



Where does better health begin? **Levels of prevention and intervention**

Presented by:

**The California-Nevada
Public Health Training Center**

Funded by Grant #UB6HP20202 from the Health Resources and
Services Administration, U.S. Department of Health and Human Services

1

Learning Objectives

After this tutorial you will be able to...

1. Define and apply the 3 levels of prevention
2. Distinguish the 3 primary Public Health intervention strategies and how they apply to Public Health practice
3. Understand the Ecological Model as it applies to Public Health practice

2

I. BACKGROUND

3

What is Health?

- *“Health is a complete state of physical, mental, and social well-being and is not merely the absence of disease or infirmity”*
- **Social health:**
 - Includes the concepts of **social support**, the ability to fulfill a social role, and political and social reform

<http://www.who.int/en/>

4

What is Public Health?

"Public health is the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals"

-Winslow, 1920



Focus on prevention and populations

5

What is the Best Focus?

- Two different approaches:
- **"High-risk"**
 - Focus on those with a high concentration of risk factors
- **"Improving the average"**
 - Focuses on an entire population to reduce risk for everyone

6

Determinants of Disease

1. Behavior
2. Infections
3. Genetics
4. Geography
5. Environment
6. Medical care
7. Socio-economic and cultural

7

Determinants of Disease

Asthma Example

1. **Behavior** – Cigarette smoking
2. **Infections** – Infections precipitate asthma
3. **Genetics** – Genetic factors predispose individuals to childhood asthma
4. **Geography** – More common in areas with high levels of naturally occurring allergens due to flowering plants
5. **Environment** – Indoor pollution, cigarette smoke, cockroaches, mold, pet dander
6. **Medical care** – Medical care affects course
7. **Socio-economic-cultural** – Air quality, allergens, access to care correlate with socio-economic-cultural factors

8

Most Common Causes of Death and “Actual” Causes

Nearly half of all US deaths related to 9 potentially preventable causes.

Most Common Causes of Death US, 2008

1. Disease of the heart
2. Cancers
3. Chronic lower respiratory diseases
4. Stroke
5. Unintentional injury
6. Alzheimer's disease
7. Diabetes mellitus
8. Influenza and pneumonia
9. Nephritis, etc.
10. Septicemia

Actual Causes of Death US, 2000

1. Tobacco
2. Poor diet, physical inactivity
3. Alcohol consumption
4. Microbial agents
5. Toxic agents
6. Motor vehicles
7. Firearms
8. Sexual behavior
9. Illicit drug use

9

II. PREVENTION

10

What is Prevention?

- *“The planning for, and taking of, action to forestall the onset of a disease or other health problem before the occurrence of undesirable health events.”*
 - McKenzie, Pringer, & Kotecki, 2012
- We usually think of this in three levels

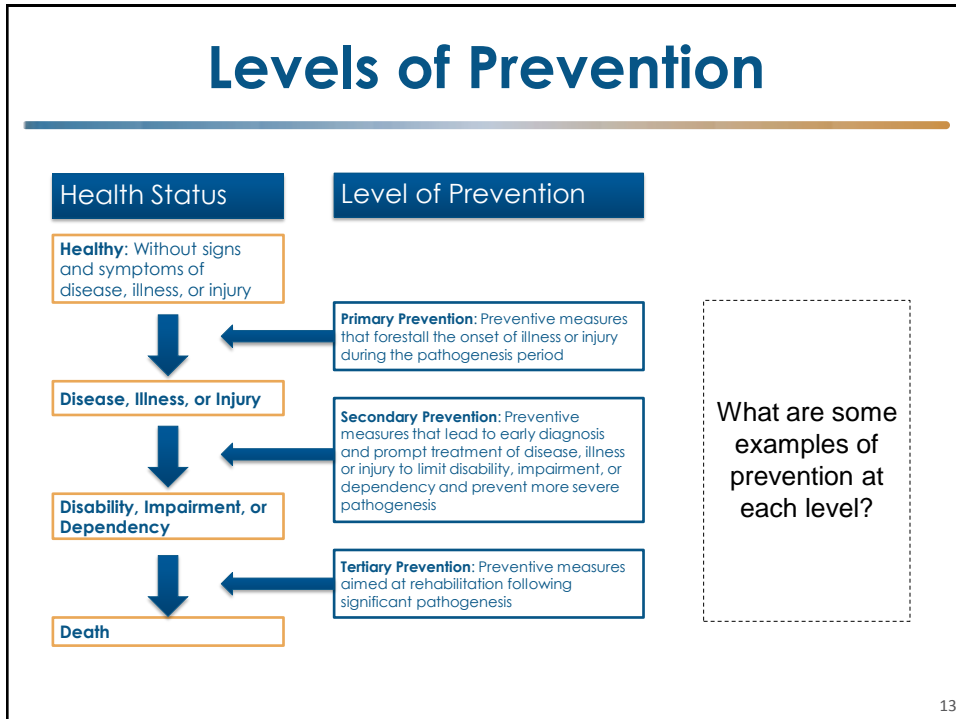
11

Levels of Prevention

- **Primary**
 - Preventive measures that forestall the onset of illness or injury during the pathogenesis period
- **Secondary**
 - Preventive measures that lead to early diagnosis and prompt treatment of a disease, illness, or injury to limit disability
- **Tertiary**
 - Preventive measures aimed at rehabilitation following significant pathogenesis

12

Levels of Prevention



13

Levels of Prevention HIV Example



- **Primary**
 - Risk reduction education, condom distribution
- **Secondary**
 - Counseling and testing
- **Tertiary**
 - Chronic disease management

14

III. STRATEGIES

15

What do we mean by Intervention?

“To come or occur between two things, events, or points in time; to come in or between so as to hinder or alter an action”

— Anderson et al., 2002

“An activity or activities designed to create change in people”

— McKenzie, Pringer, & Kotecki, 2012

16

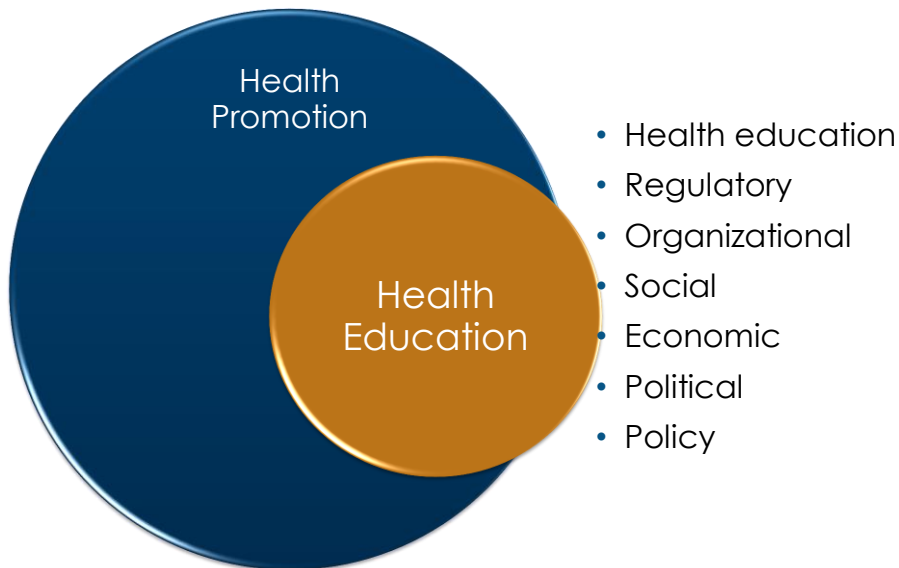
What is Health Promotion?

"Any planned combination of educational, political, environmental, regulatory, or organizational mechanisms that support actions and conditions of living conducive to the health of individuals, groups, and communities"

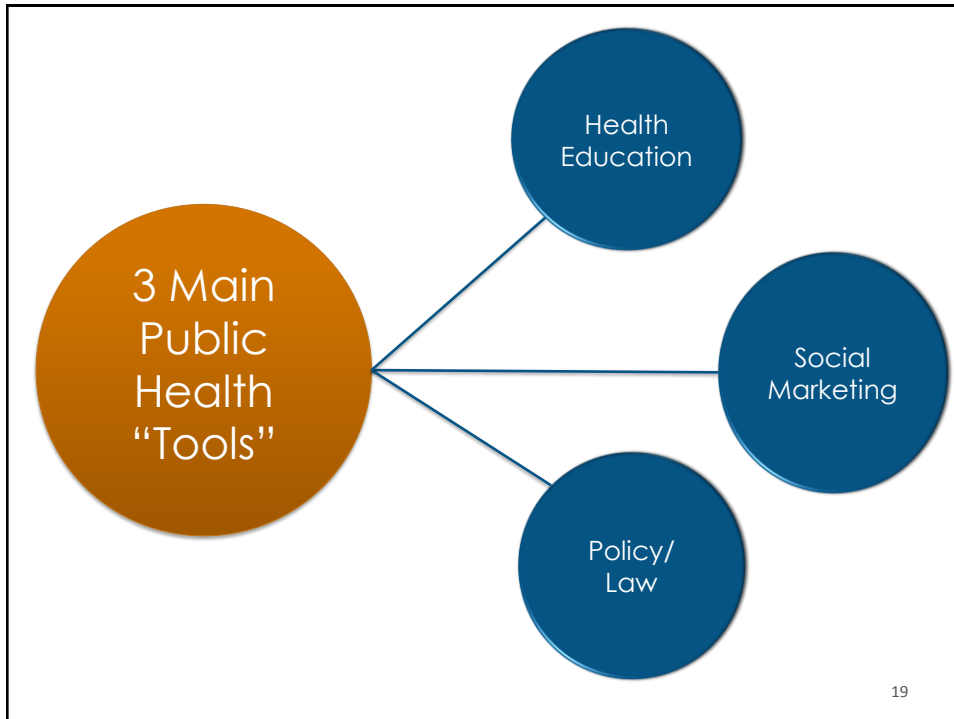
— Joint Committee, 2012

17

Health Education is only one way to promote health



18



Prevention Strategy: Health Education

*“Messages of any type that attempt to inform and/or persuade a target to behave **voluntarily** in a particular manner but do not provide, on their own, direct and/or immediate reward or punishment”*

20

Prevention Strategy: Social Marketing

- **Social Marketing:**

- *“Attempts to manage behavior by offering reinforcing incentives and/or consequences in an environment that invites voluntary exchange”*

21

What is Social Marketing?

Using marketing principles to achieve specific behavioral goals for a social good.



<http://www.fly4change.com/wp-content/uploads/2009/03/social-marketing.jpg>

22

Prevention Strategy: Policy (Law)

- “The use of coercion to achieve behavior in a **nonvoluntary** manner or to threaten with punishment for noncompliance or inappropriate behavior.”
 - Increase (price subsidies)
 - Decrease (taxes)

23

Strategies Example Tobacco

- **Health Education**
 - Tobacco facts
- **Social Marketing**
 - “Truth” campaign
- **Policy**
 - Laws prohibiting use in work settings, taxes

24

When to Use Each Strategy

Easy to see/
convey benefits

Need to
manage/show
benefits

Can't see/
convey benefits

Education

No or weak
competition

Marketing

Passive-active
competition

Policy

Unmanageable
competition

←

PRONE to
Behave as Desired

→

RESISTANT to
Behave as Desired

25

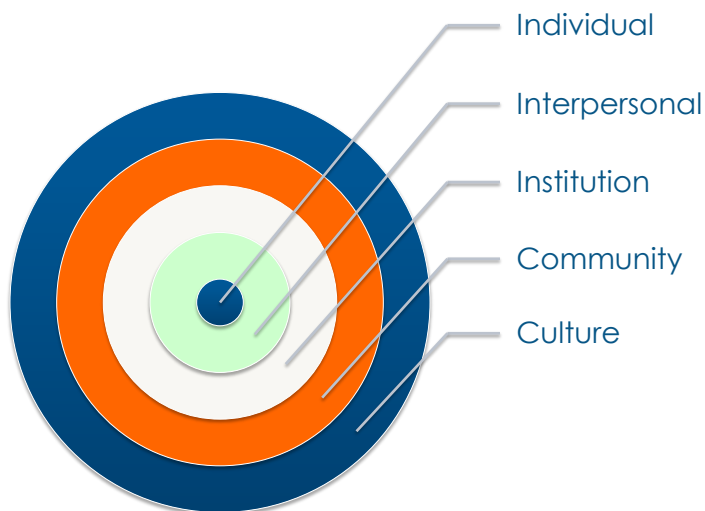
IV. INTERVENTION LEVELS

26

Social Ecological Model



27



28

How is Culture Related to Health?

- Social practices
- Response to symptoms
- Types of acceptable interventions
- Response to disease and intervention

29

How Might Religion be Related to Health?

- **Social practices** – Circumcision, contraceptive use, alcohol use, tobacco use
- **Response to symptoms** – Some reject medical care as a response to symptoms
- **Types of acceptable interventions** – Prohibitions against blood transfusions; attitudes towards stem cell research, abortion, end-of-life treatments
- **Response to disease and intervention** – Role of prayer as an intervention to alter outcome

30

V. PUBLIC HEALTH EXAMPLES

31

Examples of Public Health Interventions

Type of Intervention	Target Health Problem	Specific Intervention	Level of Prevention	Level of intervention
Education	Sudden Infant Death (SIDS)	Babies on Backs	Primary	Provider, family, individual
Social Marketing	Cancer	Tobacco Truth Campaign	Primary	Community
Policy	Lung Cancer	Tobacco Tax	Primary	Environment

32

References

Glanz, K., Rimer, B. K., & Lewis, F. M. (Eds.). (2002). *Health Behaviors and Health Education* (3rd ed.). San Francisco: Jossey-Bass.

McKenzie, J. F., Neiger, B. L., Thackeray, R. (2013). *Planning, implementing, and evaluating health promotion programs*, 6th Ed. Pearson: Boston.

McKenzie, J. F., Pringer, R. R., & Kotecki, J. E. (2012). *An introduction to community health*, 7th Ed. Jones & Bartlett Learning: Sudbury, MA.

Riegelman, R. (2010). *Public Health 101: Healthy people—Healthy populations*. Jones & Bartlett Learning: Sudbury, MA.

33