FHIR Release 4 Ballot 1 Apr 2018

Overview
Changes from 3

Overview

- Version R4 Ballot 1
- Version R4 latest
- Adds Normalized Resources for the first time
- Version Policy
- Stability / Readiness for Implementations:
  - Draft - Not safe enough for development use
  - Trial Use - Reviewed and able to be used in production but not widely so it could still be changed
  - Normative - Reviewed and in wide production use. Not expected to be majorly changed in the future
  - Informative - Reference information / documentation
- Maturity Levels
  - 0 - new with this specification - effectively draft
  - 1 - no build warnings and work group considers the elements complete
  - 2 - verified between at least 3 different systems
  - 3 - work group considers it at Trial level and it has gone through a ballot vote
  - 4 - published in formal release and would be major impart to change and would require work group to do so
  - 5 - published in 2 formal releases
  - 6 - Normative - Stable

Release 4 Priorities

- Normative: push to normative for
  - Foundation / API / XML / JSON / Bundle / OperationOutcome
  - Terminology Service (ValueSet / CodeSystem / ExpansionProfile)
  - StructureDefinition / CapabilityStatement
  - Patient / RelatedPerson / Practitioner / Organization / ?Endpoint
- Position a core set of clinical resources ('health base'?) for normative in R5 (or Observation | AllergyIntolerance | MedicationStatement normative for R4?)
- JSON: ? use manifest for extensions, parameters resource (see blog post) (note that discussion on this didn't go very well – probably will be dropped)
- RDF: more ontology bindings + resolve status of JSON-LD
- Data Analytics: support for a bulk data analysis bridge format (Apache Parquet?)
- API: better control over retrieving graphs, and value added query support (tabular format?)
- Patterns: change the W5 framework to a pattern (logical model), tie the patterns to ontology, and use of patterns to drive more consistency (and how to do this without decreasing quality)
- Services: more services. Candidates: conformance, registry, personal health summary?, etc?
- Deployment: get a clear standards path for smart on fhir / cds-hooks (and alignment with UMA/Heart)
- FM: work on alignment between FM resources and the rest of FHIR

Release 4 Perspectives

- Executive Summary
- Dev Summary
- Clinical Summary
- Architecture Summary

Release 4 Resources (ballot 1)

https://build.fhir.org/resourcelist.html

Normative have **N**

Otherwise they are Trial Use or Draft (look for 0)

Normalized Resources

1.10.5.1 Infrastructure

Abstract base types, data types, formats, the RESTful API, and content and typing rules

- BackboneElement
- Binary
- Bundle
- CodeSystem BundleType
- CodeSystem HTTPVerb
- CodeSystem IssueSeverity
- CodeSystem IssueType
- CodeSystem SearchEntryMode
- Conformance Rules
- Data Types
- Defining Extensions
- DomainResource
- Element
- Element Definition
- Extensibility
- Formats
- RESTful API
- JSON Format
- Managing Resource Identity
- Data Types
- Narrative
- JSON Format
- OperationOutcome
- Extended Operations on the RESTful API
- Parameters
- Profiling FHIR
- Resource References
- Resource Operation validate
- Resource
- Search (RESTful API)
- Using Codes and Terminologies
- ValueSet BundleType
- ValueSet HTTPVerb
- ValueSet IssueSeverity
- ValueSet IssueType
- ValueSet SearchEntryMode
- Version Management Policy
- XML Format

Normalized Resources (cont)

Terminology - too many to list here

1.10.5.3 Patient

The Patient resource, and related content

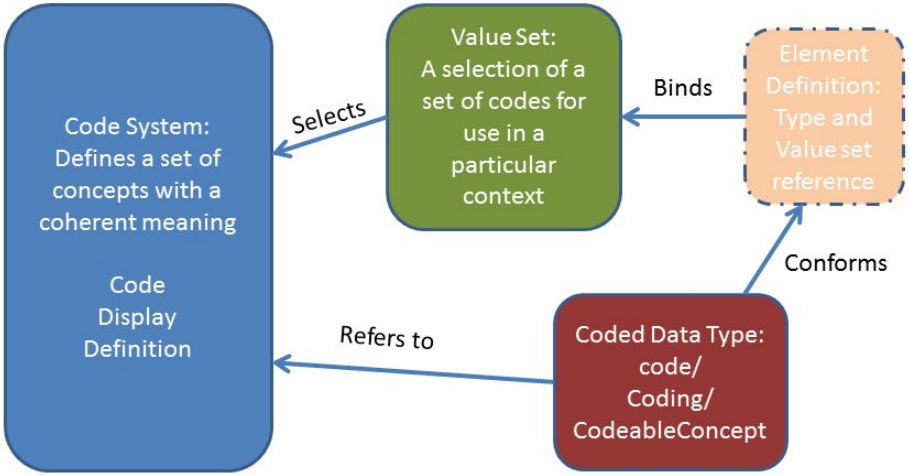
- CodeSystem AdministrativeGender
- CodeSystem LinkType
- CodeSystem Marital Status Codes
- Patient Operation everything
- Patient Operation match
- Patient
- ValueSet AdministrativeGender
- ValueSet LinkType
- ValueSet Marital Status Codes

1.10.5.4 Observation

The Observation resource, and related content

- CodeSystem DataAbsentReason
- CodeSystem Observation Category Codes
- CodeSystem ObservationStatus
- CodeSystem Observation Reference Range Meaning Codes
- Observation Operation lastn
- Observation Operation stats
- Observation
- ValueSet DataAbsentReason
- ValueSet Observation Interpretation Codes
- ValueSet ObservationStatus

Terminology Module



Resources

- CodeSystem
- ValueSet
- ConceptMap
- NamingSystem
- Terminoloy

Coded Data Types

- code
- Coding
- CodeableConcept

Terminology Service

- Terminology Service Documentation

Operations

CodeSystem

- $lookup
- $validate-code
- $subsumes
- $find-matches

ValueSet

- $expand
- $validate-code

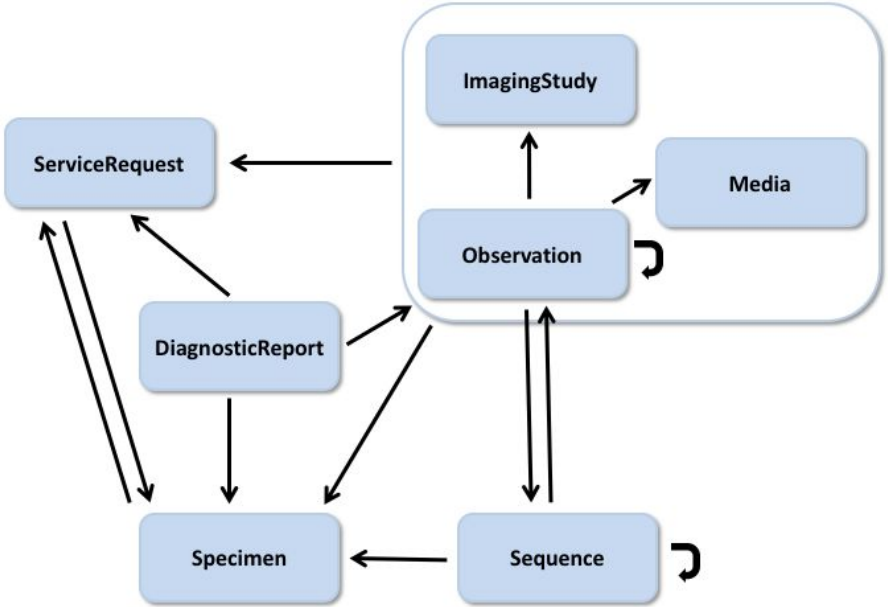
ConceptMap

- $translate
- $closure

Clinical Module

- AllergyIntolerance
- Condition (Problem)
- Procedure
- FamilyMemberHistory
- CarePlan
- Goal
- CareTeam
- ClinicalImpression
- AdverseEvent
- DetectedIssue
- RiskA

Diagnostic Module



- Observation
- DiagnosticReport
- ServiceRequest
- Media
- ImagingStudy
- Sequence
- Specimen
- BodyStructure

Medication Module

- MedicationRequest
- MedicationDispense
- MedicationAdministration
- MedicationStatement
- Medication
- MedicationKnowledge
- Immunization
- ImmunizationEvaluation
- ImmunizationRecommendation

Of note: MedicationKnowledge

Provides support for formulary / drug database information.

Workflow Module

Infrastructure

- Start here: Overview
- Resource: Task
- Patterns: Definition, Request, Event
- Documentation: Communication Patterns, Ad-Hoc Patterns, Management Patterns & Examples

Scheduling

- Appointments: Appointment / AppointmentResponse
- Availability: Schedule / Slot

Clinical Process

- Referrals: ServiceRequest
- Orders: NutritionOrder, VisionPrescription
- Definitions: ActivityDefinition, PlanDefinition
- Miscellaineous: ProcessRequest & ProcessResponse, DeviceRequest & DeviceUseStatement, SupplyRequest & SupplyDelivery

Note ServiceRequest / ServiceDelivery

ServiceRequest replaces

- ProcedureRequest and
- ReferralRequest

Added Types / Elements

Expression
MarketingStatus
MoneyQuantity
ProdCharacteristic
ProductShelfLife
SubstanceAmount
SubstanceMoiety
canonical
url

DataRequirement.subject[x]
DataRequirement.codeFilter.searchParam
DataRequirement.codeFilter.code
DataRequirement.dateFilter.searchParam
DataRequirement.limit
DataRequirement.sort
DataRequirement.sort.path
DataRequirement.sort.direction
Dosage.doseAndRate
Dosage.doseAndRate.type
Dosage.doseAndRate.dose[x]
Dosage.doseAndRate.rate[x]
ElementDefinition.isModifierReason
Meta.source
Money.value
Money.currency
Reference.type
Signature.targetFormat
Signature.sigFormat
Signature.data
TriggerDefinition.name
TriggerDefinition.timing[x]
TriggerDefinition.data
TriggerDefinition.condition

Deleted Type Elements

DataRequirement.codeFilter.valueCode
DataRequirement.codeFilter.valueCoding
DataRequirement.codeFilter.valueCodeableConcept
Dosage.dose[x]
Dosage.rate[x]
Signature.contentType
Signature.blob
TriggerDefinition.eventName
TriggerDefinition.eventTiming[x]
TriggerDefinition.eventData

Added Resource

BiologicallyDerivedProduct
BodyStructure
ChargeItemDefinition
CoverageEligibilityRequest
CoverageEligibilityResponse
EntryDefinition
EventDefinition
ExampleScenario
ImmunizationEvaluation
Invoice
ItemInstance
MedicationKnowledge
MedicinalProduct
MedicinalProductAuthorization
MedicinalProductClinicals
MedicinalProductDeviceSpec
MedicinalProductIngredient
MedicinalProductManufactured
MedicinalProductPackaged
MedicinalProductPharmaceutical
ObservationDefinition
OrganizationRole
ProductPlan
ServiceRequest
SpecimenDefinition
SubstancePolymer
SubstanceReferenceInformation
SubstanceSpecification
TerminologyCapabilities
UserSession
VerificationResult

Added Resource Elements

MANY - SEE SPREADSHEET

Deleted Resources

BodySite
DataElement
EligibilityRequest
EligibilityResponse
ExpansionProfile
ImagingManifest
ProcedureRequest
ReferralRequest
ServiceDefinition

Deleted Resource Elements

AGAIN MANY - SEE SPREAD SHEET

Primary Changes

- BodyStructure
- MedicationKnowledge
- Medicinal*
  - MedicinalProduct
  - MedicinalProductAuthorization
  - MedicinalProductClinicals
  - MedicinalProductDeviceSpec
  - MedicinalProductIngredient
  - MedicinalProductManufactured
  - MedicinalProductPackaged
  - MedicinalProductPharmaceutical
- ObservationDefinition
- ServiceRequest
  - combines ReferralRequest + ProcedureRequest