Meeting Minutes

CDISC-HL7 Stage II
May 14, 2008
11:00 am – 1:00 pm (EST)

Attendees / Affiliation

Jason Rock/Global Submit (Chair)
Patty Garvey/FDA (Facilitator)
Christi Eckerson/CDC
Julie Evans/CDISC
Scott Getzin/Eli Lilly
Joyce Hernandez/Merck
Jay Levine/FDA
Armando Oliva/FDA

Background

FDA wishes to receive, in regulatory submissions, standard clinical study information content developed by the Clinical Data Interchange Standards Consortium (CDISC) in an Health Level 7 (HL7) message exchange format. This is key to the FDA strategic initiatives to improve public health and patient safety.

This project is currently broken into two stages: requirements analysis and message development. Stage IB team was developed and tasked with the requirements analysis responsibilities. Stage II team was developed and tasked with the message development responsibilities.

The purpose of the meeting is to discuss the mapping of the Study Design Message to the Reference Information Model.

Discussion

- The April 16, 2008 meeting minutes were reviewed and approved.

- Jason provided more information regarding sharing Stage II documents on a HL7 Wiki, which is host by Mayo Clinic. It was indicated that using the Wiki was more practical then the HL7 list serve since documents may be updated when needed, i.e. close to final form. There was a question whether there is an automate notification to individuals when documents have been posted on the Wiki. Jason will look further into this issue.

- Regarding the upcoming face-to-face meeting on June 12, 2008 in Rockville, there have been questions on the purpose of the meeting. Scott suggested that the meeting focus on the Study Participation and Study Design modeling. Scott indicated that reviewing during the modeling during online meeting has been difficult to provide feedback. Wayne suggested that the meeting focus on the Subject Data, as this is a very complex topic.

- As the discussion continued, it was felt that a second face-to-face meeting may be necessary shortly after the June 12th meeting. However, it was decided and agreed that for traveling logistics purposes the meeting should be June 12th and 13th. The following specific were discussed and agreed during the meeting:

    - Thursday, June 12th 10:00 am to 5:00 pm
      Agenda: Study Participation & Study Design Modeling

    - Friday, June 13th 9:00 am to 3:00 pm
      Agenda: Subject Data Modeling

  Patty will work on the specific building location of the meeting.

- Jason provided a presentation on Study Design Model.

Attachment: Study Design Model

Drafted: PGarvey/6-6-2008
Approved: 7-23-2008

Study Design

Jason Rock
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Table of Contents

Study Design

- What is going to be done in a study.
  - Information included in the protocol and protocol amendments
  - including planned interventions, assessments, analyses, eligibility criteria, visits etc
- Planned sequence of events for the study
- Provides ability to compare actual subject progress to the study plan

Source Information

- Started with the BRIDG
  - Semantics of Comparisons are not defined
  - Eligibility criteria needs to be harmonized
  - Subject assignments need to be defined
  - Transitions rules need further definition
- Validated against CDISC SDTM TE, TA, TI domains
  - Study Design message considers Visits an “Activity” which is currently not modeled
  - Study Design message does not capture Eligibility version number

Scope

- Studies that are performed to determine the quality, safety and efficacy of regulated products.
- Including but not limited to:
  - human clinical studies (drugs, devices, biologics, combination products)
  - animal pharmacology and toxicology studies (drugs, devices, biologics, combination products, food additives, cosmetics)
  - target animal veterinary studies
  - device performance studies
  - in vitro studies (drugs, biologics)

What is a Study?

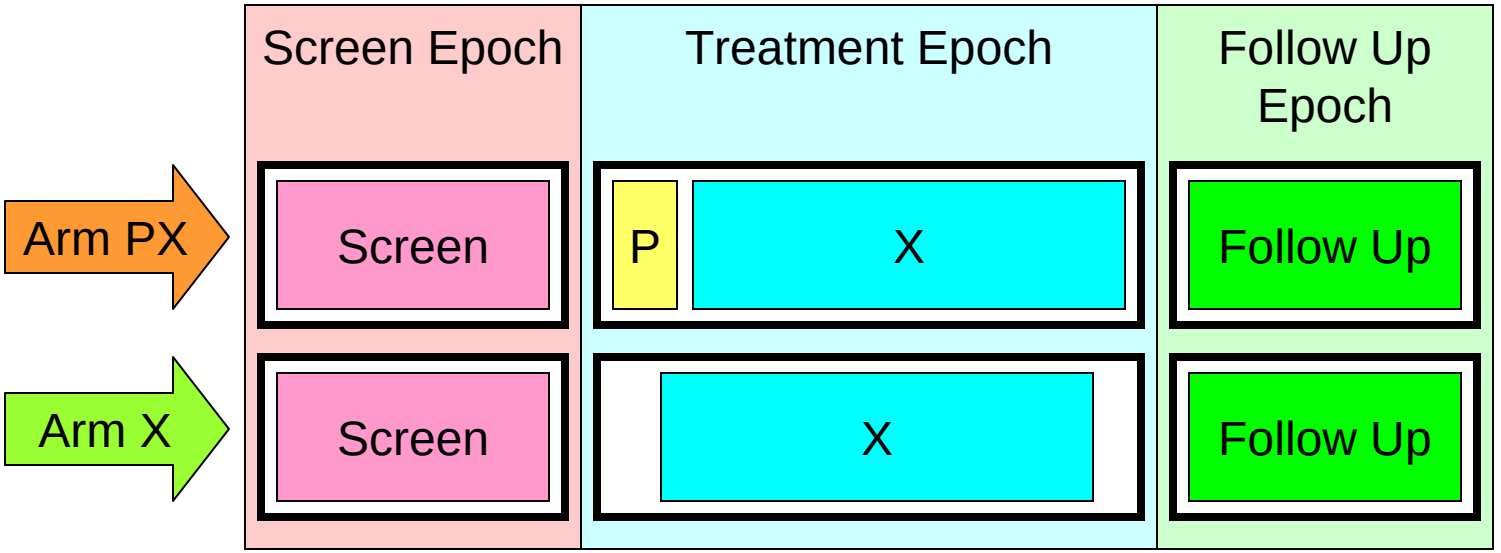
- A set of observations performed in the context of testing a particular hypothesis(-es) (e.g. solving a particular problem or question)
  - Subject could be living or inanimate (device, pill, etc.)
- A study of the effects of a medical intervention, such as a comparison test of medical treatment, versus a placebo (inactive look-a-like), other medications or devices, or the standard medical treatment for a patient's condition

Planned Study

- Definition: A collection of planned activities in a study including a description of the planned number of study subjects and the duration of their participation in the study.

Example showing arms, epochs, trial cells, and elements

A two-arm trial comparing Treatment X with and without Pre-treatment P



Columns shown with large rectangles “in back” are epochs.

Rows marked by arrows are arms.

Rectangles with heavy outlines are trial cells.

Rectangles within the trial cells are elements.

Source: Diane Wold

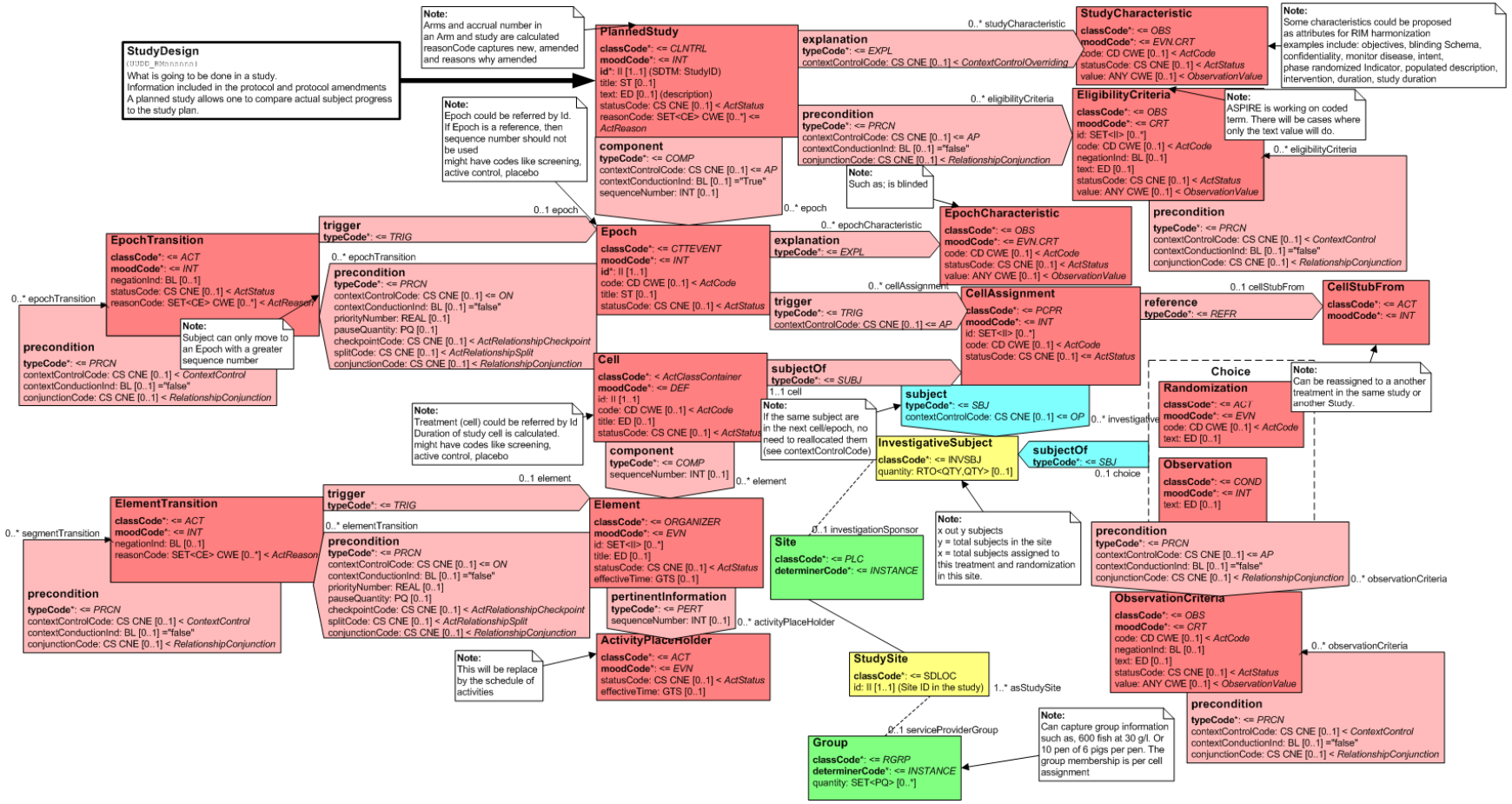
Planned Study Concepts

- Planned study can be thought of as a spreadsheet
- Epochs are the columns
  - Consecutives slices of study time in a trial
  - Each epoch serves a specific purpose (e.g. expose subjects to study drug, collect screening data)
- Arms are the rows
  - The order of the Trial Cells through the Epochs (see Trial Cells)
- Trial Cells are the… Cells
  - Corresponds to a unique collection of planned observations (assessments/interventions) during an epoch
  - Cells are compared to other cells to test the hypothesis(-es) (and are therefore constructed to support an analysis plan)
  - Sometimes cells are compared to cells in other studies (e.g. historical controls)
- Elements are outside of the spreadsheet concept
  - One or more element make up a Trial Cell
  - The basic building block of activities to be performed on a subject

Model (1)

- The next slide will show a proposed model of Study Design
- We will break down each class one by one and explain how it meets the defined requirements

Model (2)


StudyDesign
What is going to be done in a study.
Information included in the protocol and protocol amendments
A planned study allows one to compare actual subject progress to the study plan.
Note: Arms and accrual number in an Arm and study are calculated reasonCode captures new, amended and reasons why amended
PlannedStudy
classCode*: <= CLNTRL
moodCode*: <= INT
id*: II [1..1] (SDTM: StudyID)
title: ST [0..1]
text: ED [0..1] (description)
statusCode: CS CNE [0..1] < ActStatus
reasonCode: SET<CE> CWE [0..*] <= ActReason
explanation
typeCode*: <= EXPL
contextControlCode: CS CNE [0..1] < ContextControlOverriding
0..* studyCharacteristic
StudyCharacteristic
classCode*: <= OBS
moodCode*: <= EVN.CRT
code: CD CWE [0..1] < ActCode
statusCode: CS CNE [0..1] < ActStatus
value: ANY CWE [0..1] < ObservationValue
Note: Some characteristics could be proposed as attributes for RIM harmonization examples include: objectives, blinding Schema, confidentiality, monitor disease, intent, phase randomized Indicator, populated description, intervention, duration, study duration
Note: Epoch could be referred by Id. If Epoch is a reference, then sequence number should not be used might have codes like screening, active control, placebo
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] <= AP
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
0..* eligibilityCriteria
EligibilityCriteria
classCode*: <= OBS
moodCode*: <= CRT
id: SET<II> [0..*]
code: CD CWE [0..1] < ActCode
negationInd: BL [0..1]
text: ED [0..1]
statusCode: CS CNE [0..1] < ActStatus
value: ANY CWE [0..1] < ObservationValue
Note: ASPIRE is working on coded term. There will be cases where only the text value will do.
component
typeCode*: <= COMP
contextControlCode: CS CNE [0..1] <= AP
contextConductionInd: BL [0..1] ="True"
sequenceNumber: INT [0..1]
Note: Such as; is blinded
0..1 epoch
0..* epoch
Epoch
classCode*: <= CTTEVENT
moodCode*: <= INT
id*: II [1..1]
code: CD CWE [0..1] < ActCode
title: ST [0..1]
statusCode: CS CNE [0..1] < ActStatus
0..* epochCharacteristic
explanation
typeCode*: <= EXPL
EpochCharacteristic
classCode*: <= OBS
moodCode*: <= EVN.CRT
code: CD CWE [0..1] < ActCode
statusCode: CS CNE [0..1] < ActStatus
value: ANY CWE [0..1] < ObservationValue
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] < ContextControl
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
0..* epochTransition
EpochTransition
classCode*: <= ACT
moodCode*: <= INT
negationInd: BL [0..1]
statusCode: CS CNE [0..1] < ActStatus
reasonCode: SET<CE> CWE [0..*] < ActReason
Note: Subject can only move to an Epoch with a greater sequence number
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] < ContextControl
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
trigger
typeCode*: <= TRIG
0..* epochTransition
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] <= ON
contextConductionInd: BL [0..1] ="false"
priorityNumber: REAL [0..1]
pauseQuantity: PQ [0..1]
checkpointCode: CS CNE [0..1] < ActRelationshipCheckpoint
splitCode: CS CNE [0..1] < ActRelationshipSplit
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
trigger
typeCode*: <= TRIG
contextControlCode: CS CNE [0..1] <= AP
0..* cellAssignment
CellAssignment
classCode*: <= PCPR
moodCode*: <= INT
id: SET<II> [0..*]
code: CD CWE [0..1] < ActCode
statusCode: CS CNE [0..1] <= ActStatus
0..1 cellStubFrom
reference
typeCode*: <= REFR
CellStubFrom
classCode*: <= ACT
moodCode*: <= INT
Note: Can be reassigned to a another treatment in the same study or another Study.
Cell
classCode*: < ActClassContainer
moodCode*: <= DEF
id: II [1..1]
code: CD CWE [0..1] < ActCode
title: ED [0..1]
statusCode: CS CNE [0..1] < ActStatus
Note: Treatment (cell) could be referred by Id Duration of study cell is calculated. might have codes like screening, active control, placebo
component
typeCode*: <= COMP
sequenceNumber: INT [0..1]
subjectOf
typeCode*: <= SUBJ
1..1 cell
Note: If the same subject are in the next cell/epoch, no need to reallocated them (see contextControlCode)
subject
typeCode*: <= SBJ
contextControlCode: CS CNE [0..1] <= OP
0..* investigative
InvestigativeSubject
classCode*: <= INVSBJ
quantity: RTO<QTY,QTY> [0..1]
subjectOf
typeCode*: <= SBJ
0..1 choice
Choice
Randomization
classCode*: <= ACT
moodCode*: <= EVN
code: CD CWE [0..1] < ActCode
text: ED [0..1]
Observation
classCode*: <= COND
moodCode*: <= INT
text: ED [0..1]
0..1 element
0..* element
Element
classCode*: <= ORGANIZER
moodCode*: <= EVN
id: SET<II> [0..*]
title: ED [0..1]
statusCode: CS CNE [0..1] < ActStatus
effectiveTime: GTS [0..1]
pertinentInformation
typeCode*: <= PERT
sequenceNumber: INT [0..1]
0..* activityPlaceHolder
ActivityPlaceHolder
classCode*: <= ACT
moodCode*: <= EVN
statusCode: CS CNE [0..1] < ActStatus
effectiveTime: GTS [0..1]
Note: This will be replace by the schedule of activities
ElementTransition
classCode*: <= ACT
moodCode*: <= INT
negationInd: BL [0..1]
reasonCode: SET<CE> CWE [0..*] < ActReason
0..* segmentTransition
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] < ContextControl
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
trigger
typeCode*: <= TRIG
0..* elementTransition
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] <= ON
contextConductionInd: BL [0..1] ="false"
priorityNumber: REAL [0..1]
pauseQuantity: PQ [0..1]
checkpointCode: CS CNE [0..1] < ActRelationshipCheckpoint
splitCode: CS CNE [0..1] < ActRelationshipSplit
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
0..1 investigationSponsor
Site
classCode*: <= PLC
determinerCode*: <= INSTANCE
Note: x out y subjects y = total subjects in the site x = total subjects assigned to this treatment and randomization in this site.
StudySite
classCode*: <= SDLOC
id: II [1..1] (Site ID in the study)
1..* asStudySite
0..1 serviceProviderGroup
Group
classCode*: <= RGRP
determinerCode*: <= INSTANCE
quantity: SET<PQ> [0..*]
Note: Can capture group information such as, 600 fish at 30 g/l. Or 10 pen of 6 pigs per pen. The group membership is per cell assignment
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] < ContextControl
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
0..* observationCriteria
ObservationCriteria
classCode*: <= OBS
moodCode*: <= CRT
code: CD CWE [0..1] < ActCode
negationInd: BL [0..1]
text: ED [0..1]
statusCode: CS CNE [0..1] < ActStatus
value: ANY CWE [0..1] < ObservationValue
0..* observationCriteria
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] < ContextControl
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction

Study Plan: Problems to be solved (1)

- What are the comparison tests to show one intervention is the best among alternatives?
- What activities and the order of activities occur during the study?

Comparison tests

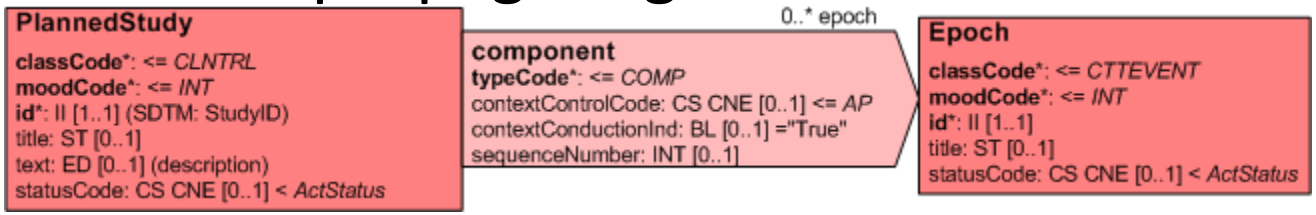
- Compare strategies (one or more interventions) to test study hypothesis(-es).
  - Comparison of certain observations within a trial cell (associated with a specific intervention) with same observations in another trial cell (associated with a different intervention)
  - Often new interventions are evaluated against the currently accepted "best" intervention
  - e.g. Compare a single intervention to another intervention in the same epoch.
  - e.g. Compare a single intervention to another intervention in a different epoch or in a different study.

Compare Interventions - Epochs

- A series of states in a study that serves a purpose, typically involving treatments or gathering post-treatment data.
  - Treatment, follow up, screening, etc
- Interventions need not be similar in pattern or time within one Epoch
  - Comparing surgery to a drug
- Especially useful if study is blinded
  - Subjects are not blinded to the Epoch
- Note: Epochs are also used in the schedule of activities, discussed later in this presentation

Epoch Described In RIM

- When a Epoch is created Id and title is filled
- If you need to revise you should refer to the Epoch by Id only
- You can deprecate an Epoch with the status code
- The sequence number informs the study plan the order of the Epoch
- On protocol amendment Epochs and be added, removed or replace since the context control is additive and propagating

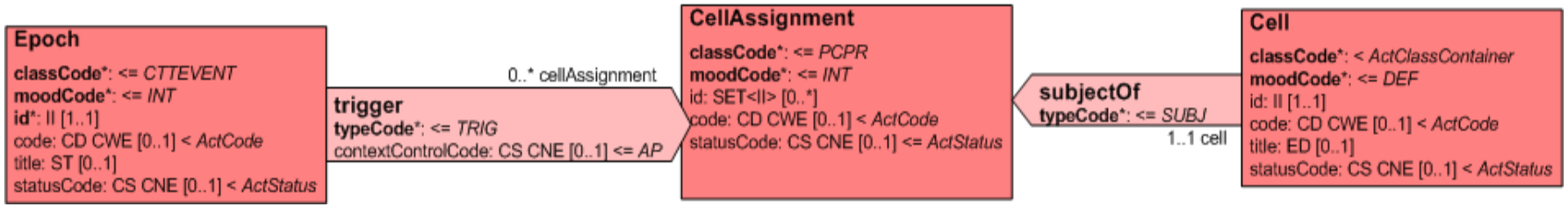


Compare strategies – Trial Cells

- A planned sequence of cells, epoch by epoch, which describes what activities the subject will be involved in is called an Arm.
  - Often also called a treatment group.
- Observations in One Trial Cell are compared to those in another Cell based on specified criteria, usually related to effectiveness, safety or quality
- The same Cell can appear in the same Epoch and multiple Epochs
  - Comparison occurs how the subject reacts to the same set of activities (Interventions) based on the Epoch and other Interventions
- Sometimes one intervention is the currently accepted "best" intervention
- Subjects are typically assigned to a Cell (enrollment is discussed later in the presentation) using pre-specified rules

Trial Cells Described in RIM

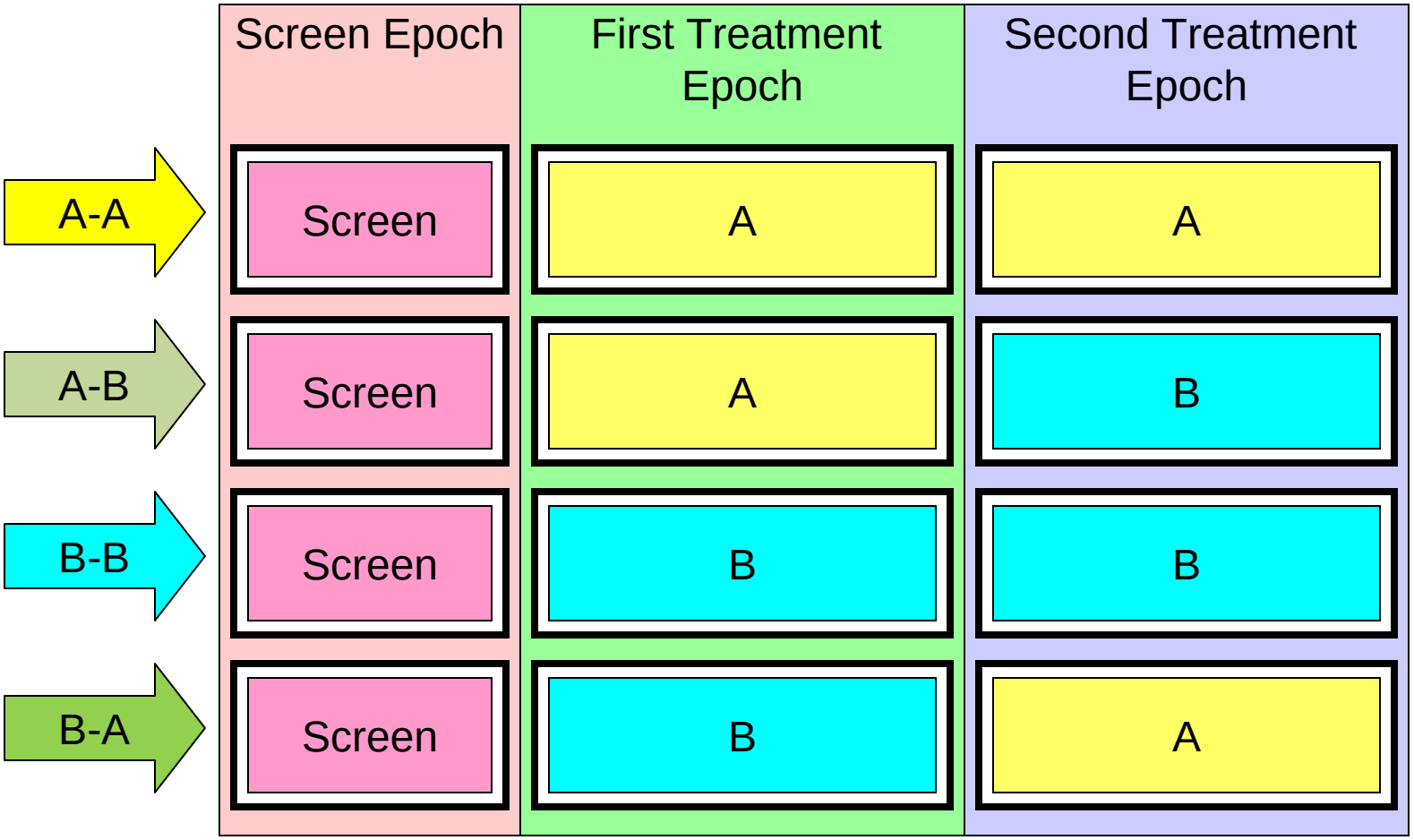
- For a subject to be involved in a cell they first need to be assigned to that cell (explained later)
- When a Cell is first defined Id, code (screening, intervention, etc), title is filled
- If you need to revise you should refer to the Cell by Id only
- You can deprecate a Cell with the status code



Activity Workflow

- How does a subject move from one Epoch to another?
- Which Trial Cell do they enter?
- How long does an intervention last for a subject and when should the intervention stop or a different intervention begin?
- What activities (other interventions, observations, visits, etc) are associated with an intervention?

Grid view of AA, AB, BB, BA



Subjects are randomized to A or B for first treatment epoch.
Subjects are randomized again to A or B for second treatment epoch.
Most studies have only one randomization event

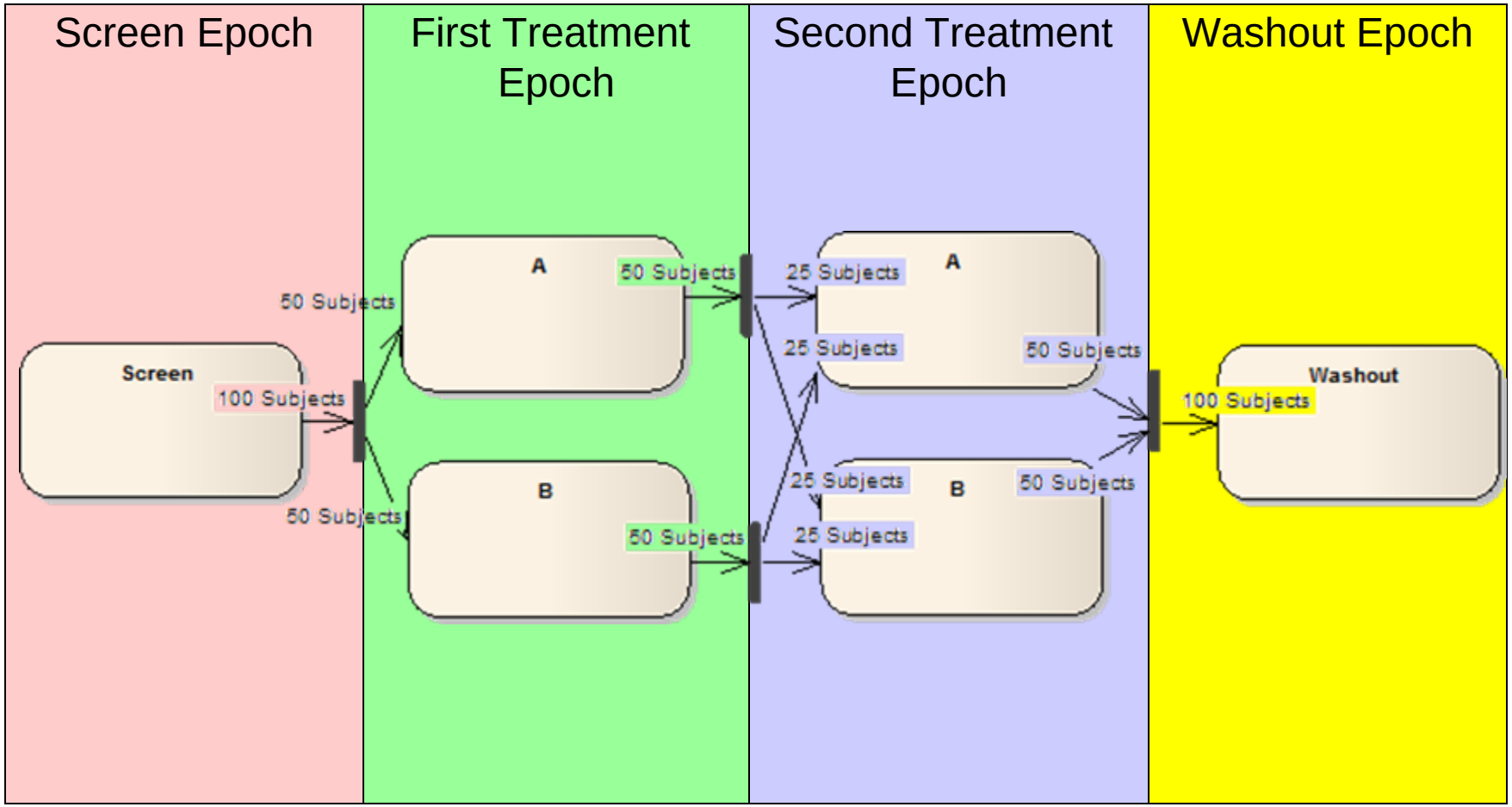
Workflow System

- A study plan can also be thought of as a workflow system
- A workflow is a reliably repeatable pattern of activity enabled by a systematic organization of resources
- HL7 RIM has built in workflow capabilities

Study Design as a workflow system

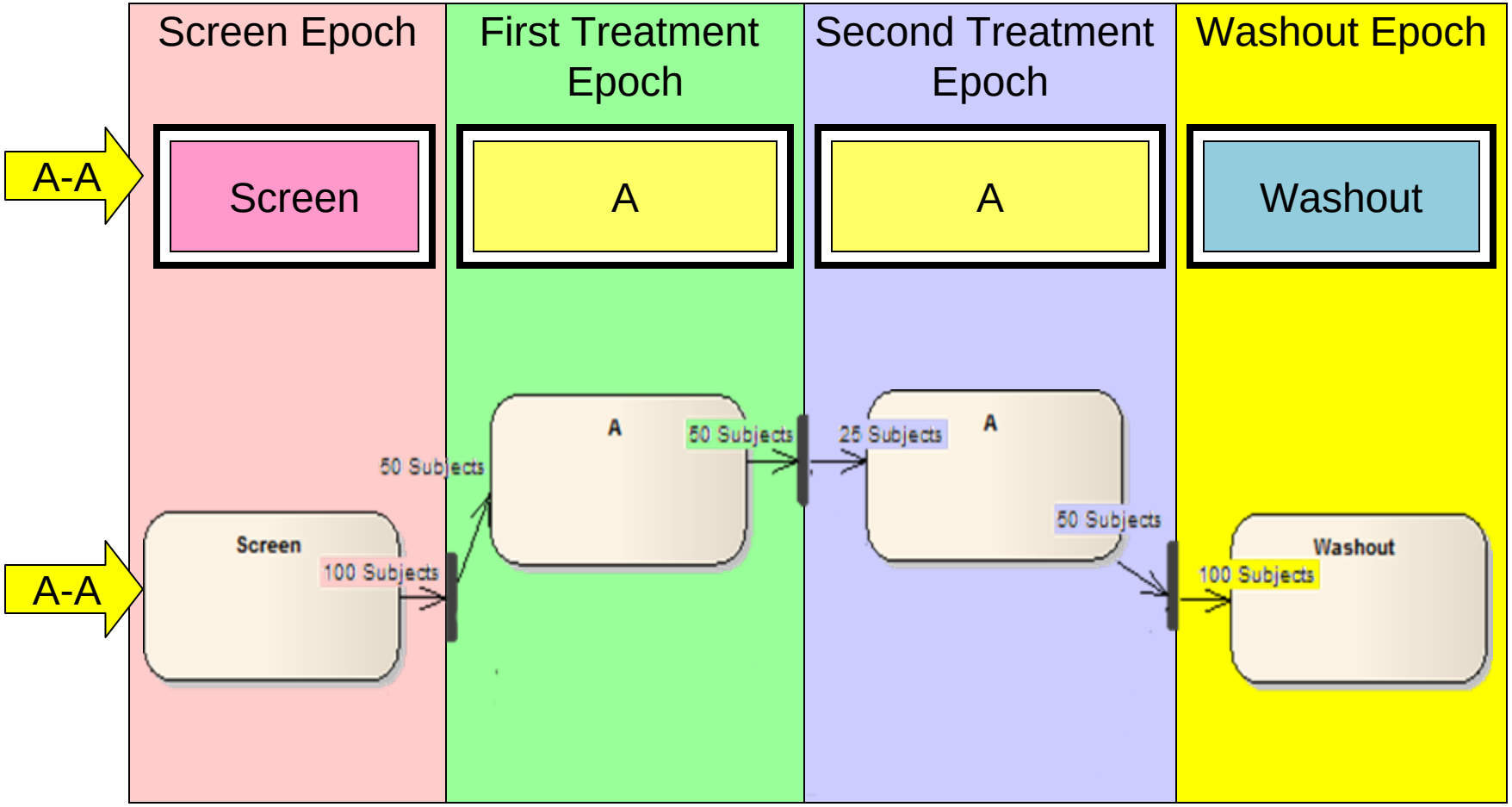
- Epochs are the highest level view of the workflow diagram
  - Subjects can only move forward through Epochs
- Cells can be drilled down to a lower level workflow – name Elements
  - Cell have a more sophisticated workflow systems
- Elements can be drilled down to a lower level workflow – Activities

Workflow view of AA, AB, BB, BA



Subjects are randomized to A or B for first treatment epoch.
Subjects are randomized again to A or B for second treatment epoch.
Arms are derived based on workflow paths

Grid View and Workflow View



Elements Workflow (1)

- Elements are a way to organize a Cell; such as some planned intervention, "no treatment”, etc
- The duration of a Cell is calculated based on the Elements
- Criteria could be a complex grouping of operations of AND, OR and XOR
  - Treatment could depend on how the subject is responding
- Rule could be time based

Elements Workflow (2)

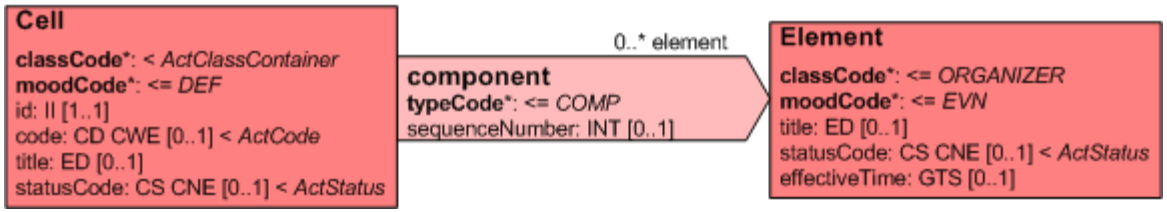
- At the conclusion of an Element and the absence of a matching criteria, the subject moves to the next Element based on the sequence number
- Rules could be checked at the beginning, ending, or during the course of a Element and are based on priority
- There are priority number for competing rules

Elements Workflow (3)

- Very complicated
- Can cycle
  - Cycle a minimum of X times and a Max of Y times
- Can wait until a condition (disease onset)
- Can be based on an anchor in time
  - Start 3 hours after surgery
- Can be based on response
- Can increase dose until a response

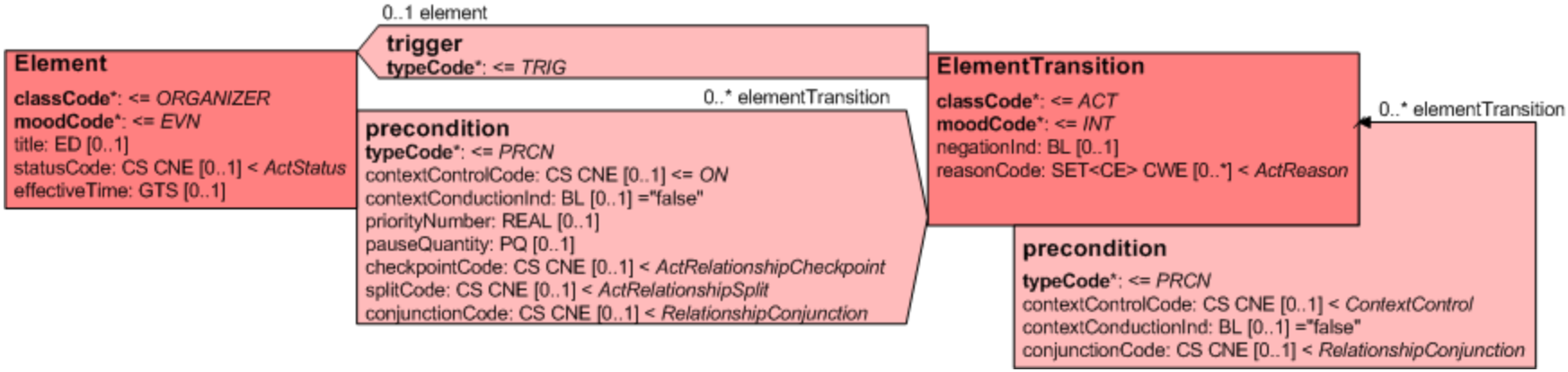
Element Described in RIM

- When an Element is first defined Id, code (screening, intervention, etc), title is filled
- If you need to revise you should refer to the Element by Id only
- You can deprecate an Element with the status code
- Cells are made of one or more Elements
- The sequence number defines the order of the elements
  - Element have a workflow component (next slide)



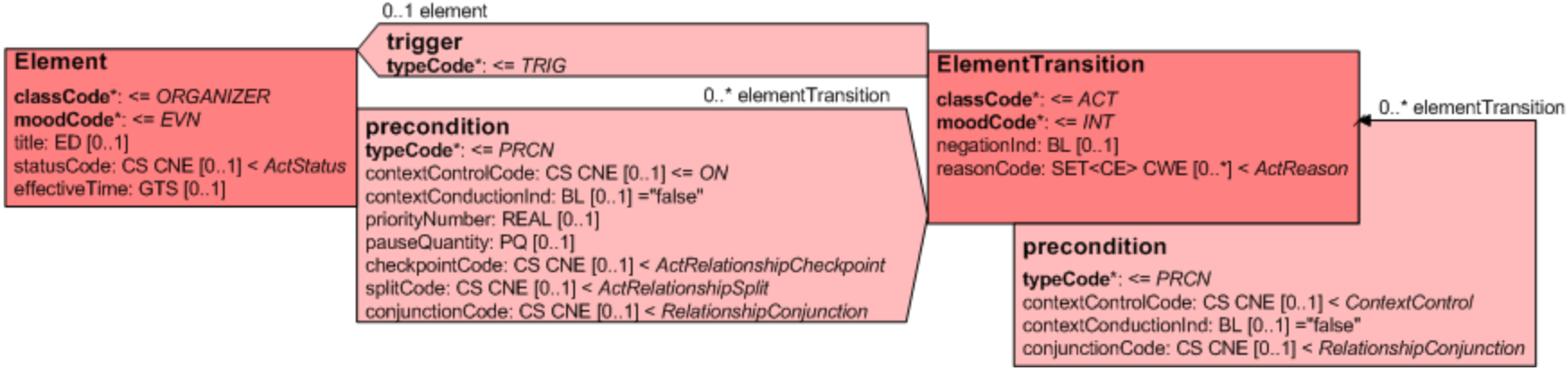
Element Transition Described in RIM (1)

- The precondition between Element and Element Transition describe
  - Priority number – how to handle competing criteria if they both match
  - Pause condition – how long to wait to check a rule
  - Check point code – should the rule be checked at the start, end, or throughout the element
  - Split code – how to check the rule (once, continual, find one and done)
  - Base on the context control code if you want to update the Element transition rules you must create the entire rule again



Element Transition Described in RIM (2)

- Both preconditions defines a complex set of AND, OR, XOR conditions.
- Rules can be nested
- Element Transition just describe the rule on the reason code.
  - Could be text base or could be coded



Moving through Epochs (1)

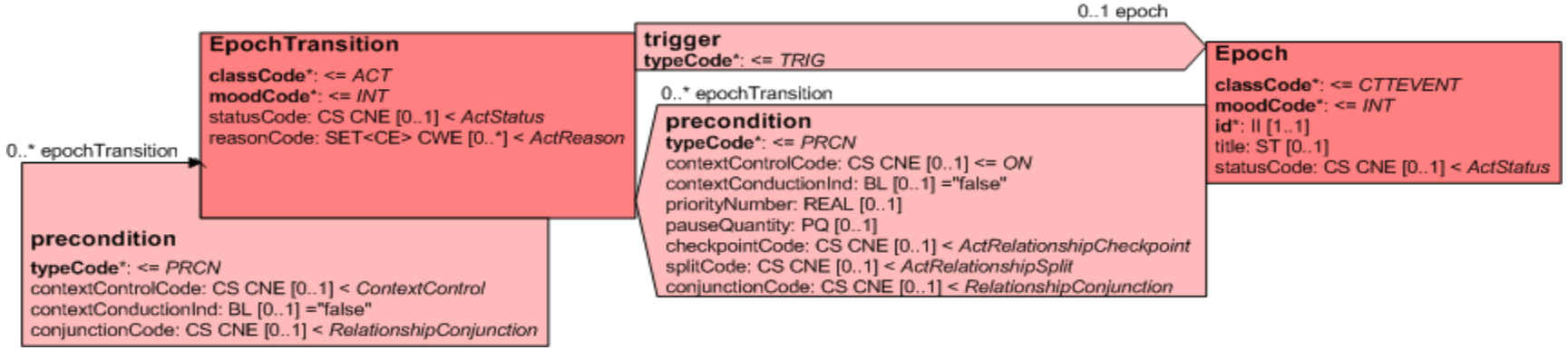
- Subjects can move from one epoch to another based on a set of rules.
  - Epochs describe a high-level division of time
    - Need not be the same time within an Arm (e.g. could be dependent on subject response to treatment)
    - Need not be the same time between Arms (e.g. surgery could be measured in days while a drug treatment could be measured in months)
- A subject can be “kicked out” of a Cell based on an Epoch rule
- Criteria could be a complex grouping of operations of AND, OR and XOR
- Rules could be checked at the beginning, ending, or during the course of an Epoch
- Rule could be time based

Moving through Epochs (2)

- At the conclusion of a trial cell in an Epoch and the absence of a matching criteria, the subject moves to the next Epoch based on the sequence number (not shown in the diagram on the next page)
- Example:
  - Cancer chemotherapy studies allows subjects to skip planned treatments if the disease progress

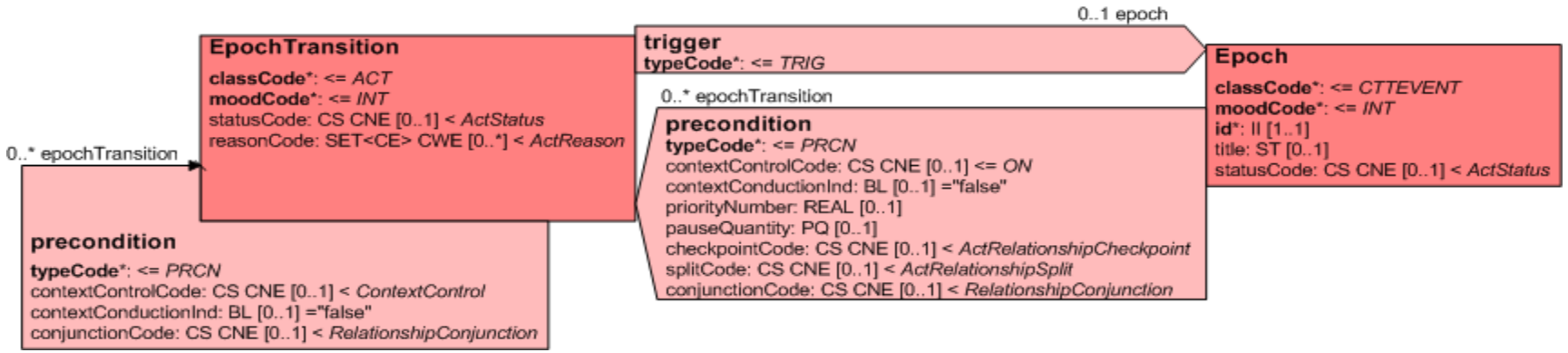
Epoch Transition Described in RIM (1)

- The precondition between Epoch and Epoch Transition describe
  - Priority number – how to handle competing criteria if they both match
  - Pause condition – how long to wait to check a rule
  - Check point code – should the rule be checked at the start, end, or throughout the element
  - Split code – how to check the rule (once, continual, find one and done)
  - Base on the context control code if you want to update the Element transition rules you must create the entire rule again



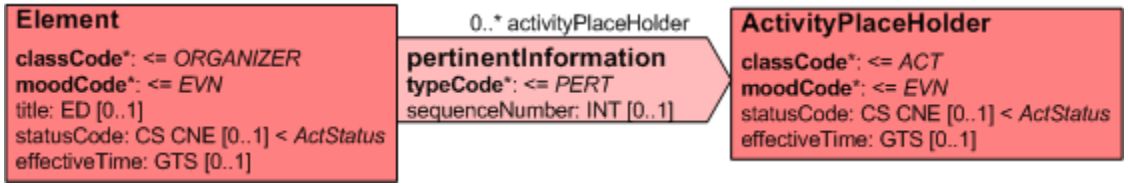
Epoch Transition Described in RIM (2)

- Both preconditions defines a complex set of AND, OR, XOR conditions.
- Rules can be nested
- Epoch Transition just describe the rule on the reason code.
  - Could be text base or could be coded



Schedule of Activities (1)

- The activities are defined in the Element.
- Example:
  - 3 pills a day for two weeks
  - Lab tests
  - Visits
- Note: Activity place holder will need to be replaced with a full schedule of activities



Study Plan: Problems to be solved (2)

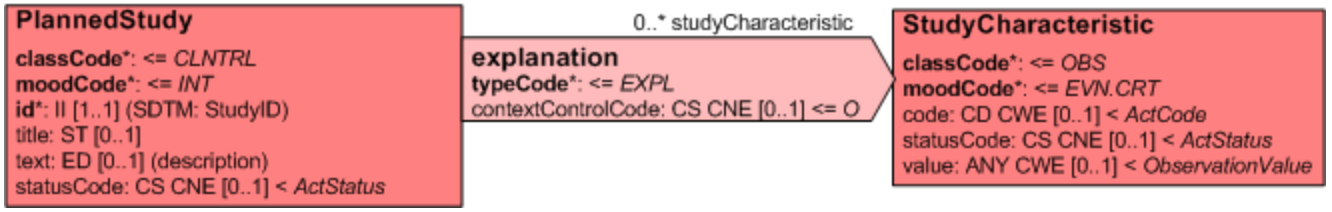
- Based on the problem, what criteria make a subject eligible to participate in this study?
- How many subjects need to be enrolled to prove the hypothesis?

Problem or question to be solved

- Study summary information
- Defines a specific problem with specific parameters
- Including but not limited to:
  - Phase, intent, population description, accrual number, design objectives

Study Characteristics Described in RIM

- There could be zero to many summary data
- On creation of Study Characteristics need Id, code (type of information) and value
- The value could be any data type – like text or physical quantity
- Can deprecate based on the status code and I
- Can update a study characteristics
  - Context control code is Overriding

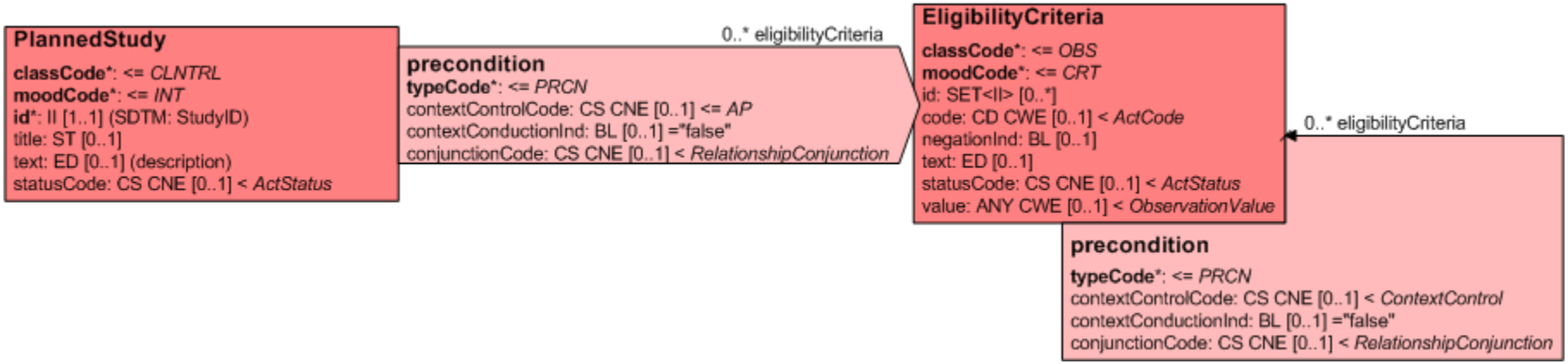


Eligibility Criteria to enter a Study

- Definition: requirements that must be met for an subject to be included in a study. These requirements help make sure that the subjects are similar to each other in terms of specific factors such as age, general health and previous treatment.
- Criteria could be a complex grouping of operations of AND, OR and XOR

Eligibility Criteria described in RIM

- Both preconditions, through conjunction code, defines a complex set of AND, OR, XOR conditions.
- Rules can be nested
- Code describe the rule on the reason code.
- Value could be text base, coded, physical quantity etc.
- Can deprecate criteria based on Id
- Cannot replace criteria
- Context control code allows you to add new criteria



Subject Enrollment

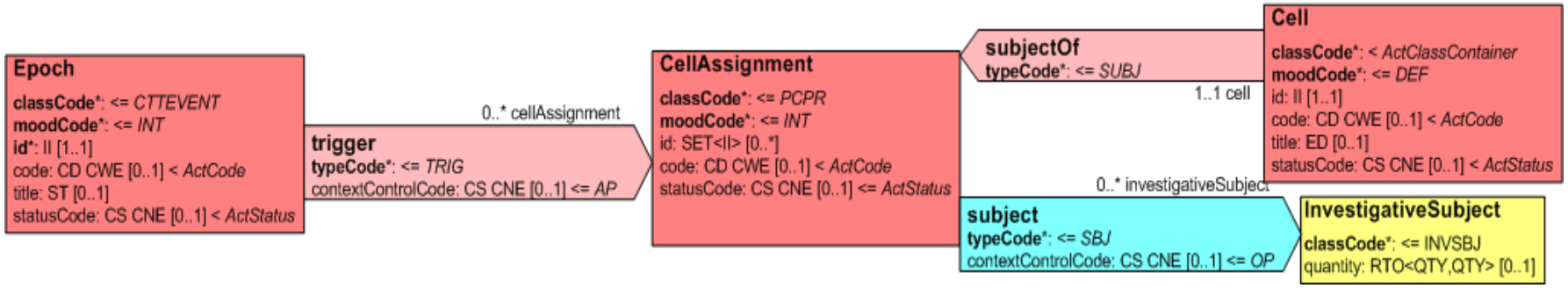
- How many subjects are need to prove a hypothesis?
- How many sites are needed to perform the test with the specified number of subjects?
- How did the subject get assigned to a specified intervention strategy?

Cell Assignment (1)

- To prove a treatment strategy a specified number of subject will need to be enrolled
- The Subject is always assigned to the first Trial Cell at the first Epoch but could be assigned to future Trial Cells in a subsequent Epoch
  - All subjects may continue on to the same new intervention
  - Subjects can be assigned to different interventions (branching)
- Each Subject is assigned to only one treatment at any given time

Cell Assignment Described in RIM (1)

- One cell in one Epoch can branch to many other cells (trigger)
  - Therefore can have many Cell assignments
- Based on status code can deprecate a cell assignment
- Can add new cell assignments based on context control code
- What is code for??
- A cell assignment only assigns subjects to one cell (subject of)
- Subject can be located in several sites (explained in a latter slide)

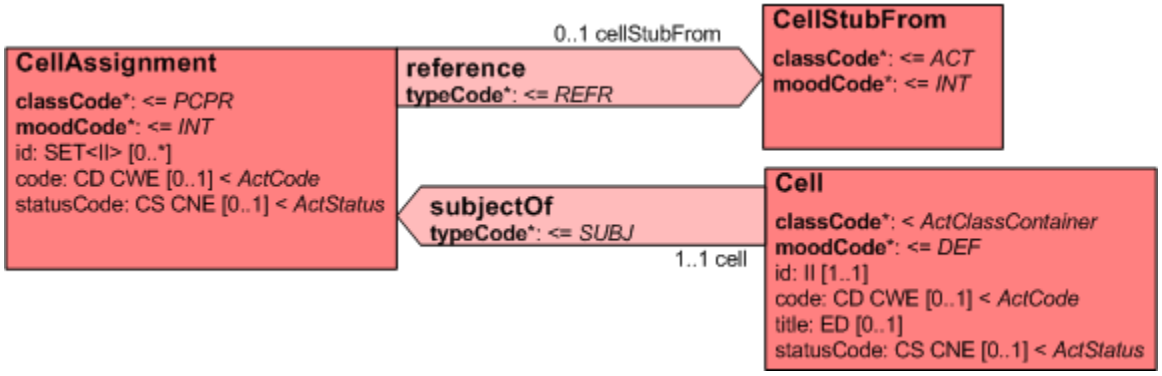


Cell Assignment (2)

- Trial Cell assignment could be based on previous treatment assignment
  - In cross over trials with two treatments (A and B) and two treatment Epochs (1 and 2) and subjects are randomized evenly between treatment.
    - In Epoch Treatment 1, there are two treatments, 50% of the Subjects receive treatment A and 50% of the Subject receive treatment B
    - In Epoch Treatment 2, there are two treatments
      - Of the subjects that received treatment A in Epoch 1 will 50% will receive treatment A and 50% will receive treatment B
      - Of the subjects that received treatment B in Epoch 1 will 50% will receive treatment A and 50% will receive treatment B

Cell Assignment Described in RIM (2)

- Cell assignment can also be based on previous cells (Cell Stub From)
  - Must refer to the Id of a previous cell in this study or another study

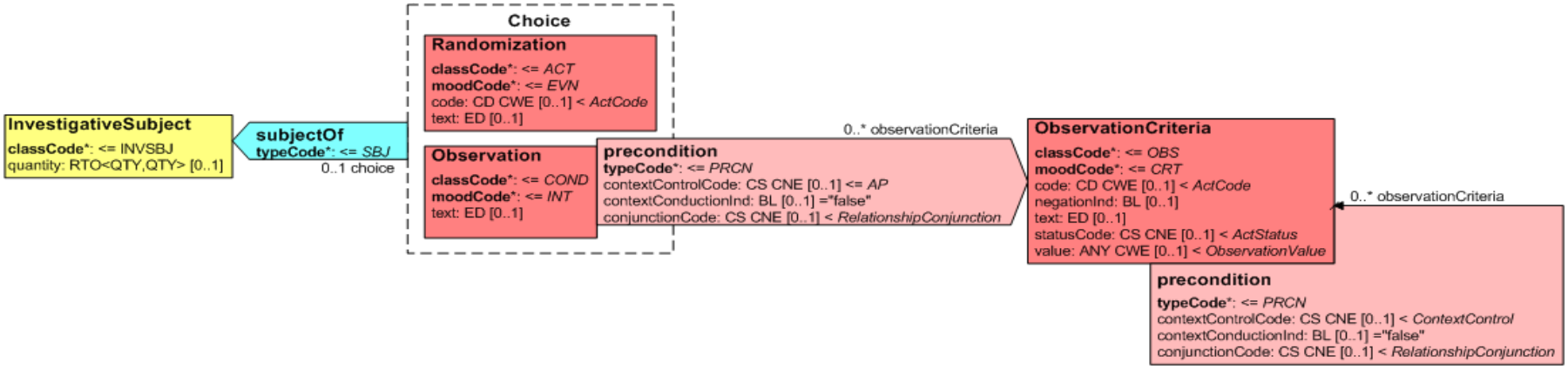


Cell Assignment (3)

- Subjects are assigned based on a specific method
  - Randomization
    - Currently not capturing randomization methods
  - Observation
    - Has criteria that will assign a subject to treatment

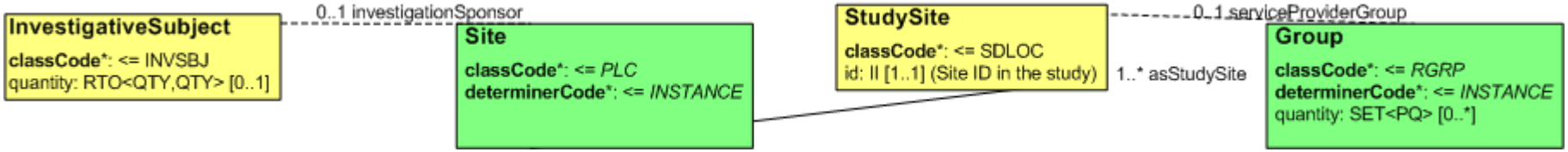
Cell Assignment Described in RIM (3)

- Subject are assigned to cell base on one and only one method
- Both preconditions of observation, through conjunction code, defines a complex set of AND, OR, XOR conditions.
- Rules can be nested
- Code describe the rule on the reason code.
- Value could be text base, coded, physical quantity etc.
- Can deprecate criteria based on Id
- Cannot replace criteria

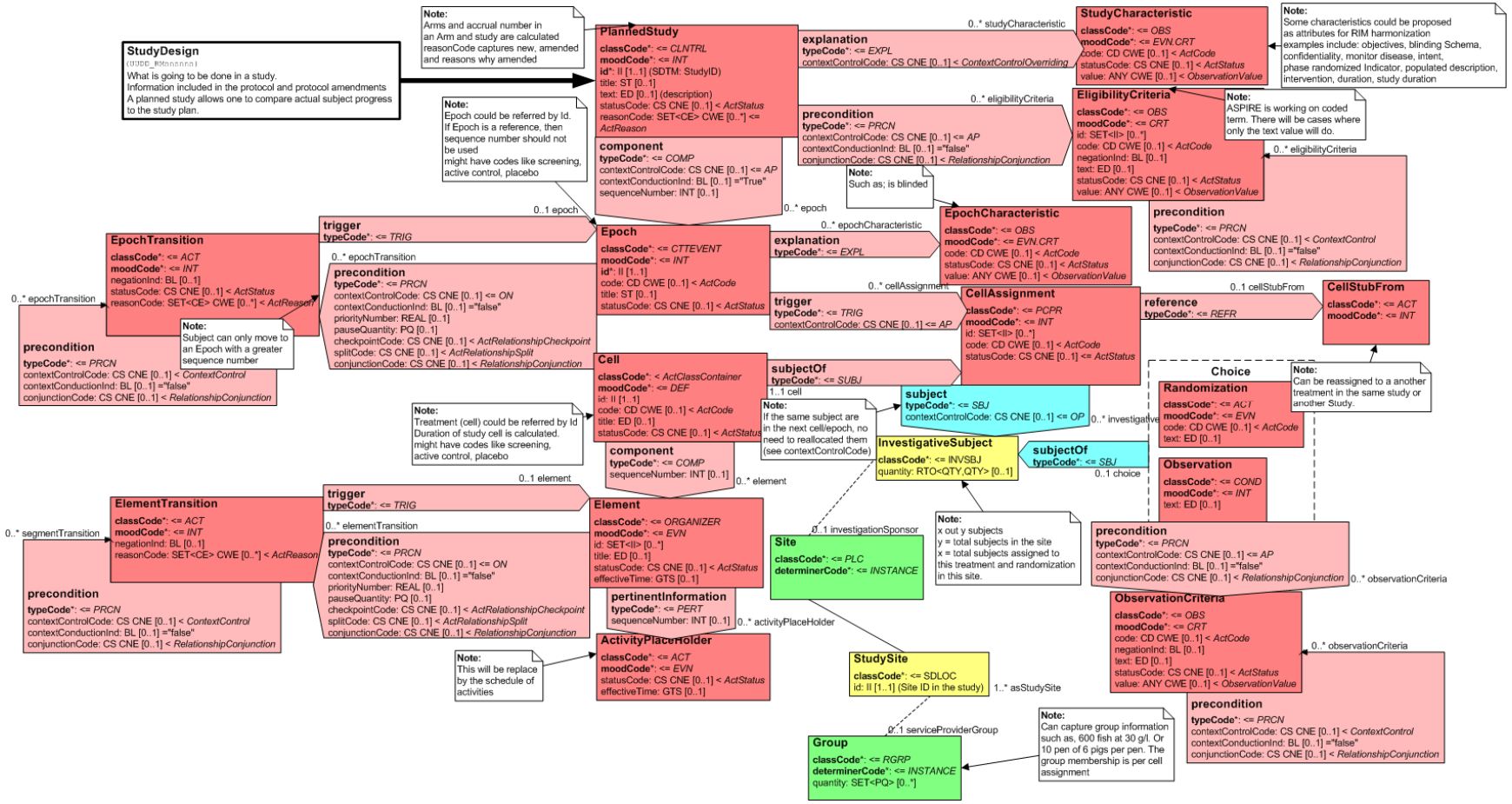


Cell Assignment Described in RIM (4)

- Some trials will have multiple sites
- A specified number of subjects for a treatment at a site is needed
- Not all sites will conduct each trial cell
- Quantity is x out y subjects
  - y = total subjects in the site
  - x = total subjects assigned to this treatment and randomization in this site.
- Sites could be broken down into groups
  - 10 pigs per pen. 3 pens per site and cell
  - 700 fish per tank at a density of 30 g/L



Model


StudyDesign
What is going to be done in a study.
Information included in the protocol and protocol amendments
A planned study allows one to compare actual subject progress to the study plan.
Note: Arms and accrual number in an Arm and study are calculated reasonCode captures new, amended and reasons why amended
PlannedStudy
classCode*: <= CLNTRL
moodCode*: <= INT
id*: II [1..1] (SDTM: StudyID)
title: ST [0..1]
text: ED [0..1] (description)
statusCode: CS CNE [0..1] < ActStatus
reasonCode: SET<CE> CWE [0..*] <= ActReason
0..* studyCharacteristic
explanation
typeCode*: <= EXPL
contextControlCode: CS CNE [0..1] < ContextControlOverriding
StudyCharacteristic
classCode*: <= OBS
moodCode*: <= EVN.CRT
code: CD CWE [0..1] < ActCode
statusCode: CS CNE [0..1] < ActStatus
value: ANY CWE [0..1] < ObservationValue
Note: Some characteristics could be proposed as attributes for RIM harmonization examples include: objectives, blinding Schema, confidentiality, monitor disease, intent, phase randomized Indicator, populated description, intervention, duration, study duration
0..* eligibilityCriteria
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] <= AP
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
EligibilityCriteria
classCode*: <= OBS
moodCode*: <= CRT
id: SET<II> [0..*]
code: CD CWE [0..1] < ActCode
negationInd: BL [0..1]
text: ED [0..1]
statusCode: CS CNE [0..1] < ActStatus
value: ANY CWE [0..1] < ObservationValue
Note: ASPIRE is working on coded term. There will be cases where only the text value will do.
component
typeCode*: <= COMP
contextControlCode: CS CNE [0..1] <= AP
contextConductionInd: BL [0..1] ="True"
sequenceNumber: INT [0..1]
Note: Epoch could be referred by Id. If Epoch is a reference, then sequence number should not be used might have codes like screening, active control, placebo
Note: Such as; is blinded
0..1 epoch
0..* epoch
Epoch
classCode*: <= CTTEVENT
moodCode*: <= INT
id*: II [1..1]
code: CD CWE [0..1] < ActCode
title: ST [0..1]
statusCode: CS CNE [0..1] < ActStatus
0..* epochCharacteristic
explanation
typeCode*: <= EXPL
EpochCharacteristic
classCode*: <= OBS
moodCode*: <= EVN.CRT
code: CD CWE [0..1] < ActCode
statusCode: CS CNE [0..1] < ActStatus
value: ANY CWE [0..1] < ObservationValue
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] < ContextControl
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
0..* epochTransition
EpochTransition
classCode*: <= ACT
moodCode*: <= INT
negationInd: BL [0..1]
statusCode: CS CNE [0..1] < ActStatus
reasonCode: SET<CE> CWE [0..*] < ActReason
trigger
typeCode*: <= TRIG
0..* epochTransition
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] <= ON
contextConductionInd: BL [0..1] ="false"
priorityNumber: REAL [0..1]
pauseQuantity: PQ [0..1]
checkpointCode: CS CNE [0..1] < ActRelationshipCheckpoint
splitCode: CS CNE [0..1] < ActRelationshipSplit
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
Note: Subject can only move to an Epoch with a greater sequence number
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] < ContextControl
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
0..* cellAssignment
trigger
typeCode*: <= TRIG
contextControlCode: CS CNE [0..1] <= AP
CellAssignment
classCode*: <= PCPR
moodCode*: <= INT
id: SET<II> [0..*]
code: CD CWE [0..1] < ActCode
statusCode: CS CNE [0..1] <= ActStatus
0..1 cellStubFrom
reference
typeCode*: <= REFR
CellStubFrom
classCode*: <= ACT
moodCode*: <= INT
Note: Can be reassigned to a another treatment in the same study or another Study.
Cell
classCode*: < ActClassContainer
moodCode*: <= DEF
id: II [1..1]
code: CD CWE [0..1] < ActCode
title: ED [0..1]
statusCode: CS CNE [0..1] < ActStatus
subjectOf
typeCode*: <= SUBJ
1..1 cell
Note: If the same subject are in the next cell/epoch, no need to reallocated them (see contextControlCode)
subject
typeCode*: <= SBJ
contextControlCode: CS CNE [0..1] <= OP
0..* investigative
InvestigativeSubject
classCode*: <= INVSBJ
quantity: RTO<QTY,QTY> [0..1]
subjectOf
typeCode*: <= SBJ
0..1 choice
Choice
Randomization
classCode*: <= ACT
moodCode*: <= EVN
code: CD CWE [0..1] < ActCode
text: ED [0..1]
Observation
classCode*: <= COND
moodCode*: <= INT
text: ED [0..1]
Note: Treatment (cell) could be referred by Id Duration of study cell is calculated. might have codes like screening, active control, placebo
component
typeCode*: <= COMP
sequenceNumber: INT [0..1]
0..* element
0..1 element
ElementTransition
classCode*: <= ACT
moodCode*: <= INT
negationInd: BL [0..1]
reasonCode: SET<CE> CWE [0..*] < ActReason
0..* segmentTransition
trigger
typeCode*: <= TRIG
0..* elementTransition
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] <= ON
contextConductionInd: BL [0..1] ="false"
priorityNumber: REAL [0..1]
pauseQuantity: PQ [0..1]
checkpointCode: CS CNE [0..1] < ActRelationshipCheckpoint
splitCode: CS CNE [0..1] < ActRelationshipSplit
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] < ContextControl
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
Element
classCode*: <= ORGANIZER
moodCode*: <= EVN
id: SET<II> [0..*]
title: ED [0..1]
statusCode: CS CNE [0..1] < ActStatus
effectiveTime: GTS [0..1]
pertinentInformation
typeCode*: <= PERT
sequenceNumber: INT [0..1]
0..* activityPlaceHolder
0..1 investigationSponsor
Site
classCode*: <= PLC
determinerCode*: <= INSTANCE
Note: x out y subjects y = total subjects in the site x = total subjects assigned to this treatment and randomization in this site.
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] <= AP
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
0..* observationCriteria
ObservationCriteria
classCode*: <= OBS
moodCode*: <= CRT
code: CD CWE [0..1] < ActCode
negationInd: BL [0..1]
text: ED [0..1]
statusCode: CS CNE [0..1] < ActStatus
value: ANY CWE [0..1] < ObservationValue
0..* observationCriteria
precondition
typeCode*: <= PRCN
contextControlCode: CS CNE [0..1] < ContextControl
contextConductionInd: BL [0..1] ="false"
conjunctionCode: CS CNE [0..1] < RelationshipConjunction
Note: This will be replace by the schedule of activities
ActivityPlaceHolder
classCode*: <= ACT
moodCode*: <= EVN
statusCode: CS CNE [0..1] < ActStatus
effectiveTime: GTS [0..1]
StudySite
classCode*: <= SDLOC
id: II [1..1] (Site ID in the study)
1..* asStudySite
0..1 serviceProviderGroup
Group
classCode*: <= RGRP
determinerCode*: <= INSTANCE
quantity: SET<PQ> [0..*]
Note: Can capture group information such as, 600 fish at 30 g/l. Or 10 pen of 6 pigs per pen. The group membership is per cell assignment