A Structured **P**rogram to Gu**i**de **R**esidents' **E**xperience in Research **(ASPIRE)**

2018 – 2019 (All sessions are 2:30 to 5:00 at Kaiser Permanente Central Support)

Month	Recorded Lecture	PRE-Workshop Assignment	Large Group Workshop	Small Group Workshop	Evaluation and Follow-up
Session 1 **August 16, 2018** **(Katie D)**	**Conceiving the Research Idea** Elements: Formulating a research question, objectives, hypothesis, outcomes Organizing background literature	1. Begin literature review for background 2. Draft: Research question per PICO & FINER criteria; Objectives; Hypotheses; Study Outcomes	1. Program Overview 2. Apply PICO and FINER criteria 3. Formulate study hypothesis select outcome measures	1. Each resident presents pre-session assignment tasks (~5 minutes per project) 2. Group provides feedback (15-20 min)	1.Session 1 evaluation 2.Resident meets with research mentor & study team; revise protocol
Session 2 **August 30, 2018** **(Kerry S)**	**Choosing Your Study Design and Population** Elements: Study Design, Study Population, Internal and External Validity, Bias/Confounding	1. Draft of study design, population, address validity, issues with confounding/bias	1. Apply session 2 elements to a sample project 2. Present study questions; group derives best design	1. Each resident presents pre-session assignment (~5 min. per project) 2. Group provides feedback (15-20 min)	1. Session 2 evaluation 2. Resident meets with research preceptor and study team; revise protocol
Session 3 **Sept 20, 2018** **(Candice P)**	**Study Procedures and Data Elements, Sources, Uses, and Issues** Elements: Data types and collection, sample size calculations	1. List data needed to identify and describe patients, measure outcomes 2. List the source for each data element 3. Identify elements needed to calculate sample size	1. Apply session 3 elements to a sample project 2. Discuss sample size calculations and calculate sample size (Primary outcome only)	1. Review data collection worksheet (Patient id, population description and/or exposures, and outcomes.) 2. Review sample size calculations for each study	1. Session 3 evaluation 2. Resident meets with research preceptor and study team; revise protocol 3. Continue preparing application for IRB review
Session 4 **Sep 27, 2018** **(Katy T)**	**Writing Basics**	**1.** Identify criteria/instructions required by your IRB for your protocol submission. 2. Complete a lit search and draft of background or introduction section for your protocol. 3. Bring your laptop to electronically share your background/introduction draft with your small groups	1. Scientific writing pearls 2. Writing for your audience 3. Efficient writing 4. Practice	1. Share your protocol outline and background 2. Provide constructive feedback to each other using the checklist	1. Session 4 evaluation 2. Review feedback with research preceptor and study team and revise background/introduction
Session 5 **Oct 11, 2018** **(Karen S)**	**Biostatistics**	1. Review pre-session lecture slides 2. Plan statistical analysis for protocol	1. Present "group study" elements 2. Work through practice stats problems	1. No Small Group Session **LG work-groups only**. Review biostatistics principles and apply to your own project	1. Session 5 evaluation 2. Finalize and submit application for IRB review if applicable 3. Schedule a meeting with local research mentor/study team

Session 6 **Oct 25, 2018** **(Katie D)**	**Data Collection Tools**	1. Create a draft data collection tool using Excel	1. Breakout into small data collection workgroups to practice LG session tools	None – LG breakout work-groups only	1. Session 6 evaluation 2. Finalize and submit application for IRB review if applicable
"Touch-point" **Dec 2018**	**Small Group Leader**	**SGL touches base/emails SG.**	1. Check on IRB status/advise accordingly		
Session 7 **Feb 7, 2019** **(Jordan K)**	**Interpreting Results/Statistics (e.g. Relative Risk, Odds Ratio, Number Needed to Treat)** **Writing an Abstract**	1. Work practice/review statistics problems 2. Write your abstract formatted per Residency Conference/meeting you will be attending	1. Present example of finalized statistical analysis 2. Present/interpret example of results 3. Calculate RR, RRR, ARR, NNT	1. Project update 2. Review draft abstract 3. Review statistics problems	1. Session 6 evaluation 2. Provide abstract feedback for your small group peers within 1 week of class. 3. Revise your abstract based on SG feedback
Session 8 **April 18, 2019** **(Toby T)**	**How to Effectively Present Scientific Data**	1. Prepare a near final slide presentation for residency conference 2. Bring 5 **condensed** paper copies of presentation	Example presentation and evaluation	1. Present slides 2. Provide and receive peer feedback	1. Session 7 evaluation 2. Practice presentation
Session 9 **May 30, 2019** **(Kari O)**	**Preparing a Manuscript for Publication**	1. Draft manuscript 2. Required reading 3. Bring 5 **condensed** paper copies of draft manuscript	Manuscript Writing Lecture/Discussion	1. Review drafts 2. Discuss journal options 3. Discuss post submission steps	1. Session 8 evaluation 2. Write manuscript 3. **Send for publication**