Introducing the Alaska Longitudinal Child Abuse and Neglect Linkage Project (ALCANLink)

△ Making smarter use of available data

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Cornerstone of public health

The Public Health Model

Define the Problem

Identify risk and protective factors

Develop and test prevention strategies

Assure widespread adoption
Data linkage

Complex public health problems require comprehensive longitudinal data.

Through data integration, population based data can be derived.

Birth Cohorts linked to Child Protection

Challenges
ALCANLink

Mixed design approach

Alaska Pregnancy Risk Assessment Monitoring System (Alaska PRAMS)

Follow-up

Administration and response

Maternal experiences

1:6

Women icons
ALCANLink

Mixed design approach

Alaska Pregnancy Risk Assessment Monitoring System (Alaska PRAMS)

Follow-up
Administration and response
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1:6

Alaska Longitudinal Child Abuse and Neglect Linkage Project (ALCANLink)

Survey

Annual Linkages

Administrative
Medical
Child Protection reports
Other records
Legal
EMS
Law enforcement

2009-2011
All 2009 live births in Alaska
(n = 11317)

2009 PRAMS Respondents
(n = 1235)

2009 PRAMS Respondents
(n = 1235)

Annual Death Records
(2009—2014)

Direct Linkage with manual review

Maltreatment Reports
(n = 327)**

Annual PFD file
(2009-2014)*

Probabilistic Linkage with manual review

Censored by death
(n = 23)

Censored by emigration
(n = 282)

Uncensored
(Followed without loss)
(n = 930)

ALCANLink Cohort
(n = 1235)

ALCANLink

* Permeant Fund Dividend

**Report of maltreatment to either child protective services, child advocacy center, Anchorage Police Department, or the Child Death Review team
Mixed design approach
2009-2011 PRAMS respondents

N = 3,549 (represents 49,634 births)

51.5% Male, 48.5% Female

930 reported to OCS by 2015

- 404 reported only once,
- 178 only twice, and
- 348 three or more times
Comparison

Before age 5
Proportion of 2009 Alaska birth cohort

Weighted PRAMS estimates are nearly equivalent to full birth cohort linkage observation.
During 2015 in Alaska, ~10% of children ages 0-6 years experienced a report for maltreatment.
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Among children born in 2009:2011, nearly 10,241 were reported for maltreatment before age 7.

Incidence Proportion (cumulative incidence)

- <1 year: 9%
- <3 years: 18%
- <5 years: 25%
- <7 years: 31%
Maternal Stressors

21% of children are born to mothers reporting 4 or more of these stressors

- Homeless
- Partner went to jail
- Being in a fight
- Lost job
- Partner lost job
- Argued with partner more
- Close family member very sick

- Separated/divorced
- Moved
- Someone close died
- Lot of bills couldn’t pay
- Partner didn’t want pregnancy
- Someone close had problem with drugs/drinking
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1 in 2 reported for maltreatment before age 7 years
Variable risk

Children born with different life trajectories for maltreatment

- Crude (0.31)
- 6+Stressors: 0.67
- <12 years EDU: 0.64
- Intimate Partner Violence: 0.61
- Maternal Smoking: 0.57
- 4+Stressors: 0.52
- Maternal Marijuana: 0.51
- Alaska Native: 0.49
- Unmarried: 0.48
- Low SES: 0.44
- Unintended Pregnancy: 0.38

Race doesn’t define risk, rather the disproportionate load of factors that are modifiable and preventable.

Compared to White Children, Alaska Native Children:

- ~3.0x
- ~1.5x
Variable risk

Children born with different life trajectories for maltreatment

Compared to White Children, Alaska Native Children:

~3.0x the risk

~1.5x the risk

Race doesn’t define risk, rather the disproportionate load of factors that are modifiable and preventable.
Predictive analytics

- Low income families (Mothers/births on Medicaid)
- Maternal substance use before/during pregnancy
- 6 or more of 13 maternal stressors reported
- Military families
- Unmarried mothers
- Low maternal age/education

- Multiple children
- History of maternal IPV
- Delayed/absent prenatal care
- Prior history with OCS or DJJ
- History of poor mental health

Replication

Developing implementation package

PRAMS Grantees, 2016

Searching for funder to support the development of a flexible data platform

Small multi-state collaboration pilot (partners welcomed)

Goal to have majority of the package ready by mid 2018...

- Standardized methods
- Data sharing agreement templates
- Data platform for integration and linkage
- Linkage support and technical assistance
- Analysis support
- Tips for overcoming challenges (accessing CPS records)
## Summary

If you don’t know where you’re at, it doesn’t matter where you’re going

<table>
<thead>
<tr>
<th>Public Health Model</th>
<th>Building a strong foundation for prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Define the problem</td>
<td></td>
</tr>
<tr>
<td>Identify risk/protective factors</td>
<td></td>
</tr>
<tr>
<td>Develop/test prevention strategies</td>
<td></td>
</tr>
<tr>
<td>Assure widespread adoption</td>
<td></td>
</tr>
</tbody>
</table>

- Linkage of entire birth cohorts with state child protection records is beneficial but may be challenging to standardize between states and resource prohibitive
- ALCANLink methodology can measure cumulative incidence, develop predictive models, and conduct comprehensive etiologic assessment
- Working to package and standardize ALCANLink methodology for multi-state collaboration and potentially nationally
Thank you

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- Parrish JW, Shanahan ME, Schnitzer PG, Lanier P, Daniels JL, Marshall SW. Quantifying Sources of Bias in Longitudinal Data Linkage Studies of Child Abuse and Neglect: Measuring the impact of outcome specification, linkage error, and partial cohort follow-up. (Accepted for publication in Injury Epidemiology)