

# Alaska Longitudinal Child Abuse and Neglect Linkage Project: *Brief Overview*

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## Summary

The ALCANLink project started with a group of Alaskan children whose mothers responded to the Pregnancy Risk Assessment Monitoring System (PRAMS) survey over a three year period shortly after they were born. Every year, project analysts check to see whether any of the children have been reported to child welfare or receive services from other public programs. As the children get older, we are able to calculate the percentage of children in each age group who have ever been involved with child welfare during their lifetime (“cumulative incidence”). We then are able to explore information on pre-birth factors from their mothers’ PRAMS responses that increase or decrease the chance a child is reported to child welfare, as well as the early childhood family context of Adverse Childhood Experiences. This work has provided clear evidence for the need for early and continued efforts to prevent child maltreatment before birth and throughout childhood. If you’d like to take a sneak peek at some of the ALCANLink data, you can explore the test website being developed at: <https://ak-mch-epi.shinyapps.io/ALCANLink/>



## Background

Child maltreatment which includes all forms of physical and sexual abuse, neglect, and mental injury is not only a child welfare issue, but a substantial public health problem. In Alaska, during an average year approximately 10% of the child population ages 0–17 years will be reported to child welfare due to a suspicion of child maltreatment. Largely, our understanding of the burden of maltreatment in our state has been based on annual point-in-time prevalence estimates. However, this “snapshot” only indicates maltreatment reported in a given year which can result in a false perception that only a small proportion of children in Alaska have contact with child welfare. To understand the accumulated child burden, cumulative incidence estimates can help us understand the actual severity and resulting public health burden in our population. Without data to measure the underlying population and the accumulated burden in the population, we are unable to accurately identify populations that may be at increased risk and factors that protect against maltreatment.

Although large geographically, Alaska has a small population resulting in many centralized services. This centralization of services is conducive to leveraging health informatics and through the integration of administrative and epidemiologic information a public health approach can be implemented to prevention child maltreatment. By integrating Alaska birth records to other administrative records through a process called data linkage we can begin to answer prospective, population-based questions about the probability (or likelihood) that children born in Alaska will be reported, substantiated, or other outcomes due to maltreatment. The purpose of this project is to develop an understanding of the cumulative risk or child burden of reported maltreatment experienced during childhood in Alaska and to facilitate comprehensive epidemiologic investigation to describe who, what, when, where, and why maltreatment occurs.

## Methods

Using existing resources, the section of Women’s, Children’s, and Family Health, within the Alaska Division of Public Health operates the Alaska Longitudinal Child Abuse and Neglect Linkage project (ALCANLink) to examine maltreatment over time. ALCANLink was initially developed through a three-way partnership between a local funder, the Alaska Department of Health and Social Services, and the University of North Carolina at Chapel Hill. Unlike other projects in the U.S. that link entire birth records with child welfare records, ALCANLink integrates only those records that were sampled and subsequently responded to the PRAMS survey.

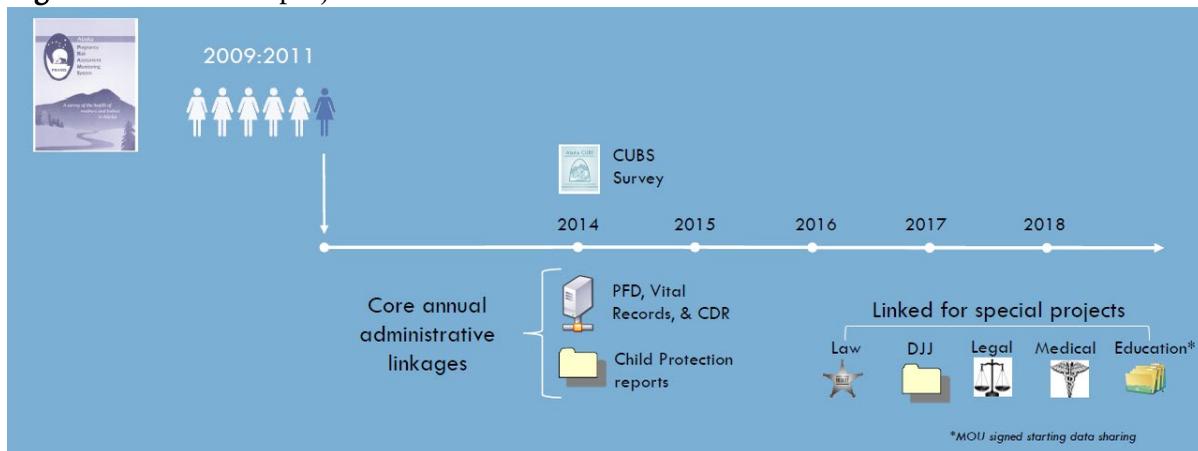
PRAMS samples approximately 1 in every 6 live births among Alaska resident mothers, and mothers who respond provide implicit consent to have their responses integrated with other administrative data. Using probabilistic linkage methodology we integrated 2009—2011 PRAMS records with child welfare, vital records, child death review, permanent fund dividend, and others (Figure). These epidemiologic data are used to better understand the factors that contribute and/or protect children and families from becoming involved with child welfare and seeks to identify opportunities for preventing maltreatment in the population based on this



knowledge. These data can be used to direct limited resources to help prioritize prevention and promote early interventions that may prevent the conditions that lead to child welfare involvement.

These data are only available and used for population level epidemiologic evaluation to help direct prevention/intervention efforts as directed under AS 18.05 and AS 18.15.

**Figure:** ALCANLink project



## Overview of cumulative incidence

Among the approximately 11,000 births that occur in Alaska each year nearly 1,000 are reported to child welfare for maltreatment before their 1<sup>st</sup> birthday, and before the 7<sup>th</sup> birthday it swells to just over 3,400 children or nearly 1 in 3 children born statewide!

Annual estimates provide an indication of the system burden occurrence but do not provide an accurate picture of the number of children in the population who become involved with the child protection system throughout their early years. Annual estimates record that approximately 10% of children ages 0–6 are reported to child welfare for maltreatment, whereas cumulative estimates indicate that 31% of children born in Alaska are reported before age 7—three times that of the annual estimate. Although these two measures of occurrence are substantially different they are not in conflict as they measure different aspects. Prior to the ALCANLink project we had no data source to measure the cumulative risk in the population over time.

## Predicting child maltreatment

A variety of factors can contribute to elevated risk of maltreatment and subsequent involvement with child protection. Some populations have a disproportionate number of these factors resulting in increased contact with child protection and differential lifetime trajectories for optimized health and development. Children born into families that are low income, single parent households, families with a history of substance abuse or history of violence, and/or families experiencing multiple forms dysfunction are at an increased risk of being reported for

maltreatment during their lifetime. Lifetime contact with child protection is also differential by race in Alaska, with Alaska Native children being three times as likely to be reported before age 7 compared to White children. However, if we take into account the aforementioned factors, race differences largely disappear, thus race doesn't define risk, rather the disproportionate load of factors that are modifiable and preventable.

## Research projects

### Peer reviewed publications

1. Identifying Risk Factors for Child Maltreatment in Alaska: A Population-Based Approach <https://www.sciencedirect.com/science/article/pii/S0749379711001607>
2. Maternal Intimate Partner Violence Victimization Before and During Pregnancy and Postbirth Child Welfare Contact: A Population-Based Approach <https://journals.sagepub.com/doi/abs/10.1177/1077559515616704>
3. Quantifying sources of bias in longitudinal data linkage studies of child abuse and neglect: measuring impact of outcome specification, linkage error, and partial cohort follow-up <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5545181/>
4. Using time-to-event analysis to identify preconception and prenatal predictors of child protective services contact <https://www.sciencedirect.com/science/article/abs/pii/S014521341830231X>
5. Trajectories of child protective services contact among Alaska Native/American Indian and non-Native children <https://doi.org/10.1016/j.chiabu.2019.104044>
6. Heterogeneity in Risk and Protection Among Alaska Native/American Indian and Non-Native Children <https://doi.org/10.1007/s11121-019-01052-y>
7. Patterns of Risk and Protective Factors Among Alaska Children and Differential Associations with Indicators of Maternal and Child Wellbeing <https://srcd.onlinelibrary.wiley.com/doi/abs/10.1111/cdev.13356>
8. Identifying risk factors for child maltreatment in Alaska: A Population-Based Approach <https://doi.org/10.1016/j.amepre.2011.02.022>
9. Preconception and Prenatal Predictors of Early Experiences of Risk and Protection Among Alaska Children <https://doi.org/10.1007/s10995-019-02823-3>

### Other publications

1. [Dispelling Myths about Child Sexual Abuse among Indigenous People](#)

### Research projects in process

1. Comparing the cumulative incidence of first child welfare contact between two states: Accounting for differences in population structure
2. Accumulation of pre-birth household dysfunction and subsequent child welfare contact
3. Predicting Adverse Childhood Experiences score among 3 year olds in a birth cohort: Implications for ACEs Prevention
4. Changes in household dysfunction between pre-birth and childhood and subsequent child welfare contact
5. Replication of ALCANLink methodology in Oregon

