



# ACEs

## Adverse Childhood Experiences

### Consequences, Costs & Creating Change

**Professor Mark A. Bellis**

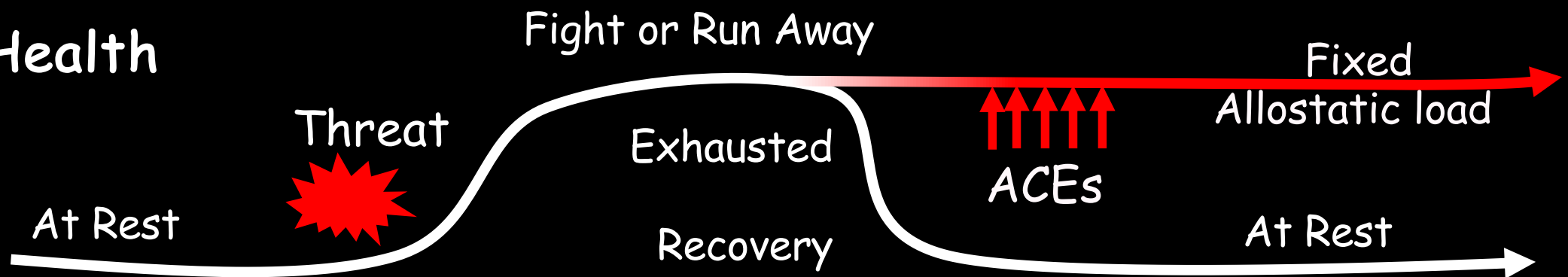
Professor of Public Health & Behavioural Sciences, Director of Research and Innovation  
Faculty of Health, Innovation, Technology and Science, Liverpool John Moores University  
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# Early Life Experience and The Brain

## Childhood

- First 2 years - baby's brain grows from 25% to 80% of adult size
- Critical restructuring continues through childhood for *empathy, trust, community*

## Health

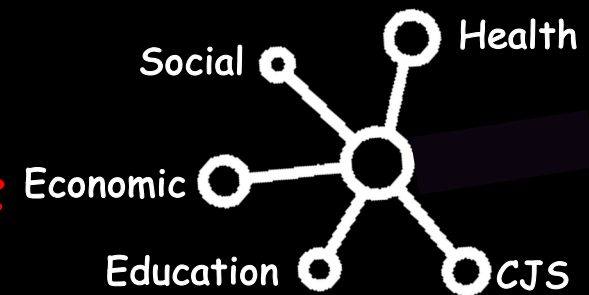


## Chronic Stress from ACEs

- Violence - over-develop 'life-preserving' brain

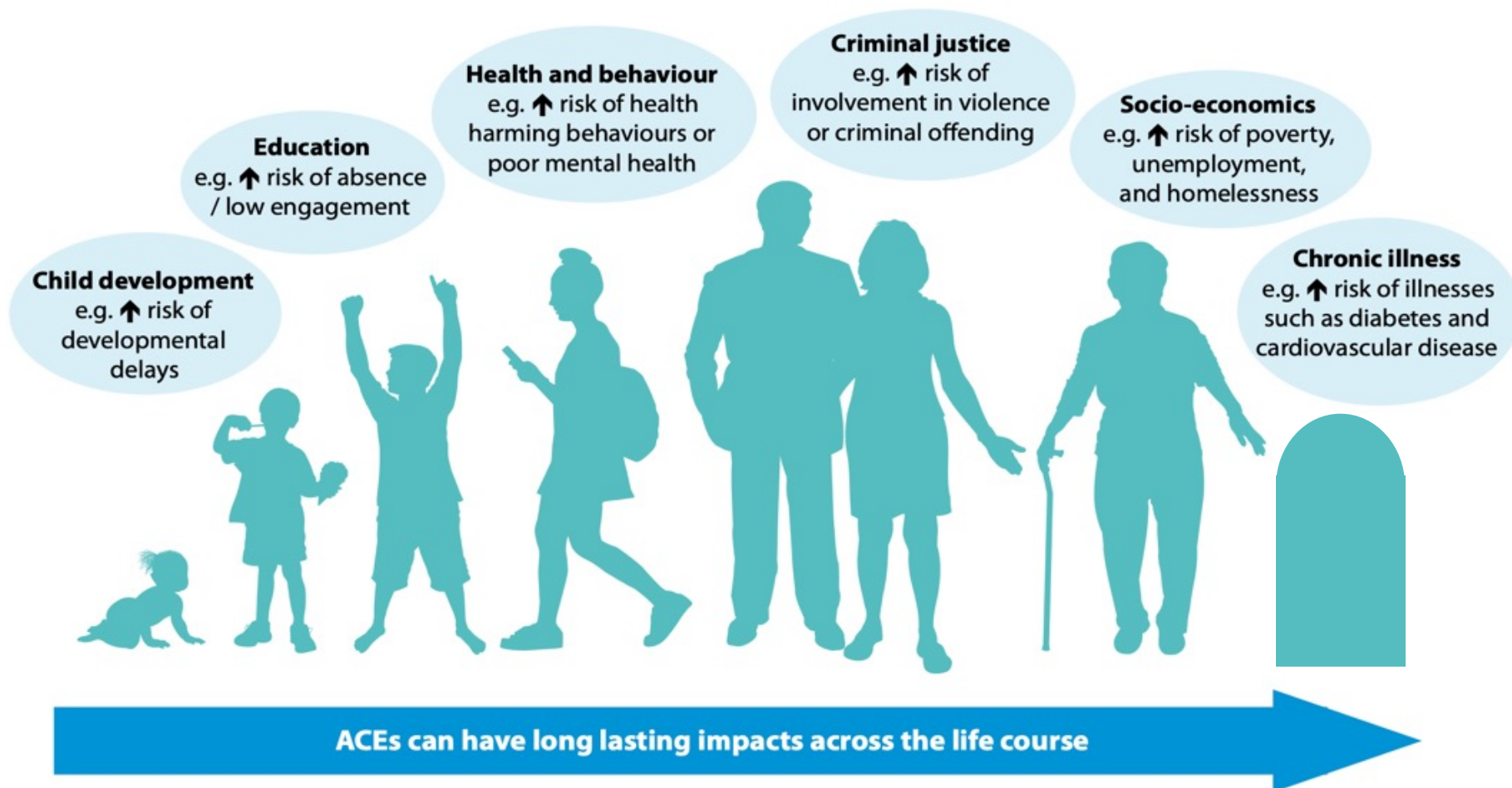
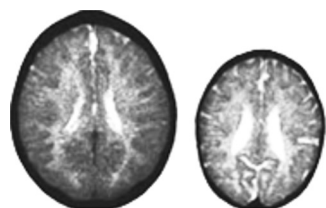
**NEUTRAL CUES LOOK THREATENING**

- School - anxious, disengaged, poor learner



*Tau et al, 2010; Mercy, Butchart, Bellis et al, 2014*

# The impacts of ACEs across the life course



Impact of ACES are not deterministic, altered by other children and adult experiences

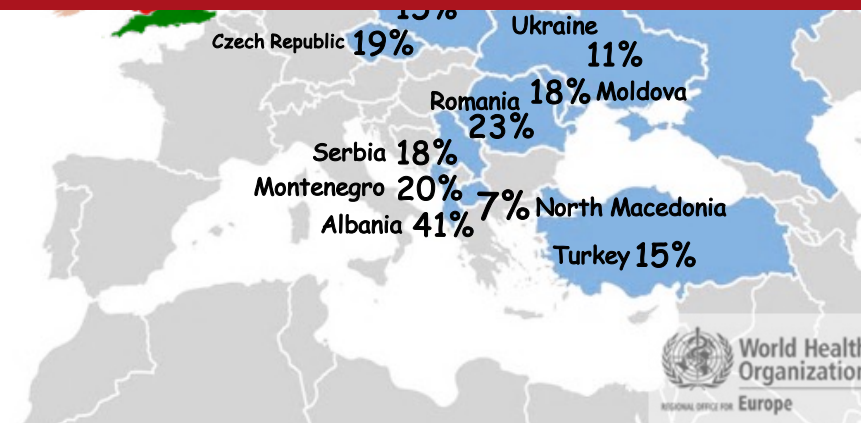
# How many people have suffered ACEs? - General Population Surveys

ACEs measured	Euro	England	Wales	Ire
Physical abuse	18%	15%	16%	27%
Sexual abuse	6%	6%	7%	16%
Emotional abuse	10%	18%	17%	36%
Substance use	16%	24%	25%	28%

Physical abuse  
**18%**  
average

**Eastern Europe** 49% suffered at least one ACE, 6% 4+ ACEs  
**England** 48% suffered at least one ACE, 9% 4+ ACEs  
**Wales** 50% suffered at least one ACE, 14% 4+ ACEs

Mental illness	11%	12%	18%	23%
Alcohol problem	16%	10%	13%	25%
Drug user	3%	4%	6%	
Incarcerated	5%	4%	4%	7%

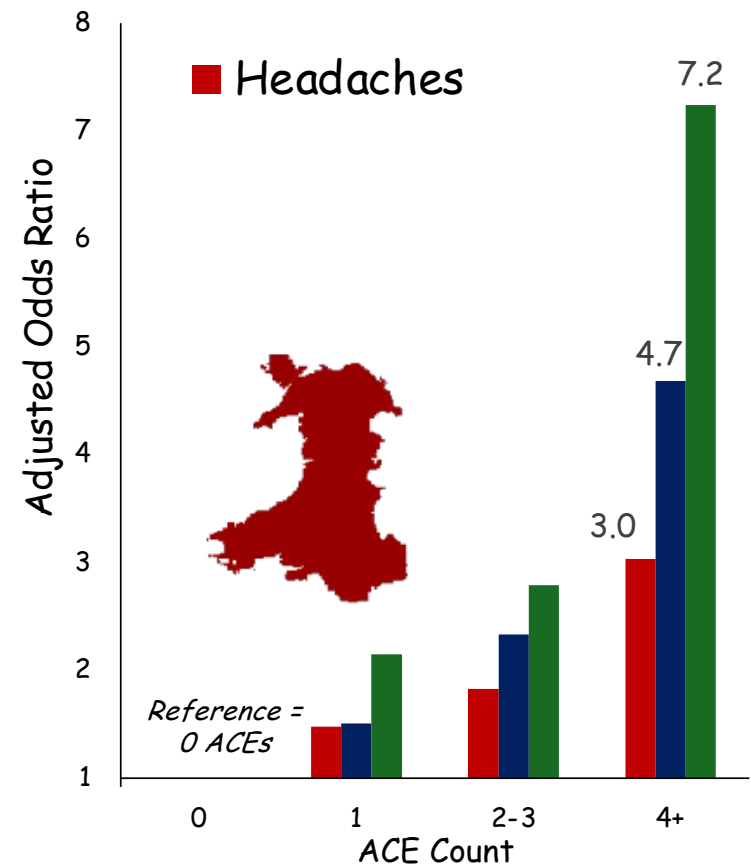




# Child health and ACEs

(Age under 18 years)

- Somatic complaints
  - Include - Headaches, Digestive problems, Skin disorders
- Actual Cause
  - Stress /emotional factors



*Egger et al 1999, Flaherty et al, 2013, Bellis et al, BMC Public Health, 2018 n=2452*

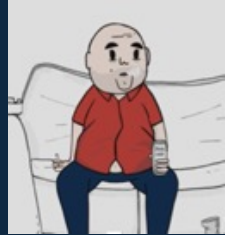
## National Study of ACEs (18-69 years)

Compared with people with no ACEs, those with 4+ ACEs were:



- 4 times more likely to be a high-risk drinker
- 6 times more likely to smoke tobacco or E-cigs
- 11 times more likely to have smoked cannabis
- 16 times more likely to have used crack cocaine or heroin
- 20 times more likely to have been incarcerated in their life

INDEPENDENT OF POVERTY



# Prevalence of low mental well-being in adults by the number of ACEs suffered in childhood

Low mental well-being in adults and ACEs suffered in Childhood

ACEs 0

19%

ACEs 4+

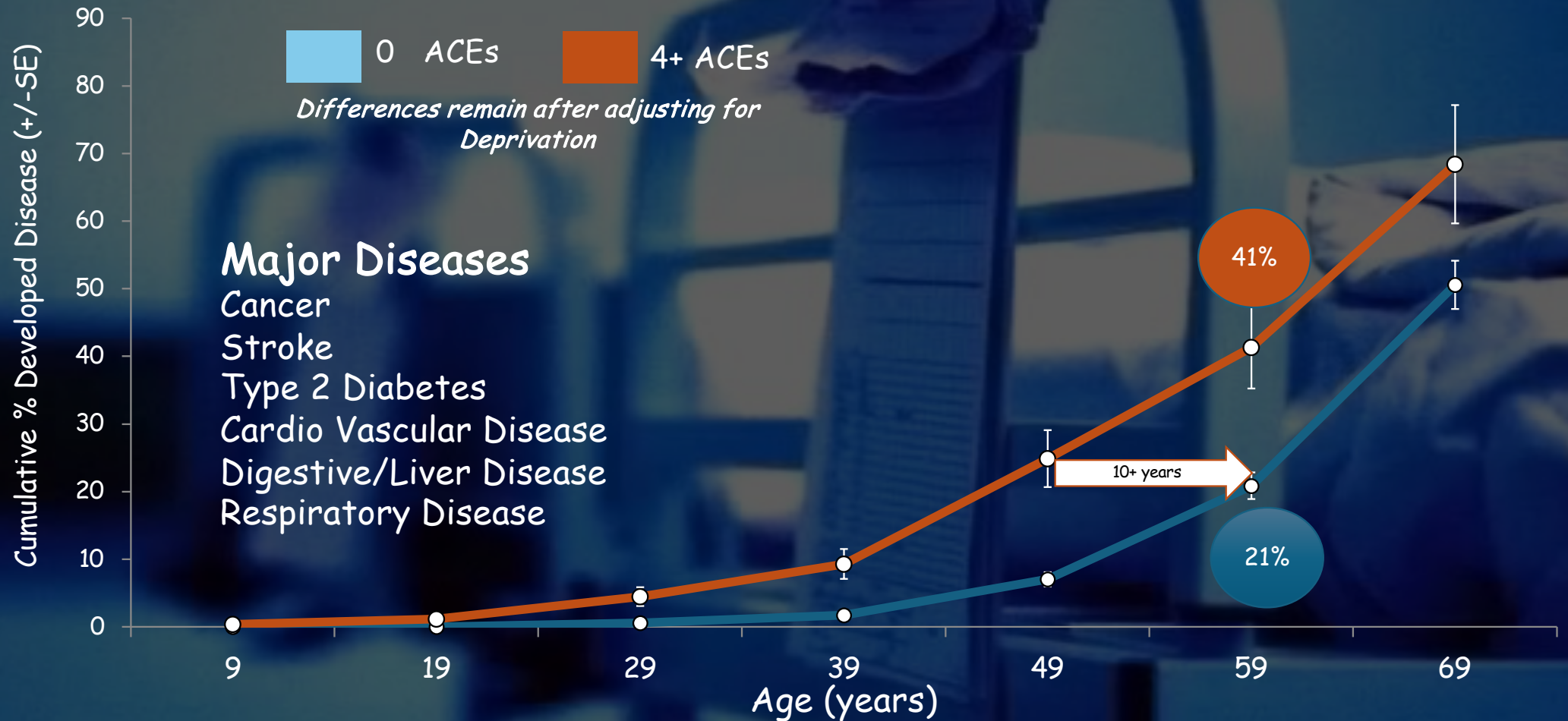
41%

Over the past two weeks, compared to people with no ACEs, those with 4+ ACEs were also:

- 3 times more likely to have never or rarely felt relaxed
- 3 times more likely to have never or rarely felt close to other people
- 4 times more likely to have never or rarely been thinking clearly
- 5 times more likely to have never or rarely to have dealt with problems well
- 5 times more likely to have never or rarely been able to make up their own mind about things
- 6 times more likely to have never or rarely felt optimistic about the future
- 6 times more likely to have never or rarely felt useful

# Wales: Length of Healthy Life

Individuals Diagnosed with a Major Disease by Age (%)

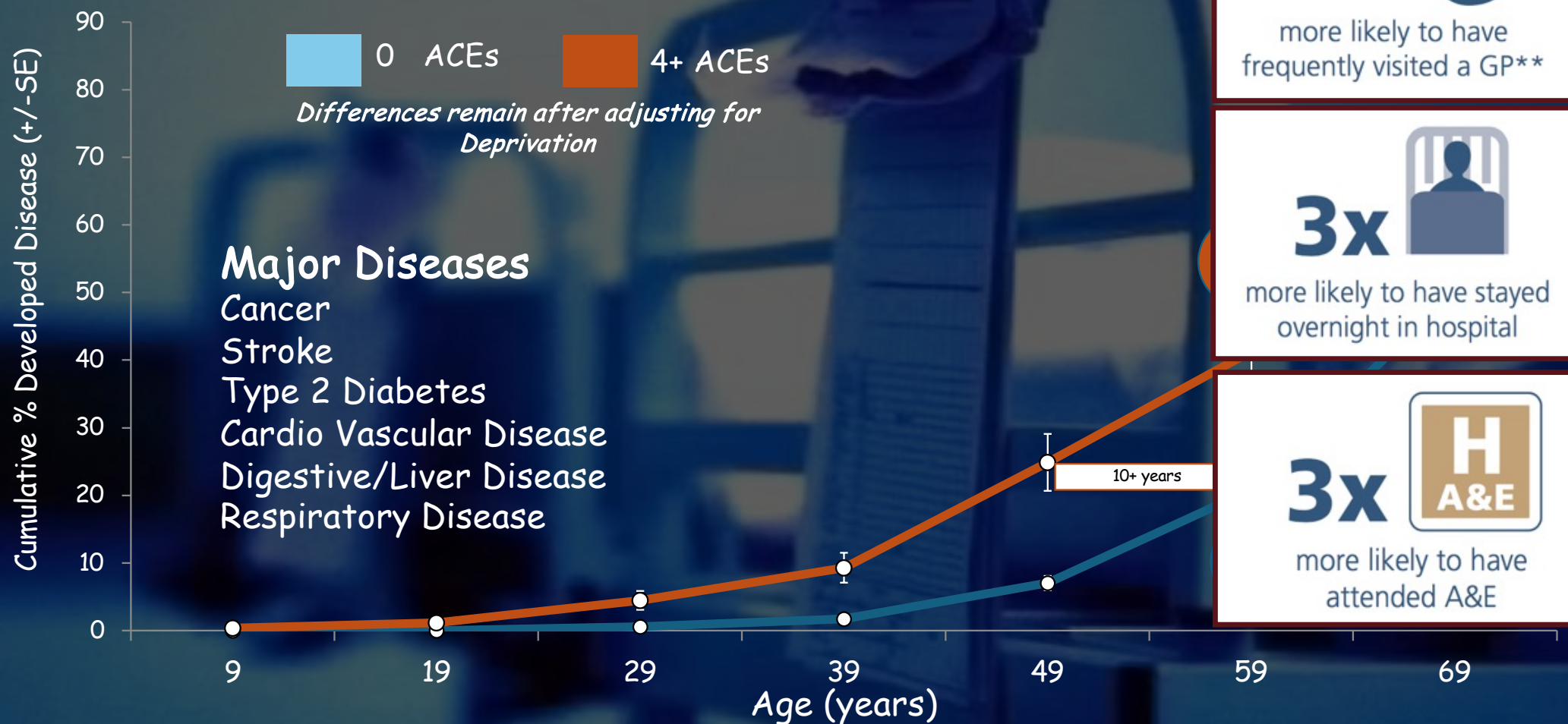


*Adverse Childhood Experiences and their association with chronic disease and health service use in the Welsh adult population; 2016*



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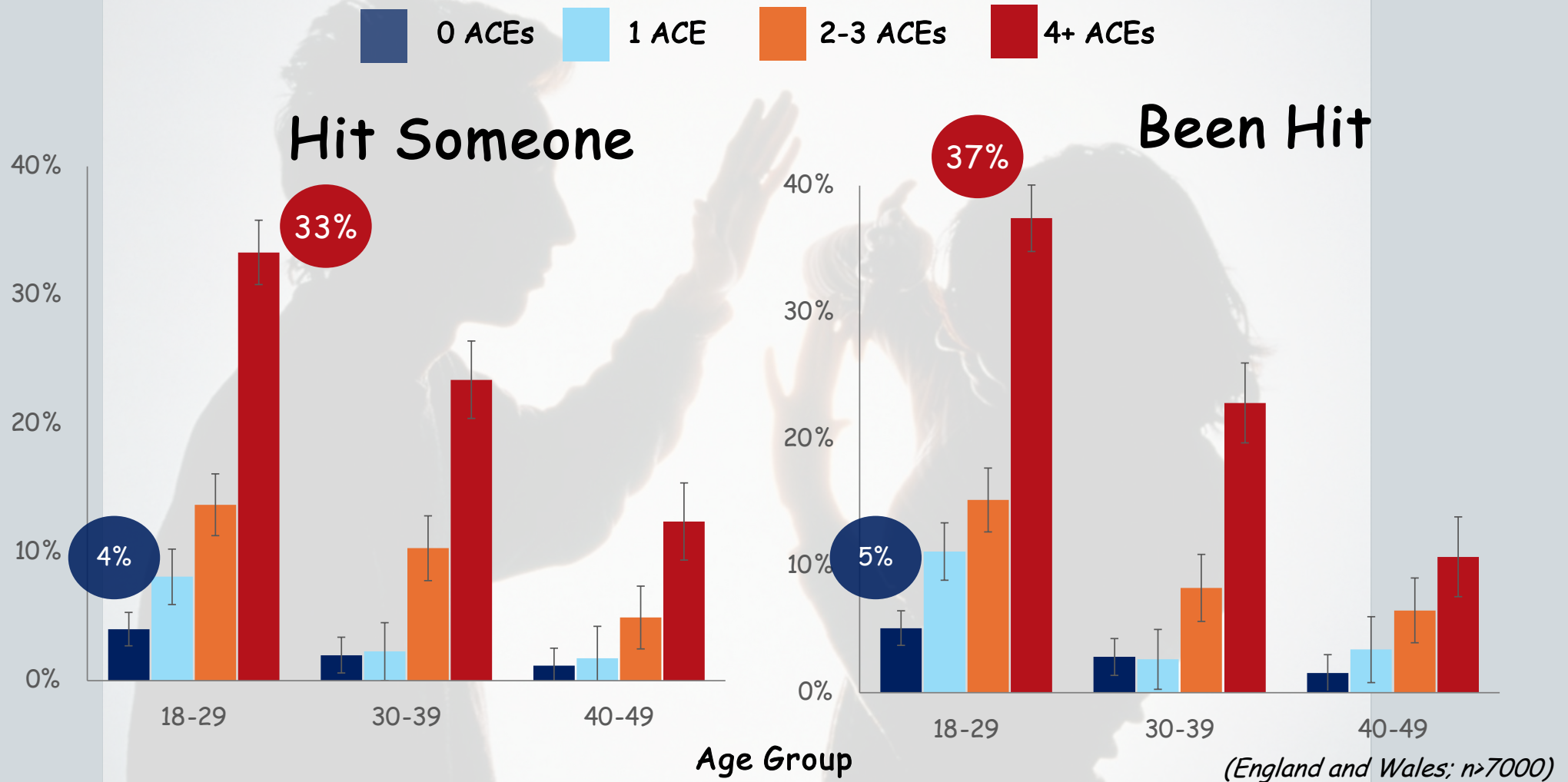


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# Exposure to Violence in Last 12 months





Understanding the prevalence of  
adverse childhood experiences (ACEs)  
in a male offender population in Wales:  
**The Prisoner ACE Survey**

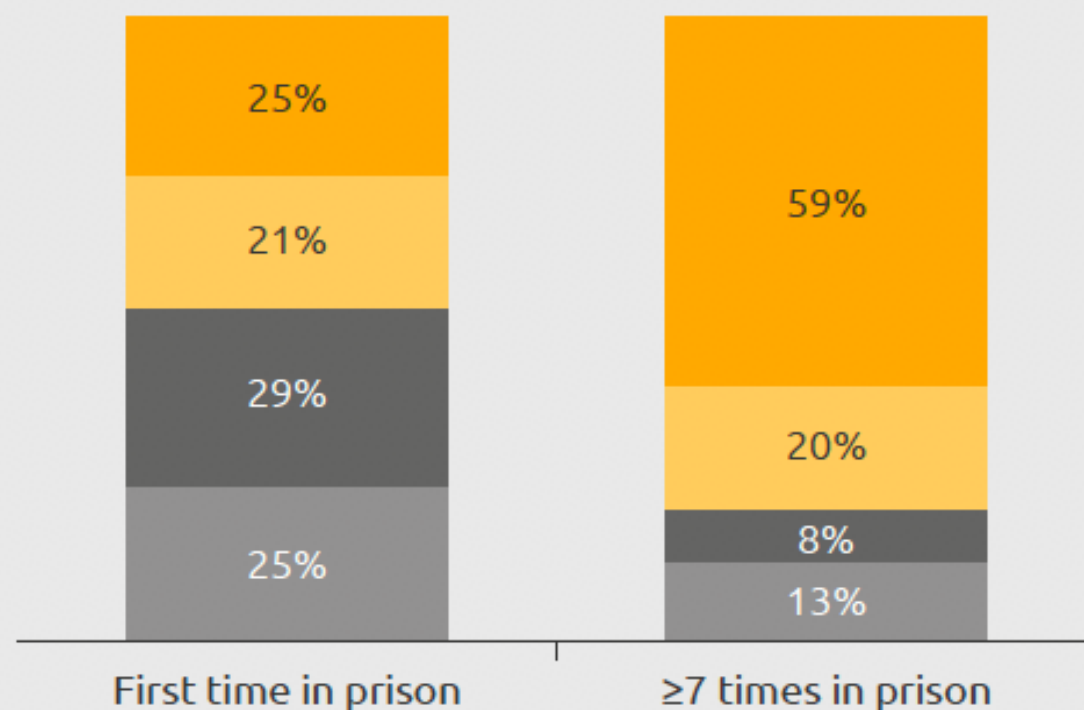


Kat Ford, Emma R. Barton, Annemarie Newbury, Karen Hughes,  
Zoe Bezczky, Janine Roderick, Mark A. Bellis



## The proportion of individuals reporting 4 or more ACEs increased with number of times in prison

0 ACEs 1 ACE 2-3 ACEs ≥4 ACEs

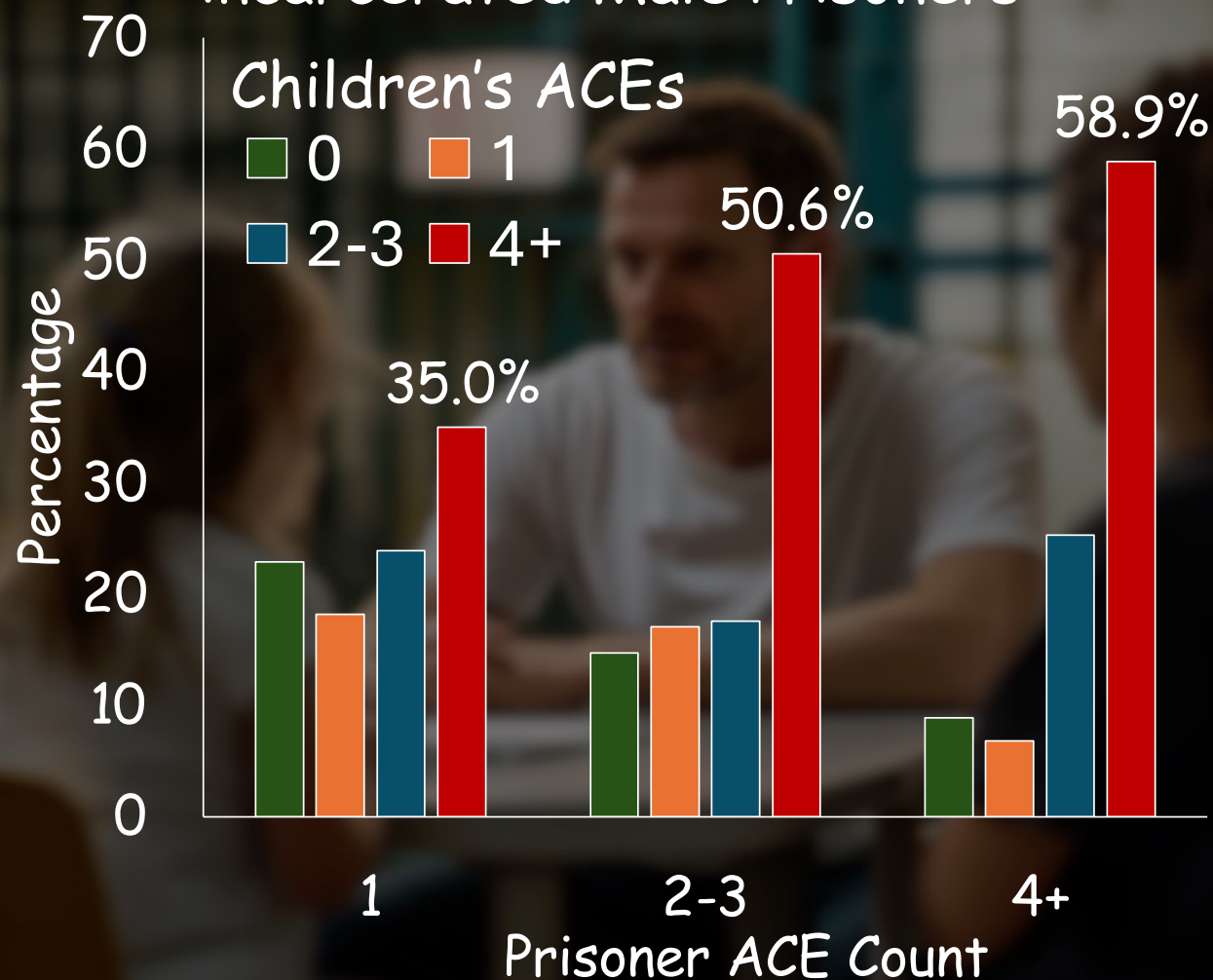


Understanding the prevalence of  
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## Levels of ACEs in Children of currently incarcerated Male Prisoners

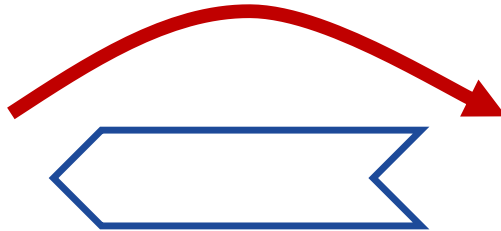


## ACEs Life Cycle - *Children having Children*

Males with 4+ ACEs are 4x more likely to have started sex under 16 years (vs. 0 ACEs)

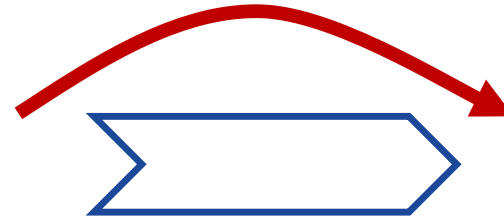
### 4+ ACEs vs. 0 ACEs

Their mother was  $\leq 18$  years when they were born



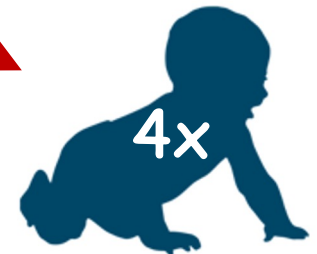
### 4+ ACEs vs. 0 ACEs

Got a girl pregnant when under 18 years



### 4+ ACEs vs. 0 ACEs

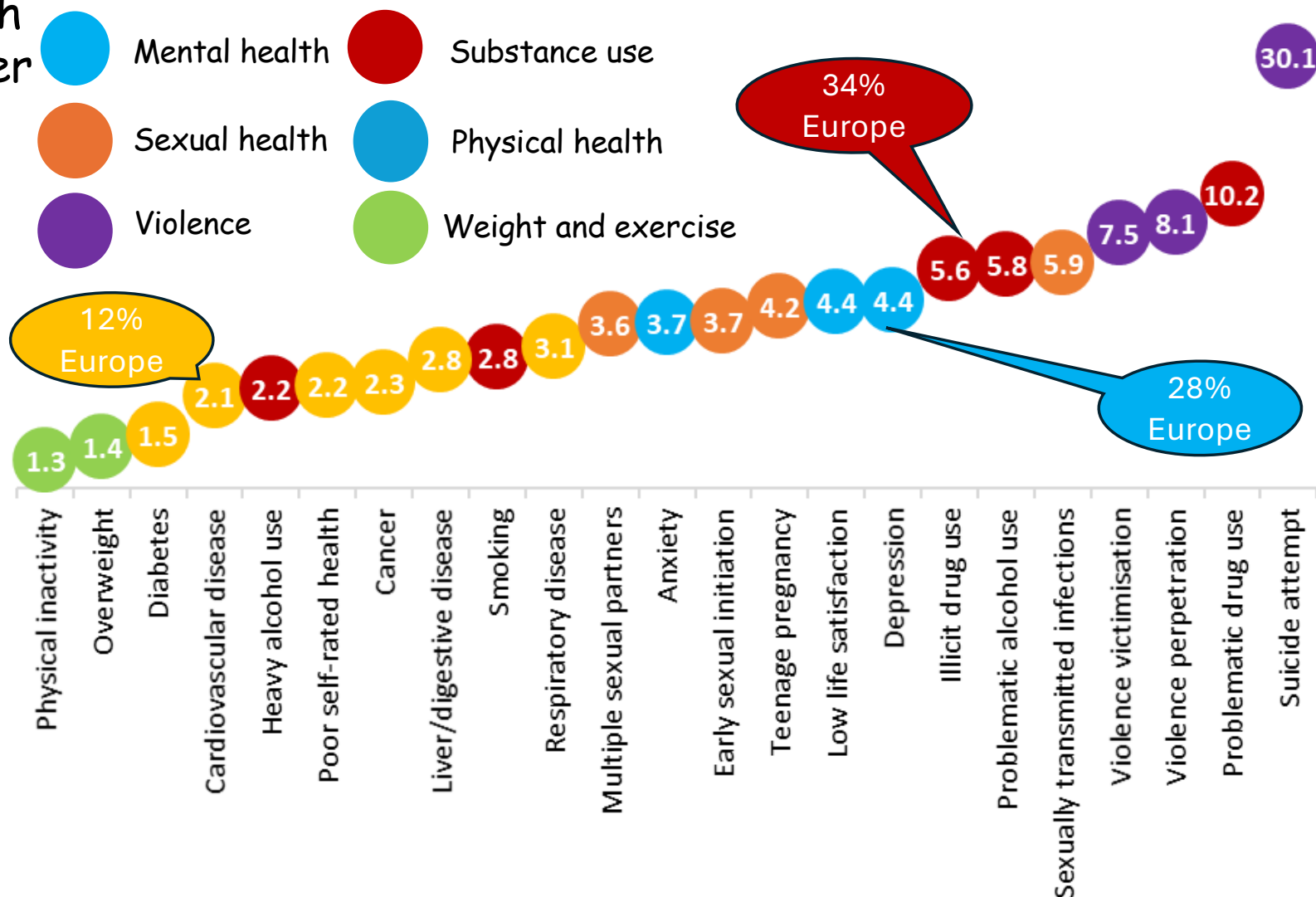
First child born under 18 years





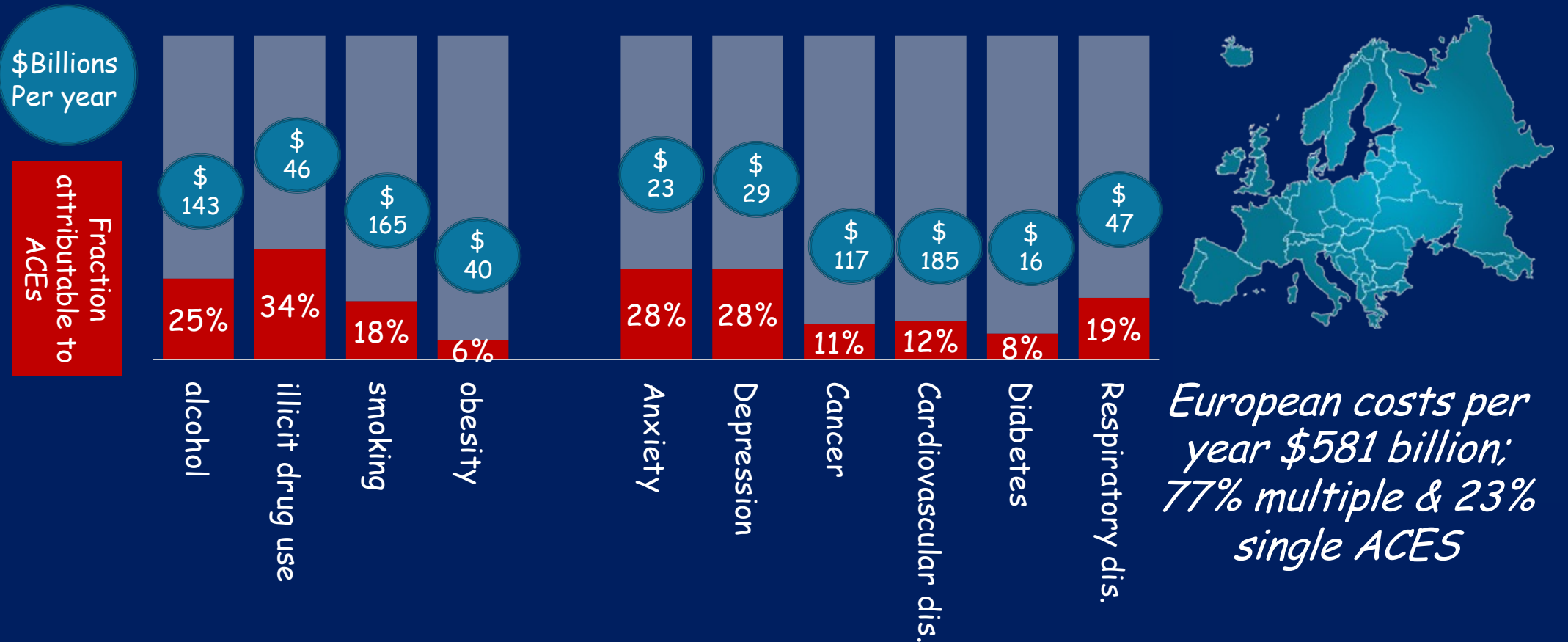
# Increased risks of health outcomes in adults with multiple ACEs (compared with 0 ACEs)

Young people (%) with mental health disorder  
8-16 year olds



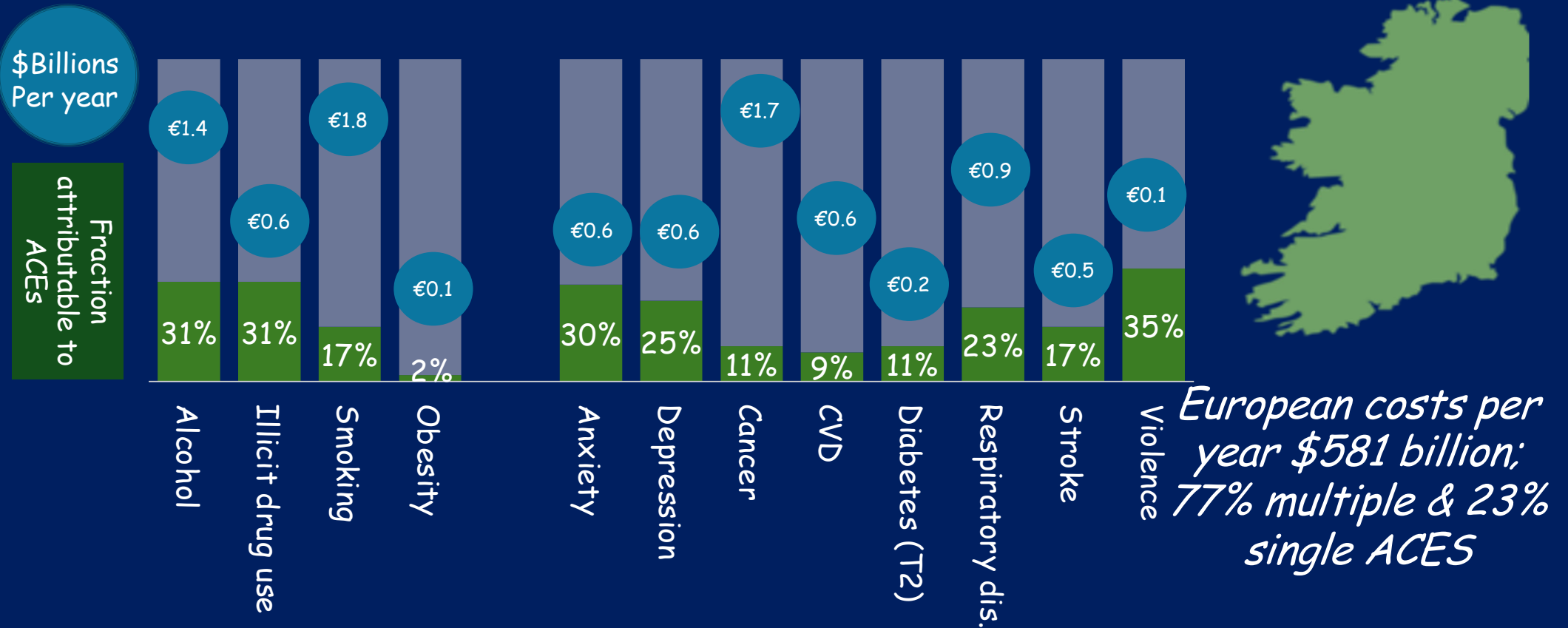
# The Costs of ACEs across Europe

DALYs - Approximately 25 million in Europe



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DALYs - Approximately 25 million in Europe

\$Billions  
Per year

Fraction  
attributable to  
ACEs



Violence  
Respiratory dis.  
Stroke  
Diabetes  
Respiratory dis.  
Cardiovascular dis.  
Diabetes (12)  
Cancer  
Depression  
Anxiety  
Depression  
Obesity  
Smoking  
Illicit drug use  
Illicit drug use

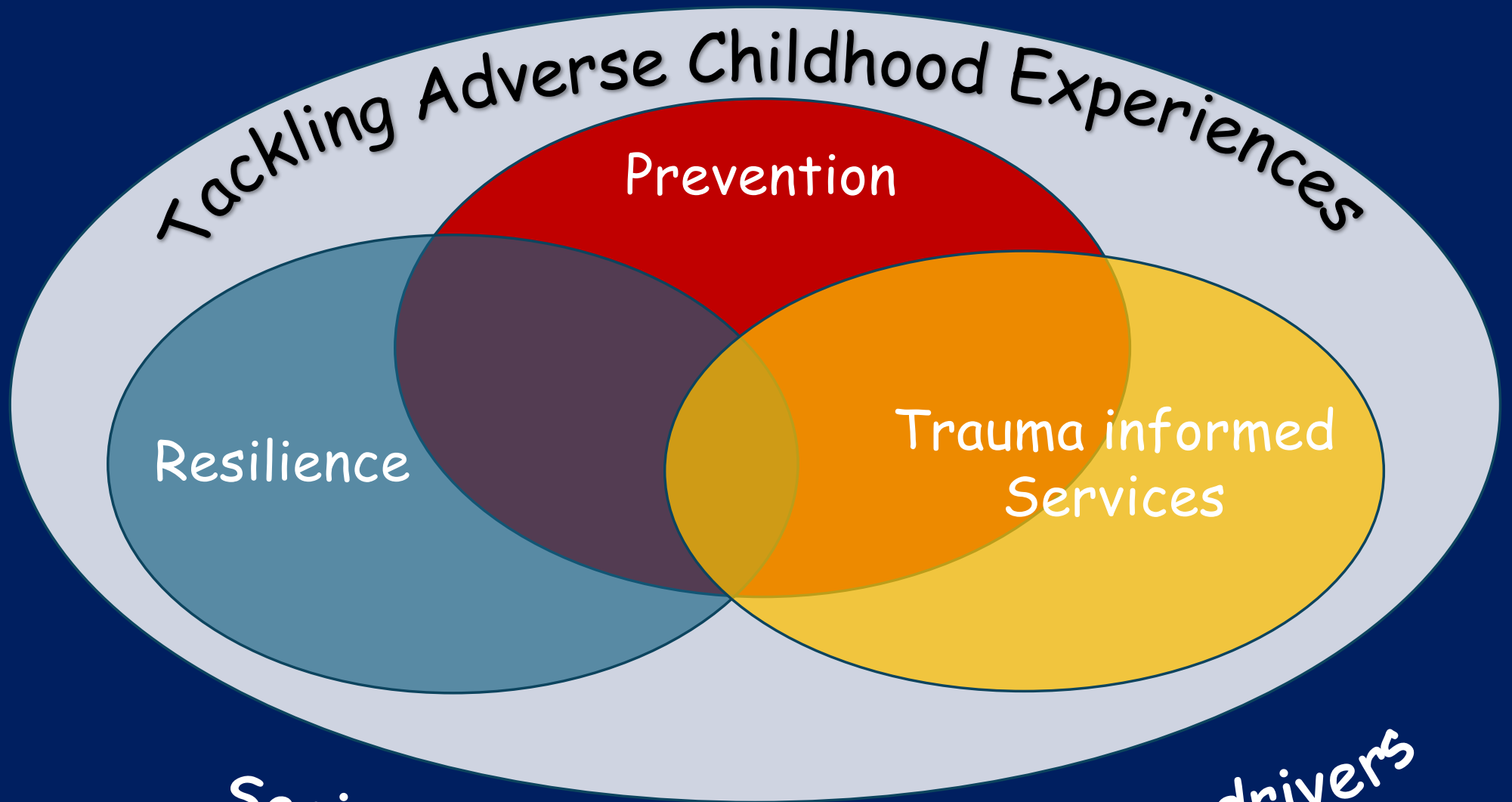
Tackling Adverse Childhood Experiences

Prevention

Resilience

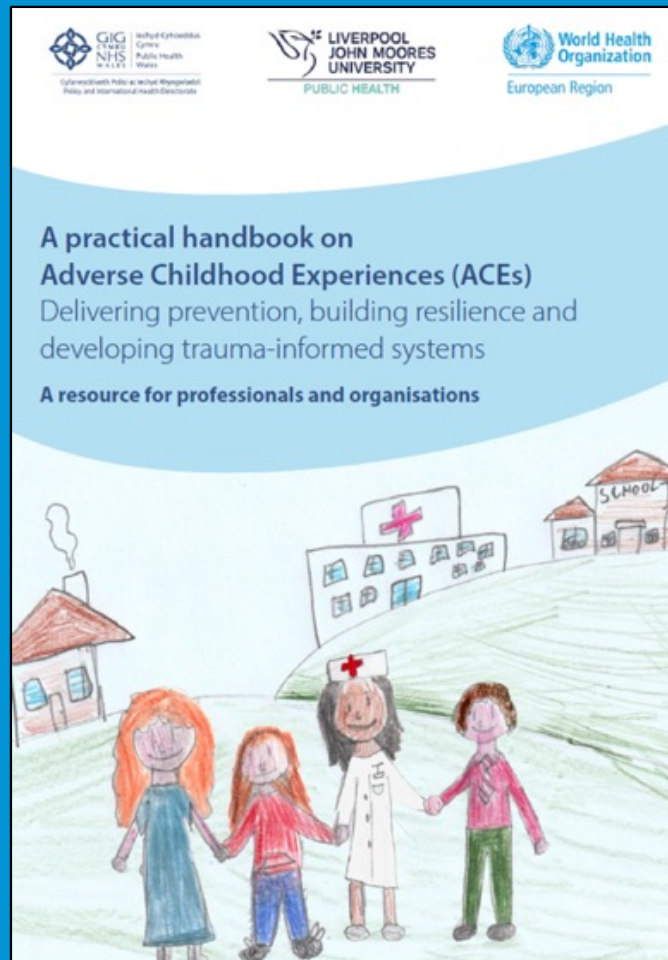
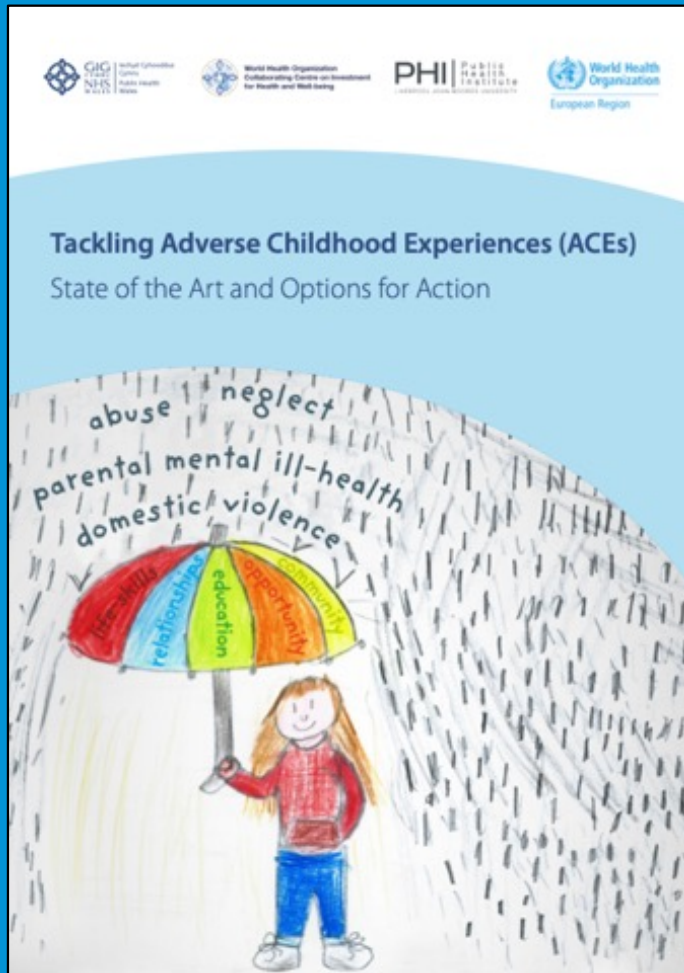
Trauma informed  
Services

Socio-economic and other Macro drivers










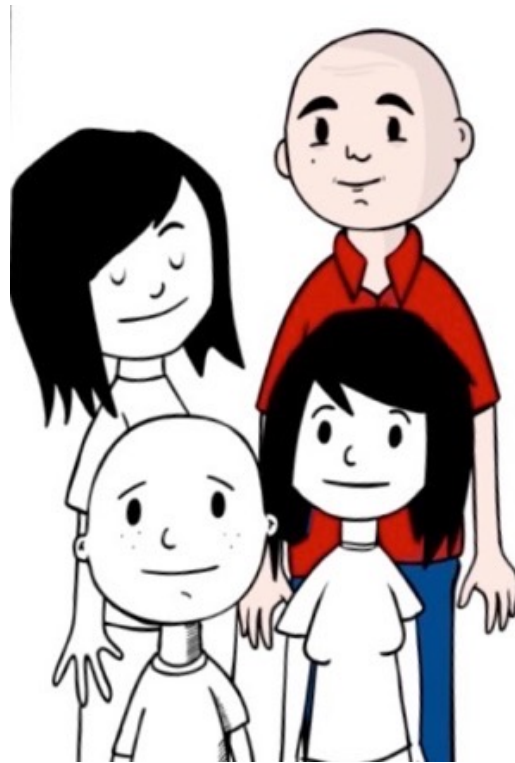
# Effective/promising interventions to prevent and/or mitigate the impacts of ACEs, or prevent risk factors for ACEs



## Effective/promising interventions to prevent and/or mitigate the impacts of ACEs, or prevent risk factors for ACEs

Strategy	Intervention	Child maltreatment	Exposure to household/parental:					
			IPV	Alcohol use	Drug use	Mental illness	Incarceration	Separation
 <b>Addressing societal norms and values</b>	Implementation/enforcement of laws (e.g. banning violent punishment of children by caregivers)	√	√	√	√	√		√
	Empowerment programmes (e.g. microfinance, gender equality and relationship skills)		√					
	Public awareness-raising and education programmes	√						
	Change social/cultural gender norms (e.g. media awareness; work with men/boys)		√					
 <b>Strengthening families</b>	Income and economic strengthening	√	√					
	Parenting programmes	√	√	√		√	√	√
 <b>Providing education and life skills</b>	Pre-school enrichment (with family support)	√						
	School-based prevention or education programmes	√	√	√	√	√		
	Other educational interventions	√						
	Training of health sector and other professionals	√						
 <b>Providing response and support services</b>	Counselling and therapeutic approaches	√	√	√		√		
	Approaches to support survivors to increase safety and lessen harms	√	√					
	Screening and brief intervention			√	√			
	Pharmacological treatment			√	√	√		
	Prison nursery programmes						√	
	Community residential facilities for incarcerated mothers and their children						√	
	Incarcerated parent-child visitation programmes						√	
	Psychoeducational interventions for children of separated or divorced parents							√
 <b>Implementing multi-component programmes</b>	Community level	√						
	Family level	√		√	√	√		

# Supporting Parents - Preventing ACEs



Nurse Home  
Visiting

Parenting  
Programmes

Preschool  
Enrichment

↓ Child maltreatment  
↓ Child injury



↑ High School completion



↓ Violent offences  
↑ Employment in mid 20s

*Sethi et al, 2013*

- Not just new programmes but ensuring services are informed and integrated
- Return on investment with 2-5 years

## Screening and Intervention by Primary care professionals



**SEEK**<sup>TM</sup>  
Safe Environment for Every Kid

Safe Environment  
for Every Kid

*lowers rates of child abuse and neglect and harsh parenting*

- Parental depression
- Substance abuse
- Major stress
- Intimate partner violence
- Food insecurity
- Discipline challenges



*You need to feel good about yourself to be a good parent.*

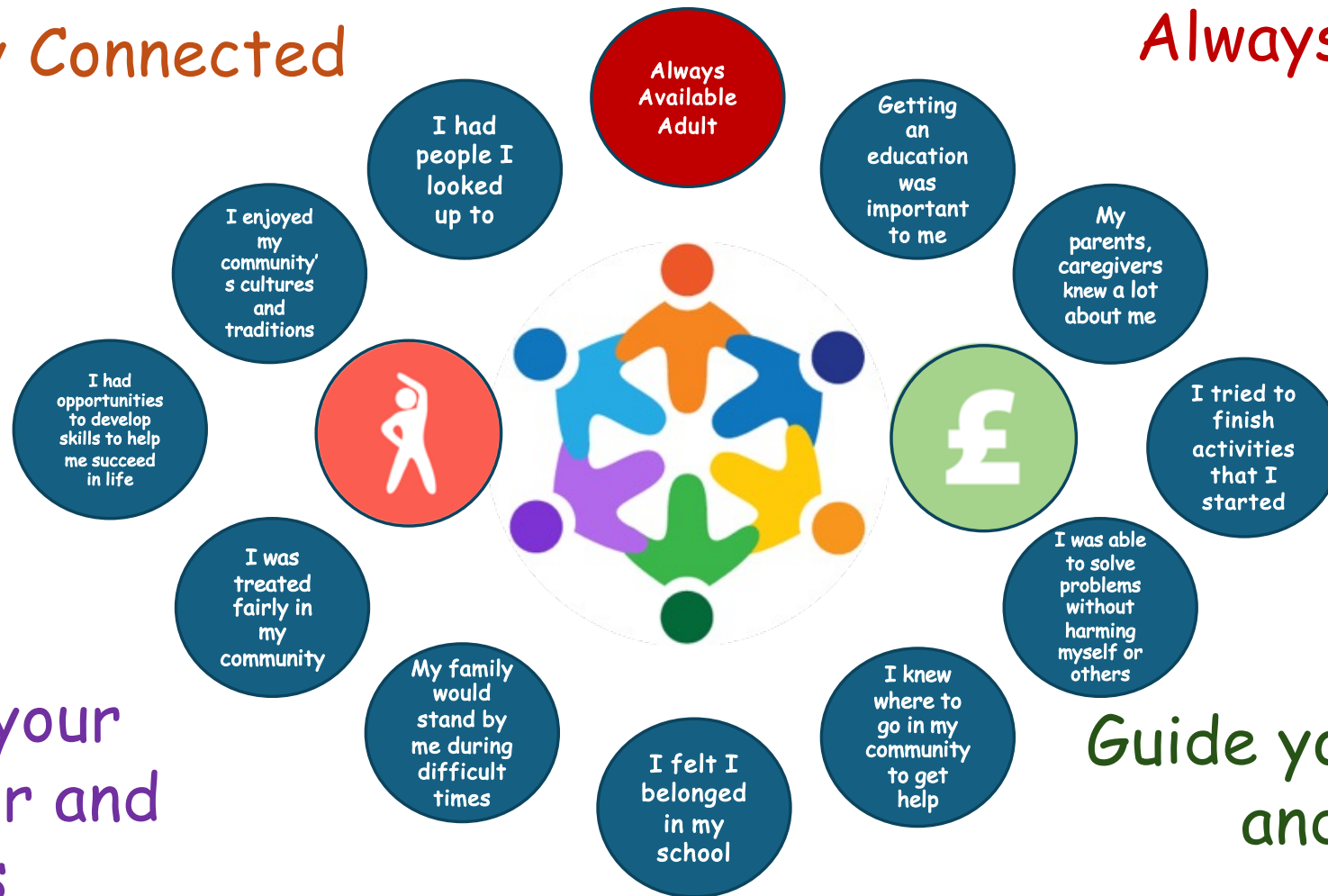
*Evidence for preventing child abuse and neglect*



# ACEs and Resilience

Culturally Connected

Always Available  
Adult



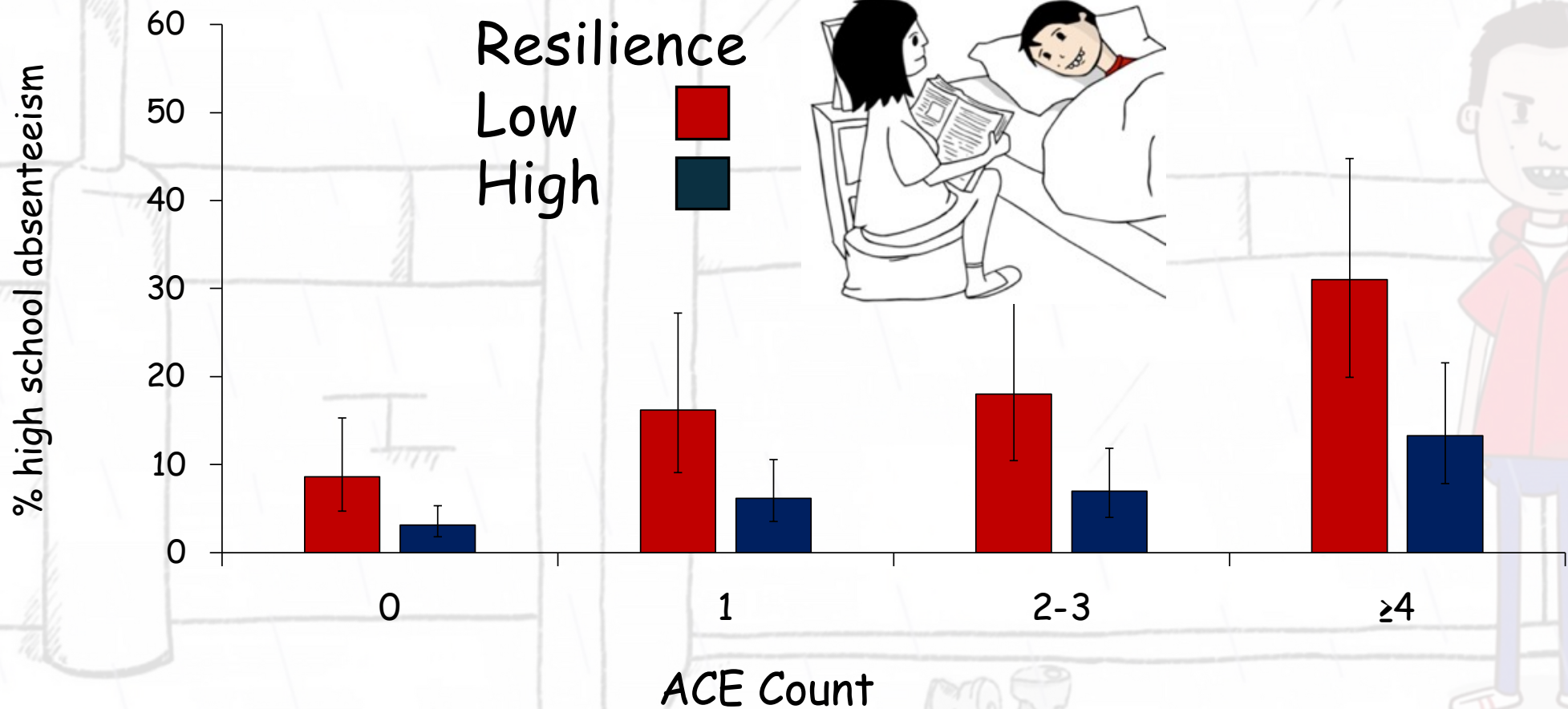
Manage your  
behaviour and  
emotions

Guide your destiny  
and overcome  
Hardship

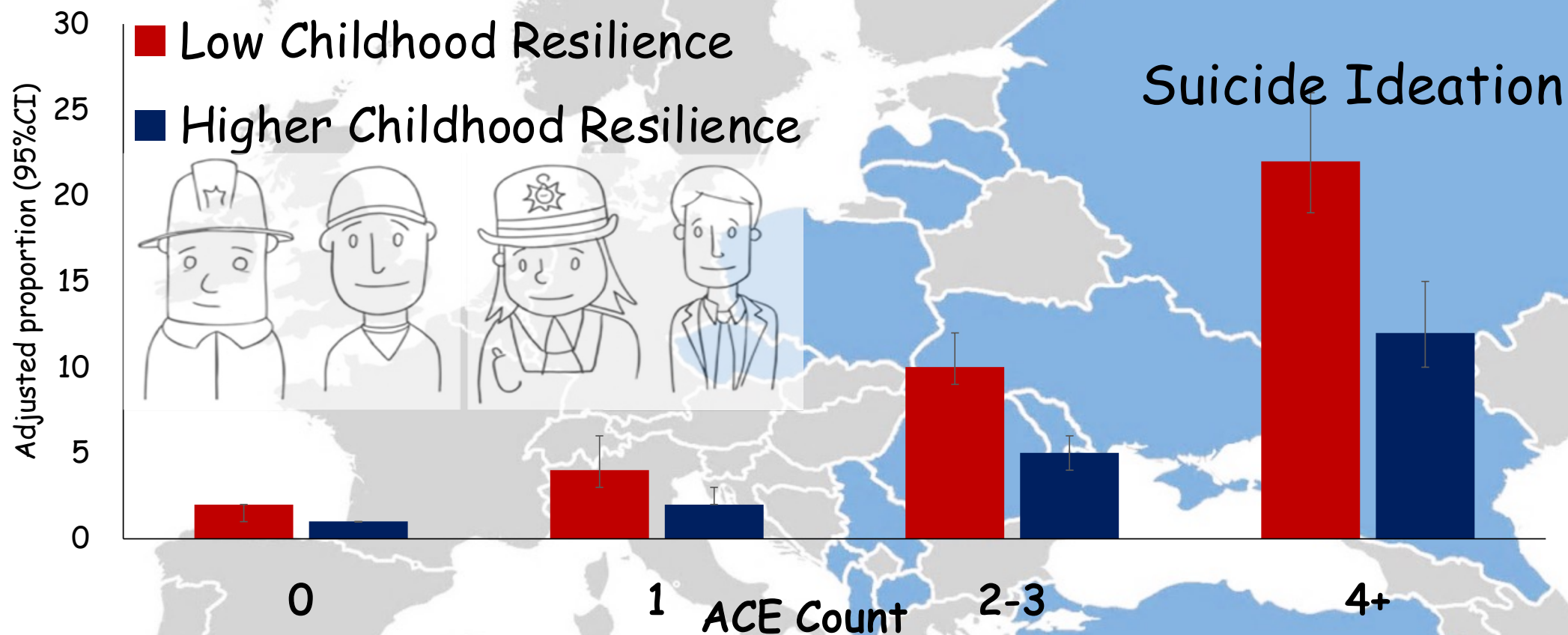


# School Absenteeism (>20 days/year)

## ACEs and Resilience



# ACEs & Resilience Assets in Eastern Europe



**Low Childhood Resilience = Most missing from**

Felt important or special; felt loved; Someone to take care of and protect them. In Family, looked out for each other, felt close, source of strength and support

# ACEs in Challenging High Schools

*Example from Washington State Family Policy Council*

- **ACEs**
  - 1/3 of class had 4+ ACEs
  - Best predictor of health, attendance, behaviour
  - Educational success related more to ACEs than income
- **Change**
  - Public Health and others inform staff about impacts of ACEs



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## California's reducing ACEs and toxic stress by half in one generation



- Working across health, human services, education and non-profit sectors



### Safe Spaces

Foundations of  
Trauma-Informed  
Practice for  
Educational and  
Care Settings



**Professional Learning Modules Launch**

Summer 2023,  
online professional  
learning module to  
help early care and  
education personnel  
respond to trauma  
and stress in  
children





# California's reducing ACEs and toxic stress by half in one generation



Jan 2020 to March 2022 1.34 million screenings

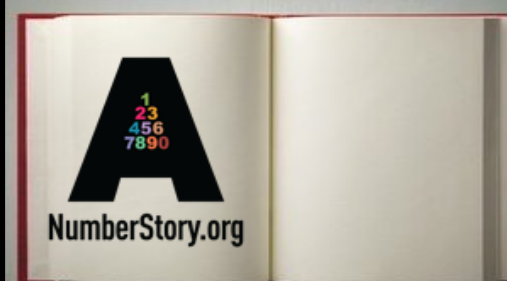
Dec 2019 to Nov 2022 28,000 ACE Awareness trained including 12,400 clinicians

## Screening for ACEs



- Training to primary care providers to screen for ACEs and apply trauma-informed support
- \$29 paid for each ACE screening conducted

## ACE Awareness campaign



Your story may include  
difficult chapters, but the next  
chapter is still unwritten.

The story of our number is the story of our  
ACE history. Learn what that means and how  
we can heal at NumberStory.org.

- Creating awareness of impacts of ACEs
- Tools for healing & prevention
- Encouraging people to:
  - Measure their ACE score
  - Understand impact on their life
  - Take control of their own destiny



Bwrdd Iechyd Prifysgol  
Betsi Cadwaladr  
University Health Board



CYNGOR SIR  
YNNYS MON  
ISLE OF ANGLESEY  
COUNTY COUNCIL



Iechyd Cyhoeddus  
Cymru  
Public Health  
Wales

## Asking about adverse childhood experiences (ACEs) in health visiting

### Findings from a pilot study

Authors: Katie Hardcastle and Mark A. Bellis



January 2019

# 43%

of mothers with ACEs  
said it was the **first**  
time they had told a  
professional service  
about these experiences<sup>a</sup>



I feel like I belong  
in my community

0 ACEs 92%

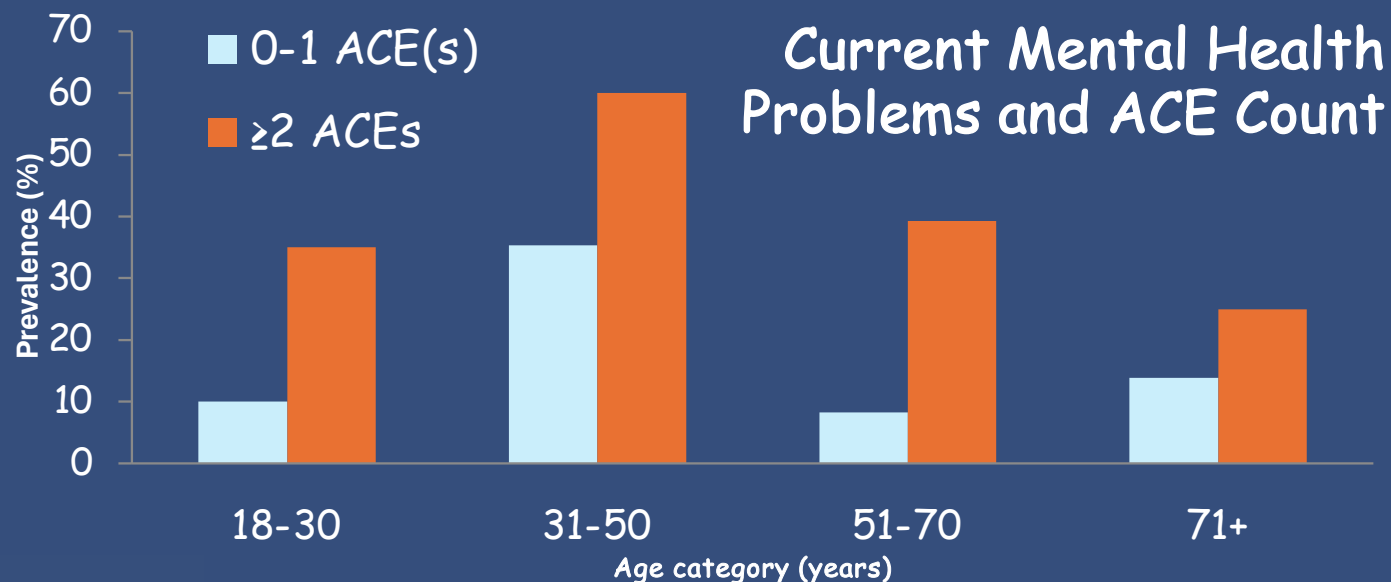
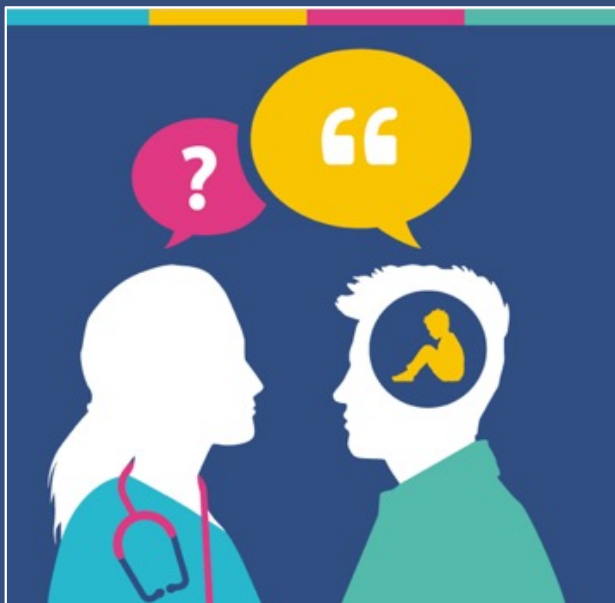
4+ ACEs 62%

## Two out of three mothers agreed/strongly agreed that...



The **help and support**  
I received was **improved**  
because the HV  
understood my  
childhood better

# Routine Enquiry in Primary Care



! 67% - patients with ACEs was first time they had told a professional

86% felt their GP surgery was a suitable place to be asked about ACEs



# Policy - Developing a National Trauma Practice Framework for Wales



**Everyone** - Understand people's lives affected by trauma, strengthen coping, build empathy

**Staff & Volunteers** who have direct contact with those who may be affected - Compassionate and caring support

**Workers and Carers** with regular and intensive interactions - Well established practice and policy

**Specialised Practitioners** low and high intensity interventions - Psychological therapies, policy influence, specialist approaches





81% more likely to keep an eye out for friends/family  
experiencing situations like those in the film

## ACEs

Physical abuse  
Emotional abuse  
Neglect  
Sexual abuse  
Exposure to caregiver IPV  
Parental separation  
Parental mental illness  
Parental substance use  
Parental incarceration

## Types of resilience

Hope  
Sense of control over life  
Self-regulation  
Trusted adult  
Social networks  
Cultural traditions  
Community services

## Negative social determinants

discrimination  
poverty  
community disorder  
unemployment  
poor housing  
lack of social protection  
poor access to health care

## Positive social determinants

social protection  
employment  
access to health care  
good working conditions  
community capability

# Preventing Violence against Children

## A social determinants framework to support INSPIRE implementation

1

### Promote economic security and equality

Childcare subsidies

2

### Improve access to quality education

Requirements for relationship and sex education

3

### Provide safe environments

Policies to address homelessness or housing instability

4

### Strengthen social and community context

National-level parenting programs

5

### Reduce exposure to health harming influences

Policies to reduce population access to alcohol

6

### Improve access to quality health care

Health care coverage and access to treatment

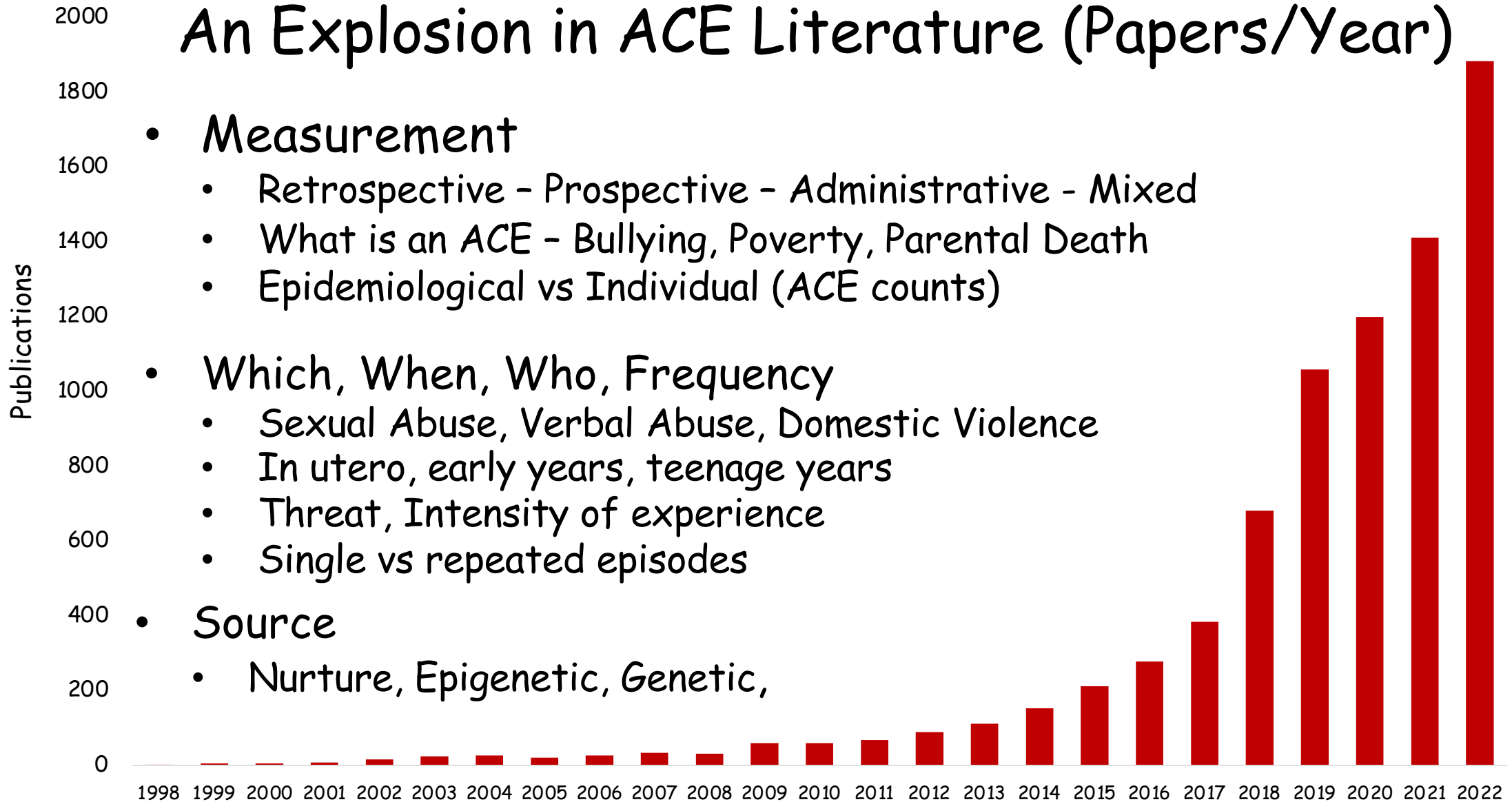
7

### Governance

Data sharing across agencies and partners



# An Explosion in ACE Literature (Papers/Year)





# Trust in Public Services during COVID

4+ ACEs vs. 0

2x

- Feel unfairly restricted by government
- Breaking restrictions

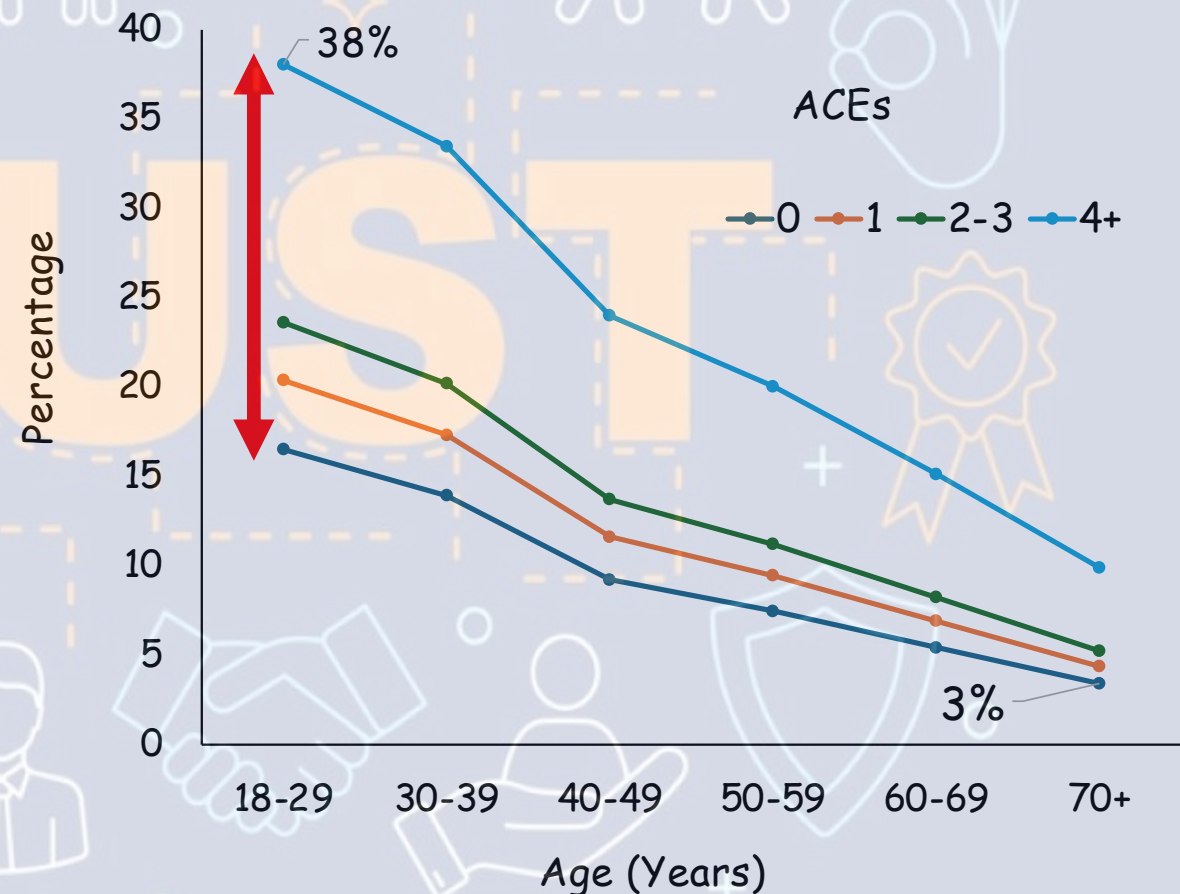
3x

- Low trust in NHS COVID-19 information

4x

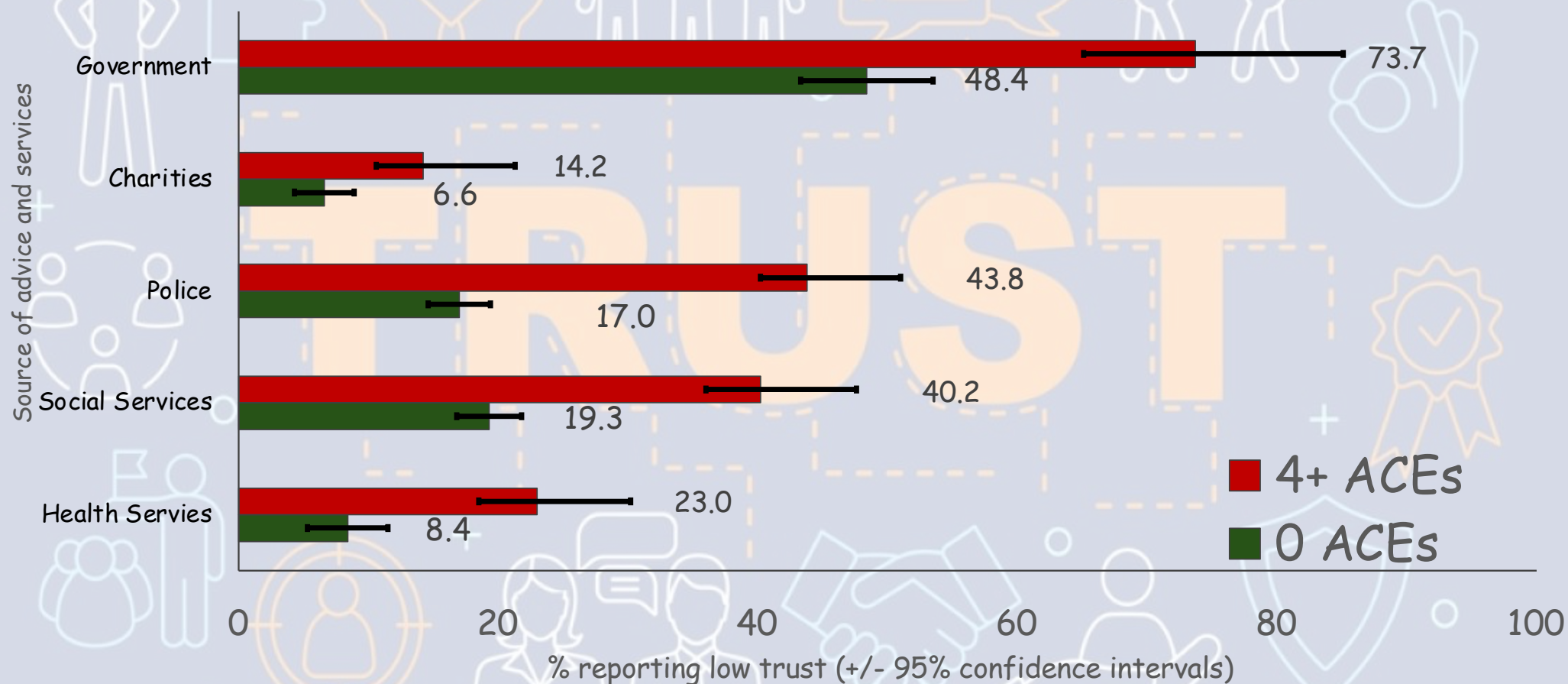
- Face coverings should go

Percentage COVID Vaccine Aversion by age and Adverse Childhood Experiences Count (Modelled)



# *Low Trust (%) by Institutions*

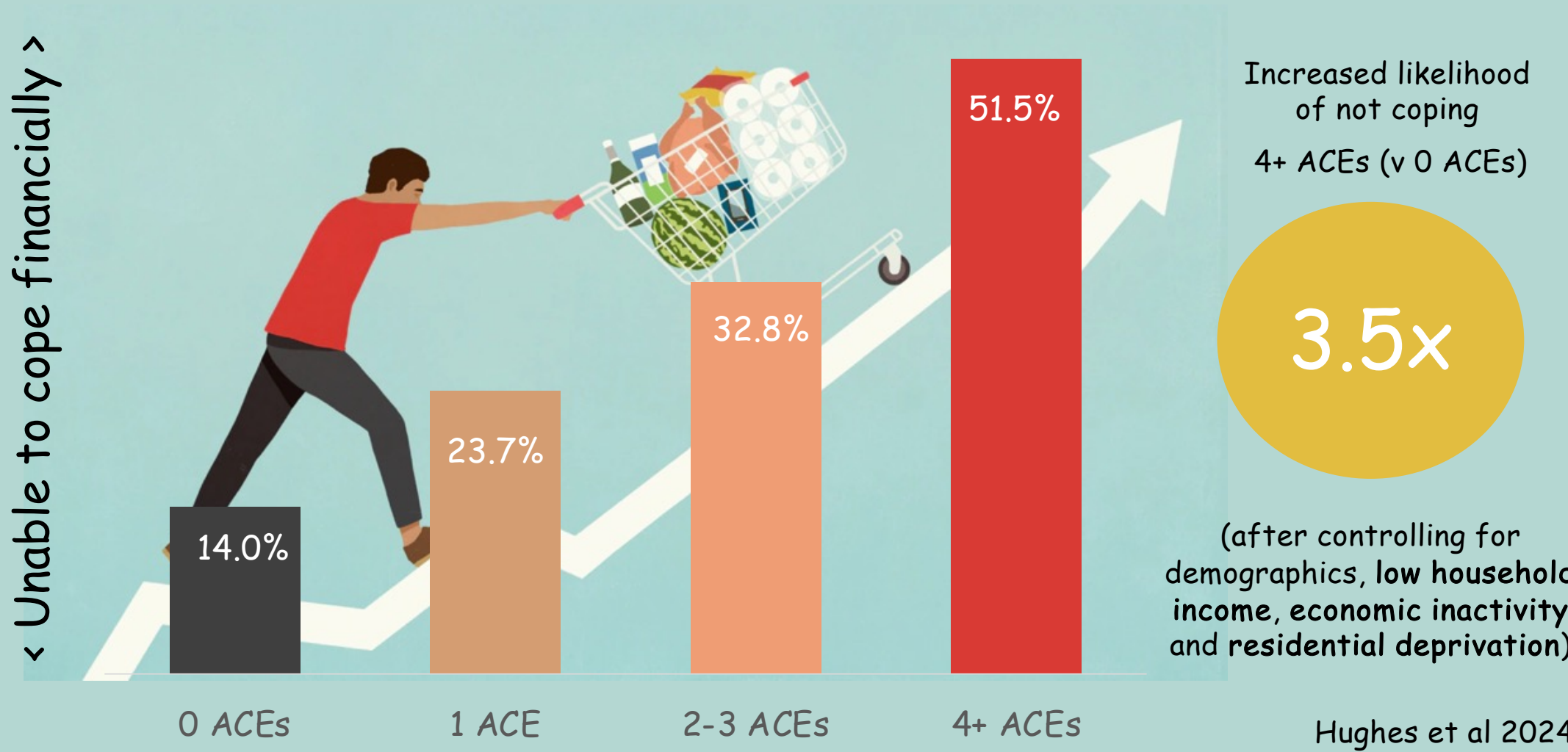
*Demographic and Deprivation adjusted*



**Low trust defined as <5 on 0-10 Likert Scale\***

# Perceived inability to cope financially during the cost-of-living crisis, by ACE count

n=1880 Welsh adults aged 18+, November 2022 to March 2023



# Childhood Adversity as Motivator?

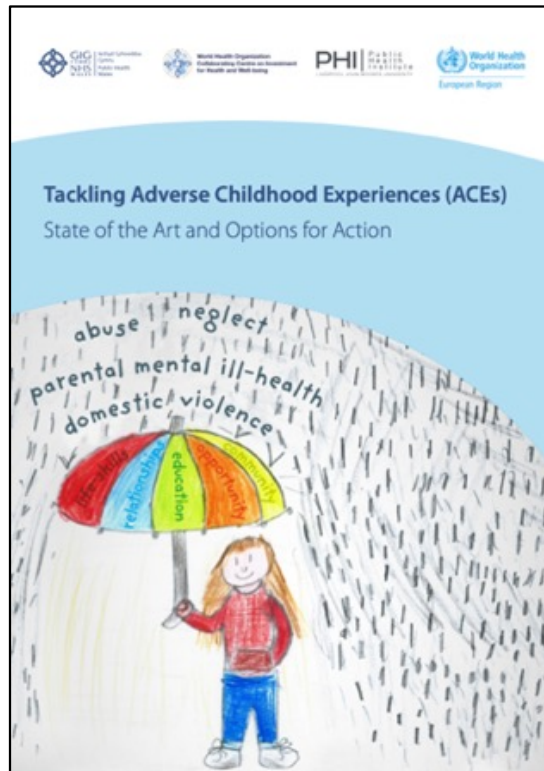
- Creativity in Performing Arts
- Excellence in Sports Performance
- Preference for Caring Careers





# Summary: Adverse Childhood Experiences & Trauma

- Prevention is possible
- A Major Cause of Non-Communicable Disease and avoidable costs
- Childhood trauma needs considering across the life course
- Develop individual and community resilience
- Impacted by socio-economic and commercial environment
- Cyclically linked with poverty and inequalities
- Joint agenda for Health, Social, Education, Housing and Crime
- Require a Unified Knowledge and Action Agenda
- Inter-generational benefits from breaking the cycle
- Better informed professionals, parents, policy makers' make better choices
- A trusted adult can make a remarkable difference



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