



## Missing Children: Characteristics that predict repeat missing episodes

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## Background

- There is repeat and heavy demand on public services in responding to children and young people who are regularly reported as missing (Hayden & Goodship, 2013).
- While children are missing they are at risk (CEOP, 2011). Going missing can increase exposure to sexual and physical abuse, substance misuse and crime.
- Early identification and intervention is critical (Browne & Falshaw, 1998).

## Gwent Initiative

In 2010 the Welsh Government gave approval for agencies in Gwent to progress a redesign of the service provision in response to missing children. This resulted in the development of the Gwent Missing Children's Team (MCT). This project went live in April 2012.

## AIMS

- Identify characteristics of children and their families that predict likelihood of repeat missing episodes.
- To provide an 'At Risk' Algorithm that can be used in Gwent to direct resources to assist early intervention with children who are reported missing by targeting those most at risk of being reported missing more than once.

## Methods

- *Univariate* - the frequency of characteristics found in missing children cases will be compared.
- *Bivariate* - Chi<sup>2</sup> analysis to detect if significant differences exist between those children who go missing once (group 1) in comparison to those children who go missing more than once (Grp 2).
- *Multivariate* - groups of variables will be compared between the two groups using logistic regression techniques to establish whether these can be used to predict repeat missing episodes

## Sample

- A sample of 536 missing children cases (less than 18 years old) were taken from the Gwent MIRAF database from 1/4/13 to 31/1/14 (9 months). In 523 cases, incidence data were available from the police (COMPACT database).
- It was found that 275 children in Gwent had run away only once, compared to 248 who have run away 2 or more times, of which 171 had run away 3 or more times in the same period.

### Results 1

- From April 2013 to April 2014 there were 2,426 missing children incidences relating to 692 individual children. Of those recorded as missing or absent:
- 49% were males (age M= 13.99) and
- 51% were females (age M= 14.61)
- 33% were known to Youth Offending Services
- 55% had parents whom had been involved in domestically violent relationships

### Results 2

- 50% were misusing substances
- 26% were considered to be at risk of sexual exploitation
- 11% had physical illness or disabilities and 12% had learning disabilities and 5% were young carers .
- 97% the child had come to the attention to social services in the past.

### Results 3

- 59% were considered to have experienced abuse or neglect.
- 28% were 'looked after' by the local authority
- 58% were open to social services .
- 29% were cases that had previously been closed by social services.

### Results 4

- There is a significant association between children being 'looked after' by the local authority and missing incidences ( $\chi^2 (1) = 88.08$   $p \leq .001$ ).
- More children who are 'looked after' by the local authority go missing more than once. 'Looked after children' were more likely to be sexually exploited.

### Most Important Risk Factors

- 13 characteristics correlated with running away more than once but 8 were highly correlated 5 main characteristics and contributed little to the predictive model.
- 5 risk factors could distinguish those have only run away once in comparison to those who have run away more than once with 71% accuracy.

### Model Algorithm

- Known to Youth Offending Teams
- Looked after child (in public care)
- History of substance misuse
- History of sexual exploitation (CSE)
- History of abuse and neglect

## Performance of Algorithm

- If 2 or more of the 5 risk factors are present, then the predictive model correctly classifies 71% of the cases.
- For those cases that run away more than once, 91% will be identified.
- For those who run away only once, 80% will be identified. This means approximately half of those children who run away for the first time will be identified at risk of running away again (has 2 or more risk factors out of the above 5).
- Of these, 4 out of 5 will be truly at risk of running away at least 2 or 3 times. One out of 5 will be a false positive but still a child in need of support

## Classification Table – 71% correct

| Actual                  | Run away more than once | Run away once    | Actual Total |
|-------------------------|-------------------------|------------------|--------------|
| Run Away more than once | 226 (91%)<br>(a)        | 22 ( 9%)<br>(c)  | 248<br>(a+c) |
| Run away once           | 55 (20%)<br>(b)         | 220 (80%)<br>(d) | 275<br>(b+d) |
| Predicted Total         | 281<br>(a+b)            | 242<br>(c+d)     | 523<br>(N)   |

## Prediction

71% correct classification

- Incidence of running away more than once =  $47.4\% (226+22/523) = (a+c)/N$
- High Risk for Running away more than once =  $53.7\% (226+55/523) = (a+b)/N$
- Positive Predictive accuracy of 5 factor model =  $80.4\% 226/(226+55) = a/(a+b)$
- Negative predictive accuracy of 5 Factor model =  $90.9\% (220/22+220) = d/(c+d)$
- Risk Ratio (RR) =  $0.88 (226/226+55)/(22/22+220) = a/(a+b)/c/(c+d)$
- Sensitivity =  $91\% (226/226+22) = a/(a+c)$
- Specificity =  $80\% (220/55+220) = d/(b+d)$

## Discussion

- Being 'looked after' can be considered a risk factor of repeat missing episodes.
- Children who are 'looked after' may have less protective factors or may be subject to more push/pull factors.
- Alternatively children in local authority care may be more likely to be reported as missing by professionals involved in their care.

## References

- CEOP (2011). Scoping Report on Missing and Abducted Children
- Hayden, C., & Goodship, J. (2013). Children Reported 'Missing' to the Police: Is It Possible to 'Risk Assess' Every Incident? *British Journal of Social Work*. Doi:10.1093/bjsw/bet150
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