

ACE

Summer Study Committee 2017

The Adverse Childhood Experiences (ACE) Study

Summary of Findings:

- Adverse Childhood Experiences (ACEs) are very common
- ACEs are strong predictors of later health risks and disease
- This combination makes ACEs *the leading* determinant of the health and social well-being of our nation



WHAT ARE THE 10 ACES

- **ABUSE**

 - PHYSICAL

 - EMOTIONAL

 - SEXUAL

- **NEGLECT**

 - PHYSICAL

 - EMOTIONAL

- **FAMILY DYSFUNCTION**

 - LOSS OF PARENT/SINGLE PARENT

 - DOMESTIC VIOLENCE

 - PARENT WITH MENTAL ILLNESS

 - PARENT WITH SUBSTANCE ABUSE

 - ANY FAMILY MEMBER INCARCERATED

HOW COMMON ARE ACES

- **ABUSE**

PHYSICAL	28%
EMOTIONAL	11%
SEXUAL	21%

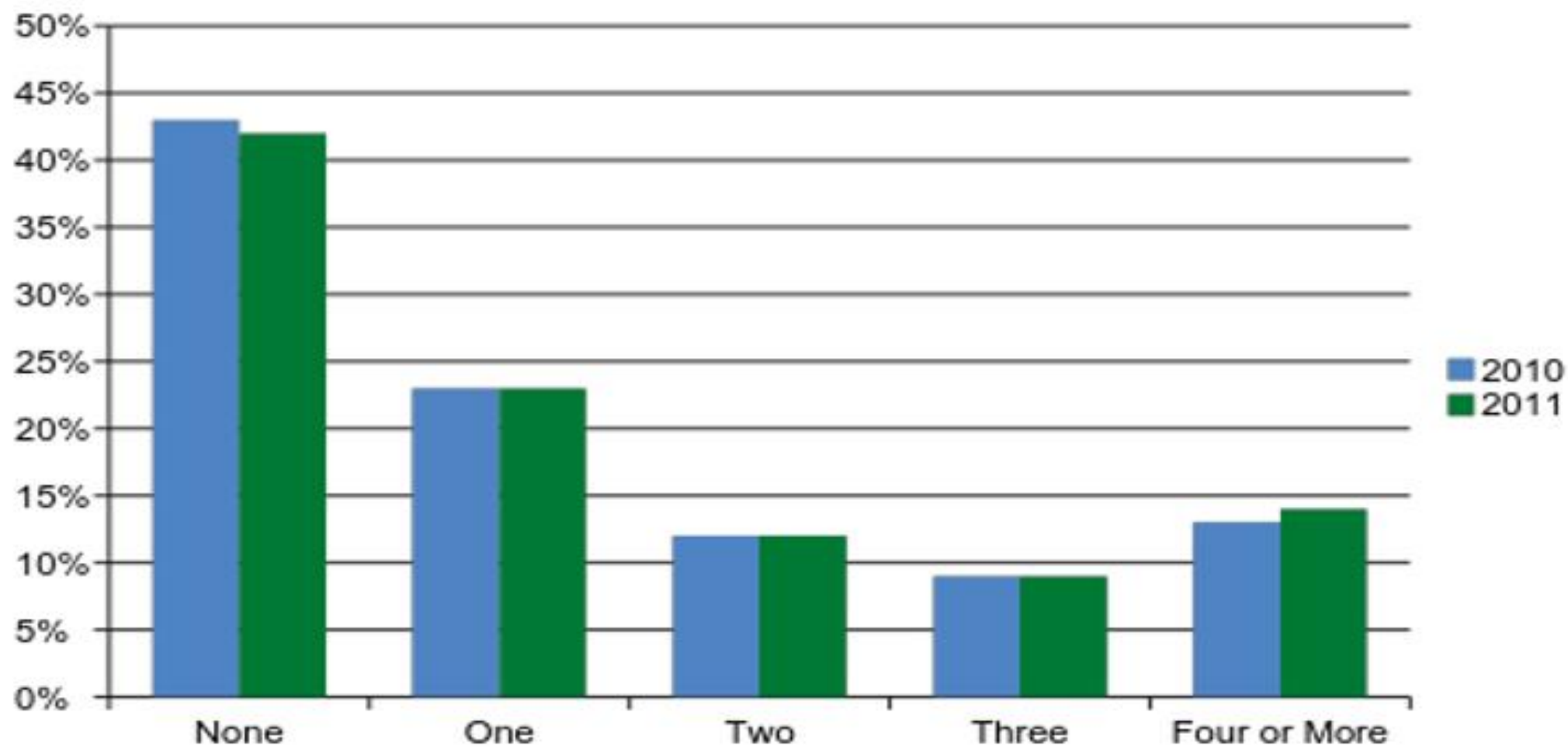
- **NEGLECT**

PHYSICAL	10%
EMOTIONAL	15%

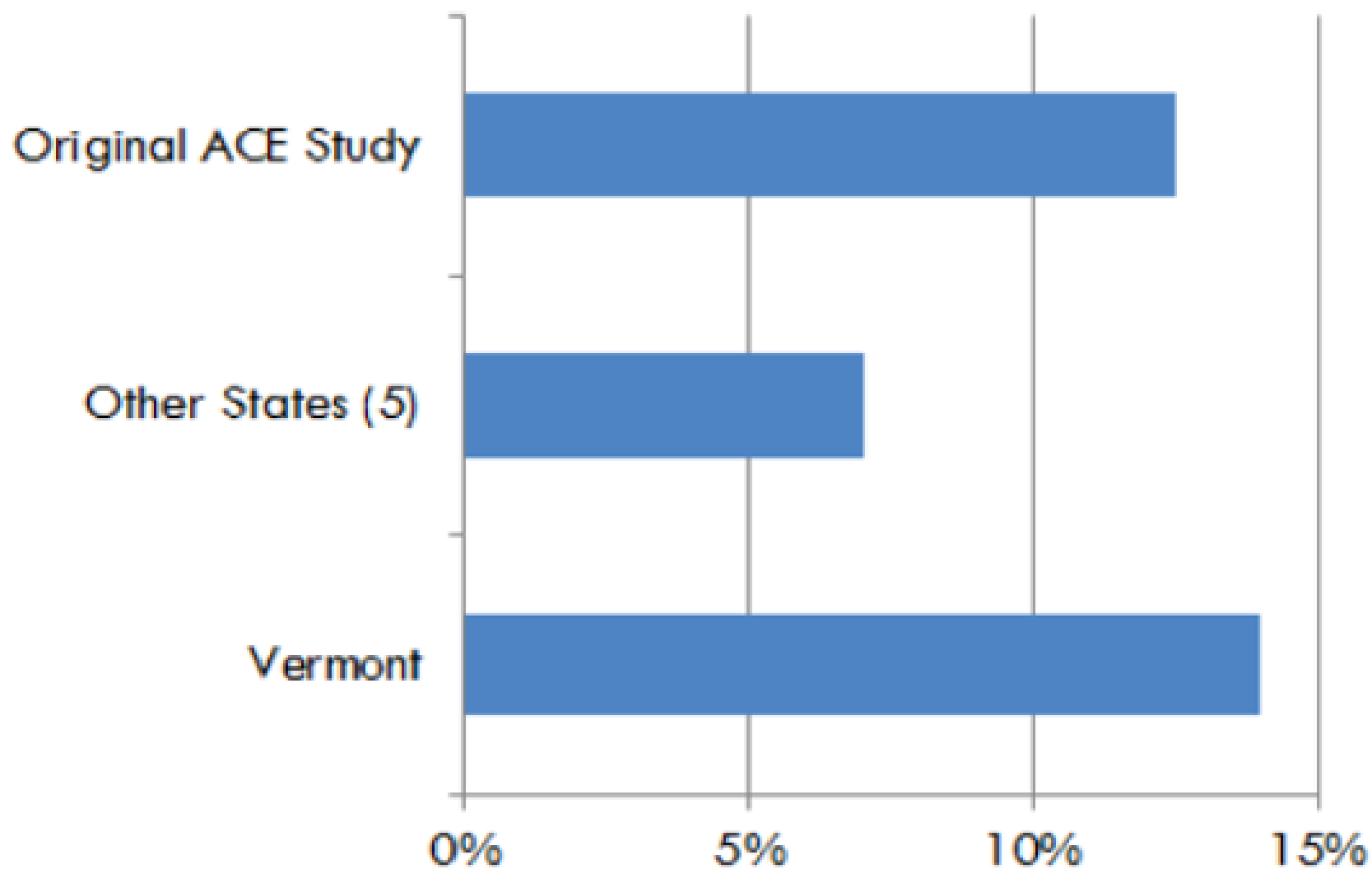
- **FAMILY DYSFUNCTION**

LOSS OF PARENT/SINGLE PARENT	23%
DOMESTIC VIOLENCE	13%
PARENT WITH MENTAL ILLNESS	17%
PARENT WITH SUBSTANCE ABUSE	27%
ANY FAMILY MEMBER INCARCERATED	6%

VERMONT ACE SCORES



≥ 4 ACE, Vermont Adults 2010 & 2011

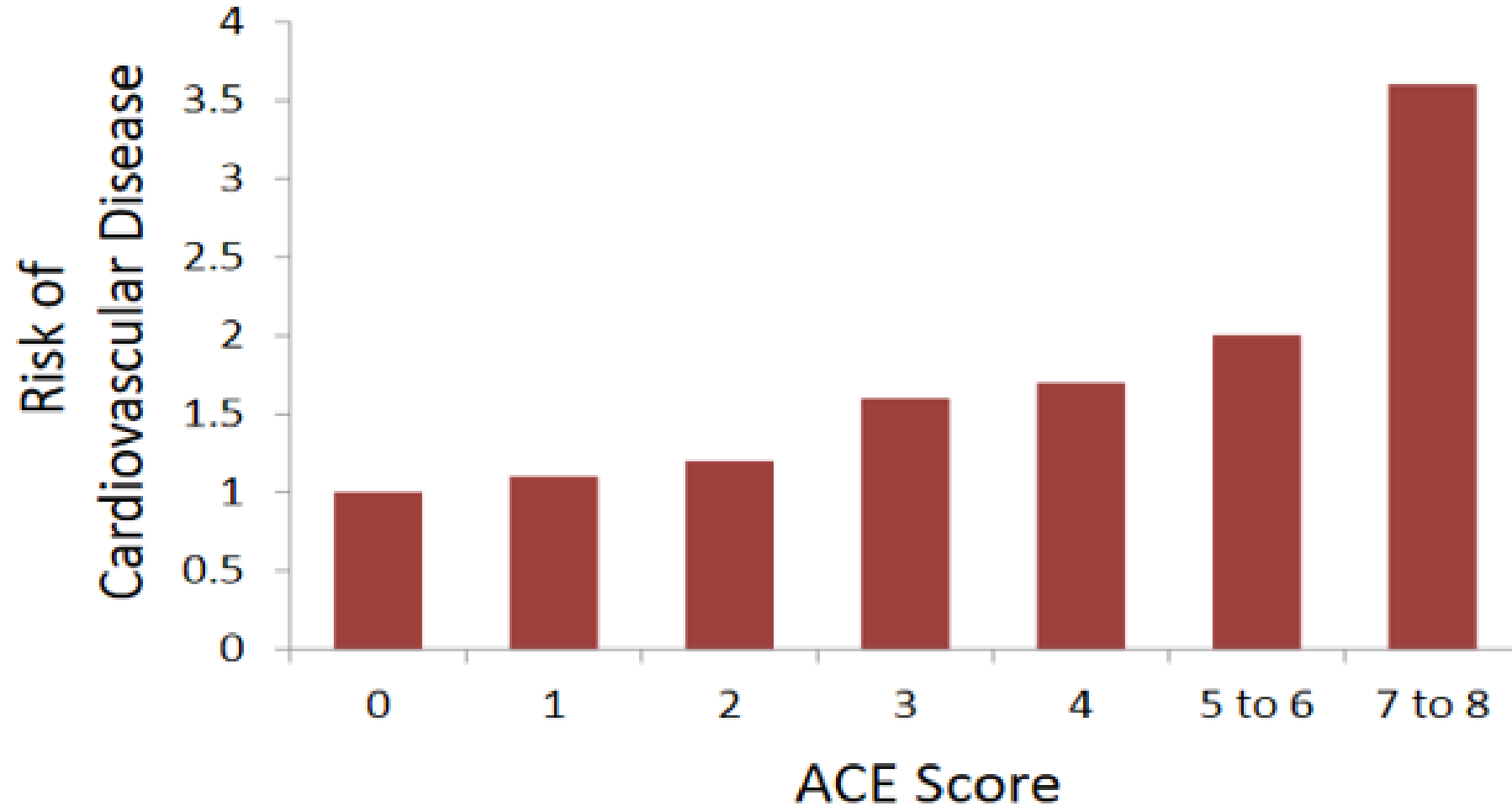


EARLY DEATH

- ACEs are implicated in the ten leading causes of death in the United States, and with an ACE score of six or higher, an individual has a 20-year reduction in life expectancy.

Score and Cardiovascular Disease

Association between ACE Score and Risk for Cardiovascular Disease



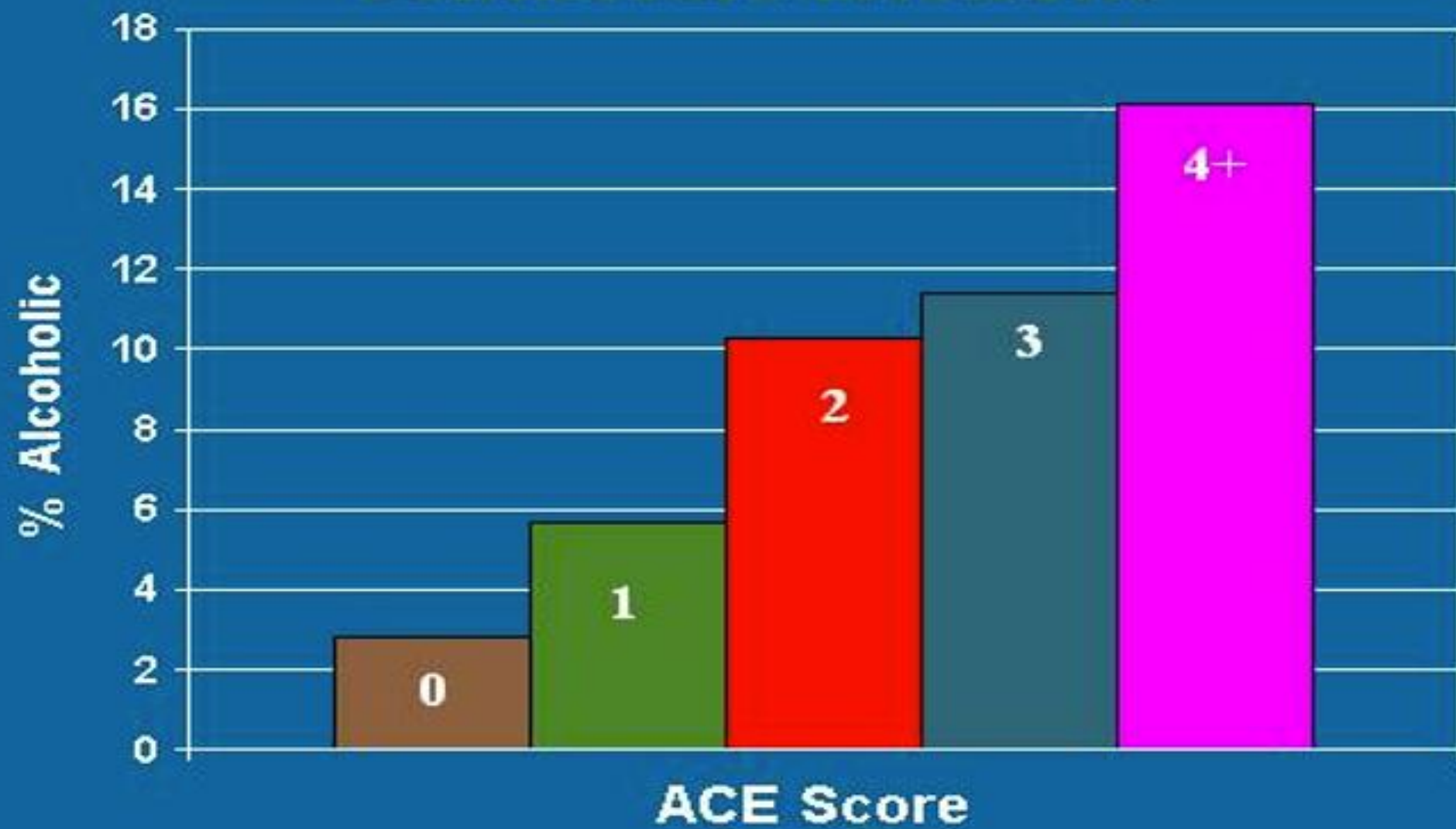
HEART DISEASE

- **1 ACE: 20% INCREASE**
- **3 ACES: 70% INCREASE**
- **6 OR MORE ACES: 330% INCREASE**

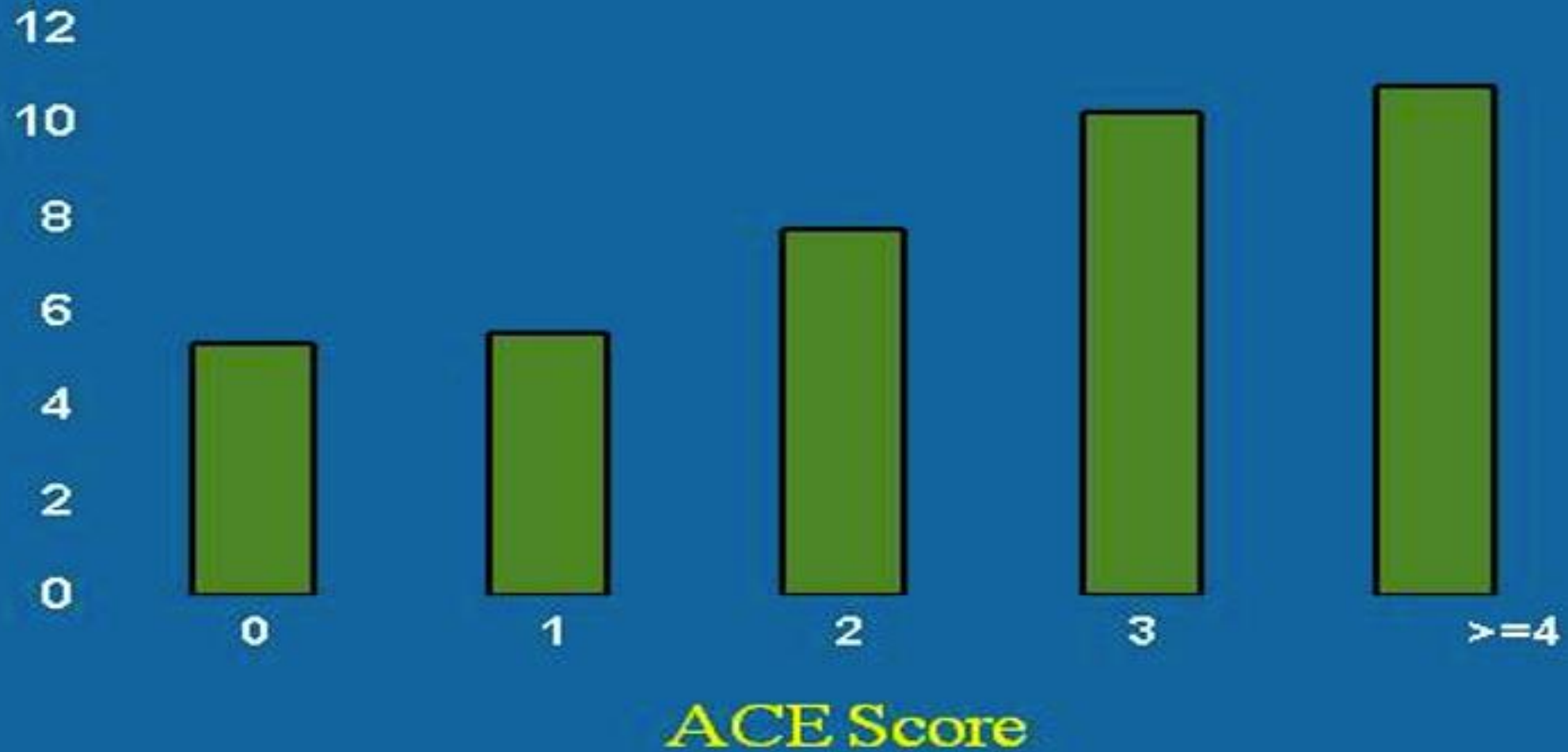
HEART DISEASE CONT.

- **10% OF INDIVIDUALS WHO DIE OF HEART DISEASE HAVE NO KNOWN MEDICAL RISK FACTORS.**
- **AN INDIVIDUAL WITH NO KNOWN MEDICAL RISK FACTORS FOR CARDIOVASCULAR DISEASE WITH AN ACE SCORE OF 6 OR MORE IS 36 TIMES AS LIKELY TO DEVELOP CORONARY ARTERY DISEASE**

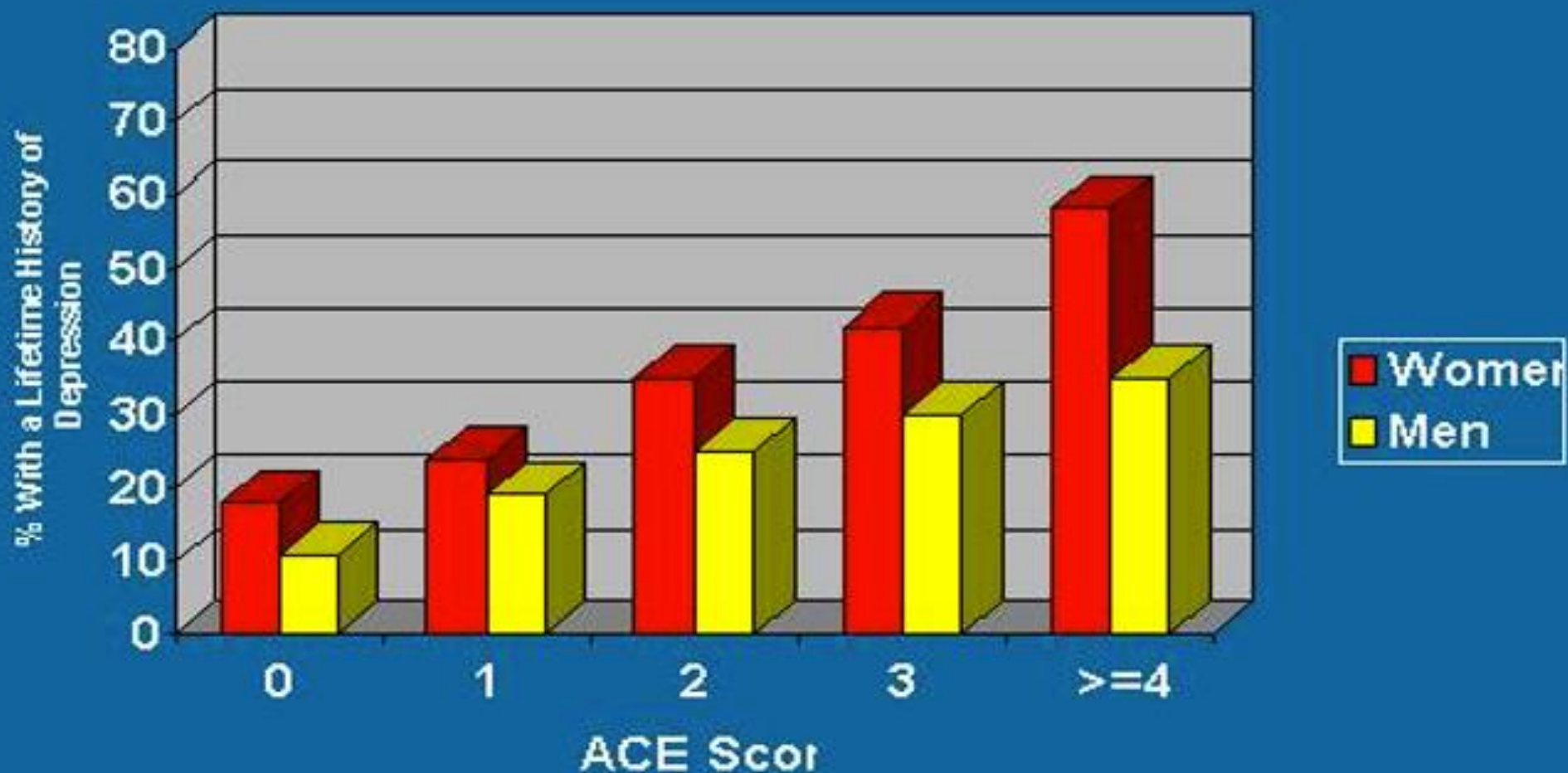
Childhood Experiences vs. Adult Alcoholism



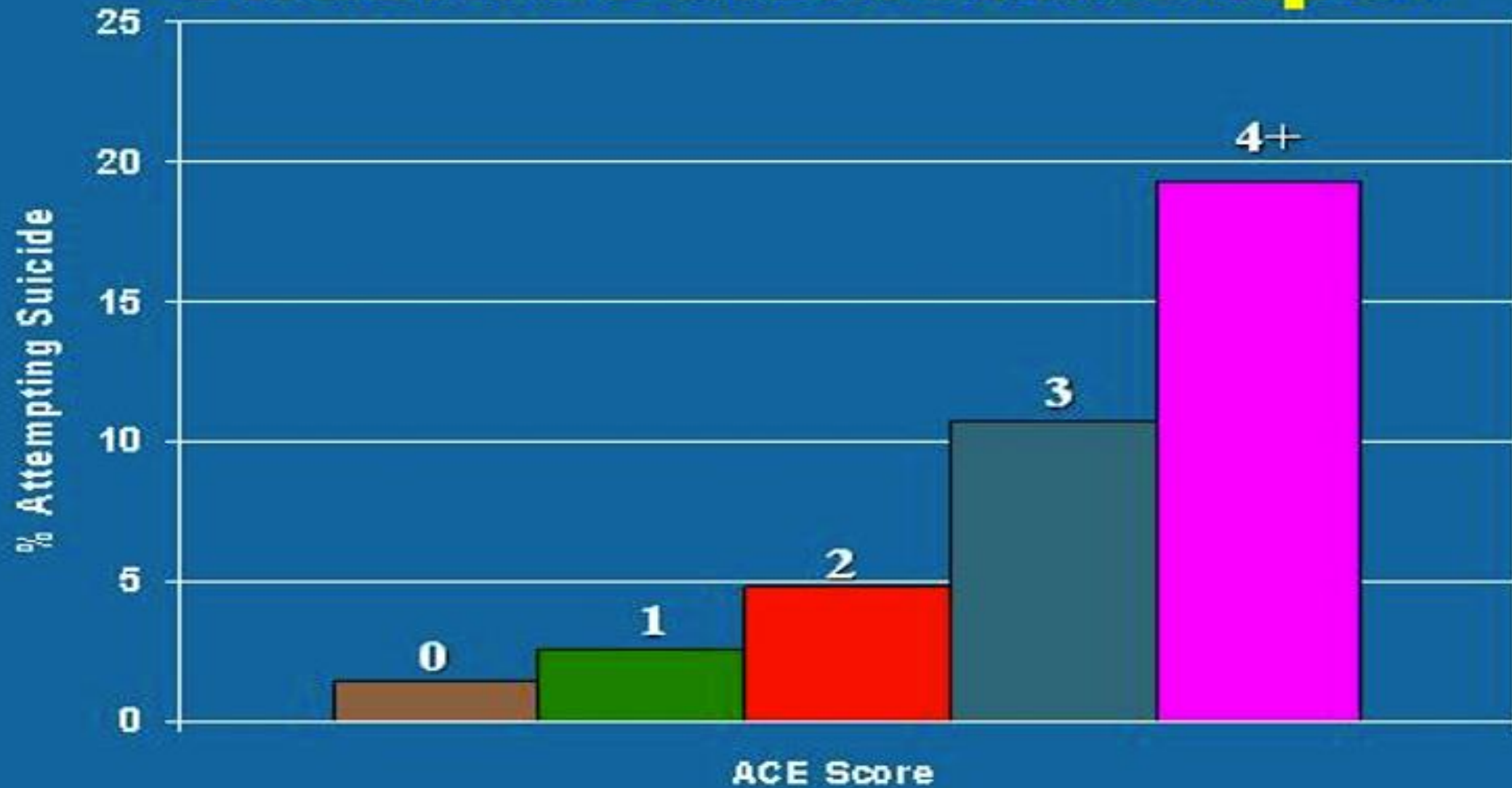
The ACE Score and the Prevalence of Liver Disease (Hepatitis/Jaundice)



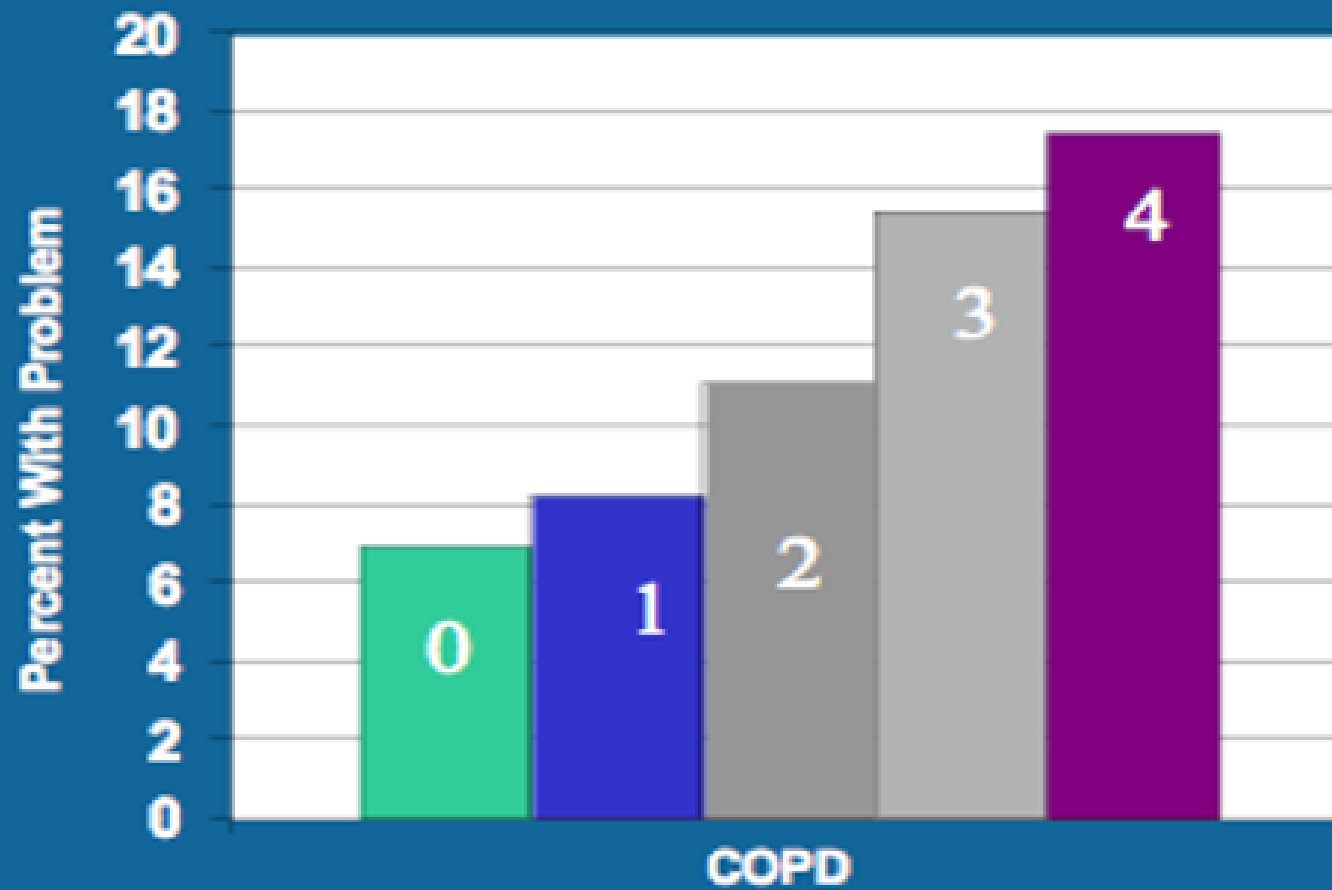
Childhood Experiences Underlie Chronic Depression



Childhood Experiences Underlie Suicide Attempts



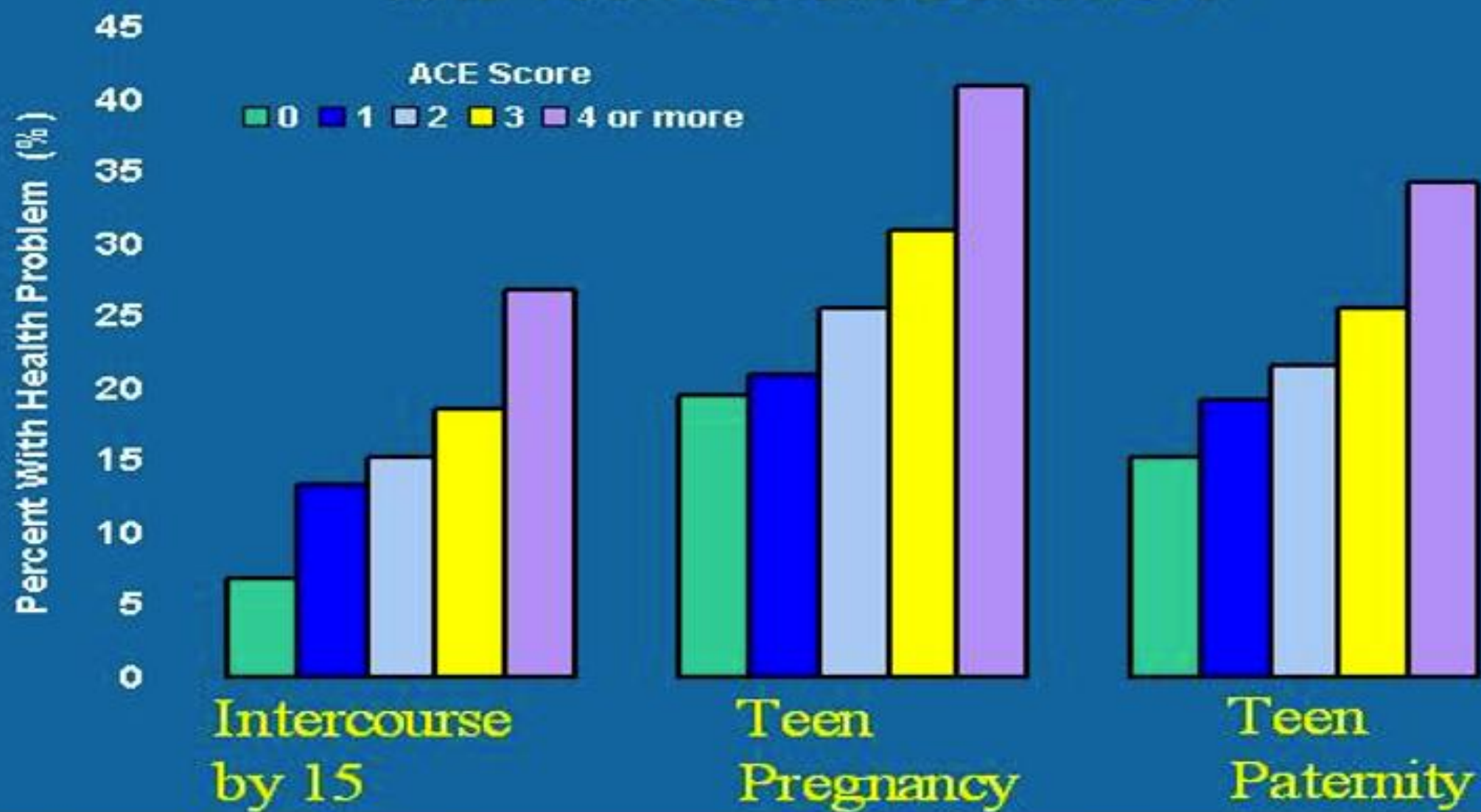
ACE Score vs. COPD



Health Condition	0 ACEs	1 ACEs	2 ACEs	3 ACEs	4+ ACEs
Arthritis	100%	130%	145%	155%	236%
Asthma	100%	115%	118%	160%	231%
Cancer	100%	112%	101%	111%	157%
COPD	100%	120%	161%	220%	399%
Diabetes	100%	128%	132%	115%	201%
Heart Attack	100%	148%	144%	287%	232%
Heart Disease	100%	123%	149%	250%	285%
Kidney Disease	100%	83%	164%	179%	263%
Stroke	100%	114%	117%	180%	281%
Vision	100%	167%	181%	199%	354%

Iowa DATA 2013

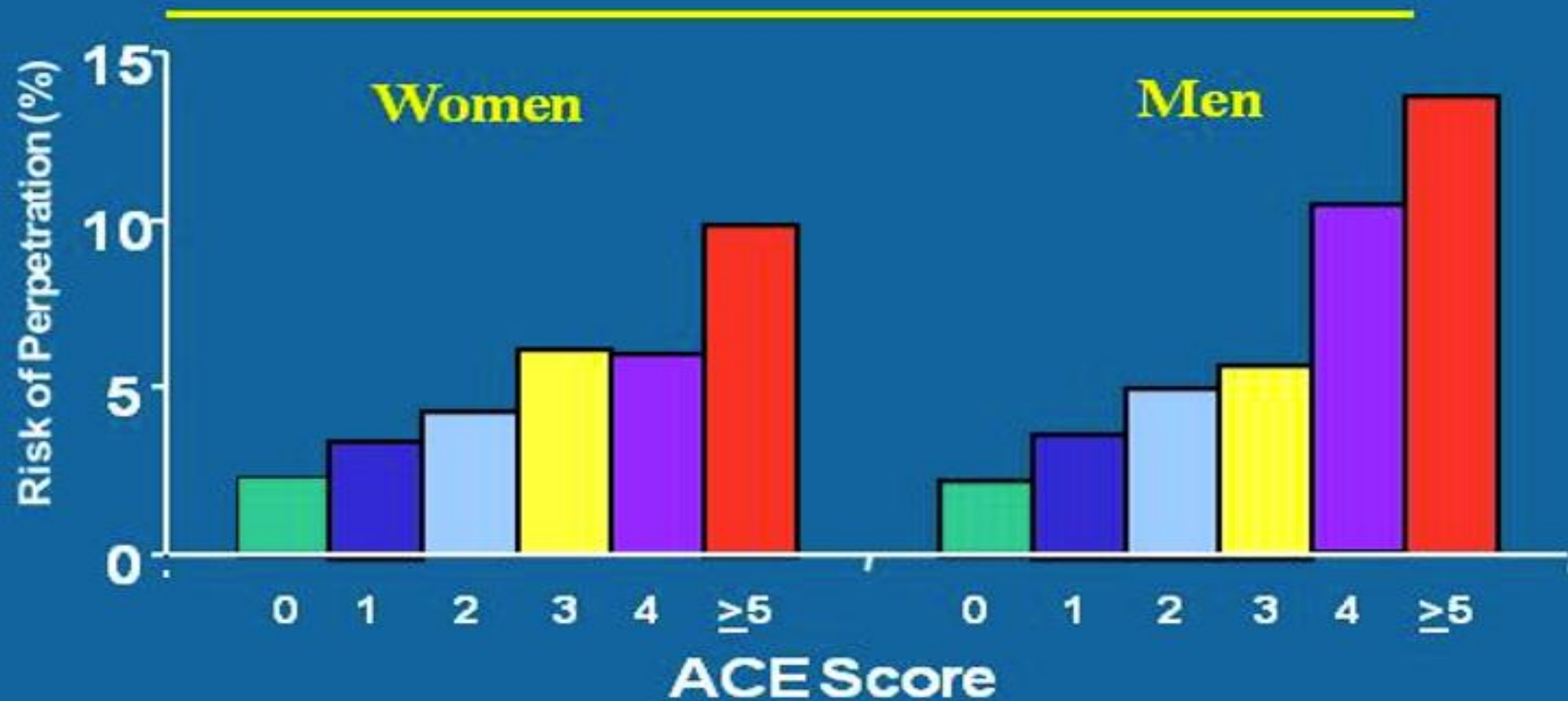
ACE Score and Teen Sexual Behaviors



Childhood Experiences Underlie Later Being Raped



ACE Score and the Risk of *Perpetrating* Domestic Violence

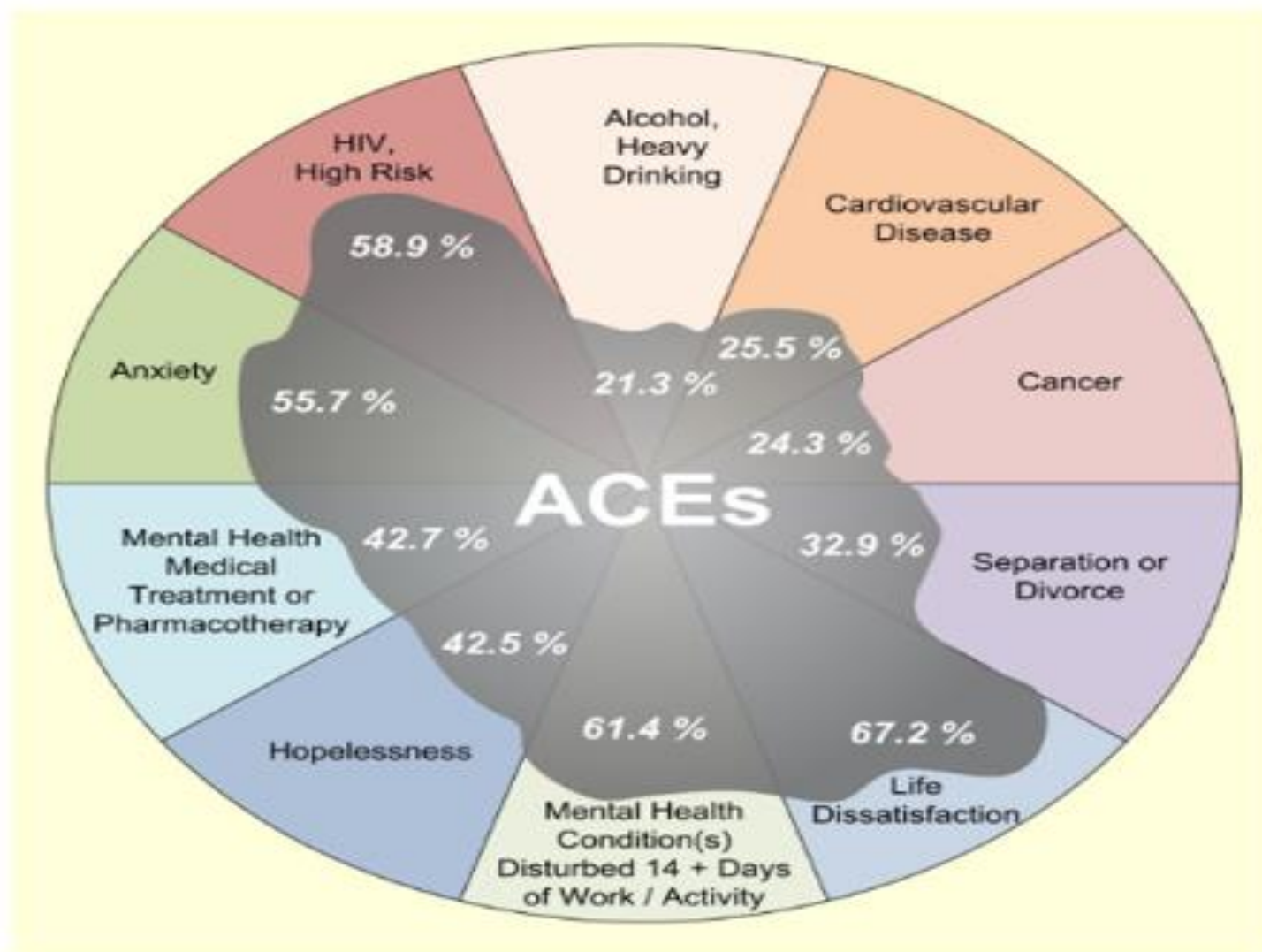


Estimates of the Population Attributable Risk* (PAR) of ACEs for Selected Outcomes in Women

<u>Mental Health:</u>	<u>PAR</u>
Current depression	54%
Depressed affect	41%
Suicide attempt	58%
<u>Drug Abuse:</u>	
Alcoholism	65%
Drug abuse	50%
IV drug abuse	78%
<u>Promiscuity</u>	48%
<u>Crime Victim:</u>	
Sexual assault	62%
Domestic violence	52%

*Based upon the prevalence of one or more ACEs (62%) and the adjusted odds ratio ≥ 1 ACE.

Population Attributable Risk of ACEs



Adapted from ACE Interface 2013

The ACE Pyramid

The ACE Pyramid represents the conceptual framework for the ACE Study. The ACE Study has uncovered how ACEs are strongly related to development of risk factors for disease, and well-being throughout the life course.



Three Levels of Stress

Positive Stress:

Brief increases in heart rate, mild elevations in stress hormone levels

Tolerable Stress:

Serious, temporary stress responses buffered by supportive relationships

Toxic Stress:

Prolonged activation of stress response systems in the absence of protective relationships

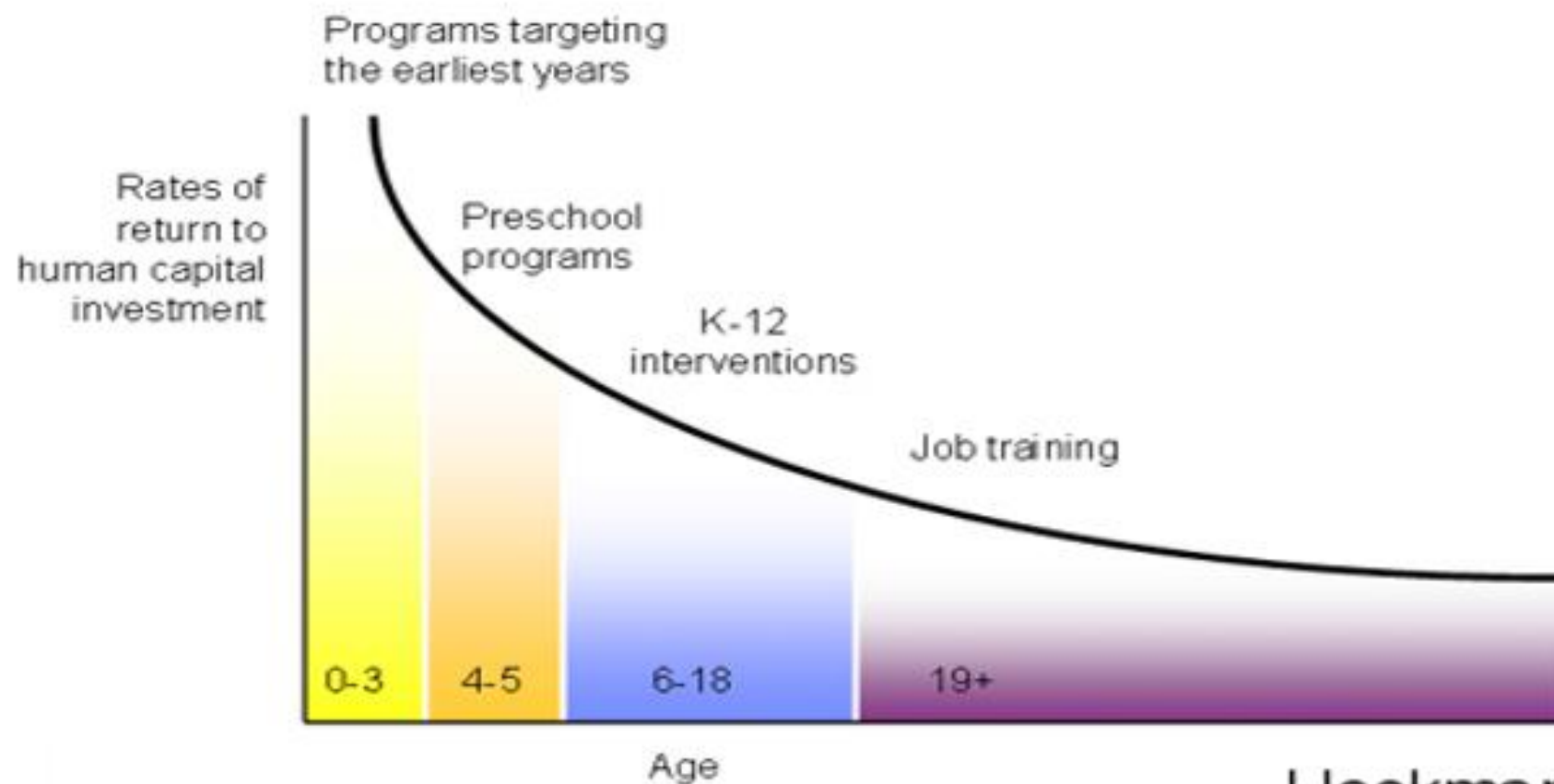
Resilience



Life isn't about
waiting for
the storm
to pass...

It's about
learning to
dance in
the rain

Preventive Intervention is More Efficient and Produces Higher Returns than Later Remediation



Heckman, J. (2007)

A Public Health Framework For Change

Treatment



*All must consider
Intergenerational transmission*

PREVENTION, PRIMARY AND SECONDARY

- **PROPOSAL:**
- **UNIVERSAL NURSE HOME VISITING AFTER DELIVERING**
- **PARENT EDUCATION CLASSES IN THE OBSTETRIC OFFICES**
- **STATEWIDE TRAUMA COORDINATOR**
- **TRAUMA TASK FORCE**
- **TRAUMA INFORMED SCHOOLS**
- **TRAUMA INFORMED PRE-SCHOOL TEACHERS**
- **FAMILY SERVICES FOR FAMILIES WITH INCARCERATED FAMILY MEMBER**
- **UNIVERSAL SCREENING IN PRIMARY CARE OFFICES**