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*
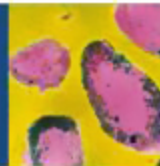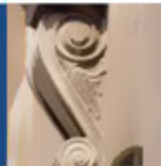
Lecture 3: Basic Concepts of Epidemiology as Applied to Depression

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

Outline

- Objective: Students should be able to understand and appreciate basic psychiatric epidemiologic research and be able to criticize published research

    A. Epidemiology and the Power of Public Health
    B. Ecological Research
    C. Cohort Study Design
    D. Case Control Study Design
    E. The Web of Causation

Section A: What is Epidemiology?

Definitions of Epidemiology

- The study of diseases in populations
- The study of rates (Langmuir)
  - Prevalence (burden and demand)
  - Incidence (force of morbidity)
- The study of disease occurrence by time, place, and person (Lilienfeld and Stolley)
- N.B. Etiology: the study of causes of disease

Seven Uses of Epidemiology (Morris)

1. The study the history of health of populations, facilitating projections in to the future
2. To diagnose the health of the community, which facilitates prioritizing health problems
3. To study the working of health services, with a view towards their improvement
4. To estimate individual risks, and how to avoid them, which can be communicated to individuals
5. To identify syndromes
6. To complete the clinical picture of chronic disease, especially as regards natural history
7. To search for causes of health and disease

Morris, Uses of Epidemiology, 1976

Knowledge of Prevention & Etiology

Disease	Prevention		Agent		
	Discoverer	Year	Agent	Discoverer	Year
Scurvy	Lind	1753	Ascorbic Acid	Szent-Gyorgi	1928
Pellagra	Casal	1755	Niacin	Goldberger	1924
Scrotal Cancer	Pott	1775	Bensopyrene	Cook	1933
Smallpox	Jenner	1798	Orthopox virus	Fenner	1958
Puerperal Fever	Semmelweis	1847	Streptococcus	Pasteur	1879
Cholera	Snow	1849	Vibrio Cholerae	Koch	1893
Bladder cancer	Rehn	1895	2-Napththylamine	Hueper	1938
Yellow Fever	Reed	1901	Flavirus	Stokes	1928
Oral Cancer	Abbe	1915	N-nitrosonormmicotine	Hoffman	1974

(Wynder, AJE, 1992)

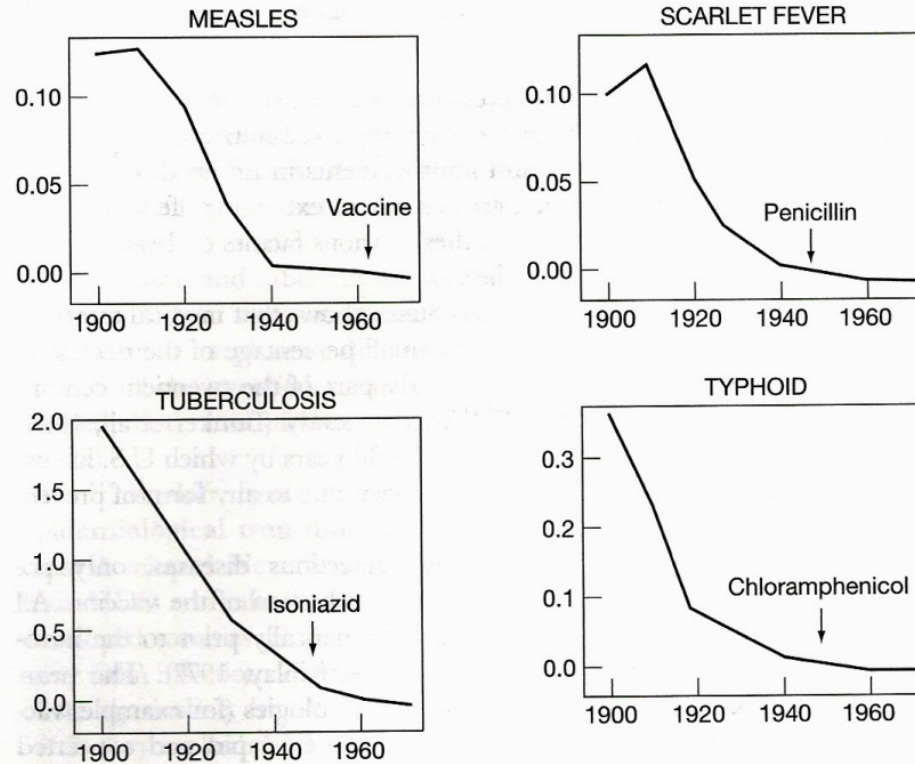# Prevention vs. Cure: Public Health vs. Curative Medicine

FIG 2.3 **The Fall in the Standardized Death Rate (per 1,000 Population) for Nine Common Infectious Diseases in Relation to Specific Medical Measures in the United States, 1900–1973.** (Sources: John B. McKinlay and Sonja M. McKinlay, "The questionable effect of medical measures on the decline of mortality in the United States in the twentieth century," Milbank Memorial Fund Quarterly 55, 1977: 422–423.)

Prevention vs. Cure: Public Health vs. Curative Medicine
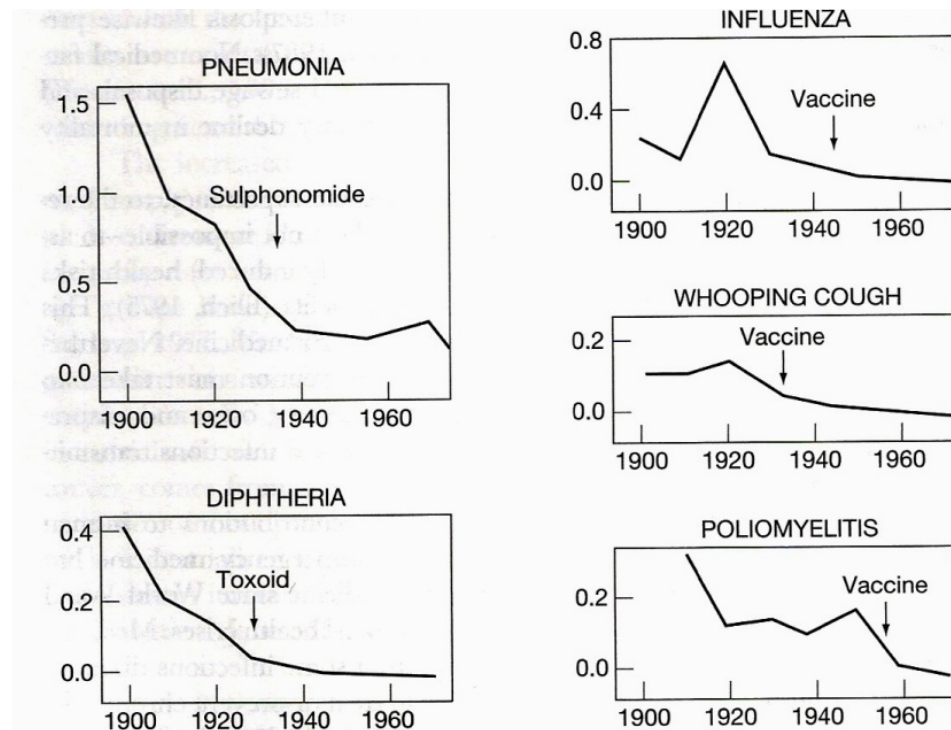

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