

Sample logistics: problems and solutions in multi-center clinical trials

Proposed Generic *EBF Lab Manual*

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on behalf of TT-12

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Introduction

Problem



- Multiple issues with multi-centre clinical trials
- E.g. Labelling, Sample Collection, Manifests
- A generic lab manual would be useful

Resolution



- Collection of 9 company lab manuals
- Sub-team brainstorm to produce 11 topics
- Divided between sub-team to generate draft

Outcome



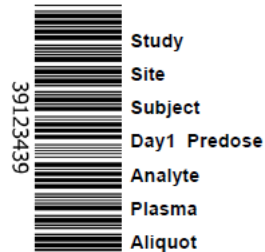
- Working draft reviewed by extended TT-12
- Final draft generated 02-Oct-13
- Presented here for discussion

Lab Manual Topics

1. Purpose and Scope
2. Contacts/Key Personnel/Responsible Staff
3. Documents/Information
4. Precautions during Sampling and Processing
5. Supplies
6. Equipment
7. Labelling
8. Sample Handling and Collection Procedures
9. Storage and Stability
10. Shipping
11. Sample Retention
12. Signatures

Lab Manual Hot Topics

Labelling



Reconciliation

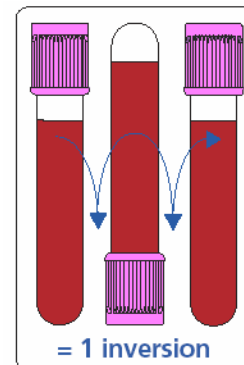


Responsible Person:
Sponsor Clinical Study number:
Total number of samples:

| Site # | Box Pos | Barcode | Study # | Sub # | Period | Treatment | Visit | Collection Date | Collection Time | Time-point and Split | Analyte | Specimen Type | Specimen condition |
|--------|---------|---------|---------|-------|--------|-----------|-------|-----------------|-----------------|----------------------|-----------|-----------------------|--------------------|
| | 1 | 1234567 | 1234 | 101 | 1 | 20mg/kg | 1 | DD-MMM-YYYY | 08:45 AM | PK Pre-dose Plasma 1 | Analyte 1 | Plasma ,Anticoagulant | Frozen |
| | 2 | 1235678 | 1234 | 101 | 1 | 20mg/kg | 1 | DD-MMM-YYYY | 08:45 AM | PK 1 hr Plasma 1 | Analyte 1 | Plasma ,Anticoagulant | Frozen |
| | 3 | 1246789 | 1234 | 101 | 1 | 20mg/kg | 1 | DD-MMM-YYYY | 08:45 AM | PK 3 hr Plasma 1 | Analyte 1 | Plasma ,Anticoagulant | Frozen |

Remarks

Sample Collection



Labelling Issue (1)



- The label looks fine until after thawing.....



Labelling Issue (2)

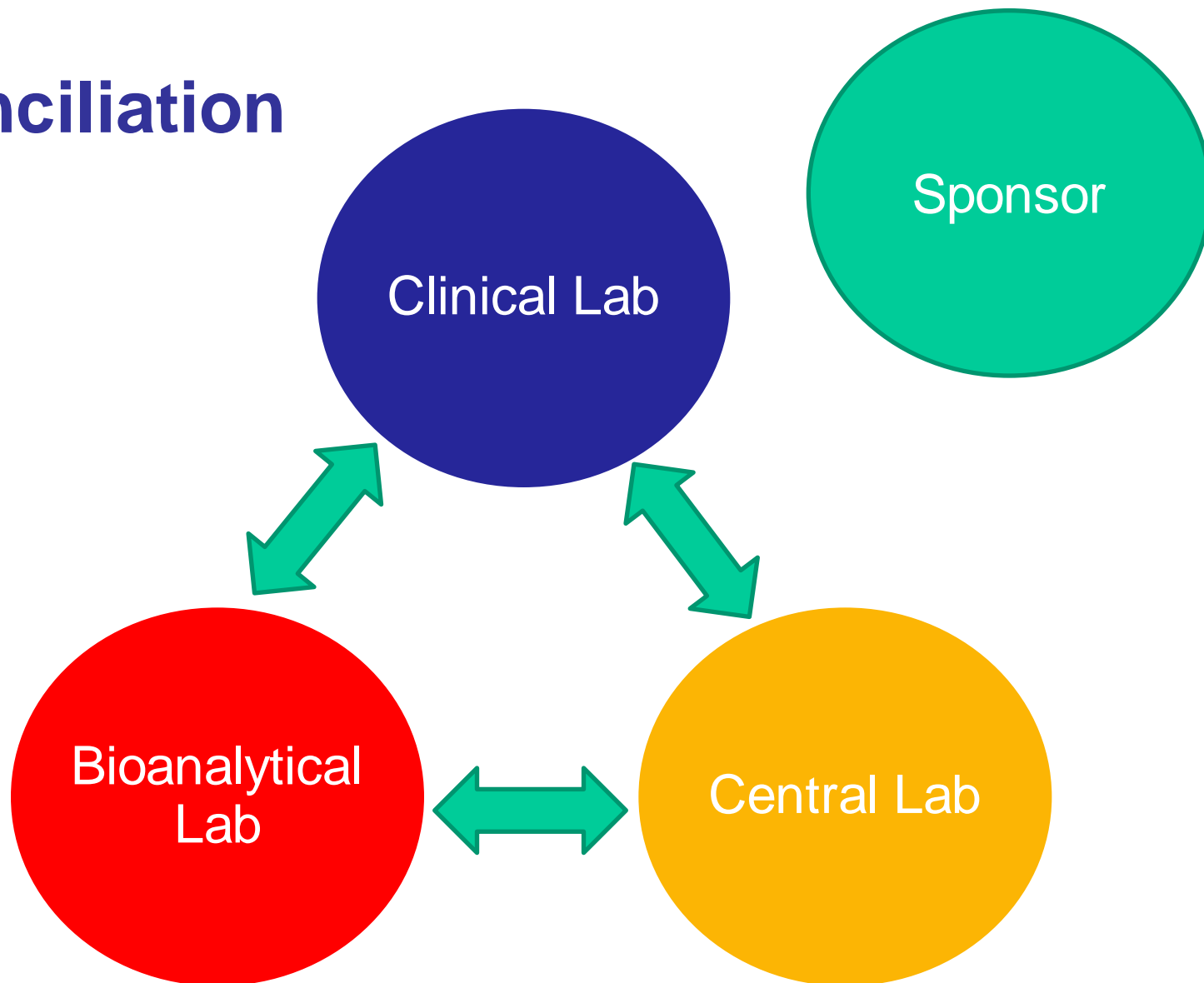


- Barcode not possible to scan due to label orientation
- Screw cap blocked by label
- Label too big therefore overlapping





- Two different barcode types on the same label

Reconciliation




Reconciliation Issues

Scenario 1

- Sample Manifest Sent to Bioanalytical Lab ✓ 
- Information contained added to LIMS ✓
- Information from Clinic updated: Central Lab database updated and don't tell Bioanalytical Lab ✗
- Unfortunately once in LIMS and analysed database cannot be updated 

Scenario 2

- Unscheduled samples sent to Bioanalytical Lab ✗
- Request for information requested as to how samples should be logged in ✓
- No answer  ✗

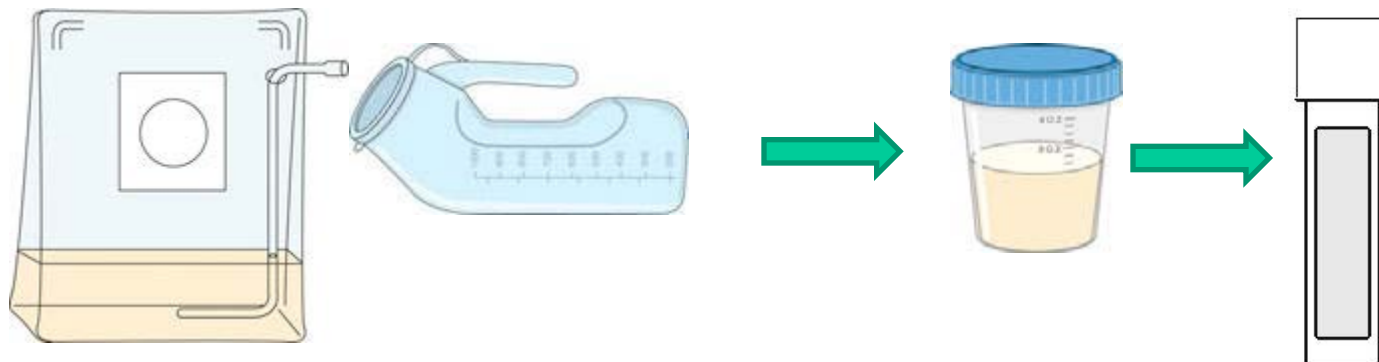
Clinic-to-Clinic Variability

- Several phase 1 trials had been conducted to test a novel iron chelator for treatment of chronic iron overload
- Data from one of two sites both recruiting to the same trial showed a level of iron chelation 5-10X greater than ever seen before.....
- Site in question used the same clinical supplies and followed the same sample collection procedure
- Subjects were fed the same meals and samples at both sites were stored at the correct temperature and freezers were in specification
- Bioanalytical bias ruled out as backup samples gave same results

Conclusion: There was a subtle difference in sample collection and/or processing between sites that impacted the bioanalytical results

How would the Lab Manual help?

- Labelling Issue: Clearly defined instructions with pictures
- Reconciliation Issues: Clearly defined instructions regarding manifests, shipment details and responsibilities
- Sampling issues: Clearly defined sampling instructions in both tabular and picture format



Topic Team Conclusions

- We have highlighted some of the issues associated with multi-centre trials, as seen from a Bioanalysis perspective
- We plan to gather further input, comments and buy in from professionals in clinical trial management to use the manual in industry (Focus Workshop 5-6 February 2014, Brussels)
- The ultimate goal is to have a working generic document that both Bioanalysis and Clinical teams find useful and effective
- We have demonstrated that by working together we can simplify and standardise our processes to minimise issues

Acknowledgement

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Vote

- Are you in favour of the principle of a generic lab manual?
- Would you consider using it in your company?



Questions?

