fhir/R	MS [0..1]
	MS [0..*]
	NRT

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

	MS [0..1]

	MS [0..1]
	NRT
	NRT

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	NRT

http://terminology.hl7.org/ValueSet/v3-ActSubstanceAdminSubstitutionCode	NR
http://terminology.hl7.org/ValueSet/v3-SubstanceAdminSubstitutionReason	NR
	NRT
	NRT
	NRT

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Path	Min	Max	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	*	

Short	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
example	LOINCCodes

extensible	DataAbsentReason
extensible	ObservationInterpretationCodes
example	SNOMEDCTBodyStructures
example	ObservationMethods

preferred	ObservationReferenceRangeMeaningCodes
example	ObservationReferenceRangeAppliesToCodes

example	LOINCCodes
extensible	DataAbsentReason

extensible	ObservationInterpretationCodes

Binding Value Set	Cross Measure Requirements
	R [1..*]
	R[1..1]
	NRT
	NRT
http://hl7.org/fhir/ValueSet/langua	NRT

	NRT
	NRT
	NRT

	NRT
	NRT
	NRT
	NR
http://hl7.org/fhir/ValueSet/observ	R [1..1]

http://hl7.org/fhir/ValueSet/observ	R [1..*] **CQL will be constrained to these Categories:** Vital-signs, laboratory, procedure
http://hl7.org/fhir/ValueSet/observ	R [1..1]
	R [1..1]

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

	NR
	MS [0..1]
http://hl7.org/fhir/ValueSet/data-a	NR
http://hl7.org/fhir/ValueSet/observ	MS [0..*]
	NR
http://hl7.org/fhir/ValueSet/body-s	MS [0..1]
http://hl7.org/fhir/ValueSet/observ	MS [0..1]
	NR
	NR

	NR
	NRT
	NRT

	NRT
	NR
	NR

http://hl7.org/fhir/ValueSet/refere	NR
http://hl7.org/fhir/ValueSet/refere	NR
	NR
	NR
	MS [0..*]

	NR
	MS [0..*]
	NRT
	NRT

	NRT
http://hl7.org/fhir/ValueSet/observ	MS [1..1]
	MS [0..1]
http://hl7.org/fhir/ValueSet/data-a	NR

http://hl7.org/fhir/ValueSet/observ	MS [0..*]
	MS [0..*]

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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	

Type(s)	Short	Definition
	Information about an individual or animal	The US Core Patient Profile is based upon the core FHIR 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
uri	A set of rules under which this content was created	A reference to a set of rules that were followed when the resource
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	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
Extension	Extension	An 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	US Core Race 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
(Complex)	US Core ethnicity 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
code	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).
Extension {http://hl7.org/fhir/us/core/StructureDefinition/us-core-genderIdentity}	Extension	An Extension
Extension	Extensions that cannot be ignored	May be used to ***represent additional information that is not part of the basic definition***
Identifier	An identifier for this patient	An identifier for this patient.
string	Unique id for inter-element referencing	Unique id for the element within a resource (for internal references).

Extension	Additional content defined by implementations	May be used to represent additional information that is not part of the basic definition of the
code	usual | official | temp | secondary | old (If known)	The purpose of this identifier.
CodeableConcept	Description of identifier	A coded type for the identifier that can be used to determine which identifier to use for a specific purpose.
uri	The namespace for the identifier value Example General:	Establishes the namespace for the value - that is, a URL that describes a set values that are unique
string	The value that is unique within the system.	The portion of the identifier typically relevant to the user and which is unique within the context of the system.
Period	Time period when id is/was valid for use	Time period during which identifier is/was valid for use.
Reference(Organization)	Organization that issued id (may be just text)	Organization that issued/manages the identifier.
boolean	Whether this patient's record is in active use	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.

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.	A name associated with the individual.
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 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.
code	usual | official | temp | nickname | anonymous | old | maiden	Identifies the purpose for this name.
string	Text representation of the full name	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.

string	Family name (often called 'Surname')	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.
string	Given names (not always 'first'). Includes middle names This repeating element order: Given Names appear in the correct order for presenting the name	Given name.
string	Parts that come before the name This repeating element order: Prefixes appear in the correct order for presenting 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 start of the name.
string	Parts that come after the name This repeating element order: Suffixes appear in the correct order for presenting 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.
Period	Time period when name was/is in use	Indicates the period of time when this name was valid for the named person.
ContactPoint	A contact detail for the individual	A contact detail (e.g. a telephone number or an email address) by which the individual may be contacted.
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.
code	phone | fax | email | pager | url | sms | other	Telecommunications form for contact point - what communications system is required to make use of the contact.
string	The actual contact point details	The actual contact point details, in a form that is meaningful to the designated communication system (i.e. phone number or email address).
code	home | work | temp | old | mobile - purpose of this contact point	Identifies the purpose for the contact point.
positiveInt	Specify preferred order of use (1 = highest)	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.
Period	Time period when the contact point was/is in use	Time period when the contact point was/is in use.

code	male | female | other | unknown	Administrative Gender - the gender that the patient is considered to have for administration and record keeping purposes.
date	The date of birth for the individual	The date of birth for the individual.
boolean dateTime	Indicates if the individual is deceased or not	Indicates if the individual is deceased or not.
Address	An address for the individual	An address for the individual.
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.
code	home | work | temp | old | billing - purpose of this address	The purpose of this address.

code	home|postal | physical | both	Distinguishes between physical addresses (those you can visit) and mailing addresses (e.g. PO Boxes and care-of addresses). Most addresses are both.
string	Text representation of the address	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.
string	Street name, number, direction & P.O. Box etc. This repeating element order: The order in which lines should appear in an address label	This component contains the house number, apartment number, street name, street direction, P.O. Box number, delivery hints, and similar address information.
string	Name of city, town etc.	The name of the city, town, suburb, village or other community or delivery center.
string	District name (aka county)	The name of the administrative area (county).
string	Sub-unit of country (abbreviations ok)	Sub-unit of a country with limited sovereignty in a federally
string	US Zip Codes	A postal code designating a region defined by the postal service.
string	Country (e.g. can be ISO 3166 2 or 3 letter code)	Country - a nation as commonly understood or generally accepted.
Period	Time period when address was/is in use	Time period when address was/is in use.
CodeableConcept	Marital (civil) status of a patient	This field contains a patient's most recent marital (civil) status.
boolean integer	Whether patient is part of a multiple birth	Indicates whether the patient is part of a multiple (boolean) or indicates the actual birth order

Attachment	Image of the patient	Image of the patient.
BackboneElement	A contact party (e.g. guardian, partner, friend) for the patient	A contact party (e.g. guardian, partner, friend) for the patient.
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	The kind of relationship	The nature of the relationship between the patient and the contact person.
HumanName	A name associated with the contact person	A name associated with the contact person.
ContactPoint	A contact detail for the person	A contact detail for the person, e.g. a telephone number or an email address.
Address	Address for the contact person	Address for the contact person.

code	male | female | other | unknown	Administrative Gender - the gender that the contact person is considered to have for
Reference(Organization)	Organization that is associated with the contact	Organization on behalf of which the contact is acting or for which the contact is working.
Period	The period during which this contact person or organization is valid to be contacted relating to this patient	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	A language which may be used to communicate with the patient about his or her health
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
Extension	Additional content defined	May be used to represent
Extension	Extensions that cannot be	May be used to represent
CodeableConcept	The language which can be used to communicate	The ISO-639-1 alpha 2 code in lower case for the language,
boolean	Language preference indicator	Indicates whether or not the patient prefers this language (over other languages he masters up a
Reference(Organization|Practitioner|PractitionerRole)	Patient's nominated primary care provider	Patient's nominated care provider.
Reference(Organization)	Organization that is the custodian of the patient record	Organization that is the custodian of the patient record.
BackboneElement	Link to another patient resource that concerns the same actual person	Link to another patient resource that concerns the same actual patient.
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).

Reference(Patient|RelatedPerson)	The other patient or related person resource that the link refers to	The other patient resource that the link refers to.
code	replaced-by | replaces | refer | seealso	The type of link between this patient resource and another patient resource.

Binding Strength	Binding Description	Binding Value Set	Cross Measure Requirements
			R [1..1]
			R [1..1]
			NRT
			NRT
preferred	A human language.	http://hl7.org/	NRT
			NRT
			NRT
			NR

	US Core Race Extension	http://hl7.o	MS[0...*]
	US Core ethnicity Extension	http://hl7.o	MS[0..*]
required	Birth Sex	http://hl7.o	MS [0..1]
			MS [0..1]
			NRT
			R [1..*]
			NR

			NR
required	Identifier Use	http://hl7.o	MS[0..1]
extensible	Identifier Type Codes	http://hl7.o	MS[0..1]
			NR
			R [1..1]
			MS [0..1]
			NR
			NR

			R [1..*]
			NR
			NR
required	NameUse	http://hl7.o	MS[0..1]
			MS[0..1]

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

			NRT
required	ContactPointSystem	http://hl7.o	R [1..1]
			R [1..1]
required	ContactPointUse	http://hl7.o	MS[0..1]
			MS[0..1]
			MS[0..1]

required	AdminstrativeGender	http://hl7.o	R [1..1]
			R [1..1]
			MS[0..1]
			MS[0..*]
			NR
			NR
required	AddressUse	http://hl7.o	MS[0..1]

required	AddressType	http://hl7.o	MS[0..1]
			MS[0..1]
			MS[0..*]
			MS[0..1]
			MS[0..1]
extensible	USPS Two Letter Alphabetic Codes	http://hl7.org/	MS[0..1]
			MS[0..1]
			MS[0..1]
			MS[0..1]
extensible	Marital Status Codes	http://hl7.org/fhir/	NR
			NR

			NR
			MS[0..*]
			NR
			NR

			u877i
extensible	The nature of the relationship between a patient and a contact person for that patient.	http://hl7.o	MS[0..*]
			MS[0..1]
			MS[0..*]
			MS[0..1]

required	The gender of a person used for administrative	http://hl7.org/fhir/	NR
			NR
			MS[0..1)
			MS[0..*]
			NR
			NR
			NRT
extensible		http://hl7.org/	R [1..1]
			MS[0..1]
			NR
			[0..1]
			MS[0..*]
			[0..*]

			[0..*]
			[0..*]

			R [1..1]
required	LinkType	http://hl7.o	R [1..1]

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FHIR Path	Min	Max	Must Support ?	Type(s)
Procedure	0	*		
Procedure.id	0	1		string
Procedure.meta	0	1		Meta

Procedure.implicitRules	0	1		uri

Procedure.language	0	1		code

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

Procedure.extension	0	*		Extension
Procedure.modifierExtension	0	*		Extension

Procedure.identifier	0	*		Identifier
Procedure.instantiatesCanonical	0	*		canonical(PlanDefinition| ActivityDefinition|Measure| OperationDefinition| Questionnaire)
Procedure.instantiatesUri	0	*		uri
Procedure.basedOn	0	*		Reference(CarePlan| ServiceRequest)

Procedure.partOf	0	*		Reference(Procedure| Observation| MedicationAdministration)
Procedure.status	1	1	Y	code

Procedure.statusReason	0	1		CodeableConcept
Procedure.category	0	1		CodeableConcept
Procedure.code	1	1	Y	CodeableConcept
Procedure.subject	1	1	Y	Reference(http://hl7.org/fhir/us/core/StructureDefinition/us-core-patient)
Procedure.encounter	0	1		Reference(Encounter)

Procedure.performed[x]	1	1	Y	dateTime Period string Age Range
Procedure.recorder	0	1		Reference(Patient| RelatedPerson|Practitioner| PractitionerRole)
Procedure.asserter	0	1		Reference(Patient| RelatedPerson|Practitioner| PractitionerRole)
Procedure.performer	0	*		BackboneElement
Procedure.performer.id	0	1		string

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

Procedure.performer.function	0	1		CodeableConcept
Procedure.performer.actor	1	1		Reference(Practitioner| PractitionerRole|Organization| Patient|RelatedPerson| Device)
Procedure.performer.onBehalfOf	0	1		Reference(Organization)
Procedure.location	0	1		Reference(Location)

Procedure.reasonCode	0	*		CodeableConcept

Procedure.reasonReference	0	*		Reference(Condition| Observation|Procedure| DiagnosticReport| DocumentReference)
Procedure.bodySite	0	*		CodeableConcept
Procedure.outcome	0	1		CodeableConcept

Procedure.report	0	*		Reference(DiagnosticReport| DocumentReference| Composition)
Procedure.complication	0	*		CodeableConcept
Procedure.complicationDetail	0	*		Reference(Condition)
Procedure.followUp	0	*		CodeableConcept
Procedure.note	0	*		Annotation

Procedure.focalDevice	0	*		BackboneElement
Procedure.focalDevice.id	0	1		string
Procedure.focalDevice.extension	0	*		Extension

Procedure.focalDevice.modifierExtension	0	*		Extension
Procedure.focalDevice.action	0	1		CodeableConcept
Procedure.focalDevice.manipulated	1	1		Reference(Device)
Procedure.usedReference	0	*		Reference(Device|Medication|Substance)
Procedure.usedCode	0	*		CodeableConcept

Short	Definition	Comments
An action that is being or was performed on a patient	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.	
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.	The only time that a resource does not have an id is when it is being submitted to the server using a create operation.
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.	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 of the resource content	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).

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 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.
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.	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.

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.	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.
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).	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.

External Identifiers for this procedure	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.
Instantiates FHIR protocol or definition	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.	
Instantiates external protocol or definition	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 request for this procedure	A reference to a resource that contains details of the request for this procedure.	

Part of referenced event	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).
preparation | in-progress | not-done | on-hold | stopped | completed | entered-in-error | unknown	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.

Reason for current status	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.
Classification of the procedure	A code that classifies the procedure for searching, sorting and display purposes (e.g. "Surgical Procedure").	
Identification of the procedure	The specific procedure that is performed. Use text if the exact nature of the procedure cannot be coded (e.g. "Laparoscopic Appendectomy").	
Who the procedure was performed on	The person, animal or group on which the procedure was performed.	
Encounter created as part of	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.

When the procedure was performed	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.
Who recorded the procedure	Individual who recorded the record and takes responsibility for its content.	
Person who asserts this procedure	Individual who is making the procedure statement.	
The people who performed the procedure	Limited to "real" people rather than equipment.	
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.	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.
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).	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.

Type of performance	Distinguishes the type of involvement of the performer in the procedure. For example, surgeon, anaesthetist, endoscopist.	
The reference to the practitioner	The practitioner who was involved in the procedure.	
Organization the device or practitioner was acting for	The organization the device or practitioner was acting on behalf of.	
Where the procedure happened	The location where the procedure actually happened. E.g. a newborn at home, a tracheostomy at a restaurant.	

Coded reason procedure performed	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

The justification that the procedure was performed	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,
Target body sites	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).
The result of procedure	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.

Any report resulting from the procedure	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.
Complication following the procedure	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.
A condition that is a result of the procedure	Any complications that occurred during the procedure, or in the immediate post-performance period.	
Instructions for follow up	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.	
Additional information about the procedure	Any other notes and comments about the procedure.	

Manipulated, implanted, or removed device	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 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.	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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Kind of change to device	The kind of change that happened to the device during the procedure.	
Device that was changed	The device that was manipulated (changed) during the procedure.	
Items used during procedure	Identifies medications, devices and any other substance used as part of the procedure.	For devices actually implanted or removed, use Procedure.device.
Coded items used during the procedure	Identifies coded items that were used as part of the procedure.	For devices actually implanted or removed, use Procedure.device.

Requirements	Binding Strength	Binding Description	Binding Value Set

	preferred	A human language.	http://hl7.org/fhir/ValueSet/languages

Modifier extensions allow for extensions that *cannot* be safely ignored to be clearly distinguished from the vast majority of extensions which can be safely ignored. This promotes interoperability by eliminating the need for implementers to prohibit the presence of extensions. For further information, see the [definition of modifier extensions] (http://hl7.org/fhir/R4/extensibility.html#modifierExtension).			

Allows identification of the procedure as it is known by various participating systems and in a way that remains consistent across servers.			

	required		http://hl7.org/fhir/R4

	example	A code that identifies the reason a procedure was not performed.	http://hl7.org/fhir/ValueSet/procedure-not-performed-reason
	example	A code that classifies a procedure for searching, sorting and display purposes.	http://hl7.org/fhir/ValueSet/procedure-category
0..1 to account for primarily narrative only resources.	extensible	Codes describing the type of Procedure	http://hl7.org/fhir/us

Modifier extensions allow for extensions that *cannot* be safely ignored to be clearly distinguished from the vast majority of extensions which can be safely ignored. This promotes interoperability by eliminating the need for implementers to prohibit the presence of extensions. For further information, see the [definition of modifier extensions] (http://hl7.org/fhir/R4/extensibility.html#modifierExtension).			

Allows disambiguation of the types of involvement of different performers.	example	A code that identifies the role of a performer of the procedure.	http://hl7.org/fhir/ValueSet/performer-role
A reference to Device supports use cases, such as pacemakers.			
Practitioners and Devices can be associated with multiple organizations. This element indicates which organization they were acting on behalf of when performing the action.			
Ties a procedure to where the records are likely kept.			

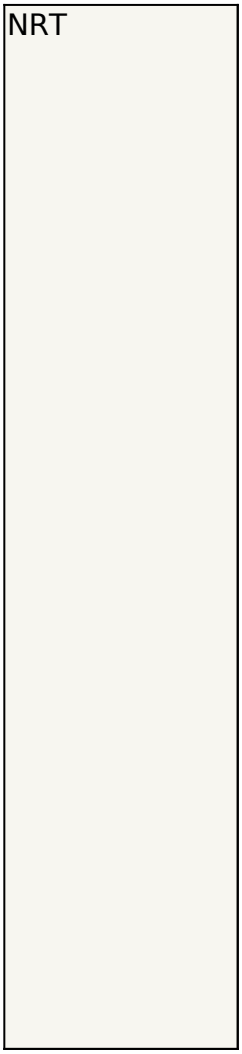
	example	A code that identifies the reason a procedure is required.	http://hl7.org/fhir/Va

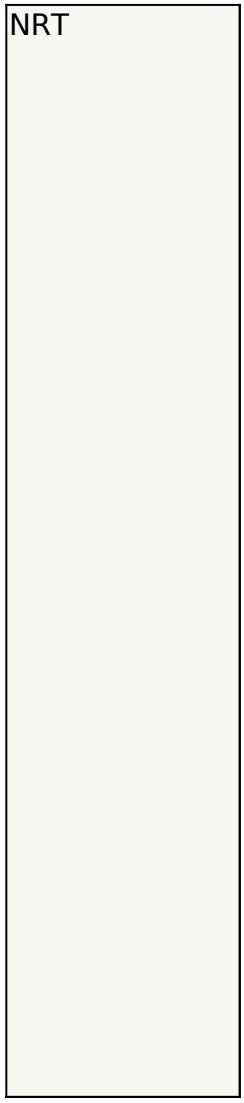
	example	Codes describing anatomical locations. May include laterality.	http://hl7.org/fhir/Va
	example	An outcome of a procedure - whether it was resolved or otherwise.	http://hl7.org/fhir/ValueSet/procedure-outcome

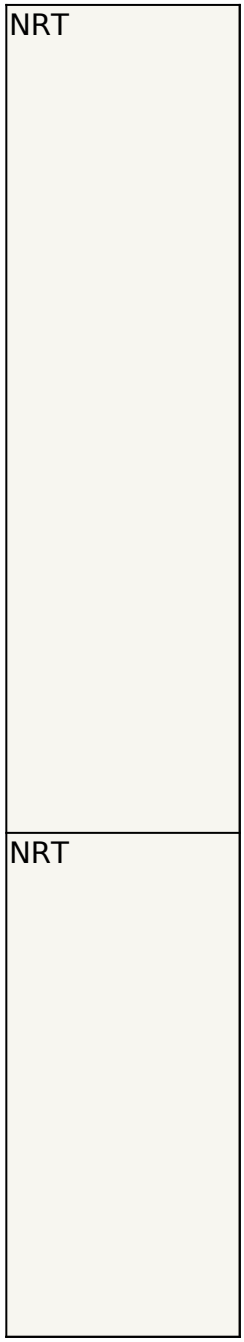
	example	Codes describing complications that resulted from a procedure.	http://hl7.org/fhir/ValueSet/condition-code
This is used to document a condition that is a result of the procedure, not the condition that was the reason for the procedure.			
	example	Specific follow up required for a procedure e.g. removal of sutures.	http://hl7.org/fhir/ValueSet/procedure-followup

Modifier extensions allow for extensions that *cannot* be safely ignored to be clearly distinguished from the vast majority of extensions which can be safely ignored. This promotes interoperability by eliminating the need for implementers to prohibit the presence of extensions. For further information, see the [definition of modifier extensions](http://hl7.org/fhir/R4/extensibility.html#modifierExtension).			
	preferred	A kind of change that happened to the device during the procedure.	http://hl7.org/fhir/ValueSet/device-action
Used for tracking contamination,			
	example	Codes describing items used during a procedure.	http://hl7.org/fhir/R4

Cross Measure Requirements
MS [0..*]
R [1..1]
NRT


NRT


NRT


NRT

NRT

NRT

NRT

NRT
NR
NR
NR

NR
R [1..1]

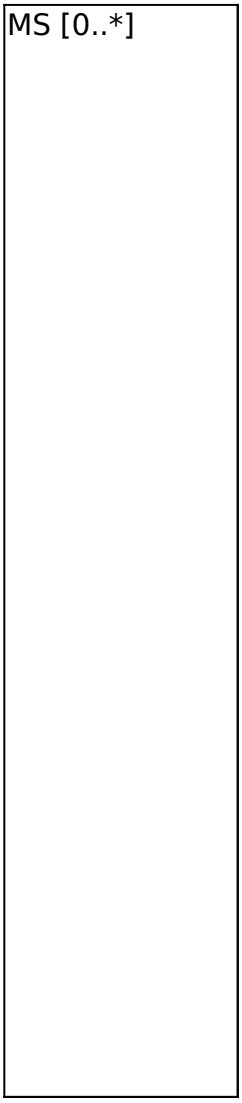
NR
NR
R [1..1]
R [1..1]
MS [0..1]

R [1..1]
NR
NR
NR
NRT

NRT

NRT

NR
NR
NR
MS [0..1]


MS [0..*]

MS [0..*]
MS [0..*]
NR

NR
NR
NR
NR
NR

NR
NRT
NRT

NRT
NR
NR
NR
NR

Back to TOC

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

ServiceRequest.contained	0	*	Resource
ServiceRequest.extension	0	*	Extension
ServiceRequest.modifierExtension	0	*	Extension
ServiceRequest.identifier	0	*	Identifier
ServiceRequest.instantiatesCanonical	0	*	canonical(ActivityDefinition|PlanDefinition)

ServiceRequest.instantiatesUri	0	*	uri
ServiceRequest.basedOn	0	*	Reference(CarePlan|ServiceRequest|MedicationRequest)
ServiceRequest.replaces	0	*	Reference(ServiceRequest)
ServiceRequest.requisition	0	1	Identifier
ServiceRequest.status	1	1	code
ServiceRequest.intent	1	1	code
ServiceRequest.category	0	*	CodeableConcept
ServiceRequest.priority	0	1	code
ServiceRequest.doNotPerform	0	1	boolean
ServiceRequest.code	0	1	CodeableConcept
ServiceRequest.orderDetail	0	*	CodeableConcept

ServiceRequest.quantity[x]	0	1	Quantity RatioRange
ServiceRequest.subject	1	1	Reference(Patient |Group|Location| Device)
ServiceRequest.encounter	0	1	Reference(Encoun ter)
ServiceRequest.occurrence[x]	0	1	dateTime Period Timing
ServiceRequest.asNeeded[x]	0	1	boolean CodeableConcept
ServiceRequest.authoredOn	0	1	dateTime
ServiceRequest.requester	0	1	Reference(Practiti oner| PractitionerRole| Organization| Patient| RelatedPerson| Device)
ServiceRequest.performerType	0	1	CodeableConcept
ServiceRequest.performer	0	*	Reference(Practiti oner| PractitionerRole| Organization| CareTeam| HealthcareService |Patient|Device| RelatedPerson)
ServiceRequest.locationCode	0	*	CodeableConcept

ServiceRequest.locationReference	0	*	Reference(Location)
ServiceRequest.reasonCode	0	*	CodeableConcept
ServiceRequest.reasonReference	0	*	Reference(Condition|Observation|DiagnosticReport|DocumentReference)
ServiceRequest.insurance	0	*	Reference(Coverage|ClaimResponse)
ServiceRequest.supportingInfo	0	*	Reference(Resource)
ServiceRequest.specimen	0	*	Reference(Specimen)
ServiceRequest.bodySite	0	*	CodeableConcept
ServiceRequest.note	0	*	Annotation
ServiceRequest.patientInstruction	0	1	string
ServiceRequest.relevantHistory	0	*	Reference(Provenance)

Short	Definition
A request for a service to be performed	A record of a request for service such as diagnostic investigations, treatments, or operations to be performed.
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).
Identifiers assigned to this order	Identifiers assigned to this order instance by the orderer and/or the receiver and/or order fulfiller.
Instantiates FHIR protocol or definition	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.

Instantiates external protocol or definition	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.
What request fulfills	Plan/proposal/order fulfilled by this request.
What request replaces	The request takes the place of the referenced completed or terminated request(s).
Composite Request ID	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.
draft | active | on-hold | revoked | completed | entered-in-error | unknown	The status of the order.
proposal | plan | directive | order | original-order | reflex-order | filler-order | instance-order | option	Whether the request is a proposal, plan, an original order or a reflex order.
Classification of service	A code that classifies the service for searching, sorting and display purposes (e.g. "Surgical Procedure").
routine | urgent | asap | stat	Indicates how quickly the ServiceRequest should be addressed with respect to other requests.
True if service/procedure should not be performed	Set this to true if the record is saying that the service/procedure should NOT be performed.
What is being requested/ordered	A code that identifies a particular service (i.e., procedure, diagnostic investigation, or panel of investigations) that have been requested.
Additional order information	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.

Service amount	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).
Individual or Entity the service is ordered for	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).
Encounter in which the request was created	An encounter that provides additional information about the healthcare context in which this request is made.
When service should occur	The date/time at which the requested service should occur.
Preconditions for service	If a CodeableConcept is present, it indicates the pre-condition for performing the service. For example "pain", "on flare-up", etc.
Date request signed	When the request transitioned to being actionable.
Who/what is requesting service	The individual who initiated the request and has responsibility for its activation.
Performer role	Desired type of performer for doing the requested service.
Requested performer	The desired performer for doing the requested service. For example, the surgeon, dermatopathologist, endoscopist, etc.
Requested location	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.

Requested location	A reference to the the preferred location(s) where the procedure should actually happen. E.g. at home or nursing day care center.
Explanation/Justification for procedure or service	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`.
Explanation/Justification for service or service	Indicates another resource that provides a justification for why this service is being requested. May relate to the resources referred to in `supportingInfo`.
Associated insurance coverage	Insurance plans, coverage extensions, pre-authorizations and/or pre-determinations that may be needed for delivering the requested service.
Additional clinical information	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.
Procedure Samples	One or more specimens that the laboratory procedure will use.
Location on Body	Anatomic location where the procedure should be performed. This is the target site.
Comments	Any other notes and comments made about the service request. For example, internal billing notes.
Patient or consumer-oriented instructions	Instructions in terms that are understood by the patient or consumer.
Request provenance	Key events in the history of the request.

Binding Strength	Binding Description	Binding Value Set	Cross Measure Requirements
			MS [0..*]
			R [1..1]
			NRT
			NRT
preferred	Common Languages	http://hl7.org/fhir/ValueSet/langua	NRT
			NRT

			NRT
			NRT
			NRT
			NRT
			NR

			NR
			NR
			NR
			NR
required	RequestStatus	http://hl7.org/fhir/ValueSet/reques	R [1..1]
required	RequestIntent	http://hl7.org/fhir/ValueSet/reques	R [1..1]
example	Service Request Category Codes	http://hl7.org/fhir/ValueSet/service	MS [0..*]
required	Request priority	http://hl7.org/fhir/ValueSet/reques	MS [0...1]
			MS [0..1]
example	Procedure Codes (SNOMED CT)	http://hl7.org/fhir/ValueSet/proced	MS [0..1]
example	Service Request Order Details Codes	http://hl7.org/fhir/ValueSet/ servicerequest-orderdetail	NR

			NR
			R [1..1]
			MS [0..1]
			MS [0..1]
example	SNOMED CT Medication As Needed Reason Codes	http://hl7.org/fhir/ValueSet/medication-as-needed-reason	MS [0..1]
			R [1..1]
			NR
example	Participant Roles	http://terminology.hl7.org/ValueSet/action-participant-role	NR
			NR
example	V3 Value SetServiceDelivery LocationRoleType	http://terminology.hl7.org/ValueSet/v3-ServiceDeliveryLocationRoleType	NR

			NR
example	Procedure Reason Codes	http://hl7.org/fhir/ValueSet/procedure-reason	NR
			MS [0..*]
			NR
			NR
			MS [0..*]
example	SNOMED CT Body Structures	http://hl7.org/fhir/ValueSet/body-site	NR
			NR
			NR
			NR

Back to TOC

Path	Min	Max	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

Short	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 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).	
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.	example
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 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).	
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.	example
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.	

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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	Cross Measure Requirements
		MS [0..*]
		R [1..1]
		NRT
		NRT
Common Languages	http://hl7.org/fhir/ValueSet/languages	NRT
		NR
		NR

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

SpecimenStatus	http://hl7.org/fhir/Val	NR
V2 Specimen Type	http://terminology.hl7	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	http://hl7.org/fhir/Val	NR

SNOMED CT Body Structures	http://hl7.org/fhir/R4/	R [1..1]
v2 Relevant Clinical Inforrmation	http://terminology.hl7.org/ValueSet/v2-0916	
		NRT
		NRT

		NRT
Specimen processing procedure	http://hl7.org/fhir/ValueSet/specimen-processing-procedure	
		NRT

		NRT
		NRT
		NRT

Specimen container	http://hl7.org/fhir/ValueSet/specimen-container-type	
v2 Additive	http://terminology.hl7.org/ValueSet/v2-0371	
v2 Specimen Condition	http://terminology.hl7.org/ValueSet/v2-0493	

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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Jurisdiction
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FHIR Version
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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
Used by permission of HL7 International, all rights reserved Creative Commons License
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