

Working Upstream to Reduce the Public Health Burden of Alcohol Abuse

Wisconsin Idea Forum
UW-Eau Claire, May 2009



**UW School of Medicine
and Public Health**

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Outline

- Metaphor
- Case study
- Population health frameworks
- Implications for prevention

Part 1. Metaphor

- A small Midwestern city was located next to a river
- Although the river looked safe, people drowned nearly every day
- So the people decided to do something about it



- One day, a man came by and was asked to help out
- But instead, he went upstream to see why the people were falling in the river



- So he spent hours observing the bridges and river banks, learning why people ended up in the river
- He returned to the city, to tell all that he had learned and they called him an 'epidemiologist'

Epidemiology

“The study of the distribution and determinants of health and diseases, morbidity, injuries, disability, and mortality in populations”

Friis, 1996

LaCrosse, Wisconsin



Case Study: LaCrosse, Wisconsin

April, 2004

Jared Dion, a 21-year-old UW-La Crosse student was missing for 5 days.

He was pulled from the Mississippi River after an extensive search.



QUESTION: What was the cause of his death?

A Serial Killer?



Monday, September 03, 2007



Posted at: 09/03/2007 12:52:21 PM
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FBI: No serial killer in western Wisconsin



LA CROSSE, Wis. (AP) - One more time: There is no serial killer.

For nearly a decade, this river city has lived with fears that a mysterious boogeyman was lurking in bars, waiting to drown young, good-looking white men. Since 1997, eight

college-aged men have disappeared after drinking heavily at area taverns, only to turn up dead in a nearby river. Each death has rekindled the killer talk.

But police here announced Aug. 21 FBI profilers have found no signs of foul play in the deaths. The FBI is the third law enforcement agency to investigate the drownings, and all have reached the same conclusion: They're accidents.

"It's going to be a relief to everybody that, once again, this is confirmed. Anything that has to do with alcohol and somebody in this water, bang, it comes up," said Jeff Woodruff, owner of the Mirage Sports Bar in La Crosse.

Alcohol abuse?

Hard-Drinking College Town Struggles to Curb Drownings

By THE ASSOCIATED PRESS



La Crosse Drowning Victim .40 Blood-Alcohol Level

- The cause of death is a freshwater drowning with alcohol intoxication as a contributing factor
- The Medical Examiner's says the blood alcohol level was .40
- However, police say the manner of his death is undetermined.
- Friends said Dion vanished from the downtown area where he and others had been drinking.

Two years
later:

Oct. 2006



La Crosse struggles to prevent drownings


Todd Richmond

Last update: October 22, 2006 – 2:23 PM


LA CROSSE, Wis. — Searchers combing the Mississippi River this month pulled out the body of basketball player Luke Homan — the eighth college-age man in nine years to disappear from a city tavern and turn up dead in a river.

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Part 2. Metaphor

- One day, a woman went with the man upstream from the city
- She wanted to see if she could prevent people from falling (or jumping) in the river

“Don’t jump!”





- She returned to the city, to tell about all of the things that she had done
- They noticed that fewer people were drowning in the river
- They called her a 'public health practitioner'

Disease Continuum

Health



Risk Factors



Disease



Death

Disease Continuum

- Progression along continuum can be rapid
 - Drinking and drowning
- Progression can take lifetime
 - Poor diet and heart disease
 - Smoking and lung cancer

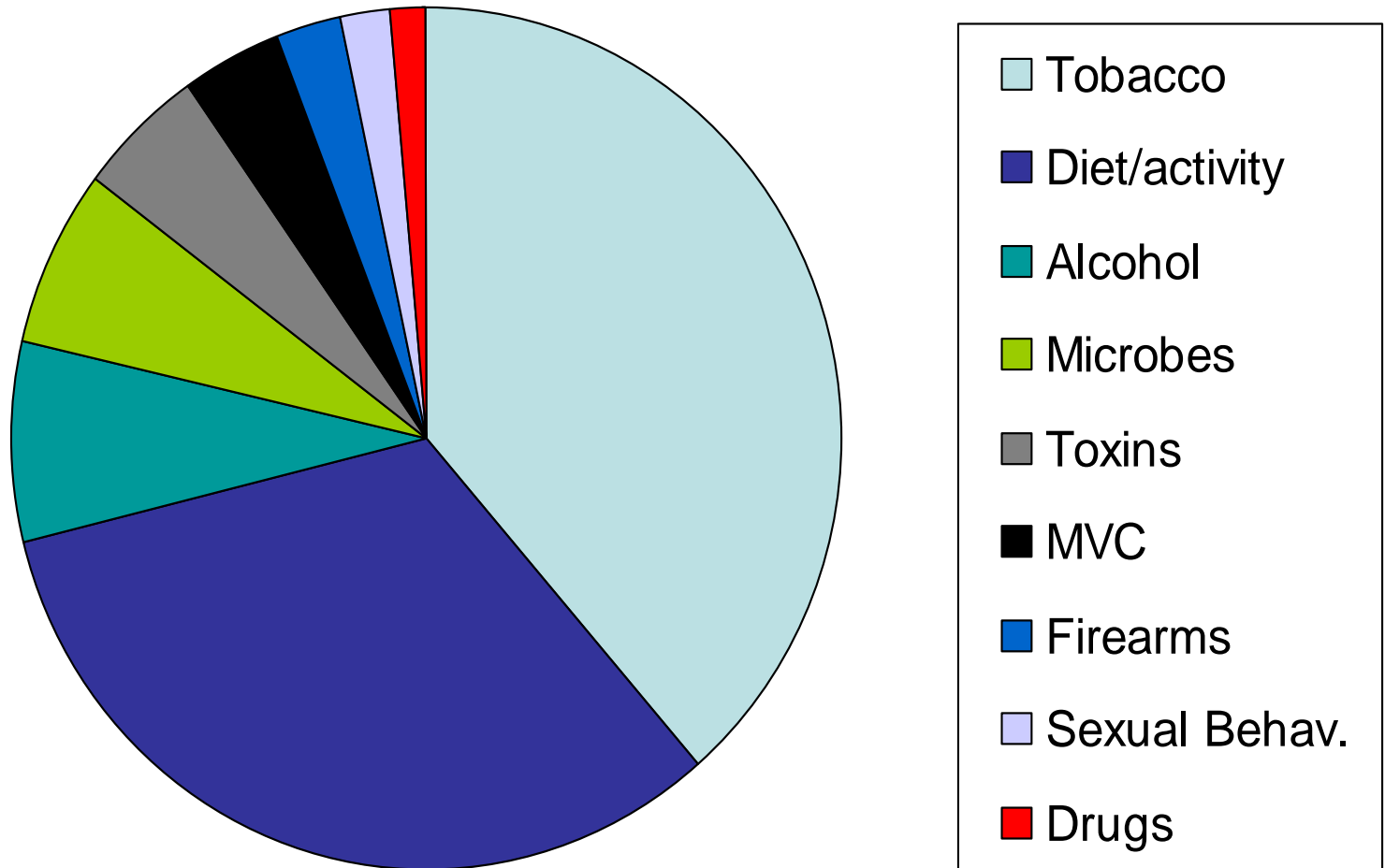
Preventable Causes of Death

	Cancer	Heart disease	Chronic lung disease	Diabetes	Drowning	TOTAL
Tobacco use	X	X	X			
Alcohol use	X	X			X	
High cholesterol		X				
Hypertension		X				
Diet	X	X		X		
Physical inactivity	X	X		X		
Obesity	X	X		X		
TOTAL	▼	▼	▼	▼	▼	

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Physical inactivity	X	X		X		
Obesity	X	X		X		
TOTAL						

Preventable Causes of Death



Estimated for 2000 (see Mokdad et al, with correction)

What is the “cause” of this death?

Alcohol Abuse?

But what causes alcohol abuse
(looking further upstream)

The Vibe, where the most recent victim, Luke Homan, was last seen alive, offers an all-you-can-drink special for \$5. Shots are a dollar. A sign in the bar's window proclaims: "You're not drunk if you can lie on the floor without holding on."

Down the street, Brothers sells dollar beers on Wednesdays. The Helm has 50-cent schnapps and \$3 pitchers from midnight to 1:30 a.m.

The mayor said community groups needed to remind students about the dangers of binge drinking.

“It’s a behavior issue,” he said.

Mary Torstveit, a prevention services official at the University of Wisconsin, said students living off campus were largely on their own.

Drinking “just seems to be such a standard part of [Wisconsin](#) culture and La Crosse culture,” Ms. Torstveit said. “We’ll always be fighting that. At some point, we have to start working on personal responsibility.”

Alcohol task force gets close look at levee from river's side

By JOAN KENT | La Crosse Tribune

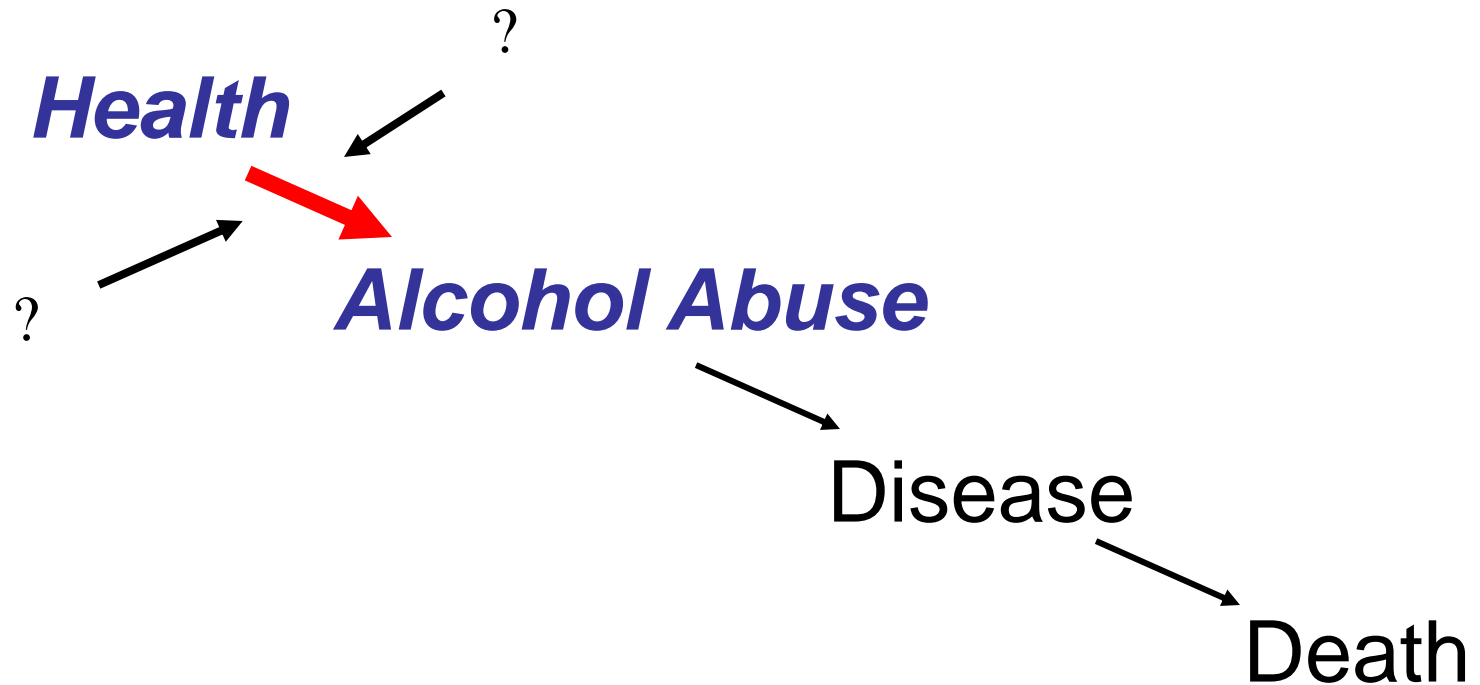
Published - Wednesday, October 25, 2006

You could hardly make out where the levee wall ended and the water began.

And when someone shined a flashlight, you saw a sheer, straight wall into the Mississippi River, impossible to grasp.

From the rocky riprap south of Pearl Street, there are no ladders on the river side of the levee until Main Street. And it was almost impossible to see the ladders north of Main because they are not lit.

The Prevention Continuum



40 Developmental Assets

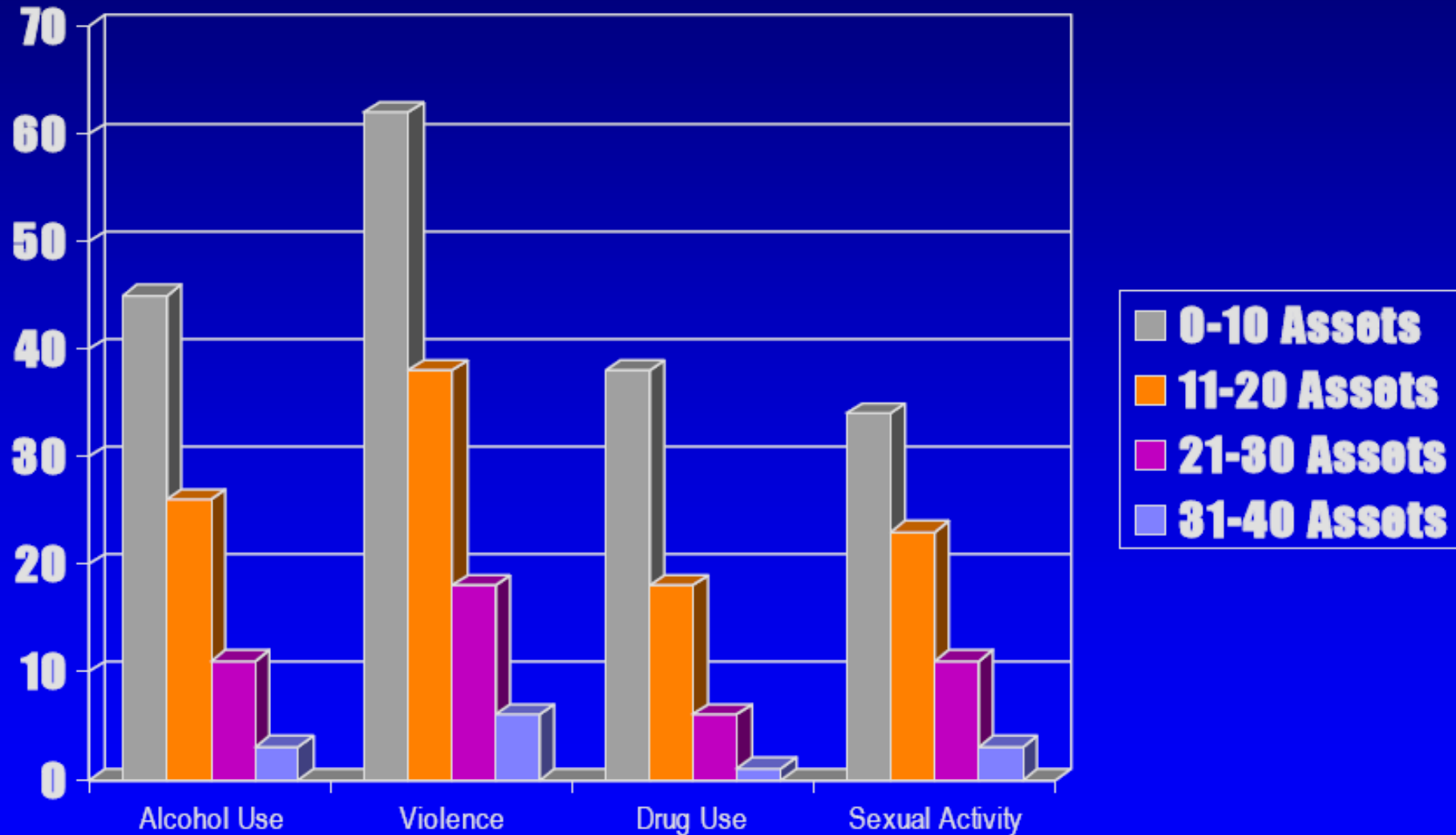
INTERNAL ASSETS

- Commitment to learning (e.g., homework)
- Positive values (e.g. integrity)
- Social competencies (e.g., resistance skills)
- Positive identity (e.g., self-esteem)

EXTERNAL ASSETS

- Support (e.g., family support)
- Empowerment (e.g., service to others)
- Boundaries/expectations (e.g., high expectations)
- Constructive use of time (e.g., youth programs)

Risk behavior prevalence by levels of developmental assets



Adverse Childhood Experiences

Dr. Rob Anda et al.

- Examines the health and social effects of “ACEs” throughout the lifespan
- Studied among 17,421 members of the Kaiser Health Plan in San Diego County

Adverse Childhood Experiences

10 categories of experience up to 18 years old

-childhood abuse (3)

emotional, physical, or sexual

-childhood neglect (2)

emotional or physical

-growing up with (5):

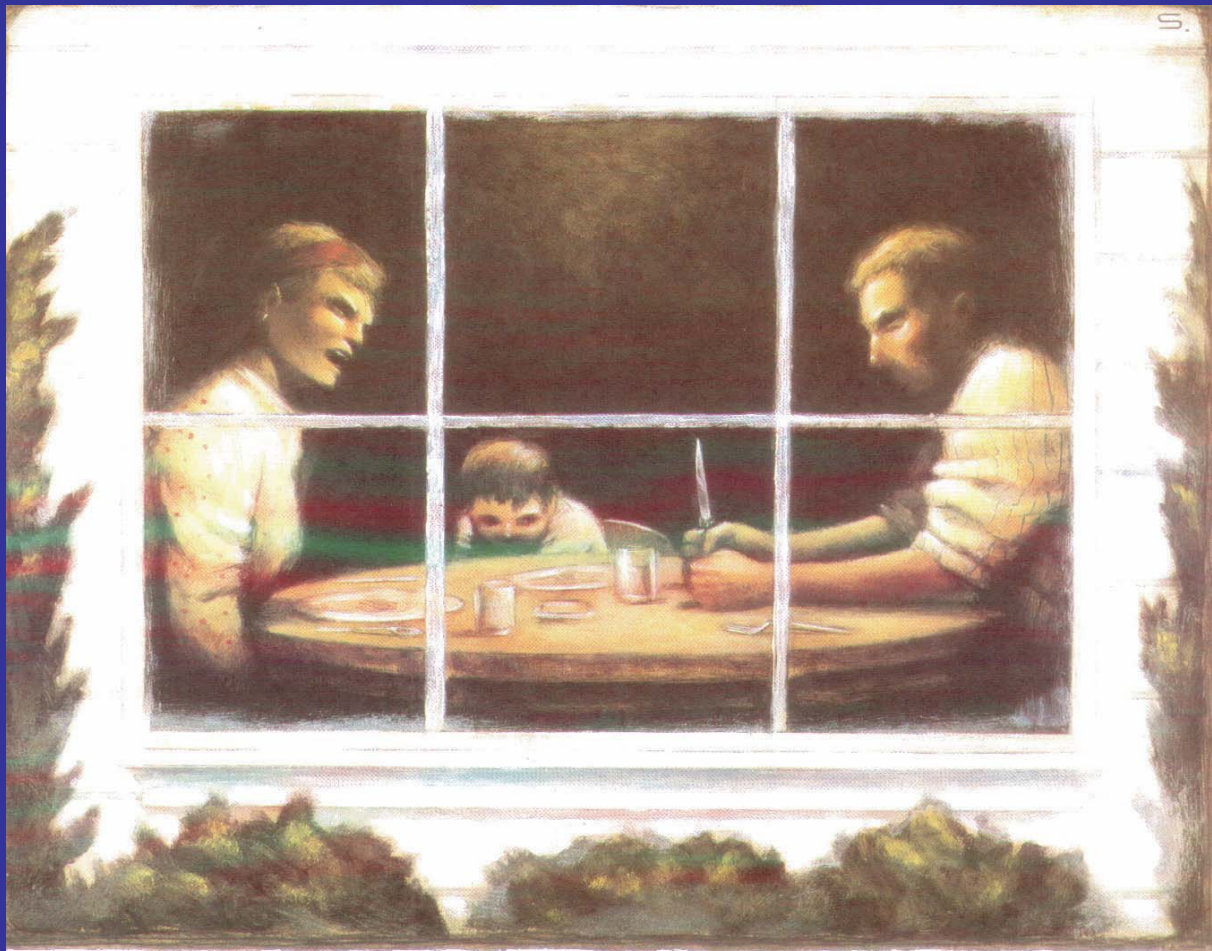
domestic violence

substance abuse (alcohol or drugs)

mental illness

parental discord

crime



Seeing the Pain

America's physicians confront family violence

Adverse Childhood Experiences Are Common

Household dysfunction:

Substance abuse	27%
Parental sep/divorce	23%
Mental illness	17%
Battered mother	13%
Criminal behavior	6%

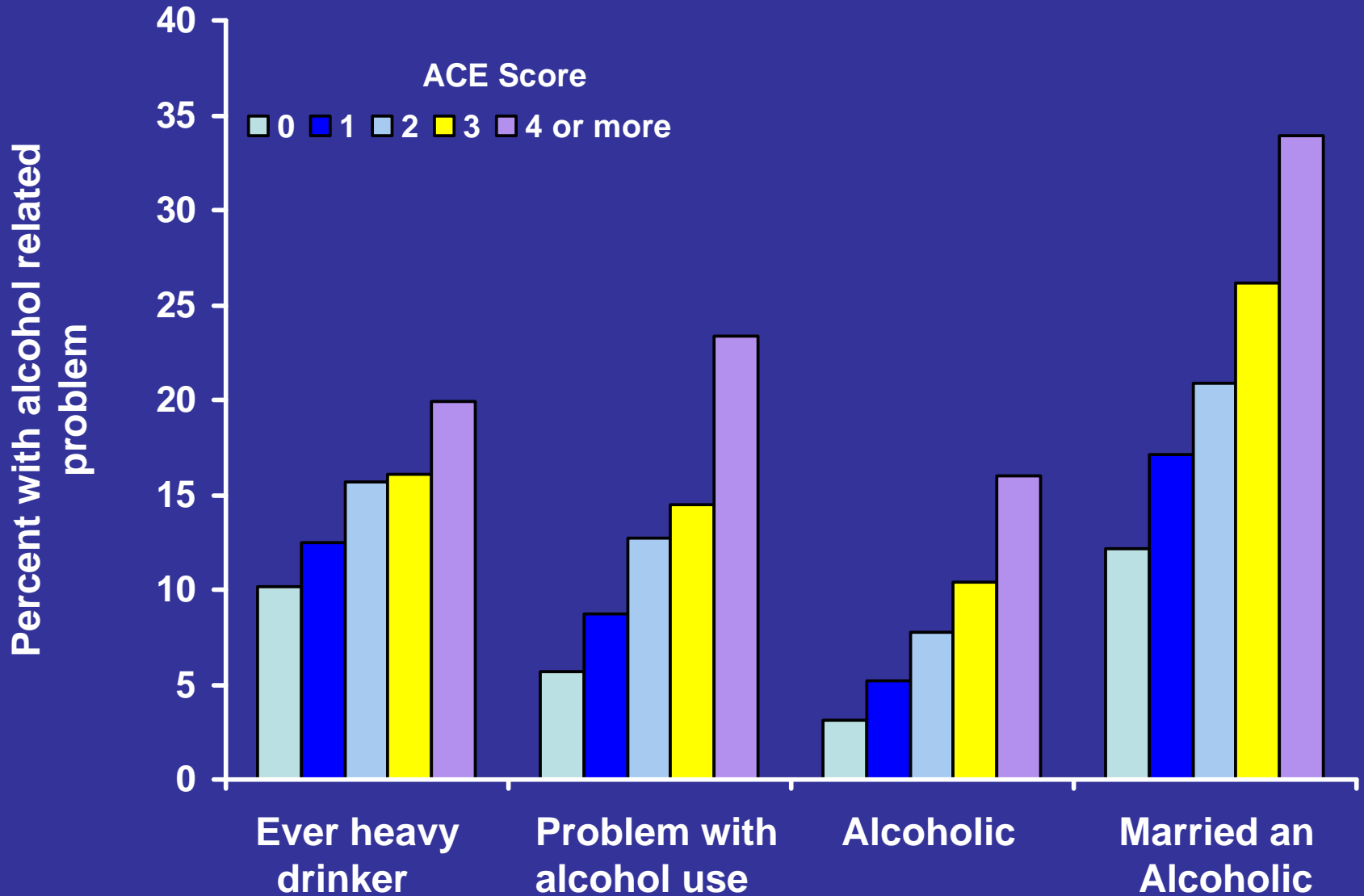
Abuse:

Psychological	11%
Physical	28%
Sexual	21%

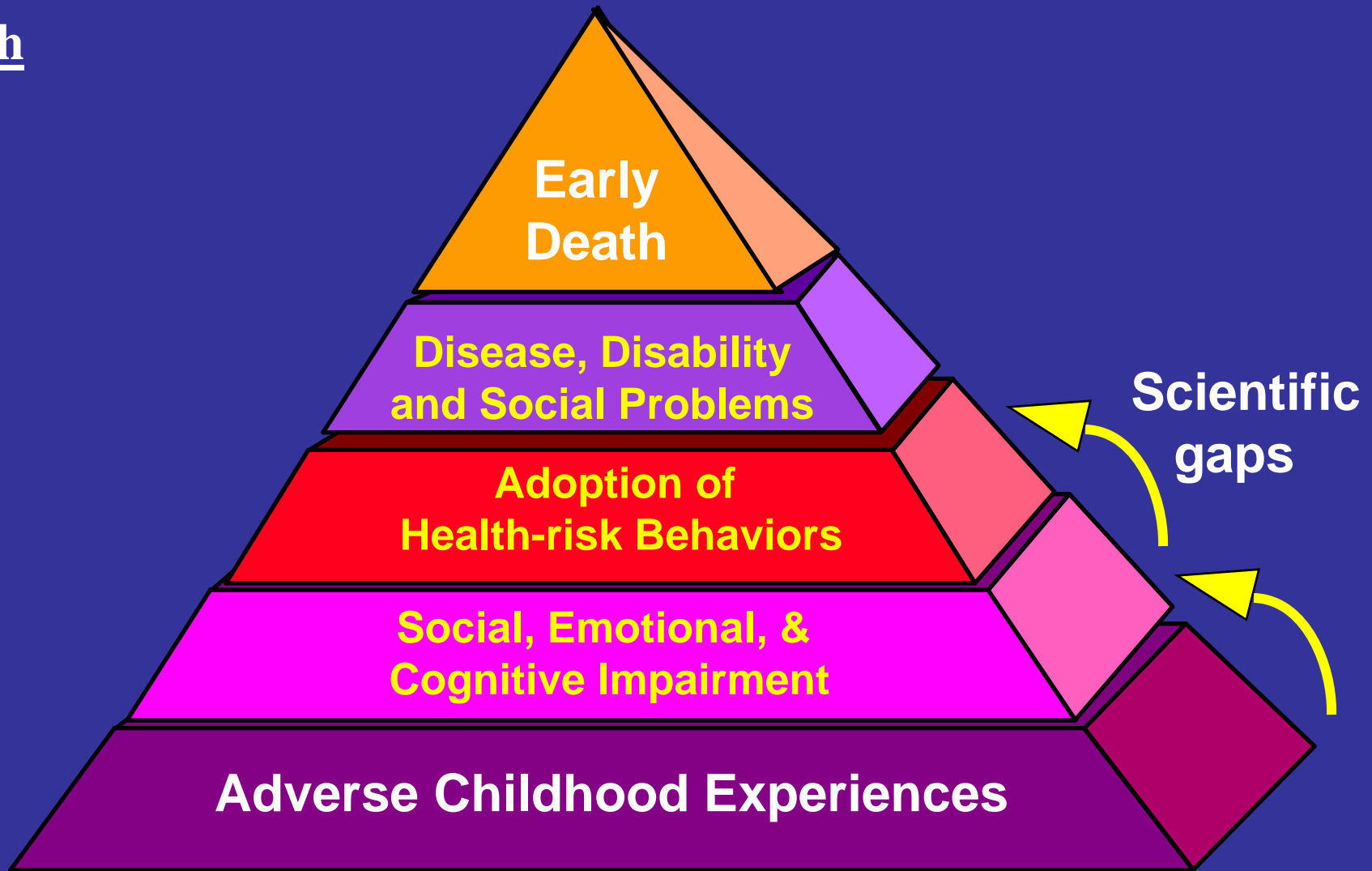
Neglect:

Emotional	15%
Physical	10%

The ACE Score... Alcohol Use and Abuse



Death



Conception

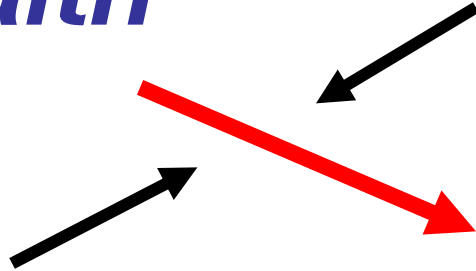
What is the “cause” of this death?

The answer depends on your perspective (or how far upstream you are willing to go...)

Public Health Diagnosis:

Health

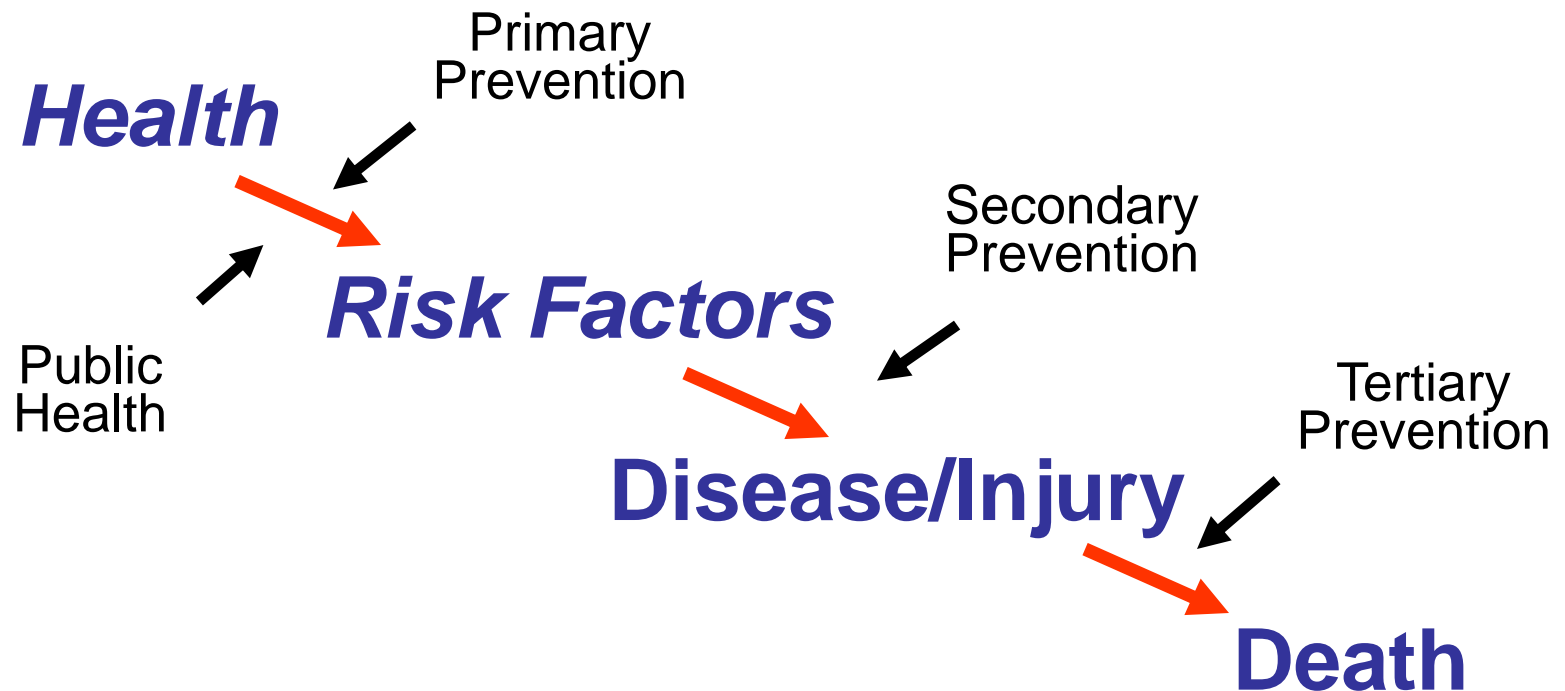
Less education
Alcohol ads
Drink specials
Depression

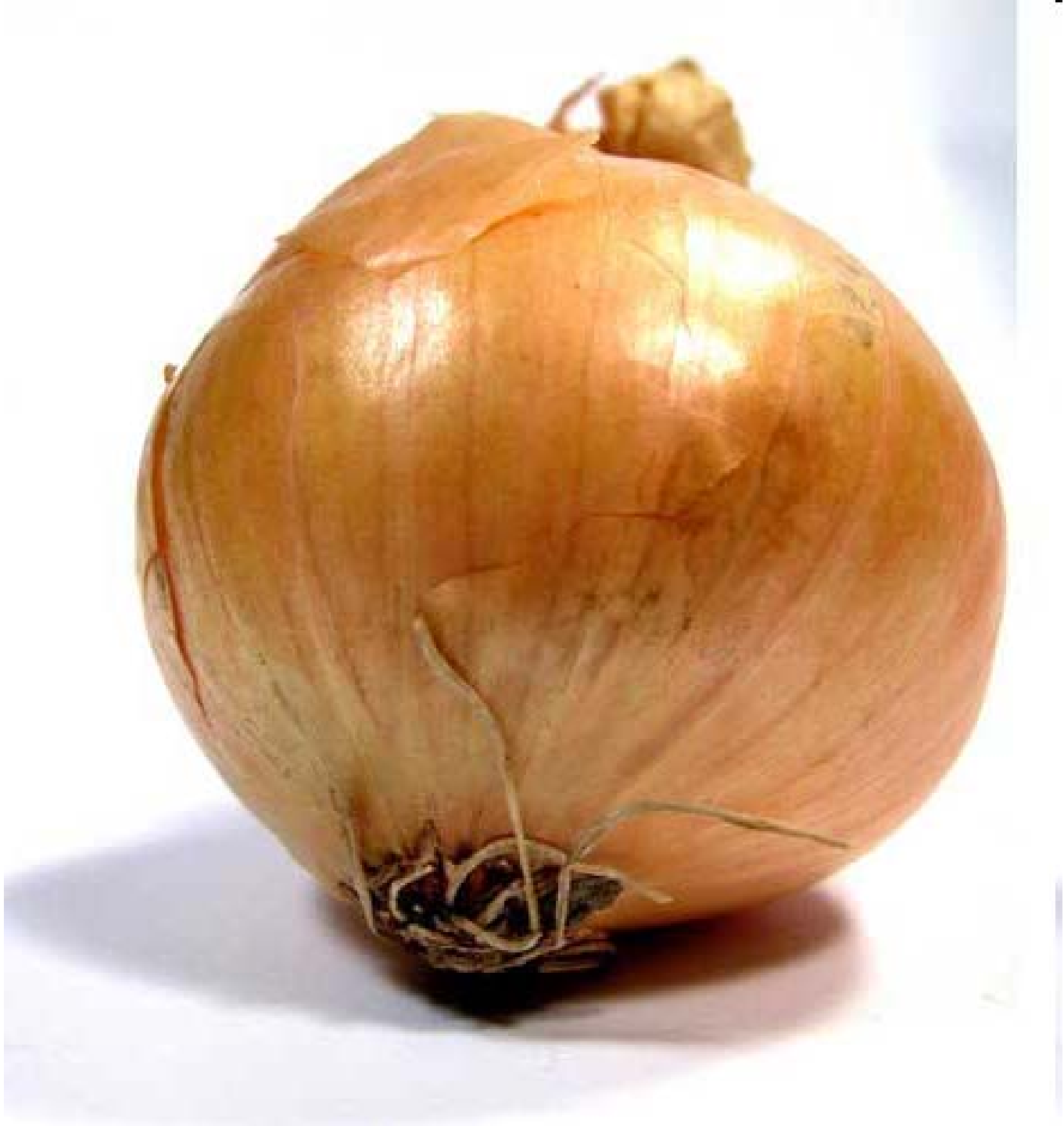


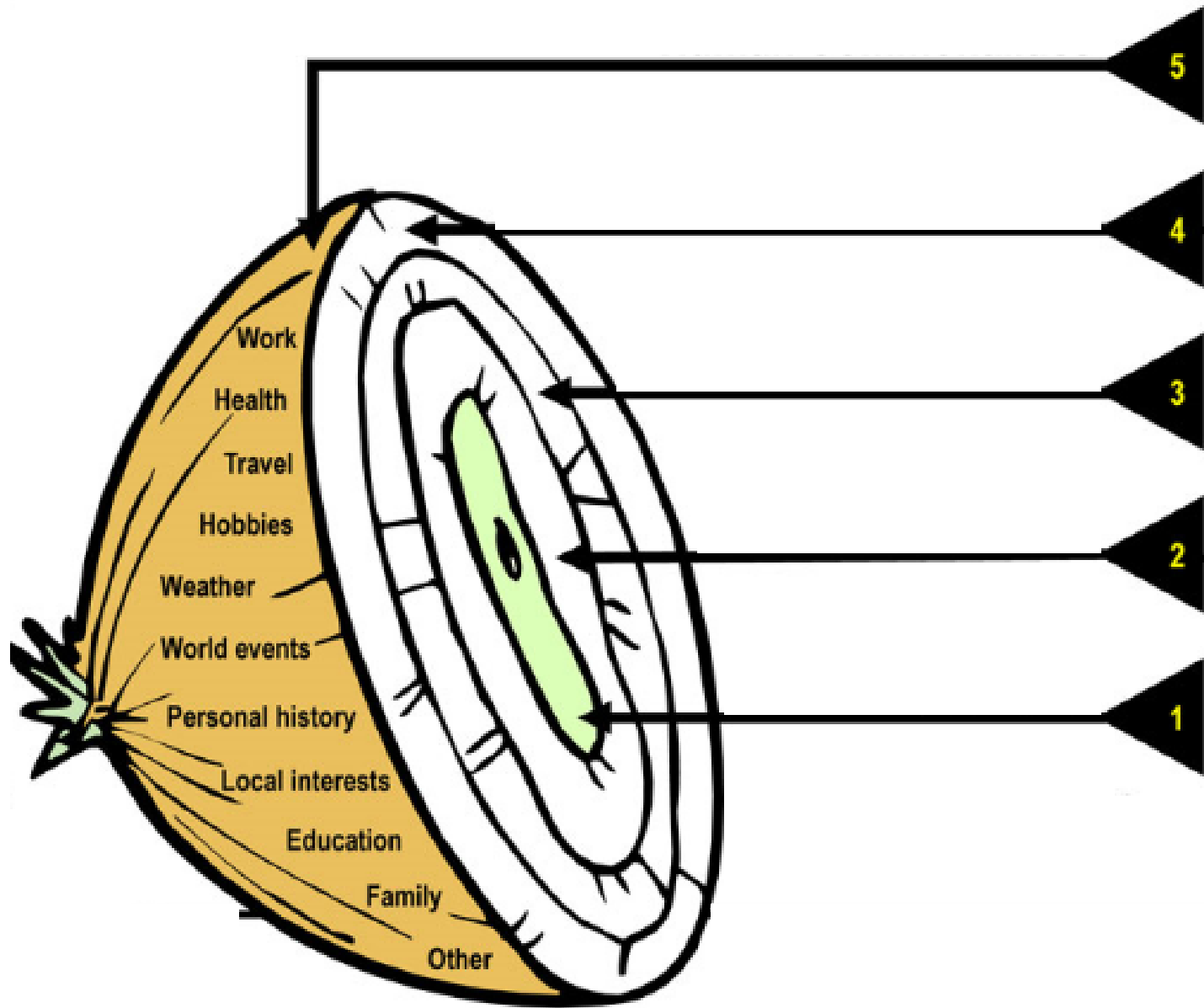
Adverse Child Experience
Peer pressure
Drinking in movies
Poverty

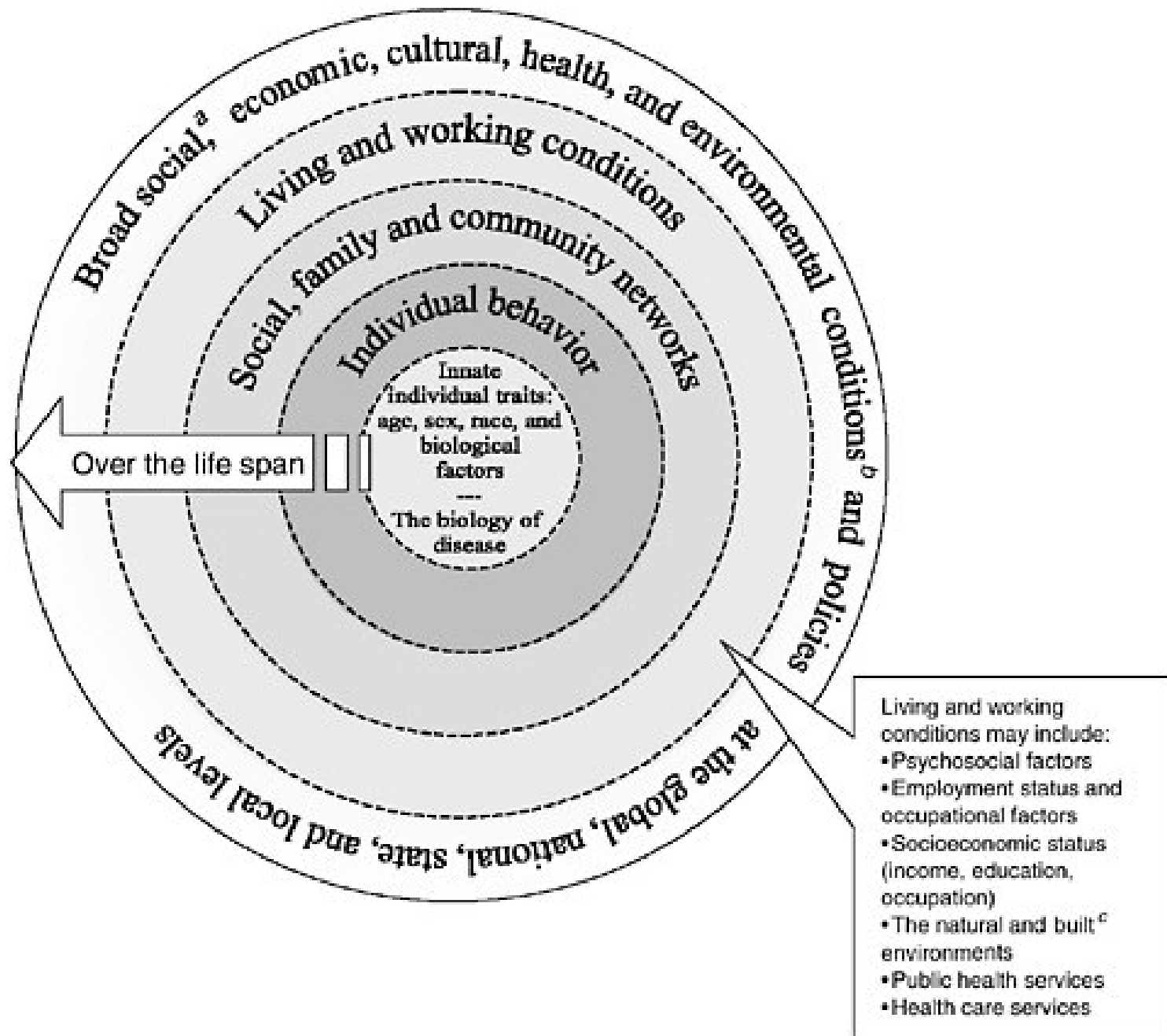
Alcohol abuse

What can be done to prevent this from happening again?









The Layers of the Onion

- Innate individual traits
 - age, sex, race, and biological factors
 - The biology of disease
- Individual behavior
- Social, family, and community networks
- Living and working conditions
- Broad social, economic, cultural, health, and environmental conditions and policies at the global, national, state, and local level

Living & working conditions include

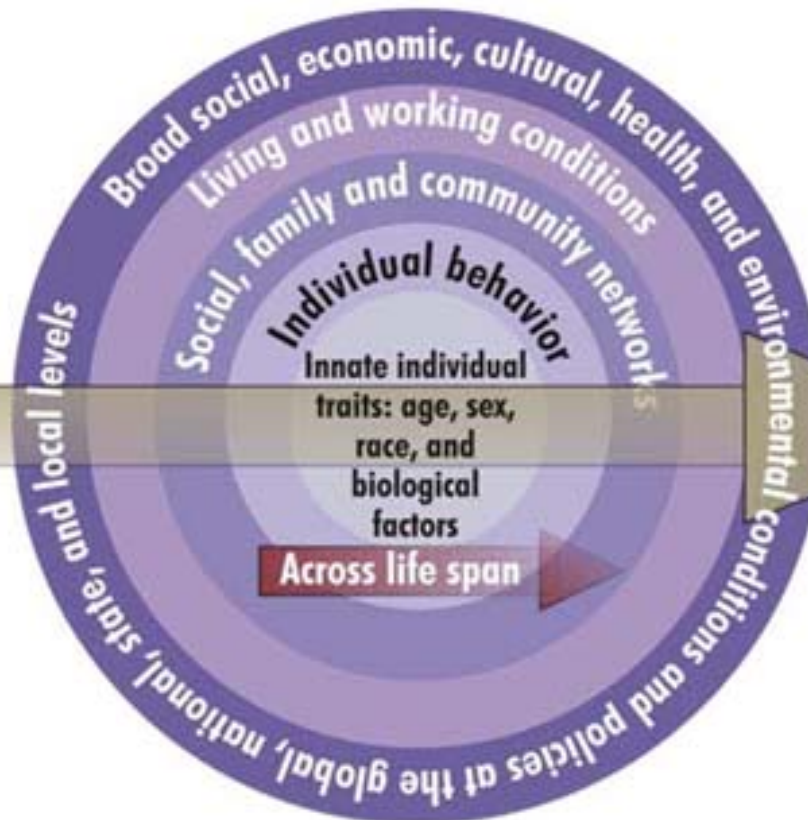
- Psychosocial factors
- Employment status and occupational factors
- Socioeconomic factors (income, education, occupation)
- The natural and built environments
- Public health services
- Health care services

Action Model to Achieve Healthy People 2020 Goals

Determinants of Health

Interventions

- Policies
- Programs
- Information



Outcomes

- Behavioral outcomes
- Specific risk factors, diseases, and conditions
- Injuries
- Well-being and health-related QOL
- Health equity

**Assessment, Monitoring,
Evaluation & Dissemination**

“The Rest of the Story...”

AP, 10/23/2006

A task force investigating the drownings made 19 recommendations including building gates to the levee, creating alternative forms of entertainment and limiting Oktoberfest to one weekend.

But only a handful of those suggestions were adopted. Over time, the focus on drownings faded, Alderwoman Andrea Richmond said.

“Everybody kind of let it drop,” Ms. Richmond said. “We’ve done nothing.”



Implications for Prevention

- Work “upstream” and start early in life
- Consider the environment and social context
- Use evidence-based public policy and clinical approaches