Cultivating a Productive and Successful Relationship with a Biostatistician

November 11, 2019

Survey Drawing

Special December K-Club

- Tips and strategies for having effective and valuable interactions with program officers and other grant officials
- Ann Namkung from NIAID
- Dec 17th at 3pm in Winship C5012
- NOTE: this is off our regular schedule and in a different location than usual so mark your calendars now!

K-Club specials – Intramural CDA Opportunities

- **Georgia CTSA KL2 Program**
  - 75% protected research effort (verified through chair nomination letter)
  - For clinical/translational research - proposal must have a "human component," i.e. interaction with human subjects or specimens obtained from identifiable humans.
  - Application deadline: March 2, 2020
- **Emory BIRCWH program - Building Interdisciplinary Research Careers in Women's Health**
  - 75% protected research effort
  - For junior faculty at MD or PhD level at Emory University who use novel, interdisciplinary approaches to advance the science of women's health and sex/gender research
  - Application deadline: March 2, 2020

Biostatistics Imperative

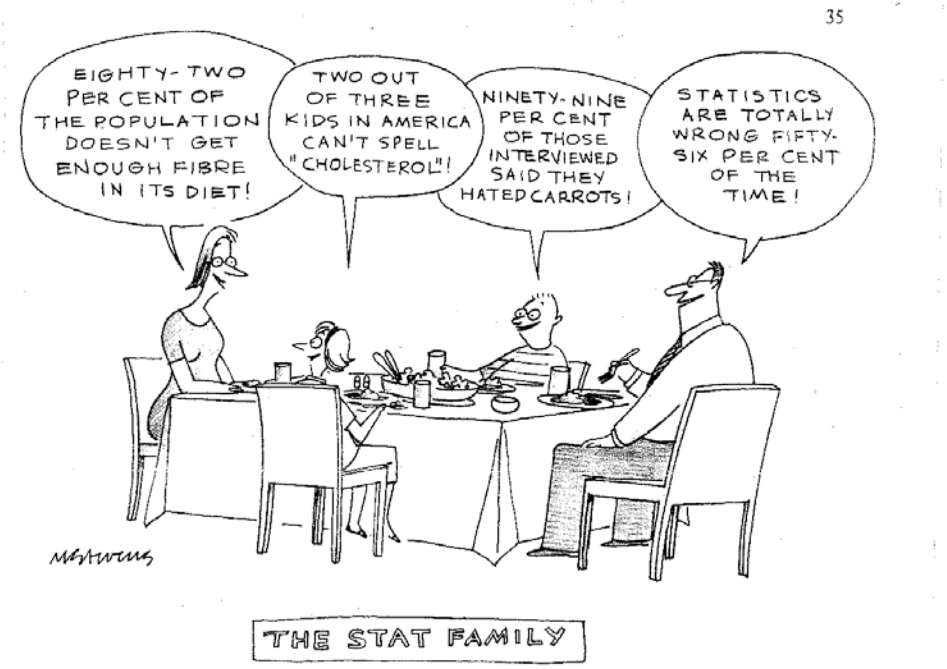
Enhancing reproducibility through rigor and transparency

Rigor + Transparency = Reproducibility

High Value Proposition

Statisticians

1) Help improve rigor and reproducibility
2) Serve as key members of a research team
3) Identify common statistical issues
4) Play valuable roles in peer review meetings
5) Serve as interesting/entertaining dinner companions



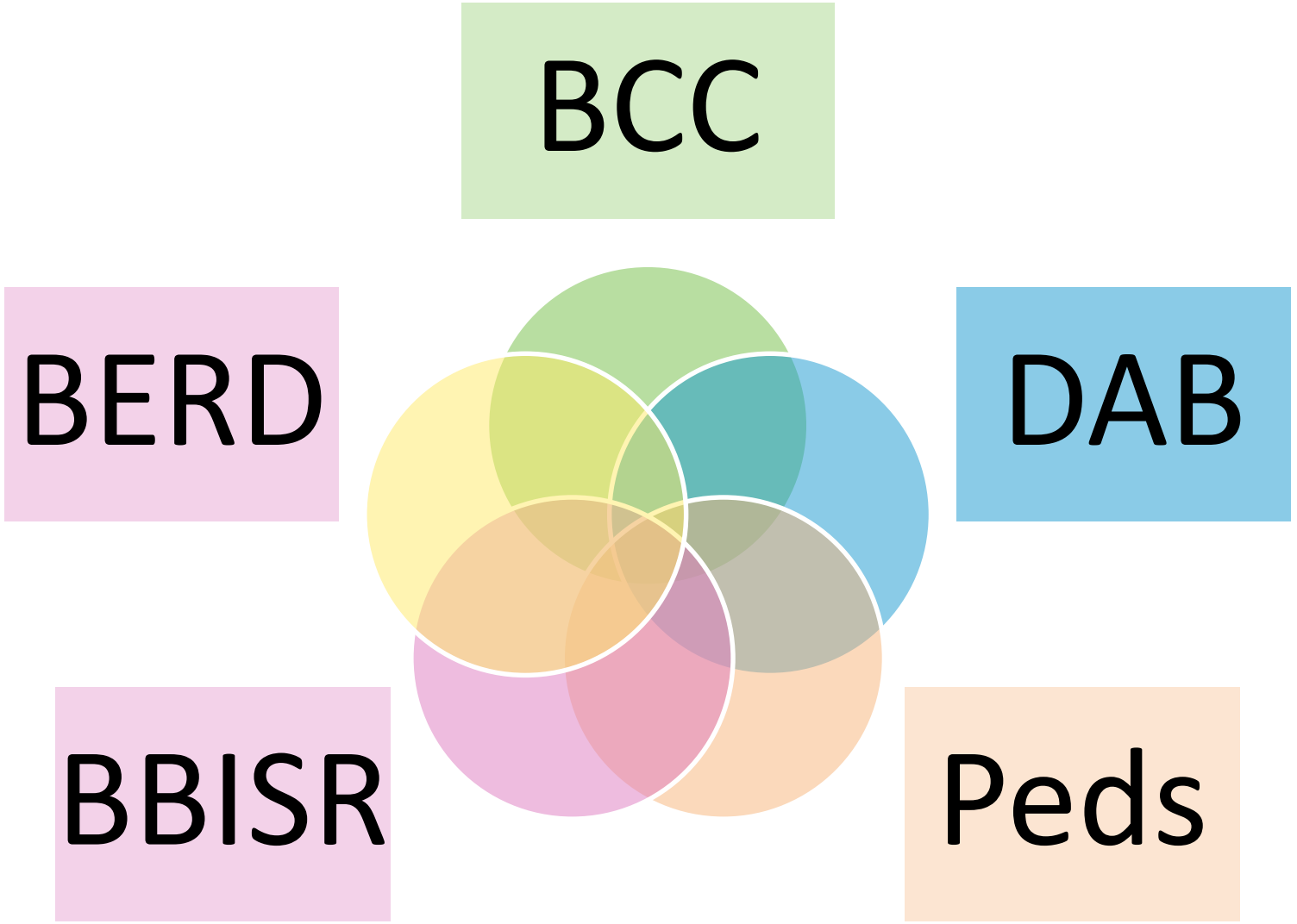
Engage Early and Often

"Statisticians bring clarity, focus, and specificity to a project."

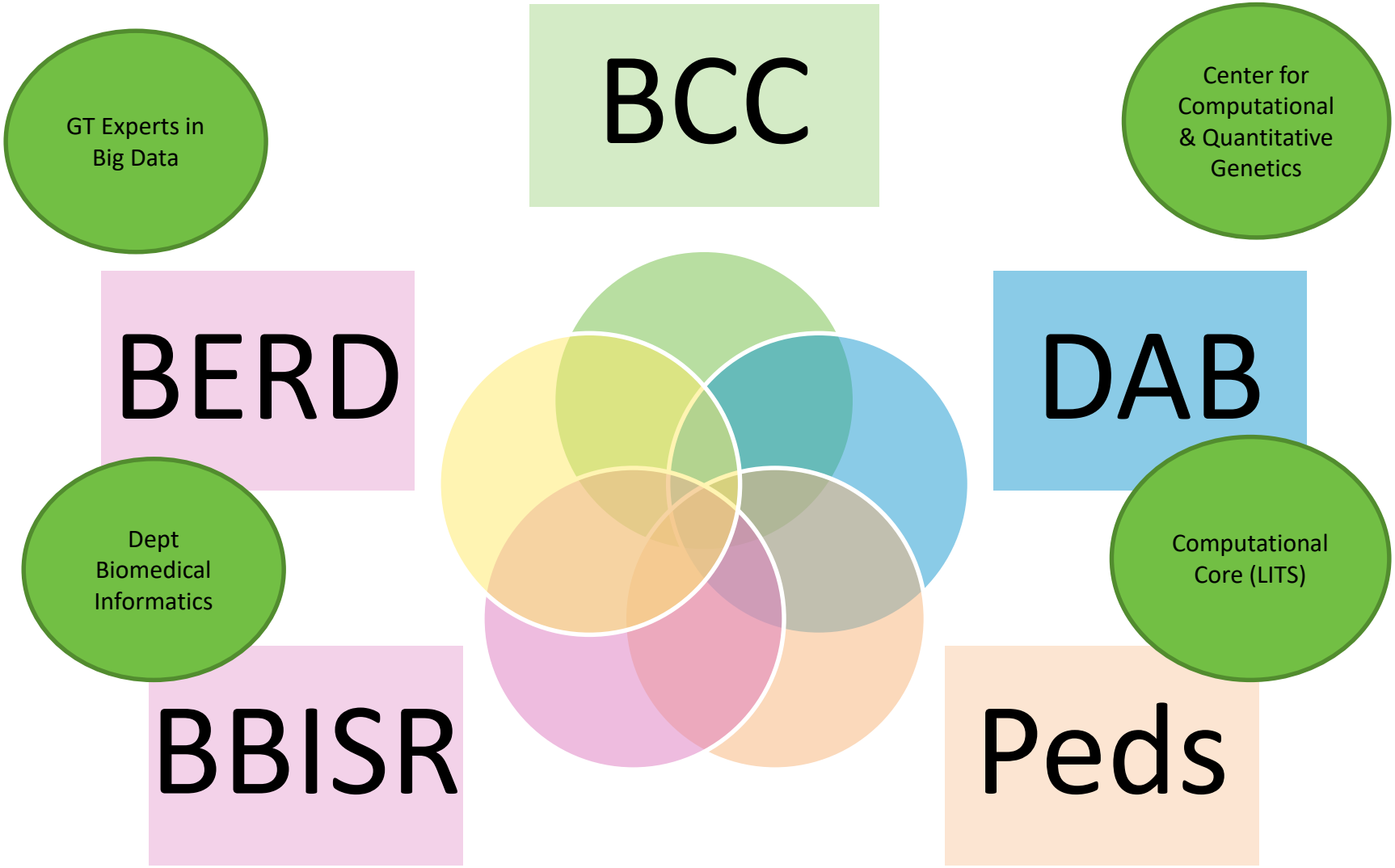
"We can often operationalize the scientific method, so an investigator will produce a scientific hypothesis and the statistician will turn it into a testable hypothesis…"

"We can help applicants quantify what they know, but more importantly, quantify what they don't know and put the quantified measure of uncertainty on what comes out of the study. That ultimately is what makes science reproducible."

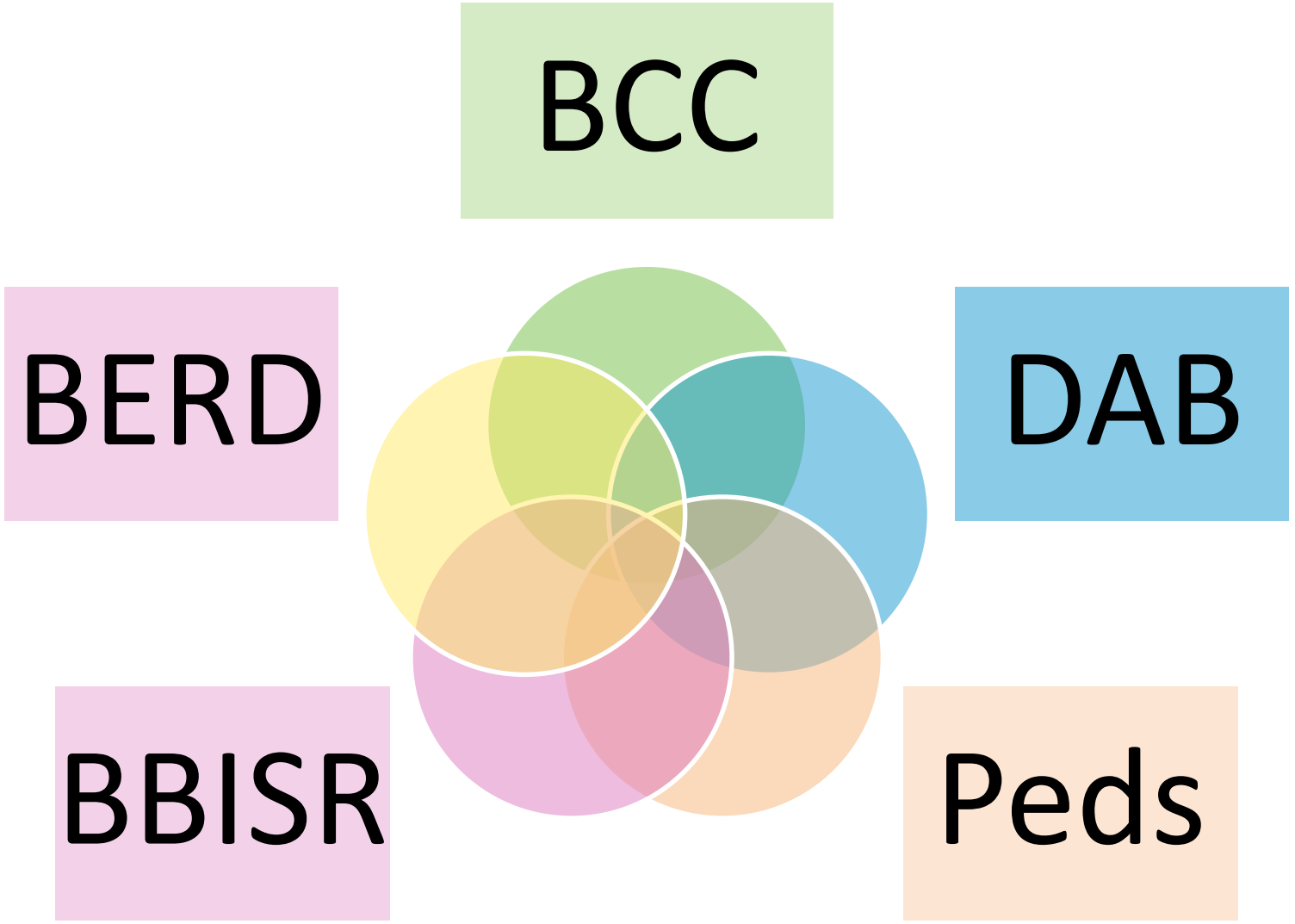
Biostat Cores on Emory Campus (not necessarily inclusive)



Biostat Cores Plus Other Available Expertise



Focus of Today – Biostat Cores on Emory Campus



Panelists

John Hanfelt, PhD
Professor & Interim Chair
Dept of Biostats &
Bioinformatics
RSPH

Bob Lyles, PhD
Director
Biostatistics &
Bioinformatics Core
Center for AIDS Research

Lance A. Waller, PhD
Professor
Dept of Biostatistics
RSPH
Dept of Medicine DAB Core
Technical Advisor

Renee H. Moore, PhD
Scientific Director
Biostatistics
Collaboration Core
Emory Integrated Core
Facilities

Courtney McCracken, PhD
Director, Pediatric
Biostatistics Core

Diana Ross, MSN, RN
Research Associate
Pediatric Biostats Core,
Qualitative arm

Why Contact A Biostatistics Core?

Project Start

1. Discuss feasibility of project before start
2. Provide input into study design to make efficient use of resources
3. Protocol development and sample size calculations
4. Determine optimal format for collecting/extracting data

Why Contact A Biostatistics Core?

Project Middle/End

1. Determine optimal format for reporting data
2. Provide robust statistical analyses to get the most out of your data
3. Create meaningful figures for presentations, abstracts, publications, and grant applications

Why Contact A Biostatistics Core?

Additional areas

(may nor may not be available depending on the specific core)

1. Database modeling and data management
2. Validating Instruments
3. Randomization Schematics
4. Customized lectures on statistical topics

Hot off the presses!

- DRAFT NIH Policy for Data Management and Sharing

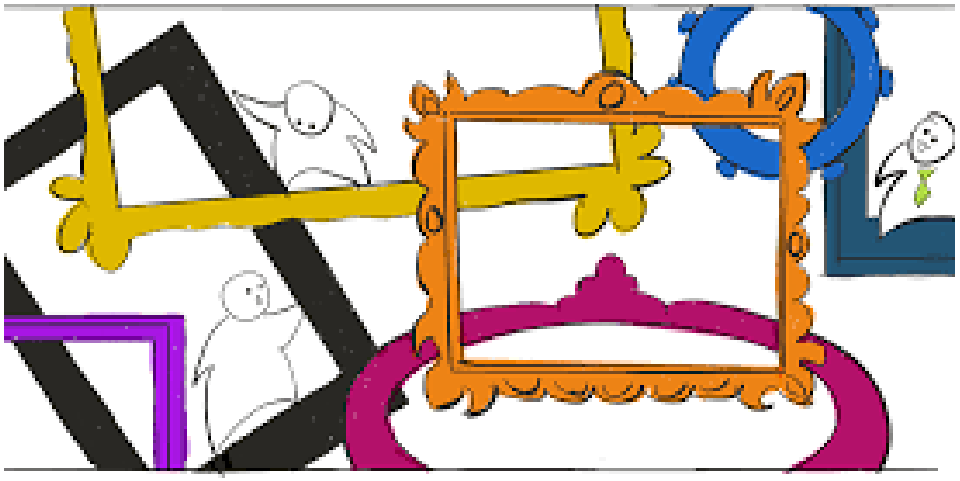
https://osp.od.nih.gov/scientific-sharing/nih-data-management-and-sharing-activities-related-to-public-access-and-open-science/

NEW! Draft NIH Policy for Data Management and Sharing and Supplemental Draft Guidance (November 2019)

- Share Your Comments with NIH
  - Draft NIH Policy for Data Management and Sharing
  - Supplemental Draft Guidance: Allowable Costs
  - Supplemental Draft Guidance: Elements of a Data Management and Sharing Plan
- *Under the Poliscope:* NIH's DRAFT Data Management and Sharing Policy: We Need to Hear From You!
- Engaging Tribal Nations
- Federal Register Notice
- NIH Guide Notice

Common Framing and Design Problems

1. A Poorly Defined Hypothesis
2. Incomplete Description of Data Collection
3. Dealing With Missing Data
4. Power Analysis and Sample Size Fails



Common Problems with Data Analysis Plans

1. Too Simplistic
2. Too Complicated
3. Not Suitable
4. Ignoring Important Things (e.g. sensitivity analyses and multiple comparisons, lack of independence)

Secrets to Success

- Tell us about a success story-
  - What were the secret ingredients to developing and maintaining that relationship?
  - Were there any generalizable reasons for the success?

Common Misconceptions About Statisticians

- Can statisticians help with an IRB protocol?
- Are statisticians regulatory experts?
- Statisticians are good with numbers, so can they also help draft grant budgets?
- Can statisticians take a large data set and find if there is something significant?

Is there a perfect timing?

- When is the right time to meet with your statistician?
- Does it vary according to the type of research and the background of the researcher?

Prep Work and Division of Responsibility

- What prep work should an investigator do before meeting with a statistician for the first time?
- What is the division of responsibility between the statistician and researcher?
- What are the key responsibilities of the investigator?
- What can an investigator rely upon from the statistician?

Project Lifecycle

- What is a reasonable timeline for working with a statistician from project start to project end?
- Is there a point in time when a statistician will want to cut the cord?

Budget Considerations

- What is the cost of doing business with a biostatistician both time and money-wise?

DIY Options

- Are there instances where DIY options and desktop statistical programs can be useful?
- What are the DIY pitfalls to watch out for?

Crucial Conversations

- Have you ever had a level of discomfort and not seen eye-to-eye when working to help a researcher and if so, how did you resolve it?
- What were some lessons learned?