# MAJOR DEPRESSION IN THE POPULATION: A PUBLIC HEALTH APPROACH

William W. Eaton, PhD, Johns Hopkins University, 2013

Protecting Health, Saving Lives—*Millions at a Time*
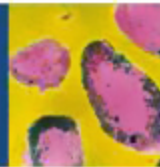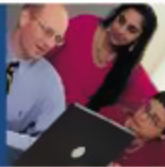
**Section D:  Case Control Studies**

Protecting Health, Saving Lives—*Millions at a Time*

# Exemplar Case Control Study
## Wynder and Graham, 1950
## Smoking and Lung Cancer

|  | Lung Cancer (Cases) | No Lung Cancer (Controls) |
|---|---|---|
| Smoker (moderate to chain) Exposed | 583 | 576 |
| Non or Light Smoker Not Exposed | 22 | 204 |

Relative Odds:   $\dfrac{583/576}{22/204}$

(OR:  ad/bc = 583*204/576*22) = 9.4

# Exemplar Case Control Study
# Life events associated with onset of Depression

Number and Percent with severe events prior to onset

|  | Cases | Controls |
|---|---|---|
| One or more severe events | **52 (68%)** | **76 (20%)** |
| No severe events | 24 (32%) | 306 (80%) |
| Number of persons | 76 (100%) | 382 (100%) |

Relative Odds:  $\dfrac{52/76}{24/306}$  = 8.72

# Strengths & Weaknesses of the Case Control Study

- Strengths
  - Requires no hypothesis
  - Cases can come from clinics
  - Small number of controls

- Weaknesses
  - Biased recall (strength)
  - Temporality
  - Controls may not match cases (consistency)

# Strengths & Weaknesses of the Case Control Study

- Strengths
  - Requires no hypothesis
  - Cases can come from clinics
  - Small number of controls

- Weaknesses
  - Biased recall (strength)
  - Temporality
  - Controls may not match cases (consistency)