THE PREVALENCE AND SIGNIFICANCE OF ADVERSE CHILDHOOD EXPERIENCES IN CHILDREN WHO HAVE DIED: FINDINGS AND IMPLICATIONS FROM AN AUDIT OF A CHILD DEATH OVERVIEW PANEL IN ENGLAND

Hannah Grey, PhD student
Goals

- Describe the background of adverse childhood experiences (ACEs)
- An overview of the impact of ACEs on health, behaviours and wellbeing
- An understanding of the child death review process in England
- Findings from an ACE audit of a child death overview panel - prevalence and associations between ACEs and children who have died
- Key themes from interviews with professionals involved in CDOP
- Opportunities to incorporate ACE awareness in other settings
Early life experiences and the brain

- A baby’s brain grows from 25% to 80% of its adult size in the first two years of life
- Critical time in development
Adverse childhood experiences and the life course
What are ACEs?

- A complex set of related childhood experiences that directly affect a child or, the environment in which they live, i.e. household dysfunction

<table>
<thead>
<tr>
<th>Family dysfunction</th>
<th>Abuse</th>
<th>Neglect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental health problems</td>
<td>Physical</td>
<td>Physical neglect</td>
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<tr>
<td>Substance misuse</td>
<td>Sexual</td>
<td>Emotional neglect</td>
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<td>Parental separation</td>
<td>Emotional</td>
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<td>Domestic violence</td>
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<tr>
<td>Incarceration</td>
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</tbody>
</table>
Public health in action: cholera
Prevalence of ACEs

For every 100 adults in England 48 have suffered at least one ACE during their childhood and 9 have suffered 4 or more

0 ACEs 52%
1 ACEs 23%
2-3 ACEs 16%
4+ ACEs 9%

Figures based on population adjusted prevalence in adults aged 18-69 years in England

Source: National household survey of adverse childhood experiences and their relationship with resilience to health-harming behaviors in England
How many adults in England have suffered each ACE?

**CHILD MALTREATMENT**

- Verbal abuse: 18%
- Physical abuse: 15%
- Sexual abuse: 6%

**CHILDHOOD HOUSEHOLD INCLUDED**

- Parental separation: 24%
- Domestic violence: 13%
- Mental illness: 12%
- Alcohol abuse: 10%
- Drug use: 4%
- Incarceration: 4%
Dose-response relationship

- Direct measure of cause and effect
- The dose = ACEs
- The response = health issues
Risks for health harming behaviours

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

1. 2 times more likely to currently binge drink and have a poor diet
2. 3 times more likely to be a current smoker
3. 5 times more likely to have had sex while under 16 years old
4. 6 times more likely to have had or caused an unplanned teenage pregnancy
5. 7 times more likely to have been involved in violence in the last year
6. 11 times more likely to have used heroin/crack or been incarcerated
Chronic disease and ACEs

- Up to the age of 69 years, those with four or more ACEs were 2x more likely than those with no ACEs to be diagnosed with a chronic disease.
Mental health and wellbeing

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
Preventing ACEs in future generations could reduce levels of:

- Early sex (before age 16) by 33%
- Unintended teen pregnancy by 38%
- Smoking (current) by 16%
- Binge drinking (current) by 15%
- Cannabis use (lifetime) by 33%
- Heroin/crack use (lifetime) by 59%
- Violence victimisation (past year) by 51%
- Violence perpetration (past year) by 52%
- Incarceration (lifetime) by 53%
- Poor diet (current; <2 fruit & veg portions daily) by 14%
Responding to those with ACEs

- Adaption to ACEs
- Presenting problems/symptoms
  - Emotional difficulties
  - Violence
  - Crime
  - Attention

How do we respond?
The current study: Child death review ACE audit

- Recognise ACEs from different sources of data
- Understand risks for childhood mortality
- Explore who is affected by ACEs
- Prevent ACEs in potentially vulnerable populations
Child death overview panels (CDOP)

- What is a child death overview panel?
- Who is involved?
- What happens?
Past research into CDOP

- **Focus on practice and implementation**

- **Research into specific causes of death**

- **Support for families**

- **Quality of data collection**
Methodology

- Audit methodology
- Retrospective data collection
- Analysis used descriptive statistics and multinomial regression to explore associations
## Sample demographics

<table>
<thead>
<tr>
<th></th>
<th>Total % (N=489)</th>
<th>0 ACE % (n=182)</th>
<th>1 ACE % (n=97)</th>
<th>2-3 ACEs % (n=112)</th>
<th>4+ ACEs % (n=98)</th>
<th>X² (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>37.2</td>
<td>19.8</td>
<td>22.9</td>
<td>20</td>
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<tr>
<td><strong>Gender</strong></td>
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<tr>
<td>Male</td>
<td>56.9</td>
<td>36.3</td>
<td>18.3</td>
<td>25.9</td>
<td>19.4</td>
<td>3.51 (.32)</td>
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<td>Female</td>
<td>43.1</td>
<td>38.4</td>
<td>21.8</td>
<td>19</td>
<td>20.9</td>
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<td>White British</td>
<td>71.8</td>
<td>32.2</td>
<td>20.5</td>
<td>24.2</td>
<td>23.1</td>
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<td>18.1</td>
<td>19.6</td>
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<td>62</td>
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<td>18.5</td>
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<tr>
<td>1 to 4 years</td>
<td>15.3</td>
<td>30.7</td>
<td>24</td>
<td>13.3</td>
<td>32</td>
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<td>5 to 11 years</td>
<td>10.4</td>
<td>33.3</td>
<td>19.6</td>
<td>25.5</td>
<td>21.6</td>
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<tr>
<td>12 to 17 years</td>
<td>12.3</td>
<td>21.7</td>
<td>21.7</td>
<td>23.3</td>
<td>33.3</td>
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<tr>
<td><strong>Deprivation</strong></td>
<td></td>
<td></td>
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<tr>
<td>1 (least)</td>
<td>8.6</td>
<td>54.8</td>
<td>26.2</td>
<td>9.5</td>
<td>9.5</td>
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<tr>
<td>2</td>
<td>11</td>
<td>37</td>
<td>25.9</td>
<td>25.9</td>
<td>11.1</td>
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<tr>
<td>3</td>
<td>13.3</td>
<td>38.5</td>
<td>18.5</td>
<td>26.2</td>
<td>16.9</td>
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<td>4</td>
<td>20</td>
<td>36.7</td>
<td>19.4</td>
<td>21.4</td>
<td>22.4</td>
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<tr>
<td>5 (most)</td>
<td>47</td>
<td>33.9</td>
<td>17.8</td>
<td>24.3</td>
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<td><strong>Siblings</strong></td>
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<td>0</td>
<td>26</td>
<td>47.2</td>
<td>26.8</td>
<td>20.5</td>
<td>5.5</td>
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<td>1 to 2</td>
<td>52.1</td>
<td>37.6</td>
<td>17.6</td>
<td>25.9</td>
<td>18.8</td>
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<td>3 to 4</td>
<td>17.6</td>
<td>25.6</td>
<td>19.8</td>
<td>20.9</td>
<td>33.7</td>
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<tr>
<td>5 or more</td>
<td>4.3</td>
<td>19</td>
<td>4.8</td>
<td>9.5</td>
<td>66.7</td>
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<tr>
<td>ACE</td>
<td>Definition</td>
<td>Prevalence (n)</td>
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<tr>
<td>Physical abuse</td>
<td>Intentional use of physical force against a child that results in, or has the potential to result in, physical injury.</td>
<td>6.5%</td>
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<tr>
<td>Sexual abuse</td>
<td>Any completed or attempted sexual act, sexual contact with, or exploitation of a child by a caregiver.</td>
<td>5.9%</td>
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<tr>
<td>Emotional abuse</td>
<td>Intentional caregiver behaviour that conveys to a child that they are worthless, flawed, unloved, unwanted, endangered, or valued only in meeting another’s needs</td>
<td>2.9%</td>
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</tr>
<tr>
<td>Neglect</td>
<td>Failure by a caregiver to meet a child’s basic physical, emotional, health, or educational needs—or a combination of these.</td>
<td>21.1%</td>
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<tr>
<td>Domestic violence</td>
<td>Any form of verbal or physical violence between a caregiver and his or her adult partner or ex-partner</td>
<td>36.2%</td>
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<td></td>
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<tr>
<td>Parental separation</td>
<td>Divorce or separation between parents or caregivers</td>
<td>32.9%</td>
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<tr>
<td>Substance misuse</td>
<td>Living with a parent, caregiver or other family member who misuses substances, including illegal drugs and prescription medications</td>
<td>17.6%</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Alcohol misuse</td>
<td>Living with a parent, caregiver or other family member who misuses alcohol</td>
<td>14.7%</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Mental health issues</td>
<td>Living with a parent, caregiver or other family member who is depressed, has other mental health problems or has ever attempted suicide</td>
<td>35.4%</td>
<td></td>
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<tr>
<td>Incarceration</td>
<td>Living with a parent, caregiver or other family member who sentenced to serve time in a prison or youth offending institution</td>
<td>4.3%</td>
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<td></td>
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</tr>
</tbody>
</table>
## Cause of death and ACE count

<table>
<thead>
<tr>
<th>Cause of Death/Medical Condition</th>
<th>Total %</th>
<th>0 ACE (%)</th>
<th>1 ACE (%)</th>
<th>2-3 ACEs (%)</th>
<th>4+ ACEs (%)</th>
<th>X^2 (p)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deliberately inflicted injury, abuse or neglect</td>
<td>2.5</td>
<td>0</td>
<td>0</td>
<td>25</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td>Suicide or deliberate self-inflicted harm</td>
<td>3.7</td>
<td>0</td>
<td>11.1</td>
<td>38.9</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Trauma and other external factors</td>
<td>5.1</td>
<td>20</td>
<td>12</td>
<td>28</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Malignancy</td>
<td>5.5</td>
<td>33.3</td>
<td>33.3</td>
<td>22.2</td>
<td>11.1</td>
<td></td>
</tr>
<tr>
<td>Acute medical or surgical condition</td>
<td>3.5</td>
<td>29.4</td>
<td>17.6</td>
<td>17.6</td>
<td>35.3</td>
<td></td>
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<tr>
<td>Chronic medical condition</td>
<td>1.4</td>
<td>28.6</td>
<td>28.6</td>
<td>42.9</td>
<td>0</td>
<td>111.32 (&lt;.001)</td>
</tr>
<tr>
<td>Chromosomal, genetic/congenital abnormality</td>
<td>28</td>
<td>52.6</td>
<td>23.4</td>
<td>14.6</td>
<td>9.5</td>
<td></td>
</tr>
<tr>
<td>Perinatal/neonatal event</td>
<td>31.3</td>
<td>37.9</td>
<td>24.8</td>
<td>26.8</td>
<td>10.5</td>
<td></td>
</tr>
<tr>
<td>Infection</td>
<td>9.2</td>
<td>42.2</td>
<td>6.7</td>
<td>15.6</td>
<td>35.6</td>
<td></td>
</tr>
<tr>
<td>Sudden unexpected, unexplained death</td>
<td>9.8</td>
<td>25</td>
<td>10.4</td>
<td>31.3</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td><strong>General population</strong></td>
<td><strong>52%</strong></td>
<td><strong>23%</strong></td>
<td><strong>16%</strong></td>
<td><strong>9%</strong></td>
<td></td>
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</tr>
</tbody>
</table>
Controlling for demographics

- Causes of death grouped into 3 different categories to perform multinomial logistic regression, controlling for gender, age, ethnicity, siblings, deprivation
  1. Genetic and medical conditions: Chromosomal, genetic and congenital deaths; perinatal and neonatal deaths; malignancy
  2. Abuse/non-natural deaths: Deliberately inflicted injury, abuse or neglect; suicide or deliberate self-inflicted harm; trauma and other external factors
  3. Chronic and acute conditions: Acute medical or surgical conditions; chronic medical conditions; infection; sudden unexpected, unexplained deaths
<table>
<thead>
<tr>
<th>Age Group</th>
<th>Abuse/non-natural deaths</th>
<th>Chronic and acute conditions</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>AOR</td>
<td>95% CI</td>
</tr>
<tr>
<td>Under 1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1 to 4 years</td>
<td>9.63*</td>
<td>3.55 - 26.13</td>
</tr>
<tr>
<td>5 to 11 years</td>
<td>3.08</td>
<td>0.85 - 11.15</td>
</tr>
<tr>
<td>12 to 17 years</td>
<td>58.38*</td>
<td>21.16 - 161.06</td>
</tr>
<tr>
<td>No ACEs</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1 ACE</td>
<td>1.01</td>
<td>0.26 - 3.97</td>
</tr>
<tr>
<td>2 to 3 ACEs</td>
<td>8.70*</td>
<td>2.73 - 27.70</td>
</tr>
<tr>
<td>4 or more ACEs</td>
<td>21.11*</td>
<td>6.79 - 65.65</td>
</tr>
</tbody>
</table>

AOR = Adjusted Odds Ratio; 95% CI = 95% confidence interval; * p < 0.01
Implications and conclusions

- ACEs higher than general population studies
- Improving understanding of the circumstances in which children die
- Consideration of multiple and cumulative adversities
- Recommendations for policy and practice
Limitations

- Reliance on secondary data
- Small sample size
- Categories of ACEs
Interviews with CDOP stakeholders

- 10 semi-structured interviews
- Included representatives from safeguarding, emergency services, pediatrics, midwifery and public health
- Each conversation lasted around 30 minutes
- Lack of representation from education, police and social services
Key themes from interviews

- Awareness of ACEs
  - *Around half were aware of what ACEs were*
  - *Others either weren’t aware, or had only heard of ACEs as a phrase*

- The scope and role of CDOP

- Gathering information

- Training and support

- Implementing interventions

- Multi-agency working
Using ACEs in policy and practice: Informing professionals and the public

- [https://www.youtube.com/watch?v=XHgLh9KZ-A](https://www.youtube.com/watch?v=XHgLh9KZ-A)
- [http://www.aces.me.uk/in-wales/](http://www.aces.me.uk/in-wales/)
An enabling policy framework

- Wellbeing and future generations act
- All departments have to think:
  - Long Term
  - Prevention
  - Integration
  - Collaboration
  - Involvement
Emphasising prevention

Social Services and Well-being (Wales) Act 2014

Welsh Government

Taking Wales Forward
2016-2021

“Support families and parents to reduce adverse childhood experiences which can have lifelong effects.”

gov.wales
Identifying and addressing risk factors
Early support: A Safe start for all children

• Home visiting
• Parenting programmes
• Preschool enrichment
Promoting resilience

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

- **Problem Drinkers**
  - Never: 30%
  - Always: 10%

- **Used Cocaine or Heroin**
  - Never: 25%
  - Always: 15%

- **Been Incarcerated**
  - Never: 20%
  - Always: 15%

**Children suffering 4+ ACES**

- **Percent with current mental illness**
  - Childhood resilience
    - Low: 29%
    - High: 14%
  - Trusted adult relationship
    - Never: 28%
    - Always: 19%
  - Regular sports participation
    - No: 25%
    - Yes: 19%

*ACES: Adverse Childhood Experiences*
Multiagency responses & becoming trauma informed

- Education, police, youth justice...
- ACE informed lens
Monitoring ACEs and progress
Ensuring healthier, happier children

- Reduce inequalities and suffering in other areas
- ACE should not be considered an isolated ‘project’, rather part of a whole system approach to help understand and improve health and wellbeing.
- Any ACE interventions should be well planned, monitored and evaluated to help build the evidence base.
Thank you!

- Supervision team:
  - Mark Bellis (Director of Policy, Research and International Development, Public Health Wales)
  - Kat Ford (Research officer, Bangor University)
  - Helen Lowey (Consultant in public health, Blackburn with Darwen Council)

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