SCHOOL OF SOCIAL WORK
COLORADO STATE UNIVERSITY

Collaborative Management Program (CMP) Evaluation Report

State Fiscal Year 2021

Submitted to the Division of Child Welfare, Colorado Department of Human Services

COLORADO
Office of Children, Youth & Families
Division of Child Welfare

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Collaborative Management Program Evaluation State Fiscal Year 2021 Report

Executive Summary

The Division of Child Welfare (DCW) in the Office of Children, Youth, and Families at the Colorado Department of Human Services (CDHS) contracted with the Social Work Research Center (SWRC) in the School of Social Work at Colorado State University (CSU) and RTI International (RTI) to serve as the evaluation team to conduct the evaluation of the Collaborative Management Program (CMP) in Colorado. The State Fiscal Year 2021 (SFY21) report presents the methods, findings, and implications of the CMP process, outcome, and cost evaluations. This year's report features enhancements to the evaluation including longitudinal analyses of CMP outcomes and costs and a complete analysis of the Family Voice survey results.

Overview

In 2004, the Colorado General Assembly passed House Bill 04-1451 (referred to as HB 1451) to establish optional collaborative management programs at the county level that would improve outcomes for children, youth, and families involved with multiple agencies. The CMP population is considered to be at higher risk for negative outcomes in the juvenile justice, child welfare, health/mental health, and education systems. For example**,** the Division of Youth Services (DYS) prior involvement rate in SFY20 for youth from the CMP population was 4.9 percent compared to 2.3 percent for youth from the overall child protection population in Colorado. Furthermore, 2.3 percent of CMP involved youth had a prior adoption compared to 1.1 percent for youth from the overall child protection population.

To determine if CMP is working as designed, the evaluation seeks to answer the following key questions:

1. Is CMP meeting legislative intent in key population, systems, services, and outcome components?
2. Are CMP structures/processes improving cross-agency collaborations at the local level?
3. What are the outcomes for CMP involved children/youth?
4. Which CMP models/components are most effective?
5. Is there cost effectiveness associated with CMP?
6. What is the family experience with CMP?

Collectively, the results of the process, outcome, and cost evaluations provide an understanding of CMP and enable the evaluation team to answer the identified evaluation questions. Each component also addresses other relevant evaluation questions to explore how CMP is implemented at the county level, and to better understand the contextual and practice factors contributing to child/youth and system outcomes.

Process Evaluation

The process evaluation examines the implementation of CMP to provide practitioners, policymakers, and stakeholders with essential information about how site-level CMPs are working together to achieve the goals and outcomes outlined in the legislation. The evaluation team utilizes quantitative and qualitative methods that build upon previous CMP process measures. In addition, the process evaluation explores program successes and challenges, and provides contextual information for interpreting the results of the outcome and cost evaluations.

The process evaluation examines three key topic areas related to CMP implementation: (1) collaborative structures and processes; (2) systems integration; and (3) family engagement. The design for the process evaluation consists of primary and secondary data collection and analysis to track process measures and metrics for Interagency Oversight Group (IOG) and Individualized Services and Support Team (ISST) implementation, coordinated service provision, family engagement experience, and interagency collaboration.

The following summarizes the results for the CMP process measures:

- The use of evidence-based practices was achieved by 96% of CMPs.
- 91% of CMPs achieved the goal of having seventy-five percent of their agencies contribute resources.
- Family participation in IOGs was achieved by 91% of CMPs.
- 87% of CMPs achieved the goal of using Continuous Quality Improvement (CQI) by IOGs.
- Attendance by mandatory members of the IOGs was achieved by 61% of CMPs.

The Family Voice process evaluation activity employed survey methodology and purposeful sampling to elicit family experiences with ISST meetings and CMP prevention services/programs. Data collection began on April 1st, 2021, and closed on May 31st, 2022. All families who participated in ISST meetings or received prevention services were invited to take the survey once they had been participating in the meetings/programs/services for long enough to provide substantive feedback. The primary caregiver, or target youth for older youth-centered ISST meetings or prevention services, were eligible to complete the survey on behalf of their family.

The ISST and Prevention Family Voice Surveys point to a few important trends that may have implications on practice. Most notably is the vast majority of respondents felt that the services, programs, and resources discussed (ISST) or offered (Prevention) were helpful in meeting their families' needs. Families also identified interagency collaboration and system integration as strengths of the CMP model. Responses regarding the overall impact of ISST meetings were largely positive with families consistently describing how supported and less isolated they felt because of the family team meetings.

Outcome Evaluation

In combination with the process and cost evaluations, the SFY21 outcome evaluation is designed to answer critical questions about the various populations served by CMP and to determine whether the program effectively improves outcomes of clients involved in multiple systems.

The evaluation team employed a matched quasi-experimental design (QED) of CMP clients involved with the child welfare, health/mental health, and juvenile justice systems to evaluate the program's impacts more rigorously on the outcomes of children and youth served by the program. The evaluation findings for the child welfare, health/mental health, and juvenile justice domains indicate mixed effectiveness in improving client outcomes. Within the child welfare domain, CMP clients were found to be significantly more likely to have a new child welfare case, significantly less likely to remain home, and significantly less likely to experience placement stability. In contrast, CMP clients in the child welfare domain were not significantly more or less likely to have a subsequent founded assessment or achieve permanency. Within the health/mental health domain, CMP clients were significantly more likely to have established linkages to substance use and mental health providers and were not significantly more or less likely to experience decreases in problem severity or substance use. Within the juvenile justice domain, CMP clients were significantly more likely to have a secure detention admission and not significantly more or less likely to be committed to DYS.

Cost Evaluation

Similar to the quasi-experimental outcome evaluation, the evaluation team conducted a cost comparison between CMP-involved children/youth and the comparison group of children/youth in CMP counties who were eligible, but who did not receive an ISST meeting. Specifically, service and out-of-home placement costs during involvement with CMP and costs up to two years following exit of the program were collected for both the treatment and comparison groups. The average expected costs for the CMP group during CMP involvement ($2,298.48) was significantly higher than average expected cost for the matched comparison group during case involvement ($1,661.63). The average expected cost for the matched comparison group after one year ($699.91) was significantly higher than the average expected cost for the CMP group ($321.76). The average expected cost for the matched comparison group after two years ($779.94) was significantly higher than the average expected cost for the CMP group ($432.51). Total costs during and two years after involvement for the CMP group ($4,034) and the matched comparison group ($4,155) were not significantly different, which is a promising trend regarding total cost in future years.

Conclusions

Process Evaluation

There were very positive results around considerations of inclusion and equity in ISST meetings and prevention services. Specifically, families receiving ISST or prevention services reported appreciating that team members took the time to understand their families' unique cultural considerations. There

were a few areas that families highlighted as opportunities for improvement. For example, there was a common theme of lack of communication, which was illustrated by families being asked to complete the same task by multiple team members and having to update team members multiple times with the same information. Families also reported challenges with accessing resources because of a lack of follow-through from team members. Families suggested that team members increase their frequency of communication and share written agendas detailing relevant information, including the resources being discussed.

Outcome Evaluation

This year's evaluation built on the annual QED evaluations conducted over the past several years by conducting a longitudinal evaluation to provide a more comprehensive understanding of CMP's impact on client outcomes. The longitudinal evaluation provided several additional benefits including increased sample sizes and statistical power, the opportunity to examine the impact of CMP across multiple years, and the opportunity to evaluate the program's impacts 1 and 2 years after the initial ISST meeting and determine whether program impacts persist, increase, or dissipate two years after program entry. Notably, the findings from the longitudinal evaluation of child welfare outcomes both support and counter the findings from the SFY21 QED evaluation. In alignment with the annual evaluation findings, CMP clients were significantly more likely to have a new involvement, significantly less likely to experience placement stability, significantly more likely to have a secure detention admission, but not significantly more or less likely to have a commitment to DYS. In contrast to the annual evaluation findings, the longitudinal evaluation showed that CMP clients had significantly lower probabilities of establishing permanency and remaining home one year after ISST, but that these effects dissipated by the second year after ISST with CMP clients being no more or less likely to establish permanency or remain home than the comparison group. In a notable contrast to the annual evaluation findings, CMP clients were found to not be significantly more or less likely to have a subsequent founded assessment one year after ISST and to be significantly less likely to have a subsequent founded assessment by the second year after ISST. Collectively, the findings from the longitudinal evaluation provide a more comprehensive understanding of CMP's effectiveness and provide evidence that the impact of CMP on child welfare outcomes appears to improve over time.

Based on the findings from this year's evaluation, a pair of recommended next steps support the evaluation team's ongoing evaluation capacity building efforts by working to expand access to critical client outcome data and continuing to expand the focus of the longitudinal evaluation. Accessing program and outcome data remains a critical need for effectively evaluating CMP. Through continued collaboration with DYS and the Office of Behavioral Health (OBH), this year's evaluation team was able to utilize child welfare, juvenile justice, and health/mental health outcome data to rigorously evaluate the program's impacts on CMP clients. However, data for clients who are at risk for adverse educational outcomes continue to remain elusive. Accordingly, the evaluation team will continue to engage members of the CMP Steering Committee, the CMP Evaluation and Data Subcommittees, and the Colorado Department of Education to identify opportunities for addressing existing data silos and improving data collection and matching across the CMP outcome domains. The longitudinal evaluation provided a more comprehensive understanding of CMP's impacts by examining 1- and 2-year child

welfare and juvenile justice outcomes for the SFY17, SFY18, and SFY19 cohorts. The evaluation team will work with OBH to obtain data on health and mental health outcomes at 1 and 2 years after the initial ISST meeting for the SFY17-SFY20 cohorts. This addition to the longitudinal evaluation will provide a critical opportunity to examine whether CMP impacts on health and mental health outcomes persist, increase, or dissipate 2 years after program entry.

Cost Evaluation

The cost evaluation extended previous analyses to include a two year follow-up of costs. This allowed for a more rigorous test of the cost structures underlying youth involvement across multiple domains because youth who have positive and higher costs tend to be at higher risk initially. An extended period of cost measurement is particularly compelling given the trajectory of the CMP group toward lower costs after the program; if money continues to be saved on average at each successive year, the case for CMP may become more compelling with each successive year. The two year follow-up results reflect this trend, as the CMP group recouped the higher costs accrued during CMP involvement and ended with similar costs as the matched comparison group during and two-years post CMP involvement. Shifting the cost evaluation to distinguish no-cost youth from others is another important step to measuring cost savings. For example, although the CMP group incurred significantly higher costs during CMP involvement period, they had a significantly lower chance of incurring costs. This trend continued for 1 and 2 years post closure, as the CMP group was significantly less likely to incur costs than the matched comparison group during all time periods. The CMP cost evaluation is an important example of the measurable benefits when stakeholders, such as counties, emphasize collaboration and tailor their services to best meet the needs of their families.

Collaborative Management Program Evaluation State Fiscal Year 2021 Report

1. Overview

The Division of Child Welfare (DCW) in the Office of Children, Youth, and Families at the Colorado Department of Human Services (CDHS) contracted with the Social Work Research Center (SWRC) in the School of Social Work at Colorado State University (CSU) and RTI International (RTI) to serve as the evaluation team to conduct the evaluation of the Collaborative Management Program (CMP) in Colorado. The State Fiscal Year 2021 (SFY21) report presents the methods, findings, and implications of the CMP process, outcome, and cost evaluations. This year's report features enhancements to the evaluation including longitudinal analyses of CMP outcomes and costs and a complete analysis of the Family Voice survey results.

1.1. CMP Program

In 2004, the Colorado General Assembly passed House Bill 04-1451 (referred to as HB 1451) to establish optional collaborative management programs at the county level that would improve outcomes for children, youth, and families involved with multiple agencies. The CMP population is considered to be at higher risk for negative outcomes in the juvenile justice, child welfare, health/mental health, and education systems. For example**,** the prior Division of Youth Services (DYS) involvement rate in SFY20 for youth from the CMP population was 4.9 percent compared to 2.3 percent for youth from the overall child protection population in Colorado. Furthermore, 2.3 percent of CMP involved youth had a prior adoption compared to 1.1 percent for youth from the overall child protection population.

The General Assembly determined that the "development of a uniform system of collaborative management is necessary for agencies at the state and county levels to effectively and efficiently collaborate to share resources or to manage and integrate the treatment and services provided to children and families who benefit from multi-agency services."[1] The legislative intent of HB 1451 was to address the increasing number of families served by more than one agency or system, which has placed significant demands on agencies' resources. The resulting CMP is designed to improve both the quality and cost-effectiveness of interventions for Colorado children, youth, and families involved with multiple governmental programs and community agencies stemming from contact with the health/mental health, education, child welfare, and juvenile justice systems.

The legislation reflects a long history of system reform in Colorado based on Systems of Care principles. Core elements include community collaboration, family involvement in service planning and delivery, and culturally appropriate services tailored to the unique needs of different populations. These elements are used to engage stakeholders outside state and local government in consensus-oriented efforts to manage public resources and collectively solve problems. In part, community collaboration has

[1] Colorado Revised Statute, Title 24, Article 1.9. (2010).

become a hallmark of social services reform in Colorado due to research indicating its effectiveness in engaging diverse disciplines to address issues that have multiple causes and solutions.[2] The specific goals of the legislation are to:

1. develop a uniform system of collaborative management that includes the input, expertise, and active participation of parent advocacy or family advocacy organizations
2. reduce duplication and eliminate fragmentation of services provided to children or families who would benefit from integrated multi-agency services
3. increase the quality, appropriateness, and effectiveness of services delivered to children or families who would benefit from integrated multi-agency services
4. encourage cost sharing among service providers
5. lead to better outcomes and cost-reduction for the services provided to children and families in the child welfare system, including the foster care system

For those counties/communities choosing to participate in CMP, the legislation requires the development of local collaborative management structures and processes that bring together agencies and service providers. Local stakeholders participate in CMP through membership in an Interagency Oversight Group (IOG). To be eligible to receive earned incentive funding in support of the collaboration, the statute requires that IOGs:

1. include all 10 mandatory partners: county departments of human/social services, local judicial districts, health departments, school districts, community mental health centers, behavioral health organizations, probation departments, DYS, domestic violence service providers, and managed service organizations for the treatment of drugs and alcohol
2. establish a collaborative process that addresses risk sharing, resource pooling, performance expectation, outcome monitoring, and staff training
3. implement Individualized Services and Support Teams (ISST) through which integrated services are delivered to children and families who would benefit from integrated multi-agency services

1.2. CMP Evaluation

Research has demonstrated that interagency collaboration yields important benefits including: increased probability of improvement in child, youth, and family outcomes; maximization of available resources for the provision of services; increased coordination within and among service delivery systems; and shared responsibility across systems and service providers.[3] In 2008, House Bill 08-1005 outlined specific reporting requirements for local CMPs and authorized an annual external evaluation of the CMP. The legislation requires that local sites report on the: (a) number of children and families served through their Individualized Service and Support Teams and the outcomes of the services provided; (b) estimated costs and cost-shifting or cost-savings related to CMP efforts; and (c) information relevant to improving the delivery of services to persons who would benefit from multi-

[2] U.S. Department of Health and Human Services. (2010). *Guiding principles of systems of care*.
[3] California Department of Education. (2007). *Handbook on developing and evaluating interagency collaboration in early childhood special education programs.*

agency services. To determine if the CMP is working as designed, the evaluation seeks to answer the following key questions:

1. Is CMP meeting legislative intent in key population, systems, services, and outcomes?
2. Are CMP structures/processes improving cross-agency collaborations at the local level?
3. What are the outcomes for CMP involved children/youth?
4. Which CMP models/components are most effective?
5. Is there cost effectiveness associated with CMP?
6. What is the family experience with CMP?

2. Process Evaluation

The process evaluation examines the implementation of CMP to provide practitioners, policymakers, and stakeholders with essential information about how site-level CMPs are working together to achieve the goals and outcomes outlined in the legislation. The evaluation team utilizes quantitative and qualitative methods that build upon previous CMP process measures. In addition, the process evaluation explores program successes and challenges, and provides contextual information for interpreting the results of the outcome and cost evaluations.

2.1. Process Evaluation Methods

The process evaluation examines three key topic areas related to CMP implementation: (1) collaborative structures and processes; (2) system integration; and (3) family engagement. The design for the process evaluation consists of primary and secondary data collection and analysis to track process measures and metrics for IOG and ISST implementation, coordinated service provision, family engagement experience, and interagency collaboration. The primary data sources for the process evaluation are the Efforts to Outcomes (ETO) database, Memoranda of Understanding (MOUs), Trails, and Family Voice survey.

2.1.1. Examining Factors of Collaboration in CMP

For SFY21, collaboration was advanced and measured by the evaluation team's engagement in two primary initiatives: (1) Collaboration Models Subcommittee of Child Welfare Services Task Force; and (2) CMP Family Voice Survey.

Collaboration Models Subcommittee of Child Welfare Services Task Force: The Collaboration Models Subcommittee is coordinated by CDHS to explore models and best practices for cross-system collaborations. The evaluation team has contributed to this subcommittee by sharing lessons learned from the CMP evaluation. The evaluation team continues to participate in this subcommittee.

CMP Family Voice Survey: This year, a key process evaluation activity that speaks to the centrality of collaboration in CMP was the Family Voice Survey. Here, families are situated as full partners in both the practice and evaluation of CMP. The CMP Family Voice and Choice Committee served as a key collaborating partner for the development of the new CMP Family Voice Survey. The CMP Family Voice and Choice Committee is comprised of CMP coordinators, family representatives, and stakeholders from

other intersecting programs. This committee works to ensure the centrality of family voice and choice in the planning and delivery of programs, services, and practices.

Collectively, these collaboration activities add depth to findings from collaboration surveys administered in previous evaluation years, illuminating the layered dimensions of CMP collaboration experiences and outcomes. Additionally, these activities help to expand stakeholder representation in measurements of collaboration and in using findings to inform practice changes. Taken together, what emerges is a holistic picture of the vital role every CMP partner plays in advancing positive impact for children, youth, and families served.

2.1.2. Assessing System Integration

System improvements that result in streamlined, coordinated, and high-quality services for families are at the heart of the CMP approach. Given the complexity of systems, the variation in local approaches, and the voluntary nature of the program, statewide progress in these areas can be difficult to quantify. Process measures developed for the CMP evaluation are applied as proxy indicators to assess systems integration. These data are used to address the question of whether CMPs are affecting positive changes throughout their social service delivery systems. Each CMP was required to meet three of the following six process measures to receive the meaningful minimum established by DCW. It should be noted that the cost sharing process measure was not reported for SFY21 due to data collection limitations.

1) **IOG meeting attendance**. Members of the IOG will be present at 75% of the meetings in a fiscal year. Sign-in sheets and meeting minutes will confirm attendance.
2) **Family agency or member participation on the IOG as a voting member**. A voting family agency or member will attend 50% of all IOG meetings held within the fiscal year. Sign-in sheets and meeting minutes will confirm attendance.
3) **Seventy-five percent (75%) of the agencies contribute resources at service level, either in-kind or actual monies**. Memorandum of Understanding (MOU) will show that 75% of the agencies listed in the Funding Resources Table are contributing in-kind or actual monies.
4) **Use of evidence-based or evidence-informed practices.** At least one evidence based, or evidence informed practice will be implemented under the IOG, as reflected in the expenditures section of the annual report.
5) **Process of continuous quality improvement (CQI) used by the IOG.** IOG will meet no less than quarterly and meeting minutes will reflect the continuous quality improvement practices used to inform and improve efforts.
6) **Evidence of cost-sharing among IOG members.** Cost-sharing will be reflected in the expenditures section of the annual report.

2.1.3. Evaluating Family Engagement

Family experience is a crucial measurement of CMP impact, as families are the focal partner of both program intent and success. Yet, despite a shared desire across CMP stakeholders for family engagement data, eliciting family voice in evaluation is a well-known and persistent challenge requiring

novel solutions.[4] To address this challenge and ensure every CMP family has an opportunity to be meaningfully heard, the evaluation team worked with DCW staff, CMP site coordinators, and the CMP Family Voice and Choice Committee to develop and administer a data collection approach that leverages innovative practices for access and inclusion in family engagement research.

2.2. Process Evaluation Results

Results from the process measures and collaboration survey are presented in this section of the report.

2.2.1. Process Measures Achievement

Table 1 presents a summary of the percentage of CMP sites meeting the process measures. The use of evidence-based practices was achieved by 96 percent of CMPs; family participation in IOGs was achieved by 91 percent of CMPs; contribution of resources at the service level by seventy-five percent of agencies was achieved by 91 percent of CMPs; the use of CQI by IOGs was achieved by 87 percent of CMPs; and attendance by mandatory members of the IOGs was achieved by 61 percent of CMPs. The overall high level of achievement for process measures was consistent from SFY20 to SFY21.

Table 1: ***SFY21 Process Measures Achieved by CMPs***

Process Measures	CMPs Achieving	
	Number	Percent (%)
Use of evidence-based or evidence-informed practices	43	95.6
Family agency or member participation on the IOG as a voting member	41	91.1
Seventy-five percent (75%) of the agencies contribute resources at service level, either in-kind or actual monies	40	90.9
Process of CQI used by the IOG	39	86.7
IOG meeting attendance	27	61.4

2.2.2. Family Voice Survey

The Family Voice process evaluation activity employed survey methodology and purposeful sampling[5] to elicit family experiences with ISST meetings[6] and CMP prevention services/programs. Data collection began on April 1st, 2021, and closed on May 31st, 2022. All families who participated in ISST meetings or

[4] National Research Council. (2014). *New directions in child abuse and neglect research*. Washington, DC: The National Academies Press. https://doi.org/10.17226/18331

[5] Palinkas, L. A., Horwitz, S. M., Green, C.A., Wisdom, J. P., Duan, N., & Hoagwood, K. (2015). Purposeful sampling for qualitative data collection and analysis in mixed methods implementation research. *Administration and Policy in Mental Health and Mental Health Services Research, 42*(5), 533-544. doi: 10.1007/s10488-013-0528-y

[6] ISST meetings are referred to as "family meetings" in the Family Voice Survey.

received prevention services were invited to take the survey once they had been participating in the meetings/programs/services for long enough to provide substantive feedback. The primary caregiver, or target youth for older youth-centered ISST meetings or prevention services, were eligible to complete the survey on behalf of their family.

Survey administration occurred through a comprehensive approach that rested on the principles of access and inclusion. CMP sites acted as the recruitment interface for survey administration, with the CMP site coordinators, meeting facilitators, and prevention service staff introducing families to the survey and inviting their participation. CMP sites were provided an onboarding webinar, technical documentation, recruitment templates and received ongoing technical assistance by the evaluation team to support survey recruitment. They were also provided with monthly reports detailing the number of surveys submitted across the state since launch each month, as well as highlighting key quantitative and qualitative takeaways.

There were numerous means by which staff could invite families to take the family voice survey, including using postcards (see Exhibit A) and email and text templates provided by CSU. Once invited to take the survey, families were provided three distinct routes for accessing the survey: by typing a short link into a web browser, by texting a code to a cell number, or by scanning a QR code with their phone. For families who preferred additional support navigating the survey or who had difficulty accessing the internet or other technology, CMP sites were encouraged to have tablets or computers available for family use. CMP sites were also encouraged to follow-up with families using standard communication means (email, phone, text) to remind them of the survey invitation and were provided email and text templates to do so.

Accessibility and Inclusion

In an effort to ensure accessibility and inclusiveness of all survey-related communications, CSU partnered with a bicultural, bilingual professional to translate all recruitment materials (postcards, email and text templates) and surveys into Spanish. Furthermore, all materials were checked with a color contrast accessibility validator tool to ensure their accessibility by visually impaired individuals[7]. These multiple routes and use of visual aids ensured that families had the autonomy to take the survey in the setting that was most comfortable to them.

Finally, in an effort to respect family time, a low burden design approach was employed, with the survey taking about 10-15 minutes. Additionally, a participant incentive in the form of a $10.00 gift card[8] was used to promote adequate sample sizes and as an expression of gratitude to the families for taking the time to share their lived experiences and perspectives.

[7] Web Content Accessibility Guidelines (WCAG) 2.1. (n.d.). Web Content Accessibility Guidelines (WCAG) 2.1. W3C.https://www.w3.org/TR/2018/REC-WCAG21-20180605/.
[8] Because this was a statewide evaluation, families were able to choose a gift card to Kroeger, Safeway, or Walmart, reflecting store availability in varying geographic areas of Colorado.

Exhibit A: ***Family Voice Survey Recruitment Postcards***

The ISST and prevention surveys included 25 close-ended statements covering experiences with family meetings or prevention services/programs and 11 optional, open-ended questions as follow-up probes. At the end of the survey, respondents were provided an opportunity to complete an optional demographics section. Close-ended survey questions were descriptively analyzed[9] using a 6-point Likert scale of agreement with an option to not disclose ("I prefer not to answer"). Thematic and content analysis[10] were applied to open-ended responses.

ISST Survey Results

The ISST survey results are divided into six broad categories, beginning with an overview of the survey response rates and respondent demographics. Families' experiences with the family meetings are then explored, moving chronologically from pre-meeting experiences and expectations to during-meeting experiences, followed by post-meeting experiences and impacts. Lastly, results to questions that explored families' interactions with family meeting team members and families' perceptions of the inclusiveness of family meetings are presented. The thematic, qualitative themes stemming from the open-ended questions are included with their corresponding categories.

Response rates. A total of 170 ISST surveys were submitted between April 1st 2021 and May 31st 2022. Most of these surveys were submitted in English (*n* = 157, 92%), though there were surveys submitted in Spanish, as well (*n* = 13, 8%). Overall, 74% of counties were represented across the entire dataset.

[9] Sirkin, M. R., 2005. *Statistics for the Social Sciences* (3rd ed). Thousand Oaks, CA: Sage Publications.
[10] Creswell, J. & Poth, C. (2018). *Qualitative inquiry & research design.* Thousand Oaks, CA: Sage Publications, Inc.

Demographics. 102 of the 170 ISST survey respondents elected to complete at least some of the optional demographic questions. Table 2 depicts detailed demographic data. Since each question was optional, sample sizes differ slightly for each demographic variable. Furthermore, since the majority of questions allowed respondents to select multiple response options, the number of people who selected each potential response option oftentimes sums to more than the sample size of respondents who answered each question.

Table 2: ***Demographics of ISST Family Voice Survey Respondents***

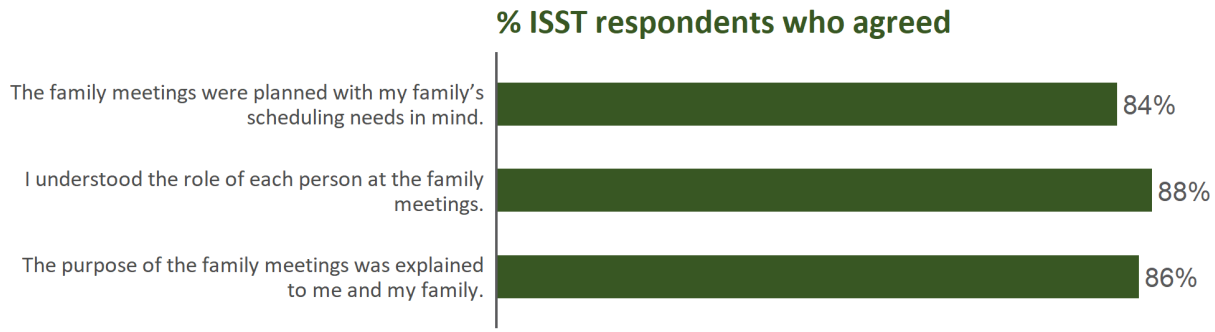
	n	%
Racial Identity (*n* = 97)		
White	85	88%
Native American or Alaska Native	5	5%
Black or African American	3	3%
Asian	3	3%
Prefer Not to Answer	7	7%
Ethnic Identity (*n* = 100)		
Hispanic or Latino	27	27%
Not Hispanic or Latino	73	73%
Gender Identity (*n* = 94)		
Man	14	15%
Woman	80	85%
Sexual Orientation/Affection (*n* = 97)		
Heterosexual or Straight	86	89%
Gay or Lesbian	6	6%
Bisexual	3	3%
Pansexual	1	1%
Prefer Not to Answer	1	1%
Relationship Status (*n* = 101)		
Married or Partnered	49	49%
Single	38	38%
Widowed, not re-married/re-partnered	8	8%
Other	6	6%

Highest Level of Education Completed (*n* = 102)		
High School Diploma or GED	26	25%
4-Year College (Bachelor's)	19	19%
Some College	16	16%
2-Year College (Associate's)	12	12%
Master's Degree	11	11%
Some High School	9	9%
Trade/Vocational School	5	5%
Elementary School	2	2%
Middle School / Junior High School	1	1%
No Formal Education	1	1%
Relationship to Dependent Child(ren) (*n* = 102)		
Birth Parent	65	64%
Adoptive Parent	19	19%
Grand/Great Grandparent	13	13%
Relationship Not Listed	7	7%
Foster Parent	7	7%
Other familial relative	6	6%
Step-Parent	1	1%

The majority of respondents selected white (*n* = 85, 88%) as one of their racial identities, while 5% selected Native American or Alaska Native, 5% selected Black or African American, and 5% selected Asian. Across all races, about one-quarter of respondents identified as Hispanic (*n* = 27, 27%). The majority of respondents identified as women (*n* = 80, 85%), and heterosexual or straight (*n* = 86, 90%) About two-third identified as the child's birth-parent (*n* = 65, 64%); however, respondents reflected a range of relations to the child(ren) they care for. There was a similarly high degree of variability of the highest educational attainment across survey respondents. Lastly, the majority of respondents were either married or partnered (*n* = 49, 49%) or single (*n* = 38, 38%).

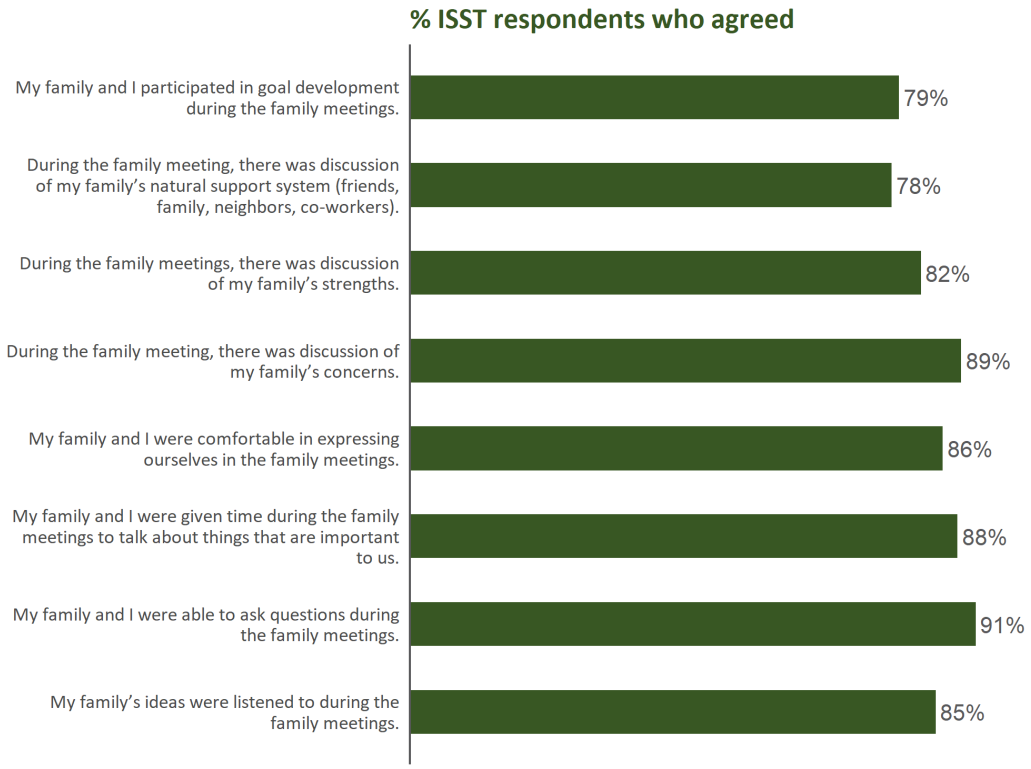
Pre-Meeting expectations and experiences. Pre-meeting expectations were represented by three Likert-scale statements (see Figure 1 on the following page). Pre-meeting experiences were positive overall, with the vast majority of respondents reporting that the purpose of the family meetings was explained to them (86%), that they understood the role of each person at the family meetings (88%), and that the meetings were planned with their family's scheduling needs in mind (84%).

Figure 1: ***ISST Survey Findings: Pre-Meeting Expectations and Experiences***



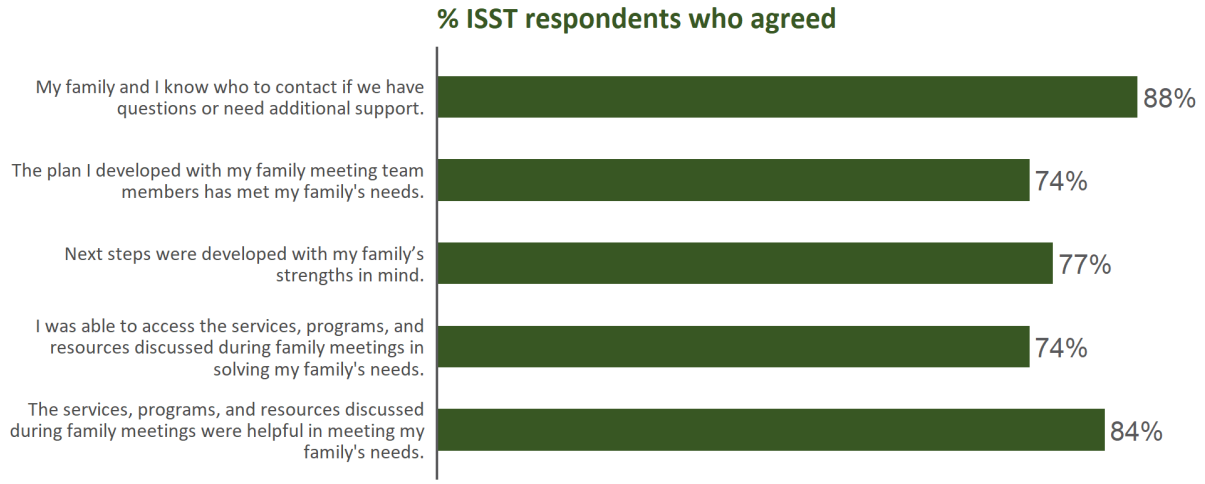
During-meeting experiences. During meeting experiences were represented by eight Likert-scale statements (see Figure 2). The majority of participants felt their ideas were listened to (85%) and that they were able to ask questions (91%) and talk about things that are important to them (88%). Most respondents also reported feeling comfortable expressing themselves (86%) during family meetings. Lastly, the vast majority of families reported discussing their family's concerns (89%), though there was slightly less agreement among respondents that they participated in goal development (79%) or that their family's strengths (82%) or natural support systems (78%) were discussed during family meetings.

Figure 2: ***ISST Survey Findings: During-Meeting Experiences***



Post-meeting experiences and impacts. Five Likert-scale statements sought to capture families' experiences after the family meetings and the impact of the meetings on their family's lives (see Figure 3). While the majority of respondents reported that the services, programs, and resources discussed during family meetings were helpful in meeting their family's needs (84%), slightly fewer families reported being able to access those services, programs, and resources (74%). About three-quarters of respondents reported that the next steps were developed with their family's strengths in minds (77%) and that the plan they developed with team members has met their family's needs (74%). Lastly, nearly all respondents reported knowing who to contact if they have questions or need additional support (88%).

Figure 3: ***ISST Survey Findings: Post-Meeting Experiences and Impacts***



When discussing the types of services, programs, or resources that were most helpful for their family, a few common themes arose across respondents. First, a large number of families shared how helpful mental health resources were for their family – such as counseling, trauma therapy, family therapy, substance use support, and support groups. Many also highlighted social supports as helpful resources, such as mentoring opportunities for their child(ren) and clubs or activities such as boys and girls clubs. Respondents also noted school supports as beneficial, such as identifying alternative school settings, after-school supports, or tutors. A large number of families also provided examples of helpful concrete supports, such as transportation assistance, meetings with financial advisors, new beds or other home repairs or assistance, food stamps, support with medical expenses, and rental assistance. Lastly, some respondents wrote that parenting supports such as parenting classes, educational materials, classes for co-parenting, and family activity ideas were helpful.

Families who provided comments on why resources may not have been helpful, or what challenges, barriers, or unmet needs they faced, also highlighted a few key themes. Most notably, these respondents tended to share that a lack of follow-through from team members was a key challenge – explaining that though there may have been helpful services discussed during meetings, but they never heard from anyone after the meetings about how to access those resources and had difficulty getting in touch with team members to understand how to move forward. Similarly, some respondents explained

that resources or services were sometimes explained overly vaguely without clarity around what benefits the service offered or how a family could access that service. Lastly, some respondents noted that some resources, services, or programs were not feasible due to logistical or financial concerns such as a lack of insurance coverage, or long waits to schedule appointments.

Interactions with family meeting team members. Five Likert-scale questions intended to capture participants' perceptions of their interactions with family meeting team members (see Figure 4). The majority of participants reported that the family meeting team members genuinely care about their family's success (84%) and treat them with respect (85%). While the majority of respondents reported that family meeting team members work well together to serve their family (82%), nearly one-third of respondents reported having to update information about their family multiple times to different team members (31%) and being asked by different team members to do the exact same task (25%).

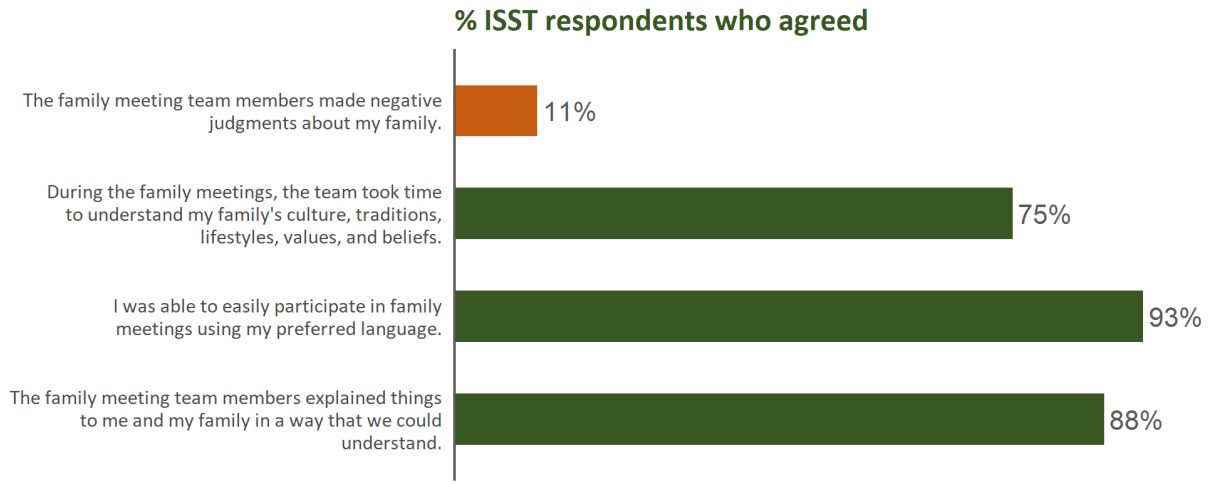
Figure 4: ***ISST Survey Findings: Interactions with Family Meeting Team Members***

Open-ended prompts allowed for families to expand upon the topics of positive ways that team members work well together as well as ways that families felt team members did not work well together. Respondents appreciated when staff worked collaboratively by listening to and supporting each other, expressing empathy for each other and validating or complimenting others' ideas, and respecting any differences in opinion. Families also appreciated when team members seemed familiar with each other and the services that each person could offer or specialized in and worked together towards a shared goal and vision. Respondents also underscored the importance of team members involving all family members in all decisions and refraining from making decisions without consulting with the family members that were present. Similarly, respondents noted that they appreciated when they and their family members were allowed time to process questions and treated with patience and empathy when they needed additional time to think, process, or clarify points of confusion. Lastly, a few individuals noted positive experiences of team members providing language translation and advocating for them and their family members.

Respondents also noted a lack of communication as a key driver of satisfaction. These families expressed frustration at poor communication between team members and families – such as encountering difficulty trying to get in touch with team members, delays between touch points, and/or team members not showing up to meetings or cancelling last minute without proactively rescheduling. Some families noted that their meeting experience was negatively impacted when team members did not communicate well or effectively with each other, lacked a shared goal, and struggled to get on the same page. Furthermore, some families felt that team members didn't acknowledge the seriousness of their concerns and invalidated their feelings or experiences.

Inclusion and equity considerations. Four Likert-scale questions sought to understand families' perceptions of the inclusiveness of family meetings (see Figure 5). Nearly all respondents reported being able to easily participate in family meetings in their preferred language (93%) and that the team members explained things in a way that they and their family could understand (88%). The majority of families also reported that the team took time to understand their family's culture, traditions, lifestyles, values, and beliefs (75%). However, some respondents reported that the team made negative judgements about their family (11%).

Figure 5: ***ISST Survey Findings: Inclusion and Equity Considerations***



Open-ended prompts allowed for families to expand upon the topics of feeling judged by family meeting team members, aspects of their family's culture, traditions, lifestyle, and beliefs that were important for them to discuss with team members, and the ability to participate in meetings in their preferred language. Qualitatively, no families reported any language barriers to participating in family meetings, and only a minority described feeling judged by team members. Those that did feel judged provided additional detail about how they felt judged; these comments included examples of families feeling that their family's mental health disabilities were ignored, that their style of dress (specifically, rural and/or farm attire) was looked down upon, antisemitism, and negative attitudes towards people with histories of substance use and abuse. Lastly, one family explained that, while the team members did not necessarily make them feel judged, that it was difficult to feel comfortable in a small town where 'everyone knows everyone.'

Many families chose to share additional detail about which aspects of their family's culture, traditions, lifestyles, values, and beliefs that were important for them to discuss with family meeting team members. These comments elucidated a few key themes: first, some families explained that it was important to them to discuss their household's blended cultures and appreciated when team members asked clarifying questions; for example, the nuances of honoring Hispanic traditions while living in America. Other respondents explained the importance of team members understanding their unique family dynamics (such as size of family, mix of biological and adoptive children) and how those dynamics may impact the feasibility of certain services; similarly, some people expressed appreciation for team members respecting the difficulty of shifting intergenerational parenting patterns and the time and effort that it takes to shift away from the different ways that caregivers may have been raised. Some families also highlighted the importance of team members understanding their families' religious beliefs, rural lifestyles, and the sexual preferences and gender identities of their family members. Lastly, respondents noted that they appreciated when team members sought to identify mentors who shared similar racial and ethnic backgrounds as the child(ren).

Family Voice survey respondents were provided an opportunity to share any final thoughts on the overall impact of family meetings and suggestions that they had to improve the experiences of ISST meetings. In terms of suggestions for continued improvement, many families highlighted communication as an opportunity for growth. More specifically, respondents expressed a desire for increased communication from team members to their family, including more frequent communication and more flexibility in when they communicated (specifically, more weekend communication). A few respondents also requested more written communication from team members, such as agendas sent before family meetings that include information such as progress notes, relevant abbreviations that may be used, all attendees' names, roles, and contact information, due dates, and details about all service options being discussed. A few respondents also suggested that team members make their communication styles more personal by taking the time to understand and remember families' experiences, cultures, family circumstances, and processing and learning styles.

When asked to describe the overall impact of ISST meetings on their families' lives, respondents described a range of positive impacts, including feeling less alone, more supported, more motivated, and more optimistic. Many respondents shared that their relationships with their child(ren) had improved and that they felt reassured in being provided with direction and guidance. Others described the positive impact of being made aware of the vast resources that exist for them and their family and of the concrete supports that often minimized their financial stress. Overall, families consistently described feeling supported and heard, and many described sentiments of feeling that their lives were moving in the right or positive direction because of their experiences with family meetings.

Prevention Services Survey Results

The Prevention Services Survey followed the flow of the ISST Survey in that it covered pre-service/program experiences, during-service/program experiences, post-service/program impacts and experiences, interactions with staff members, and equity and inclusion considerations. Gathering survey responses to the prevention survey presented unique challenges given the range of stakeholders

involved in providing these surveys, and the overall response rate was low. Given the small sample size, figures depicting quantitative survey responses have been provided categorically, but qualitative insights are presented at the end as key takeaways.

Response rates. A total of 34 Prevention surveys were submitted between April 1st 2021 and May 31st 2022. Nearly all of these surveys were submitted in English (*n* = 33, 97%), though one survey was submitted in Spanish (*n* = 1, 3%).

Demographics. Overall, 25 of the 34 Prevention survey respondents elected to complete at least some of the optional demographic questions. Table 3 depicts detailed demographic data. Note that since each question was optional, sample sizes differ slightly for each demographic variable. Furthermore, since the majority of questions allowed respondents to select multiple response options, the number of people who selected each potential response option oftentimes sums to more than the sample size of respondents who answered each question.

Table 3. ***Demographics of Prevention Respondents***

	n	%
Racial Identity (*n*=25)		
White	17	68%
Native American or Alaska Native	2	8%
Black or African American	1	4%
Native Hawaiian or Pacific Islander	1	4%
Prefer Not to Answer	4	16%
Ethnic Identity (*n*=22)		
Hispanic or Latino	5	23%
Not Hispanic or Latino	17	77%
Gender Identity (*n*=22)		
Man	2	9%
Woman	19	86%
Genderqueer, non-binary, and/or gender non-confirming	1	5%
Sexual Orientation/Affection (*n*=22)		
Heterosexual or Straight	16	73%
Gay or Lesbian	2	9%
Bisexual	2	9%

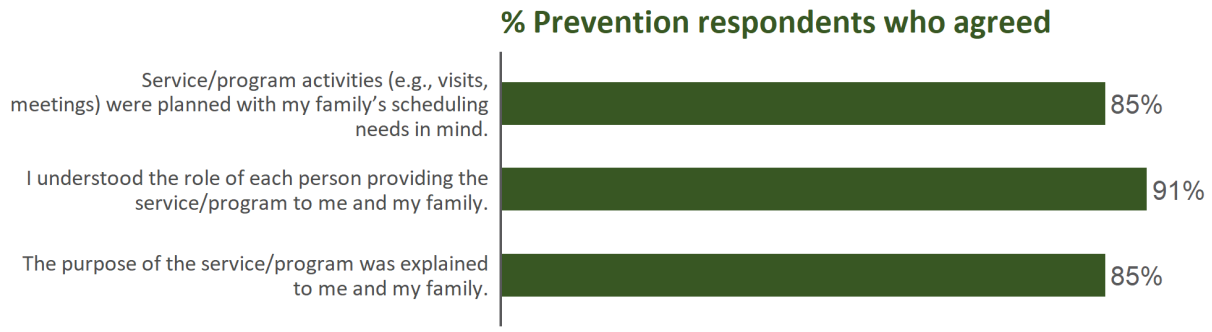
Asexual	1	5%
Another identity not listed here	1	5%
Relationship Status (*n*=22)		
Married or Partnered	11	50%
Single	10	45%
Relationship Status not Listed	1	5%
Highest Level of Education Completed (*n*=22)		
High School Diploma or GED	8	36%
4-Year College (Bachelor's)	3	14%
Some College	3	14%
Doctoral Degree	1	5%
Some High School	2	9%
Trade/Vocational School	2	9%
Master's Degree	1	5%
Professional Degree (MD, JD, DVM, etc.)	2	9%
Relationship to Dependent Child(ren) (*n*=25)		
Birth Parent	18	72%
Adoptive Parent	3	12%
Grand/Great Grandparent	2	8%
Foster Parent	1	4%
Other familial relative	1	4%

Of those that did provide their demographic information, there was a range of backgrounds and relationships to the dependent child(ren) that they care for represented. About two-thirds of respondents selected white (*n* = 17, 68%) as one of their racial identities, while 8% selected Native American or Alaska Native, 4% selected Black or African American, and 4% selected Native Hawaiian or Pacific Islander. Across all races, about one-quarter of respondents identified as Hispanic (*n* = 5, 23%). The majority of respondents identified as women (*n* = 19, 86%), and there was a diverse range of sexual orientations/affections represented, including heterosexual or straight (*n* = 16, 73%), gay or lesbian (*n* = 2, 9%), bisexual (*n* = 2, 9%), asexual (*n* = 1, 4%), and another identity not listed (*n* = 1, 4%).

The majority of respondents identified as the child's birthparent (*n* = 18, 72%); however, respondents reflected a range of relations to the child(ren) they care for, including adoptive parents (*n* = 2, 12%), grand/great grandparents (*n* = 2, 8%), foster parents (*n* = 1, 4%), and other familial relatives (*n* = 1, 4%). There was a similarly high degree of variability of the highest educational attainment across survey respondents, with the largest portion of the sample having completed a high school diploma or GED as their highest level of educational attainment (*n* = 8, 36%). There was a fairly even split of respondents identifying as married or partnered (*n* = 11, 50%) and as single (*n* = 10, 45%).

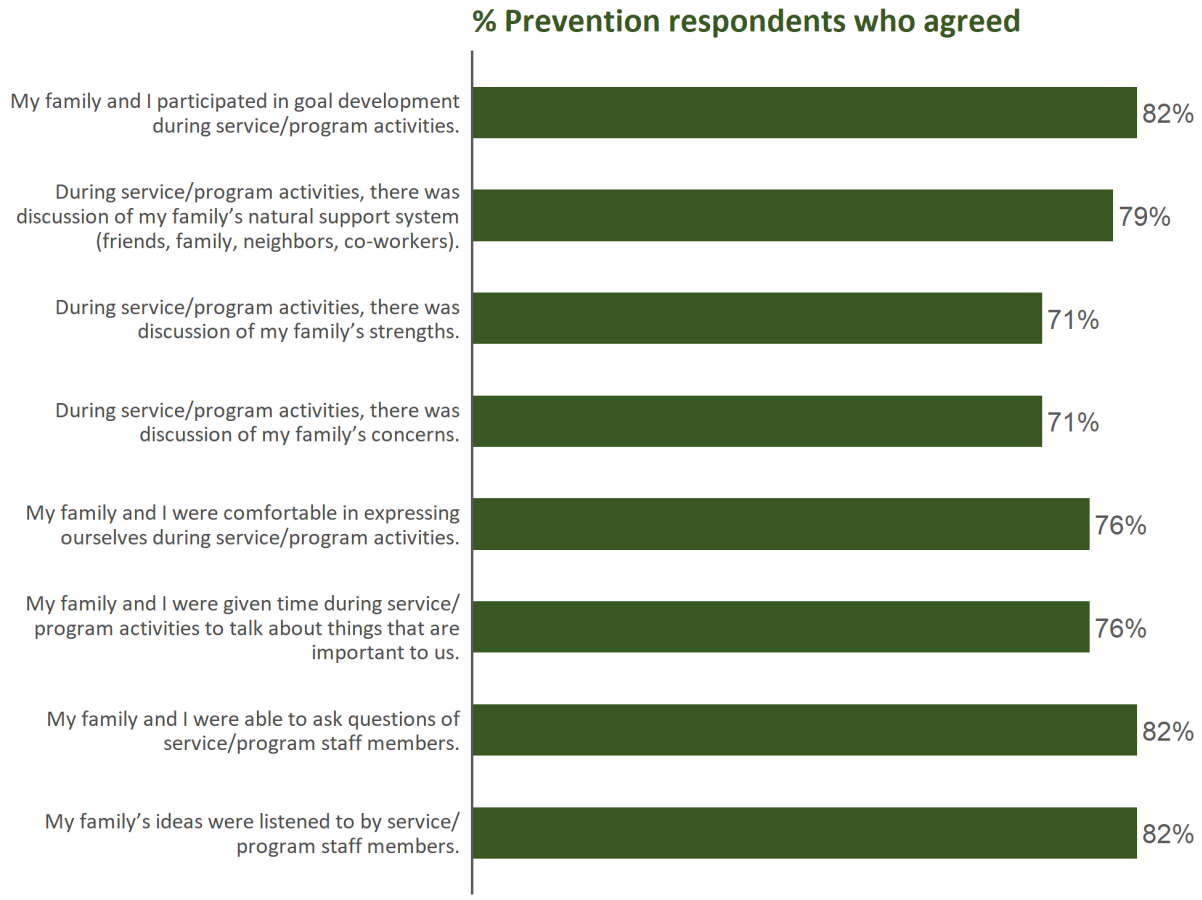
Pre-service/program expectations and experiences. Pre-service/program expectations were represented by three survey statements (see Figure 6). Pre-service/program experiences were largely positive, with the majority of respondents reporting that the purpose of service/program was explained to them (85%), that they understood the role of each person providing the service/program (91%), and that the service/program activities were planned with their family's scheduling needs in mind (85%).

Figure 6: ***Prevention Survey Findings: Pre-Service/Program Expectations and Experiences***



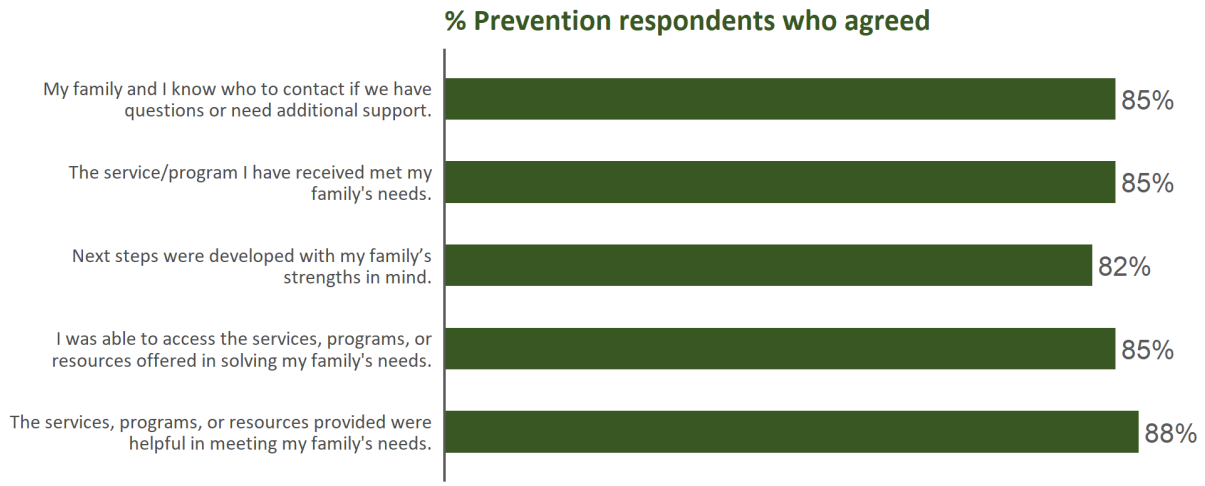
During-service/program experiences. During meeting experiences were represented by eight Likert-scale statements (see Figure 7 on the following page). The majority of participants felt their ideas were listened to (82%) and that they were able to ask questions (82%) and talk about things that are important to them (76%). Most participants also reported feeling comfortable expressing themselves (76%) and participating in goal development (82%) during service/program activities. Lastly, while the majority of participants reported discussing their natural support systems (79%), less than three-quarters reported discussing their family's strengths (71%) or concerns (71%) during service/program activities.

Figure 7: ***Prevention Survey Findings: During-Service/Program Experiences***



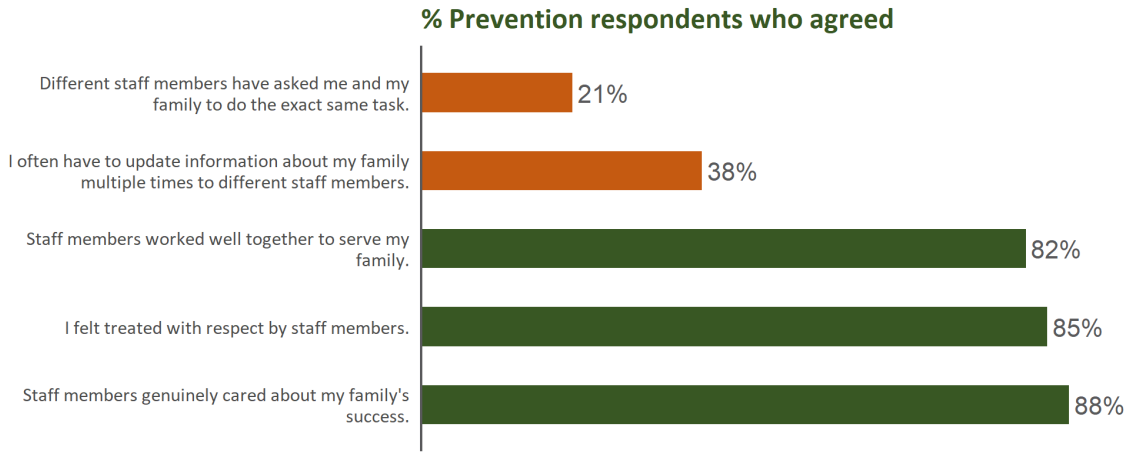
Post-service/program experiences and impacts. Five Likert-scale statements sought to capture families' experiences after the prevention services and the impact of the services on their family's lives (see Figure 8 on the following page). The majority of respondents reported that the services, programs, and resources provided were helpful in meeting their family's needs (88%), and that they were able to access those services, programs, and resources (85%). Similarly, most respondents also reported that the next steps were developed with their family's strengths in minds (82%) that the service/program received met their family's needs (85%), and that they know who to contact with questions or for additional support (85%).

Figure 8: ***Prevention Survey Findings: Post-Service/Program Experiences and Impacts***



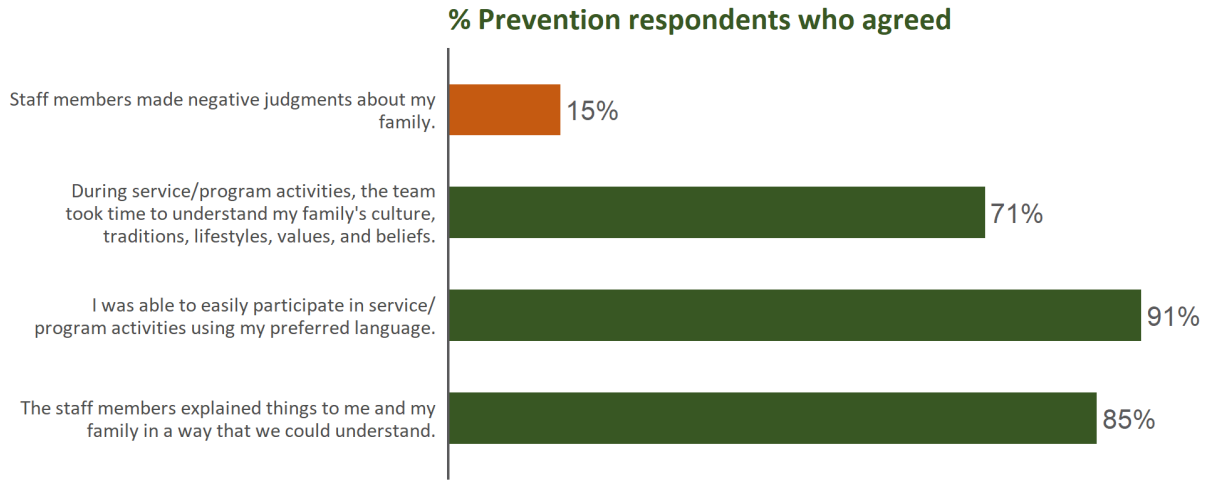
Interactions with staff members. Five Likert-scale questions intended to capture participants' perceptions of their interactions with staff members (see Figure 9). The majority of participants reported that staff members genuinely care about their family's success (88%), and treat them with respect (85%). The majority of respondents also reported that staff members work well together to serve their family (82%); however, over one-third reported often having to update information about their family multiple times to different staff members (38%) and about one-fifth reported that different staff members have asked them to do the exact same task (21%).

Figure 9: ***Prevention Survey Findings: Interactions with Staff Members***



Inclusion and equity considerations. Four Likert-scale questions sought to understand families' perceptions of the inclusiveness of prevention services and programs (see Figure 10). Nearly all respondents reported being able to easily participate in service/program activities in their preferred language (91%) and the majority felt that staff members explained things in a way that they and their family could understand (85%). However, fewer respondents reported that the team took time to understand their family's culture, traditions, lifestyles, values, and beliefs (71%) and a minority reported that the team made negative judgements about their family (15%).

Figure 10: ***Prevention Survey Findings: Inclusion and Equity Considerations***



Qualitative Insights from Prevention Surveys

Overall, families who shared qualitative comments tended to express positive experiences with the service/program and the staff members that they interacted with. Similar to the ISST respondents, many highlighted the importance of discussing religious values, racial, ethnic, and cultural considerations, and LGBTQ+ identities with staff members. Only two respondents opted to expand on feeling judged by staff members, and those that did provided examples of feeling judged about their parenting dynamics and the flexibility that they offer their children.

When discussing helpful services and programs and the overall impact of them, families often described the positive impact of housing assistance, mental health supports such as counseling and substance use/abuse prevention, mentoring programs, and concrete supports like TANF and SNAP. Respondents noted that it was impactful to be made aware of available resources in the community and many expressed that they felt more secure, stable, and at peace having consistent support and people to listen to their concerns and challenges with empathy and patience. Some also explained that the service/program helped strengthen their relationships with their family members and create more stability and security. Many respondents noted that they appreciated the ways that staff members exhibited flexibility with scheduling service/program activities to accommodate their family's transportation and timing restraints. Similarly to ISST respondents, Prevention respondents specifically highlighted that they liked when staff members communicated clearly and effectively with each other

and coordinated their efforts to serve a single goal or purpose. When describing challenges or barriers that they encountered during their experiences with prevention services and programs, some families noted that there were some timing barriers – such as the activities starting too late into the school year or taking too long to administer. Similar to ISST respondents, a few prevention respondents also requested that there be greater clarification and communication around the program/service processes and expectations.

3. Outcome Evaluation

In combination with the process and cost evaluations, the SFY21 outcome evaluation is designed to answer critical questions about the various populations served by CMP and to determine whether the program effectively improves the outcomes of clients involved in multiple systems. CMP serves two distinct subgroups, characterized by whether clients are served by a CMP prevention program (i.e., the "prevention population") or by a traditional CMP program (i.e., the "ISST population"). The prevention population comprises children/youth who are served by CMP prevention programs designed to prevent involvement in multiple systems. In contrast, the ISST population consists of children/youth who are involved in two or more of the child welfare, juvenile justice, education, or health/mental health systems and are served collaboratively through an ISST meeting structure.

Previous evaluations have documented the difficulties in accessing outcome data for the prevention and ISST populations and the associated challenges in rigorously evaluating CMP. These difficulties have included enduring challenges in accessing outcome data across various domains and disparities in the ability to access data on comparison populations of children/youth who were eligible but not served by the program. Given these difficulties, the SFY21 outcome evaluation continued to employ a two-part evaluation design. The evaluation team first used a nonexperimental, descriptive research design to provide preliminary insight into outcomes across multiple client subgroups while using a quasi-experimental evaluation design to examine the program's effectiveness in improving child welfare, health/mental health, and juvenile justice outcomes. The evaluation team utilized a similar period of analysis for both research designs, consisting of children/youth who were served in SFY20, while the team examined outcomes 1 year later using data on the performance measures collected in SFY21.

3.1. Performance and Outcome Measures

Throughout the history of CMP, CDHS has used a collection of performance measures to examine the program's effectiveness. These performance measures were developed by CDHS and program stakeholders to examine the intermediate outcomes of children/youth in the ISST population who were served by the program under the four domains: child welfare, juvenile justice, education, or health/mental health. The SFY21 performance measures are presented in Table 4 on the following page. In SFY21, CMPs selected 15 performance measures across the four program domains to assess performance in achieving key intermediate outcomes for CMP clients. Across the four domains, child welfare performance measures were selected most frequently (37.7 percent of all selected measures), followed by education performance measures (32.6 percent), juvenile justice performance measures (21.0 percent), and health/mental health performance measures (8.7 percent).

Table 4: ***SFY21 Performance Measures Selected by Counties***

Performance Measure	# of CMPs Selecting
Child Welfare	
Increase safety of child and youth. Percent of CMP youth with no substantiated abuse finding after CMP services began.	**33**
Decrease number of children/youth involved with child welfare. Percent of CMP children/youth with no new open involvements in Trails after CMP services began.	**10**
Increase the number of children/youth who remain home. Percent of children/youth who remained safely in their home during CMP involvement.	**8**
Increase permanency of children/youth involved in child welfare. Percent of CMP children/youth discharged to a permanent home (adoption, reunification, legal guardianship).	**1**
Juvenile Justice	
Decrease commitment to the Division of Youth Services. Percent of CMP youth diverted from being committed to the Division of Youth Correction.	**15***
Increase successful involvement with juvenile justice system. Percent of CMP youth who successfully completed probation or parole.	**8**
Decrease secure detention admissions. Percent of children/youth who did not enter into detention due to CMP involvement while involved with the CMP.	**6**
Health/Mental Health	
Increase behavioral health screens. Percent of Medicaid-eligible children/youth who received a behavioral health screen while involved with CMP.	**6**
Increase well child visits. Percent of CMP children/youth who received a child well visit while involved with CMP.	**3**
Increase follow-up appointments after receiving a positive depression screening. Percent of CMP children/youth who received a positive depression screening that receive a follow-up appointment within 7 days.	**2**
Increase substance use screens. Percent of Medicaid-eligible children/youth who received a substance use screen while involved with CMP.	**1**
Education	
Increase school attendance. Percent of children/youth with improved school attendance rates while involved with CMP services.	**21**
Decrease disciplinary problems at school. Percent of children/youth with fewer disciplinary actions (referrals, suspensions, or expulsions) while involved with CMP services.	**11**
Increase academic achievement. Percent of children/youth with improved academic performance while involved with CMP services.	**8**
Increase school stability. Percent of children/youth who had two or fewer school moves while involved with CMP services.	**5**

* This total is a combination of the following measures (due to the use of diversion/diverted in both goals): (1) CMP youth who do not enter into diversion, probation or parole and (2) CMP youth diverted from being committed to DYS.

Although education performance measures were the second most frequently selected by CMPs, accessing the requisite performance data continued to pose a formidable challenge to rigorously evaluating the program's performance in this domain. As part of the SFY15 and SFY16 evaluations, the evaluation team conducted a series of interviews with CMP Site Coordinators, focusing on how CMPs collect, analyze, and report performance data. Throughout the interviews, CMP Site Coordinators conveyed that accessing performance data within the education domain continued to be a significantly challenging task. Most notably, the extent to which data within this domain are collected and reported is subject to considerable variance across the CMPs, with many CMPs unable to effectively measure educational performance outcomes. As the evaluation team has noted within previous evaluation plans, the challenges in accessing education data have resulted in the education domain receiving comparatively less attention than the other three domains. The cumulative effect of these data and reporting issues is a minimized ability to effectively evaluate CMP against all 15 of the performance measures.

3.2. Outcome Evaluation Design

As summarized in Table 5 on the following page, the outcome evaluation is described across Sections 3.3 through 3.6 of this report. The first part (Section 3.3) consists of a descriptive analysis of the CMP prevention and ISST populations. Section 3.4 then details the descriptive, nonexperimental evaluation designs used to examine the outcomes of the ISST population via data on the SFY21 performance measures collected 1 year after the date of the ISST meeting. A nonexperimental evaluation design does not rely on a comparison group for causal attribution of program impact but instead uses descriptive statistics to examine the outcomes of clients served by the program. The lack of a comparison group precludes causal inference on the program's effectiveness, but the analysis of outcomes provides preliminary evidence on changes in the performance outcomes of program clients. Given the ability to access data for CMP clients with child welfare, health/mental health, and juvenile justice involvements and comparable populations of children/youth who were eligible but not served by the program, the evaluation team used a QED (Section 3.5) to rigorously evaluate the program's effectiveness in improving outcomes within those three domains. Section 3.6 details the methodology used in a longitudinal evaluation designed to examine the long-term impacts of the program, the associated findings, and the implications.

The population of children/youth included in the outcome evaluation was served by the program (via an initial ISST meeting) during SFY20, which ran from July 1, 2019, to June 30, 2020. Outcomes of CMP clients served in SFY20 were evaluated 1 year later during the period of SFY21 (July 1, 2020, to June 30, 2021) (the clients are hereafter referred to as "SFY21 CMP clients"). The evaluation datasets consisted of pertinent demographic and case information, along with the 15 performance measures, which were measured 1 year after the initial ISST meeting.

Table 5: ***Overview of the Outcome Evaluation***

Section 3.3: Descriptive Analysis of CMP Clients
A descriptive analysis of the client population served by CMP, consisting of two parts: 1. Prevention population 2. ISST population
Section 3.4: Descriptive, Non-Experimental Evaluation of the ISST Population
A description of the ISST population by the following: 1. Program domain 2. Performance measure outcomes
Section 3.5: Quasi-Experimental Evaluation of Child Welfare, Health/Mental Health Outcomes, and Juvenile Justice Outcomes
Quasi-experimental evaluations of child welfare, health/mental health, and juvenile justice outcomes, consisting of two parts: 1. Detailed overviews of the quasi-experimental evaluation design 2. Quasi-experimental evaluations comparing the outcomes of children/youth served by CMP to comparison groups of children who were eligible but not served by the program
Section 3.6: CMP Longitudinal Evaluation
Quasi-experimental evaluations of child welfare and juvenile justice outcomes across three previous cohorts (SFY17-SFY19) with outcomes examined 1 and 2 years after the initial ISST meeting

3.2.1. Data Collection

The population of clients served by CMP prevention programs was included within a separate section of the Efforts to Outcomes (ETO) database—the prevention database—which was distinct from the population of clients included in the broader ETO and Trails databases. More specifically, children/youth included in the ETO prevention database were at higher risk of involvement in multiple systems and were served by CMP prevention programs designed to prevent multisystem involvement. Collectively, these three databases provided the outcome evaluation data for the SFY21 evaluation.

The evaluation team extracted client-level administration data from the Trails and ETO databases. Children/youth who were involved with child welfare were included within the Trails database, which serves as the Comprehensive Child Welfare Information System and as the official case record for children served by the child welfare system. In contrast, the ETO database provides data for children/youth who were served by CMP but were not necessarily served by the child welfare system (and thus included within the Trails database). Because some overlap exists between the two databases, a de-duplication process was used to remove clients represented within both databases.

In subsequent steps, the evaluation team organized, cleaned, and matched the administrative data. This multistep process involved matching and de-duplicating clients from the ETO and Trails databases, generating the outcome variables, constructing a comparison pool of children/youth who could serve as potential matches for CMP clients, and pulling the requisite variables for the matching process. An overview of this process is documented in **Appendix A**. Upon completion of this process, the evaluation team provided the combined evaluation dataset to DYS to obtain juvenile justice outcomes for CMP clients, and to the Office of Behavioral Health (OBH) to obtain health and mental health outcomes for CMP clients**.**

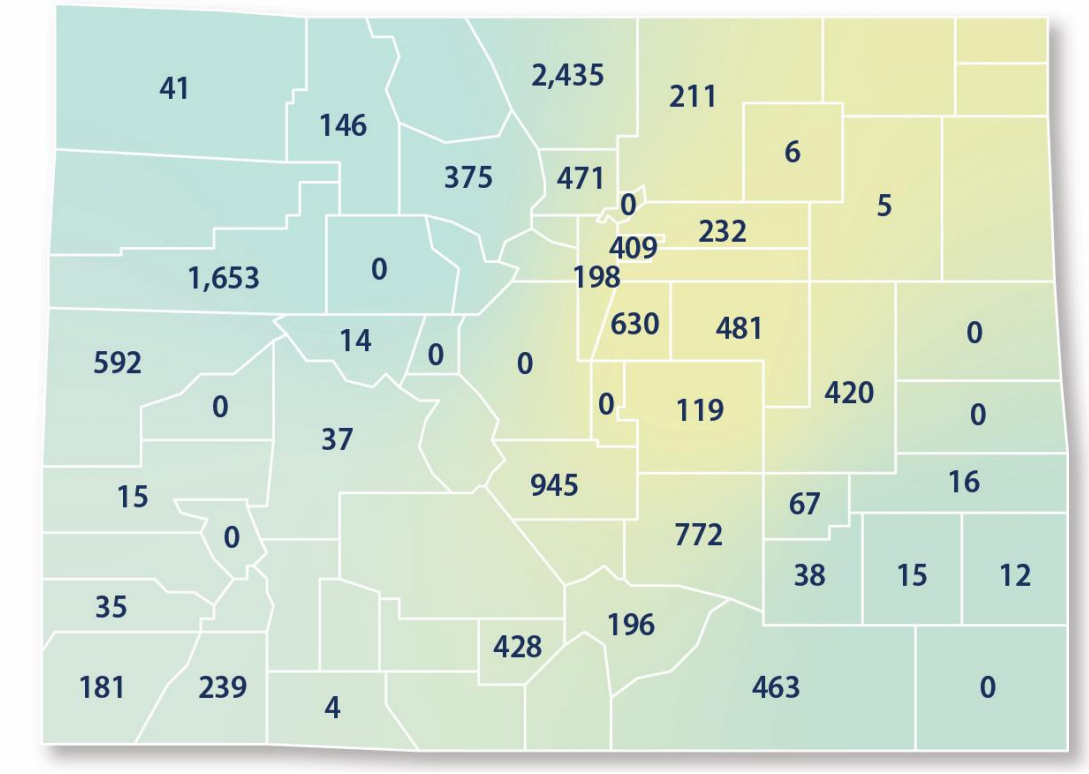
3.3. Descriptive Analysis of CMP Clients

The descriptive analysis of the population served by the CMP program is presented in two parts. The first part provides an overview of the client population served by CMP prevention programs; the second describes the population of CMP clients served by an ISST meeting. In SFY20, 37 sites (representing 46 counties) participated in CMP.

3.3.1. Prevention Population

In SFY20, a total of 11,901 children/youth were served by a CMP prevention program designed to prevent involvement in multiple systems. Figure 11 shows that the number of prevention population clients served by the 46 counties ranged from 0 to 2,435 with a mean of 270 clients.

Figure 11: ***Prevention Population by CMP Site (N = 11,901)***



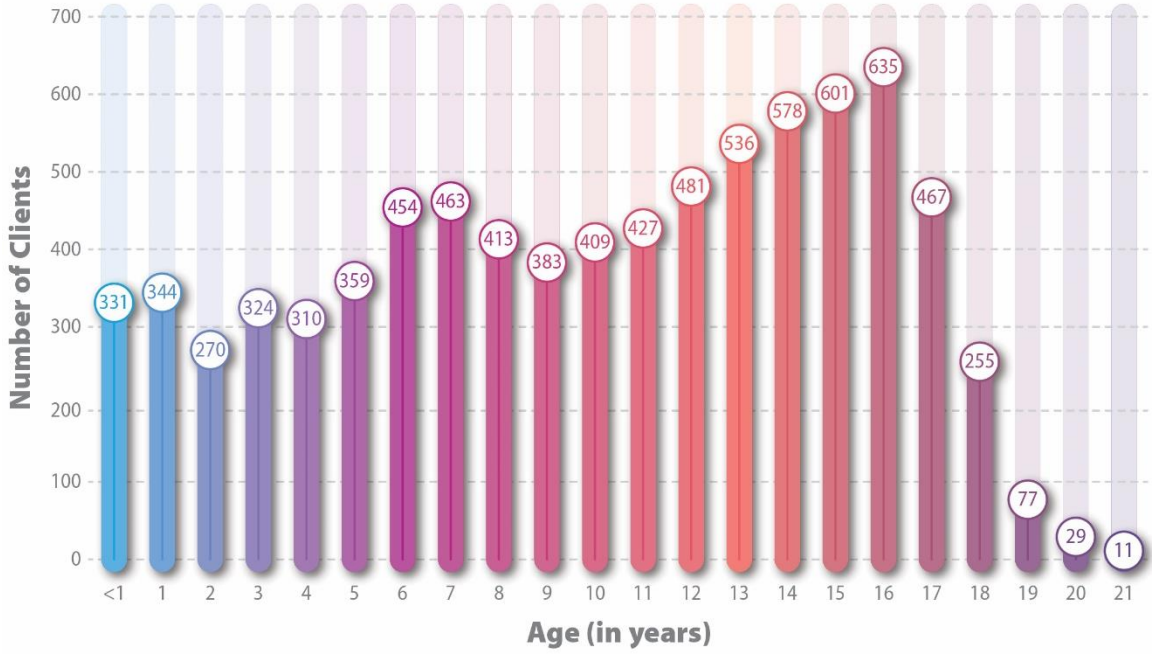
The data collected on the prevention population were limited in comparison to the ISST population because performance measures for the prevention population have not been established. This brief descriptive analysis provides initial insight into the size of the populations served by CMP prevention programs. These findings, in turn, can provide important context as DCW and CMP stakeholders work to develop a set of performance measures for CMP prevention programs.

3.3.2. ISST Population

During SFY20, the 37 CMPs (representing 46 counties) served 8,157 distinct children/youth via ISST meetings. Based on data from the Trails and ETO CMP databases, a total of 53.8 percent of ISST clients were male while 46.2 percent were female.

As displayed in Figure 12, the ages of CMP clients ranged from less than 1 year to 21 years, while the mean age of clients was 9.9 years.

Figure 12: ***ISST Population by Ages (N = 8,157)***

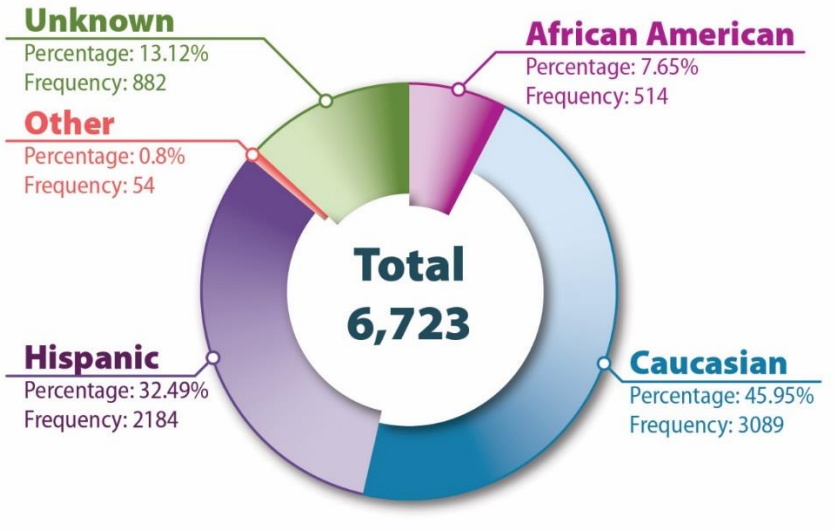


Sources: Trails and ETO CMP databases.

As shown in Figure 13 on the following page, a total of 46 percent of clients were Caucasian, 32 percent were Hispanic, 8 percent were African American, 1 percent were clients from "other" racial and ethnic backgrounds, and the race and ethnicity was "unknown" for 13 percent of ISST clients.[11] These percentages are similar to those of previous ISST populations, demonstrating consistency in the racial and ethnic composition of the population.

[11] The "other" category consisted of children/youth identified as having the following racial/ethnic backgrounds: Asian, Hawaiian, or Native American.

Figure 13: ***ISST Clients by Race and Ethnicity (N = 6,723)***[12]



Sources: Trails and ETO CMP databases.

3.3.3. ISST Population by Performance Goal Type

As Table 6 shows, the majority of SFY20 CMP ISST clients had performance goals under the child welfare domain (82 percent). Considerably fewer CMP ISST clients were served under the other three domains, with education (34 percent) representing the second largest percentage of clients, followed by health/mental health (15 percent) and juvenile justice (3 percent).

Table 6: ***Number of ISST Clients by Performance Goal Type (Duplicated Counts)***

Program	# of Clients
Child Welfare	6,724 (82.4%)
Education^	2,788[13] (34.2%)
Health/Mental Health	1,211 (14.8%)
Juvenile Justice	261 (3.2%)
Total CMP ISST Population	**8,157***

Sources: Trails and ETO CMP databases.
*Percentages do not sum to 100 because a CMP ISST client could have performance goals under multiple domains.
^Education data were not obtained for Huerfano and Las Animas Counties.

[12] The sample size was lower than the total ISST population of 8,157 clients because gender data were missing for 1,434 clients.
[13] Education data were obtained via the SFY21 CMP Annual Reports submitted by each site. Because the number of clients with education performance goals could have been duplicated for the six counties with more than one education performance goal the evaluation team utilized a recurring methodology to estimate the number of CMP clients served. If the six counties with multiple education performance goals reported identical denominators for each education goal, the identical number was counted once (under the assumption that identical numbers represented a duplication of clients). If the number of clients across two or more performance measures was not identical, the evaluation team reported the numbers for the larger client population (under the assumption that the smaller populations were a likely subpopulation).

The vast majority of CMP ISST clients had child welfare performance goals (82 percent), warranting an examination of key variables pertaining to involvement with the child welfare system. Table 7 presents the differences in risk and presenting factors between child welfare–involved CMP ISST clients and the full population of children/youth who were involved in the child protection system at the assessment level or higher.

Table 7: ***Differences in Risk and Presenting Factors between CMP ISST and Child Welfare Populations***

Factor	CMP ISST Population	Child Protection Population
Family Structure	(*N* = 2,370) *	(*N* = 65,665) *
Single Parent	50.8%	42.1%
Married Couple	22.6%	38.0%
Unmarried Couple	26.7%	19.9%
Prior Adoption	2.3%	1.1%
Number of Prior Referrals (mean)	6.06	6.44
Number of Prior Assessments (mean)	2.72	2.86
Number of Prior Cases (mean)	0.44	0.42
Number of Prior Removals (mean)	0.18	0.16
Prior DYS Involvement	4.9%	2.3
Level of Involvement upon Entry:		
Case	51.2%	18.5%
Removal	23.1%	6.9%
Population Size	**6,724**	**68,060**

*The differing population sizes (represented by *N*) reflect the varying extent to which data were available for each variable.

CMP ISST clients involved with child welfare came from diverse family structures, with the majority being members of single-parent families (51 percent), followed by families headed by married and unmarried couples (23 and 26 percent, respectively). These clients were considerably more likely to have been previously adopted (2 percent) than children/youth within the broader child protection population (1 percent). Notably, a higher percentage of CMP ISST clients had also been previously involved with DYS (5 percent vs. 2 percent for the broader population) than the wider child protection population. Finally, CMP ISST clients entered the child welfare system at a higher level of involvement than the broader child protection population. The majority of CMP ISST clients (51 percent) entered at the case level in comparison to only 19 percent of the broader child protection population. Child welfare–involved CMP ISST clients were also much more likely to enter the system via a removal from their homes (23 percent vs. 7 percent, respectively). As with previous evaluations, these factors strongly underscore how CMP clients have considerably higher levels of risk than the general population of children and youth served by Colorado's child welfare system.

3.4. Non-experimental Evaluation of ISST Population

This section presents the findings from a descriptive, nonexperimental evaluation that examined the outcomes of the ISST population (subsequently referred to as "CMP clients") via the performance goals within the four program domains. The evaluation team used a nonexperimental, single group evaluation design to examine outcomes, given the historical "data silo" challenges in accessing the requisite outcome data across all four domains and data on comparison populations. As previously noted, a nonexperimental evaluation design does not rely on a comparison group for causal attribution of program impact and instead uses descriptive statistics to examine the outcomes of CMP clients. The lack of a comparison group prevents causal inference on the program's effectiveness, but the analysis of outcomes provides preliminary evidence on changes in the outcomes of children/youth served by CMP.

3.4.1. Child Welfare Clients

As shown in Table 8, CMP appears to have had varying levels of success in improving the child welfare outcomes of its clients. The program was associated with high levels of success in increasing the safety of children and youth (with 96 percent of clients having no substantiated abuse findings after CMP services began); decreasing the number of children and youth involved with the child welfare system (96 percent); increasing the number of children and youth who remained home (96 percent); and increasing placement stability (90 percent).[14] In contrast, the program appeared to have more moderate success in increasing permanency, with 62 percent of CMP clients discharged to a permanent home.

Table 8: ***Child Welfare Performance Goals***

Performance Measure	# Children and Youth with Goal	# Achieving Goal	Percentage Achieving Goal in SFY21	Percentage Achieving Goal in SFY20
Increase safety of children/youth	6,724	6,422	**96.0**	95.0
Decrease number of children/youth involved in child welfare	6,724	6,422	**95.5**	94.1
Increase number of children/youth who remain home	5,496	5,254	**95.6**	92.6
Increase placement stability of children/youth	1,556	1,393	**89.5**	91.1
Increase permanency of children/youth	1,556	961	**61.8**	65.4

Sources: Trails and ETO CMP databases.

[14] Placement stability is defined as having two or fewer placement moves while in out-of-home care.

3.4.2. Education Clients

Performance goals under the education domain was the second most common type of goal for CMP clients, with 34 percent of CMP clients involved in this program domain. Unlike the other three domains, which utilize client-level administrative data for measuring performance goals, the calculation of education performance goals is dependent on data provided via the annual reports submitted by CMP counties (because of a lack of access to client-level administrative data). As displayed in Table 9, self-reported data provided by CMP counties suggest that the program appears to have high to moderate levels of success in improving the educational outcomes of its clients. The program was associated with a high level of success in increasing school stability (100 percent), decreasing disciplinary problems (94 percent), and increasing academic achievement (92 percent). The program was associated with more moderate success in increasing school attendance (70 percent).

Table 9: ***Education Performance Goals***

Performance Measure	Number of Children and Youth with Goal	Number of Achieving Goal	Percentage Achieving Goal in SFY21	Percentage Achieving Goal in SFY20
Increase school stability	122	122	**100.0**	97.8
Decrease disciplinary problems at school	770	720	**93.5**	49.5
Increase academic achievement	997	917	**92.0**	70.8
Increase school attendance	1,081	756	**69.9**	59.2

Source: Self-reported by CMP counties via the CMP Annual Report SFY20–21.

3.4.3. Health/Mental Health Clients

As shown in Table 10 on the following page, CMP appears to have moderate to limited success in improving client health and mental health outcomes. The program was associated with moderate success in decreasing substance use—62 percent of eligible clients completed 90-day inpatient substance use treatment or intensive outpatient treatment. OBH staff provided important context and insight into this performance measure. Notably, the pandemic had a notable impact by pausing access to and availability of treatment center services. OBH staff further noted that there was a notable decrease in admissions to treatment centers, with the number of youths admitted being roughly 30 percent less than in 2020. The program demonstrated more limited success in increasing the health of children/youth, with 20 percent of clients establishing linkages to substance use and mental health providers. CMP also appeared to have notably less success in decreasing problem severity with 6

percent of clients having improved levels of functioning on the Colorado Client Assessment Record (CCAR) while receiving CMP services. OBH staff also provided important context and insight into the decrease problem severity performance measure. They noted that the larger percentage of children and youth without change in their level of functioning/problem severity was likely because of the pandemic and associated challenges related to access and service delays.

Table 10: ***Health/Mental Health Performance Goals***

Performance Measure	Number of Children and Youth with Goal	Number Achieving Goal	Percentage Achieving Goal in SFY21	Percentage Achieving Goal in SFY20
Decrease substance use	42	26	**61.9**	63.4
Decrease problem severity	1,342	75	**5.6**	36.5
Increase children/youth health	6,724	1,363	**20.3**	26.7
Increase psychological, social, cognitive, and physical functioning	Data Not Available			
Increase wellbeing	Data Not Available			

Sources: Trails, ETO CMP, and OBH databases.
Note: The requisite data were not available for measuring the "Increase psychological, social, cognitive, and physical functioning" and "Increase wellbeing" goals.

3.4.4. Juvenile Justice Clients

The juvenile justice domain was the smallest of the four program domains, with 3 percent of CMP clients involved in the juvenile justice system. As displayed in Table 10, CMP appears to have had high levels of success in improving the outcomes of its clients involved with the juvenile justice system. The program was associated with high levels of success in decreasing commitments to DYS (99 percent) and decreasing secure detention admissions (93 percent).

Table 11: ***Juvenile Justice Performance Goals***

Performance Measure	Number of Children and Youth with Goal	Number Achieving Goal	Percentage Achieving Goal in SFY21	Percentage Achieving Goal in SFY20
Decrease commitment to DYS	3,601	3,567	**99.1**	97.3
Decrease secure detention admissions	3,601	3,340	**92.8**	89.4

Sources: Trails, ETO CMP, DYS, and Colorado Judicial databases.

3.5. Quasi-experimental Evaluation

To rigorously assess CMP's effectiveness in improving client outcomes, the evaluation team employed a quasi-experimental evaluation design to increase the statistical rigor of the outcome evaluation and obtain causal empirical evidence on the program's effectiveness in improving child welfare, health/mental health, and juvenile justice outcomes. QEDs replicate the counterfactual conditions of the experimental approach embedded in randomized controlled trials as closely as possible by comparing outcomes for a treatment group and a comparison group. In the quasi-experimental evaluation, the treatment groups consisted of the children/youth who were involved with the child welfare system and the health/mental health and juvenile justice domains and who were served by CMP via an initial ISST meeting in SFY20. In contrast, the comparison groups consisted of children/youth who were newly involved with the child welfare, health/mental health, and juvenile justice systems in SFY20, resided in a CMP county, and were eligible for CMP, but were not served by the program.

The development of a robust quasi-experimental design is dependent on the ability to identify an appropriate comparison group. The ideal CMP comparison group would consist of children/youth who resided in CMP counties and were eligible for CMP but who were not served by the program. During the SFY17 evaluation, the evaluation team engaged with members of the CMP Evaluation Subcommittee regarding the feasibility of identifying children/youth who were eligible but not served by the program. The Evaluation Subcommittee confirmed that capacity issues were the primary basis for otherwise eligible children/youth not being served by their county's CMP and that members of the proposed comparison group would likely have similar risk profiles as the treatment group. Please refer to **Appendix A** for a detailed overview of the process employed to construct a "comparison pool" of child welfare–involved children and youth residing within the CMP counties who were eligible for CMP but were not served by the program and could serve as potential matches for members of the treatment group.

3.5.1. Constructing Comparison Groups using Matching Methods

In the next step, the evaluation team constructed separate matched treatment and comparison groups in accordance with the populations associated with the child welfare, health/mental health, and juvenile justice performance goals. For the child welfare evaluation, the evaluation team constructed three matched groups with the first matched group used to examine the decreased involvement and increased safety performance goals. The second matched group consisted of the subgroup of children/youth who were removed from their homes, which was then used by the evaluation team to examine the placement stability and permanency performance goals. The final matched group consisted of the subgroup of children/youth who entered a child welfare case but remained in their homes; this group was used by the evaluation team to examine the remain home performance goal.

Similarly, the evaluation team constructed three matched groups to evaluate the health/mental health outcomes of CMP clients. The evaluation team used the first matched group to examine whether CMP clients had decreased problem severity. The second group examined whether clients had decreased levels of substance use because of the successful completion of substance use treatment. The

evaluation team used the final matched group to examine whether CMP clients had increased levels of health via establishing linkages to an array of health and mental health service providers. The evaluation team constructed a single matched group to evaluate the juvenile justice outcomes of CMP clients. The matched group was then used to examine whether CMP prevented clients from becoming involved with the juvenile justice system and whether the program decreased commitment to DYS.

Within each of the matched groups, the treatment group consisted of children/youth in CMP counties who had the associated child welfare, health/mental health, or juvenile justice performance goals and who were served by the program (by an initial ISST meeting) during SFY20. The comparison group consisted of children/youth with child welfare, health/mental health, or juvenile justice involvement residing in the same CMP counties who were eligible for CMP but not served by their county's program. Table 12 provides an overview of the unmatched treatment and potential comparison groups that were associated with each of the performance goals.

Table 12: ***Unmatched Treatment and Comparison Groups Associated with the Child Welfare, Health/Mental Health, and Juvenile Justice Performance Goals***

Performance Goal	Number of CMP Clients (Treatment Group)	Number of Children/Youth Who Could Serve as Potential Matches (Comparison Group)
Child Welfare		
Decrease number of children/youth involved in child welfare	6,244	35,299
Increase safety of children/youth	6,244	35,299
Increase placement stability of children/youth	1,404	787
Increase permanency of children/youth involved in child welfare	1,404	787
Increase number of children/youth who remain home	5,122	34,922
Health/Mental Health		
Decrease problem severity	1,190	2,793
Decrease substance use	38	27
Increase children/youth health	6,252	35,299
Juvenile Justice		
Decrease commitment to DYS	3,407	14,328
Decrease secure detention admissions	3,407	14,328

Note: The figures presented in this table represent CMP clients and members of the comparison population from 44 of the 46 counties participating in CMP. As detailed further below, two of the counties were excluded from the quasi-experimental evaluation resulting from enrolling all eligible children, which prevented the evaluation team from constructing a comparison group within each county.

Notably, two of the CMP counties, Boulder and Larimer, enrolled all eligible children in their CMPs. Accordingly, the evaluation team could not identify comparison groups for these counties because of the lack of a comparable population of children who were not served by the program. Excluding this subset of CMP clients from the quasi-experimental evaluation was likely to have minimal impact on the evaluation's findings; as detailed in **Appendix B**, subsequent sensitivity analyses revealed that outcome achievement on each of the child welfare, health/mental health, and juvenile justice performance goals differed by less than two and a half percentage points when CMP clients served by Boulder and Larimer Counties were excluded.

The evaluation team constructed the matched groups using a collection of pretreatment variables that were included in the matching process based on statistically significant relationships with the treatment assignment or the outcome variables.[15] Demographic variables included a child's age, gender, race/ethnicity, and family structure, and the age of the child's primary caregiver. Variables pertaining to a child's previous involvement with the child welfare system included the number of previous referrals, assessments, cases, and removals, and whether the child had been previously adopted. Finally, other matching variables included whether the child was previously involved with DYS, had previously received food assistance, or was previously covered by Medicaid. Prior to matching, the evaluation team conducted initial analyses of the imbalance between the groups on the aforementioned variables. This analysis used descriptive statistics and bivariate statistical tests to assess the imbalance on factors associated with receiving treatment and the associated outcomes.

The evaluation team then constructed the matched comparison groups using the Coarsened Exact Matching (CEM) methodology.[16,17] The CEM methodology approximates a randomized block experimental design, in which members of the treatment and comparison groups are assigned to strata defined by the covariates, thereby ensuring exact multivariate balance across all observed covariates. The evaluation team first assessed the imbalance between the treatment and comparison groups using a multivariate imbalance measure and a collection of univariate measures of imbalance across the selected covariates. After assessing the initial levels of imbalance, the evaluation team used the CEM algorithm to match children in the treatment group to all members of the comparison group with the same covariate values.[18] In the ensuing steps, the evaluation team "coarsened" covariates with considerable imbalance into substantively indistinguishable values and created a collection of strata with identical values. The evaluation team dropped strata that did not contain a minimum of one member of the treatment and comparison groups from the sample.

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[15] Rubin, D. B., & Thomas, N. (1996). Matching using estimated propensity scores: relating theory to practice. *Biometrics, 52*, 249–264.

[16] Iacus, S. M., King, G., & Porro, G. (2011). Multivariate matching methods that are monotonic imbalance bounding. *Journal of the American Statistical Association, 106*(493), 345–361.

[17] Iacus, S. M., King, G., & Porro, G. (2012). Causal inference without balance checking: Coarsened exact matching. *Political Analysis, 20*(1), 1–24.

[18] In contrast to propensity score matching (PSM), the CEM methodology allows for the improvement of balance for one covariate without affecting the maximum imbalance of the other covariates. More specifically, CEM uses a monotonic imbalance bounding matching method. Under this method, the balance between the treatment and comparison groups is chosen prior to the matching process. In contrast, PSM and other "greedy" matching methods determine balance after matching, which often results in multiple iterations of the matching process.

In the next step, the evaluation team used multivariate and univariate measures to assess the imbalance among the matched groups. The evaluation team then compared matched samples to the population characteristics to comprehensively assess sample size, variance, and imbalance. Given the bias-variance tradeoff, through which minimization of bias can come at the expense of sample variance, the evaluation team constructed and examined alternative samples with varying levels of variance and bias. In each instance, the evaluation team selected matched samples that minimized bias between the treatment and comparison groups to the greatest extent possible. This, in turn, provided greater confidence in the design and findings of the quasi-experimental evaluation. An overview of the matched groups is included in Table 13.

Table 13: ***Matched Treatment and Comparison Groups Associated with the Child Welfare, Health/Mental Health, and Juvenile Justice Performance Goals***

Performance Goal	Number of CMP Clients	Number of Children/Youth in Matched Comparison Group
Child Welfare		
Decrease number of children/youth involved in child welfare	3,865	3,865
Increase safety of children/youth	3,865	3,865
Increase placement stability of children/youth[†]	556	422
Increase permanency of children/youth involved in child welfare[†]	556	422
Increase number of children/youth who remain home	3,414	3,414
Health/Mental Health		
Decrease problem severity	575	575
Decrease substance use[†]	18	19
Increase children/youth health	3,858	3,858
Juvenile Justice		
Decrease commitment to DYS	1,946	1,946
Decrease secure detention admissions	1,946	1,946

Note: [†]Due to a smaller number of observations in the comparison group, 1-to-*k* matching was used to construct the matched groups for this measure.

3.5.2. Estimating Program Impacts

To estimate the effect of CMP on child welfare outcomes, the evaluation team calculated the differences in outcomes for the treatment groups and the matched comparison groups. The impact of CMP on each outcome variable (indicated as ΔY) was estimated via the following equation:

$$\Delta Y = \frac{1}{T}\sum_{i=1}^{T}\left[Y_{1i} - \overline{Y_{0iJ}}\right]$$

This equation allows for the estimation of the average treatment effect on the treated. On the right-hand side of the equation, the terms in brackets represent the difference in the outcome of interest between individual i in the treatment group and the mean of the outcome variable over all the matched comparison group members (j) for individual i.

Multilevel mixed-effects models were used to estimate the average treatment effect by accounting for the nested structure of the data with children and youth clustered by CMP counties. Within these models, children were situated at the first level of analysis while county-level variables were situated at the second. This approach allowed the quasi-experimental evaluation to account for county-level differences while controlling for associated covariates. Matching covariates that were not exactly matched were included in the multilevel mixed-effects models. Matching methods and regression adjustments (including multilevel mixed-effects models) are complementary methods and have been shown to work best in combination.[19] Including those variables that were not exactly matched provides a second opportunity to control for important differences between the treatment and comparison groups.

Because 1-to-*k* matching was used to match treatment and comparison members within the child welfare out-of-home subgroup, weighted multilevel mixed-effects models were used for the placement stability, permanency, and substance use outcome models. Within these weighted multilevel mixed-effects models, observations were weighted according to the number of observations within their corresponding strata.[20]

[19] Stuart, E. A. (2010). Matching methods for causal inference: A review and a look forward. *Statistical Science, 25*(1), 1–21.
[20] Iacus, S. M., King, G., & Porro, G. (2008). *Matching for causal inference without balance checking*. https://ssrn.com/abstract=1152391 or http://dx.doi.org/10.2139/ssrn.1152391

Child Welfare Outcome: New Involvement in Child Welfare

Table 14 provides the results for the multilevel mixed-effects model used to examine whether CMP clients were more or less likely than a comparison population to have a new involvement with the child welfare system (i.e., a traditional or Family Assessment Response case) in the year after receiving services. **The results show that CMP clients had a 3.4 percentage point increase in the probability that they would have a new involvement ($p < 0.001$) compared to youth who were eligible but were not served by the program**. Although the magnitude of this effect is small, it provides statistically significant evidence that CMP clients are more likely to have a new involvement.

Table 14: ***New Child Welfare Involvement Multi-level Mixed Effects Model***

Outcome: New Child Welfare Involvement	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.0336*** (0.004)**
Percent Variation Explained by Level 2	3.34%
Level 1 Child Attributes	
Age at Beginning of Involvement	-0.001 (0.000)
Primary Caregiver's Age	-0.000* (0.000)
Number of Prior Referrals	0.003*** (0.001)
Number of Prior Assessments	-0.006*** (0.002)
Number of Prior Cases	0.009* (0.004)
Number of Prior Removals	0.001 (0.006)
Prior Food Assistance (Reference: No)	
Yes	0.005 (0.005)
Unknown	-0.023 (0.000)
Constant	0.024** (0.008)
Log-Likelihood	2,145.355
Observations	7,730

Note: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Sensitivity analyses were subsequently conducted to examine the robustness of the model's findings. Additional models were run on a matched group with a larger number of observations but a higher degree of imbalance, and on the full treatment group and a randomly sampled comparison group. In these instances, CMP clients were found to have between a 2.6 and 3.0 percentage point increase in the probability of having a new involvement ($p < 0.001$ in both models). Together, these results provide consistent supporting evidence that CMP clients are more likely to have a subsequent involvement than children/youth who were eligible but were not served by the program.

Child Welfare Outcome: Subsequent Founded Assessment of Abuse or Neglect

Table 15 provides the results for the model used to examine whether CMP clients were more or less likely to have a subsequent founded assessment in the year after receiving services. **The results show that CMP clients were not significantly more or less likely to have a subsequent founded assessment compared to youth who were eligible but were not served by the program.**

Table 15: ***Subsequent Founded Assessment Multi-level Mixed Effects Model***

Outcome: Subsequent Founded Assessment	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.000 (0.005)**
Percent Variation Explained by Level 2	0.40%
Level 1 Child Attributes	
Age at Beginning of Involvement	-0.003*** (0.000)
Primary Caregiver's Age	-0.000** (0.000)
Number of Prior Referrals	0.002** (0.001)
Number of Prior Assessments	-0.001 (0.002)
Prior Food Assistance (Reference: No)	
Yes	0.017** (0.005)
Unknown	-0.015 (0.014)
Constant	0.051*** (0.007)
Log-Likelihood	1,396.283
Observations	7,730

Note: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

The evaluation team conducted sensitivity analyses to examine the robustness of the model's findings. The evaluation team ran subsequent models on a matched group with a larger number of observations but a higher degree of imbalance and the full treatment group and a randomly sampled comparison group. In these instances, CMP clients were found to have between a 0.25 and 0.42 percentage point increase in the probability of having a subsequent founded assessment, and neither of these findings was statistically significant. Together, these results provide further support for the conclusion that CMP clients were not significantly more or less likely to have a subsequent founded assessment.

Child Welfare Outcome: Placement Stability for Children Removed from Their Homes

Table 16 provides the results for the model used to examine whether CMP clients who were removed from their homes experienced placement stability (i.e., two or fewer moves while in out-of-home placement) in the year after receiving services. **The results show that CMP clients had a 6.2 percentage point decrease in the probability that they would experience placement stability ($p < 0.001$) compared to youth who were eligible but were not served by the program.**

Table 16: ***Placement Stability Multi-level Mixed Effects Model***

Outcome: Placement Stability	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**-0.062*** (0.007)**
Percent Variation Explained by Level 2	0.001%
Level 1 Child Attributes	
Age at Beginning of Involvement	-0.004 (0.002)
Primary Caregiver's Age	0.000* (0.000)
Number of Prior Referrals	-0.006 (0.006)
Number of Prior Assessments	-0.005 (0.009)
Number of Prior Cases	0.061** (0.022)
Number of Prior Removals	-0.020 (0.059)
Constant	1.024*** (0.004)
Log-Likelihood	189.219
Observations	978

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

The evaluation team conducted sensitivity analyses using a matched group with a larger number of observations and a higher degree of imbalance, and on a second matched group with an even larger number of observations and a higher degree of imbalance. In these instances, CMP clients were found to have between a 2.0 and 4.2 percentage point decrease in the probability of experiencing placement stability ($p < 0.05$ or lower). Together, these results provide strong, consistent evidence that CMP clients are less likely to experience placement stability than children/youth who were eligible but were not served by the program.

Child Welfare Outcome: Permanency for Children/Youth Removed from Their Homes

As displayed in Table 17, the evaluation team used the fourth model to examine whether CMP clients were more or less likely to achieve permanency in the year after they began receiving services. **The results show that CMP clients were not significantly more or less likely to have achieved permanency.**

Table 17: ***Permanency Weighted Multi-level Mixed Effects Model***

Outcome: Permanency	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**-0.064 (0.042)**
Percent Variation Explained by Level 2	3.20%
Level 1 Child Attributes	
Age at Beginning of Involvement	0.008** (0.003)
Primary Caregiver's Age	-0.000*** (0.000)
Number of Prior Referrals	-0.010 (0.009)
Number of Prior Assessments	0.021 (0.016)
Number of Prior Cases	0.047 (0.035)
Number of Prior Removals	-0.163 (0.098)
Constant	0.630*** (0.000)
Log-Likelihood	-647.192
Observations	978

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.*

Sensitivity analyses were conducted to examine the robustness of the model's findings, using the same groups used in the sensitivity analyses for the placement stability model. In these analyses, CMP clients were found to have between a 3.0 and 8.1 percentage point decrease in the probability of achieving permanency, and these effects were not consistently significant. Together, these results provide further support for the conclusion that CMP clients were not significantly more or less likely to achieve permanency.

Child Welfare Outcome: Children/Youth Involved in a Child Welfare Case Who Remain Home

As displayed in Table 18, the evaluation team used the final child welfare model to determine whether CMP clients were more or less likely to remain in their homes in the year after they began receiving services. **The results show that CMP clients had a 2.1 percentage point decrease in the probability that they would remain home ($p < 0.001$) compared to youth who were eligible but were not served by the program.**

Table 17: ***Remain Home Multi-level Mixed Effects Model***

Outcome: Remain Home	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**-0.021*** (0.004)**
Percent Variation Explained by Level 2	0.03%
Level 1 Child Attributes	
Prior Food Assistance (Reference: No)	
Yes	-0.004 (0.004)
Unknown	0.004 (0.011)
Age at Beginning of Involvement	0.001** (0.000)
Primary Caregiver's Age	0.000*** (0.000)
Number of Prior Referrals	-0.001 (0.001)
Number of Prior Assessments	-0.001 (0.001)
Number of Prior Cases	0.001 (0.004)
Number of Prior Removals	-0.009 (0.005)
Constant	0.979*** (0.007)
Log-Likelihood	2,947.920
Observations	6,828

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Sensitivity analyses were conducted using a matched group with a larger number of observations but a higher degree of imbalance and on a random sample of unmatched treatment and comparison groups. In these models, CMP clients were found to have between a 1.9 and 4.6 percentage point decrease in the probability of remaining home ($p < 0.001$). Together, these results provide strong, consistent evidence that CMP clients are less likely to remain home than children/youth who were eligible but were not served by the program.

Health/Mental Health Outcome: Problem Severity

The evaluation team used the "decrease problem severity" model to examine whether CMP clients had improved levels of functioning on the CCAR, or a similar clinical instrument designed to assess the behavioral health status of clients. The findings shown in Table 19 **demonstrate that CMP clients were not significantly more or less likely to experience improved levels of functioning when compared to children and youth who were eligible but not served by the program.**

Table 19: ***Problem Severity Multi-level Mixed Effects Model***

Outcome: Problem Severity	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.010 (0.014)**
Percent Variation Explained by Level 2	1.72%
Level 1 Child Attributes	
Prior Food Assistance (Reference: No)	
Yes	0.017 (0.015)
Unknown	-0.017 (0.162)
Age at Beginning of Involvement	0.004 (0.002)
Primary Caregiver's Age	0.000 (0.002)
Number of Prior Referrals	-0.000 (0.002)
Number of Prior Assessments	0.003 (0.004)
Constant	-0.014 (0.029)
Log-Likelihood	60.887
Observations	1,150

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

The evaluation team conducted sensitivity analyses on the full, unmatched population and a matched group with a larger number of observations but a higher degree of imbalance. In these models, CMP clients were shown to have between a 1.1 percentage point decrease and a 1.5 percentage point increase in the probability of improving their level of functioning; neither of these findings was statistically significant. Together, these results suggest that CMP clients were neither significantly more nor less likely to decrease their problem severity.

Health/Mental Health Outcome: Substance Use

The evaluation team used the "decrease substance use" model to examine whether CMP clients completed a 90-day inpatient substance use treatment or intensive outpatient treatment. As shown in Table 20 on the following page, **the findings demonstrate that CMP clients were not significantly more or less likely to achieve lower levels of substance use.**

Table 20: ***Decrease Substance Use Multi-level Mixed Effects Model***

Outcome: Substance Use	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**-0.091 (0.118)**
Level 1 Child Attributes	
Family Structure (Reference: Single Parent)	
Married Couple	-0.550** (0.210)
Undetermined	0.270 (0.317)
Number of Prior Referrals	-0.036 (0.053)
Number of Prior Assessments	0.004 (0.101)
Race and Ethnicity (Reference: Caucasian)	
Hispanic	0.045 (0.107)
Unknown	0.322* (0.131)
Constant	0.573* (0.271)
Log-Likelihood	-22.285
Observations	37

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.*

The evaluation team conducted a sensitivity analysis to examine the robustness of the findings by running similar models on the unmatched population and a matched group with a larger number of observations but a higher degree of imbalance. In these models, CMP clients were found to have a 4.7 to 8.0 percentage point increase in the probability of completing substance use treatment, with neither of the models producing statistically significant findings. An important caveat to the findings noted here and above is that only a small number of children in both the treatment and comparison groups (a total of 38 CMP clients and 27 members of the comparison population) were engaged in substance use treatment. Notably, the smaller number of observations in both groups (and the smaller number of observations in the comparison pool, in particular) hindered the ability to determine a causal effect using the quasi-experimental evaluation design. For these reasons, the findings provided here should be interpreted with caution.

Health/Mental Health Outcome: Child/Youth Health

For the third outcome in the health/mental health quasi-experimental evaluation, the evaluation team examined whether CMP clients had increased levels of health by way of establishing linkages to various health and mental health providers. As displayed in Table 21 on the following page, **the findings demonstrate that CMP clients had a 5.2 percentage point increase in the probability that they would have increased levels of health through established linkages to health and mental health care providers ($p < 0.001$).**

Table 21: ***Child/Youth Health Multi-level Mixed Effects Model***

Outcome: Child/Youth Health	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.052*** (0.008)**
Percent Variation Explained by Level 2	4.03%
Level 1 Child Attributes	
Prior Food Assistance (Reference: No)	
Yes	0.007 (0.009)
Unknown	-0.040 (0.024)
Age at Beginning of Involvement	0.014*** (0.024)
Primary Caregiver's Age	-0.000*** (0.000)
Number of Prior Referrals	0.008*** (0.001)
Number of Prior Assessments	-0.006* (0.003)
Constant	-0.009 (0.016)
Log-Likelihood	-2,644.537
Observations	7,716

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

The robustness of this finding was examined using sensitivity analyses conducted on the full, unmatched population and a matched group with a larger number of observations but a higher degree of imbalance. In these models, CMP clients were shown to have between a 4.7 and 9.6 percentage point decrease in the probability of improving their level of functioning (with both findings significant at the $p < 0.001$ level). Together, these results produce strong supporting evidence that CMP clients were significantly more likely to have increased health by way of established linkages to health and mental health providers.

Juvenile Justice Outcome: Secure Detention Admissions

The evaluation team examined whether CMP clients were less likely to be admitted to a secure detention setting. The findings presented in Table 22 on the following page **demonstrate that CMP clients had a 4.4 percentage point increase in the probability that they would have a secure detention admission ($p < 0.001$).**

The robustness of the finding was examined via a sensitivity analysis where the evaluation team ran subsequent models on a matched group with a larger number of observations but a higher degree of imbalance and the full treatment group and a randomly sampled comparison group. In these models, CMP clients were shown to have between a 4.0 and 7.1 percentage point increase in the probability that they would become involved with the juvenile justice system (with both findings significant at the $p < 0.001$ level). These results provide further supporting evidence that CMP clients were significantly more likely to become involved with the juvenile justice system.

Table 22: ***Secure Detention Admissions Multi-level Mixed Effects Model***

Outcome: Secure Detention Admissions	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.044*** (0.007)**
Percent Variation Explained by Level 2	0.28%
Level 1 Child Attributes	
Prior Food Assistance (Reference: No)	
Yes	0.007 (0.007)
Unknown	0.014 (0.021)
Age at Beginning of Involvement	0.013*** (0.001)
Primary Caregiver's Age	-0.000* (0.000)
Number of Prior Referrals	0.002* (0.001)
Number of Prior Assessments	-0.001 (0.002)
Number of Prior Cases	-0.007 (0.005)
Number of Prior Removals	0.004 (0.007)
Constant	-0.167*** (0.021)
Log-Likelihood	804.677
Observations	3,892

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Conversations with staff from DYS and the Office of Children, Youth and Families provided important insight and context for this finding. The greater probability that CMP clients would have a secure detention admission could be impacted, to varying degrees, by several policy and practice changes enacted during the pandemic. The Juvenile Justice Reform Bill (SB 19-108), enacted in May 2019, incorporated more stringent detention eligibility criteria and recommended a revised detention screening tool. During this period, there was also a considerable decline in the number of juvenile arrests in Colorado. DYS staff shared that during the pandemic the number of juvenile arrests declined by 48.9 percent between 2019 and 2020, followed by a 15.8 percent decline in the following year. Finally, DYS staff noted that there was a focus on preventing less serious and nonviolent offenders from entering secure detention, to the greatest extent possible, during the pandemic. As a result, the youth detained during the pandemic likely posed a higher danger to the public. This change along with other changes implemented during the pandemic (such as policy and practice changes that reduced the detention bed counts from 327 to 215) likely contributed to a situation where there was an overall decline in the number of youths served by DYS, and those youth served by DYS presented with more intensive needs.

Juvenile Justice Outcome: DYS Commitment

In the final model, the evaluation team examined whether CMP clients were less likely to be committed to DYS. The findings presented in Table 23 **demonstrate that CMP clients were not significantly more or less likely to be committed to DYS.**

Table 23: ***DYS Commitment Multi-level Mixed Effects Model***

Outcome: DYS Commitment	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**-0.003 (0.002)**
Percent Variation Explained by Level 2	0.08%
Level 1 Child Attributes	
Prior Food Assistance (Reference: No)	
Yes	0.004 (0.002)
Unknown	-0.001 (0.007)
Age at Beginning of Involvement	0.002*** (0.000)
Primary Caregiver's Age	-0.000 (0.000)
Number of Prior Referrals	-0.000 (0.000)
Number of Prior Assessments	0.000 (0.001)
Number of Prior Cases	-0.004 (0.002)
Number of Prior Removals	0.010*** (0.002)
Constant	-0.023** (0.002)
Log-Likelihood	4,866.760
Observations	3,892

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Once again, the robustness of the finding was examined via a sensitivity analysis where the evaluation team ran subsequent models on a matched group with a larger number of observations but a higher degree of imbalance and the full treatment group and a randomly sampled comparison group. In these models, CMP clients were shown to have a 0.18 percentage point decrease and a 1.2 percentage point increase in the probability of being committed to DYS, with neither of the models producing statistically significant findings. These results support the suggestion that CMP clients were not significantly more or less likely to be committed to DYS.

3.6. CMP Longitudinal Analyses

In the SFY20 evaluation report, the evaluation team drew attention to the notable impact that the COVID-19 pandemic would have on the SFY21 evaluation. More specifically, the pandemic would introduce a confounding factor that would make it difficult to disentangle the program effects from COVID-19 for children and youth with an initial ISST in SFY20. As such, the evaluation team noted that the situation provided a timely opportunity to examine CMP outcomes over a longer period before the onset of the pandemic. The evaluation team also identified several additional benefits of conducting a longitudinal evaluation, including:

- Increased sample sizes and statistical power
- An ability to determine the impact of CMP 1 and 2 years after the initial ISST meeting

- The opportunity to examine whether program impacts persist, increase, or dissipate 2 years after program entry
- The ability to better understand CMP's overall impact across multiple years

For the longitudinal evaluation, the evaluation team used a design similar to the matched QEDs included in each of the previous evaluations (refer to Sections 3.5.1. and 3.5.2. for additional information on the methodologies used to construct comparison groups and estimate program impacts). Under this design, the matched groups associated with the child welfare and juvenile justice outcomes were combined to examine outcomes across three cohorts: SFY17, SFY18, and SFY19. For each cohort, outcomes were examined 1 and 2 years after the initial ISST meeting. In alignment with the annual evaluations, multilevel mixed-effects models were used to estimate the average treatment effect by accounting for the nested structure of the data with children and youth clustered by CMP counties.[21] Matching covariates that were not exactly matched in previous evaluations were included in the multilevel mixed-effects models to control for any residual differences between the treatment and comparison groups. Table 24 provides an overview of the number of observations within and across cohorts, by outcome.

Table 24: ***Number of Observations Within and Across Cohorts by Outcome***

Outcome	SFY17	SFY18	SFY19	Total Number of Observations
Child Welfare				
New Involvement				
1-Year Post-ISST	9,701	6,693	6,420	22,814
2-Year Post-ISST	9,701	6,693	6,420	22,814
Subsequent Founded Assessment				
1-Year Post-ISST	9,701	6,693	6,420	22,814
2-Year Post-ISST	9,701	6,693	6,420	22,814
Placement Stability				
1-Year Post-ISST	2,083	1,474	1,321	4,878
2-Year Post-ISST	2,083	1,474	1,321	4,878
Permanency				
1-Year Post-ISST	2,083	1,474	1,321	4,878
2-Year Post-ISST	2,083	1,474	1,321	4,878
Remain Home				
1-Year Post-ISST	8,351	5,734	5,593	19,678
2-Year Post-ISST	8,351	5,734	5,593	19,678
Juvenile Justice				
Secure Detention Admission				
1-Year Post-ISST	5,038	3,316	3,614	11,968
2-Year Post-ISST	5,540	3,636	3,904	13,080
DYS Commitment				
1-Year Post-ISST	5,038	3,316	3,614	11,968
2-Year Post-ISST	5,540	3,636	3,904	13,080

[21] Within these models, children were situated at the first level of analysis while county-level variables were situated at the second. An entry cohort variable, representing the year that each child or youth became involved with CMP or received business-as-usual services, was included to account for differences across cohorts.

Longitudinal Evaluation: New Involvement (Child Welfare)

Table 25 provides the results for the multilevel mixed-effects models used to examine whether CMP clients were more or less likely than a comparison population to have a new involvement with the child welfare system (i.e., a traditional case or Family Assessment Response) at 1 and 2 years after receiving services. The results show that CMP clients had a 1.1 percentage point increase in the probability that they would have a new involvement ($p < 0.001$) 1 year after ISST meeting compared to youth who were eligible but were not served by the program. The results show that 2 years after the ISST meeting, CMP clients had a 1.8 percentage point increase in the probability that they would have a new involvement ($p < 0.001$).

Table 25: ***New Involvement Multilevel Mixed-Effects Model***

OUTCOME: NEW INVOLVEMENT		
	1-Year Post-ISST	2-Years Post-ISST
	Coefficient (Std. Error)	Coefficient (Std. Error)
Level 2 Agency Attributes		
Treatment: CMP	**0.011*** (0.003)**	**0.018*** (0.004)**
Percent Variation Explained by Level 2	0.54%	0.75%
Level 1 Child Attributes		
Number of Prior Referrals	0.001* (0.001)	0.002** (0.001)
Number of Prior Assessments	-0.001 (0.001)	-0.003 (0.002)
Number of Prior Cases	-0.002 (0.003)	0.001 (0.004)
Number of Prior Removals	-0.037*** (0.005)	-0.072*** (0.007)
Primary Caregiver's Age	-0.000** (0.000)	-0.000*** (0.000)
Prior Food Assistance (Reference: No)		
Yes	0.012** (0.004)	0.028*** (0.005)
Unknown	-0.008 (0.012)	-0.017 (0.016)
Prior DYS Involvement	0.049*** (0.008)	0.037*** (0.010)
Male	0.006 (0.003)	0.006 (0.004)
Family Structure (Reference: Married Couple)		
Single Female	0.005 (0.007)	0.006 (0.009)
Single Male	0.029** (0.011)	0.015 (0.015)
Undetermined	-0.60*** (0.006)	-0.110*** (0.008)
Unmarried Couple	-0.013 (0.008)	-0.024* (0.010)
Race and Ethnicity (Reference: Caucasian)		
African American	0.017** (0.005)	0.021** (0.007)
Hispanic	0.003 (0.003)	-0.001 (0.004)
Other	-0.013 (0.014)	-0.016 (0.019)
Unknown	-0.007 (0.007)	-0.020* (0.009)
Entry Cohort (Reference: SFY17)		
SFY18	-0.001 (0.003)	0.005 (0.005)
SFY19	0.001 (0.003)	0.003 (0.005)
Constant	1.078*** (0.008)	1.154*** (0.010)
Log-Likelihood	3,095.043	-3,789.068
Observations	22,814	22,814

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.*

Longitudinal Evaluation: Subsequent Founded Assessment (Child Welfare)

The results for the multilevel mixed-effects models used to examine whether CMP clients were more or less likely than a comparison population to have a subsequent founded assessment at 1 and 2 years after receiving services are presented in Table 26. The results show that CMP clients were not significantly more or less likely to have a subsequent founded assessment 1 year after ISST meeting compared to youth who were eligible but were not served by the program. However, the results show that at 2 years after the ISST meeting, CMP clients had a 0.9 percentage point decrease in the probability that they would have a subsequent founded assessment ($p < 0.05$).

Table 26: Subsequent Founded Assessment Multilevel Mixed-Effects Model

OUTCOME: SUBSEQUENT FOUNDED ASSESSMENT		
	1-Year Post-ISST	**2-Year Post-ISST**
	Coefficient (Std. Error)	**Coefficient (Std. Error)**
Level 2 Agency Attributes		
Treatment: CMP	**-0.002 (0.003)**	**-0.009* (0.004)**
Percent Variation Explained by Level 2	0.87%	0.97%
Level 1 Child Attributes		
Number of Prior Referrals	-0.000 (0.001)	0.000 (0.001)
Number of Prior Assessments	-0.001 (0.001)	-0.003* (0.002)
Primary Caregiver's Age	-0.000*** (0.000)	-0.000*** (0.000)
Prior Food Assistance (Reference: No)		
Yes	0.021*** (0.004)	0.036*** (0.005)
Unknown	0.003 (0.013)	-0.004 (0.016)
Prior DYS Involvement	-0.053*** (0.008)	-0.091*** (0.011)
Family Structure (Reference: Married Couple)		
Single Female	-0.011 (0.007)	-0.008 (0.009)
Single Male	-0.012 (0.012)	-0.009 (0.015)
Undetermined	-0.050*** (0.007)	-0.057*** (0.008)
Unmarried Couple	-0.009 (0.008)	-0.011 (0.011)
Race and Ethnicity (Reference: Caucasian)		
African American	0.017** (0.006)	0.009 (0.008)
Hispanic	0.000 (0.004)	-0.007 (0.004)
Other	-0.038* (0.015)	-0.033 (0.019)
Unknown	-0.019* (0.008)	-0.037*** (0.010)
Entry Cohort (Reference: SFY17)		
SFY18	0.005 (0.004)	0.011** (0.005)
SFY19	0.004 (0.004)	0.011* (0.005)
Constant	1.088*** (0.008)	1.133*** (0.011)
Log-Likelihood	825.059	-4,418.732
Observations	22,814	22,814

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Longitudinal Evaluation: Placement Stability (Child Welfare)

Table 27 provides the results for the multilevel mixed-effects models used to examine whether CMP clients were more or less likely than a comparison population to experience placement stability at 1 and 2 years after receiving services. The results show that CMP clients had a 6.0 percentage point decrease in the probability that they would experience placement stability ($p < 0.001$) 1 year after the ISST meeting. The results for the second model show that at 2 years after the ISST meeting, CMP clients had a 7.7 percentage point decrease in the probability that they would experience placement stability ($p < 0.001$).

Table 27: ***Placement Stability Multilevel Mixed-Effects Model***

OUTCOME: PLACEMENT STABILITY		
	1-Year Post-ISST	**2-Year Post-ISST**
	Coefficient (Std. Error)	**Coefficient (Std. Error)**
Level 2 Agency Attributes		
Treatment: CMP	**-0.060*** (0.008)**	**-0.077*** (0.009)**
Percent Variation Explained by Level 2	**0.64%**	**1.15%**
Level 1 Child Attributes		
Age at Beginning of Involvement	-0.004*** (0.008)	-0.006*** (0.001)
Number of Prior Referrals	-0.006*** (0.002)	-0.007*** (0.002)
Number of Prior Assessments	0.003 (0.003)	0.004 (0.004)
Number of Prior Cases	0.004 (0.010)	0.000 (0.011)
Number of Prior Removals	-0.005 (0.013)	0.002 (0.015)
Prior Food Assistance (Reference: No)		
Yes	-0.001 (0.010)	0.000 (0.012)
Prior Medicaid (Reference: No)		
Yes	-0.007 (0.012)	-0.002 (0.014)
Prior DYS Involvement	0.0007 (0.021)	0.050* (0.024)
Male	-0.010 (0.007)	-0.013 (0.008)
Family Structure (Reference: Married Couple)		
Single Female	0.010 (0.010)	0.021 (0.011)
Single Male	0.045** (0.016)	0.041 (0.018)
Undetermined	-0.020 (0.019)	-0.025 (0.021)
Unmarried Couple	0.019 (0.011)	0.033** (0.013)
Race and Ethnicity (Reference: Caucasian)		
African American	0.002 (0.012)	*0.003 (0.013)
Hispanic	0.006 (0.008)	0.019* (0.009)
Other	0.009 (0.040)	0.028 (0.046)
Unknown	0.009 (0.038)	0.026 (0.043)
Prior Adoption	-0.182* (0.078)	-0.336*** (0.088)
Entry Cohort (Reference: SFY17)		
SFY18	-0.006 (0.008)	-0.006 (0.009)
SFY19	0.000 (0.007)	-0.006 (0.010)
Constant	2.016*** (0.009)	0.997*** (0.017)
Log-Likelihood	-8.509	-599.153
Observations	4,878	4,878

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Longitudinal Evaluation: Permanency (Child Welfare)

The results for the multilevel mixed-effects models used to examine whether CMP clients were more or less likely than a comparison population to establish permanency at 1 and 2 years after receiving services are presented in Table 28. The results show that CMP clients had a 4.4 percentage point decrease in the probability that they would establish permanency ($p < 0.01$) 1 year after ISST meeting compared. However, the results show that at 2 years after the ISST meeting, CMP clients were not significantly more or less likely to establish permanency than their peers in the comparison group.

Table 28: ***Permanency Multilevel Mixed-Effects Model***

OUTCOME: PERMANENCY		
	1-Year Post-ISST	**2-Year Post-ISST**
	Coefficient (Std. Error)	**Coefficient (Std. Error)**
Level 2 Agency Attributes		
Treatment: CMP	-0.044** (0.016)	-0.022 (0.013)
Percent Variation Explained by Level 2	5.83%	2.58%
Level 1 Child Attributes		
Age at Beginning of Involvement	0.003 (0.002)	-0.006*** (0.001)
Number of Prior Referrals	-0.007* (0.003)	-0.004 (0.002)
Number of Prior Assessments	0.000 (0.006)	0.001 (0.005)
Number of Prior Cases	0.018 (0.019)	0.028 (0.015)
Number of Prior Removals	-0.030 (0.025)	-0.035 (0.020)
Primary Caregiver's Age	-0.000*** (0.000)	-0.000*** (0.000)
Prior Food Assistance (Reference: No)		
Yes	0.071*** (0.020)	0.041* (0.016)
Prior Medicaid (Reference: No)		
Yes	0.061**(0.023)	0.050*** (0.013)
Prior DYS Involvement (Reference: No)		
Yes	-0.043** (0.041)	-0.121*** (0.033)
Male	-0.022 (0.013)	-0.007 (0.011)
Family Structure (Reference: Married Couple)		
Single Female	-0.017 (0.019)	-0.012 (0.015)
Single Male	0.004 (0.030)	-0.021 (0.025)
Undetermined	-0.087* (0.037)	-0.069* (0.030)
Unmarried Couple	-0.045* (0.022)	-0.029 (0.017)
Race and Ethnicity (Reference: Caucasian)		
African American	0.026 (0.023)	-0.014 (0.019)
Hispanic	0.053*** (0.015)	0.032** (0.019)
Other	-0.038 (0.077)	-0.101 (0.063)
Unknown	-0.029 (0.072)	-0.027 (0.059)
Prior Adoption	-0.367* (0.149)	-0.291* (0.121)
Entry Cohort (Reference: SFY17)		
SFY18	0.032* (0.016)	-0.009 (0.013)
SFY19	0.010 (0.017)	-0.030* (0.013)
Constant	1.585*** (0.034)	1.838*** (0.025)
Log-Likelihood	-3,166.824	-2,136.298
Observations	4,878	4,878

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Longitudinal Evaluation: Remain Home (Child Welfare)

Table 29 provides the results for the multilevel mixed-effects models used to examine whether CMP clients were more or less likely than a comparison population remain in their homes 1 and 2 years after receiving services. The results show that CMP clients had a 1.1 percentage point decrease in the probability that they would remain home ($p < 0.001$) 1 year after their ISST meeting. The results for the second model show that CMP clients had a 0.8 percentage point decrease in the probability that they would remain home ($p < 0.001$) 2 years after the ISST meeting.

Table 29: ***Remain Home Multilevel Mixed-Effects Model***

OUTCOME: REMAIN HOME		
	1-Year Post-ISST	**2-Year Post-ISST**
	Coefficient (Std. Error)	**Coefficient (Std. Error)**
Level 2 Agency Attributes		
Treatment: CMP	**-0.011*** (0.003)**	**-0.008* (0.003)**
Percent Variation Explained by Level 2	0.13%	0.17%
Level 1 Child Attributes		
Number of Prior Referrals	-0.000 (0.001)	-0.000 (0.003)
Number of Prior Assessments	0.000 (0.001)	-0.001 (0.001)
Number of Prior Removals	0.165*** (0.005)	0.249*** (0.006)
Primary Caregiver's Age	-0.000 (0.000)	0.000 (0.000)
Prior Food Assistance (Reference: No)		
Yes	-0.011** (0.004)	-0.025*** (0.004)
Unknown	-0.012 (0.011)	-0.016 (0.013)
Prior DYS Involvement	-0.095*** (0.008)	-0.098*** (0.009)
Male	-0.004 (0.003)	-0.003 (0.003)
Family Structure (Reference: Married Couple)		
Single Female	-0.023** (0.008)	-0.012 (0.009)
Single Male	-0.086*** (0.013)	-0.094*** (0.016)
Undetermined	0.271*** (0.007)	0.417*** (0.009)
Unmarried Couple	0.006 (0.009)	0.035** (0.011)
Race and Ethnicity (Reference: Caucasian)		
African American	-0.019** (0.006)	-0.015* (0.007)
Hispanic	-0.004 (0.003)	-0.002 (0.004)
Other	0.013 (0.014)	0.033* (0.016)
Unknown	-0.001 (0.007)	0.005 (0.008)
Entry Cohort (Reference: SFY17)		
SFY18	-0.003 (0.003)	-0.009* (0.004)
SFY19	-0.003 (0.003)	-0.013** (0.004)
Constant	1.752*** (0.008)	1.601*** (0.010)
Log-Likelihood	4,002.204	287.144
Observations	19,678	19,678

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.*

Longitudinal Evaluation: Secure Detention Admissions (Juvenile Justice)

The results for the multilevel mixed-effects models used to examine whether CMP clients were more or less likely than a comparison population to have a secure detention admission at 1 and 2 years after receiving services are presented in Table 30. By 1 year after the ISST meeting, CMP clients had a 3.3 percentage point increase in the probability that they would have a secure detention admission ($p < 0.001$). Similarly, the results for the second model show that by 2 years after the ISST meeting, CMP clients had a 3.8 percentage point increase in the probability that they would have a secure detention admission ($p < 0.001$).

Table 30: ***Secure Detention Admission Multilevel Mixed-Effects Model***

OUTCOME: SECURE DETENTION ADMISSION		
	1-Year Post-ISST	**2-Year Post-ISST**
	Coefficient (Std. Error)	**Coefficient (Std. Error)**
Level 2 Agency Attributes		
Treatment: CMP	**0.033*** (0.004)**	**0.038*** (0.004)**
Percent Variation Explained by Level 2	0.44%	0.65%
Level 1 Child Attributes		
Age at Beginning of Involvement	0.009*** (0.001)	0.010*** (0.001)
Number of Prior Referrals	0.003*** (0.001)	0.003*** (0.001)
Number of Prior Assessments	-0.005*** (0.001)	-0.003* (0.001)
Number of Prior Cases	0.001 (0.004)	-0.001 (0.004)
Number of Prior Removals	-0.044*** (0.006)	-0.033*** (0.006)
Primary Caregiver's Age	-0.000 (0.000)	0.000 (0.000)
Prior Food Assistance (Reference: No)		
Yes	-0.002 (0.006)	-0.002 (0.006)
Unknown	0.006 (0.015)	-0.001 (0.015)
Prior DYS Involvement (Reference: No)		
Yes	0.245*** (0.008)	0.222*** (0.009)
Male	0.027*** (0.004)	0.032*** (0.004)
Family Structure (Reference: Married Couple)		
Single Female	0.013 (0.010)	0.002 (0.010)
Single Male	0.002 (0.015)	-0.007 (0.015)
Undetermined	-0.059*** (0.009)	-0.054*** (0.009)
Unmarried Couple	-0.030* (0.014)	-0.030* (0.014)
Race and Ethnicity (Reference: Caucasian)		
African American	0.017* (0.008)	0.011 (0.008)
Hispanic	0.008 (0.005)	0.008 (0.005)
Other	-0.002 (0.020)	0.004 (0.020)
Unknown	-0.015 (0.010)	-0.018 (0.010)
Prior Adoption	0.081** (0.025)	0.066* (0.026)
Entry Cohort (Reference: SFY17)		
SFY18	-0.004 (0.005)	-0.000 (0.005)
SFY19	-0.009 (0.005)	-0.008 (0.005)
Constant	-0.062*** (0.015)	-0.078*** (0.014)
Log-Likelihood	1,441.061	869.050
Observations	11,968	13,080

***Note**:* *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Longitudinal Evaluation: DYS Commitment (Juvenile Justice)

Table 31 provides the results for the multilevel mixed-effects models used to examine whether CMP clients were more or less likely to have a DYS commitment at 1 and 2 years after receiving services. The results show that CMP clients were not significantly more or less likely to have a commitment 1 year after ISST meeting compared to youth who were eligible but were not served by the program. Similarly, the results show that at 2 years after the ISST meeting, CMP clients were not significantly more or less likely to have a commitment.

Table 31: ***Commitment to DYS Multilevel Mixed-Effects Model***

OUTCOME: DYS COMMITMENT		
	1-Year Post-ISST	**2-Year Post-ISST**
	Coefficient (Std. Error)	**Coefficient (Std. Error)**
Level 2 Agency Attributes		
Treatment: CMP	-0.001 (0.002)	0.003 (0.002)
Percent Variation Explained by Level 2	0.07%	0.15%
Level 1 Child Attributes		
Age at Beginning of Involvement	0.001** (0.000)	0.002*** (0.000)
Number of Prior Referrals	0.000 (0.000)	0.000 (0.000)
Number of Prior Assessments	0.000 (0.001)	-0.001 (0.001)
Number of Prior Cases	-0.000 (0.002)	0.001 (0.002)
Number of Prior Removals	-0.020*** (0.003)	-0.025*** (0.003)
Primary Caregiver's Age	-0.000 (0.000)	-0.000 (0.000)
Prior Food Assistance (Reference: No)		
Yes	-0.001 (0.003)	0.001 (0.003)
Unknown	0.002 (0.007)	0.004 (0.008)
Prior DYS Involvement (Reference: No)		
Yes	0.119*** (0.004)	0.160*** (0.005)
Male	0.008*** (0.002)	0.012*** (0.002)
Family Structure (Reference: Married Couple)		
Single Female	0.003 (0.005)	0.009 (0.005)
Single Male	0.012 (0.007)	0.018* (0.008)
Undetermined	-0.040*** (0.004)	-0.049*** (0.005)
Unmarried Couple	-0.020** (0.007)	-0.021** (0.007)
Race and Ethnicity (Reference: Caucasian)		
African American	0.004 (0.004)	0.009* (0.004)
Hispanic	0.002 (0.002)	0.005* (0.002)
Other	0.018 (0.009)	0.016 (0.011)
Unknown	0.003 (0.005)	0.003 (0.005)
Prior Adoption	-0.001 (0.012)	0.025 (0.014)
Entry Cohort (Reference: SFY17)		
SFY18	0.004 (0.002)	0.001 (0.003)
SFY19	-0.001 (0.002)	-0.004 (0.003)
Constant	0.017* (0.007)	0.014 (0.007)
Log-Likelihood	10,437.101	9,236.153
Observations	11,968	13,080

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

3.6. Outcome Evaluation Summary

The results of the descriptive, nonexperimental evaluation demonstrate that, for this higher risk population, CMP appears to have varying degrees of success in achieving performance measures across the four program domains for children within 1 year of entering the program. Across the domains, the program appears to have moderate to high levels of success within the child welfare, juvenile justice, and education domains. In contrast, the program appears to have more limited to moderate levels of success in achieving health/mental health performance goals. However, the findings from the descriptive, nonexperimental evaluation should be interpreted cautiously because they provide the least rigorous approach to evaluating program impacts.

To evaluate the program's effectiveness more rigorously, the evaluation team used a matched QED that compared outcomes of CMP clients involved with the child welfare, health/mental health, and juvenile justice systems to a comparison group that was eligible, but not served by CMP. The results from these quasi-experimental evaluations are summarized in Table 32 on the following page. Within the child welfare domain, CMP clients were found to be significantly more likely to have a new child welfare case ($p < 0.001$), less likely to remain home ($p < 0.001$), and less likely to experience placement stability ($p < 0.001$). In contrast, CMP clients in the child welfare domain were not significantly more or less likely to have a subsequent founded assessment or achieve permanency. Within the health/mental health domain, CMP clients were significantly more likely to have established linkages to substance use and mental health providers ($p < 0.001$) and were not significantly more or less likely to experience decreases in problem severity or substance use. Within the juvenile justice domain, CMP clients were significantly more likely to have a secure detention admission ($p < 0.001$) and not significantly more or less likely to be committed to DYS.

As previously noted, the onset of the COVID-19 pandemic provided a timely opportunity to conduct a longitudinal evaluation to examine CMP outcomes over a longer period. Other key benefits of conducting a longitudinal evaluation include increased sample sizes and statistical power; the ability to determine the impact of CMP 1 and 2 years after the initial ISST meeting; the opportunity to examine whether program impacts persist, increase, or dissipate 2 years after program entry; and the ability to better understand CMP's overall impact across multiple years. The results from the longitudinal evaluations are summarized in Table 33.

Table 32: ***Summary of the Quasi-experimental Evaluation Findings for Child Welfare, Health/Mental Health, and Juvenile Justice Outcomes***

Outcome (Performance Goal)	Finding	Statistically Significant Finding
Child Welfare		
Subsequent Founded Assessment	CMP clients were not significantly more or less likely to have a subsequent founded assessment compared to youth who were eligible but not served by the CMP.	
Permanency	CMP clients were not significantly more or less likely to have achieved permanency compared to youth who were eligible but not served by CMP.	
Remain Home	CMP clients had a 2.1 percentage point decrease in the probability that they would remain home compared to youth who were eligible but were not served by CMP.	✓ ($p < 0.001$)
Subsequent Involvement	CMP clients had a 3.4 percentage point increase in the probability that they would have a new involvement compared to youth who were eligible but not served by CMP.	✓ ($p < 0.001$)
Placement Stability	CMP clients had a 6.2 percentage point decrease in the probability that they would experience placement stability compared to youth who were eligible but not served by CMP.	✓ ($p < 0.001$)
Health/Mental Health		
Child/Youth Health	CMP clients had a 5.2 percentage point increase in the probability of having increased health through established linkages to primary health care providers, oral care providers, substance abuse providers, mental health providers, or health insurance providers.	✓ ($p < 0.001$)
Problem Severity	CMP clients were not significantly more or less likely to have decreased problem severity and improved functioning compared to youth who were eligible but not served by CMP.	
Substance Abuse	CMP clients were not significantly more or less likely to have completed 90-day inpatient substance abuse treatment or intensive outpatient treatment compared to youth who were eligible but not served by CMP.	
Juvenile Justice		
Secure Detention Admissions	CMP clients had a 4.4 percentage point increase in the probability that they would have a secure detention admission compared to youth who were eligible but not served by CMP.	✓ ($p < 0.001$)
DYS Commitment	CMP clients were not significantly more or less likely to have a commitment to DYS compared to youth who were eligible but not served by CMP.	

Table 33: ***Summary of Longitudinal Evaluation Findings for Child Welfare & Juvenile Justice Outcomes***

Outcome	1 Year After ISST	2 Years After ISST
Child Welfare		
Subsequent Involvement	CMP clients were 1.10%*** more likely to have a subsequent involvement after 1 year.	CMP clients were 1.80%*** more likely to have a subsequent involvement after 2 years.
Placement Stability	CMP clients were 6.00%*** less likely to have placement stability after 1 year.	CMP clients were 7.70%*** less likely to have placement stability after 2 years.
Permanency	CMP clients were 4.40%** less likely to establish permanency after 1 year.	CMP clients were not significantly more or less likely to establish permanency after 2 years.
Remain Home	CMP clients were 1.10%*** less likely to remain home after 1 year.	CMP clients were 0.80%* less likely to remain home after 2 years.
Subsequent Founded Assessment	CMP clients were not significantly more or less likely to have a subsequent founded assessment after 1 year.	CMP clients were 0.90%* less likely to have a subsequent founded assessment after 2 years.
Juvenile Justice		
Secure Detention Admissions	CMP clients were 3.30%*** more likely to have a secure detention admission after 1 year.	CMP clients were 3.80%*** more likely to have a secure detention admission after 2 years.
DYS Commitment	CMP clients were not significantly more or less likely to have a commitment to DYS after 1 year.	CMP clients were not significantly more or less likely to have a commitment to DYS after 2 years.

***Note**: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.*

The findings from the longitudinal evaluation of child welfare outcomes both support and counter the findings from the SFY21 QED evaluation. In alignment with the annual evaluation, CMP clients were significantly more likely to have a new involvement and significantly less likely to experience placement stability. For both outcomes, the magnitude of the findings increased between the first and second year after the ISST meeting. In contrast to the SFY21 QED evaluation, the longitudinal evaluation found that lower probabilities of establishing permanency and remaining home 1 year after ISST, but that by the second year the magnitude of these effects either decreased for the remain home outcome or dissipated with CMP clients being no more or less likely to establish permanency than members of the comparison group. In a notable contrast to the SFY21 QED evaluation, CMP clients were found to not be significantly more or less likely to have a subsequent founded assessment 1 year after ISST and to be significantly less likely to have a subsequent founded assessment by the second year after ISST.

The findings from the longitudinal evaluation of juvenile justice outcomes support the findings from the SFY21 QED evaluation. CMP clients were significantly more likely to have a secure detention admission, with the magnitude of the findings increasing between the first and second year after the ISST meeting. Meanwhile, CMP clients were not significantly more or less likely to have a DYS commitment at 1 and 2 years after their ISST meeting.

4. Cost Evaluation

The cost evaluation examines the potential cost-effectiveness of CMP by comparing child welfare costs for families who receive CMP and those that receive services as usual.

4.1. Cost Comparison Approach

CMP potentially generates cost savings through a number of key processes, including 1) reduction of costs associated with integration of services across agencies (e.g., duplicative services, time associated with administrative overhead); and 2) improvements in treatment outcomes to children/youth, resulting in decreased recidivism. Identifying cost savings that are byproducts of the first key process requires a comprehensive assessment of participating service agencies and is out of the scope of this evaluation. However, by collecting service cost data for the CMP and non-CMP comparison groups, the second key process can be tested as a pathway to cost savings. The evaluation team hypothesized that serving dually involved youth through CMP would generate cost savings and improve outcomes as a result of the cross-system meetings, integrated service plans, and streamlined services. Youth who participate in the CMP may have generally higher risk profiles and initial service needs than non-CMP youth, which suggests that cost savings may be realized by reducing the resources required to serve youth when they return in the future, even if their likelihood of returning is relatively unchanged. As such, comparing these groups on their initial likelihood of incurring a service cost, as well as their one-year follow-up costs, provides better insight into the upfront resource requirements during service episodes, as well as downstream costs that can be expected if a youth is to return in a year.

Like the quasi-experimental outcome evaluation, the evaluation team conducted a cost comparison between CMP-involved children/youth and the comparison group of children/youth in CMP counties who were eligible but did not receive an ISST meeting. Specifically, service and OOH placement costs during involvement with the CMP and costs up to two years following exit of the program were collected for both the treatment and comparison groups. Although meeting costs may also differ between CMP-involved youth who meet with multiple systems at the same time and youth from the comparison group who meet with each system independently, there is currently no data available to estimate the cost or frequency of non-ISST meetings. Thus, meeting costs were not considered in the cost comparison approach. However, it should be noted that having multiple meetings across systems does carry a real cost for families regarding childcare, transportation, and missing work.

4.2. Cost Comparison Methods

Cost outcomes during and one and two years after the program are analyzed separately, then in aggregate. Children from the CMP group and the comparison group were first analyzed on the likelihood of incurring a cost using a logistic regression model. Samples were matched based on demographic information, program history, assessed risk level, program area and other information. Propensity score matching (PSM) models were drafted using the information below, then stepwise selection was used to trim variables and maximize model efficacy, as correlation between large numbers of variables can induce uncertainty in a model. Even if some of the variables below were not directly included in the

PSM, the information in each variable relevant to the matching process was used. Once the PSM was selected, the comparison group and CMP group were matched using stratification.

Data Used for Stepwise Matching Process:

- Prior Child Welfare Involvement (occurrence and frequency)
    - Prevention involvement
    - Assessments
    - Referrals
    - Case involvement
    - Removals
    - DYS Detention
    - DYS SB94
- Prior Reception
    - Adoption
    - Food Assistance Reception
    - Medicaid Reception
- Program Area
- Demographics
    - Age
    - Gender
    - Race/Ethnicity

Children from the CMP group and the comparison group who incurred a cost were analyzed separately on the exact cost incurred using linear regression. Samples were matched using the same propensity score selection/stratification method. Both models were incorporated into a two-stage model estimating average expected cost for the CMP and treatment groups.[22] Uncertainty was determined using Monte-Carlo simulations.

Prediction intervals are tailored so that whether they overlap is equivalent to a two-sided t-test for differences at the 0.05 level, adjusting for differences in standard error between the comparison and CMP groups.

4.3. Cost Comparison Results

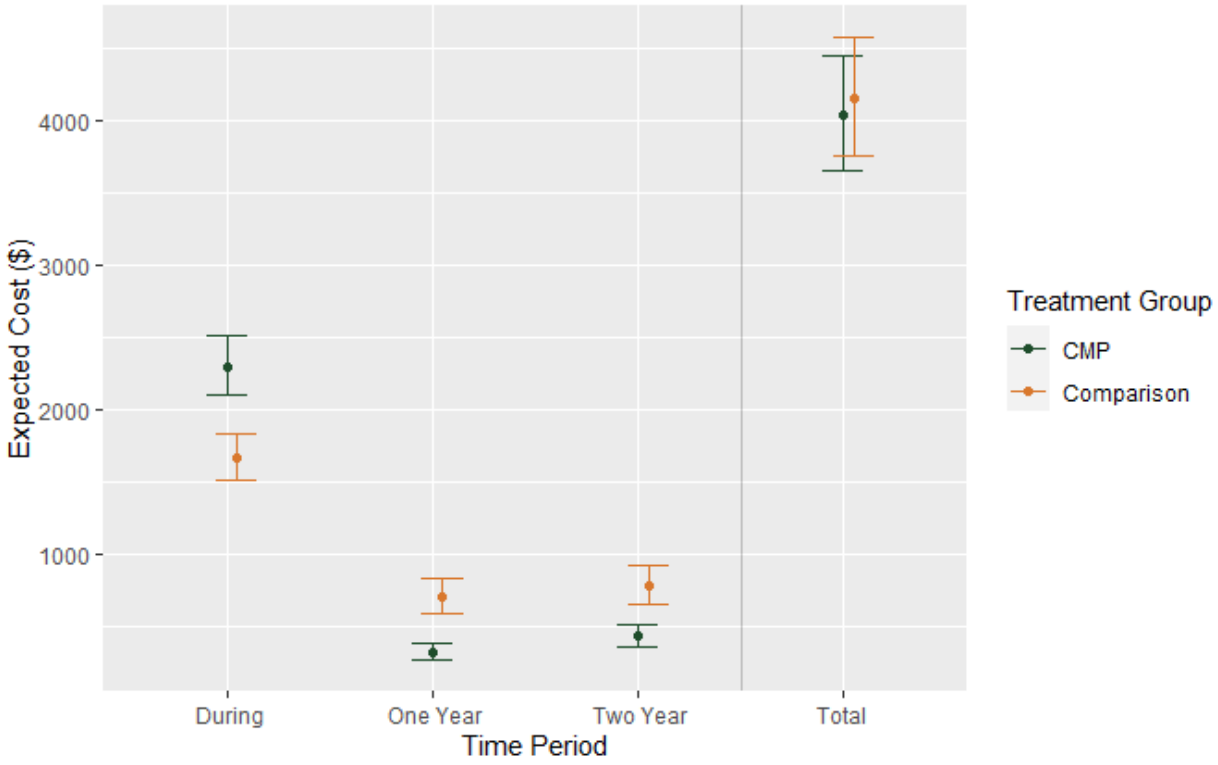
The CMP group was significantly less likely to incur a cost than the matched comparison group ($p < 0.01$) during the program. However, if a cost was incurred, it was significantly greater than the cost of an equivalent comparison group case by an average of $855.38 ($p < 0.01$). The matched comparison group was significantly more likely to incur a cost one year out than the CMP group ($p < 0.01$). When a cost was incurred, it was not significantly different from the cost incurred by a child in the CMP group. The matched comparison group was significantly more likely to incur a cost two years out that the CMP

[22] Fletcher, D. (2005). Modeling skewed data with many zeros: A simple approach combining ordinary and logistic regression. *Environmental and Ecological Statistics 12*, 45-54.

group. When a cost was incurred, the cost was not significantly different from the cost incurred by a child in the CMP group.

As displayed in Figure 14, the average expected costs for the CMP group during CMP involvement ($2,298.48) was significantly higher than average expected cost for the matched comparison group during case involvement ($1,661.63). The average expected cost for the matched comparison group after one year ($699.91) was significantly higher than the average expected cost for the CMP group ($321.76). The average expected cost for the matched comparison group after two years ($779.94) was significantly higher than the average expected cost for the CMP group ($432.51). Total costs during and two years after involvement for the CMP group ($4,034) and the matched comparison group ($4,155) were not significantly different, which is a promising trend regarding total cost in future years.

Figure 14: ***Average Expected Cost per Child***



5. Discussion

In this section, we discuss considerations for evaluation findings in the primary evaluation domains of process, outcome, and cost, as well as next steps for each activity.

5.1. Process Evaluation Considerations

The ISST and Prevention Family Voice Surveys point to a few important trends that may have implications on practice. Most notably is the vast majority of respondents felt that the services, programs, and resources discussed (ISST) or offered (Prevention) were helpful in meeting their families' needs. Families also identified interagency collaboration and system integration as strengths of the CMP model. Responses regarding the overall impact of ISST meetings were largely positive with families consistently describing how supported and less isolated they felt because of the family team meetings.

There were very positive results around considerations of inclusion and equity in ISST meetings and prevention services. Specifically, families receiving ISST or prevention services reported appreciating that team members took the time to understand their families' unique cultural considerations. There were a few areas that families highlighted as opportunities for improvement. For example, there was a common theme of lack of communication, which was illustrated by families being asked to complete the same task by multiple team members and having to update team members multiple times with the same information. Families also reported challenges with accessing resources because of a lack of follow-through from team members. Families suggested that team members increase their frequency of communication and share written agendas detailing relevant information, including the resources being discussed. Across both populations, there appears to be an opportunity for more collaboration among and across team members to ensure that all staff are consistently on the same page with families' goals, information, progress, and next steps.

5.1.1. Process Evaluation Next Steps

Next year's evaluation will continue the momentum of the Family Voice Survey by identifying innovative approaches to engage families who participate in ISST meetings and CMP prevention programs in the evaluation. Furthermore, the evaluation team will continue partnership with DCW staff, the CMP Family Voice and Choice Committee, and CMP site coordinators to move findings into action through targeted knowledge translation and mobilization efforts, including presentations and facilitated workshops with IOGs, and creative recruitment and outreach strategies with families. A second next step for the process evaluation is to design a new collaboration evaluation approach to capture CMP collaboration at the state level. This approach will be developed in partnership with the CMP Practice Committee and CMP Program Administrator. The results will further inform collaboration practices to enhance services for multi-system involved youth.

5.2. Outcome Evaluation Considerations

The results of the quasi-experimental evaluation align with the majority of the findings from previous annual QED evaluations. The evaluation findings for the child welfare, health/mental health, and

juvenile justice domains indicate mixed effectiveness in improving client outcomes. Most notably, a statistically significant difference in favor of CMP clients was found in the health/mental health domain, with CMP clients being more likely to have established linkages to substance use and mental health providers. In contrast, there were small negative effects on child welfare reinvolvement, whether a child or youth remained home, placement stability, and having a secure detention admission; there were neutral effects on the other five outcomes.

This year's evaluation built on the annual QED evaluations conducted over the past several years by conducting a longitudinal evaluation to provide a more comprehensive understanding of CMP's impact on client outcomes, by examining the impact of CMP across multiple years; evaluating the program's impacts 1 and 2 years after the initial ISST meeting; and determining whether program impacts persist, increase, or dissipate 2 years after program entry. Notably, the findings from the longitudinal evaluation of child welfare outcomes both support and counter the findings from the SFY21 QED evaluation. In alignment with the annual evaluation findings, CMP clients were significantly more likely to have a new involvement, significantly less likely to experience placement stability, significantly more likely to have a secure detention admission, but not significantly more or less likely to have a commitment to DYS. In contrast to the annual evaluation findings, the longitudinal evaluation showed that CMP clients had significantly lower probabilities of establishing permanency and remaining home 1 year after ISST, but that these effects dissipated by the second year after ISST with CMP clients being no more or less likely to establish permanency or remain home than the comparison group. In a notable contrast to the annual evaluation findings, CMP clients were found to not be significantly more or less likely to have a subsequent founded assessment 1 year after ISST and to be significantly less likely to have a subsequent founded assessment by the second year after ISST. Collectively, the findings from the longitudinal evaluation provide a more comprehensive understanding of CMP's effectiveness and can help support future capacity building efforts at the program and county levels.

5.2.1. Outcome Evaluation Next Steps

Based on the findings from this year's evaluation, a pair of recommended next steps for the SFY22 evaluation are provided below. These recommendations support the evaluation team's ongoing evaluation capacity building efforts by working to expand access to critical client outcome data and continuing to expand the focus of the longitudinal evaluation.

Continue evaluation capacity building efforts: Accessing program and outcome data remains a critical need for effectively evaluating CMP. Through continued collaboration with DYS and OBH, this year's evaluation team was able to utilize child welfare, juvenile justice, and health/mental health outcome data to rigorously evaluate the program's impacts on CMP clients. However, data for clients who are at risk for adverse educational outcomes continue to remain elusive. Accordingly, the evaluation team will continue to engage members of the CMP Steering Committee, the CMP Evaluation and Data Subcommittees, and the Colorado Department of Education to identify opportunities for addressing existing data silos and improving data collection and matching across the CMP outcome domains. This process will continue to focus on exploring possible options, such as the development of memoranda of

understanding and formal data use agreements, which can be used to obtain the requisite education outcome data.

Continue to expand the focus of the longitudinal evaluation: The longitudinal evaluation provided a more comprehensive understanding of CMP's impacts by examining multi-year child welfare and juvenile justice outcomes for the SFY17, SFY18, and SFY19 cohorts. Two additional opportunities exist for further expanding the focus of the longitudinal evaluation. The first involves expanding the evaluation to include the SFY20 cohort, thereby expanding the ability to better understand CMP's overall impact across multiple years. The second involves working with OBH to obtain data on health and mental health outcomes at 1 and 2 years after the initial ISST meeting for the SFY17-SFY20 cohorts. This enhancement will provide a critical opportunity to examine whether CMP impacts on health and mental health outcomes persist, increase, or dissipate 2 years after program entry.

5.3. Cost Evaluation Considerations

The cost evaluation extended previous analyses to include a two year follow-up of costs. This allowed for a more rigorous test of the cost structures underlying youth involvement across multiple domains because youth who have positive and higher costs tend to be at higher risk initially. An extended period of cost measurement is particularly compelling given the trajectory of the CMP group toward lower costs after the program; if money continues to be saved on average at each successive year, the case for CMP may become more compelling with each successive year. The two year follow-up results reflect this trend, as the CMP group recouped the higher costs accrued during CMP involvement and ended with similar costs as the matched comparison group during and two-years post CMP involvement. Shifting the cost evaluation to distinguish no-cost youth from others is another important step to measuring cost savings. For example, although the CMP group incurred significantly higher costs during CMP involvement period, they had a significantly lower chance of incurring costs. This trend continued for 1 and 2 years post closure, as the CMP group was significantly less likely to incur costs than the matched comparison group during all time periods.

5.3.1. Cost Evaluation Next Steps

The ability to identify cost savings from a range of diverse programs, processes, and outcomes for youth and families, relies on collaboration between agencies and the ability to overcome complex data siloes. Next steps for the CMP cost evaluation are to explore accessing cost data from the health/mental health and juvenile justice systems to provide a more holistic understanding of CMP impacts. In many CMPs, services have not become standard enough or have not been implemented with sufficient fidelity to enable accurate cost assignment to efforts or to savings associated with achieving outcomes directly from those efforts. As organizations shift their research and evaluation priorities towards better understanding the processes and outcomes underlying implementation science, it is important to note that there remains little published research on costs and benefits as they are realized in applied settings. The CMP cost evaluation is an important example of the measurable benefits when stakeholders, such as counties, emphasize collaboration and tailor their services to best meet the needs of their families.

APPENDIX A: ORGANIZING, CLEANING, MERGING, AND MATCHING OF EVALUATION DATA

This Appendix provides an overview of the processes associated with compiling the dataset used in the outcome evaluation.

1. *Construct the population of CMP clients with child welfare involvement using the Trails database.* Information on children and youth who are involved in the child welfare system are required to be included within the Trails database, which serves as the official case record for all children served by the child welfare system. CMP clients within Trails were identified using the parameters that the client had an initial ISST meeting during SFY20 that was documented within Trails via the "Facilitated Family Meeting/ISST" framework.

2. *Match the list of clients from the ETO database to the Trails database.* This process was used to match the SFY20 records from the ETO database to the population of CMP clients in the Trails database. The ETO database provided data for children and youth who were served by CMP but not necessarily served by the child welfare system. As some CMP clients were recorded in both ETO and Trails, a matching and deduplication process was used to remove children and youth who were represented within both databases. Children and youth were then matched using a multistep matching algorithm. Duplicated clients were subsequently removed, with the client records from the Trails database being retained, while duplicated records in ETO were discarded.

3. *Combine the cleaned ETO and Trails datasets into a unique dataset.* Under this step, the cleaned datasets were merged into a single dataset ("CMP Outcome Evaluation Dataset") consisting of all CMP clients that had an initial ISST meeting in SFY20.

4. *Construct a pool of children and youth that were eligible but not served by CMP.* This process was used to identify child welfare–involved children and youth residing within the CMP counties that were eligible for CMP but were not served by the program. This process established a "comparison pool" of children and youth that could serve as potential matches for members of the treatment group. The following parameters were used to identify children and youth that were eligible for the comparison pool:

    a. Children and youth were served within a new child welfare assessment, case, prevention, or new removal in an existing adoption case during SFY20.
    b. Children and youth did not have prior CMP involvement or an ISST meeting. In addition, children and youth did not have CMP involvement or an ISST meeting at any point during SFY20. Finally, children and youth were verified to not have been identified in ETO as a CMP client and to not have had CMP involvement or an ISST meeting in SFY21.
    c. Children and youth were served by systems in the 46 CMP counties for SFY20, excluding Larimer and Boulder Counties.
    d. For children and youth with multiple events, the event used was the first eligible event in SFY20.

5. Match the CMP Outcome Evaluation Dataset to records within the Colorado Benefits Management System. Members of the treatment and comparison groups were subsequently matched to records within the Colorado Benefit Management System. This matching process provided additional demographic data for the treatment and comparison groups, as well as data on all food, cash, and medical assistance applications and eligibility determinations.

6. Integrate pretreatment variables. Under this step, a collection of 13 pretreatment variables were integrated into the dataset. These variables were measured prior to children and youth becoming involved with multiple systems and were used to match members of the treatment and comparison groups.

7. Construct the child welfare outcome variables. In the seventh step, the SFY20 performance measures were used to construct outcome variables for members of the treatment and comparison groups. Under this process, the five child welfare outcome variables were calculated for all children who were involved with the child welfare system, including those within the Trails database, and any children who were originally included within the ETO database and had a child welfare performance goal. All outcomes were calculated 1 year from the date of the child or youth's entry into the child welfare system. For CMP clients, this consisted of 1 year after the date of the initial ISST meeting date. For members of the comparison group, this consisted of 1 year after the date that the child or youth first became involved with child welfare in SFY20. Table A1 on the following page details the operationalization of the five child welfare outcomes.

8. Match judicial outcomes to the CMP Outcome Evaluation Dataset. In this step, the dataset of CMP clients and members of a comparison group were sent to Colorado Judicial and the DYS for outcome matching. This process provided the juvenile justice outcomes for all CMP clients with performance measures under the juvenile justice domain. Table A2 details the operationalization of the four juvenile justice outcomes.

9. Match health and mental health outcomes to the CMP Outcome Evaluation Dataset. In this step, the dataset of CMP clients and members of a comparison group were sent to CDHS, OBH for outcome matching. This process provided the outcomes for all CMP clients with performance measures under the health/mental health domain. Table A3 details the operationalization of the five health/mental health outcomes.

Table A1: ***Child Welfare Outcome Variables***

Outcome Measure	Numerator	Denominator (Population Size)	Assumptions
Decrease number of children and youth involved with child welfare	Children and youth who did not have a new involvement in the child welfare system in the year after they began receiving services	Children and youth served by the child welfare system in SFY20 (*N* = 6,724)	▪ New involvements were defined as a subsequent case (traditional or Family Assessment Response with services) within 1 year of the ISST date or 1 year of the involvement open date (for members of the comparison group).
Increase safety of children and youth	Children and youth with no substantiated findings of abuse in the year after they began receiving services	Children and youth served by the child welfare system in SFY20 (*N* = 6,724)	▪ No substantiated abuse finding was defined as no subsequent abuse/neglect finding within 1 year of the ISST date or 1 year of the case open date (for members of the comparison group).
Increase placement stability of children/youth	Children and youth with less than three completed removals in the year after they began receiving services, and who were receiving out-of-home services	Children and youth who were in an out-of-home placement in SFY20 (*N* = 1,556)	▪ The measure includes all child welfare clients who were in an out-of-home placement at some point during SFY20. ▪ The number of placements was calculated within 1 year of the ISST meeting or the removal date, whichever was later.
Increase permanency of children and youth involved in child welfare	Children and youth who were receiving out-of-home services, and whose most recent removal resulted in a permanent outcome (adoption, guardianship, reunion) in the year after they began receiving services	Children and youth who were in an out-of-home placement in SFY20 (*N* = 1,556)	▪ The measure includes all child welfare clients who were in an out-of-home placement at some point during SFY20. ▪ Permanency outcomes were calculated within 1 year of the ISST meeting or the removal date, whichever was later. ▪ Achieving permanency was defined as reunification, living with relatives, adoption, or a guardianship.
Increase the number of children and youth who remain home	Children and youth who had not been removed from their homes while receiving child welfare services in the year after they began receiving services	Children and youth receiving child welfare services who remained in their homes in SFY20 (*N* = 5,496)	▪ The measure includes all child welfare clients who were not in an out-of-home placement within 60 days of the ISST meeting or the opening of the case (used to account for lags in removal times). ▪ Whether the client was removed from the home was determined within 1 year of the ISST meeting or the date the case was opened. ▪ For the comparison group, only children and youth that were served in a case were included (i.e., children served via an assessment or referral were excluded).

Table A2: ***Juvenile Justice Outcome Variables***

Outcome Measure	Numerator	Denominator (Population Size)	Assumptions
Decrease secure detention admissions	Children and youth who did not enter detention	Children and youth served by CMP in SFY20, ages 10 years or older (*N* = 3,601)	▪ N/A
Decrease commitment to the Division of Youth Services	Children and youth who were not committed to the Division of Youth Services	Children and youth served by CMP in SFY20, ages 10 years or older (*N* = 3,601)	▪ N/A

Table A3: ***Health/Mental Health Outcome Variables***

Outcome Measure	Numerator	Denominator (Population Size)	Assumptions
Decrease problem severity	Children and youth with (a) decreased problem severity, and (b) improved level of functioning on CCAR or a similar tool	CMP clients that were involved with the health/mental health system and had a minimum of two-level of functioning measurements within the CCAR (*N* = 1,342)	▪ Measuring changes in the level of functioning required a minimum of two measurements. Clients with less than two measurements were excluded from the measure.
Increase psychological, social, cognitive, and physical functioning	Children and youth with decreased concerns according to the Trauma Screening Tool	CMP clients that were involved with the health/mental health system	▪ *Note*: The requisite data were not available to calculate this measure for SFY20.
Increase wellbeing	Children and youth with improved Multisystemic Therapy (MST) outcome indicators or successful completion of mental health treatment	CMP clients receiving mental health services	▪ *Note:* The requisite data were not available to calculate this measure for SFY20.
Decrease substance use	Children and youth who completed 90-day inpatient substance abuse treatment or intensive outpatient treatment	CMP clients receiving substance abuse or intensive outpatient services (*N* = 42)	▪ The CMP client population was matched to substance use treatment records in the Drug and Alcohol Coordinated Data System (DACODS) for patients receiving intensive residential, transitional residential, or intensive outpatient services during SFY20.
Increase children and youth's health	Children and youth with established linkages to (a) primary health care provider, (b) oral care provider, (c) substance abuse provider, (d) mental health provider or (e) health insurance provider	CMP clients in need of health services (*N* = 6,724)	▪ The CMP client population was matched to DACODS and CCAR records. The measure currently uses a broad denominator that assumes all clients require health services. However, a more specific denominator would consist of only those clients who explicitly needed a linkage. Additional consideration may be needed for how this measure is operationalized.

APPENDIX B: SENSITIVITY ANALYSIS – IMPACT OF EXCLUDING BOULDER AND LARIMER COUNTIES AND DYS CLIENTS

An important factor to consider is whether dropping children/youth served by Boulder and Larimer Counties had a notable impact on the populations used to construct the matched comparison groups. Children/youth served by Boulder and Larimer Counties were dropped from the quasi-experimental evaluation on the basis that comparison groups could not be identified. As shown in Table B1, excluding these clients from the analysis had minimal impact, with performance goals between the two populations differing by less than two and a half percentage points. Accordingly, these results cast doubt on the likelihood that excluding these clients had a considerable impact on the quasi-experimental evaluation's findings.

Table B1: ***Comparison of Performance Goal Achievement with and without Clients Served by Boulder and Larimer Counties and DYS***

Outcome (Performance Goal)	Percentage Achieving Goal (Full Population)	Percentage Achieving Goal (Excluding Boulder and Larimer Counties and DYS)
Child Welfare Performance Goals		
Increase safety of children/youth	96.0% (*N* = 6,724)	96.3% (*N* = 6,275)
Decrease number of children/youth involved in child welfare	95.5% (*N* = 6,724)	95.6% (*N* = 6,275)
Increase number of children/youth who remain home	95.6% (*N* = 5,496)	95.9% (*N* = 5,149)
Increase placement stability of children/youth	89.5% (*N* = 1,556)	89.4% (*N* = 1,408)
Increase permanency of children/youth	61.8% (*N* = 1,556)	62.1% (*N* = 1,408)
Health/Mental Health Performance Goals		
Decrease problem severity	5.9% (*N* = 1,342)	5.3% (*N* = 1,198)
Decrease substance use	61.9% (*N* = 42)	64.1% (*N* = 39)
Increase children/youth health	20.3% (*N* = 6,724)	19.4% (*N* = 6,275)
Juvenile Justice		
Decrease commitment to DYS	99.1% (*N* = 3,601)	99.2% (*N* = 3,407)
Decrease secure detention admissions	92.8% (*N* = 3,601)	93.2% (*N* = 3,407)