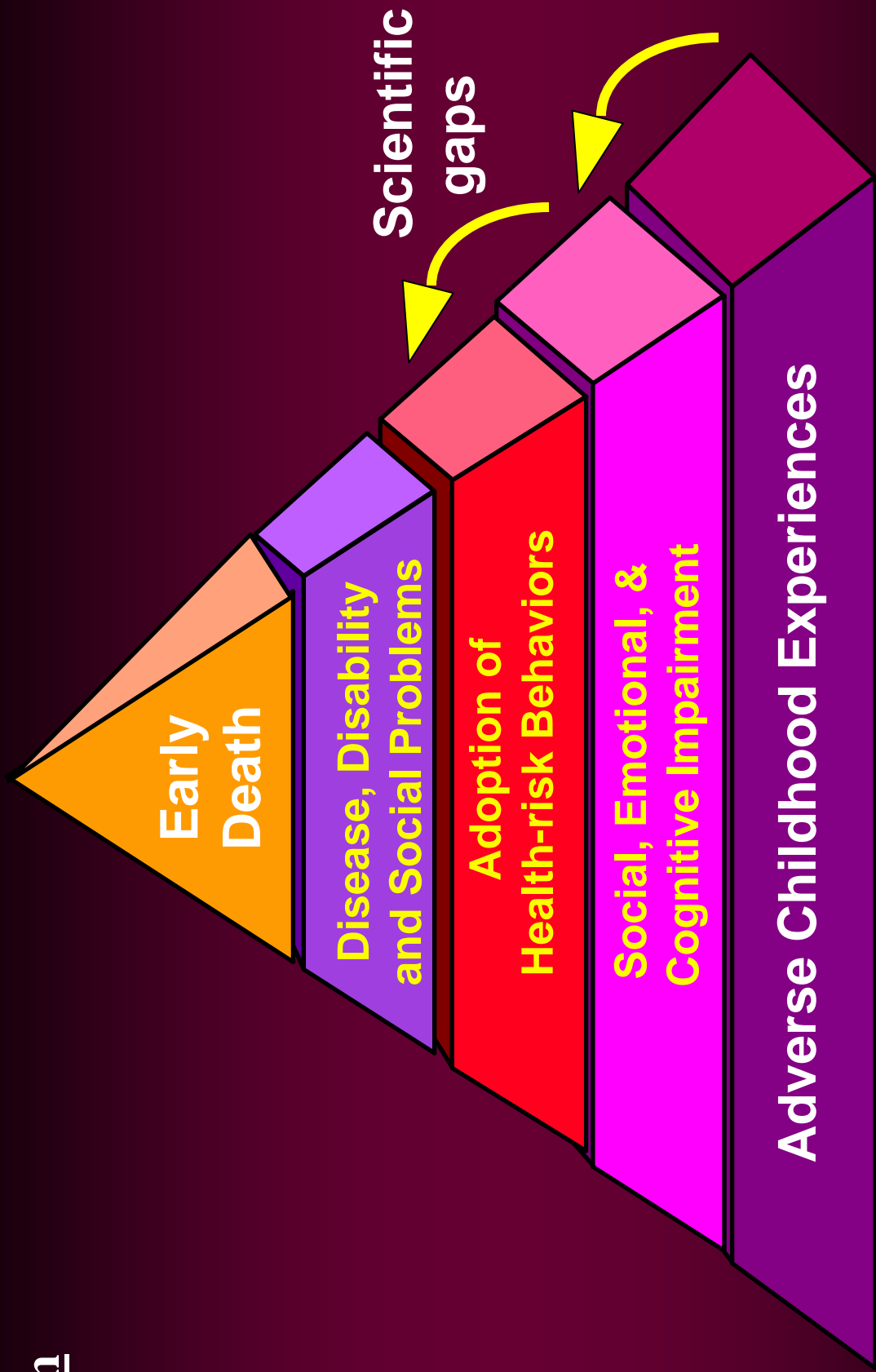


# Overview of the Adverse Childhood Experiences (ACE) Study

Robert F. Anda, MD, MS  
Co-Principal Investigator

[www.acestudy.org](http://www.acestudy.org)

Death



Conception

## The Adverse Childhood Experiences (ACE) Study

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

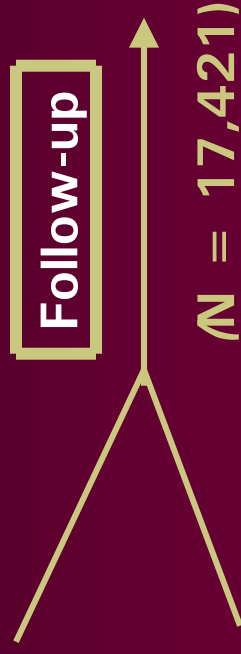
## What do we mean by Adverse Childhood Experiences?

- childhood abuse and neglect
- growing up with domestic violence, substance abuse or mental illness in the home, parental discord, crime

# ACE Study Design

Survey Wave I  
(N = 9,508)

Index



Survey Wave II  
(N = 8,667)

Utilization

*All medical evaluations  
abstracted from both waves*

Mortality  
National Death

Morbidity  
Hospital Discharge  
Outpatient Visits

Emergency room  
visits  
Pharmacy

# 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:

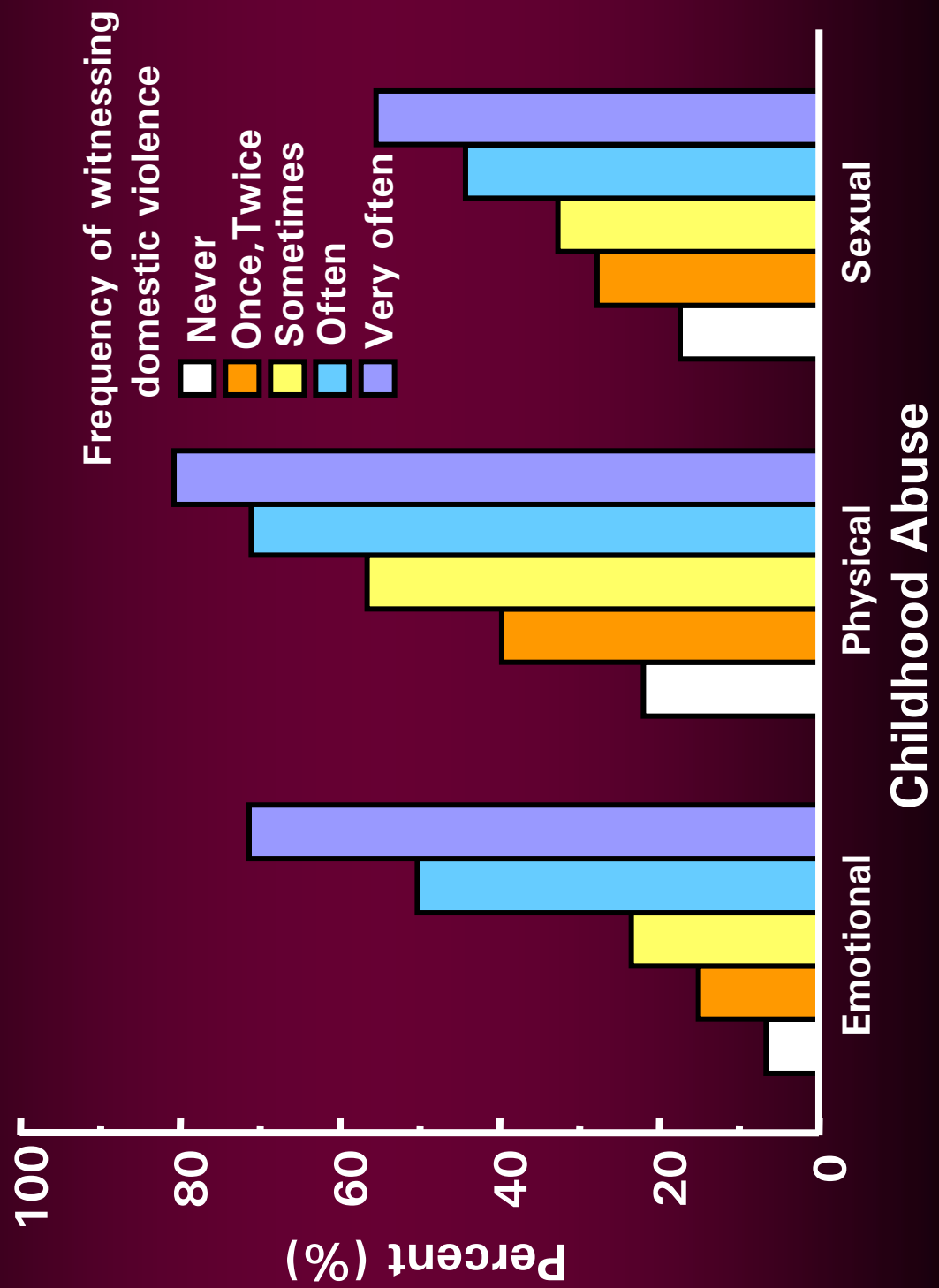
Emotional	15%
Physical	10%

**Adverse Childhood Experiences Rarely  
Occur in Isolation...**

**They come in **groups**.**

**Domestic Violence  
and the Risk of Other ACEs...**

# Prevalence of Childhood Abuse by Frequency of Witnessing Domestic Violence





## ACEs tend to come in groups...

---

### Additional ACEs (%)

1	2	3	4	≥5
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*If you had:*

A battered mother	95	82	64	48	52
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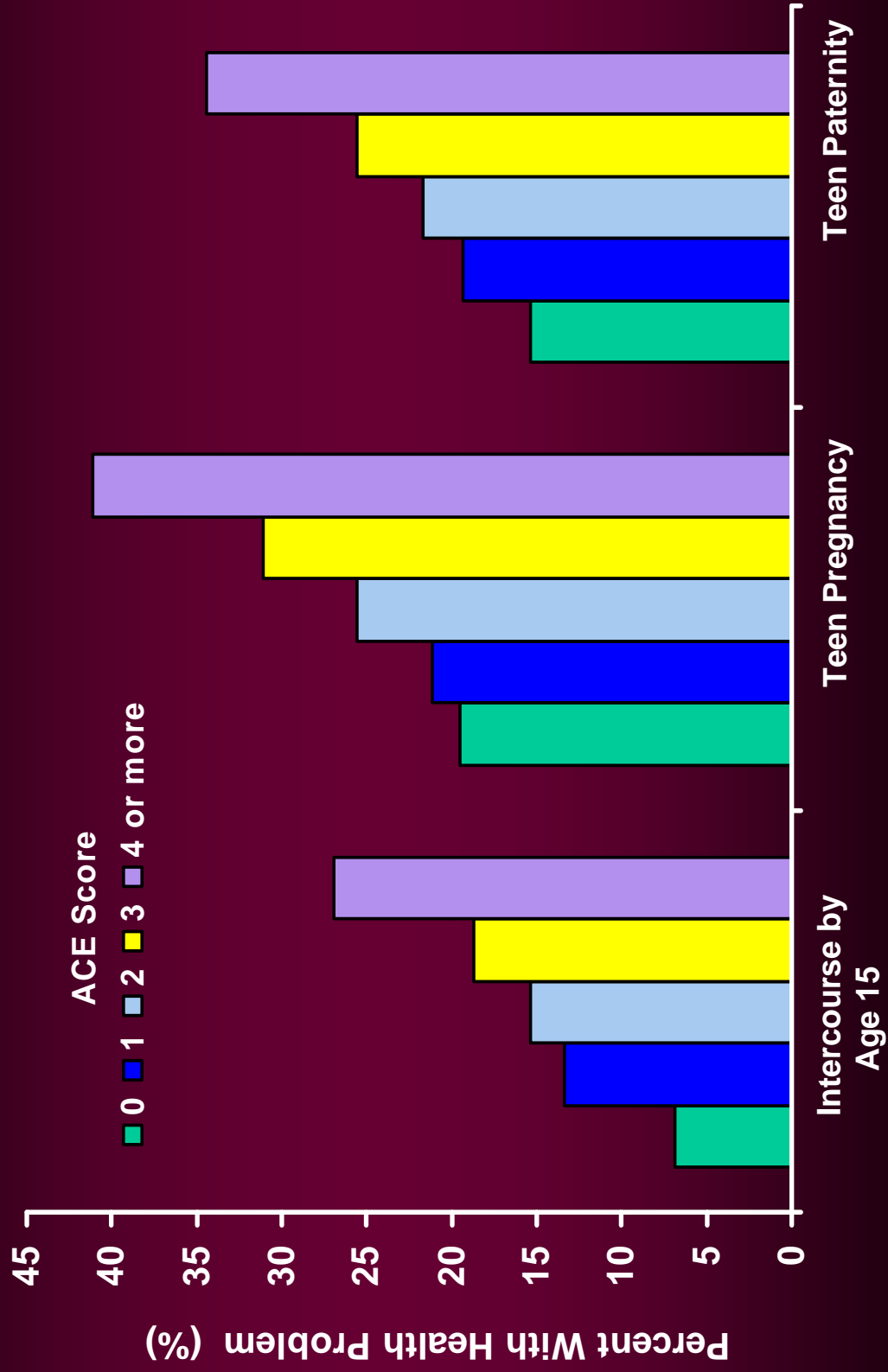
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# Adverse Childhood Experiences Score Complex Trauma--Trauma “Dose”

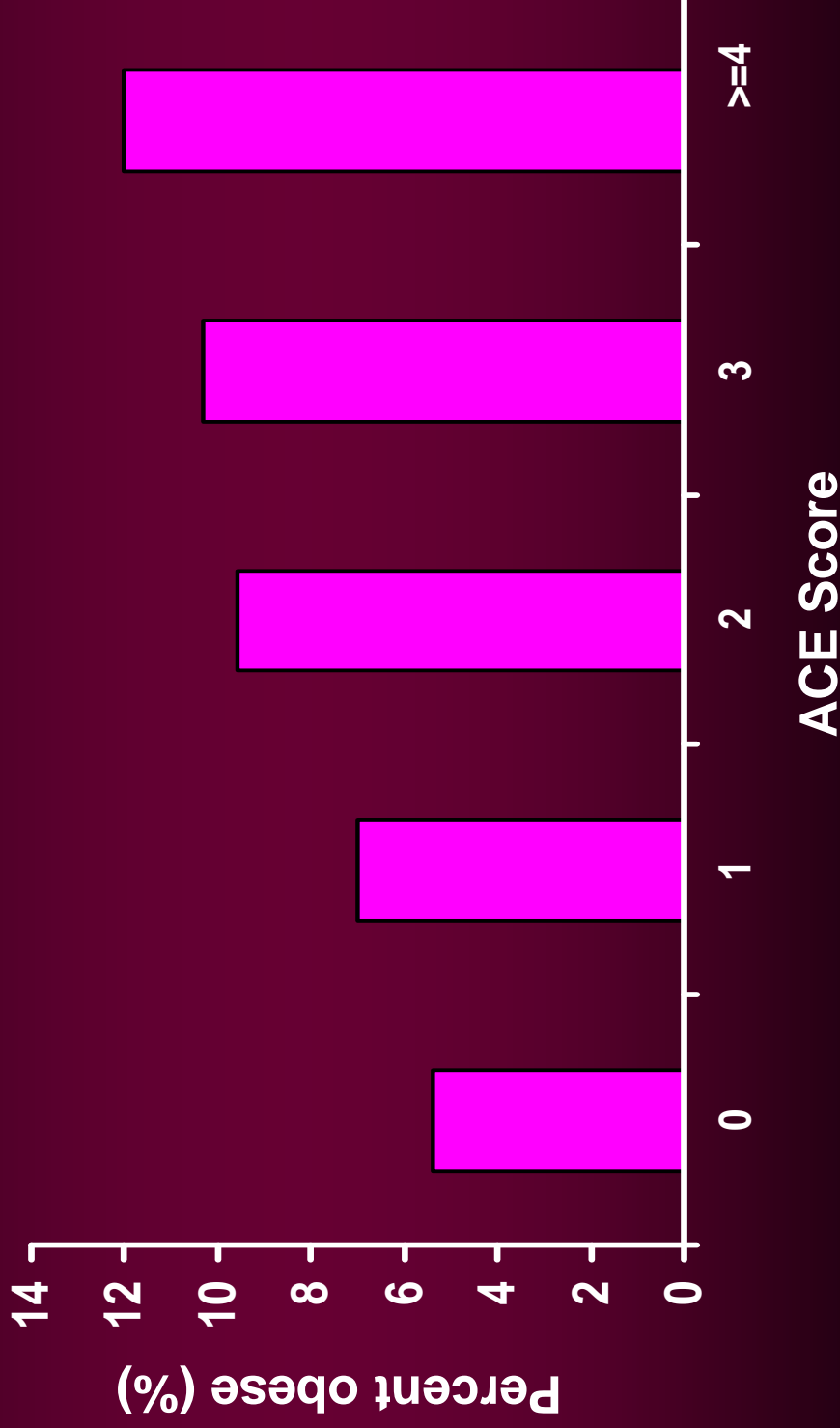
Number of individual types of adverse  
childhood experiences were summed...

<u>ACE score</u>	<u>Prevalence</u>
0	33%
1	26%
2	16%
3	10%
4 or more	16%

# ACE Score and Teen Sexual Behaviors

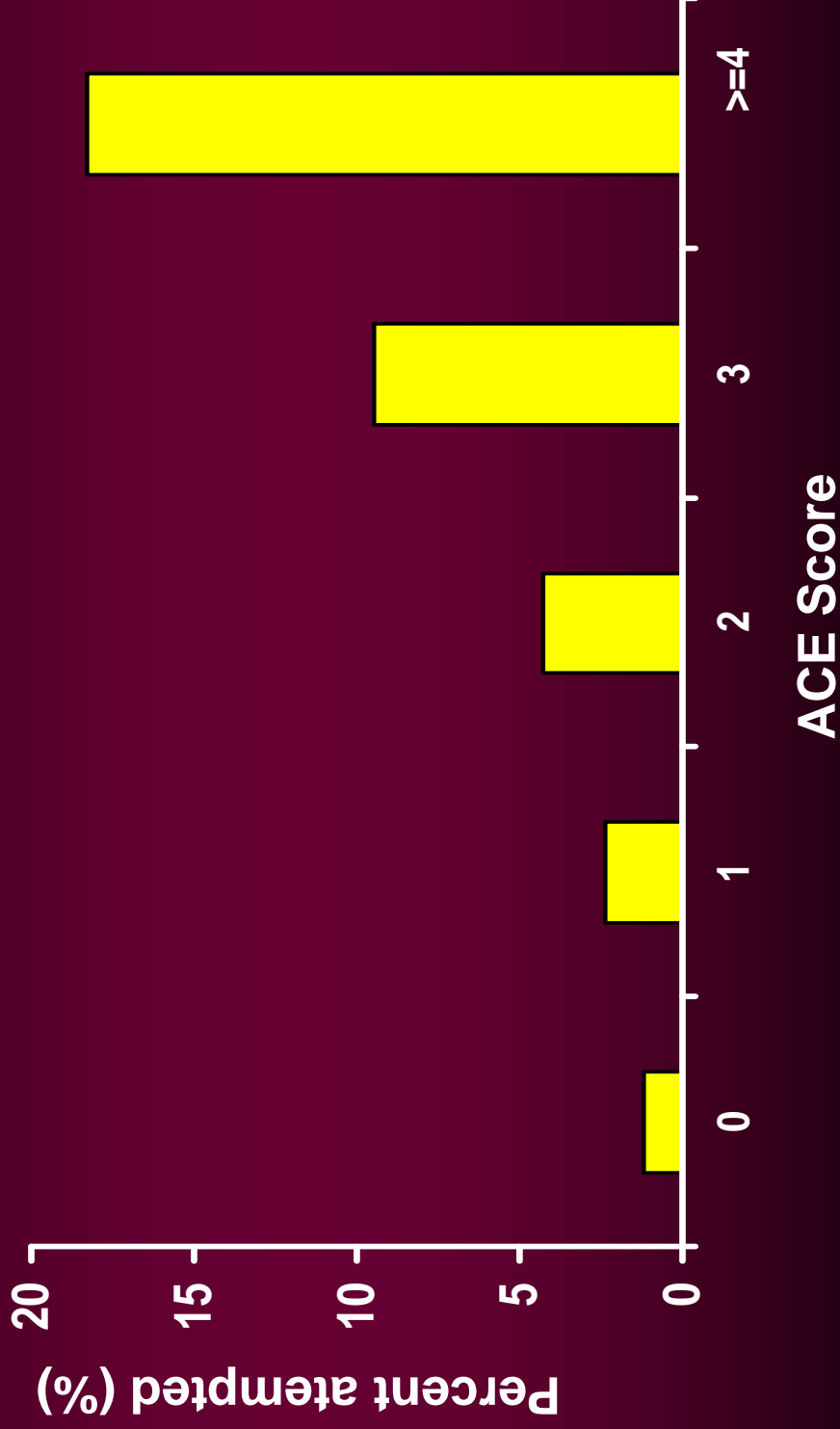


# The ACE Score and the Prevalence of Severe Obesity (BMI $\geq$ 35)

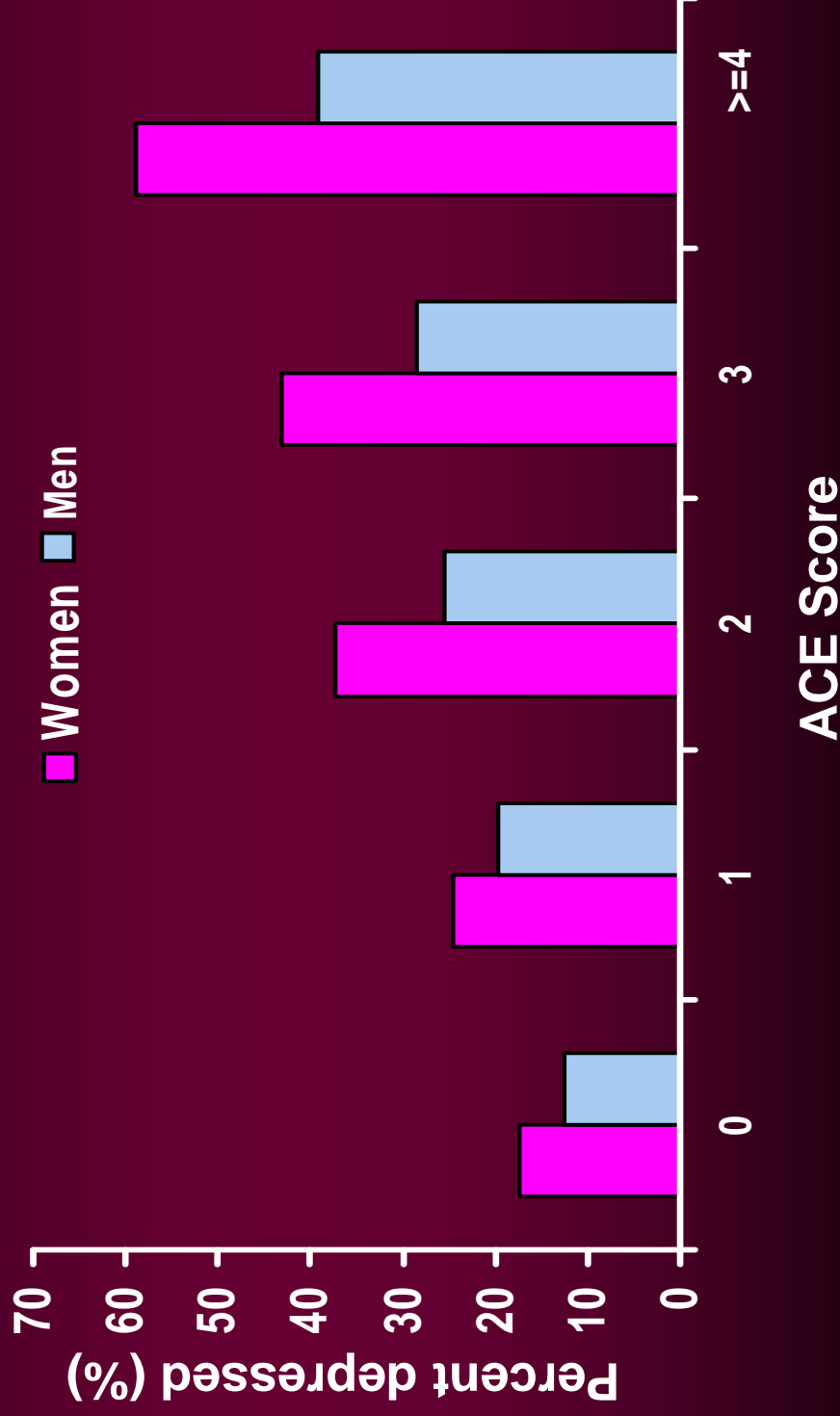


# ACEs and Mental Health...

# The ACE Score and the Prevalence of Attempted Suicide



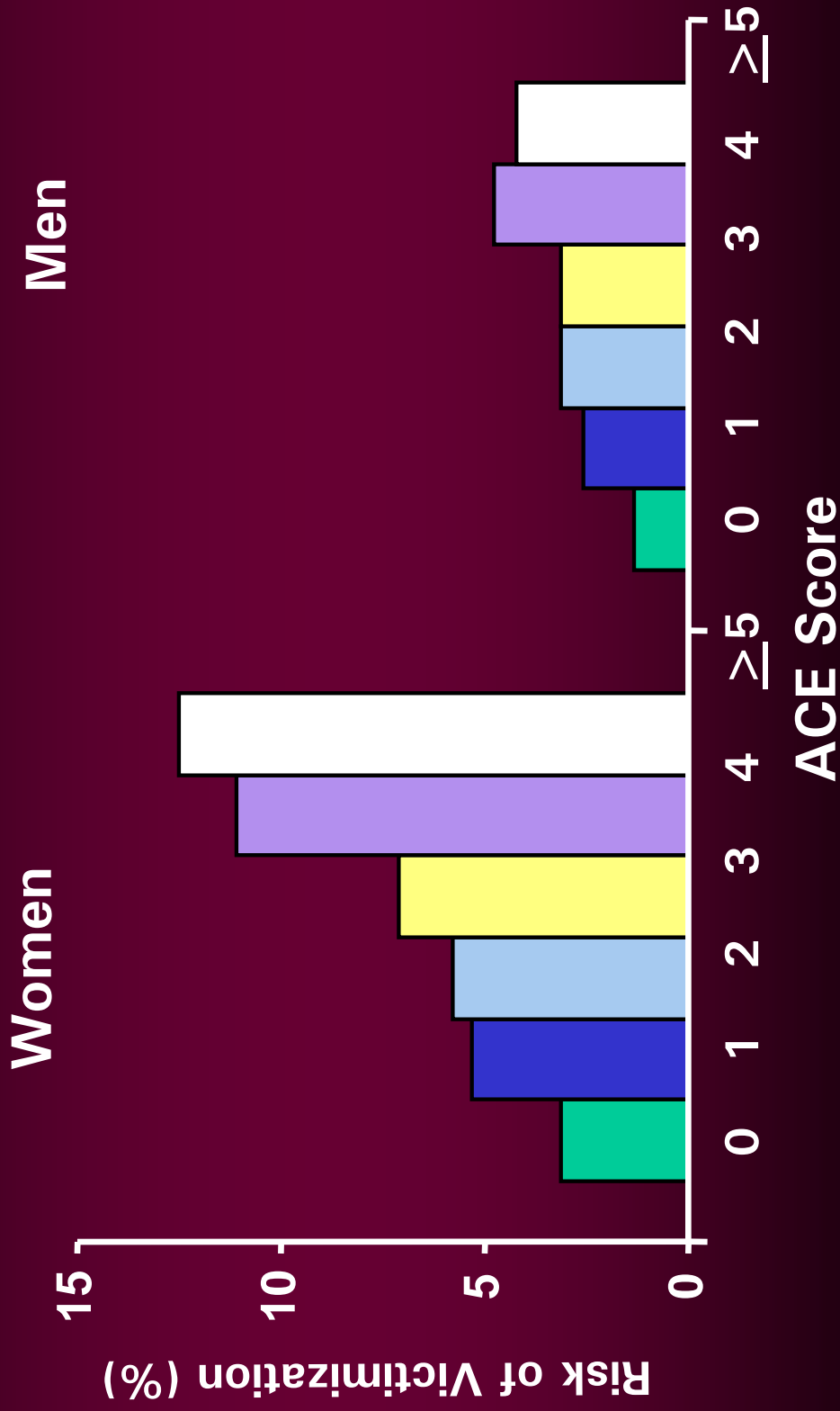
# The ACE Score and a Lifetime History of Depression



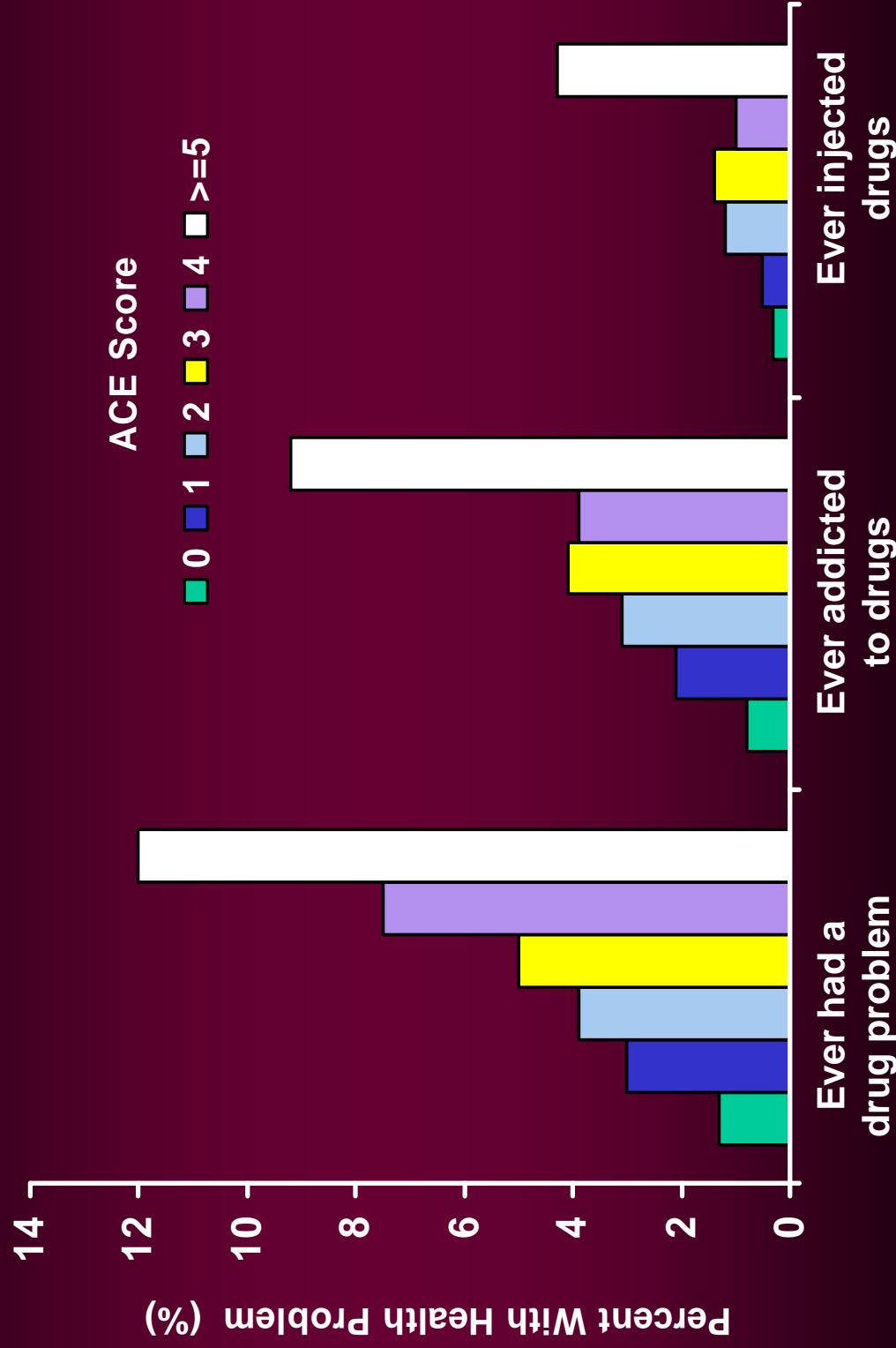
# **ACEs and Violent Victimization as an Adult...**



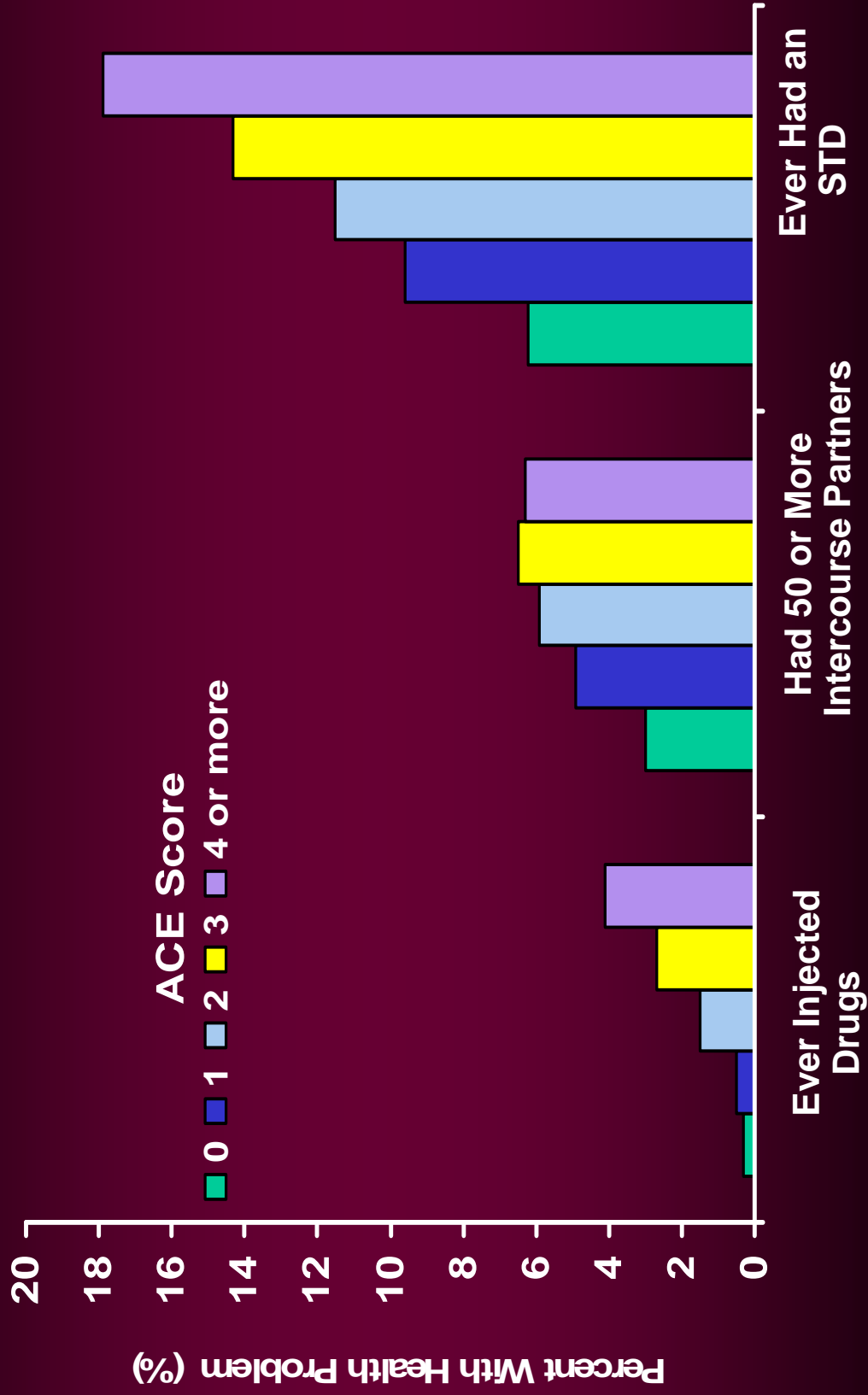
# ACE Score and the Risk of Being a Victim of Domestic Violence



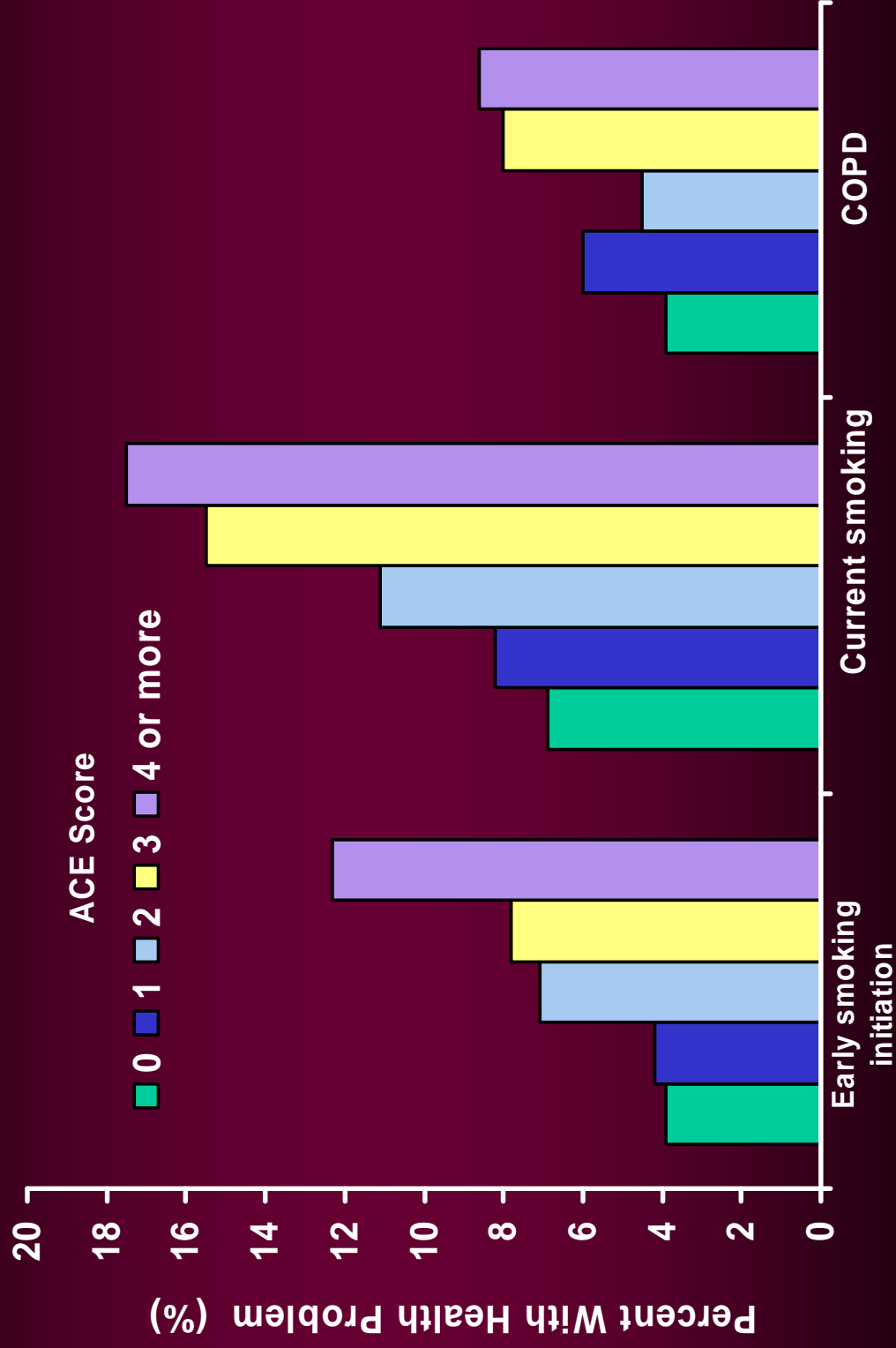
# ACE Score and Drug Abuse



# ACE Score and HIV Risks



# ACEs, Smoking, and Lung Disease



# The ACE Score and the Prevalence Ischemic Heart Disease



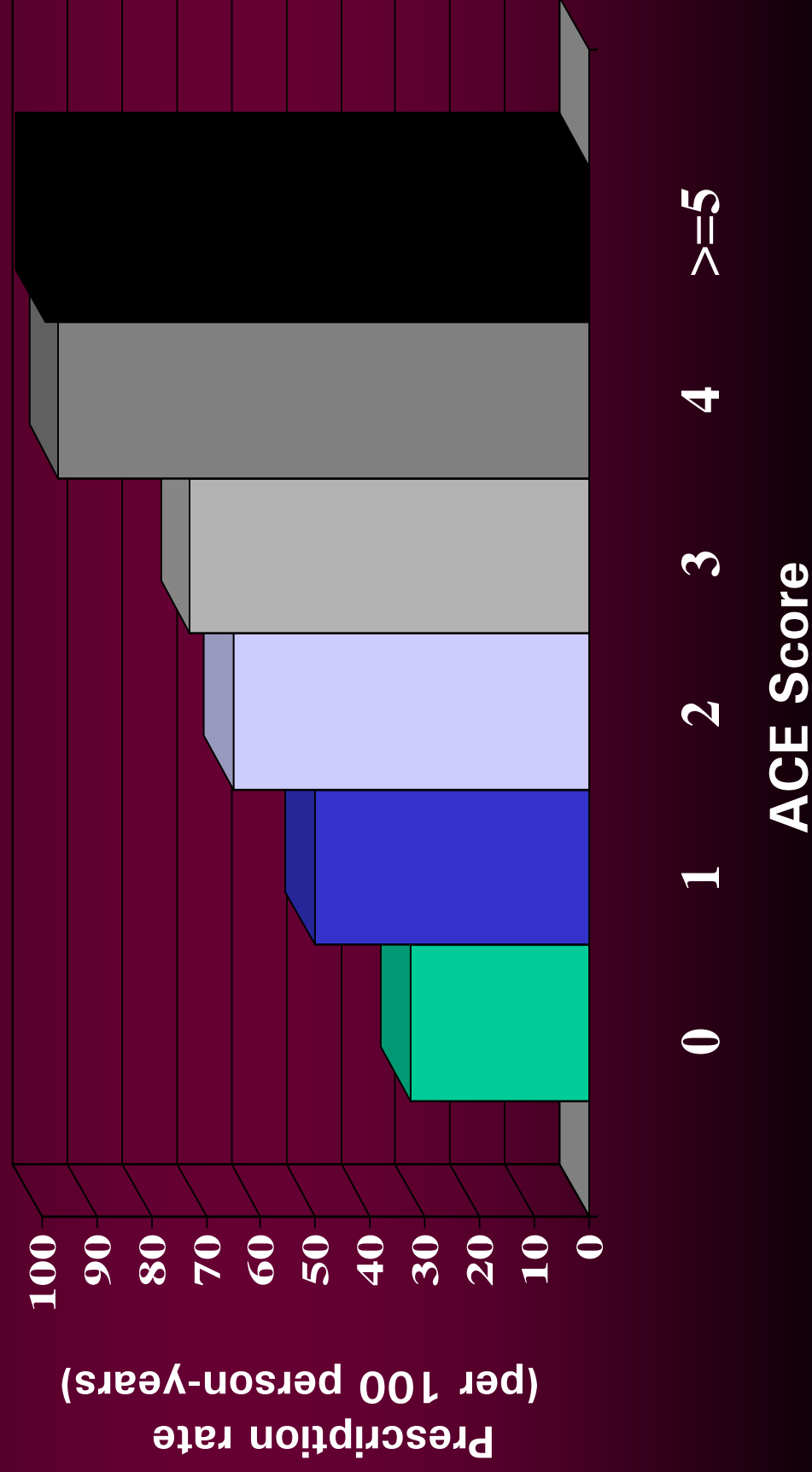
**One Perspective on the Direct Health  
Care Costs of ACEs:**

**The Burden of Prescription Drug Use**

## **Prescription Drugs in the United States (2003)**

- nearly \$180 billion spent**
- 11% of total national health expenditures**
- more than four times the amount spent in 1990**

# ACE Score and Rates of Antidepressant Prescriptions





# ACE Score and Rates of Prescribed Antidepressant Medications by Age, 1997-2004



# **Adverse Childhood Experiences as a Clinical and Public Health Issue**

## **ACEs:**

- are endemic
- highly interrelated
- have a cumulative stressor effect
- effects are biologically plausible

# **Adverse Childhood Experiences As a National Health Issue**

**ACEs have a strong influence on:**

- adolescent health**
- reproductive health**
  - smoking**
  - alcohol abuse**
  - illicit drug abuse**
  - sexual behavior**
  - mental health**
- risk of revictimization**
- stability of relationships, homelessness**
- performance in the workforce**

## **Adverse Childhood Experiences As a National Health Issue**

### **ACEs increase the risk of:**

- Heart disease**
- Chronic Lung disease**
- Liver disease**
- Suicide**
- Injuries**
- HIV and STDs**
- and other risks for the leading causes of death**

# The Adverse Childhood Experiences (ACE) Study

## Summary of Findings:

- Adverse Childhood Experiences (ACEs) are very common
- ACEs are strong predictors of health risks and disease from adolescence to adulthood
- This combination of findings makes ACEs one of the leading, if not the leading determinant of the health and social well-being of our nation

# Bridging The Chasm

Breakthroughs  
in molecular genetics  
and biology:

Mental illness  
Substance abuse  
Violence

Improved recognition  
and treatment of:

Mental illness  
Substance abuse  
Domestic violence  
Child abuse

Child  
health  
as it  
stands  
today

Mass education  
about child  
development &  
parenting:

Media  
Schools

Documenting the  
societal burden of  
child health as it  
stands today

New directions  
in prevention and  
treatment

Child  
health  
as it  
could  
be

# Bridging The Chasm



**Child  
health  
as it  
stands  
today**

Involving those who don't yet realize that they are working on issues that represent the "downstream" wreckage of child abuse and neglect--and other adverse childhood experiences--in the effort to bridge the chasm.

Routine screening for trauma is needed

**Child  
health  
as it  
could  
be**