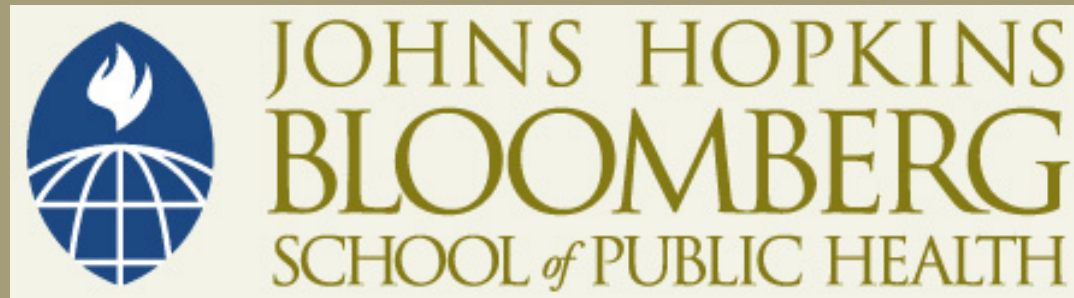


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JOHNS HOPKINS  
BLOOMBERG  
SCHOOL *of* PUBLIC HEALTH

## *Evaluation*

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## *Section A*

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Methodological Issues Related to Evaluation—A Focus on  
Effectiveness, Part 1

# *Determining Quality of Evidence*

- Was this the right study design?
- Types of studies (need a similar group acting as control):
  - Case-control (case cross-over)
  - Cohort
  - Experimental
  - Quasi-experimental
- Did they use the right outcome variable(s)?
- Did they use the right analytical tools?

# *On Variables and Analyses*

## Selecting variables

- Types of variables
- Frequently used variables
  - Outcomes
  - Exploratory
  - Confounders, etc. . . .

## Selecting analysis

- Univariate
- Bivariate
- Multivariate
  - Regression models
  - ANOVA
  - Time series



# *Types of Variables*

- Nature
  - Categorical (e.g., pedestrian, driver, passenger)
  - Ordinal (e.g., injury severity [ISS])
  - Interval (e.g., proportion SB use)

# *Types of Variables*

- Absolute numbers
  - With intrinsic meaning (e.g., number of deaths)
  - With assigned meaning (e.g., ISS)

# Types of Variables

## ■ Ratios

- Proportions ( $x_1 / x_1 + x_2$ )  
(e.g., 0.68 SB users )
- Percents ( $100 * x_1 / x_1 + x_2$ )  
(e.g., 68% SB use)
- Rates ( $x / y$ )  
(e.g., 435 deaths per 100,000 VMT)



# Choosing Your Outcome

- Choosing your outcome
  - For example, child passenger seating position

N (%)	Frankfurt	Brussels	Paris	Boston	New Orleans
Children in front					
Vehicles with at least one child in front					

# Choosing Your Outcome

- Choosing your outcome
  - For example, child passenger seating position

N (%)	Frankfurt	Brussels	Paris	Boston	New Orleans
Children in front	89 (10)	123 (22)	219 (9)	280 (25)	302 (27)
Vehicles with at least one child in front					

# Choosing Your Outcome

- Choosing your outcome
  - For example, child passenger seating position

N (%)	Frankfurt	Brussels	Paris	Boston	New Orleans
Children in front	89 (10)	123 (22)	219 (9)	280 (25)	302 (27)
Vehicles with at least one child in front	90 (14)	212 (32)	129 (14)	272 (35)	283 (38)