



# State and County Estimates of the ECLIPSE Eligible Population

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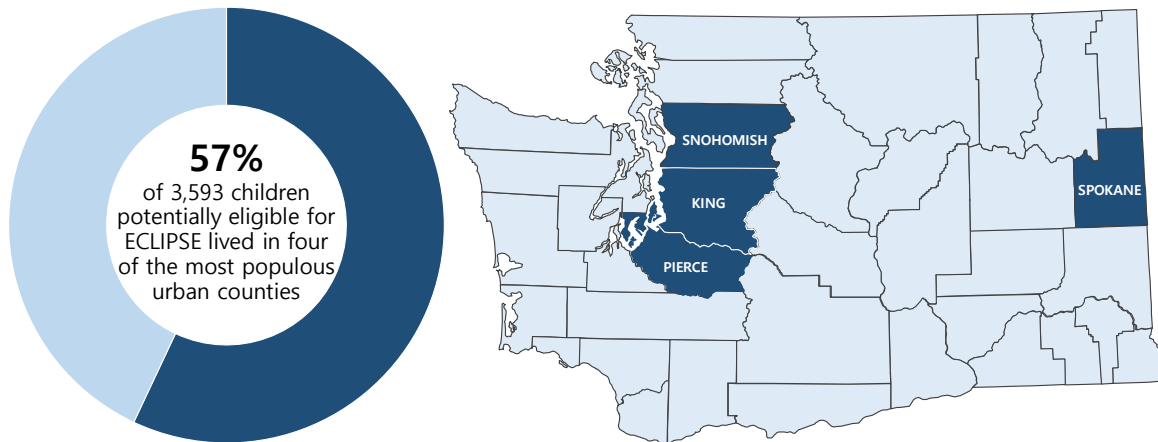
Report to the Washington State Department of Early Learning

**T**HE EARLY CHILDHOOD INTERVENTION PREVENTION SERVICES (ECLIPSE) program serves children ages zero to five years old who are at risk of child abuse and neglect and may be experiencing behavioral health issues due to exposure to complex trauma, through referrals of children with Adverse Childhood Experiences (ACEs). Currently, ECLIPSE services are available in two counties statewide: King County through Childhaven and Yakima County through Catholic Family & Child Services (CFCS). This report uses a statistical risk profile based on the characteristics of the Childhaven ECLIPSE population to estimate the potential population of eligible children statewide. The report is a follow up to a report on the impact of ECLIPSE services at Childhaven,<sup>1</sup> but includes child welfare, health, and parental risk factors from both the Childhaven and CFCS ECLIPSE contractors.

## Key Findings

- 1. There are several thousand children statewide with family risk characteristics comparable to children currently served by the ECLIPSE program.** If the program were expanded to serve annually the top 1 percent of children at risk for needing ECLIPSE services, this would reflect 3,593 children served.
- 2. Fifty-seven percent of the 3,593 potentially eligible children lived in four of the most populous urban counties: King, Pierce, Snohomish, and Spokane.** Clark and Yakima counties had the next largest population of eligible children at 6 percent and 5 percent of the total, respectively.

FIGURE 1.  
 Residence of Children Potentially Eligible for ECLIPSE



## Methodology

To estimate the number of children ages zero to five on Medicaid who would potentially be eligible for ECLIPSE services, we built a statistical risk model. The population for the risk model included all children enrolled in ECLIPSE in King County (Childhaven) between SFY 2011 and SFY 2016, as well as all children under 6 years old in SFY 2014 who were on Medicaid but did not receive ECLIPSE services.

We used a stepwise logistic regression to predict receipt of ECLIPSE services at Childhaven based on important characteristics of children and their parents. A full list of variables that were statistically significant in the risk model is available in the technical notes, and includes child welfare, health, social service, and parent risk information. Based on coefficients from the risk model, a risk score was calculated for each child with those with higher scores at higher risk. The risk model was adapted from an earlier model created for an RDA analysis of outcomes for ECLIPSE participants and includes many factors considered adverse childhood experiences (ACEs).<sup>1</sup>

After all children on Medicaid were given risk scores, we ranked the risk scores from lowest to highest. In order to identify likely eligible children, we had to select a level of risk, or a score cutoff, at which a child would qualify. We highlighted two risk cutoffs for identifying children who may benefit from ECLIPSE services: 1) a less conservative cutoff at the top 3 percent of the population, and 2) a more conservative cutoff at the top 1 percent of the population.<sup>2</sup>

These cutoffs mean children had scores in the top 1 percent or 3 percent of the Medicaid population under age 6 according to the risk model. In consultation with the Department of Early Learning, we selected the more conservative cutoff for the final estimate of 3,593 eligible children.

## Current ECLIPSE Population and Estimates of Eligible Children

Of the 359,303 children under 6 who were on Medicaid for at least one month in SFY 2014, the 3,593 children who had risk scores in the top 1 percent of the distribution were identified as likely eligible for ECLIPSE. Table 1 compares the levels of risk factors among children enrolled in ECLIPSE at Childhaven and CFCS to the levels of risk in the total Medicaid population under 6 and the top 3 and 1 percent identified in the risk model.

The top 1 percent of children according to the risk model had extremely high prevalence of both child and parent risk factors. For example, 100 percent of children at the 1 percent risk level were involved in the child welfare system with 66 percent experiencing an out-of-home foster care placement in their lifetime. Ninety-four percent of children in the top 1 percent had a parent with an identified mental health need, 86 percent had a parent with a substance use disorder, 86 percent had a parent with a history of homelessness, and 77 percent had a parent with a history of domestic violence.

The values for the top 1 percent group were more extreme than the children attending the ECLIPSE program at Childhaven during the study period, though both experienced extremely high levels of risk relative to the population of children on Medicaid. The ECLIPSE at CFCS population also had higher levels of risk than the Medicaid population, but was distinct from ECLIPSE at Childhaven, leading us to focus on the latter population in the risk model. For example, children receiving ECLIPSE services at CFCS had less interaction with the child welfare system and lower prevalence of parental risk factors such as homelessness and domestic violence than children enrolled in ECLIPSE at Childhaven, but much higher risk levels than the Medicaid population. Since ECLIPSE focuses on both intervention and

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<sup>1</sup> Patton, D; Liu, Q; Lucenko, L; Felver, B.; and Mancuso, D. (2017) "The ECLIPSE Program at Childhaven: Short-Term Outcomes for Children Receiving Early Childhood Intervention and Prevention Services." DSHS Research and Data Analysis, Olympia, WA.

<sup>2</sup> The less conservative risk cutoff correctly identified 82 percent of the children who were enrolled in ECLIPSE at Childhaven, while the more conservative risk cutoff correctly identified 56 percent of Children enrolled at Childhaven. For ECLIPSE at CFCS, the less conservative cutoff correctly identified 34 percent of children while the more conservative cutoff correctly identified 15 percent.

prevention of ACEs, the population served include children at risk of negative experiences as well as those who already have those experiences.

The differences between the CFCS and Childhaven ECLIPSE populations were likely driven by differences in referral sources. While all ECLIPSE sites received referrals from Children’s Administration, TANF workers, and public health nurses, Childhaven tends to have the greatest number of referrals from Children’s Administration while CFCS receives a majority of its referrals from public health nurses. The public health referral source may account for some of the higher prevalence of ED visits and injuries in the CFCS population of children, in addition to the older average age of children served by CFCS, since we examined lifetime measures.

TABLE 1.

**Risk Profile of Children Enrolled in ECLIPSE and Potentially Eligible Children**

	Children enrolled in ECLIPSE at Childhaven	Children on Medicaid in the Top 3 percent of risk scores	Children on Medicaid in the Top 1 percent of risk scores	Children enrolled in ECLIPSE at CFCS	All children under 6 on Medicaid SFY 2014
<b>Child Welfare Experience</b>					
Any child welfare involvement	89%	99%	100%	69%	14%
Any out-of-home placement (lifetime)	53%	48%	66%	31%	3%
Percent of lifetime spent in foster care	20%	20%	25%	10%	1%
Count of foster care placements (lifetime)	1.60	1.50	1.70	1.45	1.03
Count of accepted CPS referrals (lifetime)	4.75	4.61	5.31	3.14	0.55
Any physical abuse allegation (lifetime)	19%	10%	11%	11%	1%
Any sexual abuse allegation (lifetime)	3%	2%	2%	4%	0%
Any neglect allegation (lifetime)	75%	79%	84%	64%	13%
<b>Child’s Health and Social Service Use</b>					
Count of ED outpatient visits (lifetime)	1.94	2.26	2.16	4.94	1.42
Count of injury treatments (lifetime)	2.44	3.18	3.12	4.00	1.53
TANF receipt (current month)	58%	60%	71%	34%	11%
Basic food receipt (current month)	71%	72%	71%	76%	49%
Homeless (current month)	14%	15%	17%	6%	3%
Developmental disorder diagnosis (lifetime)	28%	25%	30%	38%	8%
DDA service (lifetime) <sup>3</sup>	17%	13%	18%	11%	3%
Mental health need (Prior 24 months)	18%	18%	24%	31%	3%
<b>Parental Risk Factors</b>					
Parent mental health need (prior 5 years)	89%	89%	94%	81%	32%
Parent substance use disorder (prior 5 years)	76%	79%	86%	71%	21%
Parent homelessness (prior 5 years)	78%	79%	86%	57%	24%
Parent domestic violence (prior 5 years)	71%	71%	77%	52%	15%
Parent CDPS <sup>4</sup> medical risk score above 1.0	58%	55%	60%	59%	23%
Parent SSI-related medical (disability)	32%	29%	34%	31%	6%
Parent unemployed for past 12 months	57%	58%	62%	43%	36%
Parent arrest or conviction in past 12 months	44%	44%	50%	33%	13%
<b>Number of children</b>	<b>590</b>	<b>10,778</b>	<b>3,593</b>	<b>157</b>	<b>359,303</b>

<sup>3</sup> DDA: Developmental Disabilities Administration.

<sup>4</sup> CDPS: The Chronic Illness and Disability Payment System (CDPS) is a diagnostic classification system that identifies chronic illness using Medicaid claim information.

## Estimates of Eligible Children by County

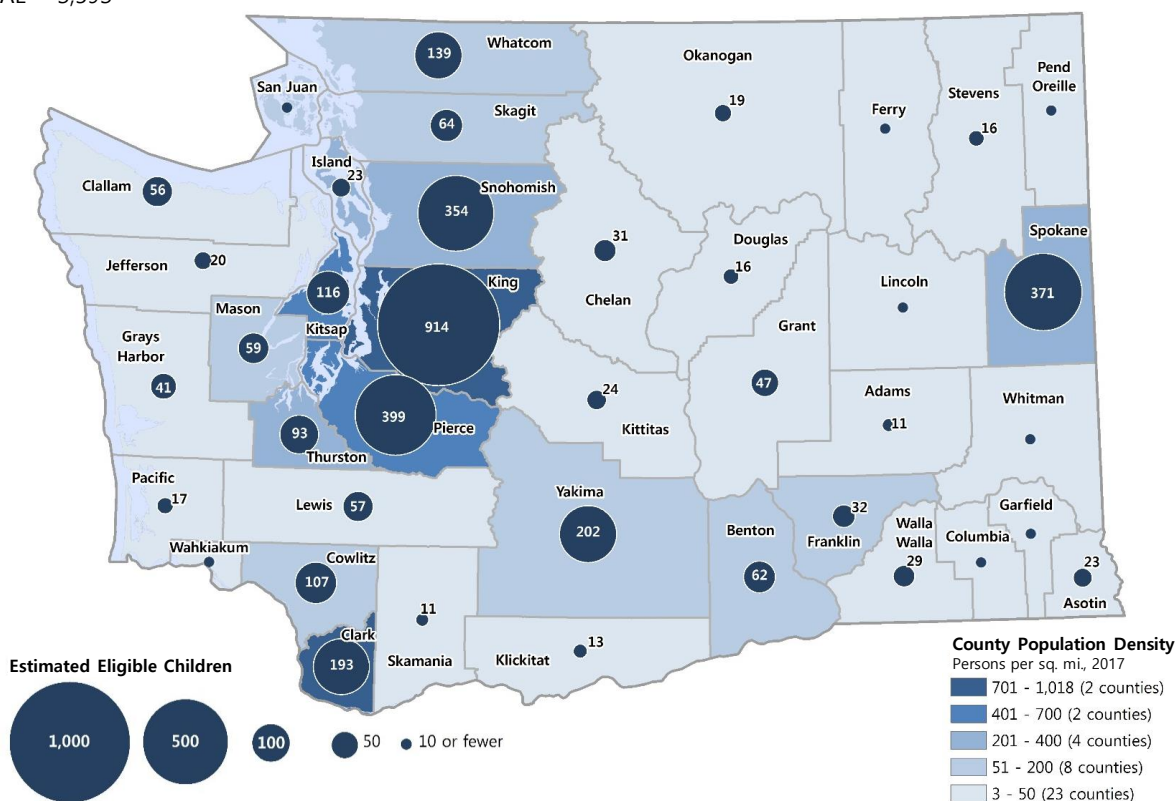
We identified the county of residence for each of the 3,593 children in the top 1 percent of risk. Using the 1 percent cutoff, there were potentially eligible children living in 38 of 39 counties in Washington. Fifty-seven percent of the potentially eligible children lived in four of the most populous urban counties: King (914 children, 25 percent of total), Pierce (399 children, 11 percent of total), Spokane (371 children, 10 percent of total), and Snohomish (354 children, 10 percent of total). Clark and Yakima counties had the next largest population of eligible children at 6 percent (202 children) and 5 percent (193 children) of the total, respectively.

Given substantial numbers of potentially eligible children both within counties with current ECLIPSE services (King and Yakima) and in the balance of the state, the Department of Early Learning (DEL) may want to consider expanding ECLIPSE services statewide to reach more children who are in need of them. If capacity were expanded to 3,600 children, DEL likely would need to consider targeting a substantially larger risk pool in order to achieve that level of engagement in the program.

FIGURE 2.

### Estimate of ECLIPSE Eligible Children by County and Population Density

TOTAL = 3,593



NOTE: The map above was created using ArcGIS 10.3.1 (Copyright © 1995-2015 Esri). The number of children in each county was shown by the proportional symbols method: the size of each circle (its area) is proportionate to the value (number of children) in the county. There was one exception: counties with ten or fewer children were grouped together to protect confidentiality and shown with the same small circle. The population density was shown using a modified Standard Deviations method: the counties were assigned to five classes based on Standard Deviations from the mean, and the legend was modified slightly to facilitate reading.

Population density is the average number of people per unit of land area. In the U.S., the most common unit of population density is persons per square mile. The land area measurement excludes lakes and other water areas within. (SOURCE: 2017 Washington State Office of Financial Management, <http://www.ofm.wa.gov/pop/popden/default.asp>).

## SUPPORTING TABLE

### Estimate of ECLIPSE Eligible Children by County

TOTAL (TOP 1 PERCENT) = 3,593 - TOTAL (TOP 3 PERCENT) = 10,778

	Top 1%	Top 3%		Top 1%	Top 3%
<b>TOTAL</b>	<b>3,593</b>	10,778	Klickitat	<b>13</b>	42
Adams	<b>11</b>	22	Lewis	<b>57</b>	190
Asotin	<b>23</b>	64	Lincoln	<b>≤10</b>	14
Benton	<b>62</b>	224	Mason	<b>59</b>	154
Chelan	<b>31</b>	101	Okanogan	<b>19</b>	82
Clallam	<b>56</b>	160	Pacific	<b>17</b>	39
Clark	<b>193</b>	590	Pend Oreille	<b>≤10</b>	38
Columbia	<b>≤10</b>	≤10	Pierce	<b>399</b>	1,389
Cowlitz	<b>107</b>	335	San Juan	<b>≤10</b>	11
Douglas	<b>16</b>	53	Skagit	<b>64</b>	200
Ferry	<b>≤10</b>	≤10	Skamania	<b>11</b>	28
Franklin	<b>32</b>	98	Snohomish	<b>354</b>	981
Garfield	<b>≤10</b>	≤10	Spokane	<b>371</b>	1,208
Grant	<b>47</b>	192	Stevens	<b>16</b>	81
Grays Harbor	<b>41</b>	193	Thurston	<b>93</b>	358
Island	<b>23</b>	70	Wahkiakum	<b>≤10</b>	≤10
Jefferson	<b>20</b>	48	Walla Walla	<b>29</b>	106
King	<b>914</b>	2,180	Whatcom	<b>139</b>	390
Kitsap	<b>116</b>	406	Whitman	<b>≤10</b>	30
Kittitas	<b>24</b>	69	Yakima	<b>202</b>	605

NOTE: Counties with 10 or fewer potentially eligible children were suppressed and represented as ≤10. The Top 1% (in bold above) were used to create the map on page 4.

## TECHNICAL NOTES

### STUDY DESIGN AND OVERVIEW

This study uses stepwise logistic regression to create a risk model predicting use of ECLIPSE services. The risk model includes the population of children already receiving ECLIPSE services at Childhaven to identify children not receiving services but who have risk profiles similar to ECLIPSE clients and were enrolled in Medicaid in SFY 2014 (Medicaid eligibility is required for ECLIPSE services). The step-wise process selects variables most predictive of ECLIPSE use from a list of candidate measures. The set of factors selected by the final model are listed below.

### STUDY POPULATION

Risk Factor	Data Source
Gender	Client administrative records
Age in months	Client administrative records
Any out-of-home placement (lifetime)	Children's Administration FAMLINK data
Out-of-home placement (current month)	Children's Administration FAMLINK data
Out-of-home placement (1 to 3 months prior than the current month)	Children's Administration FAMLINK data
Out-of-home placement (7 to 9 months prior than the current month)	Children's Administration FAMLINK data
Percent of lifetime in out-of-home placement	Children's Administration FAMLINK data
Any child welfare system involvement (lifetime)	Children's Administration FAMLINK data
Accepted CPS referral (1 to 3 months prior than the current month)	Children's Administration FAMLINK data

<b>Risk Factor</b>	<b>Data Source</b>
Accepted CPS referral (10 to 12 months prior than the current month)	Children's Administration FAMLINK data
Neglect finding in current month	Children's Administration FAMLINK data
ED outpatient visit (4 to 6 months prior to the current month)	ProviderOne claims data
ED outpatient visit (7 to 9 months prior to the current month)	ProviderOne claims data
Injury treatment (7 to 9 months prior to the current month)	ProviderOne claims data
TANF in current month	DSHS Client Services Database
TANF (1 to 3 months prior to current month)	DSHS Client Services Database
Count of Basic Food (lifetime)	DSHS Client Services Database
Basic Food in current month	DSHS Client Services Database
Basic Food (1 to 3 months prior to the current month)	DSHS Client Services Database
Count of months homeless (lifetime)	DSHS Client Services Database
Child mental health diagnosis (lifetime)	ProviderOne claims data
Child DSHS developmental disabilities service (lifetime)	DSHS Client Services Database
Child mental health diagnosis or prescription (prior 24 months)	ProviderOne claims data
Child mental health outpatient visit (1 to 3 months prior to current month)	DSHS Client Services Database
Child mental health outpatient visit (4 to 6 months prior to current month)	DSHS Client Services Database
Child mental health outpatient visit (7 to 9 months prior to current month)	DSHS Client Services Database
Parent mental health condition	DSHS Client Services Database and ProviderOne claims
Parent homelessness	DSHS Client Services Database
Parent arrest	Washington State Patrol arrest data
Parent incarceration in DOC facility	Department of Correction inmate data
Parent criminal justice involvement	Children's Administration FAMLINK data
Parent domestic violence	ACES data warehouse
Parent mental health diagnosis or prescription (prior 24 months)	DSHS Client Services Database and ProviderOne claims
Parent antimania prescription (prior 24 months)	ProviderOne claims data
Parent antipsychotic prescription (prior 24 months)	ProviderOne claims data
Parent DBHR mental health services (prior 24 months)	DSHS Client Services Database
Parent tribal mental health services (prior 24 months)	DSHS Client Services Database
Parent BRS services (prior 24 months)	Children's Administration FAMLINK data
Parent count of outpatient services (prior 12 months)	DSHS Client Services Database
Parent count of outpatient services is in top decile (prior 12 months)	DSHS Client Services Database
Parent crisis services (prior 12 months)	DSHS Client Services Database
Parent Basic Food count (prior 5 years)	DSHS Client Services Database
Parent low earnings	Employment Security Department UI wage data
Parent employment (prior 12 months)	Employment Security Department UI wage data
Parent arrest or conviction (prior 12 months)	Washington State Patrol (arrests) and Administrative Office of the Courts (convictions)

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