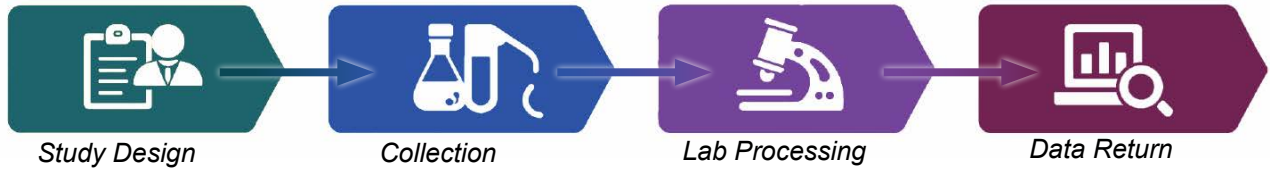


Improving Study - Lab Collaborations

Reducing Friction in the Biospecimen → Data Pipeline






1. STUDY DESIGN

**FRICION POINT:
MISALIGNED ASSAYS & PLATFORMS**

RECOMMENDATIONS

- Engage labs early
- Choose compatible platforms
- Map sample volume



2. BIOSPECIMEN COLLECTION

**FRICION POINT:
DEVICE FAILURES & VARIABILITY**

RECOMMENDATIONS

- Pilot protocols
- Optimize collection
- Track pre-analytic factors




3. LAB PROCESSING

**FRICION POINT:
ASSAY LIMITATIONS & QC ISSUES**

RECOMMENDATIONS

- Match sample to assay
- Standardize QC
- Validate & calibrate




4. DATA RETURN

**FRICION POINT:
INCONSISTENT DATA FORMATS**

RECOMMENDATIONS

- Pre-specify outputs
- Require QC docs
- Standardize format



5. DATA ANALYSIS

**FRICION POINT:
CALIBRATION & COMPARABILITY**

RECOMMENDATIONS

- Use reference samples
- Calibrate across platforms
- Integrate with contextual data

CROSS-CUTTING PRINCIPLES

 <p>COORDINATION Align with other studies</p>	 <p>STANDARDIZATION Use shared protocols</p>	 <p>VALIDATION Invest in calibration</p>	 <p>DOCUMENTATION Capture collection details</p>	 <p>DATA RETURN Use standard formats</p>	 <p>COMMUNICATION Maintain lab dialogue</p>
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Late lab engagement



Mixing platforms



No QC



Poor documentation