



A Comprehensive Guide to Using Your Institutional Shared Resources Effectively

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Sample Considerations Checklist:

- How many samples do I need?
- Is there publicly available data that I leverage to run fewer controls?
 - dbGAP
 - All of US
 - H3Africa
 - UKBioBank
 - Etc
- Are my consents appropriate for the future uses of the samples?
- What type of sample do I need?
- How much sample do I need?
- Does the method of collection affect what I can do with the samples after collection?
- Does the method of storage affect what I can do with the samples after collection?
- How long will I store the samples?
- How will I pay for storage of the samples?
- What is the eventual disposal plan for the samples?

Data Considerations Checklist:

- If I use a public database, what kind of controls do I need?
- How much data is appropriate for the question I am asking?
- What controls (samples and QC) do I need?
- Am I looking at specific genes, regions or pathways?
- Do I need the whole genome?
 - What would the whole genome give me that a narrower focus won't?
- Are my questions narrow and focused, or broad?
- How does the amount of data generated affect my study power?
 - Your answer to this question may make you circle back to the samples questions

Technology Considerations Checklist:

- What is the most appropriate technology to generate the data I need?
 - Genotyping? Low or high throughput?
 - Sequencing? Targeted, Exome, Whole?
 - Single cell? Spatial?
 - Gene Expression?
 - Methylation?
- How much does any of this cost?
- Do you need one core or several that work together?
- Are there references citing similar workflows? What are the pros and cons in those references?

Analysis Considerations Checklist:

- Do I understand the data generated by the technology I am considering?
- Am I able to analyze the data myself?
- Can I collaborate with someone for data analysis, or do I need to hire a data analyst?
- How much does it cost to analyze the data?
- How long will it take to analyze the data?
- What are the reporting/sharing requirements for the type of data I am generating and the granting agency?
- What are the data storage requirements?
- What are your institutional data management requirements?

Budget Considerations Checklist:

- Read the NOF and follow the guidelines.
- Be reasonable with your budget needs and make sure they are clearly justified and relate to your research needs in the grant.
- Do not pad or overinflate your budget.
- Do plan for some error in methods development and experimental error.
- Validate and walk through your resource needs
- Make sure you are clearly explaining your needs to guarantee the best estimated quote.