## NCH - PEDMATCH

Integration Overview, v1.0-draft

Last revised, 5/4/2016, ESK

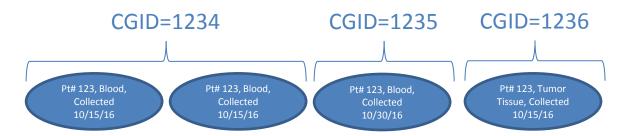
## Terminology

- Collection Grouping ID ("CGID")
  - Shared by specimens of a given type taken from a patient in one encounter/surgery/draw/etc.
  - Same CGID means specimens are "equivalent" from a PED-MATCH standpoint
  - Specimen messages sent to MATCHBOX will include the CGID
  - CGIDs will be "inherited" by the various aliquots/derivatives from the original specimens
  - Specimens obtained through follow-up requests by BPC (e.g., inadequate/insufficient received) will keep the original CGID if specimens are known to come from the same original encounter/surgery/block/etc.

## Collection Grouping Examples

### Scenario 1

- First two specimens grouped together because attributes match ("equivalent" from PED-MATCH standpoint); New (shared) CGID
- Third specimen was collected separately from first two; New CGID
- Fourth specimen differs by type; New CGID



time

# Collection Grouping Examples

#### Scenario 2

- First two specimens differ in collection date; Each receives a unique CGID
- Third specimen—though arriving at the BPC days later—reuses the first specimen's CGID since they are "equivalent" from a PED-MATCH standpoint
  - Late-arriving specimens (e.g., delays in shipping/accessioning)
  - Cases where BPC requests additional portion of existing specimen (e.g., inadequacy) and site is able to indeed provide more from that original specimen



# Collection Grouping Examples

#### Scenario 3

- First two specimens differ in collection date; Each receives a unique CGID
- Third specimen arrives at the BPC days later but does NOT reuse the first specimen's
   CGID since they are not from the same collection and thus not "equivalent" from a PED-MATCH standpoint
  - Cases where BPC requests additional portion of existing specimen (e.g., inadequacy) but site is unable to provide more of the original specimen, instead substituting from another specimen/draw/etc.



## "Specimen Received" Integration Message

- <u>DIRECTION</u>: Outbound from BPC to MATCHBOX
- <u>TIMING</u>: Sent when new specimens of interest are detected in STARS
  - Specimen is accessioned under APEC1621
  - Patient is enrolled in APEC1621
  - Specimen type of Blood or Tumor Tissue
  - Accessioning paperwork QC is successful

### • CONTENT:

- Technical Message Headers (msg\_guid, msg\_dttm)
- List of specimens
  - PED-MATCH attributes (patient\_id, collection\_grouping\_id, type, disease\_status)
  - Additional (troubleshooting) attributes (stars\_patient\_id, stars\_specimen\_id, stars\_specimen\_type, received\_ts, qc\_ts)

#### BPC / PED-MATCH - Process and Integration Overview - Specimens Received (Success) 900 Specimen Specimen received "msg\_guid": "5c64192f-8a25-4874-9db6-fd55c398822d", "msg\_dttm": "2016-04-25T18:42:13+00:00" Data pull 'specimens\_received": [ "patient\_id": "17364". "collection\_grouping\_id": "CGID-123456", "type": "Blood", "disease\_status": "Normal" "internal\_use\_only": { "stars\_patient\_id": "ABCXYZ", "stars\_specimen\_id": "ABCXYZ-ABC123", "stars\_specimen\_type": "Fresh Blood" "received its": "2016-04-25T15:17:11+00:00", "qc\_ts": "2016-04-25T16:21:34+00:00" "patient\_id": "23123", Specimen "collection\_grouping\_id": "CGID-77864", Patient Patient and "type": "Tissue" enrollments Specimen data marked QC "disease\_status": "Diseased", recorded captured PASS "internal\_use\_only": { "stars\_patient\_id": "QWERTY", "stars\_specimen\_id": "QWERTY-XYZ222". "stars\_specimen\_type": "Fresh Tissue Primary", -----Hourly pull-----"received ts": "2016-04-25T15:17:11+00:00", "qc\_ts": "2016-04-25T16:21:34+00:00" SELECTION CRITERIA: Accessioned under APEC1621 Patient enrolled in APEC1621 "patient\_id": "23123", Push "collection\_grouping\_id": "CGID-77864", Pull specimens Blood, Tumor Tissue specimens to "type": "Tissue", for MATCHBOX QC successful "disease\_status": "Diseased", MATCHBOX "internal\_use\_only": { QC older than one hour "stars\_patient\_id": "QWERTY", Not a lready sent "stars\_specimen\_id": "QWERTY-XYZ223", Case not marked "failed" by JGF "stars\_specimen\_type": "Fresh Tissue Primary", "received\_ts": "2016-04-25T16:17:11+00:00", REST/JSON "qc\_ts": "2016-04-25T17:21:35+00:00" "patient\_id": "23123", Specimen "collection\_grouping\_id": "CGID-77865", Received REST "type": "Blood" service "disease\_status": "Normal" "internal\_use\_only": { "stars\_patient\_id": "QWERTY", "stars specimen id": "QWERTY-XYZ333", "stars\_specimen\_type": "Fresh Blood" "received ts": "2016-04-25T15:17:11+00:00", "qc\_ts": "2016-04-25T16:21:34+00:00"

### "Specimen Received" Integration Message

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1 + {

    □ ▼ object {2}

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      "header": {
2 -
        "msg guid": "5c64192f-8a25-4874-9db6-fd55c398822d",
                                                                                                                           ▼ header {2}
3
        "msg dttm": "2016-04-25T18:42:13+00:00"
4
                                                                                                                                 msg guid: 5c64192f-8a25-4874-9db6-fd55c398822d
 5
                                                                                                          4
 6 +
      "specimens received": [
                                                                                                                                 msg dttm: 2016-04-25T18:42:13+00:00
7 +
8
          "patient id": "17364",
                                                                                                                           ▼ specimens received [4]
          "collection_grouping_id": "CGID-123456",
9
                                                                                                                              ▼ 0 {5}
          "type": "Blood",
10
11
          "disease_status": "Normal",
                                                                                                                                    patient id: 17364
          "internal_use_only": {
12 -
13
            "stars_patient_id": "ABCXYZ",
                                                                                                                                    collection grouping id: CGID-123456
14
            "stars_specimen_id": "ABCXYZ-ABC123",
                                                                                                                                    type : Blood
15
            "stars_specimen_type": "Fresh Blood",
16
            "received ts": "2016-04-25T15:17:11+00:00",
                                                                                                                                    disease status : Normal
17
            "qc ts": "2016-04-25T16:21:34+00:00"
18
                                                                                                                                 ▼ internal_use_only {5}
19
                                                                                                                                       stars patient id : ABCXYZ
20 +
21
          "patient id": "23123",
                                                                                                                                        stars specimen id: ABCXYZ-ABC123
22
          "collection grouping id": "CGID-77864",
23
          "type": "Tissue".
                                                                                                                                        stars specimen type : Fresh Blood
24
          "disease_status": "Diseased",
                                                                                                                                       received ts: 2016-04-25T15:17:11+00:00
25 +
          "internal_use_only": {
26
            "stars patient id": "OWERTY",
                                                                                                                                        gc ts: 2016-04-25T16:21:34+00:00
27
            "stars_specimen_id": "QWERTY-XYZ222",
            "stars_specimen_type": "Fresh Tissue Primary",
28
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            "received ts": "2016-04-25T15:17:11+00:00",
29
            "qc ts": "2016-04-25T16:21:34+00:00"
                                                                                                                                    patient id: 23123
30
31
                                                                                                                                    collection grouping id: CGID-77864
32
33 ₹
                                                                                                                                    type : Tissue
34
          "patient id": "23123",
          "collection grouping id": "CGID-77864",
                                                                                                                                    disease status : Diseased
35
36
          "type": "Tissue".
                                                                                                                                  ▶ internal use only {5}
37
          "disease_status": "Diseased",
38 +
          "internal_use_only": {
39
            "stars_patient_id": "QWERTY",
40
            "stars_specimen_id": "QWERTY-XYZ223",
                                                                                                                                    patient_id : 23123
41
            "stars_specimen_type": "Fresh Tissue Primary",
                                                                                                                                    collection grouping id: CGID-77864
42
            "received ts": "2016-04-25T16:17:11+00:00",
            "qc ts": "2016-04-25T17:21:35+00:00"
43
                                                                                                                                    type : Tissue
44
45
                                                                                                                                    disease_status : Diseased
46 +
                                                                                                                                  ▶ internal_use_only {5}
          "patient id": "23123",
47
          "collection grouping id": "CGID-77865",
48
49
          "type": "Blood".
          "disease status": "Normal",
50
                                                                                                                                    patient id: 23123
51 -
          "internal_use_only": {
                                                                                                                                    collection grouping id: CGID-77865
52
            "stars_patient_id": "QWERTY",
53
            "stars_specimen_id": "QWERTY-XYZ333",
                                                                                                                                    type : Blood
54
            "stars specimen_type": "Fresh Blood",
55
            "received ts": "2016-04-25T15:17:11+00:00",
                                                                                                                                    disease status : Normal
            "qc ts": "2016-04-25T16:21:34+00:00"
57
                                                                                                                                  ▶ internal use only {5}
58
59
```

### To be continued...

- Definition of specific attributes for grouping specimens for CGID derivation
- Semantics and messaging scenarios for "specimen failed" messaging

## GitHub Repo

- Public repository
- Read-only access to NCH design documents, sample messages, etc.
- Supports versions and branching
- https://github.com/NCH-BPC-Informatics/pedmatcharch-docs

