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Statistical Challenge and Promise: "Trial or No-Trial"?

Data from randomized controlled clinical trials (RCT) are considered to be the best source of information in cancer research. However, the strengths of the RCT can be hampered by its (possibly) limited applicability, long duration, and high cost. An alternative source of data can be found in the large observational databases and longitudinally-followed patient cohorts that have emerged. These invaluable resources present new opportunities in research to provide potential insights into cancer treatment and patient care. However, such studies are not without their own set of challenges.

The complexity of sampling mechanisms and various biases associated with prospective observational studies raise considerable analytical challenges in both the design and the data analysis. The peril of selection bias is exacerbated in many cohort studies. To address the above challenges, we need practical statistical designs and innovative analytic approaches to evaluate clinical effectiveness and healthcare interventions outside of controlled clinical trials. I will show examples of RCTs and observational cohort studies, and describe challenges and opportunities in analyzing data from such studies.

Keck Seminar
Friday, Feb 22, 4pm
BioScience Research Collaborative
Room 280

Gulf Coast Consortia
QUANTITATIVE BIOMEDICAL SCIENCES

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