



Analysis of Parent Support Outreach Program

Descriptive Report Appendices

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About the Team

Minnesota Management & Budget's Impact Evaluation Unit is a team of data and social scientists that rigorously evaluates state investments and policies to find what works. Minnesota's legislature established the team in 2019 to assess the impact of the state's response to the opioid epidemic and to study human services grants, broadly. We prioritize working with state agencies and other partners to identify and answer pressing questions and creating evidence that is rigorous, relevant, and used by policymakers. For more information about our team or to learn about current and future areas of study, please visit <https://mn.gov/mmb/impact-evaluation/> or contact ResultsManagement@state.mn.us.

Appendices

Additional Methods, Figures, and Tables

Data Processing

To create our dataset, we first identified every PSOP case in SSIS where case management began between July 1, 2013 and June 30, 2024. We used an SSIS linking table to identify every client who belonged to those PSOP cases. We determined a person's age using their date of birth and the date that PSOP case management began. Because PSOP is available during pregnancy, children born up to 9 months later were assigned an age of -1. Race and ethnicity were collected for each person using SSIS categories: Hispanic, White, Black, American Indian/Alaska Native, Asian or Pacific Islander, or Unknown. Persons identified with more than one race were also assigned a "Multiracial" indicator.

Individual data were grouped to describe the PSOP case, including the age of the youngest and oldest person in the case, the number of people in the case, and indicators for whether at least one person in the case fell into any of the race and ethnicity groups. We totaled all payments made under the case's ID number. The duration of PSOP case management was measured as the time from the case management start date to the end date. Cases that were still open as of the date of data collection were excluded from analyses about the duration of case management.

The case's corresponding intake (the first meeting between clients and workers) was identified as any PSOP intake that either led directly to PSOP case management or that led to another SSIS case that led to PSOP case management. We used the case's intake to identify the problem that led to PSOP case management. About one-fourth of cases did not have an identified PSOP intake; however, many of these cases may have had intakes that were purged from the SSIS data system, as only 2.6% of PSOP cases from the past five years were missing corresponding intake records.

Public benefit program participation was identified using the existing linkage between the SSIS and MAXIS person identifiers. We identified all programs in MAXIS which any person in the PSOP case benefited from in the six months prior to the PSOP case. We also identified all programs in MAXIS which any person benefited from in the year following the start of PSOP case management. We added an indicator for a continuous benefit if the MAXIS program started before and continued after the start of the PSOP case. Finally, we identified if the program was a new benefit that began during the first four months of PSOP case management.

Child Protection Outcomes

We identified child protection case outcomes that occurred up to 12 months after PSOP case management began. Child protection outcomes were collected based on whether any person in the case was reported as the offender in a child protection case in SSIS, or child protection cases linked to any person in the PSOP case where no offender was listed. Child protection cases were identified based on having a shared statewide person identifier with the PSOP case.

We included screened-in child protection cases that began from the date that PSOP case management started and screened-out child protection cases dating from one day after PSOP started. This distinction was made because PSOP cases could open following the closure of a screened-out child protection case; we did not want to conflate the child protection cases that led to the opening of a PSOP case with those reported after PSOP case management began. Due to the purging of older records from SSIS data, we only measured outcomes for cases where the PSOP case management began less than five years before the date of the data query.

The child protection outcomes we identified included: any child protection case, any neglect allegation (labeled either “neglect” or “medical neglect”), any case in the family investigation track, any determination of maltreatment, and any determination of a neglect allegation.

Study Population

The total sample includes all PSOP cases from 1 July 2013 to 30 June 2024 who received PSOP services at least once (N = 25,419 cases). To respect Initiative Tribe’s data sovereignty, we chose to exclude PSOP cases who received services from an Initiative Tribe. Our analysis of some outcomes of interest uses only a subset of the full sample because State data policies require the deletion of all information about screened-in reports, family investigation track, neglect allegations, and offender identities after five years, and maltreatment determination after ten years. Therefore, we were unable to examine most outcomes for cases opened prior to 2019 and were only able to examine maltreatment substantiation for cases opening after 2014. Therefore, to be consistent, our analysis of all child protection outcomes only includes the last five years of data. Notably, some families who receive PSOP services do so multiple times throughout our timeframe. These are treated as separate PSOP cases in the analyses. For determining if a case had any subsequent involvement with PSOP we looked one year after the first day PSOP services were provided.

Case-level demographic information was aggregated from person-level data found in SSIS. We collected information on the age of the youngest and oldest person in the case, the number of people in the case, and indicators for whether any person in the case identified with any given race or ethnicity. Public benefit information was also collected based on whether any person in the case was associated with a MAXIS record. Child protection outcomes were collected based on whether any person in the case was also included in a child protection case in SSIS.

Research Questions

MMB and DCYF jointly agreed upon the following descriptive research questions:

- Amongst PSOP recipients, do child welfare outcomes vary by sociodemographic factors, including race/ethnicity and age, type of risk factor, or by differences in the type or provider of services (e.g., receiving flexible funds vs only case management, community-based vs county-based services)?
- Are connections to public benefits during PSOP services associated with decreased rates of subsequent maltreatment reporting?
- Is duration of PSOP services associated with subsequent child welfare involvement?

To answer the first research question, we measured the probability that a PSOP case would be associated with each child protection outcome over twelve months of follow-up time, by:

- Case race/ethnicity (White alone, Black alone, Asian/Pacific Islander alone, American Indian/Alaska Native alone, and Two or more races, as well as Hispanic ethnicity of any race);
- Age of youngest child at the start of case management (0 or prenatal, 1-2, 3-5, 6-10, 11-17);
- Risk factor identified in intake (Parenting/family interaction, Housing, Domestic violence, Alleged child maltreatment, Income, Mental health, Minor parent, Chemical abuse/dependency, Other/unspecified, Intake not found)
- Receiving flexible funds versus only case management (Any payments, No payments)
- Receiving community-based versus county-based services (County does not contract PSOP services, County contracts some PSOP services, County contracts all PSOP services)

To answer the second research question, we measured the probability that a PSOP case would be associated with each child protection outcome over twelve months of follow-up time, by:

- Connection to new public benefit program during first four months following start of PSOP case management, among cases with no child protection outcomes in the first four months.

To answer the third research question, we measured the probability that a PSOP case would be associated with each child protection outcome over twelve months of follow-up time, by:

Duration of PSOP case management among cases with no child protection outcomes in the first four months (At least four months of case management, Fewer than four months).

Appendix Figure 1. Sankey Diagrams Detailing Child Welfare Outcomes for PSOP Participants by Race and Ethnicity, Fiscal Years 2020-2024.

Figure 1.1 Sankey Diagrams Detailing Child Welfare Outcomes for All PSOP Participants (N = 10,360), Fiscal Years 2020-2024.

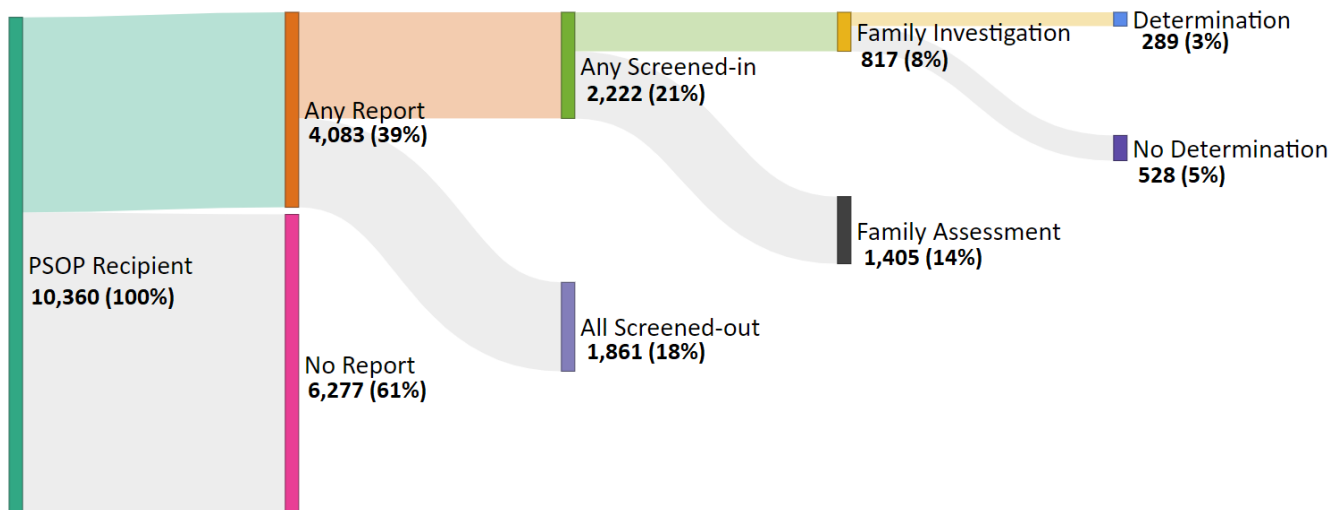


Figure 1.2 Sankey Diagrams Detailing Child Welfare Outcomes for White PSOP Participants (N = 6,832), Fiscal Years 2020-2024.

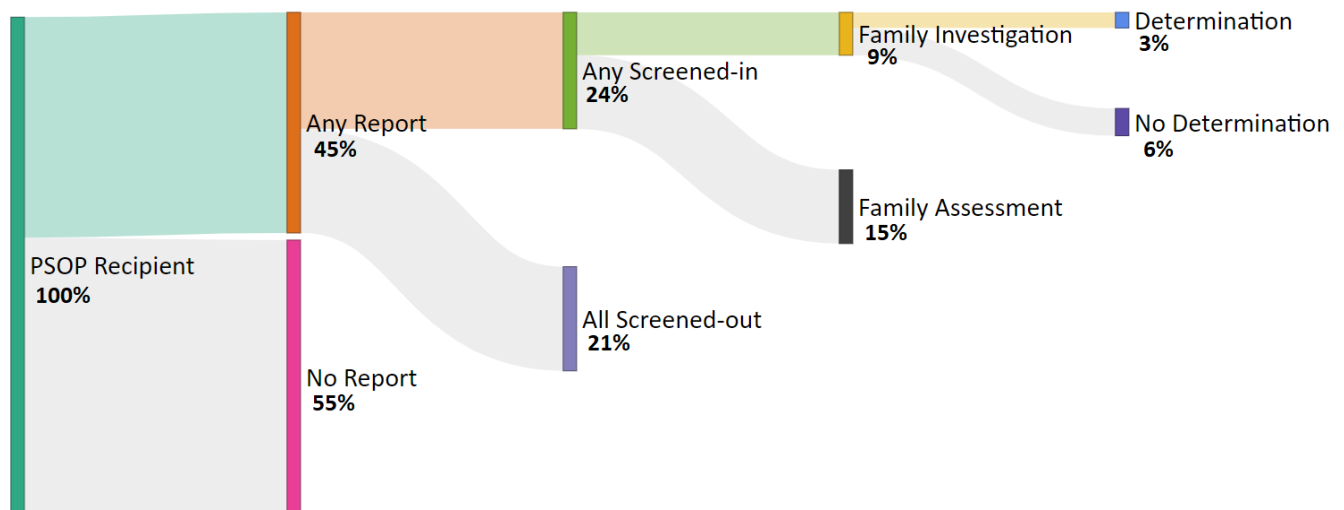


Figure 1.3 Sankey Diagrams Detailing Child Welfare Outcomes for Black PSOP Participants (N = 4,420), Fiscal Years 2020-2024.

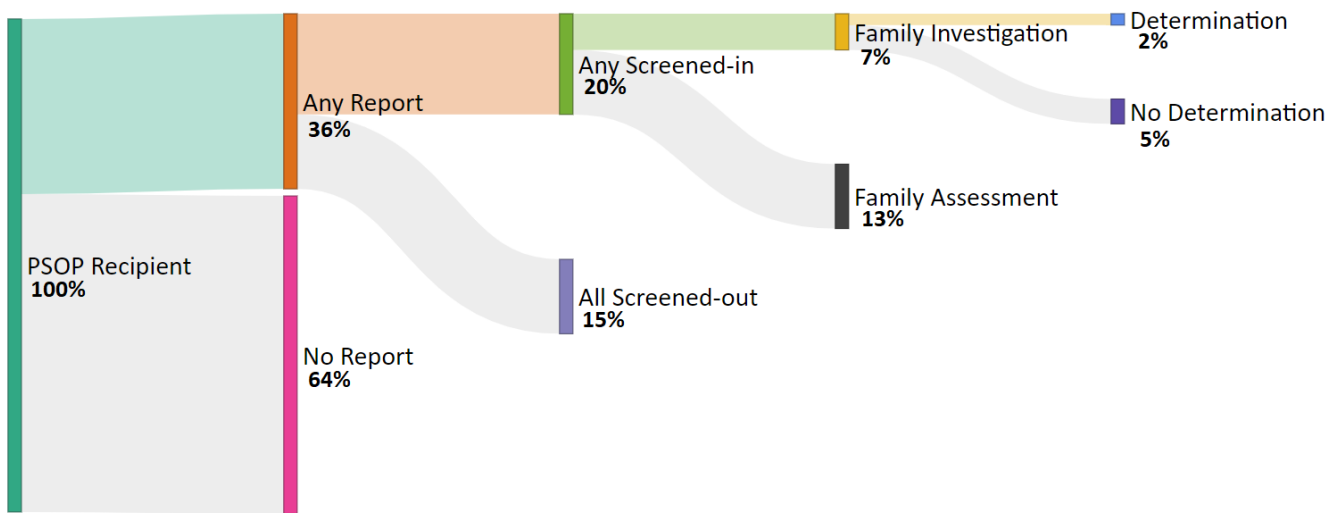


Figure 1.4 Sankey Diagrams Detailing Child Welfare Outcomes for American Indian/Alaska Native PSOP Participants (N = 1,730), Fiscal Years 2020-2024.

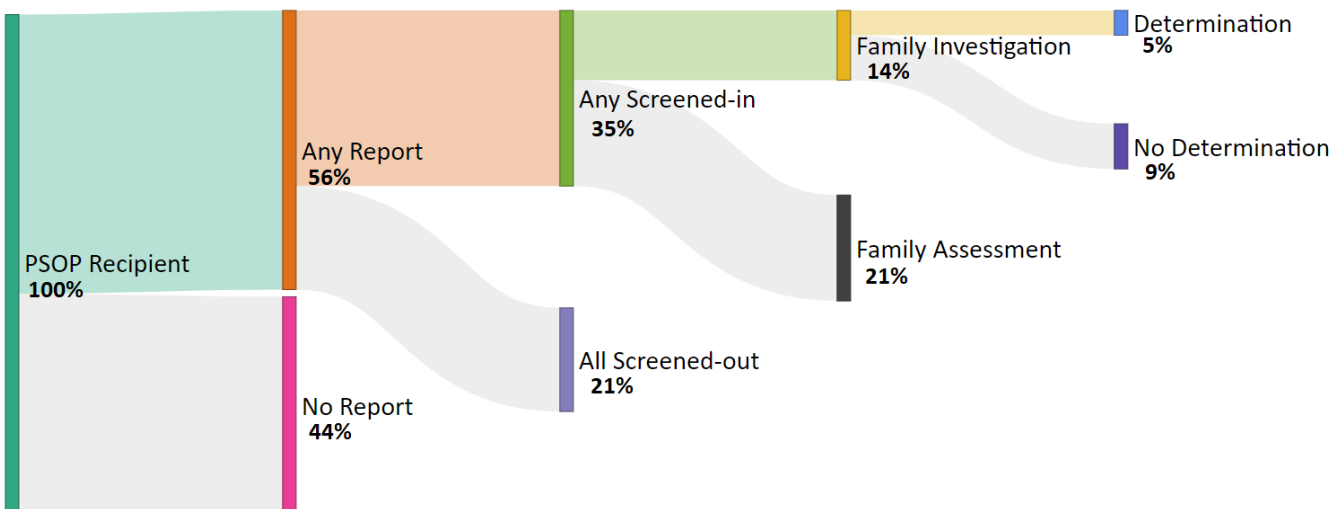


Figure 1.5 Sankey Diagrams Detailing Child Welfare Outcomes for Asian/Pacific Islander PSOP Participants (N = 640), Fiscal Years 2020-2024.

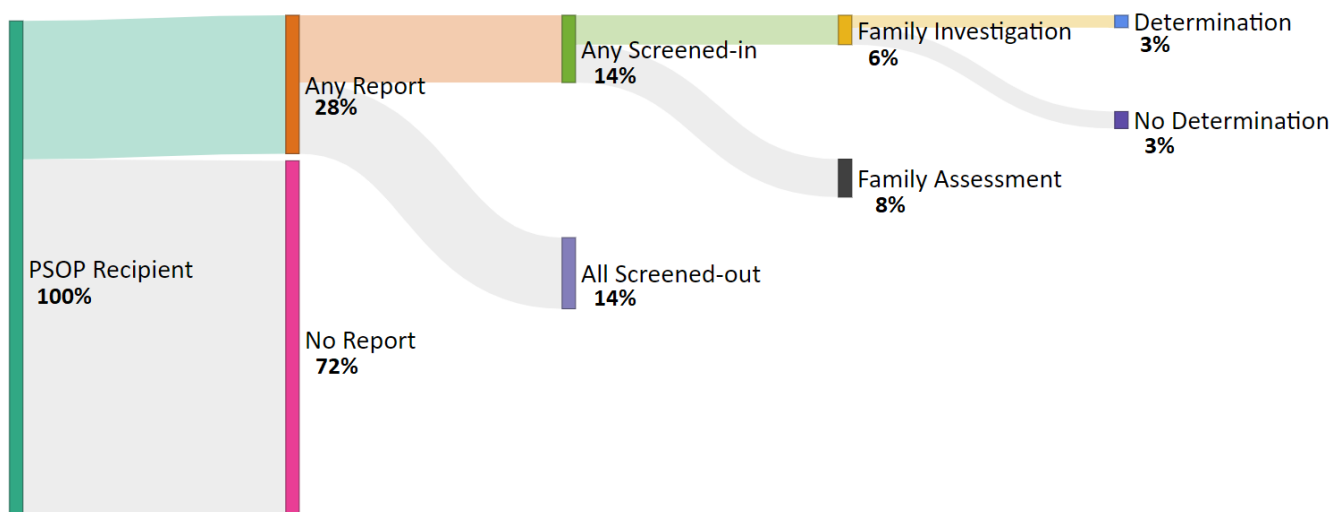


Figure 1.6 Sankey Diagrams Detailing Child Welfare Outcomes for Two or More Races PSOP Participants (N = 2,958), Fiscal Years 2020-2024.

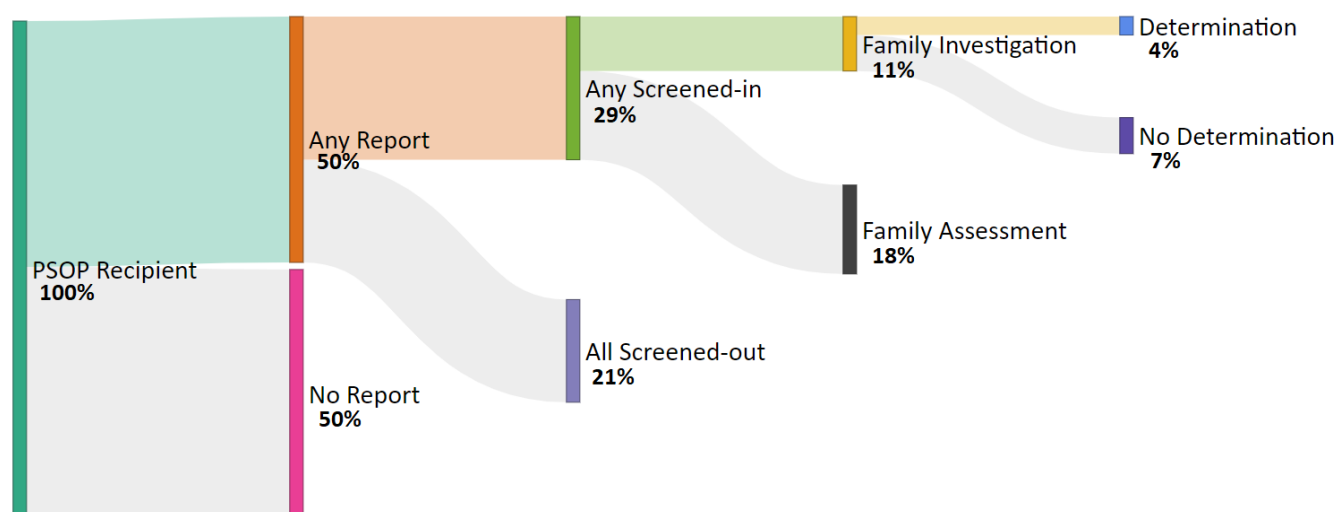
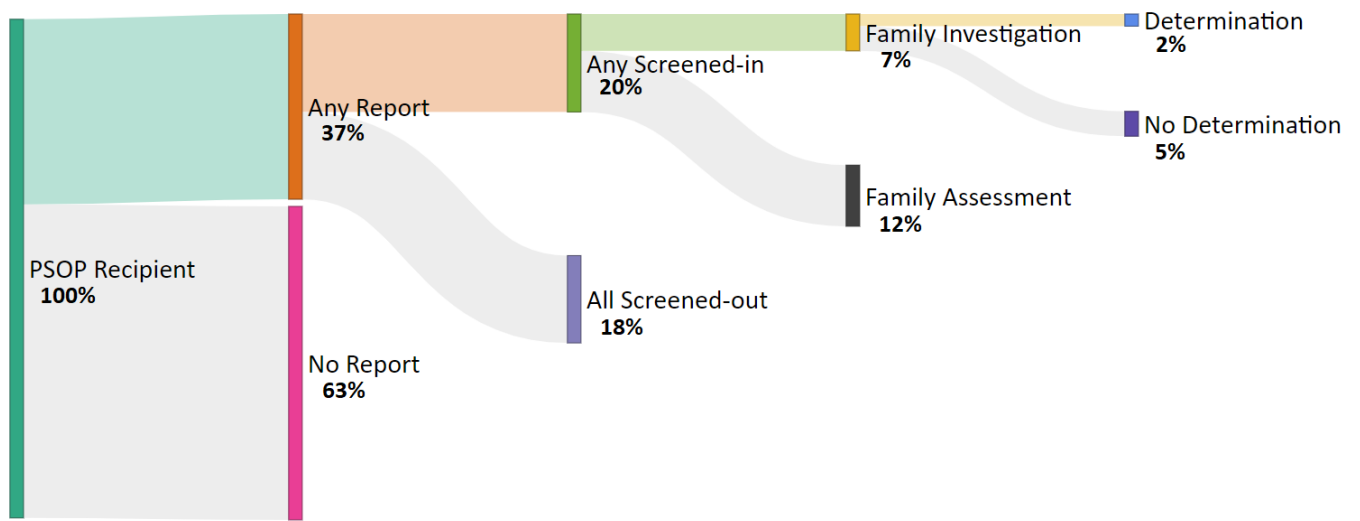
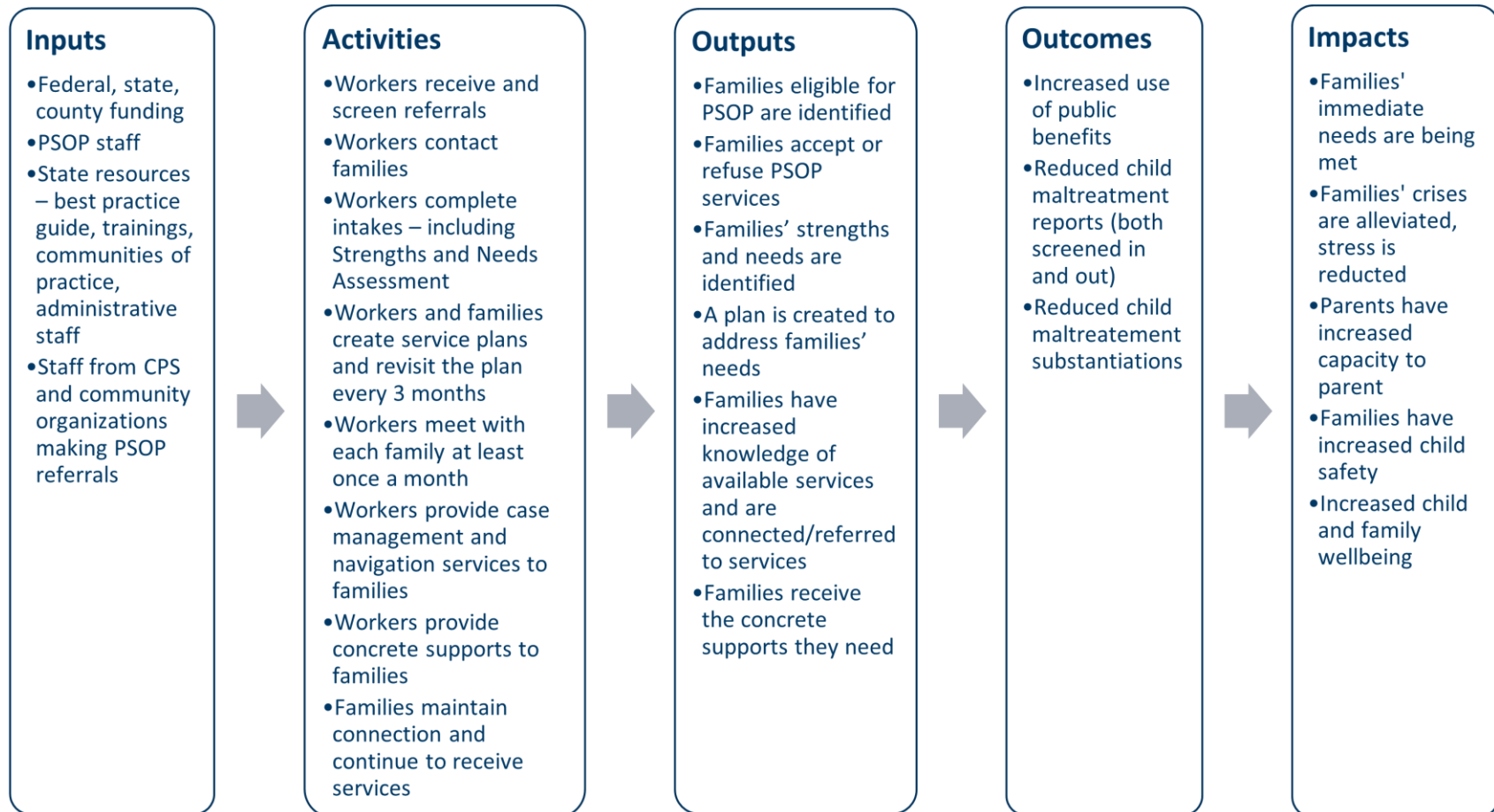


Figure 1.7 Sankey Diagrams Detailing Child Welfare Outcomes for Hispanic PSOP Participants (N = 1,691), Fiscal Years 2020-2024.



Appendix Figure 2: PSOP Logic Model



Appendix Table 1: PSOP Summary Statistics

Characteristic	N = 21,459
Race	
White	9,997 (40%)
Black/African American	6,520 (26%)
American Indian/Alaskan Native	484 (1.9%)
Asian or Pacific Islander	813 (3.3%)
2 or more races	6,821 (27%)
Unknown/Other	269 (1.1%)
Year (Fiscal Year)	
2014	1,582 (6.4%)
2015	2,199 (8.8%)
2016	1,619 (6.5%)
2017	1,932 (7.8%)
2018	2,397 (9.6%)
2019	2,528 (10%)
2020	2,332 (9.4%)
2021	2,622 (11%)
2022	2,543 (10%)
2023	2,780 (11%)
2024	2,370 (9.5%)
Ethnicity	
Hispanic	3,803 (15%)
Not Hispanic/Unknown	21,101 (85%)
PSOP Case Size (persons)	3.67 [1, 16][†]
1	496 (2.0%)
2	5,862 (24%)
3	6,963 (28%)
4	5,210 (21%)
5	3,259 (13%)
6	1,758 (7.1%)
7	761 (3.1%)
8	352 (1.4%)
9	138 (0.6%)
10+	105 (0.4%)
Age of oldest person of a PSOP Case (years old)	33.3 [0, 86][†]
17 or under	190 (0.8%)
18 - 25	4,795 (19%)

Characteristic	N = 21,459
Race	
26 - 35	11,186 (45%)
36 - 45	6,309 (25%)
46 - 55	1,747 (7.0%)
Over 55	674 (2.7%)
Age of youngest person of a PSOP Case (years old)	3.9 [-1, 57]¹
-1 (Unborn child of a pregnant individual)	833 (3.3%)
0	4,934 (20%)
1 - 2	6,585 (26%)
3 - 5	6,090 (24%)
6 - 10	5,112 (21%)
11 - 17	757 (3.0%)
Over 17	590 (2.4%)
Length of PSOP Service (days)	106 (43, 194)²
0 - 7	292 (1.2%)
8 - 14	394 (1.6%)
15 - 30	3,626 (15%)
31 - 60	6,483 (26%)
61 - 180	7,172 (29%)
180 – 1 year	4,946 (20%)
More than 1 year	1,991 (8.0%)
Presenting Problems	
Parenting/family interaction	12,239 (49%)
Housing	1,490 (6.0%)
Alleged child maltreatment	994 (4.0%)
Domestic violence	781 (3.1%)
Income	647 (2.6%)
Mental health	443 (1.8%)
Chemical abuse/dependency	205 (0.8%)
Minor parent	51 (0.2%)
Other/unspecified	1,779 (7.1%)
Intake purged/not found	6,275 (25%)
Parenting/family interaction	12,239 (49%)
Housing	1,490 (6.0%)

1 Mean [Minimum, Maximum]

2 Mean [Q1, Q3]

Appendix Table 2: PSOP Summary Statistics by Race

Characteristic	White, N = 9,997	Black or African American, N = 6,520	American Indian/ Alaskan Native, N = 484	Asian or Pacific Islander, N = 813	2 or more races, N = 6,821	Unknown/ Other, N = 269
Year (Fiscal Year)						
2014	733 (7.3%)	347 (5.3%)	38 (7.9%)	21 (2.6%)	431 (6.3%)	12 (4.5%)
2015	836 (8.4%)	678 (10%)	61 (13%)	32 (3.9%)	581 (8.5%)	11 (4.1%)
2016	798 (8.0%)	311 (4.8%)	39 (8.1%)	13 (1.6%)	450 (6.6%)	8 (3.0%)
2017	792 (7.9%)	542 (8.3%)	48 (9.9%)	34 (4.2%)	506 (7.4%)	10 (3.7%)
2018	841 (8.4%)	753 (12%)	64 (13%)	66 (8.1%)	665 (9.7%)	8 (3.0%)
2019	906 (9.1%)	764 (12%)	47 (9.7%)	167 (21%)	619 (9.1%)	25 (9.3%)
2020	844 (8.4%)	566 (8.7%)	39 (8.1%)	198 (24%)	660 (9.7%)	25 (9.3%)
2021	1,064 (11%)	648 (9.9%)	45 (9.3%)	120 (15%)	715 (10%)	30 (11%)
2022	1,028 (10%)	610 (9.4%)	40 (8.3%)	78 (9.6%)	740 (11%)	47 (17%)
2023	1,102 (11%)	709 (11%)	42 (8.7%)	42 (5.2%)	841 (12%)	44 (16%)
2024	1,053 (11%)	592 (9.1%)	21 (4.3%)	42 (5.2%)	613 (9.0%)	49 (18%)
Ethnicity						
Hispanic	2,377 (24%)	147 (2.3%)	59 (12%)	14 (1.7%)	1,135 (17%)	71 (26%)
Not Hispanic/ Unknown	7,620 (76%)	6,373 (98%)	425 (88%)	799 (98%)	5,686 (83%)	198 (74%)
PSOP Case Size (persons) ¹	3.54, [1, 16]	3.60, [1, 12]	3.46, [1, 11]	4.70, [1, 13]	3.83, [1, 15]	3.02, [1, 9]
1	249 (2.5%)	143 (2.2%)	27 (5.6%)	11 (1.4%)	50 (0.7%)	16 (5.9%)
2	2,400 (24%)	1,772 (27%)	136 (28%)	97 (12%)	1,365 (20%)	92 (34%)
3	2,937 (29%)	1,738 (27%)	123 (25%)	147 (18%)	1,937 (28%)	81 (30%)
4	2,143 (21%)	1,255 (19%)	83 (17%)	151 (19%)	1,526 (22%)	52 (19%)
5	1,284 (13%)	791 (12%)	56 (12%)	146 (18%)	965 (14%)	17 (6.3%)
6	602 (6.0%)	447 (6.9%)	35 (7.2%)	118 (15%)	552 (8.1%)	4 (1.5%)
7	224 (2.2%)	204 (3.1%)	15 (3.1%)	73 (9.0%)	241 (3.5%)	4 (1.5%)

Characteristic	White, N = 9,997	Black or African American, N = 6,520	American Indian/ Alaskan Native, N = 484	Asian or Pacific Islander, N = 813	2 or more races, N = 6,821	Unknown/ Other, N = 269
8	96 (1.0%)	100 (1.5%)	3 (0.6%)	40 (4.9%)	111 (1.6%)	2 (0.7%)
9	34 (0.3%)	45 (0.7%)	4 (0.8%)	16 (2.0%)	38 (0.6%)	1 (0.4%)
10+	28 (0.3%)	25 (0.4%)	2 (0.4%)	14 (1.7%)	36 (0.5%)	0 (0%)
Age of oldest person of a PSOP Case (years old) ¹	34, [0, 85]	32, [5, 77]	35, [0, 79]	38, [15, 78]	33, [0, 86]	32, [0, 60]
17 or under	91 (0.9%)	44 (0.7%)	7 (1.4%)	2 (0.2%)	34 (0.5%)	12 (4.5%)
18 - 25	1,792 (18%)	1,520 (23%)	77 (16%)	45 (5.5%)	1,313 (19%)	48 (18%)
26 - 35	4,280 (43%)	3,100 (48%)	198 (41%)	338 (42%)	3,162 (46%)	108 (40%)
36 - 45	2,788 (28%)	1,408 (22%)	129 (27%)	255 (31%)	1,647 (24%)	82 (31%)
46 - 55	771 (7.7%)	343 (5.3%)	48 (9.9%)	131 (16%)	438 (6.4%)	16 (6.0%)
Over 55	274 (2.7%)	105 (1.6%)	25 (5.2%)	41 (5.0%)	227 (3.3%)	2 (0.7%)
Age of youngest person of a PSOP Case (years old) ¹	4.2, [-1, 57]	3.9, [-1, 56]	5.3, [-1, 43]	4.8, [-1, 44]	3.3, [-1, 53]	5.2, [-1, 39]
-1 (Unborn child of a pregnant individual)	413 (4.1%)	130 (2.0%)	16 (3.3%)	5 (0.6%)	264 (3.9%)	5 (1.9%)
0	1,913 (19%)	1,304 (20%)	80 (17%)	132 (16%)	1,442 (21%)	63 (24%)
1 - 2	2,439 (24%)	1,879 (29%)	112 (23%)	190 (23%)	1,914 (28%)	51 (19%)
3 - 5	2,465 (25%)	1,562 (24%)	100 (21%)	216 (27%)	1,686 (25%)	61 (23%)
6 - 10	2,202 (22%)	1,222 (19%)	130 (27%)	184 (23%)	1,317 (19%)	57 (21%)
11 - 17	243 (2.4%)	283 (4.3%)	19 (3.9%)	74 (9.1%)	125 (1.8%)	13 (4.9%)
Over 17	321 (3.2%)	140 (2.1%)	27 (5.6%)	11 (1.4%)	73 (1.1%)	18 (6.7%)
Length of PSOP Service (days)²	105, (42, 195)	105, (38, 191)	109, (57, 186)	119, (78, 173)	108, (46, 202)	96, (48, 160)
0 - 7	117 (1.2%)	82 (1.3%)	7 (1.4%)	8 (1.0%)	73 (1.1%)	5 (1.9%)
8 - 14	160 (1.6%)	103 (1.6%)	8 (1.7%)	6 (0.7%)	107 (1.6%)	10 (3.7%)
15 - 30	1,496 (15%)	1,065 (16%)	50 (10%)	42 (5.2%)	947 (14%)	26 (9.7%)
31 - 60	2,658 (27%)	1,610 (25%)	139 (29%)	207 (25%)	1,782 (26%)	87 (32%)
61 - 180	2,764 (28%)	1,874 (29%)	149 (31%)	369 (45%)	1,933 (28%)	83 (31%)

Characteristic	White, N = 9,997	Black or African American, N = 6,520	American Indian/ Alaskan Native, N = 484	Asian or Pacific Islander, N = 813	2 or more races, N = 6,821	Unknown/ Other, N = 269
180 – 1 year	2,041 (20%)	1,284 (20%)	90 (19%)	128 (16%)	1,356 (20%)	47 (17%)
More than 1 year	761 (7.6%)	502 (7.7%)	41 (8.5%)	53 (6.5%)	623 (9.1%)	11 (4.1%)
Presenting Problems						
Parenting/ family interaction	4,672 (47%)	3,213 (49%)	197 (41%)	562 (69%)	3,487 (51%)	108 (40%)
Housing	469 (4.7%)	550 (8.4%)	30 (6.2%)	24 (3.0%)	392 (5.7%)	25 (9.3%)
Alleged child maltreatment	574 (5.7%)	70 (1.1%)	16 (3.3%)	12 (1.5%)	318 (4.7%)	4 (1.5%)
Domestic violence	233 (2.3%)	294 (4.5%)	15 (3.1%)	9 (1.1%)	214 (3.1%)	16 (5.9%)
Income	305 (3.1%)	130 (2.0%)	14 (2.9%)	4 (0.5%)	184 (2.7%)	10 (3.7%)
Mental health	183 (1.8%)	118 (1.8%)	5 (1.0%)	3 (0.4%)	125 (1.8%)	9 (3.3%)
Chemical abuse/ dependency	96 (1.0%)	33 (0.5%)	8 (1.7%)	1 (0.1%)	66 (1.0%)	1 (0.4%)
Minor parent	33 (0.3%)	5 (<0.1%)	0 (0%)	0 (0%)	11 (0.2%)	2 (0.7%)
Other/unspecified	807 (8.1%)	344 (5.3%)	44 (9.1%)	52 (6.4%)	489 (7.2%)	43 (16%)
Intake purged/ not found	2,625 (26%)	1,763 (27%)	155 (32%)	146 (18%)	1,535 (23%)	51 (19%)

1 Mean [Minimum, Maximum]

2 Mean [Q1, Q3]

Appendix Table 43. County Responses to PSOP Contract Survey

Does the county contract out services?		N = 87
Yes, All		N = 3, (3.4%)
Anoka		
Clay		
Kandiyohi		
Yes, Some		N = 6, (6.9%)
Becker		
Hennepin		
Isanti		
Olmsted		
Ramsey		
Sherburne		
Becker		
Hennepin		
No		N = 75, (86.2%)
Aitkin		
Beltrami		
Benton		
Big Stone		
Blue Earth		
Brown		
Carlton		
Carver		
Cass		
Chippewa		
Clearwater		
Cook		
Cottonwood		
Crow Wing		
Dakota		
Dodge		
Douglas		
Faribault		
Fillmore		
Freeborn		
Goodhue		

Grant
Houston
Hubbard
Itasca
Jackson
Kanabec
Kittson
Koochiching
Lac qui Parle
Lake
Lake of the Woods
Le Sueur
Lincoln
Lyon
Mahnomen
Marshall
Martin
McLeod
Meeker
Mille Lacs
Morrison
Mower
Murray
Nicollet
Nobles
Norman
Otter Tail
Pine
Pipestone
Polk
Pope
Redwood
Renville
Rice
Rock
Roseau
Scott
Sibley
St. Louis

Stearns	
Steele	
Stevens	
Swift	
Todd	
Traverse	
Wabasha	
Wadena	
Waseca	
Washington	
Watonwan	
Wilkin	
Winona	
Wright	
Yellow Medicine	
Not Reported	N = 3, (3.4%)
Chisago	
Pennington	
Red Lake County	

Appendix Table 4: Characteristics of Counties that Do/Do Not Contract PSOP Services

This table presents the group averages for county level characteristics comparing the 74 counties that responded “No” to our survey with the 9 counties that responded “Yes (some or all)” to our survey asking if they contracted out PSOP services. The Rural-Urban Continuum Code classifies U.S. counties based on their population size, level of urbanization, and proximity to metropolitan areas. There are nine codes ranging from 1, most urban, to 9, most rural. The other column headers are self-explanatory. Data for county characteristics came from USDA Economic Research Service and were downloaded from their website: <https://www.ers.usda.gov/data-products/county-level-data-sets/>.

County contracts PSOP services	Count	Population (2023)	Median Household Income (2021)	Rural-urban Continuum Code (2023)	Adults with less than a high school diploma (2022)	Adults with a high school diploma only (2022)	Adults completing some college or associate's degree (2022)	Adults with a bachelor's degree or higher (2022)	Poverty Rate (2021)	Unemployment Rate (2022)
No	75	40,520	\$66,910	6.1	7.0%	32.1%	36.1%	24.7%	10.3%	3.1%
Yes (some or all)	9	291,417	\$77,192	2.3	6.8%	24.9%	33.6%	34.7%	9.8%	2.7%

Appendix Table 5: Types of Presenting Problems by Fiscal Year

Presenting Problems	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Total
Parenting/family interaction	34%	34%	34%	37%	45%	47%	61%	58%	61%	58%	54%	49%
Housing	2%	2%	3%	2%	2%	5%	6%	6%	10%	10%	14%	6%
Alleged child mistreatment	3%	2%	4%	3%	3%	6%	8%	9%	4%	<1%	1%	4%
Domestic violence	<1%	<1%	<1%	<1%	<1%	3%	5%	6%	6%	4%	5%	3%
Income	<1%	<1%	<1%	<1%	1%	2%	4%	4%	3%	4%	6%	3%
Mental health	<1%	<1%	<1%	<1%	<1%	<1%	1%	2%	3%	5%	3%	2%
Chemical abuse/dependency	<1%	<1%	<1%	<1%	<1%	1%	<1%	<1%	1%	2%	1%	<1%
Minor parent	<1%	<1%	<1%	<1%	-	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Other/unspecified	3%	2%	3%	2%	2%	7%	6%	9%	10%	14%	14%	7%
Intake purged/not found	56%	59%	54%	54%	44%	28%	7%	4%	2%	1%	2%	25%