Announcements

Class	Instruction Type	CAPE Form	Resp Rate
DSC 96 - Workshop in Data Science	Lecture	Lecture ⬍	3/37 (8.11 %)

- **Readings** (Week 9 due Sunday 3/8)
  - Out today!

- **Assignment** 03
  - Health project: to be finalized today
  - Image project: week 9-10
  - **Both** projects to be submitted (2 .ipynb files)

- **Attendance week 9 - 10**
  - Option: if you can not attend (no justification needed, but let me know)
  - Send me an email BEFORE the lecture: it will count as a presence
  - You will receive the material online

- **Additional Office Hours**
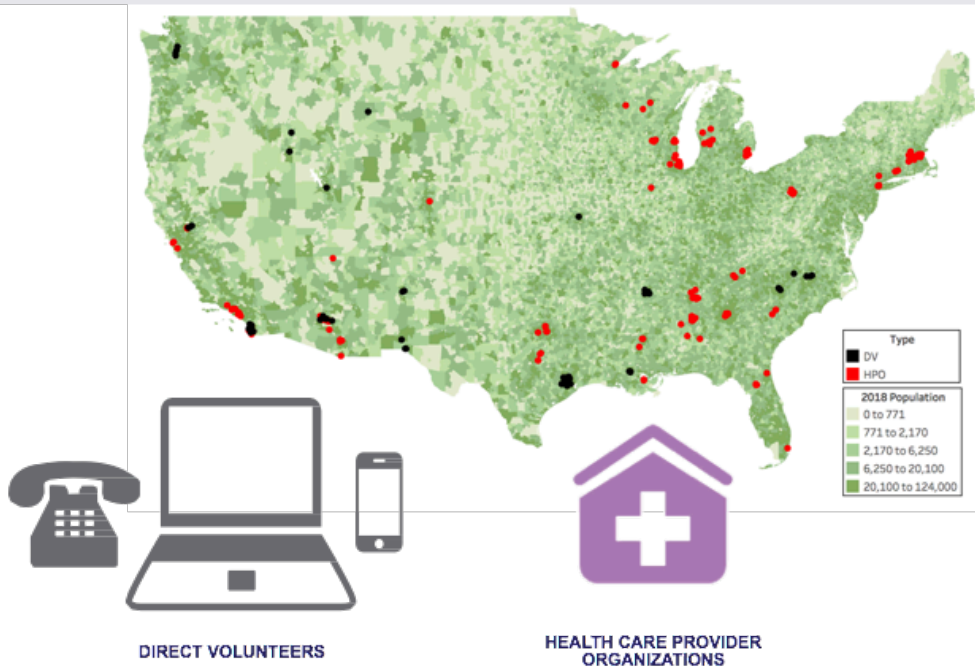 - Write me for online meeting (Zoom)

Research with Health data

- We have discussed HUMANS
  - dynamic patterns between human behavior, biology and environment
  - Goal: development of treatments to improve the human condition
  - 10,000 people provide or agree data over a 20-year period
    - physical, psychological, social, education, employment, financial …
  - study team will capture and secure data
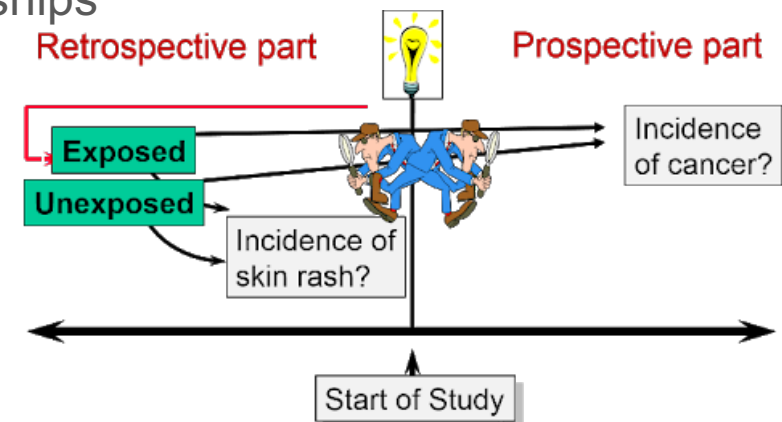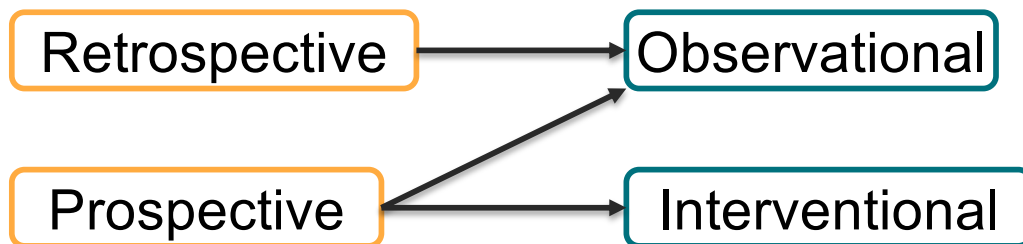
- Why AoURP

  - Patients
    - Today: one-size fits all
    - None of us is "average"
    - Considers differences in lifestyle, environment, biological makeup
  - Healthcare providers
    - Individualized care is not here yet
    - More data, discoveries and tools for customized care
  - Researchers
    - Time and resources spent for new datasets
    - Focus on scientific discoveries

Research with Health data

- **Longitudinal studies**
- **Prospective** study watches for outcomes, e.g., development of a disease, during the study period and relates this to other factors: suspected risk or protection factor
- **Retrospective** study looks backwards and examines exposures to suspected risk or protection factors in relation to an outcome established at the start of the study
    - The outcome has already happened
- Observational: assess exposure-outcome relationships
- Interventional: direct impact of treatment

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Scripps Research

- **Digital** Medicine
  - wireless technologies in health and healthcare

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- **Precision** Medicine
  - All of Us Research Program

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- **Genomic** Medicine
- **Precision** Medicine

- **Data Science**
  - ○
- **Translational Science**
  - ○

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  - ○
  - ○

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  - Scientific methods to extract knowledge from data
- **Translational Science**
  - turning observations into interventions that improve health

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- **Internship at Scripps Research**
  - https://www.scripps.edu/science-and-medicine/translational-institute/education-and-training/student-research-internship/

  - **Contact:** gquer@scripps.edu