

# Untitled

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## Method

### Sample

As noted above, the legislature required the evaluation team compare the pilot counties (Lewis and Grant) in which DCLR was offered universally to all children entering shelter care, with two explicitly identified comparison counties (Whatcom and Douglas). These counties served as the baseline DCLR and “business-as-usual” (BAU) samples for all analyses. Depending on the outcome, we refined the sample for practical reasons (e.g., only a subset of dependent children (i.e., adolescent children) are realistically at risk of juvenile justice outcomes) or for sensitivity analysis to confirm the validity of the legislatively chosen comparison groups. We outline our qualitative and quantitative samples in more detail below.

### Focus Groups & Qualitative Samples

Qualitative samples were

### Quantitative Samples

**Shelter Care in Washington State** Our baseline quantitative sample focuses on children entering a period of shelter care. In Washington State, shelter care begins by one of two mechanisms (RCW 13.34.060):

1. A law enforcement officer takes a child into custody, finding “... probable cause to believe that the child is abused or neglected and that the child would be injured or could not be taken into custody if it were necessary to first obtain a court order.” (RCW 26.44.050), or
2. A court orders the child into custody, finding that there are “... reasonable grounds to believe the child is dependent and that the child’s health, safety, and welfare will be seriously endangered if not taken into custody.” (RCW 13.34.050).

Under the first mechanism, shelter care begins when the child enters custody. Under the second mechanism, shelter care starts with the court order, regardless of whether the child is actually in state custody.

**Quantitative Sampling Considerations for DCLR and BAU** To estimate the effect of DCLR on various outcomes, we need to find an appropriate comparison group for the children in the DCLR condition. We attempted four different approaches to define our BAU condition.

1. **Pre-Post:** We compared children in the DCLR condition (Lewis and Grant county shelter care events from September 1, 2017, through August 31, 2019 (i.e., hereafter, our “treatment period”)) with children entering care in Lewis and Grant in the preceding two-year period (September 1, 2015, through August 31, 2017 (i.e., hereafter, our “control period”)).
2. **Approximate Difference-in-Differences (aDID) (Legislatively Required):** We compared children in the DCLR condition with children entering shelter care in Lewis, Grant, Douglas, and Whatcom in the control period or Douglas and Whatcom in the treatment period. Our approach is similar to the Difference-in-Differences (DID) approach made famous by Card and Kruger (1994). There

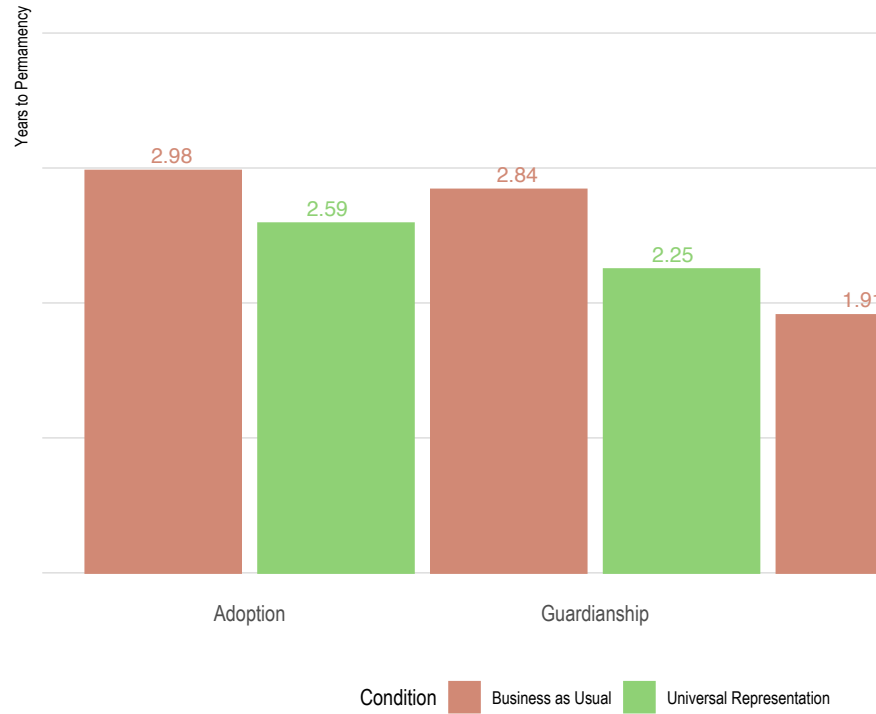
are, however, critical statistical differences between the models used to develop DID (i.e., ordinary least squares) and the models and samples we use in this evaluation. We thus do not claim that this approach will necessarily yield an average treatment effect of the treated (ATT) and note that our method yields an approximate difference-in-difference estimator (aDID).

3. **Approximate Difference-in-Differences (aDID) (University of Wisconsin Population Health Institute (UWPHI))**: One potential shortcoming of the aDID approach is the choice of the comparison group. Improperly matched control groups can bias the results of classical DID models (Basu & Dylan, 2020) and would likely bias the results of aDID models as well. We identified alternatives to Douglas and Whatcom as control counties using the University of Wisconsin Population Health Institute (UWPHI) county health rankings tool to address this possibility (UWPHI, 2020). The health rankings tool uses various metrics to identify Washington counties closely resembling the DCLR counties in health and well-being measures. The UWPHI tool identified Adams, Clallam, Grays, and Mason counties as the closest match to the DCLR counties. We thus developed an additional BAU approach using comparing children in the DCLR condition with children entering shelter care in Lewis, Grant, Adams, Clallam, Grays Harbor, and Mason in the control period or Adams, Clallam, Grays Harbor, and Mason in the treatment period.
4. **Approximate Difference-in-Differences (aDID) with IPTW**: Simply choosing better counties for comparison helps the match issues identified above. However, this approach does nothing to address the bias that may result from mismatched children between the DCLR and BAU counties. For example, Grays Harbor and Grant counties may fare similarly on county-level health and well-being measures, but the children in shelter care within each county may look very different. To address this issue, we weighted our estimated models developed from the aDID-UWPHI approach using the inverse probability of treatment weighting (IPTW) technique proposed by Williamson, Forbes, and Ian (2013).

We find similar results across all four approaches to defining our BAU condition. In most analyses, the aDID-Legislative (Option 2) and aDID-UWPHI (Option 3) represent the average of all estimated treatment effects. Additionally, while helpful for sensitivity analyses, the propensity score model from which we derived weights for the aDID-IPTW approach is not stable. Specifically, we have a limited number of confounding variables available to specify the propensity model, and the weights are sensitive to the choice of confounding variables. Taking all of the BAU approaches into account, along with the legislative mandate to report on aDID-Legislative (Option 2), we limit the remaining discussion to this BAU approach. Results from the other BAU approaches are available from the authors on request.

## Expected Time to Permanency

Children in DCLR vs Business as Usual



Data taken from...

## Children Sampled for DCLR and BAU

We thus draw our baseline quantitative sample (using BAU approach two from above) from the following sources of shelter care events:

1. Children who entered shelter care in Lewis and Grant during the treatment period ( $n=434$ ),
2. Children who entered shelter care in Lewis and Grant during the control period ( $n=322$ ),
3. Children who entered shelter care in Douglas and Whatcom during the treatment period ( $n=265$ ), and
4. Children who entered shelter care in Douglas and Whatcom during the control period ( $n=430$ ).

This sampling approach will allow us to compare outcomes in the DCLR pilot with outcomes in the same jurisdictions before the pilot while simultaneously comparing the DCLR pilot with Douglas and Whatcom counties over the same period. In total, a sample of 1451 children were included in our baseline quantitative sample.

Variable	N	BAU, N = 1,017 <sup>1</sup>	DCLR, N = 434 <sup>1</sup>	P <sup>2</sup>
<b>Age at Shelter Care</b>	1,451	3.5 (0.6, 8.1)	4.5 (0.9, 9.1)	0.069
<b>Race</b>	1,451			<0.001
<i>African American</i>		73 (7.2%)	29 (6.7%)	
<i>Asian/PI</i>		21 (2.1%)	5 (1.2%)	
Median (IQR); n (%) <sup>1</sup>				

Age: Wilcoxon rank sum test; Race: Fisher's Exact Test with simulated p-value; Gender Test: Fisher's Exact Test<sup>2</sup>

Variable	N	BAU, N = 1,017 <sup>1</sup>	DCLR, N = 434 <sup>1</sup>	P <sup>2</sup>
<i>Hispanic</i>		184 (18%)	132 (30%)	
<i>Native American</i>		217 (21%)	47 (11%)	
<i>Unknown</i>		1 (<0.1%)	1 (0.2%)	
<i>White</i>		521 (51%)	220 (51%)	
<b>Gender</b>	1,451			0.4
<i>Female</i>		502 (49%)	225 (52%)	
<i>Male</i>		515 (51%)	209 (48%)	

Median (IQR); n (%)<sup>1</sup>

Age: Wilcoxon rank sum test; Race: Fisher's Exact Test with simulated p-value; Gender Test: Fisher's Exact Test<sup>2</sup>

Figure 1

