Affected RIM092 elements that are not mapped

Advance_directive

RIM092 **Advance_directive.employment_related_ind**

An indication that the advance directive is employment related.

To replace attribute previously inherited from Patient_clinical_item.

OpenIssue: Amplify definition. Explain why directives would be employment related.

USAMP-II unmapped

Alternatives are:
a) a code in Service.interpretation_cd
b) an attribute in Service

note that employment-relatedness may be assumed of observations as well.

Assessment

RIM092 **Assessment**

A subclass of Service_event and a superclass that captures the data related to a kind of service that represents abstraction and interpretation of data from a data source and includes observations, metaobservations, assignment of an observation or metaobservation to a problem list of allergy list or goal e.g. lab results, question results, physical exam results, impressions problem list entry, allergy list entry, goal assignment, etc. This class is orthogonal to Care_event

Rational: Since multiple kinds of assessments are delivered as a healthcare service, a class is needed to record the nature of those assessments and the resulting values(s) associated with those assessments. An assessment is a kind of service that describes the collection and interpretation of data from a data source and the nature of that data. In this class, it also describes the value(s) associated with the action of data collection and interpretation.

USAMP-II dropped

Delete without replacement. This class was an attempt at a taxonomy of Services which is not what a class diagram is used for.

RIM092 **Service_event :: generalizes(1..1) :: Assessment :: specializes(1..1)**

Rationale: Since multiple kinds of assessments are delivered as a healthcare service, a class is needed to record the nature of those assessments and the resulting value(s) association with those assessments. An assessment is a kind of service that describes the collection and interpretation of data from a data source and the nature of that data. In this class, it also describes the value(s) associated with the action of data

USAMP-II dropped

Assessment is deleted without replacement. These Assessment and Care_event classes were an attempt at a taxonomy of Services which is not what a class diagram is used for.

Care_event

RIM092 **Care_event**

A subclass of Service_event and a superclass that captures the data related to a kind of service that produces a change in the target of service and includes medication administration, surgeries, teaching, dressing changes, therapeutic listening, etc. This class is orthogonal to Assessment_event.

Rationale: Since some healthcare services produce changes in the target of service, these actions need to be captured and statused with their

USAMP-II dropped

This was an attempt at a taxonomy of Services in the class diagram, which is not what a class diagram is for.

RIM092 **Service_event :: generalizes(1..1) :: Care_event :: specializes(1..1)**

Rationale: Allows interrelationship with other service events.

USAMP-II dropped

Care_event is deleted without replacement. These Assessment and Care_event classes were an attempt at a taxonomy of Services which is not what a class diagram is used for.

Collected_specimen_sample

RIM092 **Collected_specimen_sample.action_cd**

Action to be taken with respect to the specimens that accompany or precede this order. Allowable values: Add ordered tests to the existing specimen (A); Generated order; reflex order (G); Lab to obtain specimen from patient (L); Specimen

USAMP-II abolished

This modeling style is at odds with the MDF. An "action code" of HL7 v2.x is a hidden trigger event (sometimes overloaded with the meaning of a state attribute.) The code values suggest that this attribute manages the ordering of a specimen collection service, which has a straightforward representation in USAMP -- even in the RIM092! Other uses seem to be the addition of services to an existing specimen, which also has a straightforward representation in USAM and RIM092 alike. This attribute is superflous in either model!

Condition_node

RIM092 **Condition_node.employment_related_ind**

An indication that the condition under evaluation is employment related.

Rationale: To replace attribute previously inherited by Diagnosis from Patient_clinical_item

OpenIssue: Should this be handled as an explicit diagnosis in Health_issue or should it be deleted completely, or does this require longitudinal linkage through Condition_node?

OpenIssue: This is a candidate for moving or complete removal.

USAMP-II unmapped

Alternatives are:
a) a code in Service.interpretation_cd
b) an attribute in Service

note that employment-relatedness may be assumed of observations as well.

Conditional_link

RIM092 **Service_event_relationship :: generalizes(1..1) :: Conditional_link :: specializes(1..1)**

USAMP-II dropped

The specialization class is re-united with its genus, so the relationship is gone. See comment under the specialization class.

Consent

RIM092 **Consent :: generalizes(1..1) :: Advance_directive :: specializes(1..1)**

USAMP-II dropped

Advanced directive is a concept in the vocabulary domain of Consent.type_cd.

Judgement_link

RIM092 **Service_event_relationship :: generalizes(1..1) :: Judgement_link :: specializes(1..1)**

USAMP-II dropped

The specialization class is re-united with its genus, so the relationship is gone. See comment under the specialization class.

Master_observation_service

RIM092 **Master_observation_service :: generalizes(1..1) :: Master_qualitative_observation :: specializes(1..1)**

USAMP-II dropped

The peculiarities of the nature of observation values is contained in the Observation.value attribute of type ANY. So, a descriptive class is not needed (as we shall see below.)

RIM092 **Master_observation_service :: generalizes(1..1) :: Master_quantitative_observation :: specializes(1..1)**

USAMP-II dropped

The peculiarities of the nature of observation values is contained in the Observation.value attribute of type ANY. So, a descriptive class is not needed (as we shall see below.)

Master_quantitative_observation

RIM092 **Master_quantitative_observation.corresponding_SI_unit_of_measure_cd**

The SI units of measure, when these differ from the customary units of measure

Rationale:

OpenIssue:

USAMP-II out-scoped

Unit conversion is defined externally by the semantics of units. The Unified Code for Units of Measure that is the preferred code for units to be used in the data type Physical Quantities defines a methodology and the necessary constants for conversion between all convertible units.

The issue between SI and customary units is not as simple than it is implied by RIM092 here, since SI is an entire class of units, that still need to be converted.

RIM092 **Master_quantitative_observation.delta_check_change_computation_method_cd**

Specifies whether the change for triggering a delta check warning is computed as a percent change or an absolute change. Allowable methods are: "as percent" and "as absolute change."

OpenIssue:

USAMP-II action for OO

Delta checks are not yet mapped in detail. Delta checks are derived observations that are used in some laboratories, and are only very rarely used in clinical systems. As derived observations, delta checks will map to Observation structures built by the service relationship class.

RIM092 **Master_quantitative_observation.delta_check_change_threshold_qty**

Specifies the minimum change that will trigger a delta check warning.

Rationale:

OpenIssue:

USAMP-II action for OO

as of yet. See above.

RIM092 **Master_quantitative_observation.delta_check_numeric_low_value_amt**

Specifies the low value information for controlling delta check warnings. More than one delta check rule can apply.

Rationale: required by components of V2.3 field

OpenIssue:

USAMP-II action for OO

as of yet. See above.

RIM092 **Master_quantitative_observation.delta_check_retention_period_qty**

The length of time that the service retains a V2.3 language value fr computing delta checks.

OpenIssue:

USAMP-II action for OO

as of yet. See above.

RIM092 **Master_quantitative_observation.delta_check_value_range_qty**

The range of values for which delta check warnings can be generated. If no value range is given, the check applies to all values.

OpenIssue: The RIM090 descriptions lead one to believe that delta_check ranges, delta_check thresholds, and delta_check methods occur in sets ("more than one rule can apply"). If that is so, then delta check should be a separate class that associates with the continuous observation.

USAMP-II action for OO

as of yet. See above.

RIM092 **Master_quantitative_observation.minimum_meaningful_increment_nbr**

The smallest meaningful difference between reported values (the effective resolution of the measuring instrument or technique for continuous data, or the smallest discrete interval that can occur for discrete data). This is a pure number.

USAMP-II action for OO

as of yet, this concept is not mapped. Few clinical systems specify such a value, and it is medically questionable how such a concept of minimal meaningfulness could be defined. Thjs issue is to be addressed together with the delta checks.

RIM092 **Master_quantitative_observation.si_conversion_factor_expr**

This is a factor for converting the customary units to SI units.

In the case that the observation units are not SI units, this field provides the formula needed to convert from the reported units to SI units, this shall include the equation needed to coonvert from the reporting to the SI units.

In the case that the relation is simply multiplicative, this field shall include only the conversion factor. For example, if (results SI units) = c* (results reporting units), then only c would be stored in this field. In the case of any other functional relationship, the entire equation would be stored for a

USAMP-II out-scoped

Unit conversion is defined externally by the semantics of units. The Unified Code for Units of Measure that is the preferred code for units to be used in the data type Physical Quantities defines a methodology and the necessary constants for conversion between all convertible units.

The issue between SI and customary units is not as simple than it is implied by RIM092 here, since SI is an entire class of units, that still need to be converted.

The "equation" suggested by RIM092 is not interoperable without significant further work to solve a problem that is already solved elsewhere (in the units coding scheme.)

Master_service

RIM092 **Master_service.fixed_canned_message_cd**

The codes and a fixed text message that is always associated with the test described by this master service.

Most rules about patient testing will be transmitted as free text. In such cases, the contents serve only as information for human reading. However, an alternative for machine readable rules also exists. The rule may be defined formally in the Arden Syntax (ASTM 1460-1992) which has syntax for defining algebraic and transcendental equations, as well as temporal and logical selection criteria based on patient information stored in the computer record. Rules about patient preparation and written in Arden Syntax should being and end with a double semi-colon (;;) the Arden slot delimiter.

Rationale: The EXPR attribute type is not used here because a) it does not accommodate both codes and text; and b) at times this text must be human-readable. This attribute will use the CD data type.

OpenIssue: Need example values. Probably overlap of concepts.

OpenIssue: It is not clear from the definition what differentiates "fixed canned messages" from other standard text - e.g., patient_preparation_desc, procedure_medication_cd.

USAMP-II sanitized

There is no understandible definition of this attribute anywhere in the RIM nor in HL7 v2.3. This field must go, nobody can use it in an interoperable

RIM092 **Master_service.incompatible_change_dttm**

The date and time of the last change in the test procedure that would make previous results incompatible with new results, e.g., the last time that normal reference range or units changed for a numeric test/observation.

We strongly suggest that observation producers never use the same observation ID when the measurement procedures change in such a way that results produced under the new procedure are clinically different from those produced with the old procedure. Rather, the producer should try to adjust the new procedure so that its values are clinically indistinguishable from the old. Failing that, one should create a new observation ID for the observation produced under the new procedure.

In the rare circumstances when a procedure change occurs and neither of the above two options is viable, this field shall be used to transmit the effective date/time of the new procedure. The receiving systems shall assume that any values that come across under this observation ID are under the new procedure after this date and take appropriate steps to distinguish the old from the new observations.

This number is included to provide a means of communicating with the observation producing service when they have questions about particular observations or results.

Rationale:

OpenIssue:

USAMP-II sanitized

Just as no service event should be overwritten, no service definition should be overwritten incompatibly. This would render any attempt at interpreting old observations useless. There is no need to support such malpractice.

RIM092 **Master_service.point_versus_interval_cd**

classifies this service as measuring the patient's state either at a point in time (e.g., spot urines, random urines, serum potassium), or averaged over a interval of time (e.g., concentration, total amount, or clearance over a 24-hour collection).

OpenIssue: This may be converted to an indicator.

USAMP-II out-scoped

This atribute is a LOINC specific classification of tests. It is not necessary to imply procedural requirements, as the service plan may be specified in all necessary detail anyway. The implication for interpreting the observation is not clear. By no means is thie code a modifier, since there is no choice for any given test. Thus, this attribute better stays precoordinated in the LOINC code.

RIM092 **Master_service.when_to_charge_cd**

Specifies the standard timing of billing the charges associated with the service, and determines the master template for the timing of billing the charges associated with the order service item. eg.: On Discharge (D); On Receipt of Order (O); At time service is completed (R); At time service is started (S); At a designated date/time (T)

USAMP-II action for PAFM

The relationshjp between a service and its charge needs to be improved on. Only as a last resort should this attribute admitted into the Service class. It is not a problem to put this attribute into the service class, notably, it is applicable to all moods (especially definition, order, and event.)

Instead of distributing charge-relevant attributes over multiple classes in the RIM, wouldn't it be possible to consolidate them all in one class, representing charges. The class Financial_transaction seems to be the best class for that purpose. It could represent the charges (with fee schedule) one would incur when ordering the service, as well as the actual bill, and billing transaction.

Master_treatment_service

RIM092 **Master_treatment_service.drug_category_cd**

The drug category code of the pharmacy treatment service.

USAMP-II kicked out

Attributes for classification an categorization should not be admitted into the RIM without a detailed rationale and use cases. Coded attributes should not be admitted into the RIM without a full interoperable specification of what the domain is (if only by external reference.) This attribute is in the RIM without heritage in HL7 v2.x and whithout any helpful definition. It must go until the a proper use case and definition is made. Once we know what it is, we will be able to find an appropriate disposition in USAMP-II.

RIM092 **Master_treatment_service.formulary_status_cd**

A code depicting the formulary status of a dispensed medication.

Rationale:

OpenIssue: Need example values.

USAMP-II kicked out

Again, this attribute exists in the RIM without heritage in HL7 v2.x and without any sensible definition that would make it useable. It must therefore go until a proper use case and definition is made. Once this is properly defined, the USAM will find a good disposition for it.

RIM092 **Master_treatment_service.pharmaceutical_class_cd**

The pharmaceutical class of the pharmacy treatment service.

OpenIssue: Need example values.

USAMP-II kicked out

Attributes for classification an categorization should not be admitted into the RIM without a detailed rationale and use cases. Coded attributes should not be admitted into the RIM without a full interoperable specification of what the domain is (if only by external reference.) This attribute is in the RIM without heritage in HL7 v2.x and whithout any helpful definition. It must go until the a proper use case and definition is made. Once we know what it is, we will be able to find an appropriate disposition in USAMP-II.

RIM092 **Master_treatment_service.therapeutic_class_cd**

A code depicting the therapeutic class of the pharmacy treatment service.

OpenIssue: Need example values and clarification of description.

USAMP-II kicked out

Attributes for classification an categorization should not be admitted into the RIM without a detailed rationale and use cases. Coded attributes should not be admitted into the RIM without a full interoperable specification of what the domain is (if only by external reference.) This attribute is in the RIM without heritage in HL7 v2.x and whithout any helpful definition. It must go until the a proper use case and definition is made. Once we know what it is, we will be able to find an appropriate disposition in USAMP-II.

Observation_intent_or_order

RIM092 **Observation_intent_or_order.specimen_action_cd**

A code identifying the action to be taken with respect to the specimen which precedes or accompanies the order. Actions include: Add ordered tests to the existing specimen; Lab to obtain specimen from patient; Pending specimen - Order sent prior to delivery.

OpenIssue:

USAMP-II abolished

This modeling style is at odds with the MDF. An "action code" of HL7 v2.x is a hidden trigger event (sometimes overloaded with the meaning of a state attribute.) The code values suggest that this attribute manages the ordering of a specimen collection service, which has a straightforward representation in USAMP -- even in the RIM092! Other uses seem to be the addition of services to an existing specimen, which also has a straightforward representation in USAM and RIM092 alike. This attribute is superflous in either model!

Rule_link

RIM092 **Service_event_relationship :: generalizes(1..1) :: Rule_link :: specializes(1..1)**

USAMP-II dropped

The specialization class is re-united with its genus, so the relationship is gone. See comment under the specialization class.

Service_event

RIM092 **Service_event.charge_to_practice_cd**

Charge code for the charge to the ordering entity for the studies performed when applicable.

Rationale:

OpenIssue: This item related more to financial areas than the clinical areas. (Note to PAFM)

OpenIssue: Need code examples.

USAMP-II action for PAFM

This attribute is dysfunctional. It needs proper analysis and modeling. This is rather in the scope of PAFM. Probably covered already somewhere in Financial_transaction. Also may reconfirm the need for a general Account (not just a "patient billing account") so that departments and offices can bill and charge for each other's services independent from patients.

RIM092 **Service_event.charge_to_practice_qty**

Monetary amount for the charge to the ordering entity for the studies performed when applicable.

Rationale:

OpenIssue: Should move to financial section of model since it is related more to financial areas than the clinical areas. (Note to PAFM)

USAMP-II action for PAFM

This attribute also needs proper analysis and modeling. This is rather in the scope of PAFM. Probably covered already somewhere in Financial_transaction. Also may reconfirm the need for a general Account (not just a "patient billing account") so that departments and offices can bill and charge for each other's services independent from patients.

Service_intent_or_order

RIM092 **Service_intent_or_order.charge_type_cd**

A code identifying someone or something other than the patient to be billed for this service.

OpenIssue: This attribute cannot meet the needs of the concept without violating the guidelines of the MDF and must be fixed somehow. Coordination with PAFM is needed to be certain that the function and concept is captured somewhere for future messages. This is a type of active participation. "Entity to be billed" should be a participation type code in Class: Active_participation.

USAMP-II action for PAFM

This is a dysfunctional attribute that will never work. This literally cries for a link to a billing account that is not constrained to a "patient billing account." It could be so simple! Therefore the proposal is to delete this attribute that doesn't do what it promises to do, and thereby increasing pressure on the issue to be resolved.

RIM092 **Service_intent_or_order.echo_back_txt**

Text sent by the placer that will be returned with the results. There will be no interpretation of this field by the filler. This attribute should not be used to communicate information that should be communicated as an observation.

Rationale:

OpenIssue: Should this attribute be abandoned to be more deterministic as to how echo back is reported.

USAMP-II sanitized

This is clearly info-junk: a field with no semantics that is a perfect hide-out for sanctioned abuse. It better goes silently and only reconsidered if a strong case for it is made. This is at least 13 year old heritage from ASTM 1283 (was "placer text 1" and "placer text 2") … isn't it time now to

RIM092 **Service_intent_or_order.order_effective_dttm**

Date/time that the changes to the order took effect or are supposed to take effect

Rationale: previously unmatched V2.3 field

OpenIssue:

USAMP-II abolished

The use of this field has three different aspects,

(1) information about some time related to the Service. For example, usually it is the time the service is supposed to start but also the time the order is supposed to end (in context of a discontinue request.)

(2) information about the mood of the Service, that is, whether it is just a report when something took effect or it is a command when some action is supposed or planned to take effect.

(3) information about a particular transaction request for the order (defaulting to the MSH-7-date/time of message) as opposed to a time that will affect the service actually carried out.

These different aspects are all factored into specific data elements that are consistent and uniform in their interpretation. In version 2 this data element had alternative data elements to carry the same information, such as in the MSH and in the TQ, and thus was redundant. Therefore this field will not be carried forth as such in version 3, but will be decomposed in its different meanings:

(1) The actual start and end times of a service action will be communicated in Service.total_time.

(2) The mood is factored into the explicit mood code Service.mood_cd.

(3) Discontinuing a service immediately is done without mentioning any time at all, while a change in the planned end time of a service can be requested by the placer in the Service.total_time (or usually Service.critical_time) attribute.

(4) The time of a particular service control transaction (message) will always and only be sent in the version 3 Message Header.

RIM092 **Service_intent_or_order.response_requested_cd**

A code used to allow the placer (sending) application to determine the amount of information to be returned from the filler. Sometimes the requested level of response may not be possible immediately, but when it is possible, the filler (receiving) application must send theh information. When the field is null, D is the default value of the field.

Coded entries include: report exceptions only/report exceptions, replacement and parent-child/report exceptions, replacements, parent-child and associated segments/report exceptions, replacement, parent-child, associated segments and confirmations/return header only.

OpenIssue:

USAMP-II abolished

This is message control information, not application-level information. It's an interesting use-case to forward to Control/Query but should not be handled together with application domain data by a few domain committees.

RIM092 **Service_intent_or_order.when_to_charge_cd**

A code determining the timing of billing the charges associated with the order service item. eg. On Discharge (D); On Receipt of Order (O); At time service is completed (R); At time service is started (S); At a designated date/time (T)

Rationale:

USAMP-II action for PAFM

This needs to be analyzed together with all other billing attributes. May be a better attribute for a Financial Transaction. Deleting the attribute now will increase the pressure on resolving the issue.

As plan B we can have this as a Service attribute. It does fit nicely in the mood logic.

RIM092 **Service_intent_or_order.when_to_charge_dttm**

Date and time to charge for the ordered service.

Rationale:

OpenIssue:

USAMP-II action for PAFM

This needs to be analyzed together with all other billing attributes. A better attribute for Financial Transaction. Deleting the attribute now will increase the pressure on resolving the issue.

As plan B we can have this as a Service attribute (marked with 1000 open issues!)

Service_reason

RIM092 **Service_reason.determination_dttm**

The date and time at which the determination is made that the reason applies.

Rationale:

USAMP-II abolished

Rationale: the service reason is assigned by the responsible originator of the source service. The time of the reason thus defined is not practically distinguishable from the time of that source service.

If reasons are interpreted after the fact this must be represented differently (e.g., throught a mechanism similar (identical?) to the Condition_node.)

RIM092 **Service_reason.documentation_dttm**

The date and time at which the applicability of the reason is document.

Rationale:

USAMP-II abolished

Rationale: the service reason is assigned by the responsible originator of the source service. The time of the reason thus defined is not practically distinguishable from the time of that source service.

If reasons are interpreted after the fact this must be represented differently (e.g., throught a mechanism similar (identical?) to the Condition_node.)

Treatment_service_administration

RIM092 **Treatment_service_administration.system_entry_dttm**

Date/time the administration information was entered into the source system. This field is used to detect instances where treatment administration information is inadvertently entered multiple times by providing a unique identification field. Under usual circumstances, this field would be provided automatically by the computer system rather than being entered by a person

Rationale:

OpenIssue:

USAMP-II abolished

This is a hack in circumventing the obvious solution of unique identifiers. Times have changed in the last 20 years and v3 may need to "raise the bar" (W. Rishel) in this case.