SCHOOL OF SOCIAL WORK
COLORADO STATE UNIVERSITY

Collaborative Management Program (CMP) Evaluation Report

State Fiscal Year 2020

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 2020 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 2M Research (2M) to serve as the evaluation team to conduct the evaluation of the Collaborative Management Program (CMP) in Colorado. Although the Collaborative Management Program underwent preliminary evaluation from 2004-2014, the State Fiscal Year 2020 (SFY20) report presents the methods, findings, and implications of the first full-scale implementation of the CMP evaluation. This year's report builds on SFY15 (planning year), SFY16 (pilot year), and SFY17-19 (implementation years) in which the process, outcome, and cost evaluations were developed, tested, and implemented.

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 7.3 percent compared to 2.5 percent for youth from the overall child protection population in Colorado. Furthermore, 2.8 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. In SFY20, the evaluation team implemented new surveys to ensure that the most reliable and valid data are being collected to capture the key processes of CMP.

The following summarizes the results for the CMP process measures:

- The use of evidence-based practices was achieved by 98% of CMPs.
- 93% of CMPs achieved the goal of having 75% of their agencies contribute resources.
- Family participation in IOGs was achieved by 88% of CMPs.
- 86% of CMPs achieved the goal of using Continuous Quality Improvement (CQI) by IOGs.
- Attendance by mandatory members of the IOGs was achieved by 64% of CMPs.

The Family Voice process evaluation activity employs survey methodology and purposeful sampling to elicit family experiences with ISST meetings and CMP prevention programs. Data collection began on April 1, 2021 and will continue over a 9-month period until the end of the 2021 calendar year. All families participating in ISST meetings or receiving CMP prevention services are eligible to participate in the survey. The surveys are administered to families near the end of their CMP involvement period. Each involvement type (ISST or prevention) has its own survey version that reflects questions specific to the family experience. The primary caregiver, or target youth for older youth-centered ISST meetings, were eligible to complete the survey on behalf of their family. Survey administration occurs through a comprehensive approach that rests on the principles of access and inclusion. CMP sites act 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 receive ongoing technical assistance by the evaluation team to support survey recruitment.

Outcome Evaluation

In combination with the process and cost evaluations, the SFY20 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.

Overall, for this higher-risk population, the program appears to have moderate to high levels of success in performance measures across the four CMP domains. Among CMP clients involved with the child welfare system, the program appears to have high levels of success in increasing safety, preventing subsequent involvement, keeping clients in their homes, and achieving placement stability, but more moderate success in establishing permanency. For CMP clients involved with the juvenile justice system, the program appears to have high levels of success in decreasing commitments to DYS and preventing involvement with the juvenile justice system. For the health/mental health domain, the program had moderate levels of success in decreasing substance use. The program demonstrated more limited success in decreasing problem severity and in increasing the health of children/youth. Finally, the program was associated with high levels of success in increasing school stability, but more moderate levels of success in decreasing disciplinary problems at school, increasing academic achievement, and increasing school attendance.

The quasi-experimental evaluation design enabled the evaluation team to examine the descriptive findings more thoroughly. The evaluation team employed a matched design of CMP clients involved with the child welfare, health/mental health, and juvenile justice systems. Within the child welfare domain, CMP clients were not significantly more or less likely to have a subsequent founded assessment or to achieve permanency. However, CMP clients were significantly more likely to have a new child welfare case, less likely to remain home, and less likely to experience placement stability. Within the health/mental health domain, CMP clients were significantly more likely to have established linkages to substance use and mental health providers and not significantly more or less likely to decrease substance use or problem severity. Within the juvenile justice domain, CMP clients were significantly more likely to become involved with the juvenile justice system.

A key capacity building activity conducted in this year's evaluation consisted of additional analyses to examine CMP's effectiveness in achieving outcomes for key subgroups. Across the subgroups examined, CMP was found to produce better child welfare outcomes for children and youth who entered the program while involved in a child welfare case, better health/mental health outcomes for children and youth who had previous child welfare involvements, and better child welfare outcomes among children ages 0 to 5.

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 one year following exit of the program were collected for both the treatment and comparison groups. The CMP group was not significantly more likely to incur a cost than the matched comparison group 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 $382. The matched comparison group was significantly more likely to incur a cost after one-year than was the CMP group. When a cost was incurred, it was significantly more than the cost incurred by a child in the CMP group by an average of $637.

Conclusions

Outcome Evaluation: This year's evaluation continued to build on previous evaluations and furthered capacity building efforts by examining CMP's effectiveness in achieving outcomes for key subgroups. The results of the quasi-experimental evaluation across 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 re-involvement, whether a child or youth remained home, placement stability, and becoming involved with the juvenile justice system, and neutral effects on the other five outcomes. The additional analyses conducted in this year's evaluation to support program capacity building provide evidence that CMP produces better child welfare outcomes for children and youth who entered the program while involved in a child welfare case than those who entered at other levels; better health/mental health outcomes for children and youth who had previous child welfare involvements than those who did not; and better child welfare outcomes among children ages 0 to 5 than among older children. Collectively, these findings provide critical insight into CMP's effectiveness and can help support capacity building efforts at the program and county levels by highlighting key sub-groups who achieve the greatest benefit from CMP. Additional research and evaluation are needed to explore how various practices may impact these outcomes and whether there are program-level differences in these outcomes due to variations in CMP programming.

Process Evaluation: Although findings from the Family Voice Survey are preliminary, they do point to a few interesting trends. First, it is important to note that the majority of individuals have had primarily positive and helpful experiences with the ISST family meetings. For example, nearly all respondents felt that they were able to ask questions during meetings and were comfortable expressing themselves, and that the services, programs, and resources discussed were helpful in meeting their family's needs. Respondents' interactions with family team members have also been largely positive, with most people describing team members as respectful, helpful, and effective. Initial opportunities for further focus and development are in ensuring that families' strengths and natural support systems are discussed along with their concerns during family meetings.

Cost Evaluation: The CMP group was not significantly more likely to incur a cost than the matched comparison group during the program. However, if a cost was incurred, it was significantly greater than the cost of an equivalent comparison group case. The matched comparison group was significantly more likely to incur a cost one-year out than the CMP group. When a cost was incurred, it was significantly more than the cost incurred by a child in the CMP group. Total costs during and one-year after the program were not significantly different, which is a promising trend for CMP regarding total cost in future years.

Collaborative Management Program Evaluation State Fiscal Year 2020 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 2M Research (2M) to serve as the evaluation team to conduct the evaluation of the Collaborative Management Program (CMP) in Colorado. Although the Collaborative Management Program underwent preliminary evaluation from 2004-2014, the State Fiscal Year 2020 (SFY20) report presents the methods, findings, and implications of the first full-scale implementation of the CMP evaluation. This year's report builds on SFY15 (planning year), SFY16 (pilot year), and SFY17-19 (implementation years) in which the process, outcome, and cost evaluations were developed, tested, and implemented.

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 7.3 percent compared to 2.5 percent for youth from the overall child protection population in Colorado. Furthermore, 2.8 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

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

efforts to manage public resources and collectively solve problems. In part, community collaboration has 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)

[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.*

information relevant to improving the delivery of services to persons who would benefit from multi-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 surveys.

2.1.1. Examining Factors of Collaboration in CMP

For SFY20, collaboration was advanced and measured by the evaluation team's engagement in three primary initiatives: (1) Collaboration Models Subcommittee of Child Welfare Services Task Force; (2) CMP Practice Committee; and (3) 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 will continue to participate in the subcommittee.

CMP Practice Committee: The evaluation team is working with the CMP Practice Committee to disseminate findings from the CMP evaluation to inform practice at the local level. The counties plan to use the results to enhance collaboration of mandated partners in their IOGs and enhance services and meetings provided to multi-system involved youth and their families.

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. New questions were incorporated into this year's survey to access the family perspective on how well ISST and prevention team members collaborate in meeting the needs of families through meeting and service provision. 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 three 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 five process measures to receive the meaningful minimum established by DCW. It should be noted that the cost sharing process measure was not reported for SFY20 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.

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 98 percent of CMPs; contribution of resources at the service level by seventy-five percent of agencies was achieved by 93 percent of CMPs; family participation in IOGs was achieved by 88 percent of CMPs; the use of CQI by IOGs was achieved by 86 percent of CMPs; and attendance by mandatory members of the IOGs was achieved by 64 percent of CMPs. The overall high level of achievement for process measures was consistent from SFY19 to SFY20, except for IOG meeting attendance which improved from 50 percent to 64 percent.

Table 1: ***SFY19 Process Measures Achieved by CMPs (N = 42)***

Process Measures	CMPs Achieving	
	Number	Percent (%)
Use of evidence-based or evidence-informed practices	41	97.6
Seventy-five percent (75%) of the agencies contribute resources at service level, either in-kind or actual monies	39	92.9
Family agency or member participation on the IOG as a voting member	37	88.1
Process of CQI used by the IOG	36	85.7
IOG meeting attendance	27	64.3

[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

2.2.2. Family Voice Survey

The Family Voice process evaluation activity employs survey methodology and purposeful sampling[5] to elicit family experiences with ISST meetings[6] and CMP prevention programs. Data collection began on April 1, 2021 and will continue over a 9-month period until the end of the 2021 calendar year. All families participating in ISST meetings or receiving CMP prevention services are eligible to participate in the survey. The surveys are administered to families near the end of their CMP involvement period. Each involvement type (ISST or prevention) has its own survey version that reflects questions specific to the family experience. The primary caregiver, or target youth for older youth-centered ISST meetings, were eligible to complete the survey on behalf of their family.

CMP sites act 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 receive ongoing technical assistance by the evaluation team to support survey recruitment.

There are numerous means by which staff can invite families to take the family voice survey, including using postcards (Exhibit A, on the following page) and email and text templates provided by the evaluation team. The recruitment postcard serves as an administration touchpoint for families and included multiple routes for accessing the survey. A family can access the survey by typing in a short web address to an internet browser on a phone, tablet, or computer; by scanning a QR code using a free QR scanner app; or by texting a short code to a five digit number to receive the survey link in a text response. In addition, if a family does not have access to the internet or other technology, or if they otherwise needed hands-on support for survey participation, each CMP site may provide a tablet or computer for families to take the survey on-site. CMP sites are also encouraged to follow-up with families using standard communication means (email, phone, text) to remind them of the survey invitation. These multiple routes and use of visual aids with reminders are critical to ensuring all families have an access point that best suits their needs and preferences.

Survey Accessibility and Inclusion

In an effort to ensure accessibility and inclusiveness of all survey-related communications, the evaluation team 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 all families have the autonomy to take the survey in the setting that is most comfortable to them. Survey access and inclusion in design

[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.

[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/.

was further bolstered by integrating linguistic and literacy considerations into survey instrumentation development. Finally, in commitment to family-centered evaluations that respect family time, a low burden design approach was employed, wherein the survey takes approximately 10 minutes, on average, to complete. Additionally, a participant incentive in the form of a $10 gift card[8] is used to promote adequate sample sizes and as an expression of gratitude for sharing familial lived experiences.

The ISST and prevention surveys include 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 are provided an opportunity to complete an optional demographics section. Close-ended survey questions are 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] will be applied to narrative responses for next year's evaluation report.

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

[8] Because this is a statewide evaluation, families are able to choose a gift card to Kroeger, Safeway, or Walmart, reflecting store availability in varying geographic areas of Colorado.
[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.

ISST Survey Results

These 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, to 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. Given the recent launch of the survey and optional nature of the open-ended questions, the thematic coding of the open-ended questions by category is not included in this year's annual report. Instead, a few broad, high-level qualitative themes are discussed at the end of this section.

Response rates. A total of 24 ISST surveys have been submitted between April 1st and May 31st, 2021. Additional survey trends, including submissions by month and language and the percentage of CMP sites represented in the sample, will be reported at the end of the data collection period.

Demographics. Overall, 16 of the 24 ISST survey respondents elected to complete the optional demographics questions; those that did provide their demographic information represented a range of backgrounds and relationships to the dependent child(ren) that they care for.

Specifically, 11 of the 16 respondents identified as non-Hispanic white (69%), and five respondents held a range of ethnic and racial identities including Native American and Asian, represented in detail in Table 2. Furthermore, 12 of the 16 survey respondents identified as women, and nearly all identified as heterosexual or straight (*n* = 14, 88%). The majority also indicated that they were either married or partnered (*n* = 12, 75%) and held a range of relationships to the child(ren) that they care for. There was a similarly high degree of variability of the highest educational attainment across survey respondents.

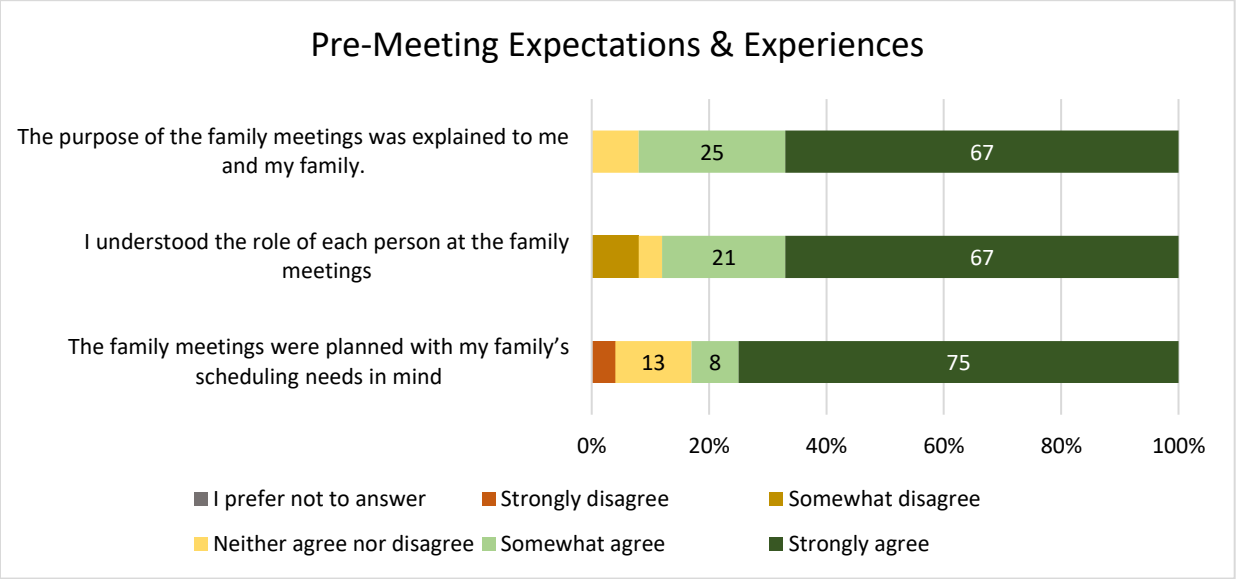
Table 2: ***Demographics of ISST Family Voice Survey Respondents (N = 16)***

	Frequency	Percent
Racial Identity		
White	11	69%
Multiracial – Native American & White	2	13%
Multiracial – Asian & White	1	6%
Asian	1	6%
Not indicated	1	6%
Ethnic Identity		
Hispanic or Latino	2	13%
Not Hispanic or Latino	14	88%

Gender Identity		
Man	4	25%
Woman	12	75%
Sexual Orientation/Preference		
Heterosexual or Straight	14	88%
Gay or Lesbian	2	13%
Relationship Status		
Married or Partnered	12	75%
Single	4	25%
Highest Level of Education Completed		
Some College	2	13%
2-Year College (Associate's)	4	25%
4-Year College (Bachelor's)	5	31%
Trade/Vocational Training	1	6%
Master's Degree	3	19%
High School Diploma or GED	1	6%
Relationship to Dependent Child(ren)		
Foster Parent	3	19%
Birth Parent	5	31%
Grand/Great Grandparent	3	19%
Adoptive Parent & Biological Relative	3	19%
Adoptive Parent	2	13%

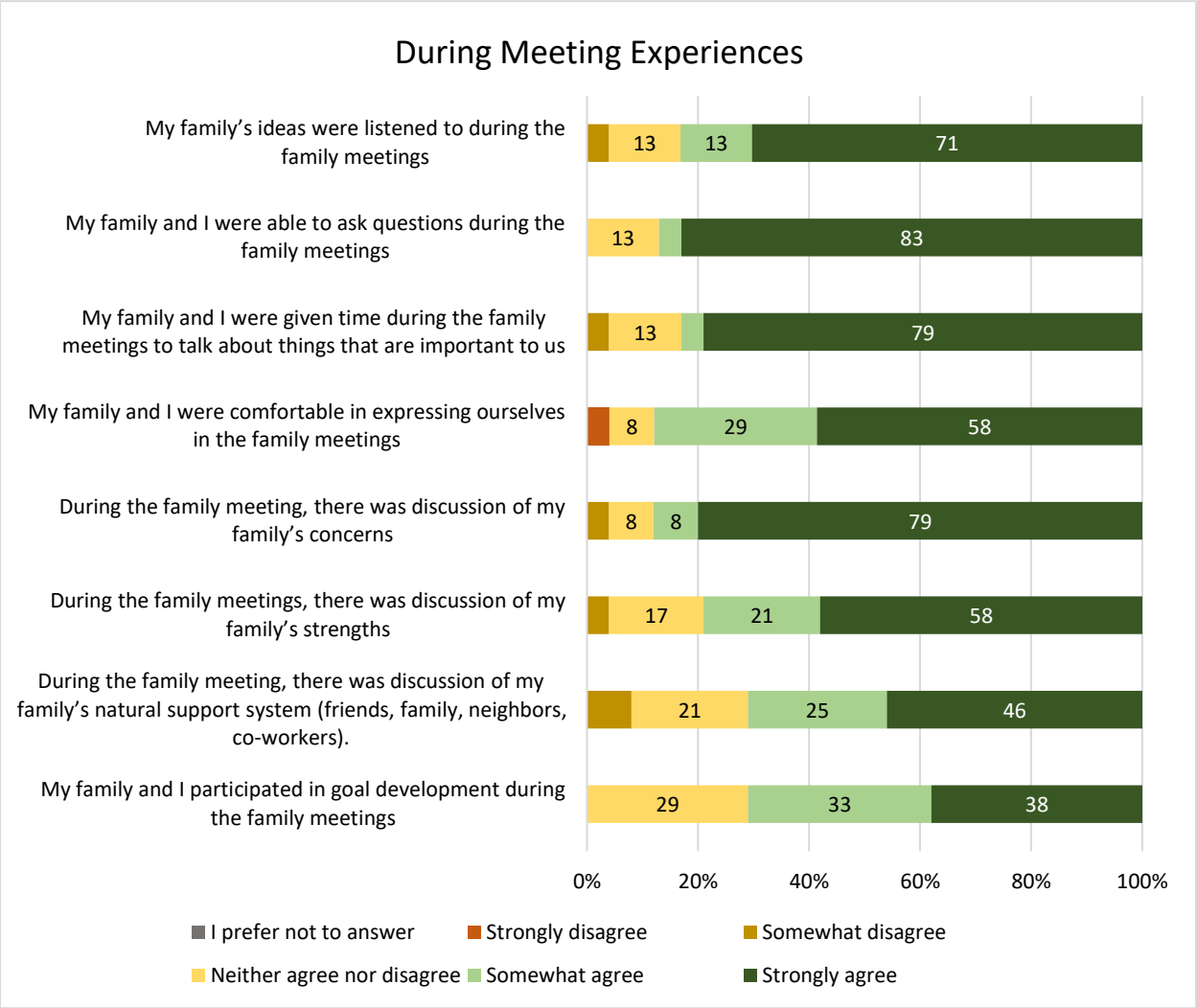
Pre-Meeting expectations and experiences. Pre-meeting expectations were represented by three survey statements (see Figure 1 on the following page). Pre-meeting experiences were largely positive, with the majority of respondents reporting that the purpose of the family meetings was explained to them (92%), 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 (83%).

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



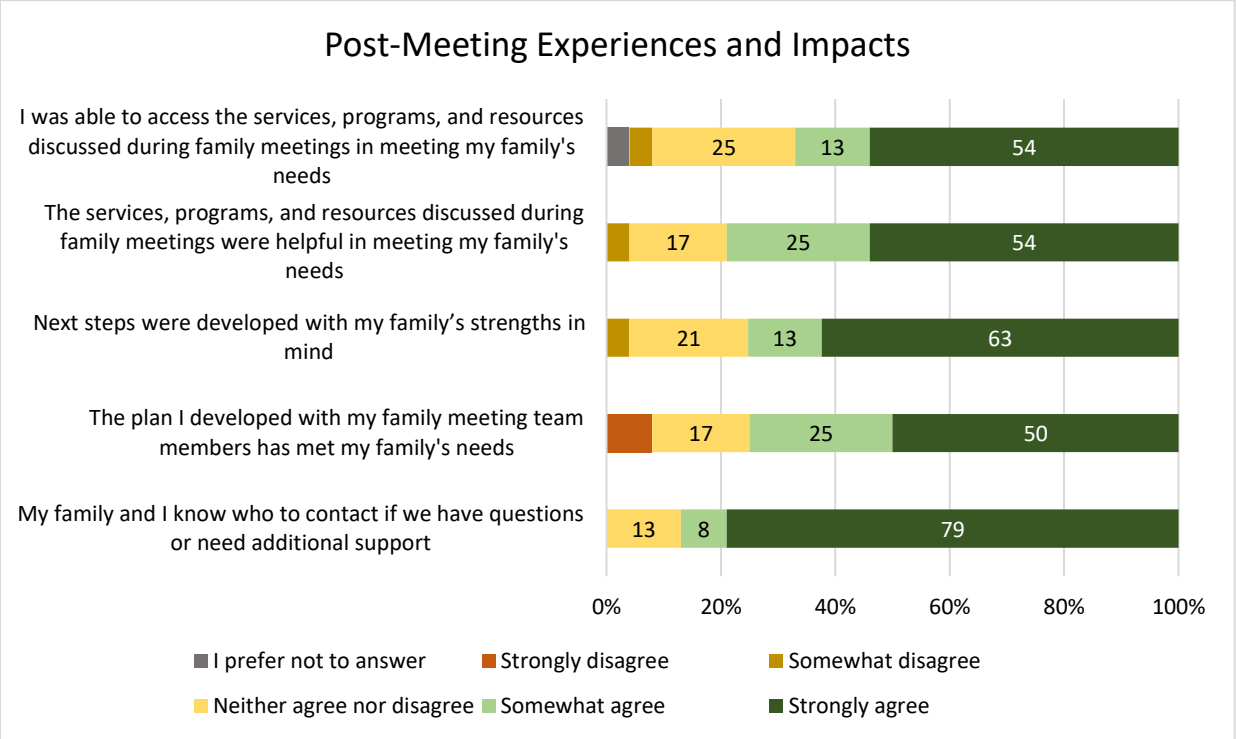
During meeting experiences. During meeting experiences were represented by eight survey statements (see Figure 2 on the following page). The majority of participants felt their ideas were listened to (84%) and that they were able to ask questions (87%), and talk about things that are important to them (83%). The majority of participants also reported feeling comfortable expressing themselves (87%) during family meetings. Lastly, while nearly all participants reported discussing their family's concerns (87%), there was slightly less agreement among respondents that they participated in goal development (71%) or that their family's strengths (79%) or natural support systems (71%) were discussed.

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



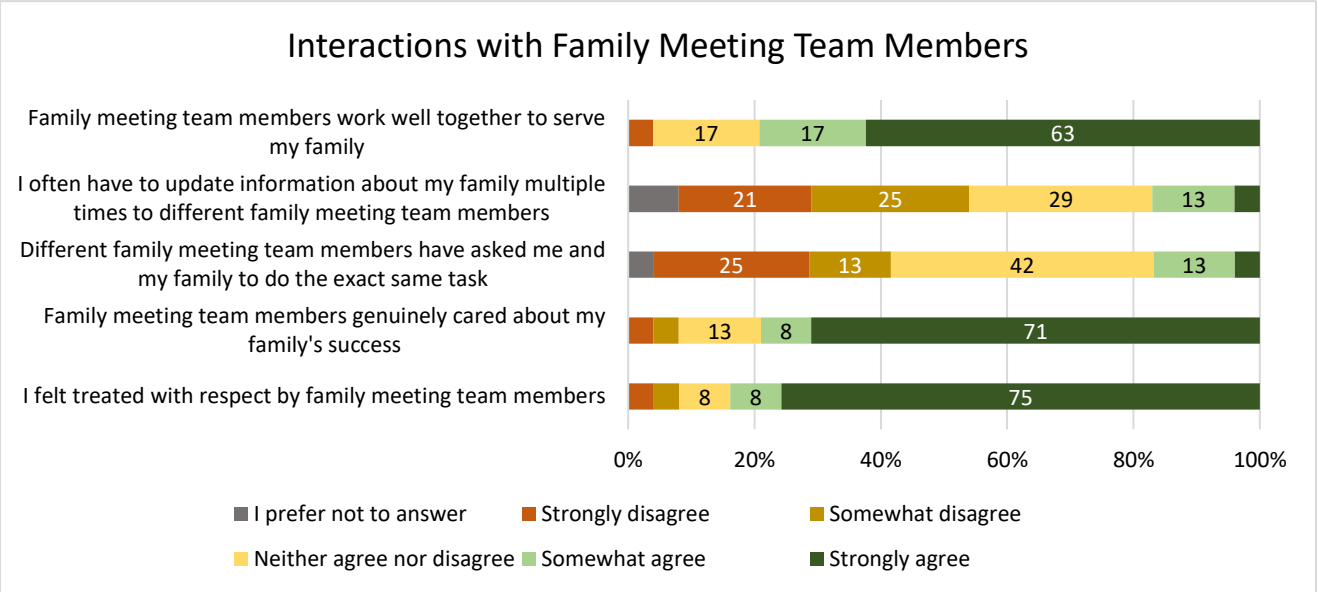
Post-meeting experiences and impacts. Five survey statements sought to capture families' experiences after the family meetings and the impact of the meetings on their family's lives (see Figure 3 on the following page). About three-quarters of respondents reported that the services, programs, and resources discussed during family meetings were helpful in meeting their family's needs (79%), but only about two-thirds reported being able to access those services, programs, and resources (67%). About three-quarters of respondents also reported that the next steps were developed with their family's strengths in minds (76%), and that the plan they developed with team members has met their family's needs (75%). Lastly, nearly all respondents reported knowing who to contact if they have questions or need additional support (87%).

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



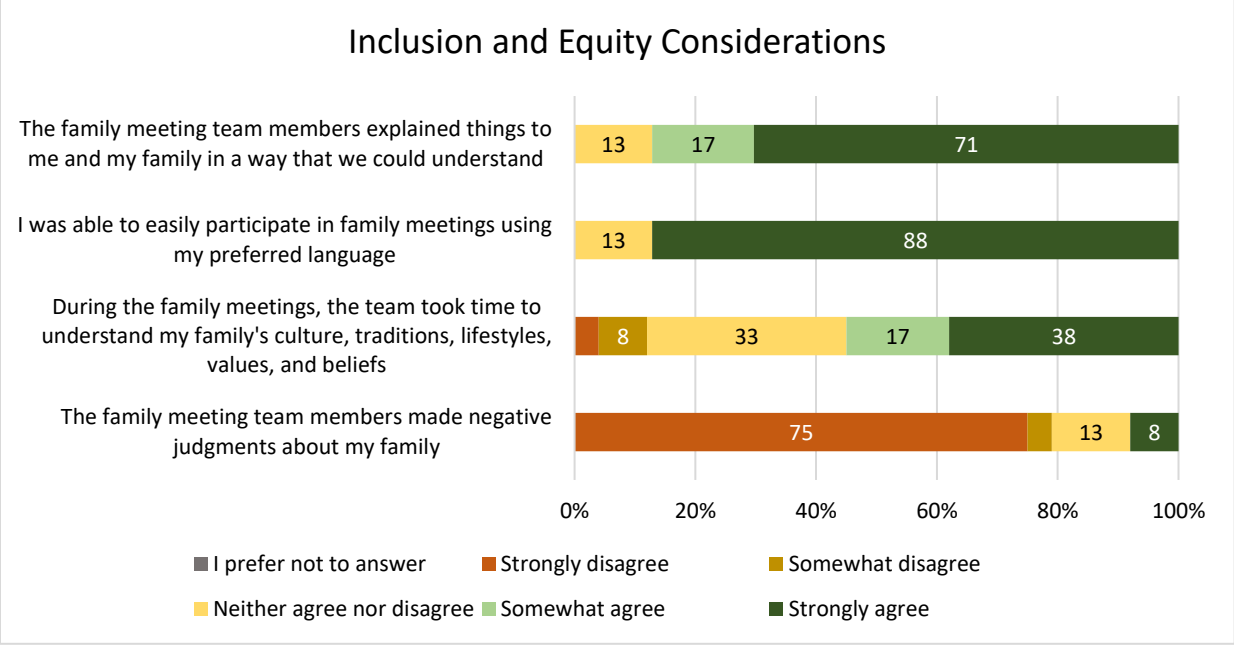
Interactions with family meeting team members. Five survey statements intended to capture participants' perceptions of their interactions with family meeting team members (see Figure 4 on the following page). The majority of participants reported that the family meeting team members genuinely care about their family's success (79%), and treat them with respect (83%). While the majority of respondents reported that family meeting team members work well together to serve their family (80%), some reported often having to update information about their family multiple times to different team members (17%), and that different family meeting team members had asked them to do the exact same task (17%).

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



Inclusion and equity considerations. Four 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 (88%) and that the team members explained things in a way that they and their family could understand (88%). However, only about half of respondents reported that the team took time to understand their family's culture, traditions, lifestyles, values, and beliefs (55%), and a small minority reported that the team made negative judgements about their family (8%).

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



Prevention Services Survey Results

The Prevention Services Survey follows the flow of the ISST Survey in that it covers pre-service/program experiences, during service/program experiences, post-service/program impacts and experiences, interactions with staff members, and equity and inclusion considerations. Given the recent launch of the CMP Family Voice survey, only five prevention surveys have been submitted, so analyses are not reported at this time.

Broad Qualitative Themes

Given that only 24 ISST surveys have been submitted and all open-ended responses are optional, narrative responses have not yet been rigorously thematically analyzed. However, of the responses that have been submitted, a few broad themes have emerged.

With regard to respondents' perceptions of the inclusiveness of the family meetings, a few individuals wrote that it was especially important to them to discuss with the team how their family's culture impacts their lifestyle: whether it be their transition to moving from Latin America to the U.S., or how their unique blend of global cultures informs their family dynamics. Two individuals also noted the importance of staff members asking questions to learn more about the feasibility and appropriateness of certain services given their family's unique circumstances.

When provided the opportunity to comment on which services and programs discussed were most helpful for their family, numerous respondents noted how support for their child(ren)'s mental health was particularly helpful. One respondent described how her team 'discussed alternative school settings, mentor programs, current mental health services and school support' and how 'All was helpful!' With regard to accessing the recommended services or programs, a few respondents noted that it can be burdensome to do additional research on the services or programs on their own time after the family meeting, rending the services logistically burdensome and/or unreasonable.

Quite a few respondents provided additional narrative detail about their interactions with family meeting team members, the majority of which noted how effectively and empathetically the staff was able to ask questions in an effort to continually learn about and support their family. A few other respondents specifically noted how much they appreciated team members' patience, understanding, and the ways that they felt the team genuinely cared about them and their child(ren).

In the concluding comments, the most prominent theme across respondents was their gratitude and appreciation for the team members' support and guidance. Multiple individuals noted how the family meetings are particularly helpful in getting everyone in their family on the same page, connecting them to resources, and creating a more optimistic and empowering atmosphere. In the words of one respondent, 'It was helpful to have support - "village," surround me and my granddaughter. It helped me to experience a sense of empowerment, and that I was not alone.'

3. Outcome Evaluation

In combination with the process and cost evaluations, the SFY20 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[11] 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 SFY20 outcome evaluation continued to employ a two-part evaluation design. The evaluation team first used a non-experimental, 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 SFY19, while the team examined outcomes one year later using data on the performance measures collected in SFY20.

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 SFY20 performance measures are presented in Table 3 on the following page. In SFY19, 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, the largest child welfare performance measures were selected most frequently (37.7 percent of all selected measures), followed by education performance measures (33.1 percent), juvenile justice performance measures (18.5 percent), and health/mental health performance measures (10.8 percent).

[11] Winokur, M., Lee, C., Timpe, Z., Holmquist-Johnson, H., & Elgin, D. J. (2018). *Collaborative Management Program evaluation state fiscal year 2017 evaluation report*. Fort Collins, CO: Colorado State University Social Work Research Center. Retrieved from: https://spl.cde.state.co.us/artemis/huserials/hu118internet/hu1182017internet.pdf

Table 3: ***SFY19 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.	**30**
Decrease number of children/youth involved with child welfare.[12] Percent of CMP children/youth with no new open involvements in Trails after CMP services began.	**12**
Increase the number of children/youth who remain home. Percent of children/youth who remained safely in their home during CMP involvement.	**7**
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.	**8**
Prevent involvement with juvenile justice system. Percent of children/youth who did not enter into detention due to CMP involvement while involved with the CMP.	**8**
Increase successful involvement with juvenile justice system. Percent of CMP youth who successfully completed probation or parole.[13]	**8**
Health/Mental Health	
Increase well child visits. Percent of CMP children/youth that received a child well visit while involved with CMP.	**7**
Increase behavioral health screens. Percent of Medicaid-eligible children/youth who received a behavioral health screen while involved with CMP.	**5**
Increase substance use screens. Percent of Medicaid-eligible children/youth who received a substance use screen while involved with CMP.	**1**
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.	**1**
Education	
Increase school attendance. Percent of children/youth with improved school attendance rates while involved with CMP services.	**21**
Increase academic achievement. Percent of children/youth with improved academic performance while involved with CMP services.	**11**
Decrease disciplinary problems at school. Percent of children/youth with fewer disciplinary actions (referrals, suspensions, or expulsions) while involved with CMP services.	**7**
Increase school stability. Percent of children/youth who had two or fewer school moves while involved with CMP services.	**4**

[12] New involvements were defined as a subsequent case (traditional or Family Assessment Response with services).
[13] Client-level data on this performance measure were not available for inclusion in this year's evaluation report.

While 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 the CMP program against all 15 of the performance measures.

3.2. Outcome Evaluation Design

As summarized in Table 4 on the following page, the outcome evaluation is featured 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, non-experimental evaluation designs used to examine the outcomes of the ISST population via data on the SFY19 performance measures collected one year after the date of the ISST meeting. A non-experimental 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 quasi-experimental design (Section 3.5) to more rigorously evaluate the program's effectiveness in improving outcomes within those three domains. Section 3.6 details the methodology used to examine the effects of the program on key subgroups, 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 SFY19, which ran from July 1, 2018, to June 30, 2019. Outcomes of CMP clients served in SFY19 were evaluated one year later during the period of SFY20 (July 1, 2019, to June 30, 2020) (the clients are hereafter referred to as "SFY20 CMP clients"). The evaluation datasets consisted of pertinent demographic and case information, along with the 15 performance measures, which were measured one year after the initial ISST meeting.

Table 4: ***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: Examining CMP's Effectiveness Across Subgroups
Supporting program capacity building efforts by conducting additional analyses to examine CMP's effectiveness in achieving outcomes for key subgroups

3.2.1. Data Collection

The population of clients served by CMP prevention programs were included within a separate section of the 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 SFY20 evaluation.

The evaluation team extracted client-level administration data from the Trails and the ETO databases. Children/youth who were involved with child welfare were included within the Trails database, which serves as the State Administered Child Welfare Information System (SACWIS) 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). As some overlap between the two databases exists, 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 the Colorado Judicial Department's Office of the State Court Administrator (Colorado Judicial) and DYS to obtain juvenile justice outcomes for CMP

clients, as well as to the CDHS Office of Behavioral Health (OBH) to obtain health and mental health outcomes for CMP clients.

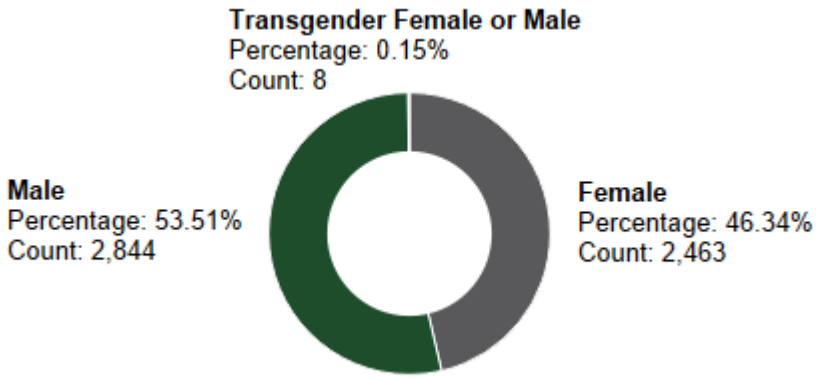
3.3. Descriptive Analysis of CMP Clients

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, while the second describes the population of CMP clients served by an ISST meeting. In SFY19, 37 sites (representing 48 counties) participated in CMP.

3.3.1. Prevention Population

In SFY19, 5,330 children/youth were served by a CMP prevention program designed to prevent involvement in multiple systems. Figure 6 shows that 54 percent of prevention population clients were male, 46 percent were female, while 0.15 percent were transgender. Figure 7 on the following page shows that the ages of prevention population clients at the time of entry ranged from less than 1 to 21, with a mean age of 11.

Figure 6: ***Prevention Population by Gender (*****N** ***= 5,315)***[14]

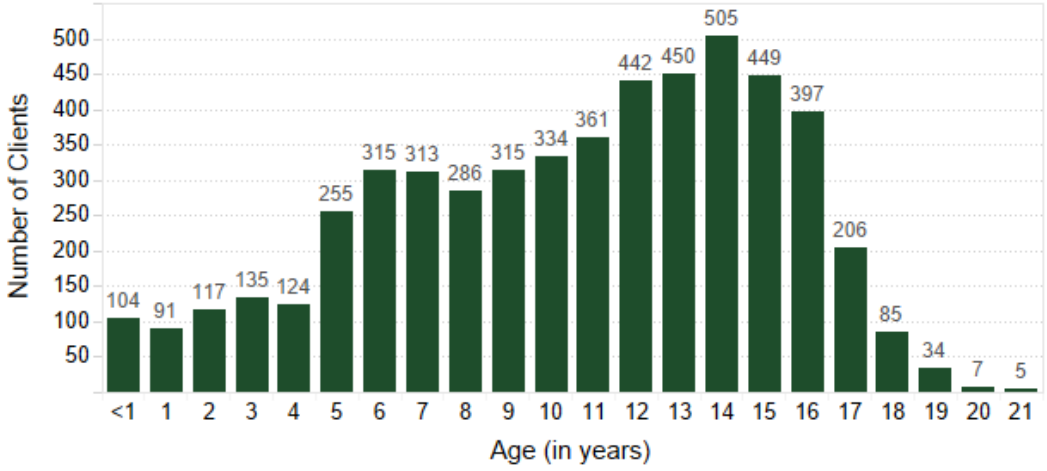


Source: ETO CMP databases.

The data collected on the prevention population were limited to this set of demographic variables, as performance measures for the prevention population have not been established. This brief descriptive analysis provides initial insight into the demographics of the clients 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.

[14] The sample size was lower than the total prevention population of 5,330 clients because gender data were missing for 15 clients.

Figure 7: ***Age Distribution of Children/Youth in the Prevention Population (*****N** ***= 5,330)***[15]



Source: ETO CMP databases.

3.3.2. ISST Population

During SFY20, the 35 CMPs (representing 44 counties) served 6,339 distinct children/youth via ISST meetings. As with previous years, this population is notably larger than the population of CMP's 5,330 prevention clients. As shown in Figure 8, 56 percent of ISST clients were male while 44 percent were female.

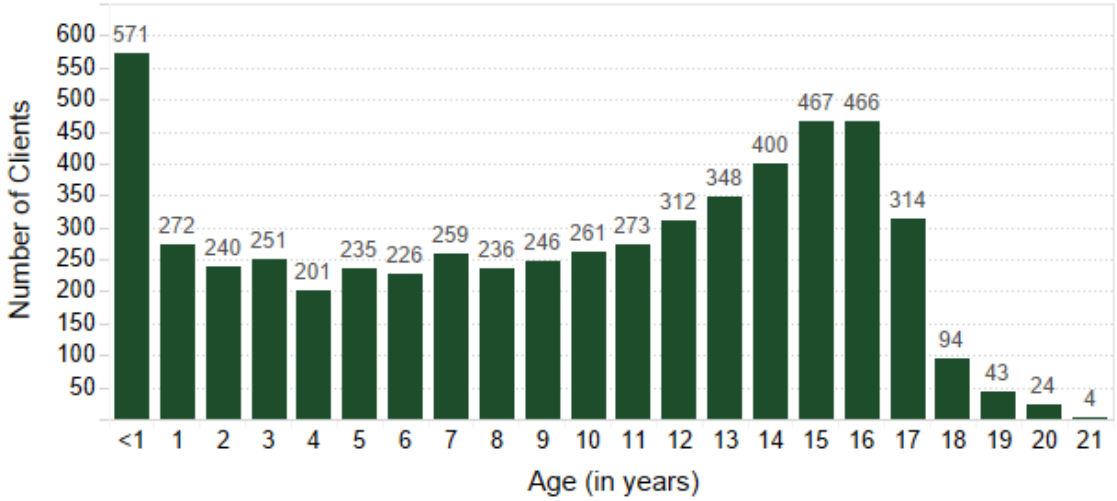
Figure 8: ***ISST Population by Gender (*****N** ***= 5,818)***[16]

Sources: Trails and ETO CMP databases.

[15] The client's age at the time of entry into a prevention program was calculated by subtracting the client's date of birth from the program start date and dividing by 365.25 days.
[16] The sample size was lower than the total ISST population of 6,339 clients because gender data were missing for 522 clients.

As displayed in Figure 9, the ages of CMP clients ranged from less than 1 year to 21 years, while the mean age was 9.2 years.

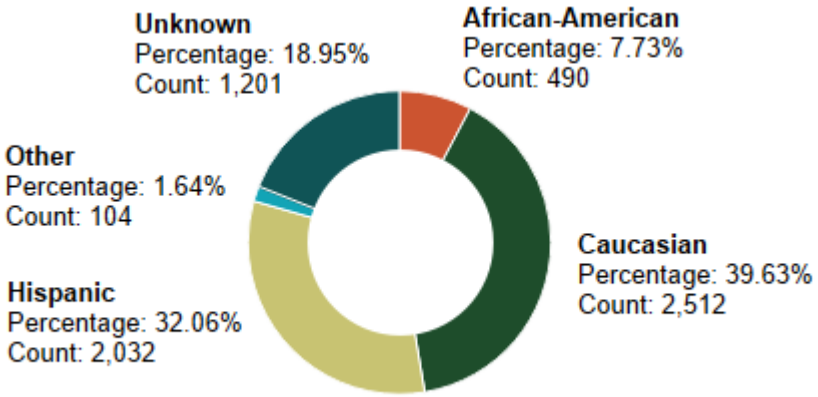
Figure 9: ***ISST Population by Ages (*****N** ***= 5,744)***[17]



Sources: Trails and ETO CMP databases.

As shown in Figure 10, 40 percent of clients were Caucasian, 32 percent were Hispanic, 8 percent were African American, while 2 percent were clients from "other" racial and ethnic backgrounds, and the race and ethnicity was "unknown" for 19 percent of ISST clients .[18] These percentages are similar to those of previous ISST populations, demonstrating consistency in the racial and ethnic composition of the population.

Figure 10: ***ISST Clients by Race and Ethnicity (*****N** ***= 6,339)***



Sources: Trails and ETO CMP databases.

[17] The sample size was lower than the total ISST population of 6,339 clients because age at entry data were missing for 596 clients.

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

3.3.3. ISST Population by Performance Goal Type

As Table 5 shows, the majority of SFY19 CMP ISST clients had performance goals under the child welfare domain (91 percent). Considerably fewer CMP ISST clients were served under the other three domains, with education (42 percent) representing the second largest percentage of clients, followed by health/mental health (20 percent) and juvenile justice (9 percent).

Table 5: ***Number of ISST Clients by Performance Goal Type (Duplicated Counts)***

Program	# of Clients
Child Welfare	5,744 (90.6%)
Education	2,731 (41.5%)
Health/Mental Health	1,268 (20.0%)
Juvenile Justice	600 (9.1%)
Total CMP ISST Population	**6,339***

Sources: Trails and ETO CMP databases.
*Percentages do not sum to 100 because a CMP ISST client could have performance goals under multiple domains.

Nearly all CMP ISST clients had child welfare performance goals (91 percent), warranting an examination of key variables pertaining to involvement with the child welfare system. Table 6 presents the differences in risk and presenting factors between 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 6: ***Differences in Risk and Presenting Factors between CMP ISST and Child Welfare Populations***

Factor	CMP ISST Population	Child Protection Population
Family Structure	(*N* = 2,429)*	(*N* = 66,819)*
Single Parent	50.9%	41.3%
Married Couple	22.8%	38.9%
Unmarried Couple	26.2%	19.8%
Prior Adoption	2.8%	1.1%
Number of Prior Referrals (mean)	5.64	6.03
Number of Prior Assessments (mean)	2.61	2.75
Number of Prior Cases (mean)	0.41	0.40
Number of Prior Removals (mean)	0.17	0.16
Prior DYS Involvement	7.3%	2.5%
Level of Involvement upon Entry:		
Case	63.3%	18.7%
Removal	30.0%	7.8%
Population Size	**5,744**	**70,595**

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

CMP ISST clients 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). CMP ISST clients were considerably more likely to have been previously adopted (3 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 (7 percent versus 3 percent for the broader population) than the wider protection population. Finally, CMP clients entered the child welfare system at a higher level of involvement than the broader child protection population. The majority of CMP clients (63 percent) entered at the case level in comparison to only 19 percent of the broader child protection population. CMP clients were also much more likely to enter the system via a removal from their homes (30 percent versus 8 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, non-experimental 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 non-experimental, single group evaluation design to examine outcomes, given the historical "data silo" challenges in accessing the requisite outcome data across all four domains, as well as accessing data on comparison populations. As previously noted, a non-experimental 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 7 on the following page, 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 95 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 (94 percent); increasing the number of children and youth who remained home (93 percent); and increasing placement stability (91 percent).[19] In contrast, the program appeared to have more moderate success in increasing permanency, with 65 percent of CMP clients discharged to a permanent home.

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

Table 7: ***Child Welfare Performance Goals***

Performance Measure	# Children and Youth with Goal	# Achieving Goal	Percentage Achieving Goal in SFY20	Percentage Achieving Goal in SFY19
Increase safety of children/youth	5,743	5,457	**95.0%**	94.5%
Decrease number of children/youth involved in child welfare	5,743	5,402	**94.1%**	93.6%
Increase number of children/youth who remain home	4,460	4,131	**92.6%**	90.9%
Increase placement stability of children/youth	1,724	1,570	**91.1%**	88.1%
Increase permanency of children/youth	1,724	1,128	**65.4%**	65.9%

Sources: Trails and ETO CMP databases.

3.4.2. Education Clients

Performance goals under the education domain were the second most common type of goal for CMP clients; 42 percent of CMP clients were 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 upon data provided via the annual reports submitted by CMP counties (due to a lack of access to client-level administrative data). As displayed in Table 8 on the following page, 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 (98 percent). The program was associated with more moderate success in increasing academic achievement (71 percent), increasing school attendance (59 percent), and decreasing disciplinary problems (50 percent).

Table 8: ***Education Performance Goals***

Performance Measure	Number of Children and Youth with Goal	Number of Achieving Goal	Percentage Achieving Goal in SFY20	Percentage Achieving Goal in SFY19
Increase school stability	181	177	**97.8%**	94.6%
Increase academic achievement	1,797	1,272	**70.8%**	76.5%
Increase school attendance	1,578	934	**59.2%**	65.2%
Decrease disciplinary problems at school	825	408	**49.5%**	86.4%
Increase successful graduation rates*				N/A

Source: Self-reported by CMP counties via the CMP Annual Report SFY19–20.
*None of the CMP counties selected the "Increase Successful Graduation Rates" performance goal.

3.4.3. Health/Mental Health Clients

As shown in Table 9 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, as 63 percent of eligible clients completed 90-day inpatient substance use treatment or intensive outpatient treatment. The program demonstrated more limited success in decreasing problem severity, with 37 percent of clients having improved levels of functioning on the CCAR while receiving CMP services. CMP also appeared to have notably less success in increasing the health of children/youth, with 27 percent of clients establishing linkages to substance use and mental health providers.

Table 9: ***Health/Mental Health Performance Goals***

Performance Measure	Number of Children and Youth with Goal	Number Achieving Goal	Percentage Achieving Goal in SFY20	Percentage Achieving Goal in SFY19
Decrease substance use	71	45	**63.4%**	61.4%
Decrease problem severity	1,510	551	**36.5%**	31.9%
Increase children/youth health	5,743	1,535	**26.7%**	21.1%
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; 9 percent of CMP clients were involved in the juvenile justice system. As displayed in Table 10, CMP appears to have had varying 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 (97 percent) and preventing involvement with the juvenile justice system (89 percent). Finally, none of the CMP counties selected the fourth performance goal of decreasing involvement in truancy court.

Table 10: ***Juvenile Justice Performance Goals***

Performance Measure	Number of Children and Youth with Goal	Number Achieving Goal	Percentage Achieving Goal in SFY20	Percentage Achieving Goal in SFY19
Decrease commitment to DYS†	2,993	2,913	**97.3%**	97.4%
Prevent involvement with juvenile justice system†	2,993	2,675	**89.4%**	82.6%
Decrease children/youth involved in truancy court*	N/A	N/A	N/A	N/A

Sources: Trails, ETO CMP, DYS, and Colorado Judicial databases.
† Denotes data provided by DYS.
*Denotes that none of the CMP counties selected this performance goal.

3.5. Quasi-experimental Evaluation

To assess CMP's effectiveness more rigorously 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. Quasi-experimental designs 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 SFY19. In contrast, the comparison groups consisted of children/youth who were newly involved with the child welfare and the health/mental health and juvenile justice systems in SFY19, 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 upon 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 into 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 groups to examine whether CMP clients had decreased problem severity. The second groups examined whether clients had decreased

levels of substance use due to the successful completion of substance use treatment. The evaluation team used the final matched groups 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 groups were 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 the period of SFY19. 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 11 on the following page provides an overview of the unmatched treatment and potential comparison groups that were associated with each of the performance goals.

Table 11: ***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	4,861	36,908
Increase safety of children/youth	4,861	36,908
Increase placement stability of children/youth	1,594	955
Increase permanency of children/youth involved in child welfare	1,594	955
Increase number of children/youth who remain home	3,664	36,435
Health/Mental Health		
Decrease problem severity	1,268	4,432
Decrease substance use	62	42
Increase children/youth health	4,860	37,095
Juvenile Justice		
Decrease commitment to DYS	2,550	15,130
Prevent involvement with juvenile justice system	2,550	15,130

Note: The figures presented in this table represent CMP clients and members of the comparison population from 42 of the 44 counties participating in CMP. As detailed further below, two of the counties were excluded from the quasi-experimental evaluation due to 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 due to the lack of a comparable population of children who were not served by the program. In addition, a subgroup of 14 CMP clients was served not by a CMP county but was instead served by DYS. Along with the population of CMP clients from Boulder and Larimer Counties, the evaluation team excluded the subgroup of CMP clients served by DYS from the quasi-experimental analysis. 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 three percentage points when CMP clients served by Boulder and Larimer Counties and DYS 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 and/or the outcome variables.[20] Demographic variables included a child's age, gender, race/ethnicity, 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.[21,22] 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.[23] In the ensuing steps, the evaluation team "coarsened" covariates with considerable imbalance into substantively indistinguishable values and created a collection of strata

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

[21] 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.

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

[23] 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.

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.

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 12, while detailed descriptions of the matched groups are included in **Appendix C.**

Table 12: ***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	3,360	3,360
Increase safety of children/youth	3,360	3,360
Increase placement stability of children/youth†	865	610
Increase permanency of children/youth involved in child welfare†	865	610
Increase number of children/youth who remain home	2,745	2,745
Health/Mental Health		
Decrease problem severity	712	712
Decrease substance use†	30	30
Increase children/youth health	3,230	3,230
Juvenile Justice		
Decrease commitment to DYS	1,189	1,189
Prevent involvement with juvenile justice system	1,189	1,189

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 of the matched comparison group members (j) for individual i.

Multi-level 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 multi-level mixed effects models. Matching methods and regression adjustments (including multi-level mixed effects models) are complementary methods and have been shown to work best in combination.[24] Including those variables that were not exactly matched provides a second opportunity to control for important differences between the treatment and comparison groups.

As 1-to-*k* matching was used to match treatment and comparison members within the child welfare out-of-home subgroup, weighted multi-level mixed effects models were used for the placement stability, permanency, and substance use outcome models. Within these weighted multi-level mixed effects models, observations were weighted according to the number of observations within their corresponding strata.[25]

[24] Stuart, E. A. (2010). Matching methods for causal inference: A review and a look forward. *Statistical Science, 25*(1), 1–21.
[25] 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 13 provides the results for the multi-level 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 1.4-percentage point increase in the probability that they would have a new involvement ($p < 0.01$) compared to youth who were eligible but were not served by the program**. While the magnitude of this effect is small, it provides statistically significant evidence that CMP clients are more likely to have a new involvement.

Table 13: ***New Child Welfare Involvement Multi-level Mixed Effects Model***

Outcome: New Child Welfare Involvement	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.014** (0.005)**
Percent Variation Explained by Level 2	1.29%
Level 1 Child Attributes	
Age at Beginning of Involvement	0.000 (0.001)
Primary Caregiver's Age	-0.000*** (0.000)
Number of Prior Referrals	-0.002* (0.001)
Number of Prior Assessments	0.005** (0.002)
Number of Prior Cases	-0.008 (0.006)
Number of Prior Removals	-0.013* (0.008)
Prior Food Assistance (Reference: No)	
Yes	0.017** (0.007)
Unknown	-0.017 (0.018)
Constant	0.045*** (0.009)
Log-Likelihood	777.214
Observations	6,720

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 2.1 and 4.4 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 and/or Neglect

Table 14 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 14: ***Subsequent Founded Assessment Multi-level Mixed Effects Model***

Outcome: Subsequent Founded Assessment	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**-0.008 (0.006)**
Percent Variation Explained by Level 2	0.10%
Level 1 Child Attributes	
Age at Beginning of Involvement	-0.004*** (0.001)
Primary Caregiver's Age	-0.000*** (0.000)
Number of Prior Referrals	0.001 (0.001)
Number of Prior Assessments	0.003 (0.002)
Number of Prior Cases	0.002 (0.006)
Number of Prior Removals	-0.022*** (0.008)
Prior Food Assistance (Reference: No)	
Yes	0.028*** (0.007)
Unknown	0.001 (0.019)
Constant	0.074*** (0.008)
Log-Likelihood	302.463
Observations	6,720

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 1.2 percentage point decrease and a 1.2 percentage point increase in the probability of having a subsequent founded assessment (with only one of the models producing statistically significant findings of $p < 0.01$). 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 15 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 4.4 percentage point decrease in the probability that they would experience placement stability ($p < 0.01$) compared to youth who were eligible but were not served by the program.**

Table 15: ***Placement Stability Weighted Multi-level Mixed Effects Model***

Outcome: Placement Stability	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**-0.044** (0.016)**
Percent Variation Explained by Level 2	7.10%
Level 1 Child Attributes	
Age at Beginning of Involvement	-0.002 (0.002)
Primary Caregiver's Age	0.000** (0.000)
Number of Prior Referrals	-0.007** (0.003)
Number of Prior Assessments	0.001 (0.008)
Number of Prior Cases	0.020 (0.023)
Number of Prior Removals	0.000 (0.034)
Constant	0.996*** (0.014)
Log-Likelihood	113.025
Observations	1,475

***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 4.0 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 16, 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 16: ***Permanency Weighted Multi-level Mixed Effects Model***

Outcome: Permanency	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**-0.017 (0.038)**
Percent Variation Explained by Level 2	14.85%
Level 1 Child Attributes	
Age at Beginning of Involvement	0.007*** (0.002)
Primary Caregiver's Age	-0.000*** (0.000)
Number of Prior Referrals	-0.020*** (0.005)
Number of Prior Assessments	0.040*** (0.009)
Number of Prior Cases	0.025 (0.034)
Number of Prior Removals	0.052 (0.045)
Constant	0.596*** (0.048)
Log-Likelihood	-939.251
Observations	1,475

***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 1.0 and 3.0 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 17, 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 2.2 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	**-0.022*** (0.006)**
Percent Variation Explained by Level 2	0.50%
Level 1 Child Attributes	
Prior Food Assistance (Reference: No)	
Yes	-0.001 (0.007)
Unknown	0.002 (0.017)
Age at Beginning of Involvement	0.003*** (0.001)
Primary Caregiver's Age	0.000*** (0.000)
Number of Prior Referrals	-0.000 (0.001)
Number of Prior Assessments	-0.003 (0.002)
Number of Prior Cases	0.005 (0.005)
Constant	0.946*** (0.009)
Log-Likelihood	1,005.1
Observations	5,490

***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 1.3 and an 8.3 percentage point decrease in the probability of remaining home ($p < 0.05$ or lower). 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: Decrease 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 18 **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 18: ***Decrease Problem Severity Multi-level Mixed Effects Model***

Outcome: Decrease Problem Severity	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.041 (0.026)**
Percent Variation Explained by Level 2	0.96%
Level 1 Child Attributes	
Prior Food Assistance (Reference: No)	
Yes	-0.095* (0.050)
Unknown	0.112 (0.128)
Previously on Medicaid (Reference: No)	
Yes	0.081 (0.067)
Age at Beginning of Involvement	-0.000 (0.003)
Primary Caregiver's Age	0.000 (0.000)
Number of Prior Referrals	0.006* (0.004)
Number of Prior Assessments	-0.012 (0.008)
Number of Prior Removals	-0.008 (0.028)
Constant	0.359*** (0.072)
Log-Likelihood	-972.787
Observations	1,424

***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 0.3 and 2.7 percentage point decrease in the probability of improving their level of functioning; neither of these findings were statistically significant. Together, these results suggest that CMP clients were neither significantly more nor less likely to decrease their problem severity.[26]

[26] An important contextual caveat is that despite not improving their level of functioning, many CMP clients are successfully maintaining their current levels of functioning. Analyses conducted by OBH staff for the SFY18 CMP Evaluation revealed that approximately 91 percent of clients in the matched treatment and comparison groups were measured as already functioning at moderate to high levels at the time of their first CCAR assessment. Furthermore, approximately 46 percent of those clients with moderate to high levels of functioning showed no change in their level of functioning. However, these clients would be characterized as having an adverse outcome under the current

Health/Mental Health Outcome: Decrease 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 19, **the findings demonstrate that CMP clients were not significantly more or less likely to achieve lower levels of substance use.**

Table 19: ***Decrease Substance Use Multi-level Mixed Effects Model***

Outcome: Decrease Substance Use	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.032 (0.122)**
Percent Variation Explained by Level 2	0.00%
Level 1 Child Attributes	
Family Structure (Reference: Single Parent)	
Married Couple	-0.188 (0.229)
Undetermined	-0.000 (0.140)
Number of Prior Referrals	-0.008 (0.013)
Constant	0.698*** (0.163)
Log-Likelihood	-40.152
Observations	60

***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 4.8 to a 14.5 percentage point increase in the probability of completing substance use treatment (with only one of the models producing statistically significant findings of $p < 0.05$). 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 71 CMP clients and 42 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.

operationalization of the performance measure. Accordingly, there may be a need to reconsider the operationalization of this performance measure to measure decreases in problem severity more accurately based on the number of children and youth who are maintaining or improving their level of functioning.

Health/Mental Health Outcome: Increased Children/Youth Health

For the final 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 20, **the findings demonstrate that CMP clients had a 6.1 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 20: ***Increase Children/Youth Health Multi-level Mixed Effects Model***

Outcome: Increase Children/Youth Health	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.061*** (0.010)**
Percent Variation Explained by Level 2	4.08%
Level 1 Child Attributes	
Previously on Medicaid (Reference: No)	
Yes	0.087*** (0.014)
Unknown	0.019 (0.032)
Age at Beginning of Involvement	0.019*** (0.001)
Primary Caregiver's Age	-0.000*** (0.000)
Number of Prior Referrals	0.015*** (0.002)
Number of Prior Assessments	-0.013*** (0.004)
Constant	-0.064*** (0.021)
Log-Likelihood	-2,855.37
Observations	6,460

***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 5.0 and 9.7 percentage point decrease in the probability of improving their level of functioning (with both of these 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: Prevent Juvenile Justice Involvement

The evaluation team used the "prevent involvement with the juvenile justice system" model to examine whether CMP clients were less likely to enter detention. The findings presented in Table 21 **demonstrate that CMP clients had a 4.6 percentage point increase in the probability that they would become involved with the juvenile justice system via detention ($p < 0.001$).**

Table 21: ***Prevent Juvenile Justice Involvement Multi-level Mixed Effects Model***

Outcome: Prevent Involvement with the Juvenile Justice System	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.046*** (0.009)**
Percent Variation Explained by Level 2	0.69%
Level 1 Child Attributes	
Prior Food Assistance (Reference: No)	
Yes	0.029* (0.016)
Unknown	-0.004 (0.025)
Previously on Medicaid (Reference: No)	
Yes	-0.034* (0.018)
Primary Caregiver's Age	-0.000* (0.000)
Number of Prior Referrals	0.002 (0.002)
Number of Prior Assessments	-0.004 (0.003)
Constant	0.030** (0.014)
Log-Likelihood	294.762
Observations	2,378

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

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 4.2 and 9.4 percentage point increase in the probability that they would become involved with the juvenile justice system (with both of these 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.

This finding is markedly different than that of the SFY19 evaluation, which showed that CMP clients were significantly *less likely* to become involved with the juvenile justice system ($p < 0.01$). The evaluation team shared the finding with DYS staff, who noted that during the COVID-19 pandemic, there was a focus on moving low-risk youth away from DYS. Staff further suggested that this subsequently resulted in the youth detained during this period being at higher risk to the public. To examine this proposition, the evaluation team and DYS staff conducted a subsequent analysis that examined prior involvements and risk levels calculated via the child welfare risk assessment tool among the treatment

and comparison groups for SFY20 and SFY19. The findings from this analysis demonstrated that there was a differential impact in higher-risk CMP clients due to the impact of COVID-19. Notably, in SFY20 there was a 105 percent increase in CMP clients with previous DYS involvements and a high risk level compared to SFY19, while there was only a 26 percent increase between SFY19 and SFY20 among non-CMP clients. Furthermore, in SFY20 there was a 135 percent increase in CMP clients with previous DYS involvements and a moderate risk level compared to SFY19, while there was only a 26 percent increase between SFY19 and SFY20 among non-CMP clients. Collectively, these findings provide strong evidence that the DYS-involved CMP population had a higher concentration of youth with higher needs and higher risk levels due to the COVID-19 pandemic.

Juvenile Justice Outcome: Decrease 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 22 **demonstrate that CMP clients were not significantly more or less likely to be committed to DYS.**

Table 22: ***Prevent DYS Commitment Multi-level Mixed Effects Model***

Outcome: Decrease Commitments to DYS	
	Coefficient (Std. Error)
Level 2 Agency Attributes	
Treatment: CMP	**0.001 (0.003)**
Percent Variation Explained by Level 2	0.11%
Level 1 Child Attributes	
Prior Food Assistance (Reference: No)	
Yes	0.004 (0.005)
Unknown	0.002 (0.008)
Previously on Medicaid (Reference: No)	
Yes	-0.000 (0.006)
Primary Caregiver's Age	-0.000 (0.000)
Number of Prior Referrals	-0.000 (0.000)
Number of Prior Assessments	0.001 (0.001)
Constant	0.000 (0.004)
Log-Likelihood	3,027.457
Observations	2,378

***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 0.09 percentage point decrease and a 3.0 percentage point increase in the probability of being committed to DYS, respectively (with only one of the models

producing statistically significant findings of $p < 0.001$). These results support the suggestion that CMP clients were not significantly more or less likely to be committed to DYS.

3.6. CMP Subgroup Analyses

Beginning with its first evaluation in SFY16, the evaluation team has highlighted the need for capacity building related to understanding the program's effectiveness in achieving outcomes for children and youth involved in multiple systems. Previous capacity building tasks have focused on designing a more rigorous outcome study, identifying challenges in collecting program data, and addressing the "data silos" that exist across program domains. This year's evaluation supported program capacity building by incorporating additional analyses to examine CMP's effectiveness in achieving outcomes for key subgroups.

3.6.1. Methodological Approach

After utilizing the matched treatment and comparison groups to estimate the average treatment effects of CMP for clients served by the child welfare, health/mental health, and juvenile justice domains, the evaluation team employed additional multilevel regression models to determine whether CMP produces improved outcomes for key subgroups. These additional models were employed on the same matched groups and utilized the same set of control variables but employed interaction terms between the treatment variable (i.e., whether a child or youth was served by CMP or the comparison group) and key subgroups. These interaction terms allowed the evaluation team to test additional hypotheses regarding whether CMP is more effective in achieving outcomes for key subgroups, categorized by:

1. ***Child welfare level of involvement upon entry***, including children and youth entering child welfare via prevention, referral, assessment, case, or removal
2. ***Prior involvements with the child welfare system***, including the number of referrals, assessments, cases, or removals
3. ***Prior assistance***, including receipt of food assistance and Medicaid
4. ***Child or youth's assessed level of risk upon entry***, including low, moderate, or high levels of risk
5. ***Child or youth's age at the time of the latest entry***
6. ***Child or youth's program area,*** including prevention (PA3), youth in conflict (PA4), or abuse and neglect (PA5 & PA6)
7. ***DYS involvement***, including whether a youth became involved with DYS during their current involvement or whether a youth was previously involved with DYS
8. ***Child or youth's race and ethnicity***

For each of these subgroups, separate models with the aforementioned interaction terms were run for the 10 outcomes from the child welfare, juvenile justice, and health/mental health domains. Using level of involvement upon entry as an example, models with separate interaction terms were estimated for the subgroups of children and youth entering via prevention, referrals, assessments, and cases for each of the outcomes associated with the three domains. Positive, significant interaction terms within these

models indicated that CMP achieved improved outcomes for a given subgroup, such as children and youth entering via a case.

A pertinent risk of estimating multiple comparison models is that the more models that are run, the greater the likelihood of a Type I error, or a false positive that incorrectly finds that an association with an outcome is statistically significant when it is not. To avoid the likelihood of making a Type I error, the evaluation team used a multiple comparison adjustment,[27] which takes a more conservative approach to characterizing the level of significance associated with a finding as more findings are included in an analysis. This conservative adjustment thereby reduces the likelihood of a Type I error.

After running the interaction models, multiple comparison adjustments were conducted using the Benjamini-Hochberg method.[28] This process consisted of three steps for applying a multiple comparison adjustment to each of the three program domains:

1. **Rank p-values:** Within each domain, *p*-values were ranked for all main findings, where the smallest *p*-value had a rank of one and the largest *p*-value had a rank equal to the total number of main findings. For instance, *p*-values for the child welfare outcomes were ranked from one to five given the five outcomes included in the domain. Similarly, *p*-values for the health/mental health domain were ranked from one to three, and *p*-values for the juvenile justice domain were ranked from one to two.
2. **Calculate the critical p-values:** For each *p*-value, an associated critical *p*-value was computed by multiplying the rank number determined in the previous step by 0.05 and dividing the result by the total number of outcomes in the domain (i.e., five for child welfare, three for health/mental health, and two for juvenile justice).
3. **Determine which findings remain statistically significant after adjustment:** The largest *p*-value that was smaller than its corresponding critical *p*-value was determined. That finding and all findings with lower rank numbers (i.e., smaller p-values) were considered statistically significant.

Using a child or youth's level of involvement upon entry as an example, each of the outcome models were run with separate interaction terms for the subgroups entering at different levels, including prevention, referral, assessment, and case. Within each of these subgroups, the Benjamini-Hochberg method was employed separately to the corresponding findings in each of the child welfare, health/mental health, and juvenile justice domains. The findings from the Benjamini-Hochberg multiple comparison adjustment were then compared across and within subgroups. Continuing with the level of involvement upon entry example, this approach allowed the evaluation team to determine whether better outcomes were achieved for certain subgroups (i.e., children entering via prevention, referral, assessment, or case) and within and across the child welfare, health/mental health, and juvenile justice program domains.

[27] Institute of Education Science, What Works Clearinghouse. (n.d.). *Module 7: Reporting*. https://ies.ed.gov/ncee/wwc/Docs/OnlineTraining/wwc_training_m7.pdf; What Works Clearinghouse. (2020). *Standards handbook, version 4.1.* https://ies.ed.gov/ncee/wwc/Docs/referenceresources/WWC-Standards-Handbook-v4-1-508.pdf

[28] Benjamini, Y., & Hochberg, Y. (1995). Controlling the false discovery rate: a practical and powerful approach to multiple testing. *Journal of the Royal Statistical Society: Series B (Methodological), 57*(1), 289–300.

3.6.2. Associated Findings

After applying the Benjamini-Hochberg method to each of the eight key subgroups, three subgroups were found to have multiple, statistically significantly improved outcomes under CMP: children and youth entering via a case; children and youth with various types of prior involvements; and children ages 0 to 5. For the sake of parsimony, Table 23 reports only the key subgroups that were shown to have multiple, statistically significant positive outcomes.

Table 23. ***Key Subgroups Achieving Improved Outcomes under CMP***

Domain	Outcome	Finding Characterization	Coefficient	Model *p*-value*
Level of Involvement: Case				
Child Welfare	Remain Home	Positive	0.0462	0.001 (0.016)
Child Welfare	New Involvement	Positive	-0.0370	0.003 (0.033)
Prior Involvement (by type)				
Prior Removals				
Health/Mental Health	Increase Children/Youth Health (*established linkages to substance use and mental health providers*)	Positive	0.0866	0.001 (0.016)
Prior Assessments				
Health/Mental Health	Increase Children/Youth Health (*established linkages to substance use and mental health providers*)	Positive	0.0087	0.005 (0.016)
Prior Referrals				
Health/Mental Health	Increase Children/Youth Health (*established linkages to substance use and mental health providers*)	Positive	0.0037	0.011 (0.016)
Age at Entry				
Child Welfare	New Involvement	Positive	-0.0423	0.000 (0.010)
Child Welfare	Placement Stability	Positive	0.0709	0.004 (0.020)
Child Welfare	Subsequent Founded	Positive	-0.0332	0.006 (0.030)
Child Welfare	Remain Home	Negative	-0.0304	0.013 (0.040)

Note: * Significance threshold set by Benjamini-Hochberg method.

Children and youth who entered CMP via a child welfare case were 4.62 percent more likely to remain in their homes ($p < 0.001$) and were 3.67 percent less likely to have a new involvement ($p < 0.01$). Meanwhile, CMP children and youth who had prior child welfare system involvements were more likely to have increased health and mental health via established linkages to substance use and mental health providers. More specifically, CMP children and youth with prior removals were 8.7 percent more likely to have established linkages ($p < 0.001$), while children and youth with prior assessments were 0.9 percent more likely to have established linkages ($p < 0.01$), and children and youth with prior referrals

were 0.4 percent more likely to have established linkages ($p < 0.05$). Finally, CMP children in the 0 to 5 age group were 4.2 percent less likely to have a new involvement ($p < 0.001$), 3.3 percent less likely to have a subsequent founded assessment ($p < 0.001$), and 7.1 percent more likely to have placement stability ($p < 0.001$) than older children/youth, though this group was also 3.0 percent less likely to remain home ($p < 0.05$).

3.6.3. Implications

The analyses detailed above can inform new approaches to capacity building by examining whether CMP achieved better outcomes for key subgroups. Across the eight subgroups examined, CMP was found to produce better child welfare outcomes for children and youth who entered the program while involved in a child welfare case, better health/mental health outcomes for children and youth who had previous child welfare involvements, and better child welfare outcomes among children ages 0 to 5. Collectively, these findings provide critical insight into CMP's effectiveness and can help support program-wide and county-specific capacity building efforts through an increased focus on key sub-groups who are shown to achieve the greatest benefit from CMP.

3.6. Outcome Evaluation Summary

The results of the descriptive, non-experimental 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 one 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, non-experimental evaluation should be interpreted cautiously.

To evaluate the program's effectiveness more rigorously, the evaluation team employed matched QEDs of CMP clients involved with the child welfare, health/mental health, and juvenile justice systems. The results from these quasi-experimental evaluations are summarized in Table 24 on the following page. Overall, the findings provide evidence suggesting that CMP is improving outcomes within each of these three domains. Within the child welfare domain, CMP clients were found to be significantly more likely to have a new child welfare case ($p < 0.01$), less likely to remain home ($p < 0.001$), and less likely to experience placement stability ($p < 0.01$). In contrast, CMP clients in the child welfare domain were not significantly more or less likely to have a subsequent found assessment or achieve permanency.

The findings suggest that CMP has a combination of positive and adverse impacts in the health/mental health and juvenile justice domains. 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 become involved with the juvenile justice system ($p < 0.001$) and not significantly more or less likely to be

committed to DYS. As noted earlier, there is strong evidence that the DYS-involved CMP population had a higher concentration of youth with higher needs and higher risk levels due to the COVID-19 pandemic.

Table 24: ***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.	
Subsequent Involvement	CMP clients had a 1.4 percentage point increase in the probability that they would have a new involvement compared to youth who were eligible but not served by CMP.	✓ ($p < 0.01$)
Remain Home	CMP clients had a 2.2 percentage point decrease in the probability that they would remain home compared to youth who were eligible but were not served by CMP.	✓ ($p < 0.001$)
Placement Stability	CMP clients had a 4.4 percentage point decrease in the probability that they would experience placement stability compared to youth who were eligible but not served by CMP.	✓ ($p < 0.01$)
Health/Mental Health		
Increase Children/Youth Health	CMP clients had a 6.1 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.	✓ ($p < 0.001$)
Decrease 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.	
Decrease 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		
Prevent Involvement with Juvenile Justice System	CMP clients had a 4.6 percentage point increase in the probability that they would become involved with the juvenile justice system compared to youth who were eligible but not served by CMP.	✓ ($p < 0.001$)
Decrease Commitment to DYS	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.	

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 one year 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 year 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
- Out-of-home vs. in-home
- 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 three-stage model estimating average expected cost for the CMP and treatment groups.[29] Uncertainty was determined using Monte-Carlo simulations.

4.3. Cost Comparison Results

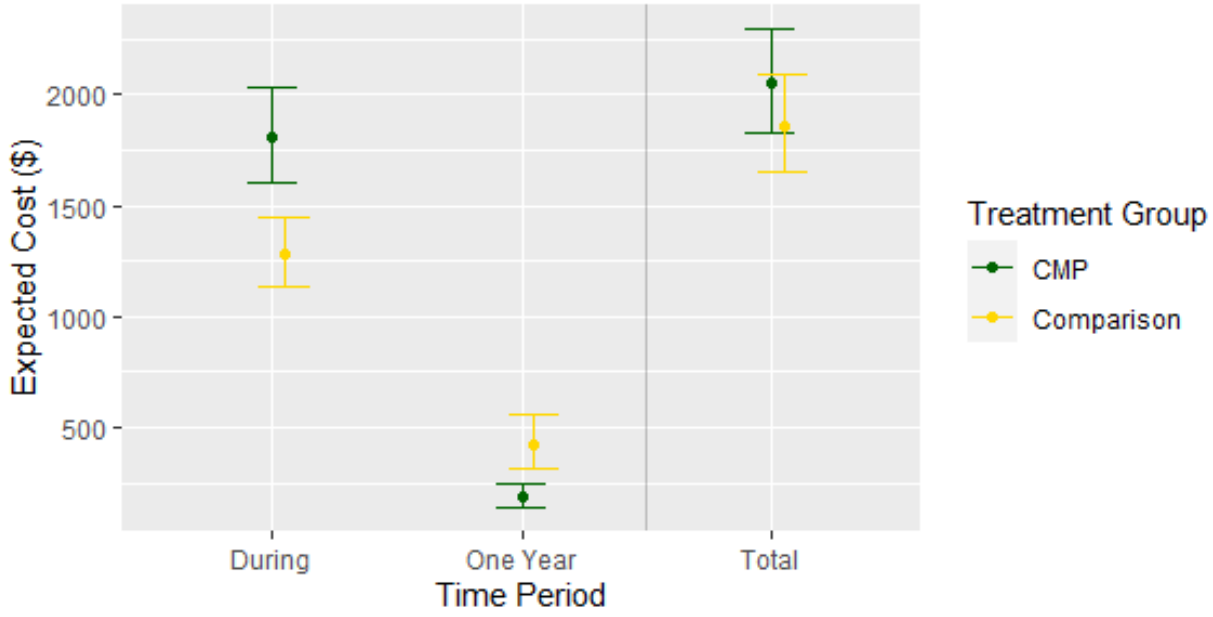
The CMP group was not significantly more likely to incur a cost than the matched comparison group during the program. However, if a cost was incurred, it was significantly greater than the cost of an equivalent comparison group case by an average of $381.90 ($p < 0.01$). The matched comparison group was significantly more likely to incur a cost one year out than the CMP group ($p < 0.01$). When a cost was incurred, it was significantly more than the cost incurred by a child in the CMP group by an average of $636.61 ($p < 0.05$). The overall estimated cost is shown in Figure 11 on the following page.

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. Average expected costs for the CMP group during the program ($1,804.85) was

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

significantly higher than average expected cost for the matched comparison group ($1,282.29). Average expected cost for the matched comparison group one year after ($419.67) was significantly higher than the average expected cost for the CMP group ($184.27). Total costs during and one year after the program were not significantly different, which is a promising trend regarding total cost in future years.

Figure 11: ***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

Although findings from the Family Voice Survey are preliminary, they do point to a few interesting trends. First, it is important to note that the majority of individuals have had primarily positive and helpful experiences with the ISST family meetings. For example, nearly all respondents felt that they were able to ask questions during meetings and were comfortable expressing themselves, and that the services, programs, and resources discussed were helpful in meeting their family's needs. Respondents' interactions with family team members have also been largely positive, with most people describing team members as respectful, helpful, and effective.

Initial opportunities for further focus and development are in ensuring that families' strengths and natural support systems are discussed along with their concerns during family meetings. Furthermore, about one-third of all respondents reported difficulties in accessing the services and programs discussed during family meetings, highlighting a need for supporting families in accessing the helpful services.

Lastly, there is also an opportunity for team members to continue taking time to understand families' culture, traditions, lifestyles, values, and beliefs while listening and asking non-judgmental questions. As additional surveys are submitted over time, it will be important to explore how families' experiences with staff members and family meetings may differ depending on their family structure and demographics. Future analyses will also seek to explore trends at the county-level and over time and provide additional qualitative insights through more robust content analyses.

5.1.1. Process Evaluation Next Steps

Next year's evaluation will continue the momentum of the new Family Voice Survey by continuing its administration to families who participate in ISST meetings and engage in CMP prevention programs. Furthermore, the evaluation team will continue partnership with DCW staff, the CMP Family Voice and Choice Committee, and CMP coordinators to move findings into action through targeted knowledge translation and mobilization efforts, including peer learning collaboratives and family voice roadmaps, 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 descriptive, non-experimental 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 one 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. Although these findings provide insight into the effectiveness of the program, they should be interpreted with caution because of the limitations inherent to the non-experimental, descriptive evaluation.

The quasi-experimental evaluation enabled the evaluation team to examine the descriptive findings in greater depth. The results of the quasi-experimental evaluation across 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 re-involvement, whether a child or youth remained home, placement stability, and becoming involved with the juvenile justice system, and neutral effects on the other five outcomes.

Two factors are important to consider in light of the quasi-experimental evaluation's findings. First, the program's impacts could be attributed to the considerable differences in the design and implementation of programs across CMP counties. As detailed in the authorizing legislation, the program explicitly

requires all counties to involve 10 mandatory partners; to establish collaborative processes for risk sharing, resource pooling, performance expectation, outcome monitoring, and staff training; and to implement an ISST to deliver integrated, multiagency services. Outside of these requirements, CMP counties are given considerable discretion in the design and implementation of their programs. CMP coordinators and other stakeholders have consistently highlighted the ability to tailor their programs to meet the individual needs of their clients as a key strength of the program. At the same time, these county-specific adjustments to the implementation and administration of the program could exert a notable impact on the program's overall effectiveness.

Second, it is important to consider the program's impact on the education domain. However, accessing client-level data for the CMP population and a robust comparison group remains an enduring challenge and a key need for comprehensively evaluating the program's effectiveness. Ultimately, the overall determination of the program's effectiveness can only be fully assessed when client outcomes can be rigorously evaluated via quasi-experimental evaluations conducted across all four domains. Accordingly, the need to access outcome data for the education domain, along with the ability to construct matched treatment and comparison groups, will be an important task within subsequent evaluations of the program.

This year's evaluation incorporated additional analyses to support program capacity by examining CMP's effectiveness in achieving outcomes for key subgroups. Across the eight subgroups examined, CMP was found to produce better child welfare outcomes for children and youth who entered the program while involved in a child welfare case than those who entered at other levels, better health/mental health outcomes for children and youth who had previous child welfare involvements than those who did not, and better child welfare outcomes among children ages 0 to 5 than among older children. Collectively, these finding provide critical insight into CMP's effectiveness and can help support capacity building efforts at the program and county levels by highlighting key sub-groups who achieve the greatest benefit from CMP. Additional research and evaluation are needed to explore how various practices may impact these outcomes and whether there are program-level differences in these outcomes due to variations in CMP programming.

5.2.1. Outcome Evaluation Next Steps

Based upon the findings from this year's evaluation, a pair of recommended next steps for the SFY21 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 evaluating CMP's outcomes over a longer period of time and across a larger number of clients.

Continue evaluation capacity building efforts: Accessing program and outcome data remains a critical need for effectively evaluating CMP. Through collaboration with Colorado Judicial, DYS, and OBH, this year's evaluation team was able to utilize child welfare, juvenile justice, and health/mental health outcome data once again 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 MOUs, and formal data use agreements, which can be used to obtain the requisite education outcome data.

Evaluate CMP's impacts over a longer horizon: While this year's evaluation was only partially impacted by the COVID-19 pandemic, the impact of the pandemic on CMP clients served in SFY20 and their outcomes will introduce a confounding factor that is likely to bias the findings of the SFY21 evaluation. More specifically, it may be difficult to disentangle program effects from COVID-19 for children with an initial ISST in SFY20 and their outcomes as of one year later. As such, this situation provides an effective opportunity to examine CMP outcomes over a longer period of time before the onset of the pandemic. Potential opportunities include examining one-year outcomes across a larger number of clients from multiple cohorts or examining longer-term impacts over several cohorts. The evaluation team will work with the CMP Program Administrator, the CMP Steering Committee, and other stakeholders to develop and implement an evaluation design to rigorously evaluate CMP's impacts over a longer period of time and across a larger number of clients.

5.3. Cost Evaluation Considerations

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. Moreover, 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 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.

5.3.1. Cost Evaluation Next Steps

Shifting the cost evaluation to distinguish no-cost youth from others is an important step to measuring cost savings. A new and attainable goal for the evaluation moving forward may be to follow the outcomes analysis and use matching techniques to design a comparison group for the youth with positive costs, and to extend the one-year follow-up to include two years of costs. This would allow for a more rigorous test of the cost structures underlying youth involvement across multiple domains by increasing the sample size of the comparison group, particularly 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.

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. Constructing 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 SFY19 that was documented within Trails via the "Facilitated Family Meeting/ISST" framework.

2. Matching the list of clients from the ETO database to the Trails database. This process was used to match the SFY19 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 retained, while duplicated records in ETO were discarded.

3. Combining 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 SFY19.

4. Constructing a pool of children and youth who were eligible but not served by CMP. This process was used to identify child welfare–involved children and youth residing within the CMP counties who were eligible for CMP but were not served by the program. This process established a "comparison pool" of children and youth who could serve as potential matches for members of the treatment group. The following parameters were used to identify children and youth who 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 SFY19.
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 SFY19. 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 SFY20.
c. Children and youth were served by systems in the 44 CMP counties for SFY19, excluding Larimer and Boulder Counties, and those served by DYS.
d. For children and youth with multiple events, the event used was the first eligible event in SFY19.

5. Matching 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. Integrating pretreatment variables. For this step, a collection of 14 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. Constructing the child welfare outcome variables. In the seventh step, the SFY19 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 one year from the date of the child or youth's entry into the child welfare system. For CMP clients, this was one year after the date of the initial ISST meeting date. For members of the comparison group, this was one year after the date that the child or youth first became involved with child welfare in SFY19. Table A1 on the following page details the operationalization of the five child welfare outcomes.

8. Matching 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. Matching health/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* = 5,743)	▪ 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* = 5,743)	▪ 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* = 1,724)	▪ 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* = 1,724)	▪ 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* = 4,460)	▪ 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
Prevent involvement with juvenile justice system	Children and youth who did not enter into detention	Children and youth served by CMP in SFY20, ages 10 years or older (*N* = 2,993)	▪ N/A
Increase successful involvement with juvenile justice system (probation only)	Children and youth who were also served by the juvenile justice system and had a "successful termination of probation or parole" in the year after they began receiving services	Client-level data on this performance measure were not available for inclusion in this year's evaluation report.	▪ Successful termination of probation consisted of the following outcomes: Terminated – successful; Terminated – unsatisfactory; and Successful Discharge – interstate compact. ▪ Unsuccessful termination of probation consisted of the following outcomes: Revocation – new felony offense; Revocation – new misdemeanor offense; Revocation – technical violation; Absconded; Absconded – warrant outstanding; and Community Corrections.
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* = 2,993)	▪ N/A
Decrease children and youth involved with truancy court	Children and youth who were diverted from involvement with truancy court while involved in the juvenile justice system	Children and youth served by CMP in SFY20 (*N* = N/A)	▪ None of the CMP counties selected the "Decrease children and youth involved in truancy court" performance goal.

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 who were involved with the health/mental health system and had a minimum of two level-of-functioning measurements within the CCAR (*N* = 1,510)	▪ Measuring changes in the level of functioning required a minimum of two measurements. Clients with fewer 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 who 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 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 use treatment or intensive outpatient treatment	CMP clients receiving substance use or intensive outpatient services (*N* = 71)	▪ 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 use provider, (d) mental health provider or (e) health insurance provider	CMP clients in need of health services (*N* = 5,743)	▪ 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 was whether dropping children/youth served by Boulder and Larimer Counties and DYS had a notable impact on the populations used to construct the matched comparison groups. Children/youth served by Boulder and Larimer Counties and DYS 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 three 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	94.5% (*N* = 6,422)	94.1% (*N* = 5,305)
Decrease number of children/youth involved in child welfare	93.6% (*N* = 6,422)	93.4% (*N* = 5,305)
Increase number of children/youth who remain home	90.8% (*N* = 4,896)	89.6% (*N* = 3,888)
Increase placement stability of children/youth	88.1% (*N* = 2,061)	87.7% (*N* = 1,891)
Increase permanency of children/youth	65.7% (*N* = 2,061)	66.1% (*N* = 1,891)
Health/Mental Health Performance Goals		
Decrease problem severity	31.9% (*N* = 1,311)	31.4% (*N* = 1,140)
Decrease substance use	61.4% (*N* = 57)	64.8% (*N* = 54)
Increase children/youth health	21.1% (*N* = 6,344)	21.3% (*N* = 5,471)
Juvenile Justice		
Decrease commitment to DYS	97.4% (*N* = 3,097)	96.9% (*N* = 2,512)
Prevent involvement with juvenile justice system	82.6% (*N* = 3,097)	80.8% (*N* = 2,512)

APPENDIX C: DETAILED OVERVIEWS OF THE MATCHES USED IN THE CHILD WELFARE, HEALTH/MENTAL HEALTH, AND JUVENILE JUSTICE QUASI-EXPERIMENTAL EVALUATIONS

This appendix expands on the information provided in Section 3.5.1. (***Constructing Comparison Groups Using Matching Methods***) with detailed descriptions of the processes used to construct the matched groups used in the child welfare, health/mental health, and juvenile justice quasi-experimental evaluations.

Child Welfare Outcomes: Subsequent Involvements and Safety

To examine the subsequent involvement and safety performance goals, the evaluation team matched 3,360 members of the treatment group to 3,360 members of the comparison group. As shown in Table C1 on the following page, the matching process considerably reduced the imbalance between the two groups, with the matched groups having no statistically significant differences across the 13 matching variables.

Table C1: ***Differences in Key Covariates within the Matched Child Welfare Groups Used to Examine Subsequent Involvements and Safety Outcomes***

Covariate	Matched CMP Clients	Matched Comparison Group	CMP Population
Prior Adoption	0.33%	0.33%	2.82%
Prior Food Assistance			
Yes	74.38%	75.24%	72.42%
No	22.89%	22.02%	23.92%
Unknown	2.74%	2.74%	3.66%
Previously on Medicaid			
Yes	83.72%	84.70%	81.44%
No	13.54%	12.56%	14.90%
Unknown	2.74%	2.74%	3.66%
Age at Beginning of Involvement (mean)	8.86	8.87	9.25
Gender			
Female	46.37%	46.37%	43.80%
Male	53.63%	53.63%	56.20%
Race and Ethnicity			
African American	8.81%	8.81%	8.53%
Caucasian	42.71%	42.71%	43.73%
Hispanic	39.35%	39.35%	35.39%
Other	1.28%	1.28%	1.81%
Unknown	7.86%	7.86%	10.53%
Family Structure			
Single Parent	19.40%	19.40%	21.54%
Married Couple	5.68%	5.68%	9.66%
Undetermined	67.20%	67.20%	57.71%
Unmarried Couple	7.71%	7.71%	11.09%
Primary Caregiver's Age (mean)	35.46	35.10	35.77
Number of Prior Referrals (mean)	5.40	5.23	5.63
Number of Prior Assessments (mean)	2.54	2.48	2.61
Number of Prior Cases (mean)	0.32	0.30	0.41
Number of Prior Removals (mean)	0.14	0.13	0.17
Prior DYS Involvement	4.40%	4.40%	7.29%
Number of Observations	**3,360**	**3,360**	**5,744**

Note: *Statistically significant at the $p < 0.05$ level.

Child Welfare Outcomes: Placement Stability and Permanency

Unlike the broader CMP population, the out-of-home subgroup consisting of children/youth with placement stability and permanency outcome performance goals had notably fewer members within the comparison group. As a result, 1-to-1 matching could not be performed without excluding a sizable proportion of the treatment group. Accordingly, the evaluation team used 1-to-*k* matching to match multiple members of the treatment and comparison groups to one another. The use of 1-to-*k* matching does not necessarily result in a less balanced matched group but requires a slightly different outcome model that weights observations by the number of treatment and comparison groups within each matched stratum.[30] In total, 865 members of the treatment group were matched to 610 members of the comparison group. As shown in Table C2 on the following page, the matching process significantly reduced the imbalance between the two groups, though fewer of the 13 covariates were exactly matched.[31] To further account for the effects of these remaining imbalances, the evaluation team included these covariates within each of the multi-level mixed effects models. Including these variables in both the matching process and the subsequent multivariate models provided a "double robustness" approach, which is commonly used within randomized experiments and matched designs and allowed the evaluation team to further control for covariate imbalance between the matched groups.

[30] Blackwell, M., Iacus, S., King, G., & Porro, G. (2009). CEM: Coarsened exact matching in Stata. *The State Journal, 9*, 524–546. The paper includes the following helpful description: "By default, CEM uses maximal information, resulting in strata that may include different numbers of treated and control units. To compensate for the differential strata sizes, CEM also returns weights to be used in subsequent analyses. Although this is generally the best option, a user with enough data may opt for a k-to-k solution to avoid the slight inconvenience of needing to use weights" (p. 536).

[31] Variables that were not exactly matched were subsequently included in the placement stability and permanency models.

Table C2: Differences in Key Covariates within the Matched Child Welfare Groups Used to Examine Placement Stability and Permanency Outcomes

Covariate	Matched CMP Clients	Matched Comparison Group	CMP Population
Prior Adoption	0.00%	0.00%	2.13%
Prior Food Assistance			
Yes	72.95%	72.95%	73.53%
No	27.05%	27.05%	26.47%
Unknown	0.00%	0.00%	0.00%
Previously on Medicaid			
Yes	85.66%	85.66%	84.50%
No	14.34%	14.34%	15.50%
Unknown	0.00%	0.00%	0.00%
Age at Beginning of Involvement (mean)	4.68	4.79	6.88
Gender			
Female	42.54%	42.54%	45.04%
Male	57.46%	57.46%	54.96%
Race and Ethnicity			
African American	7.51%	7.51%	10.23%
Caucasian	50.40%	50.40%	47.62%
Hispanic	41.62%	41.62%	38.08%
Other	0.35%	0.35%	1.57%
Unknown	0.12%	0.12%	2.51%
Family Structure			
Single Parent	56.30%	56.30%	47.55%
Married Couple	14.22%	14.22%	22.71%
Undetermined	1.04%	1.04%	3.14%
Unmarried Couple	28.44%	28.44%	26.60%
Primary Caregiver's Age (mean)	32.18	32.72	34.53
Number of Prior Referrals (mean)	3.55	3.55	5.35
Number of Prior Assessments (mean)	1.74	1.74	2.52
Number of Prior Cases (mean)	0.17	0.15	0.34
Number of Prior Removals (mean)	0.06	0.07	0.16
Prior DYS Involvement	1.97%	1.97%	6.84%
Number of Observations	**865**	**610**	**1,594**

Note: *Statistically significant at the $p < 0.05$ level.

Child Welfare Outcome: Remain Home

To examine the remain home performance goal, the evaluation team matched 2,745 members of the treatment group of children/youth who had a child welfare case but remained in their homes to 2,745 members of the comparison group. As shown in Table C3, the matching process considerably reduced the imbalance between the two groups, with the 13 matching variables having no statistically significant differences.

Table C3: ***Differences in Key Covariates within the Matched Child Welfare Groups Used to Examine the Remain Home Outcome***

Covariate	Matched CMP Clients	Matched Comparison Group	CMP Population
Prior Adoption	0.55%	0.55%	3.17%
Prior Food Assistance			
Yes	74.68%	74.46%	72.46%
No	21.97%	22.19%	22.08%
Unknown	3.35%	3.35%	5.46%
Previously on Medicaid			
Yes	83.24%	83.90%	80.40%
No	13.41%	12.75%	14.14%
Unknown	3.35%	3.35%	5.46%
Age at Beginning of Involvement (mean)	9.39	9.34	10.05
Gender			
Female	45.21%	45.21%	43.31%
Male	54.79%	54.79%	56.69%
Race and Ethnicity			
African American	8.60%	8.60%	9.50%
Caucasian	42.81%	42.81%	40.34%
Hispanic	37.85%	37.85%	36.00%
Other	1.46%	1.46%	2.10%
Unknown	9.29%	9.29%	12.06%
Family Structure			
Single Parent	11.51%	11.51%	14.36%
Married Couple	3.53%	3.53%	6.93%
Undetermined	80.58%	80.58%	71.62%
Unmarried Couple	4.37%	4.37%	7.10%
Primary Caregiver's Age (mean)	35.94	35.32	36.44
Number of Prior Referrals (mean)	5.59	5.30	5.70
Number of Prior Assessments (mean)	2.60	2.48	2.66

Number of Prior Cases (mean)	0.30	0.29	0.36
Number of Prior Removals (mean)	0.10	0.10	0.16
Prior DYS Involvement	4.41%	4.41%	7.91%
Number of Observations	**2,745**	**2,745**	**3,664**

Note: *Statistically significant at the $p < 0.05$ level.

Health/Mental Health Outcome: Decrease Problem Severity

Within the health/mental health domain, the evaluation team examined the decrease problem severity goal using matched groups consisting of 712 members for each of the treatment and comparison groups. Table C4 on the following page shows that the matching process considerably reduced the imbalance between the two groups, with the matched groups having no statistically significant differences across the 13 matching variables.

Table C4: ***Differences in Key Covariates within the Matched Health/Mental Health Groups Used to Examine the Decrease Problem Severity Outcome***

Covariate	Matched CMP Clients	Matched Comparison Group	CMP Population
Prior Adoption	0.28%	0.28%	2.37%
Prior Food Assistance			
Yes	86.80%	87.22%	84.70%
No	11.94%	11.52%	12.30%
Unknown	1.26%	1.26%	3.00%
Previously on Medicaid			
Yes	92.28%	93.68%	89.12%
No	6.46%	5.06%	7.89%
Unknown	1.26%	1.26%	3.00%
Age at Beginning of Involvement (mean)	12.08	11.94	12.18
Gender			
Female	44.10%	44.10%	42.03%
Male	55.90%	55.90%	57.97%
Race and Ethnicity			
African American	6.46%	6.46%	8.83%
Caucasian	51.54%	51.54%	46.77%
Hispanic	36.66%	36.66%	35.41%
Other	0.84%	0.84%	1.81%
Unknown	4.49%	4.49%	7.18%
Family Structure			
Single Parent	24.02%	24.02%	30.84%
Married Couple	6.88%	6.88%	12.93%
Undetermined	63.76%	63.76%	46.92%
Unmarried Couple	5.34%	5.34%	9.31%
Primary Caregiver's Age (mean)	38.48	38.65	38.74
Number of Prior Referrals (mean)	8.57	7.86	8.82
Number of Prior Assessments (mean)	3.88	3.56	3.99
Number of Prior Cases (mean)	0.45	0.45	0.58
Number of Prior Removals (mean)	0.21	0.21	0.30
Prior DYS Involvement	8.15%	8.15%	15.93%
Number of Observations	**712**	**712**	**1,268**

Note: *Statistically significant at the $p < 0.05$ level.

Health/Mental Health Outcome: Decrease Substance Use

The evaluation team examined the decrease substance use goal using notably smaller matched groups consisting of 30 members of the treatment group and 30 members of the comparison group (as shown in Table C5). The smaller size of these matched groups is attributed to a lower number of children and youth involved in substance use treatment and, in particular, critical differences in the number of CMP children and youth who received services (62 clients) and the number of non-CMP children and youth receiving services (42 clients). While imbalance existed between the number of children and youth in the two groups prior to matching, there were notably fewer statistically significant differences between the two groups that necessitated matching. Accordingly, only two of the 13 pretreatment variables significantly related to treatment assignment or substance use treatment outcomes were involved in the matching procedure.

Table C5: ***Differences in Key Covariates within the Matched Health/Mental Health Groups Used to Examine the Decrease Substance Use Outcome***

Covariate	Matched CMP Clients	Matched Comparison Group	CMP Population
Family Structure			
Single Parent	33.33%	33.33%	48.39%
Married Couple	10.00%	10.00%	17.74%
Undetermined	56.67%	56.67%	27.42%
Unmarried Couple	--	--	6.45%
Number of Prior Referrals (mean)	5.63	5.80	10.84
Number of Observations	**30**	**30**	**62**

Note: *Statistically significant at the $p < 0.05$ level.

Health/Mental Health Outcome: Increase Children/Youth Health

Next, the evaluation team examined the increased children/youth health outcome using robust treatment and comparison groups consisting of 3,230 members each. As shown in Table C6 on the following page, the matching process considerably reduced the imbalance between the two groups, with the matched groups having no statistically significant differences across the 13 matching variables.

Table C6: ***Differences in Key Covariates within the Matched Health/Mental Health Groups Used to Examine the Increase Children/Youth Health Outcome***

Covariate	Matched CMP Clients	Matched Comparison Group	CMP Population
Prior Adoption	0.37%	0.37%	2.96%
Prior Food Assistance			
Yes	73.31%	74.71%	72.61%
No	23.84%	22.45%	23.27%
Unknown	2.85%	2.85%	2.38%
Previously on Medicaid			
Yes	82.88%	83.96%	81.17%
No	14.27%	13.19%	14.71%
Unknown	2.85%	2.85%	2.38%
Age at Beginning of Involvement (mean)	8.76	8.77	9.25
Gender			
Female	46.28%	46.28%	44.12%
Male	53.72%	53.72%	55.88%
Race and Ethnicity			
African American	8.48%	8.48%	9.34%
Caucasian	43.13%	43.13%	42.47%
Hispanic	39.13%	39.13%	36.54%
Other	1.30%	1.30%	2.02%
Unknown	7.96%	7.96%	9.63%
Family Structure			
Single Parent	18.67%	18.67%	22.72%
Married Couple	5.20%	5.20%	10.27%
Undetermined	68.67%	68.67%	54.75%
Unmarried Couple	7.46%	7.46%	12.26%
Primary Caregiver's Age (mean)	35.49	34.78	35.76
Number of Prior Referrals (mean)	5.18	4.99	5.58
Number of Prior Assessments (mean)	2.43	2.35	2.62
Number of Prior Cases (mean)	0.27	0.27	0.36
Number of Prior Removals (mean)	0.10	0.10	0.18
Prior DYS Involvement	3.65%	3.65%	7.49%
Number of Observations	**3,230**	**3,230**	**4,860**

Note: *Statistically significant at the $p < 0.05$ level.

Juvenile Justice Outcomes: Prevent Involvements with the Juvenile Justice System and Decrease Commitment to DYS

Finally, the evaluation team examined the pair of juvenile justice outcomes using treatment and comparison groups consisting of 1,189 members each. As shown in Table C7, the matching process considerably reduced the imbalance between the two groups, with the matched groups having no statistically significant differences across the 13 matching variables.

Table C7: ***Differences in Key Covariates within the Matched Justice Groups Used to Examine the Prevent Involvement with the Juvenile Justice System and Decrease Commitments to DYS Outcomes***

Covariate	Matched CMP Clients	Matched Comparison Group	CMP Population
Prior Adoption	0.42%	0.42%	4.51%
Prior Food Assistance			
Yes	74.68%	73.34%	73.65%
No	20.94%	22.29%	20.12%
Unknown	4.37%	4.37%	6.24%
Previously on Medicaid			
Yes	81.50%	80.24%	79.14%
No	14.13%	15.39%	14.63%
Unknown	4.37%	4.37%	6.24%
Age at Beginning of Involvement (mean)	13.50	13.50	14.07
Gender			
Female	45.67%	45.67%	42.24%
Male	54.33%	54.33%	57.76%
Race and Ethnicity			
African American	7.82%	7.82%	8.98%
Caucasian	41.30%	41.30%	38.86%
Hispanic	39.11%	39.11%	37.96%
Other	0.76%	0.76%	1.84%
Unknown	11.02%	11.02%	12.35%
Family Structure			
Single Parent	9.17%	9.17%	21.18%
Married Couple	1.93%	1.93%	10.00%
Undetermined	87.72%	87.72%	61.49%
Unmarried Couple	1.18%	1.18%	7.33%
Primary Caregiver's Age (mean)	39.58	38.34	40.41
Number of Prior Referrals (mean)	5.49	5.26	7.23
Number of Prior Assessments (mean)	2.42	2.34	3.36
Number of Prior Cases (mean)	0.21	0.21	0.50

Number of Prior Removals (mean)	0.07	0.07	0.27
Prior DYS Detention	4.63%	4.63%	14.31%
Prior DYS Commitment	0.08%	0.08%	1.10%
Number of Observations	**1,189**	**1,189**	**2,550**

Note: *Statistically significant at the $p < 0.05$ level.