Analysing longitudinal data for looked after children in England

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Children Looked After return

- Derived from an annual census of all local authorities
- Collated by the Department for Education since 1992
- Care records are linked over time via a child ID

- Data extract we analysed contained:
  
Using CLA data for research

**Strengths**

- More than 20 years of data collected
- Longitudinal record of children’s care history
- Lack of selection or recall bias
- Detailed information on episodes of care
- Linkage to other datasets is possible e.g. education

From: Mc Grath-Lone et al. (2016) International Journal of Epidemiology
Describing out-of-home care in England

• Number of children in care
e.g. ever, at a single time point, during a period

• Type of care
e.g. setting, legal status

• Duration of care
e.g. length of first episode, total time, % of childhood

• Trajectories of care
e.g. number of placement moves, destination, re-entry to care
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1 in 30 children in England enter OHC

3.3% of children born 1992-94

Rates of entry to care are increasing

3.3% of children born 1992-94

Some ethnic minorities are more likely to enter care

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Children are placed in a variety of OHC settings

**Family setting**
- Foster care by:
  - relatives
  - family friends
  - strangers

**Group setting**
- Children’s home
- Mother & baby unit
- Residential school
- Supported living unit
- Health-related institution

**Other settings**
- Independent living
- Secure unit
- Young offenders’ institute
Most children are placed in family care

First placement by year of birth and age at first entry

<table>
<thead>
<tr>
<th>Age at First Entry</th>
<th>Born in 1992</th>
<th></th>
<th></th>
<th>Born in 2000</th>
<th></th>
<th></th>
<th>Born in 2008</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Family</td>
<td>Group</td>
<td>Other</td>
<td>Family</td>
<td>Group</td>
<td>Other</td>
<td>Family</td>
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<td>Other</td>
</tr>
<tr>
<td>&lt;1 year</td>
<td>90%</td>
<td>8%</td>
<td>2%</td>
<td>90%</td>
<td>10%</td>
<td>0%</td>
<td>91%</td>
<td>9%</td>
<td>0%</td>
</tr>
<tr>
<td>1 to 4 years</td>
<td>96%</td>
<td>2%</td>
<td>2%</td>
<td>98%</td>
<td>2%</td>
<td>0%</td>
<td>99%</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>5 to 10 years</td>
<td>91%</td>
<td>8%</td>
<td>1%</td>
<td>96%</td>
<td>4%</td>
<td>0%</td>
<td></td>
<td></td>
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<tr>
<td>11 to 15 years</td>
<td>73%</td>
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<td></td>
<td></td>
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<tr>
<td>16+ years</td>
<td>30%</td>
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Children are more likely to be placed in family care

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Describing out-of-home care in England

• Number of children in care
  e.g. ever, at a single time point, during a period

• Type of care
  e.g. setting, support, access to services

• Duration of care
  e.g. length of first episode, total time, % of childhood

• Trajectories of care
  e.g. number of placement moves, destination, re-entry to care
Average time spent in care varies by age

*Weeks in out-of-home care in the two years following first entry to care*

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>1992</th>
<th>2000</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>49</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 to 4</td>
<td>45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 to 10</td>
<td>65</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11 to 15</td>
<td>57</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Average time spent in care is increasing

Weeks in out-of-home care in the two years following first entry to care

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- Duration of care
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- Trajectories of care
  e.g. re-entry to care, number of placement moves, destination
Modes of exit from out-of-home care in England

Return home
- No longer looked after

Placed with parents
- Local authority retains role of corporate parent

Adopted
- Transfer of all parental rights

Special guardianship order
- Transfer of most parental rights

Residence order
- Transfer of some parental rights

Sentenced to custody
- Moves to YOI or prison

Moves to YOI or prison
Most children return home when exiting care

Overall 5,226 children aged <16 years exited out-of-home care in 2008

More than 60% returned home to their parents

Almost one in five children were adopted
Exclusions from re-entry analysis

When child is adopted they acquire a new legal identity.
• If they re-enter care, it will not be linked to their previous care history.

Children sentenced to custody cannot re-enter care until they have completed their sentence.
• This will affect re-entry timings.

Re-entry can be explored for 4,076 children
More than one-third of children re-enter care

Percentage of children exiting care in 2008 who re-entered within five years

35.3%
Children who exit via a special guardianship order are least likely to re-enter

Percentage of children re-entering care within five years, by mode of exit

- Returned home: 40.5%
- Special guardianship order: 39.8%
- Residence order: 34.0%
- Other exit: 8.9%
- Placed with parents: 4.2%
Children aged 11-15 are most likely to re-enter

Percentage of children re-entering care within five years, by age group

- <1 year: 31.1%
- 1-4 years: 24.5%
- 5-10 years: 29.7%
- 11-15 years: 50.0%

% re-entering out-of-home care vs. Time (years)
Effect of child characteristics

Children aged 11 or older have up to 50% higher hazard of re-entering care compared to younger children.

White or Mixed ethnicity also have 50% higher hazard of re-entry.

Sex has no effect on re-entry.

Hazard ratio for child factors with constant proportional hazards

<table>
<thead>
<tr>
<th>Age group</th>
<th>HR</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1</td>
<td>(ref)</td>
<td></td>
</tr>
<tr>
<td>1 to 4</td>
<td>0.98</td>
<td>0.64</td>
</tr>
<tr>
<td>5 to 10</td>
<td>0.89</td>
<td>0.30</td>
</tr>
<tr>
<td>11 to 15</td>
<td>1.49</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>White or Mixed</td>
<td>1.50</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Black, Asian or Other</td>
<td>(ref)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sex</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>(ref)</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>0.99</td>
<td>0.81</td>
</tr>
</tbody>
</table>
## Effect of other care factors

<table>
<thead>
<tr>
<th>Condition</th>
<th>0 to 3 months HR</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>In care due to family stress/dysfunction</td>
<td>1.48</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>In care due to child’s disability</td>
<td>1.30</td>
<td>0.35</td>
</tr>
<tr>
<td>In care due to absent parenting</td>
<td>0.54</td>
<td>0.03</td>
</tr>
<tr>
<td>Previous exit from out-of-home care</td>
<td>1.44</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Average placement is 3-9 months long</td>
<td>0.46</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Average placement is &gt;9 months long</td>
<td>0.34</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>1-4 placement changes overall</td>
<td>1.03</td>
<td>0.63</td>
</tr>
<tr>
<td>&gt;5 placement changes overall</td>
<td>1.50</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>In care voluntarily (i.e. not court-mandated)</td>
<td>1.83</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>
What factors affect re-entry to care?

**More likely to re-enter care**
- A history of previous exits
- In care due to child’s disability, family stress or dysfunction*
- Placed with parents or “Other” mode of exit*
- Aged >11 when exiting care
- White or Mixed ethnicity
- Short average placement length*
- High number of placement changes*
- Voluntarily in care

**Less likely to re-enter care**
- First exit from care
- In care due to absent parenting*
- Returned home or exit under a legal order*
- Aged <11 when exiting care
- White or Mixed ethnicity
- Long average placement length*
- Low number of placement changes*
- In court-mandated care

* Time-varying effects
Predicting re-entry to care

More likely to re-enter care

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* Time-varying effects

Absolute predicted risk ≈ baseline hazard + Σ(baseline hazard*hazard ratio)
Calibrate predictive model

- Restricted to rapid re-entry within 3 months (time-varying hazards)
- Three risk groups: **low** (<5%), **medium** (5-15%) & **high** (>15%)
- Plot average predicted risk against average observed risk for each group

![Graph showing predicted vs. observed re-entry rates for low, medium, and high risk groups.]

- **High-risk:**
  - Observed = 21.9%
  - Predicted = 18.6%
- **Medium-risk:**
  - Observed = 12.0%
  - Predicted = 10.9%
- **Low-risk:**
  - Observed = <1%
  - Predicted = <1%
**Validate predictive model**

- Using external dataset of children who exited care in 2012 (N=4,650)
- Develop an online calculator based on validates predictive model

<table>
<thead>
<tr>
<th>Risk Level</th>
<th>Observed Rate</th>
<th>Predicted Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-risk</td>
<td>18.8%</td>
<td>18.4%</td>
</tr>
<tr>
<td>Medium-risk</td>
<td>7.2%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Low-risk</td>
<td>1.7%</td>
<td>1.4%</td>
</tr>
</tbody>
</table>

![Graph showing observed vs predicted rates of re-entry](graph.png)

- High-risk: Obs = 18.8%, Pred = 18.4%
- Medium-risk: Obs = 7.2%, Pred = 10.5%
- Low-risk: Obs = 1.7%, Pred = 1.4%
## Re-entry to care calculator

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>How old is the child?</td>
<td>5-10 years</td>
</tr>
<tr>
<td>What is their ethnicity?</td>
<td>Black</td>
</tr>
<tr>
<td>Why is the child in care (i.e., what is their category of need)?</td>
<td>Abuse or neglect</td>
</tr>
<tr>
<td>Is this the first time the child is leaving care?</td>
<td>Yes, this is their first episode of care that is ending</td>
</tr>
<tr>
<td>How long has the child been in care (current episode only)?</td>
<td>3-6 months</td>
</tr>
<tr>
<td>Is the child in care voluntarily (i.e., Section 20 accommodation)?</td>
<td>Yes</td>
</tr>
<tr>
<td>How is the child leaving care?</td>
<td>They are being placed with their parents but will continue to be looked after</td>
</tr>
</tbody>
</table>

### Predicted risk of re-entering care within three months

- **Risk group (low, medium or high):**
  - **10%**

**Children with these risk factors are placed in the medium-risk group and are at higher risk of re-entry to care than other children.**

**The proportion of children re-entering care in the medium-risk group ranges from 5% to 15%. On average, 1 in 8 children re-enter care within 3 months.**

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**Will be published online and freely available**

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Acknowledgements

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Prof Ruth Gilbert
Prof Lorraine Dearden
Dr Katie Harron
Dr Bilal Nasim

Questions?