

# AAPHP Preventive Services Toolkit

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## **Epidemiology as a Policy Tool**

APHA Session 4220.0, Table 4  
Washington, DC; November 6, 2007

# *Challenge to Participants*

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- ❑ Name 3 major health-policy-related errors that could have been prevented through use of epidemiology and medical knowledge as policy tools

# Teaching Objectives

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- ❑ Recognize ways in which epi methods can and should be used to influence public health and healthcare policy
- ❑ Recognize differences in methods between epi research and epi as policy tool
- ❑ Discuss epi methods to facilitate translation of research findings into policies and programming
- ❑ Recognize value of educating non-medical-professional policymakers and administrators to value of epi approach
- ❑ Relate epi as policy tool to CSTE Compendium of Competencies for Epidemiologists

# Epi Research v. Epi as a Policy Tool

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- ❑ Research is to find out new things or to confirm or deny current hypotheses
- ❑ Epi as a Policy Tool is to translate scientific knowledge into policy and programming

# Major Differences Epi Research v. Epi as Policy Tool

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- ❑ Use of “statistical significance”
- ❑ Five or more levels – where numerator for one end point and intervention is denominator for the next
- ❑ Translation of “population at risk” to “community”
- ❑ Use of three separate data models – Medical, Public Health and Community
- ❑ “Syndemic” approach
- ❑ Use of “Evidence” and guidelines

# Diabetes as Example of Multi-Level Problem

Goal	Numerator	Denominator
Decrease mortality	Deaths	Severely ill diabetics
Prevent deterioration and complications	Severely ill diabetics	All diabetics
Prevent onset of diabetes	All diabetics	Obese
Prevent obesity	Obese	Overweight
Prevent overweight	Overweight	Total population

# *Challenge to Participants*

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- ❑ What is the one Epi Principle most needed to guide policy

# Data Models

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- ❑ Medical
- ❑ Public Health
- ❑ Community, Mental Health and Behavioral



# Medical Data Model

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## ❑ ICD9 Codes (illustrated as Leading Causes of Death in 2000, with Rates per 100,000)

○ Heart disease	258.2
○ Malignant neoplasm	200.9
○ Cerebrovascular disease	60.9
○ Chronic lower respiratory tract disease	44.3
○ Unintentional injuries	35.6
○ All Causes	873.1

## ❑ Medical Procedure Codes

❑ Per Mokdad et al, JAMA 2004; 291:1238-1245

# Public Health Data Models

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## ❑ Risk factors (illustrated as Major Causes of Preventable Death in 2000 with percent of deaths)

- Tobacco 18.1%
- Poor diet and physical inactivity 16.6%
- Alcohol consumption 3.5%
- Microbial agents 3.1%
- Toxic agents 2.3%

## ❑ Skilled use of public data sets

- Census and demographics
- Vital records
- National surveys

❑ Per Mokdad et al, JAMA 2004; 291:1238-1245

# Community Data Models

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- ❑ 4 Domains
  - Social (cultural and economic)
  - Physical
  - Biologic
  - Political and administrative
  
- ❑ -- for each domain
  - Problem(s)
  - Resources
  - Environment(s)

# Syndemics

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- ❑ A syndemic is two or more afflictions, interacting synergistically, contributing to excess burden of disease in a population
- ❑ <http://www.cdc.gov/syndemics/overview-definition.htm>
- ❑ Syndemic approach is natural for community people

# Examples of Syndemic Situations

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- ❑ Youth
  - STDs, AIDS, Substance Abuse, Unplanned or undesired pregnancy
- ❑ Elderly
  - Diabetes, metabolic syndrome, cardiovascular and cerebrovascular disease
- ❑ Urban inner city
  - Lead poisoning, asthma, interpersonal violence, depression, drug use, alcohol abuse
- ❑ Suburban sprawl
  - Obesity, poor physical fitness, auto accidents, depression, tobacco use

# CSTE Competency Domains for Epidemiologists

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- ❑ 1. Assessment and Analysis
- ❑ 2. Basic Public Health Sciences
- ❑ 3. Communication
- ❑ 4. Community Dimensions of Practice
- ❑ 5. Cultural Competency
- ❑ 6. Finan. and Operational Planning and Mgt
- ❑ 7. Leadership and Systems Thinking
- ❑ 8. Policy Development

# Reference Slide: Documents and Web Sites

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- ❑ Guide to Clinical Preventive Services  
<http://www.preventiveservices.ahrq.gov>
- ❑ Guide to Community Preventive Services  
<http://www.thecommunityguide.org>
- ❑ CDC Advisory Committees and MMWR Recommendations  
<http://www.cdc.gov/mmwr/>
- ❑ Best place to start is usually the AHRQ National Guideline Clearinghouse <http://www.guidelines.gov>

# Bottom Line re: Evidence Base

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- ❑ **Do not start with a literature review!!!**
- ❑ Wherever possible, use the resource web sites and documents



# Notes

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- ❑ Supplemental Materials appended to Module 5 Instructor's Manual
  - <http://www.aaphp.org>, under "Preventive Services ToolKit"
- ❑ Consultation available free of charge from PSTK faculty

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