

# Types of Research Designs

# Research Design – Descriptive

- Investigator studies people and exposures in nature - observational
- No control or comparison group

Study Types and Examples
Correlational – statistical association
Case studies – new diseases & treatments, etc.
Case report – documenting researchers experience
Case series – following a group over time
Cross sectional – community survey
Qualitative study – interview w/open-ended question

# Research design – Analytical/Observational

- Data collection without making changes to patient's life or introducing treatments
- Utilizes Control and Comparison groups
- Types of Studies:
  - **Case Control** – etiology; examine associations between disease/disorder/health issue and one or more risk factors
  - **Cohort Study** – measurement of one characteristic, outcome, or issues across two groups
    - Prospective Cohort
    - Retrospective Cohort
    - Time Series Study
  - **Cross sectional** – to determine prevalence

# Research design – Analytical/Observational

## Investigator decides:

- Type of intervention, treatment or exposure to be validated
- Type of group allocation - random or non-random methods
- Whether a control and/or comparison group will be used

## Note:

Random allocation of subjects is used to reduce selection bias by investigator and evenly allocate subjects on the basis of known and unknown characteristics

# Research design – Experimental Studies

## Types of Clinical Trials

Non-randomized (quasi-experimental)

Randomized Controlled

Double-blind randomized

Single-blind randomized

Non-blind

Crossover - may also be observational if not interventional

Community based - conducted directly through doctors and clinics

Laboratory

# Randomized Control Trial (RCT)

- **Gold standard** – especially for therapy studies
- Rigorous evaluation of a single variable
- Seeks to falsify (rather than confirm) it's own hypotheses
- Participants are randomly allocated into intervention (treatment) and control (placebo) groups:
  - Phase I – Healthy subjects
  - Phase II – Small group
  - Phase III – Large group prior to marketing
  - Phases IV – Post-marketing study