***Module overview***

We’ve already seen multiple ways that we can measure whether or not there is an association between an exposure of interest and an outcome of interest. In this module, we continue our discussion of causal vs. spurious (non-causal) associations. Specifically, confounding, which is one of the most important reasons we sometimes see spurious relationships in our data.

***Module topics / Key Concepts***

* Be able to describe the relationship between confounding and causal inference.
* Understand historical notions of confounding.
* Be able to identify confounding in a DAG.
* Be able to apply D-separation rules to a DAG to control confounding.

***Required videos***

Please view the following presentations **before** our next in-class lab session:

* [Causal Diagrams: Draw Your Assumptions Before Your Conclusions](https://courses.edx.org/courses/course-v1:HarvardX+PH559x+3T2017/course/) (Hernán, 2017)
  + Lesson 2: Confounding
  + Only videos are required. You are welcome to complete questions if you would like.
  + This is a free video series you can access online at a website called [edX](https://www.edx.org/). The videos feature [Miguel Hernán](https://www.hsph.harvard.edu/miguel-hernan/), who is at Harvard and one of the leading causal inference researchers in the field.
  + You will have to create a login and password with the edX website in order to view the materials. There is no cost.

***Required Readings***

Please read the following textbook chapters and articles **before** our next in-class lab session:

* Szklo, M., & Nieto, F. J. (2019). *Epidemiology: Beyond the Basics*. Burlington: Jones & Bartlett Learning.
  + Chapter 5
* Pearl J., & Mackenzie D. (2018). *The Book of Why: The New Science of Cause and Effect*. Basic Books.
  + Chapter 4. Confounding and Deconfounding: Or, Slaying the Lurking Variable

***Optional supplemental material***

* None

***Assignments***

1. Check on learning quiz
2. Lab
3. Module quiz