ACES
Adverse Childhood Experiences in Wales

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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
Fight or Run Away

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
ACES
Adverse childhood experiences
How many adults in Wales have ACEs

Child Maltreatment

Verbal abuse 23%
Physical abuse 17%
Sexual abuse 10%

Childhood Household included

Parental separation 20%
Domestic violence 16%
Mental illness 14%
Alcohol abuse 14%
Drug use 5%
Incarceration 5%

For every 100 adults in Wales, 47 have suffered at least one ACE and 14 have suffered four or more.
Adverse Childhood Experiences (ACEs) - The Life Course

- Non Communicable Disease, Disability, Social Problems, Low Productivity
- Adopt Health Harming Behaviours and Crime
- Social, Emotional and Learning Problems
- Disrupted Nervous, Hormonal and Immune Development
- ACEs Adverse Childhood Experiences

Developed from Felitti et al. 1998
ACES
Adverse childhood experiences
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 have had or caused a teenage pregnancy
- 15 times more likely to have committed violence in last 12 months
- 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

Bellis et al. 2015, n=2028
ACEs Life Cycle - Children having Children

Started Sex Under 16 years (Males)

- Adjusted Odds Ratio

- 4+ ACES vs. 0 ACEs
  - Mother ≤18 years when born
  - Got a girl pregnant when under 18 years
  - First child born under 18 years

- 5x
- 10x
- 4x
18-29 year olds

With no ACEs 3% had hit someone in the last 12 month

With 4 or more ACEs 30% had hit someone in the last 12 month

(n=7414, England and Wales, In Prep, Not for Circulation)
Preventing ACES in Wales could reduce

- Heroin/crack cocaine use (lifetime) by 66%
- Incarceration (lifetime) by 65%
- Violence perpetration (past year) by 60%
- Violence victimisation (past year) by 57%
- Cannabis use (lifetime) by 42%
- Unintended teen pregnancy by 41%
- High-risk drinking (current) by 35%
- Early sex (before age 16) by 31%
- Smoking tobacco or e-cigarettes (current) by 24%
- Poor diet (current; <2 fruit & veg portions daily) by 16%

in adults aged 18-69 years

Bellis et al. 2015, n=2028
ACES
Adverse childhood experiences
Prevalence of low mental well-being in adults by the number of ACEs suffered in childhood

<table>
<thead>
<tr>
<th>Times more likely</th>
<th>Description</th>
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<tbody>
<tr>
<td>3</td>
<td>to have never or rarely felt relaxed</td>
</tr>
<tr>
<td>3</td>
<td>to have never or rarely felt close to other people</td>
</tr>
<tr>
<td>4</td>
<td>to have never or rarely been thinking clearly</td>
</tr>
<tr>
<td>5</td>
<td>to have never or rarely to have dealt with problems well</td>
</tr>
<tr>
<td>5</td>
<td>to have never or rarely been able to make up their own mind about things</td>
</tr>
<tr>
<td>6</td>
<td>to have never or rarely felt optimistic about the future</td>
</tr>
<tr>
<td>6</td>
<td>to have never or rarely felt useful</td>
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</table>
Adverse Childhood Experiences and their association with chronic disease and health service use in the Welsh adult population

Welsh Adverse Childhood Experiences (ACE) Study
Wales: Length of Healthy Life

Individuals Diagnosed with a Major Disease by Age (%)

Major Diseases
- Cancer
- Stroke
- Type 2 Diabetes
- Cardio Vascular Disease
- Digestive/Liver Disease
- Respiratory Disease

Cumulative % Developed Disease (+/-SE)

Differences remain after adjusting for Deprivation

ACEs
- 0 ACEs
- 4+ ACEs

Adverse Childhood Experiences and their association with chronic disease and health service use in the Welsh adult population; 2016
Diabetes Type 2

ACE Count

Cumulative % Developed Disease (+/- SE)

4 or more vs. No ACEs

4x more likely to develop Diabetes (Type 2)

3x more likely to develop a Respiratory Disease

3x more likely to develop Heart Disease

Age (years)

9 19 29 39 49 59 69
Attended A&E in Last 12 Months

<table>
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<tr>
<th>ACE Count</th>
<th>A&amp;E Attendance %</th>
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<tbody>
<tr>
<td>0 ACE</td>
<td>6.8</td>
</tr>
<tr>
<td>1 ACE</td>
<td></td>
</tr>
<tr>
<td>2-3 ACEs</td>
<td>16.0</td>
</tr>
<tr>
<td>4+ ACEs</td>
<td>17.2</td>
</tr>
</tbody>
</table>

4 or more vs. No ACEs

- **3x** more likely to have attended A&E
- **2x** more likely to have frequently visited a GP
- **3x** more likely to have stayed overnight in hospital

**Visited a GP six or more times over the past 12 months**
ACES
Adverse childhood experiences
Support families and parents to reduce adverse childhood experiences which can have lifelong effects.
Supporting Parents - Preventing ACEs

Nurse Home Visiting
Parenting Programmes
Preschool Enrichment

↓ Child maltreatment
↓ Child injury

↑ High School completion

↓ Violent offences
↑ Employment in mid 20s

First 1000 Days - CymruWellWales

Sethi et al, 2013
Building Resilience - Helping people cope with ACES

Avoid damaging behavioural and physiological changes in response to chronic stress

Feel you can overcome hardship and guide your destiny

Grounded in cultural traditions 'Connected'

Equipped to manage your behaviour and emotions

One or more stable, caring child-adult relationship

As a child, there was adult you trusted and could talk to about your problems?

Children suffering 4+ ACES

- Problem Drinkers
- Used Cocaine or Heroin
- Been Incarcerated

Based on Strengthening the Foundations of Resilience, Harvard, 2015; Wales ACE Survey, 2015, n=2028, unpublished data
Safe Environment for Every Kid

Screening and Intervention by Primary care professionals

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.
Tackling hidden reasons for accessing Health Care

- Pre-examination completed ACE survey
- At examination asked, How have ACEs affected you in later life?
- Preliminary Results
  - General Practice ↓35%; Emergency Department ↓11%

Trauma Informed Practice
- Workforce Development
- Trauma Screening
- Practice Change
- Inter-Agency Working

The Long Reach of Childhood Trauma, Arielle Levin Becke, 2015
Machtinger et al. 2015, Lang et al. 2015, Sethi et al, 2010
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

/​www.resilencetrumpsaces.org; communityresiliencecookbook.org/tastes-of-success/
ACEs and the Police

• 9 in 10 police contacts complex welfare, safety & vulnerability

Police and Public Health Wales Memorandum of Understanding

...Ensure that from the earliest possible age individuals are supported to follow a health benefiting and crime free life course...

• Develop an ACE informed response with Police
ACE Prevention, Response & Resilience
“Make a difference”

ACE Informed Communities
“We work together”

ACE Skills
“I know how to do it”

ACE Knowledge
“I know what I can do”

ACE Awareness
“I know ACEs are important”
With thanks to Kath Ashton, Alisha Davies, Karen Hughes, Janine Roderick, Katie Hardcastle, Claudine Anderson, Andrew Bennett, Tracy Black, Kelly Edwards, Ian Molyneux and many, many others.

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