

Must Support Review

March 23, 2022 - April 20, 2022

Overview

- There are currently over 400 Must Support (MS) statements in IPS
- Derived profiles from IPS cannot subtract MS statements
- A proposal to reduce Must Support in IPS was to look back at the ISO 27269 IPS dataset and limit the assignment of Must Support to items where “Required if Known (RK)” was assigned for the element and remove Must Support statements from optional sections / resources. A branch has been created to reduce Must Support based on the above proposal.
- Reduction in Must Support to 232 in current branch

DISCUSSION 2

Must Support Definition (FINAL)

Implementers conforming to a particular profile in the IPS Implementation Guide:

- SHALL be capable of producing values for the mustSupport elements in the IPS profile [See 3.4.1 for missing data]
- SHALL be capable of processing resource instances containing mustSupport data elements, including elements with missing data, without generating an error or causing the application to fail.
- SHOULD be capable of displaying mustSupport data elements for human use, or processing (e.g. storing) them for other purposes.

Implementers conforming to an IPS document in the IPS Implementation Guide:

- SHALL be capable of supporting profiles under sections that are marked mustSupport in the IPS Composition profile
- SHALL be capable of populating profiles for allergy, medication and problem information in an IPS document

Methodology

- RK or R is a Must Support (generally R should be 1..1). If it's not in ISO guide or labeled as O, remove Must Support from IPS. If a parent element is O and elements below are RK or R, then the specific profile may retain Must Support statements but will not be referenced with Must Support in the Composition element
- Element by element review available here:
https://docs.google.com/spreadsheets/d/15hNGV7Hol76pA73C5XCx_rHOoSYfG8E56PboF3ij9-k/edit#gid=942346437
- In addition to above, there were 5 areas for discussion

1. METHODOLOGY: If an element is optional, then nothing below it should be Must Support. Why? Since our definition of Must Support says that you SHALL be capable of sending. This is confusing to implementers. National adaptations and derived profiles can add back but not subtract. **BACK OUT CHANGES & PERFORM ELEMENT ANALYSIS (Decided 3/23)**
2. All IPS resources currently refer back to the patient. Some of these are tagged with Must Support and 1..1 cardinality. Others have different cardinality and Must Support assignment. These references are not directly addressed in ISO IPS standard. Do patient references need Must Support? I think having a cardinality of 1..1 for all these items is sufficient, but would like to make a global change, so welcome discussion. **(MAKE ALL 1..1, REVIEW OTHER FHIR DISCUSSION ON MUST SUPPORT ON 1..1). Rob to do some looking on where this may be.**
 - a. **Chat in FHIR**
<https://chat.fhir.org/#narrow/stream/207835-IPS/topic/MS.20at.20the.20resource.20level.3F>
 - b. **Chat in FHIR**
<https://chat.fhir.org/#narrow/stream/179177-conformance/topic/must-support.20when.20re-profiling>
 - c. **Resolved to not change (i.e. do not remove) MS on cardinality of 1..1 or 1..* globally**

Discussion Points Continued

3. In several resources, status isn't specified in IPS ISO dataset. Is it ok to also remove Must Support status from IPS (e.g. immunization status: <http://build.fhir.org/ig/HL7/fhir-ips/StructureDefinition-Immunization-uv-ips.html>)? It might be preferable to be consistent on this across resources. **Giorgio suggest case-by-case might be appropriate given the differences. Rob feels like cardinality might be what's in the base (can't change from 1..1 if in the base). Do we need MS on status? Sheridan, allergy clinicalStatus was removed per review of Canadian systems. Rob: does MS flag give anything downside? Proposal: Add MS when it's 1..1 in the spec (e.g. tobacco). Make verification status a 0..1 without MS in allergy/condition. Make clinical status a 0..1 with MS in Condition. Keep/remove for clinicalStatus MS in Condition/Allergy (discussion ongoing)**

4. What is the role of Device (Observer/Performer) in IPS (<http://build.fhir.org/ig/HL7/fhir-ips/StructureDefinition-Device-observer-uv-ips.html>)? Does this require Must Support? I would think that a system could reasonably support IPS generation without this, but want to open to discuss.

PROPOSAL: History was that it was used from imaging perspective. Was used to avoid warning in differential. Remove MS flags within this one

5. Should data provenance elements always be flagged (or not flagged) with Must Support in IPS? **John M: we should be aware that provenance is already built into many resources. When used inappropriately, it detracts from overall goal and implementation guide. Observation already has who/what/when/why, it is necessary to have (no!)? We should be promoting provenance elements that already exist (5 Ws page) use provenance for exceptional cases. Sheridan: lot of acceptance of provenance at the document/Composition level. Might have been relaxed at some of the resource levels. Rob: Maybe have them MS at document but not individual resource level. Sheridan: Is important at resource but something that's more of a bridge**

Discussion (4/13)

MustSupport on 1..1 elements: John M says that we were close to consensus on removing MS on 1..1 cardinality elements. Giorgio agree with John M was saying in using for 1..1 element might have elements required by resource but not mentioned in ISO dataset. Sheridan agree with Giorgio that if required or required-if-known then keep as must support. Rob cardinality of element doesn't really matter, just draw attention to things and align to ISO. Review bundle example. Rob and Giorgio do want to keep MS on 1..1 elements which are referenced in ISO. Idea of MS is orthogonal to cardinality. John M: need to explain to readers on how to use MS on a mandatory element.

Consensus: Explain what must support means on mandatory elements (hopefully simple!)

Provenance (Person) in IPS

Composition	Attester (MS 0..*) Author (MS 1..*) Encounter (MS 0..*) (Also repeated in resources) Event (MS 0..*) - <i>More around the period of time being covered</i> <i>Does this need to be Must Support (particular if machine generated)</i> <i>Canada removed MS on both encounter and event - remove from IPS</i>
AllergyIntolerance	Recorder (0..1) Asserter (MS 0..1) remove since not kept everywhere (5/2 discussion)
Condition	Recorder (0..1) Asserter (MS 0..1) remove since not kept everywhere (5/2 discussion)
DeviceUse	Source (MS 0..1)
Immunization	Performer (MS 0..1) <i>Continue with rule to not include if truly optional?</i> ReportedOrigin (0..1)
MedicationRequest	Reported/ReportedReference (0..1) Requester (MS 0..1) <i>Canada will be out of alignment - remove from IPS</i> Performer (0..1) Recorder (0..1)
MedicationStatement	InformationSource (MS 0..1) <i>Canada will be out of alignment - remove from IPS</i>
Observation	Performer (MS 0..*)
Procedure	Recorder (0..1) Asserter (0..1) Performer (0..*)

Progress (April 13, 2022)

- Edited base definition of Must Support
 - Review definition related JIRA: <https://jira.hl7.org/browse/FHIR-30077?filter=15803>
- Revert back in optional profiles (social history and pregnancy) and descending mustSupport statements
 - Note that several other areas (CarePlan, VitalSigns, Advance Directive Consent) cannot be aligned since not part of IPS IG
- Relax MS for status except where agreed to maintain (e.g. clinicalStatus in Condition is still MS as well as status in pregnancy since in ISO)
- Provenance MS using existing methodology which closer aligns to Canada
- Review Bundle type MS <https://jira.hl7.org/browse/FHIR-34829?filter=15803>
- TO DO:
 - Identify all cardinality 1..* with MS included
 - Make sure all resources have 1..1 patient reference
 - Review all MS statements
 - Review Composition one final time

Must Support with Cardinality of 1..1 or 1..*

50% of Must Support requirements in IPS are on elements with a minimal cardinality of 1.

Bundle and Composition shown below

Bundle	identifier	
Bundle	timestamp	
Bundle	entry	
Bundle	entry.resource	
Bundle	Composition	
Bundle	Patient	
Composition-uv-ips.structuredefinition	Composition.status	1
Composition-uv-ips.structuredefinition	Composition.type	1
Composition-uv-ips.structuredefinition	Composition.subject	1
Composition-uv-ips.structuredefinition	Composition.subject.reference	1
Composition-uv-ips.structuredefinition	Composition.date	1
Composition-uv-ips.structuredefinition	Composition.author	1
Composition-uv-ips.structuredefinition	Composition.title	1
Composition-uv-ips.structuredefinition	Composition.attester.mode	1
Composition-uv-ips.structuredefinition	Composition.event:careProvisioningEvent.code	1
Composition-uv-ips.structuredefinition	Composition.section	1
Composition-uv-ips.structuredefinition	Composition.section.code	1
Composition-uv-ips.structuredefinition	Composition.section:sectionMedications	1
Composition-uv-ips.structuredefinition	Composition.section:sectionMedications.title	1
Composition-uv-ips.structuredefinition	Composition.section:sectionMedications.entry	1
Composition-uv-ips.structuredefinition	Composition.section:sectionAllergies	1
Composition-uv-ips.structuredefinition	Composition.section:sectionAllergies.title	1
Composition-uv-ips.structuredefinition	Composition.section:sectionAllergies.entry	1
Composition-uv-ips.structuredefinition	Composition.section:sectionAllergies.entry:allergyOrIntolerance	1
Composition-uv-ips.structuredefinition	Composition.section:sectionProblems	1
Composition-uv-ips.structuredefinition	Composition.section:sectionProblems.title	1
Composition-uv-ips.structuredefinition	Composition.section:sectionProblems.entry	1
Composition-uv-ips.structuredefinition	Composition.section:sectionProblems.entry:problem	1
Composition-uv-ips.structuredefinition	Composition.section:sectionProceduresHx.title	1
Composition-uv-ips.structuredefinition	Composition.section:sectionProceduresHx.entry	1
Composition-uv-ips.structuredefinition	Composition.section:sectionProceduresHx.entry:procedure	1
Composition-uv-ips.structuredefinition	Composition.section:sectionImmunizations.title	1
Composition-uv-ips.structuredefinition	Composition.section:sectionImmunizations.entry	1
Composition-uv-ips.structuredefinition	Composition.section:sectionImmunizations.entry:immunization	1
Composition-uv-ips.structuredefinition	Composition.section:sectionMedicalDevices.title	1
Composition-uv-ips.structuredefinition	Composition.section:sectionMedicalDevices.entry	1
Composition-uv-ips.structuredefinition	Composition.section:sectionMedicalDevices.entry:deviceStatement	1
Composition-uv-ips.structuredefinition	Composition.section:sectionResults.title	1
Composition-uv-ips.structuredefinition	Composition.section:sectionResults.entry	1

Must Support with Cardinality of 1..1 or 1..*

AllergyIntolerance-uv-ips.structuredefinition	AllergyIntolerance.patient	1	Observation-pregnancy-status-uv-ips.structuredefinition	Observation.code	1
AllergyIntolerance-uv-ips.structuredefinition	AllergyIntolerance.patient.reference	1	Observation-pregnancy-status-uv-ips.structuredefinition	Observation.subject	1
AllergyIntolerance-uv-ips.structuredefinition	AllergyIntolerance.reaction.manifestation	1	Observation-pregnancy-status-uv-ips.structuredefinition	Observation.subject.reference	1
Condition-uv-ips.structuredefinition	Condition.clinicalStatus	1	Observation-pregnancy-status-uv-ips.structuredefinition	Observation.effective[x]	1
Condition-uv-ips.structuredefinition	Condition.code	1	Observation-pregnancy-status-uv-ips.structuredefinition	Observation.hasMember.reference	1
Condition-uv-ips.structuredefinition	Condition.subject	1	Observation-pregnancy-status-uv-ips.structuredefinition	Observation.category.laboratory	1
Condition-uv-ips.structuredefinition	Condition.subject.reference	1	Observation-results-laboratory-uv-ips.structuredefinition	Observation.code	1
Device-uv-ips.structuredefinition	Device.patient	1	Observation-results-laboratory-uv-ips.structuredefinition	Observation.category.laboratory	1
Device-uv-ips.structuredefinition	Device.patient.reference	1	Observation-results-pathology-uv-ips.structuredefinition	Observation.code	1
DeviceUseStatement-uv-ips.structuredefinition	DeviceUseStatement.subject	1	Observation-results-pathology-uv-ips.structuredefinition	Observation.subject	1
DeviceUseStatement-uv-ips.structuredefinition	DeviceUseStatement.subject.reference	1	Observation-results-pathology-uv-ips.structuredefinition	Observation.category.radiology	1
DeviceUseStatement-uv-ips.structuredefinition	DeviceUseStatement.timing[x]	1	Observation-results-pathology-uv-ips.structuredefinition	Observation.code	1
DeviceUseStatement-uv-ips.structuredefinition	DeviceUseStatement.device	1	Observation-results-pathology-uv-ips.structuredefinition	Observation.subject	1
DiagnosticReport-uv-ips.structuredefinition	DiagnosticReport.category	1	Observation-results-radiology-uv-ips.structuredefinition	Observation.category.radiology	1
DiagnosticReport-uv-ips.structuredefinition	DiagnosticReport.code	1	Observation-results-radiology-uv-ips.structuredefinition	Observation.code	1
DiagnosticReport-uv-ips.structuredefinition	DiagnosticReport.subject	1	Observation-results-radiology-uv-ips.structuredefinition	Observation.subject	1
DiagnosticReport-uv-ips.structuredefinition	DiagnosticReport.subject.reference	1	Observation-results-radiology-uv-ips.structuredefinition	Observation.effective[x]	1
DiagnosticReport-uv-ips.structuredefinition	DiagnosticReport.effective[x]	1	Observation-results-uv-ips.structuredefinition	Observation.code	1
ImagingStudy-uv-ips.structuredefinition	ImagingStudy.subject	1	Observation-results-uv-ips.structuredefinition	Observation.subject	1
ImagingStudy-uv-ips.structuredefinition	ImagingStudy.subject.reference	1	Observation-results-uv-ips.structuredefinition	Observation.subject.reference	1
ImagingStudy-uv-ips.structuredefinition	ImagingStudy.series.modality	1	Observation-results-uv-ips.structuredefinition	Observation.effective[x]	1
ImagingStudy-uv-ips.structuredefinition	ImagingStudy.series.instance.uid	1	Observation-tobaccoUse-uv-ips.structuredefinition	Observation.code	1
ImagingStudy-uv-ips.structuredefinition	ImagingStudy.series.instance.sopClass	1	Observation-tobaccoUse-uv-ips.structuredefinition	Observation.subject	1
Immunization-uv-ips.structuredefinition	Immunization.status	1	Observation-tobaccoUse-uv-ips.structuredefinition	Observation.subject.reference	1
Immunization-uv-ips.structuredefinition	Immunization.vaccineCode	1	Observation-tobaccoUse-uv-ips.structuredefinition	Observation.effective[x]	1
Immunization-uv-ips.structuredefinition	Immunization.patient	1	Organization-uv-ips.structuredefinition	Organization.name	1
Immunization-uv-ips.structuredefinition	Immunization.patient.reference	1	Patient-uv-ips.structuredefinition	Patient.name	1
Immunization-uv-ips.structuredefinition	Immunization.occurrence[x]	1	Patient-uv-ips.structuredefinition	Patient.gender	1
Medication-uv-ips.structuredefinition	Medication.code	1	Patient-uv-ips.structuredefinition	Patient.birthDate	1
Medication-uv-ips.structuredefinition	Medication.ingredient.itemCodeableConcept	1	Practitioner-uv-ips.structuredefinition	Practitioner.name	1
MedicationRequest-uv-ips.structuredefinition	MedicationRequest.medication[x]	1	Procedure-uv-ips.structuredefinition	Procedure.code	1
MedicationRequest-uv-ips.structuredefinition	MedicationRequest.medication[x].subject	1	Procedure-uv-ips.structuredefinition	Procedure.subject	1
MedicationRequest-uv-ips.structuredefinition	MedicationRequest.medication[x].subject.reference	1	Procedure-uv-ips.structuredefinition	Procedure.subject.reference	1
MedicationStatement-uv-ips.structuredefinition	MedicationStatement.medication[x]	1	Procedure-uv-ips.structuredefinition	Procedure.performed[x]	1
MedicationStatement-uv-ips.structuredefinition	MedicationStatement.subject	1	Quantity-uv-ips.structuredefinition	Quantity.system	1
MedicationStatement-uv-ips.structuredefinition	MedicationStatement.subject.reference	1	Quantity-uv-ips.structuredefinition	Quantity.code	1
MedicationStatement-uv-ips.structuredefinition	MedicationStatement.effective[x]	1	SimpleQuantity-uv-ips.structuredefinition	Quantity.system	1
Observation-alcoholUse-uv-ips.structuredefinition	Observation.code	1	SimpleQuantity-uv-ips.structuredefinition	Quantity.code	1
Observation-alcoholUse-uv-ips.structuredefinition	Observation.subject	1			
Observation-alcoholUse-uv-ips.structuredefinition	Observation.subject.reference	1			
Observation-alcoholUse-uv-ips.structuredefinition	Observation.effective[x]	1			
Observation-pregnancy-edd-uv-ips.structuredefinition	Observation.code	1			
Observation-pregnancy-edd-uv-ips.structuredefinition	Observation.subject	1			
Observation-pregnancy-edd-uv-ips.structuredefinition	Observation.subject.reference	1			
Observation-pregnancy-edd-uv-ips.structuredefinition	Observation.effective[x]	1			
Observation-pregnancy-outcome-uv-ips.structuredefinition	Observation.code	1			
Observation-pregnancy-outcome-uv-ips.structuredefinition	Observation.subject	1			
Observation-pregnancy-outcome-uv-ips.structuredefinition	Observation.subject.reference	1			
Observation-pregnancy-outcome-uv-ips.structuredefinition	Observation.effective[x]	1			