

**PRESENTATION
May 7, 2014 Meeting**

DATE: April 18, 2014

TO: Children and Families Commission of Orange County

FROM: Christina Altmayer, Executive Director 

SUBJECT: Emily Putnam-Hornstein – Early Intervention Services and Child Welfare Data in Southern California

Emily Putnam-Hornstein, Ph.D. will be making a presentation to the Commission that addresses two components Involvement of children 0-5 with Child Protective Services for Orange County, and the potential to link Child Welfare Data with Child Data Sources.

Dr. Hornstein is one of the two principal investigators of the Children's Data Network (CDN) a data and research collaborative funded by First 5 LA, housed at the USC School of Social Work, and developed in partnership with the California Child Welfare Indicators Project. Dr. Hornstein has done groundbreaking work by analyzing administrative data in the child welfare system to understand the involvement of children during the critical 0-5 time period. Historically, this data examines child abuse rates on an annual basis. Dr. Hornstein's analysis shows a much higher frequency of involvement with the child welfare system when data is examined by looking at the 0-5 birth cohort, as opposed to annual rates.

The second component of the presentation will address efforts to link child welfare data with other birth and program data. Through an evaluation collaborative of the Southern California Region of Commissions, the CDN is conducting a regional scan of early intervention programs and data availability across the eight First 5/Children and Families Commissions in Southern California (Imperial, Los Angeles, Orange, Riverside, San Bernardino, San Diego, Santa Barbara, and Ventura). The goal of the project is to better understand home visiting services delivered across the Southern California region and the data collected by these programs. Once the data availability is better understood, the work will focus on developing a methodology for the linkage of home visiting data to other data sources concerning children.

In a complementary effort, the CDN is currently working with the Orange County Commission to pilot test the linkage of Bridges Newborn Assessment records to already linked birth and child protection records, which were linked through funding from First 5 LA. This an example of leveraging administrative data across projects in the Southern California region. The goal is to determine the feasibility of linking these three data sources and to generate examples of the type of knowledge that can be harvested from the integration of these records.

Data integration projects could assist in describing children served by home visiting programs in the context of the broader population of children in a community, determining whether the highest risk children are being targeted and engaged in these programs, and looking at maltreatment and other outcomes. The intent is to evaluate to what degree we can demonstrate the children that participate

in Commission-funded home visitation programs are less likely to have involvement with the child welfare system, than a comparable cohort during the first five years. The final report, that will include the Orange County data linkage pilot, is scheduled for completion by the end of June 2014.

In addition to presenting information on this data project, Dr. Putnam-Horstein will present the data at a community forum on May 20. The forum is sponsored by the Orange County Alliance for Children and Families, the Orange County Juvenile Court, and the Commission.

Dr. Putnam-Hornstein is an Associate Professor at the University of Southern California (USC) School of Social Work. She is a member of the Data Linkage Committee for California's Child Welfare Council and a member of the Society for Social Work and Research, the Association for Public Policy Analysis and Management, the American Professional Society on the Abuse of Children, and the National Association of Social Workers. Her teaching interests include quantitative methods, child and family policy, and child welfare practice.

ATTACHMENT:

1. A Birth Cohort Study of Involvement with Child Protective Services before Age 5 – Orange County, California

A Birth Cohort Study of Involvement with Child Protective Services before Age 5

Orange County, California

INTRODUCTION

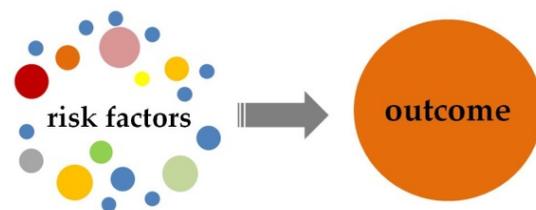
Much of what we know—or think we know—about risk factors for child abuse and neglect is based on cross-sectional and retrospective studies of children reported for maltreatment. Although these studies are useful for identifying and describing children reported to child protective services (CPS), substantiated as victims, or placed in foster care, they do not offer information needed to understand how these children may (or may not) differ from other children in our communities. Without data concerning this broader population of children, we are unable to determine whether children with a particular combination of risk factors might have been identified or prioritized for early intervention services to prevent the conditions that led to CPS-involvement.

Fortunately, the linkage and thoughtful configuration of administrative records can provide the necessary data for prevention focused studies. By linking CPS records to birth records from California, it is possible to answer prospective, population-based questions and generate information concerning the likelihood that children will be reported, substantiated, or placed in foster care because of maltreatment. In addition to providing information about the full population of children born in a given county and at risk of CPS involvement, birth records also include information not typically captured in administrative child protection systems, including infant weight at birth, maternal education, and whether paternity was established. Combining birth and CPS records allows us to better understand children involved with our local child

protection systems and highlights opportunities for being more strategic in our allocation and delivery of early intervention services.

Retrospective vs. Prospective Designs

The difference between a retrospective and prospective study design is a critical yet often misunderstood distinction. In a study with a retrospective design, individuals are sampled or studied because the outcome of interest has already occurred (e.g., a child has already been maltreated). They are selected based on the dependent variable. In contrast, a prospective study design identifies individuals who are at risk of the outcome and then follows them over time to see who does (and does not) experience the outcome. Prospective study designs can be employed using already collected, longitudinal administrative data.



METHODOLOGY

This report series details findings from a project in which the birth records of all children born in California in 2006 and 2007 were matched to statewide child protection records through each child's fifth birthday. These linked records were then analyzed by county, allowing us to describe the characteristics of children at birth and generate longitudinal, cumulative estimates of how many children were involved with CPS during the first 5 years of life. Additionally, these data provide an opportunity to examine child-

and family-level characteristics at a population level, helping us to identify attributes that are most strongly correlated with later CPS-involvement. In this report, we document findings for Orange County, California.

Record Linkages 101

Quite simply, record linkage involves matching and integrating information about individuals (or other entities) from different data systems. An inherent limitation of administrative data is the scope of information contained in any one system. By linking records, it is possible to better understand the characteristics and trajectories of children over time and across service systems.



FINDINGS

Characteristics of Children Born (Table 1)

Table 1 presents descriptive information collected at birth for infants born during calendar years 2006 and 2007 in Orange County. The total number (N) of births and the percentage (%) of the county's full birth cohort are reported for different characteristics at birth. Given the strong relationship between socioeconomic status and CPS involvement, we also present this same descriptive information based on whether the cost of birth was covered by private or public health insurance.

- Between 2006 and 2007, 93,963 children were born.
- Although prenatal care began during the first trimester for a majority of children, 9,656 children (10.2%) were born to mothers who received prenatal care that started late or not at all.
- A plurality of children (51.6%) were born to mothers of Latina race/ethnicity (15.9% - US born / 35.7% - foreign born).

- A total of 7.0% of children were born to teen mothers.
- 39,035 births were paid for by public health insurance, 41.5% of all children born.
- Paternity was missing for 6.3% of children overall, but 11.5% among births covered by public health insurance compared with 2.7% of births covered by nonpublic insurance.

Selected Variables

- ✓ **Birth Weight**
A measure of infant weight at the time of birth. Low birth weight is defined as <2500 grams.
- ✓ **Prenatal Care**
A measure of the trimester that prenatal care began. Late prenatal care is defined as care that began after the first trimester or not at all.
- ✓ **Paternity Establishment**
A measure of whether paternity was established at birth through the legal naming of a father on the birth record.
- ✓ **Number of Births**
A measure of the number of live births to this mother. If this was a first birth, it was coded as one.
- ✓ **Prior Pregnancy Terminations**
A measure of whether or not the mother had terminated any earlier pregnancies.
- ✓ **Birth Payment Method**
A measure of how the birth was paid for. Non-public includes private health insurance companies and self-pay. Public refers to Medi-Cal and other forms of public health insurance coverage. In California, mothers who give birth without health insurance coverage are retroactively enrolled in a public program.

Cumulative Number of Children Reported for Alleged Abuse or Neglect before Age 5 (Table 2)

Table 2 presents the cumulative number (N) and percentage (%) of children born in 2006 and 2007 who were reported to CPS for alleged abuse or neglect before age 5. These data are stratified by the sociodemographic and health characteristics listed in Table 1. Additionally, we present unadjusted and adjusted risk ratios (RRs) to compare the likelihood that children with different characteristics were reported to CPS before age 5. These estimates of relative risk are accompanied by 95% confidence intervals (95% CI); statistical

significance is reported and described in the table endnotes.

- 10,834 children were reported to CPS for alleged child abuse or neglect before the age of 5, 11.5% of children.
- Notable differences emerged in the likelihood of being reported to CPS. Overall, 12.8% of children who were low birth weight (< 2500g) were reported compared to 11.4% of children who were not. In relative terms, that meant that a low-birth-weight child had a 12.0% greater likelihood of being reported for abuse or neglect (RR: 1.12***; 95% CI: 1.05, 1.20). After adjusting for other factors, the heightened risk associated with low birth weight diminished in magnitude, and was no longer statistically significant (RR: 1.05; 95% CI: 0.97, 1.13).
- An inverse relationship was observed between a

Unadjusted and Adjusted Risk Ratios

In this report, risk is conceptualized as the statistical likelihood that a child will experience various levels of involvement with child protective services (i.e., reported, substantiated, entered foster care).

A risk ratio (RR) is a measure used to compare risk across children with different characteristics. An unadjusted RR provides a simple comparison of the likelihood that a child in group A was reported, substantiated, or entered foster care versus a child in group B.

An adjusted RR attempts to isolate the measurable relationship of a particular factor to the outcome. Adjusted RRs estimate relative differences in the likelihood that a child in group A was reported, substantiated, or entered foster care compared to a child in group B, while holding constant the influence of other factors.

An RR of 1.0 (or a 95% confidence interval that includes 1.0) indicates that there is no discernible difference in risk between group A and B. An RR larger than 1.0 indicates that group A has a greater risk than group B. Meanwhile an RR of less than 1.0 indicates that group A has a lower risk than group B.

child's risk of being reported for alleged maltreatment and maternal age. Among children born to teen mothers, 21.8% were

reported. In contrast, only 8.2% of children born to a mother age 30 or older were reported. Before adjusting for other factors, children of teen mothers were more than 2.5 times as likely to be reported to CPS as were those born to mothers 30 or older (RR: 2.67***; 95% CI: 2.53, 2.82).

Cumulative Number of Children with Substantiated Reports of Abuse or Neglect before Age 5 (Table 3)

Table 3 presents the cumulative number (N) and percentage (%) of children born in 2006 and 2007 who were substantiated as victims of abuse or neglect before age 5. These data are separated by sociodemographic and health characteristics. Unadjusted and adjusted RRs (and 95% CIs) are used to compare the likelihood of substantiation across children with different characteristics. Statistical significance is reported and described in the table endnotes.

- 4,620 children were substantiated as victims of abuse or neglect before age 5, 4.9% of all children born.
- Notable differences emerged in the likelihood of being substantiated as victims. Among children whose births were covered by public insurance, 8.2% were substantiated as victims of maltreatment before age 5, compared to 2.6% among children with non-public insurance. Before adjusting for other factors, public insurance was associated with a 3 times greater risk of substantiation (RR: 3.22***; 95% CI: 3.03, 3.43). In the adjusted model, the risk ratio was attenuated (or weaker), but the relative difference was still large (RR: 1.93***; 95% CI: 1.78, 2.09).
- Risk of substantiated maltreatment varied with the commencement of prenatal care. Although representing only a small percentage of births overall, nearly 1 in 5 children with no recorded prenatal care were subsequently substantiated for abuse or neglect, 5 times the rate of children whose prenatal care began during the first trimester before adjusting for other factors

(RR: 5.28***; 95% CI: 4.48, 6.22) and 2 times greater after adjustments were made (RR: 2.21***; 95% CI: 1.87, 2.61).

Cumulative Number of Children Placed in Foster Care before Age 5 (Table 4)

Table 4 presents the cumulative number (N) and percentage (%) of children born in 2006 and 2007 who entered an out-of-home foster care placement before age 5. These data are divided by sociodemographic and health characteristics. Unadjusted and adjusted RRs (and 95% CIs) are used to compare the likelihood of foster care entry across children with different characteristics. Statistical significance is reported and described in the table endnotes.

- 1,279 children spent time in foster care before age 5. This represents 1.4% of all children born.
- Characteristic differences emerged in the likelihood of being placed in foster care. Maternal education was strongly correlated with the likelihood of foster care placement before age 5. The cumulative percentage of children placed in foster care across levels of maternal education ranged from less than 1.0% of children born to college graduates compared to 2.4% of children whose mothers had not finished high school.
- Among children for whom paternity was not established, 8.1% entered foster care at some point before age 5. The comparable share of children entering foster care was less than 1.0% among those with established paternity. Overall, missing paternity was associated with a 9 times greater risk of foster care placement (RR: 8.99***; 95% CI: 8.05, 10.03). After adjusting for other factors, the observed risk of foster care placement for children with missing paternity remained nearly 4 times that of children with established paternity (RR: 3.76***; 95% CI: 3.30, 4.28).

County Comparison Findings (Table 5)

Table 5 serves as a summary table for California and all 58 counties, presenting the overall number of births (N) as well as the cumulative percentage (%) of children reported to CPS, substantiated as victims of maltreatment, and entering foster care before age 5.

- Overall, 1,085,745 children were born in California in 2006 and 2007. Infants born in Orange County represented 8.7% of births statewide.
- In California, 14.8% of children were reported to CPS, 5.1% were substantiated as victims of abuse or neglect, and 2.2% spent time in foster care before age 5.
- The cumulative percentage of children reported for alleged abuse or neglect ranged from less than 8.0% to more than 30.0% across California counties.
- The cumulative percentage of children substantiated as victims of abuse or neglect varied by county, from less than 2.0% to more than 16.0% of all children born.
- Across counties, the percentage of children who spent time in foster care before reaching their fifth birthday ranged from less than 0.5% to more than 7.0%.

Orange County Quick Facts

Percentage of Children Reported to CPS before Age 5



11.5%

Percentage of Children Substantiated before Age 5



4.9%

Percentage of Children Entering Foster Care before Age 5



1.4%

IMPLICATIONS

Linked data for Orange County underscore that annual counts of children reported for maltreatment, substantiated as victims, and placed in foster care dramatically understate the number of children involved with the child protection system over time. In Orange, official cross-sectional data from 2013 indicate that 3.6% of children under age 5 were reported for maltreatment. However, when we longitudinally follow children from birth through age 5—data from the present report indicate that 11.5% of children were reported—significantly more children than previously appreciated.

Research increasingly points to children under age 5 as a population acutely vulnerable to the consequences of maltreatment. A better understanding of the sociodemographic and health characteristics of children most likely to experience abuse or neglect between birth and age 5 is critical to improving and garnering support for prevention efforts. Population-level knowledge concerning the distribution of risk can be leveraged to enable a strategic and equitable

matching of public resources to community need. Linked records can be used to develop automated triaging tools to ensure our most vulnerable children and families are prioritized for scarce service intervention slots.

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ACKNOWLEDGMENTS

We would like to thank First 5 LA for their generous funding of this report and ongoing support for the linkage of data. We would also like to acknowledge colleagues at the California Department of Social Services, the California Child Welfare Indicators Project, and the Children's Data Network for assistance in the preparation of data underlying these analyses and in the development of this report.

QUESTIONS?

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Children's Data Network

www.datanetwork.org

This research brief was published by The Children's Data Network, a university, agency, and community collaborative focused on the integration and application of data to inform programs and policies for children and their families. The Children's Data Network is funded by First 5 LA, housed at USC's School of Social Work, and includes a partnership with the California Child Welfare Indicators Project at UC Berkeley. The content of this brief is the sole responsibility of the authors and does not necessarily represent the opinions of the funders or other partners.

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Table 1. Characteristics of Children born in Orange County by Birth Payment Method

	Full Birth Cohort 2006 & 2007		Birth Payment Method			
	N	%	Public		Non-Public	
	N	%	N	%	N	%
Gender						
Female	45,668	48.6	19,125	49.0	26,543	48.3
Male	48,295	51.4	19,910	51.0	28,385	51.7
Birth Weight						
Normal	88,006	93.7	36,664	93.9	51,342	93.5
Low	5,957	6.3	2,371	6.1	3,586	6.5
Birth Abnormality						
None	88,732	94.4	36,955	94.7	51,777	94.3
One or More	5,231	5.6	2,080	5.3	3,151	5.7
Prenatal Care						
1st Trimester	84,307	89.7	32,877	84.2	51,430	93.6
2nd Trimester	7,840	8.3	4,950	12.7	2,890	5.3
3rd Trimester	1,315	1.4	901	2.3	414	0.8
None/Missing	501	0.5	307	0.8	194	0.4
Paternity Establishment						
Established	88,003	93.7	34,549	88.5	53,454	97.3
Missing	5,960	6.3	4,486	11.5	1,474	2.7
Maternal Race/Ethnicity						
White	27,937	29.7	3,369	8.6	24,568	44.7
Black	1,220	1.3	429	1.1	791	1.4
Latina, US-born	14,934	15.9	6,380	16.3	8,554	15.6
Latina, Foreign-born	33,502	35.7	25,716	65.9	7,786	14.2
Asian/Pacific Islander	16,205	17.3	3,082	7.9	13,123	23.9
Native American	165	0.2	59	0.2	106	0.2
Maternal Age						
≤ 19 yrs	6,611	7.0	5,281	13.5	1,330	2.4
20-25 yrs	17,265	18.4	11,867	30.4	5,398	9.8
25-29 yrs	24,535	26.1	10,281	26.3	14,254	26.0
30+ yrs	45,552	48.5	11,606	29.7	33,946	61.8
Maternal Education						
< HS	31,602	33.6	25,497	65.3	6,105	11.1
HS or GED	15,463	16.5	7,304	18.7	8,159	14.9
Some College	19,356	20.6	4,704	12.1	14,652	26.7
College+	27,542	29.3	1,530	3.9	26,012	47.4
Number of Births						
One	36,627	39.0	13,698	35.1	22,929	41.7
Two	30,386	32.3	11,360	29.1	19,026	34.6
Three+	26,950	28.7	13,977	35.8	12,973	23.6
Prior Pregnancy Terminations						
None	76,002	80.9	32,528	83.3	43,474	79.2
One+	17,961	19.1	6,507	16.7	11,454	20.9
Birth Payment Method						
Non-Public	54,928	58.5	--	--	--	--
Public	39,035	41.5	--	--	--	--

Table Notes:

1. Cell sizes < 10 masked as indicated by [--]
2. Table based on the full population of children born in a given county in 2006 and 2007

Table 2. Characteristics & Comparisons of Children born in Orange County and Reported to CPS

	Reported to CPS		Risk Comparisons			
	Before Age 5		Unadjusted		Adjusted	
	N	%	RR	95% CI	RR	95% CI
Gender						
Female	5,249	11.5	ref.	---	ref.	---
Male	5,585	11.6	1.01	(0.97, 1.04)	1.01	(0.98, 1.05)
Birth Weight						
Normal	10,069	11.4	ref.	---	ref.	---
Low	765	12.8	1.12***	(1.05, 1.20)	1.05	(0.97, 1.13)
Birth Abnormality						
None	10,092	11.4	ref.	---	ref.	---
One or More	742	14.2	1.25***	(1.16, 1.34)	1.17***	(1.09, 1.27)
Prenatal Care						
1st Trimester	8,903	10.6	ref.	---	ref.	---
2nd Trimester	1,490	19.0	1.80***	(1.71, 1.89)	1.20***	(1.14, 1.26)
3rd Trimester	275	20.9	1.98***	(1.78, 2.20)	1.22***	(1.10, 1.36)
None/Missing	166	33.1	3.14***	(2.77, 3.56)	1.61***	(1.43, 1.81)
Paternity Establishment						
Established	9,167	10.4	ref.	---	ref.	---
Missing	1,667	28.0	2.69***	(2.57, 2.81)	1.62***	(1.54, 1.69)
Maternal Race/Ethnicity						
White	2,678	9.6	ref.	---	ref.	---
Black	256	21.0	2.19***	(1.95, 2.46)	1.25***	(1.12, 1.39)
Latina, US-born	2,627	17.6	1.84***	(1.75, 1.93)	0.91***	(0.87, 0.96)
Latina, Foreign-born	4,457	13.3	1.39***	(1.33, 1.45)	0.55***	(0.52, 0.59)
Asian/Pacific Islander	774	4.8	0.50***	(0.46, 0.54)	0.55***	(0.51, 0.59)
Native American	42	25.5	2.66***	(2.04, 3.46)	1.49**	(1.18, 1.89)
Maternal Age						
≤ 19 yrs	1,443	21.8	2.67***	(2.53, 2.82)	1.92***	(1.79, 2.07)
20-25 yrs	2,891	16.7	2.05***	(1.96, 2.14)	1.51***	(1.43, 1.59)
25-29 yrs	2,776	11.3	1.38***	(1.32, 1.45)	1.19***	(1.14, 1.25)
30+ yrs	3,724	8.2	ref.	---	ref.	---
Maternal Education						
< HS	5,467	17.3	4.86***	(4.55, 5.19)	2.71***	(2.49, 2.94)
HS or GED	2,271	14.7	4.12***	(3.84, 4.43)	2.48***	(2.29, 2.69)
Some College	2,115	10.9	3.07***	(2.85, 3.30)	2.23***	(2.07, 2.41)
College+	981	3.6	ref.	---	ref.	---
Number of Births						
One	3,215	8.8	ref.	---	ref.	---
Two	3,054	10.1	1.15***	(1.09, 1.20)	1.39***	(1.33, 1.46)
Three+	4,565	16.9	1.93***	(1.85, 2.01)	2.19***	(2.08, 2.30)
Prior Pregnancy Terminations						
None	8,611	11.3	ref.	---	ref.	---
One+	2,223	12.4	1.09***	(1.05, 1.14)	1.11***	(1.06, 1.16)
Birth Payment Method						
Non-Public	3,813	6.9	ref.	---	ref.	---
Public	7,021	18.0	2.59***	(2.50, 2.69)	1.68***	(1.60, 1.76)

Table Notes:

1. RR = Risk Ratio; 95% CI = 95% Confidence Interval; ref = Reference group for Risk Ratio calculations; [---] indicates no corresponding statistic given reference group status.
2. Cell sizes < 10 masked as indicated by [-]; statistical significance denoted as: $P < .05^*$; $P < .01^{**}$; $P < .001^{***}$.

Table 3. Characteristics and Comparisons of Children born in Orange County and Substantiated

	Substantiated Before Age 5		Risk Comparisons			
	N	%	Unadjusted		Adjusted	
			RR	95% CI	RR	95% CI
Gender						
Female	2,243	4.9	ref.	---	ref.	---
Male	2,377	4.9	1.00	(0.95,1.06)	1.01	(0.95,1.06)
Birth Weight						
Normal	4,267	4.9	ref.	---	ref.	---
Low	353	5.9	1.22***	(1.10,1.36)	1.05	(0.94,1.19)
Birth Abnormality						
None	4,255	4.8	ref.	---	ref.	---
One or More	365	7.0	1.46***	(1.31,1.61)	1.33***	(1.18,1.49)
Prenatal Care						
1st Trimester	3,633	4.3	ref.	---	ref.	---
2nd Trimester	737	9.4	2.18***	(2.02,2.35)	1.32***	(1.23,1.43)
3rd Trimester	136	10.3	2.40***	(2.04,2.82)	1.30**	(1.10,1.53)
None/Missing	114	22.8	5.28***	(4.48,6.22)	2.21***	(1.87,2.61)
Paternity Establishment						
Established	3,699	4.2	ref.	---	ref.	---
Missing	921	15.5	3.68***	(3.44,3.93)	1.95***	(1.81,2.10)
Maternal Race/Ethnicity						
White	1,151	4.1	ref.	---	ref.	---
Black	108	8.9	2.15***	(1.78,2.59)	1.05	(0.87,1.26)
Latina, US-born	1,229	8.2	2.00***	(1.85,2.16)	0.84***	(0.78,0.92)
Latina, Foreign-born	1,819	5.4	1.32***	(1.23,1.42)	0.44***	(0.41,0.48)
Asian/Pacific Islander	290	1.8	0.43***	(0.38,0.49)	0.49***	(0.43,0.56)
Native American	23	13.9	3.38***	(2.31,4.96)	1.65**	(1.14,2.38)
Maternal Age						
≤ 19 yrs	720	10.9	3.59***	(3.30,3.92)	2.28***	(2.03,2.55)
20-25 yrs	1,314	7.6	2.51***	(2.33,2.70)	1.71***	(1.57,1.86)
25-29 yrs	1,205	4.9	1.62***	(1.50,1.75)	1.34***	(1.25,1.45)
30+ yrs	1,381	3.0	ref.	---	ref.	---
Maternal Education						
< HS	2,493	7.9	6.92***	(6.16,7.77)	3.40***	(2.95,3.91)
HS or GED	970	6.3	5.50***	(4.85,6.24)	2.87***	(2.51,3.29)
Some College	843	4.4	3.82***	(3.36,4.34)	2.54***	(2.23,2.89)
College+	314	1.1	ref.	---	ref.	---
Number of Births						
One	1,395	3.8	ref.	---	ref.	---
Two	1,255	4.1	1.08*	(1.01,1.17)	1.42***	(1.31,1.53)
Three+	1,970	7.3	1.92***	(1.80,2.05)	2.36***	(2.18,2.56)
Prior Pregnancy Terminations						
None	3,720	4.9	ref.	---	ref.	---
One+	900	5.0	1.02	(0.95,1.10)	1.08*	(1.00,1.16)
Birth Payment Method						
Non-Public	1,404	2.6	ref.	---	ref.	---
Public	3,216	8.2	3.22***	(3.03,3.43)	1.93***	(1.78,2.09)

Table Notes:

1. RR = Risk Ratio; 95% CI = 95% Confidence Interval; ref = Reference group for Risk Ratio calculations; [---] indicates no corresponding statistic given reference group status.
2. Cell sizes < 10 masked as indicated by [-]; statistical significance denoted as: $P < .05^*$; $P < .01^{**}$; $P < .001^{***}$.

Table 4. Characteristics and Comparisons of Children born in Orange County and Placed in Foster Care

	Placed in Care		Risk Comparisons			
	Before Age 5		Unadjusted		Adjusted	
	N	%	RR	95% CI	RR	95% CI
Gender						
Female	632	1.3	ref.	---	ref.	---
Male	647	1.3	0.97	(0.87,1.08)	0.96	(0.87,1.07)
Birth Weight						
Normal	1,130	1.3	ref.	---	ref.	---
Low	149	2.5	1.95***	(1.65,2.31)	1.30*	(1.05,1.60)
Birth Abnormality						
None	1,111	1.3	ref.	---	ref.	---
One or More	168	3.2	2.57***	(2.19,3.01)	1.80***	(1.47,2.20)
Prenatal Care						
1st Trimester	860	1.0	ref.	---	ref.	---
2nd Trimester	288	3.7	3.60***	(3.16,4.11)	1.72***	(1.50,1.96)
3rd Trimester	56	4.3	4.17***	(3.20,5.44)	1.63***	(1.24,2.15)
None/Missing	75	15.0	14.68***	(11.79,18.27)	3.29***	(2.59,4.19)
Paternity Establishment						
Established	795	0.9	ref.	---	ref.	---
Missing	484	8.1	8.99***	(8.05,10.03)	3.76***	(3.30,4.28)
Maternal Race/Ethnicity						
White	397	1.4	ref.	---	ref.	---
Black	46	3.8	2.65***	(1.97,3.58)	0.97	(0.73,1.31)
Latina, US-born	387	2.6	1.82***	(1.59,2.09)	0.63***	(0.55,0.73)
Latina, Foreign-born	368	1.1	0.77***	(0.67,0.89)	0.20***	(0.17,0.24)
Asian/Pacific Islander	71	0.4	0.31***	(0.24,0.40)	0.38***	(0.29,0.48)
Native American	10	6.1	4.26***	(2.32,7.84)	1.47	(0.83,2.58)
Maternal Age						
≤ 19 yrs	199	3.0	3.72***	(3.13,4.41)	1.73***	(1.37,2.18)
20-25 yrs	363	2.1	2.60***	(2.25,3.00)	1.46***	(1.24,1.72)
25-29 yrs	348	1.4	1.75***	(1.51,2.03)	1.31***	(1.13,1.52)
30+ yrs	369	0.8	ref.	---	ref.	---
Maternal Education						
< HS	744	2.4	20.26***	(14.23,28.85)	9.95***	(6.77,14.63)
HS or GED	306	2.0	17.03***	(11.84,24.50)	7.77***	(5.31,11.37)
Some College	197	1.0	8.76***	(6.03,12.72)	5.20***	(3.57,7.58)
College+	32	0.1	ref.	---	ref.	---
Number of Births						
One	341	0.9	ref.	---	ref.	---
Two	291	1.0	1.03	(0.88,1.20)	1.45***	(1.23,1.72)
Three+	647	2.4	2.58***	(2.26,2.94)	3.09***	(2.63,3.65)
Prior Pregnancy Terminations						
None	1,011	1.3	ref.	---	ref.	---
One+	268	1.5	1.12	(0.98,1.28)	1.13	(0.98,1.29)
Birth Payment Method						
Non-Public	294	0.5	ref.	---	ref.	---
Public	985	2.5	4.71***	(4.14,5.37)	2.45***	(2.08,2.88)

Table Notes:

1. RR = Risk Ratio; 95% CI = 95% Confidence Interval; ref = Reference group for Risk Ratio calculations; [---] indicates no corresponding statistic given reference group status.
2. Cell sizes < 10 masked as indicated by [---]; statistical significance denoted as: $P < .05^*$; $P < .01^{**}$; $P < .001^{***}$.

Table 5. Summary of County Data for California: Children Born in 2006/2007 and Reported to Child Protective Services, Substantiated as Victims, or Entering Foster Care before Age 5

County of Birth	Births 2006 & 2007	% Reported	% Substantiated	% Entering Foster Care
California	1,085,745	14.8%	5.1%	2.2%
Alameda	42,000	10.7%	2.9%	1.6%
Alpine	--	--	--	--
Amador	619	24.4%	7.8%	3.2%
Butte	5,940	25.1%	10.3%	5.7%
Calaveras	107	41.1%	16.8%	--
Colusa	456	14.5%	5.7%	3.5%
Contra Costa	23,219	10.3%	3.4%	1.4%
Del Norte	709	28.3%	15.2%	6.8%
El Dorado	2,403	19.7%	9.7%	4.7%
Fresno	35,056	19.2%	5.0%	2.7%
Glenn	--	--	--	--
Humboldt	3,202	22.3%	7.1%	3.4%
Imperial	6,205	13.2%	5.4%	2.8%
Inyo	451	16.4%	3.5%	--
Kern	28,099	22.3%	10.7%	4.3%
Kings	5,182	16.6%	5.0%	3.2%
Lake	1,084	27.1%	8.5%	5.4%
Lassen	453	21.9%	7.9%	3.8%
Los Angeles	310,700	14.6%	5.2%	2.4%
Madera	4,014	22.0%	9.0%	5.1%
Marin	3,451	9.8%	3.2%	0.8%
Mariposa	--	--	--	--
Mendocino	1,980	23.3%	11.1%	4.1%
Merced	6,804	21.6%	7.6%	3.9%
Modoc	--	--	--	--
Mono	279	7.9%	--	--
Monterey	14,196	8.9%	2.4%	1.0%
Napa	2,593	11.2%	3.5%	1.7%
Nevada	1,990	14.2%	4.3%	2.0%
Orange	93,963	11.5%	4.9%	1.4%
Placer	6,771	13.8%	5.2%	1.7%
Plumas	210	23.3%	10.5%	--
Riverside	57,031	18.3%	7.1%	3.5%
Sacramento	47,277	17.1%	6.5%	3.2%
San Benito	1,191	17.0%	6.3%	2.9%
San Bernardino	57,807	17.4%	5.3%	2.6%
San Diego	85,349	15.9%	5.0%	1.8%
San Francisco	25,776	8.2%	2.6%	1.3%
San Joaquin	21,183	17.4%	6.1%	2.2%
San Luis Obispo	5,445	17.3%	5.1%	2.1%
San Mateo	10,599	6.0%	1.3%	0.5%
Santa Barbara	11,903	12.6%	4.3%	2.0%
Santa Clara	56,832	9.8%	2.4%	1.2%

County of Birth	Births 2006 & 2007	% Reported	% Substantiated	% Entering Foster Care
Santa Cruz	7,379	14.3%	4.7%	1.9%
Shasta	4,556	27.6%	12.9%	6.6%
Sierra	--	--	--	--
Siskiyou	805	30.7%	13.5%	5.7%
Solano	10,978	15.2%	4.0%	1.5%
Sonoma	11,397	10.3%	3.9%	1.2%
Stanislaus	19,632	16.9%	6.3%	1.4%
Sutter	4,481	18.4%	6.8%	2.6%
Tehama	1,412	30.7%	11.8%	7.1%
Trinity	--	--	--	--
Tulare	14,900	18.8%	5.0%	2.6%
Tuolumne	1,169	23.9%	9.5%	4.4%
Ventura	21,713	13.0%	2.8%	1.4%
Yolo	4,097	12.8%	4.6%	2.1%
Yuba	--	--	--	--

Table Notes:

1. Cell sizes < 10 masked as indicated by [--].

**A POPULATION-LEVEL EXAMINATION
OF FAMILIES INVOLVED WITH CHILD
PROTECTIVE SERVICES:
*ORANGE COUNTY***

Emily Putnam-Hornstein, PhD

Children's Data Network
University of Southern California

California Child Welfare Indicators Project
University of California, Berkeley

Children &
Families
Commission of
Orange County
May 2014

ACKNOWLEDGEMENTS

THANKS, THANKS, THANKS

- Colleagues at the **Children's Data Network (USC)** and **California Child Welfare Indicators Project (UCB)**
- Agency partners: **Orange County Children and Families Commission, California Department of Social Services / Orange Social Services Administration**
- Support and guidance: **Christina Altmayer, Alyce Mastrianni, and Sharon Boles**

AGENDA

FROM A TO Z

1. Motivation and approach
2. Overview of findings
3. Ongoing work
4. Next steps...

CHILD ABUSE & NEGLECT

WHAT WE KNOW (AND WHAT WE DON'T)

- 25,000 children reported as alleged victims of abuse or neglect (1 in 5 children substantiated) (*Orange County: 2013*)
- Highest rates of non-fatal and fatal maltreatment ages 0-4 (*highest single year – infancy*)
- Our knowledge is still emerging...



A "SNAPSHOT" OF VICTIMS

A VERY PARTIAL PICTURE

services

before

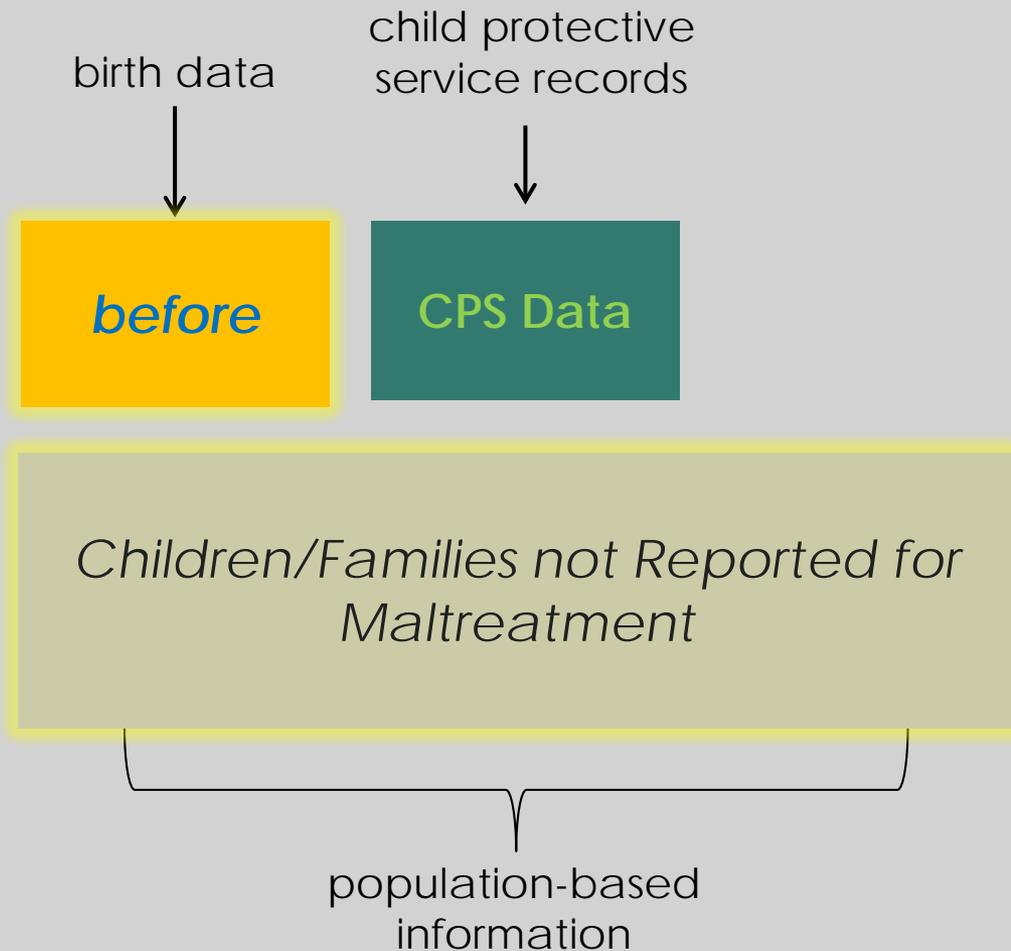
CPS Data

after

*Children/Families not Reported for
Maltreatment*

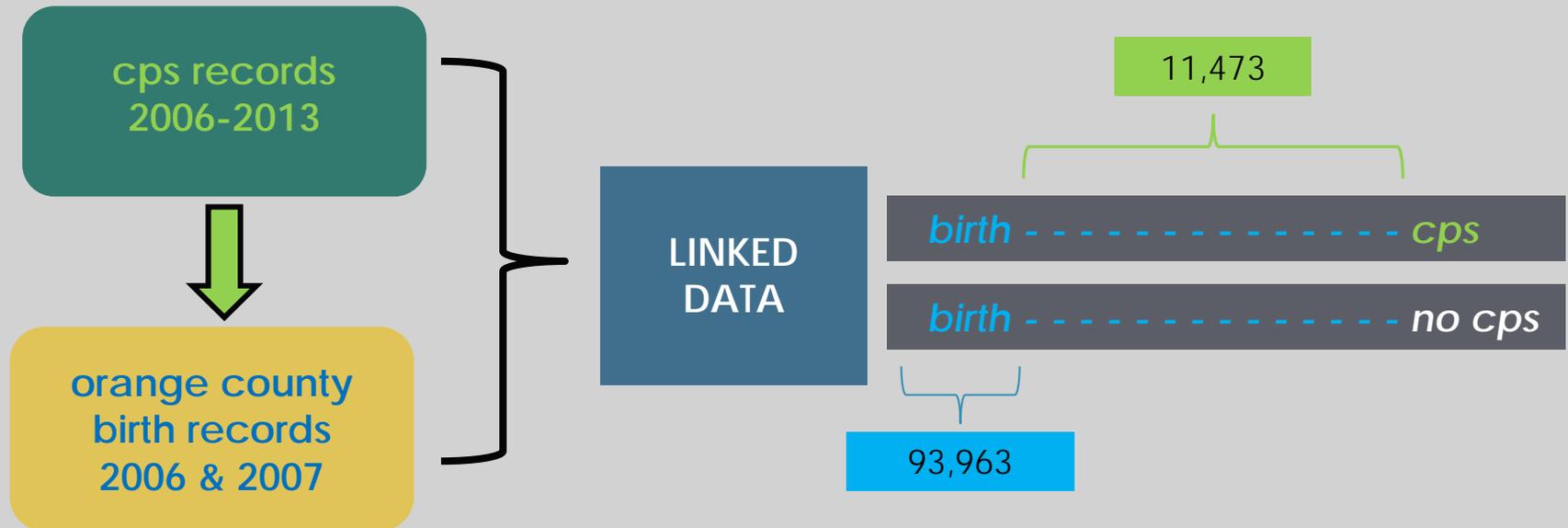
EXPANDED SURVEILLANCE

FROM BIRTH TO A FIRST REPORT OF ABUSE/NEGLECT



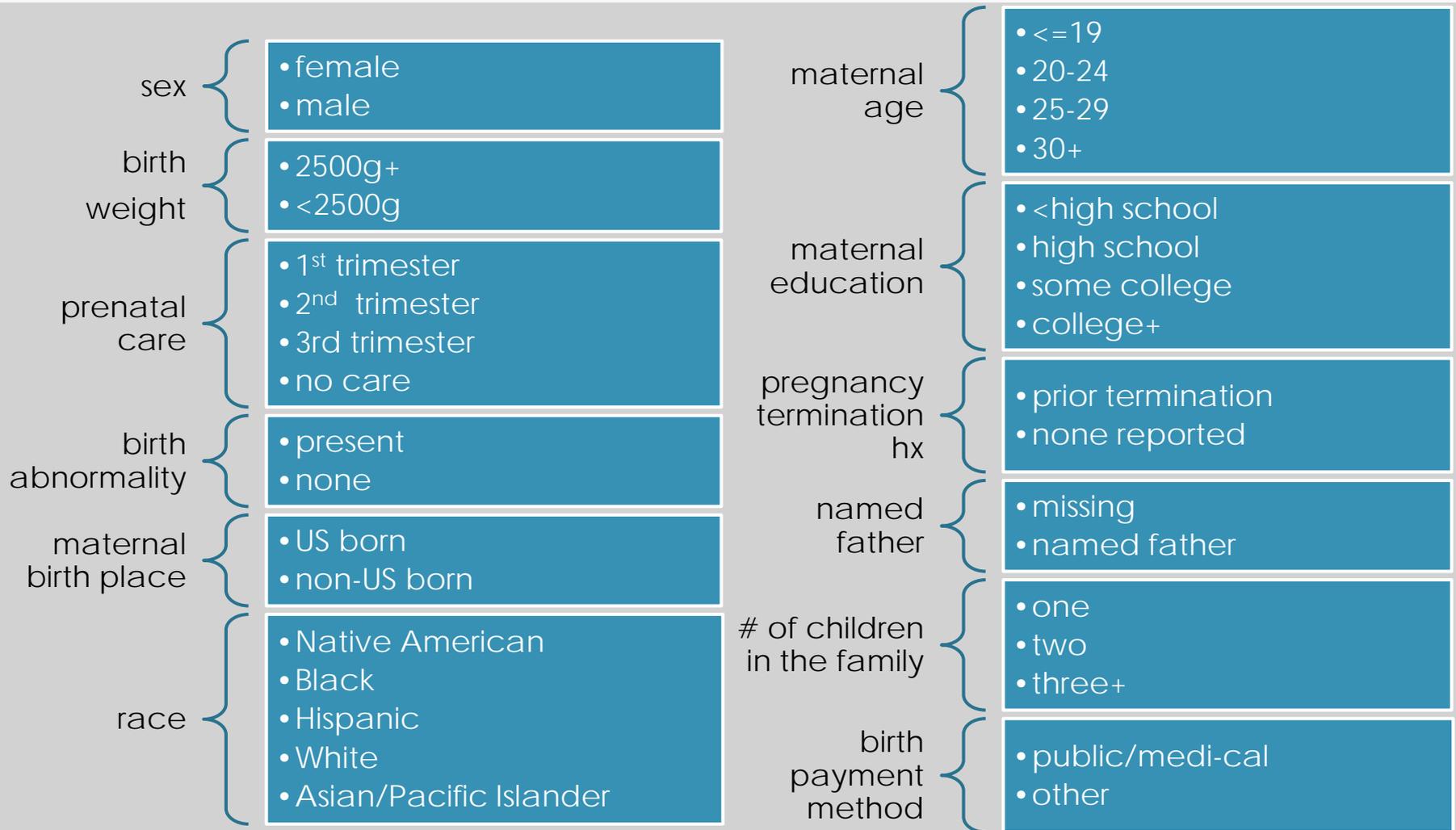
LINKED DATASET

A PROSPECTIVE STUDY DESIGN WITH RETROSPECTIVE DATA



BIRTH RECORD VARIABLES

UNIVERSALLY AVAILABLE



OVERVIEW

SEE ATTACHED REPORT

- Prospective study using retrospective data
- 93,963 live births in Orange County in 2006 and 2007 (8.7% of all births in California; 95.3% of births were to county residents)
 - **TABLE 1:** Used birth record variables to characterize children born and “at risk” of later CPS involvement; data stratified by birth payment method as a proxy for socioeconomic status
 - **TABLE 2:** Rates of children reported to CPS before age 5 by birth characteristics; unadjusted and adjusted risk ratios
 - **TABLE 3:** Rates of children substantiated as victims of abuse/neglect by CPS before age 5 by birth characteristics; unadjusted and adjusted risk ratios
 - **TABLE 4:** Rates of children entering foster care before age 5 by birth characteristics; unadjusted and adjusted risk ratios

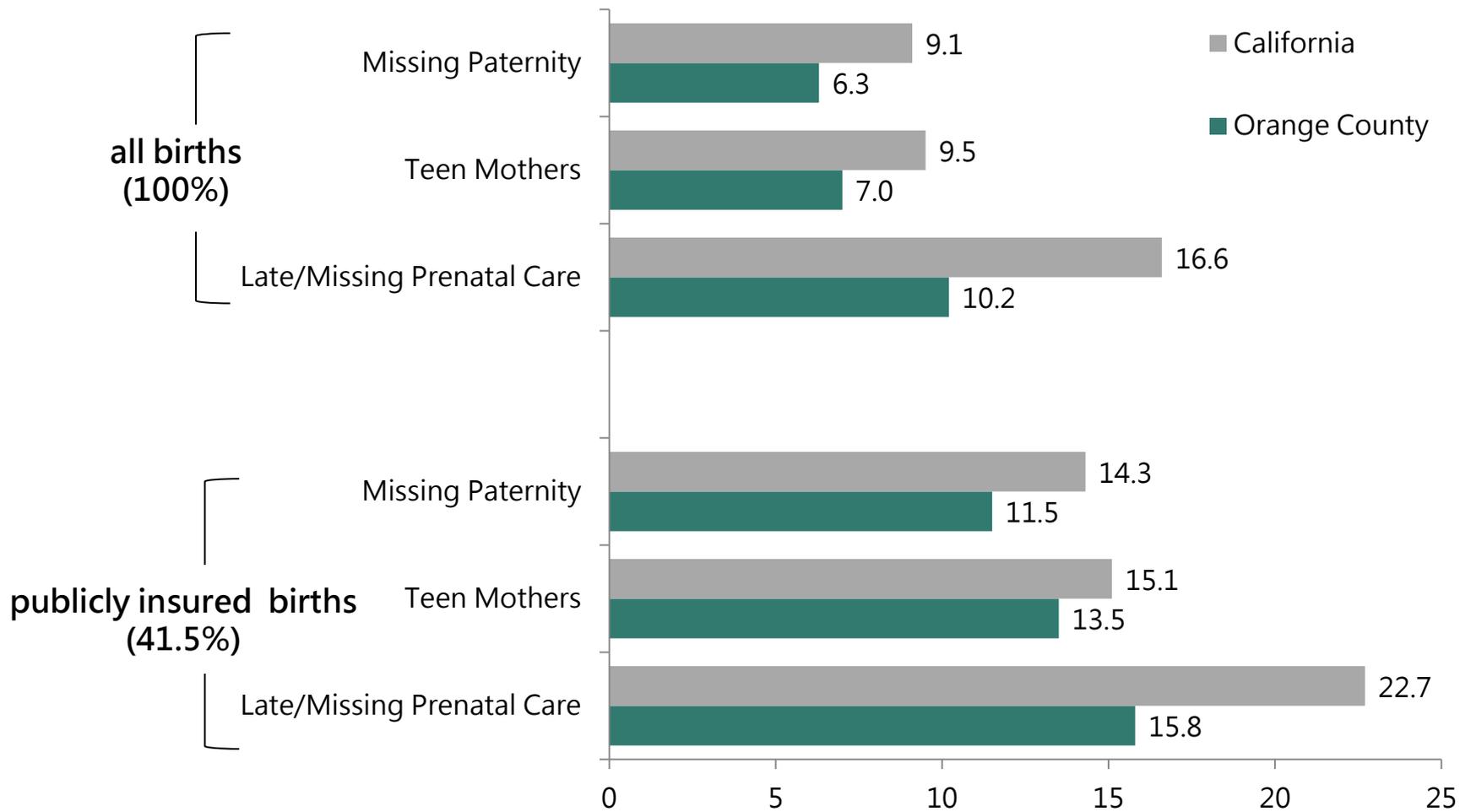
AGENDA

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CHARACTERISTICS AT BIRTH

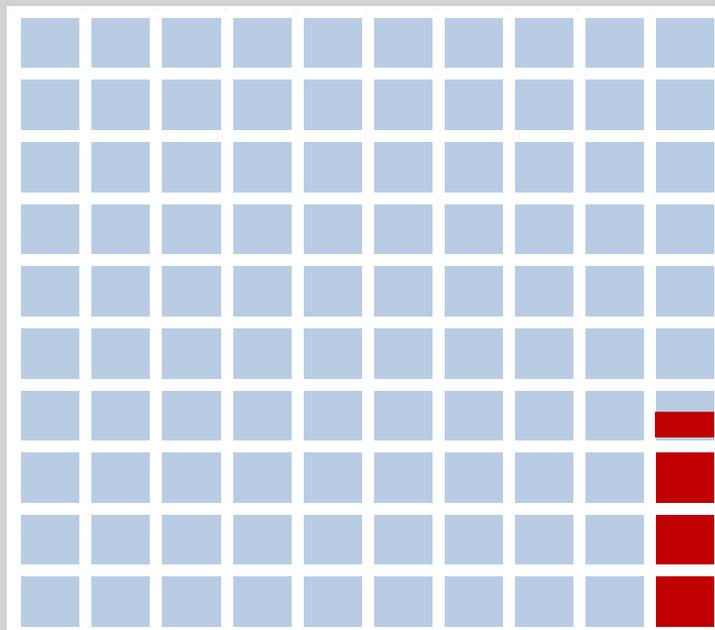
ORANGE COUNTY, CALIFORNIA COMPARISON



CUMULATIVE RISK

CUMULATIVE REALITY, LARGE GROUP DIFFERENCES

children with missing paternity



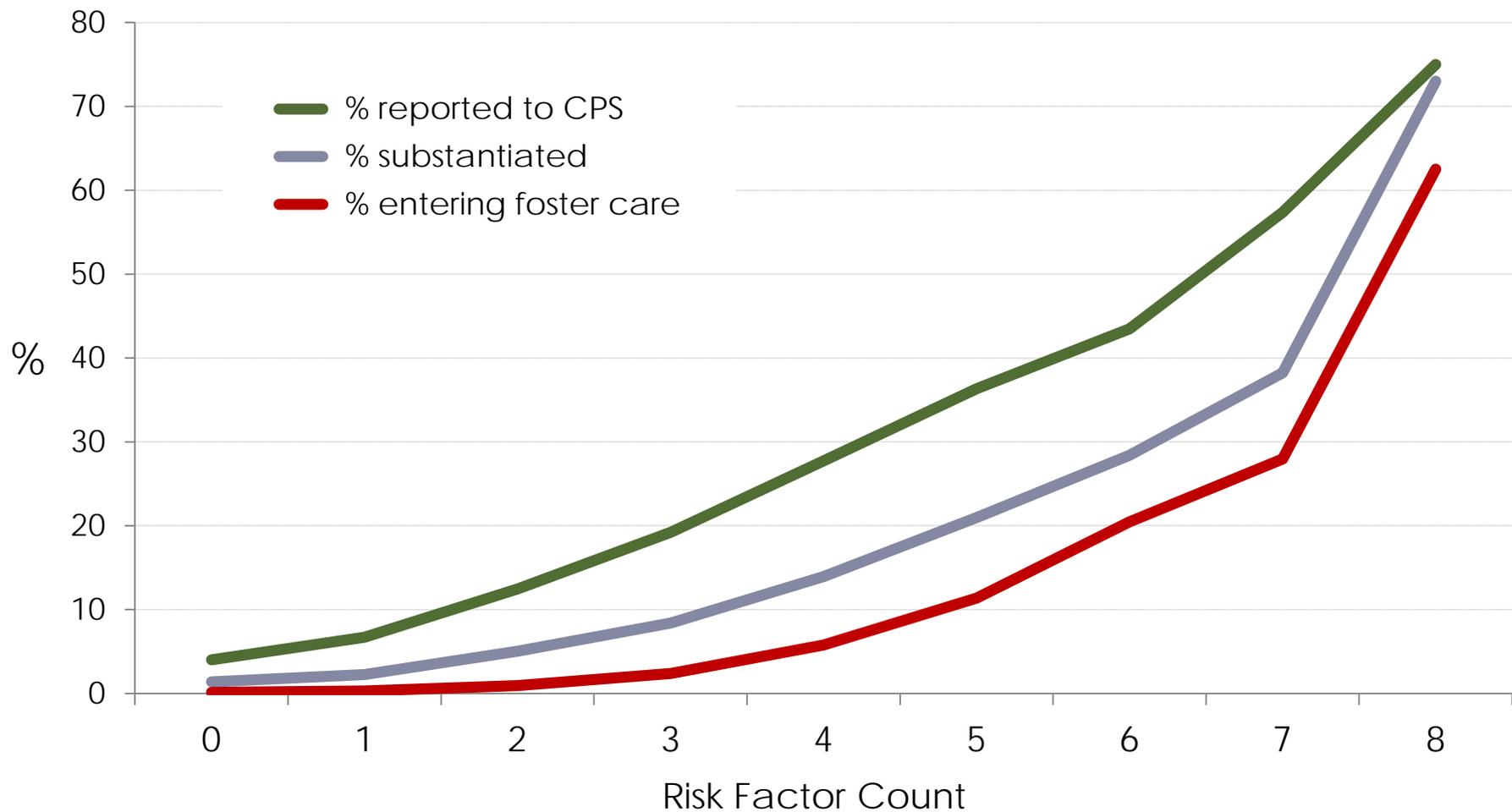
28.0%

- Relative to many public health problems, yearly rates of children and families involved with child protective services appear small
- But annual estimates of children reported for abuse/neglect understate how many children are involved with this system over time

What we think of as a relatively rare event is much more common than has been appreciated...and we have every reason to believe that an early report to CPS is a real signal of children at risk.

PERCENTAGE OF CHILDREN INVOLVED WITH CPS

A SIMPLE COUNT



AGENDA

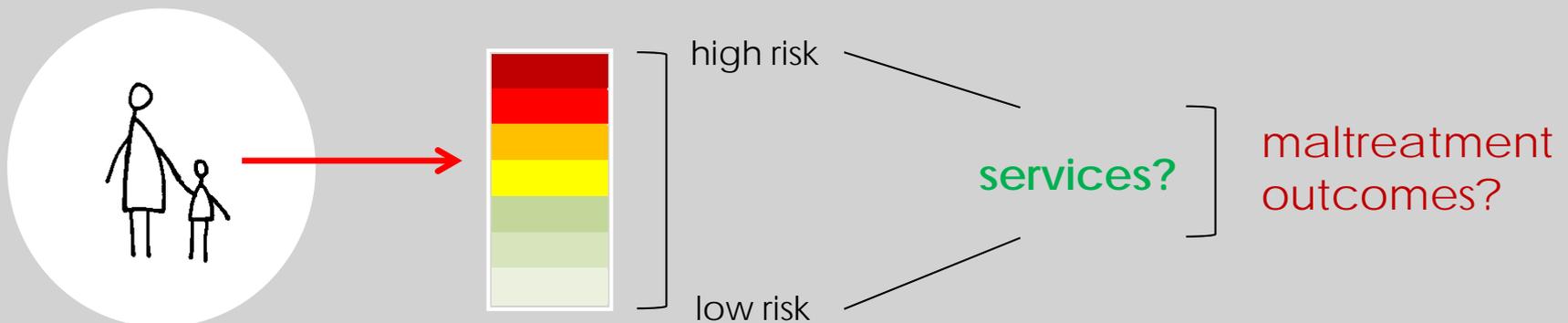
FROM A TO Z

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BLIND SPOT AS TO SERVICES OFFERED

WE CAN CLASSIFY RISK – BUT KNOW LITTLE ABOUT WHO GETS WHAT

- Moving beyond simple counts, statistical models can be developed using birth record information to predict the likelihood that a child will be reported to child protective services as an alleged victim of maltreatment by age 5
- This provides a means of examining whether our highest risk children are being targeted for services – and to conduct outcome evaluations for children with similar risk profiles using existing data



ONGOING WORK

COLLABORATIVE EVALUATION EFFORT / PILOT DATA LINKAGE

A Scan of Early Intervention Services and Data in Southern California

1. Home visiting program and data inventory
2. Classification of home visiting programs
3. Proposal for aggregating and linking these data to other sources to support collaborative evaluation efforts

Risk Factors at Birth and Receipt of Early Intervention Services: An Analysis of Linked Data from Orange County

1. Test the feasibility of linking Bridges Newborn Assessment data to linked birth and child protection records for Orange County
2. Examine risk profiles for all children born
3. Explore maltreatment outcomes based on receipt of services (*if data quality allows*)

AGENDA

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CHILDREN'S DATA NETWORK

A UNIVERSITY, AGENCY, COMMUNITY COLLABORATIVE



Children's Data Network

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Harnessing the scientific potential
of linked, administrative data to inform
children's programs and policies.



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www.First5LA.org

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