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Evaluation of the New Jersey Children's System of Care and its Promising Path to Success Initiative

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INTRODUCTION

For more than two decades, New Jersey's (NJ's) Children's System of Care (CSOC) has focused on transforming the delivery, scope and reach of emotional and behavioral health care, substance use treatment, and intellectual and developmental disabilities services for children, youth, and their families within the state. This multi-pronged evaluation aims to understand the range of impacts stemming from the evolution and maturation of these efforts, including those related to implementation of the statewide trauma-informed Promising Path to Success initiative. This chapter provides an overview of the evaluation design, previewing key questions to be addressed in subsequent chapters. It also highlights overall trends in CSOC over time and considerations of key stakeholders as they reflected on strategies underlying development of the work and initiatives across the Children's System of Care.

BACKGROUND

Overall Evaluation and its Data Sources

This multi-part evaluation examines impacts stemming from the overall work and development of New Jersey's Children's System of Care (CSOC) over time, with a special focus on targeted outcomes from its Promising Path to Success (PPS) initiative.

The evaluation focuses on these questions:

- What were key strategies in CSOC's overall progress and development as a "mature" (i.e., multi-decade old) system of care, as well as in implementing its statewide Promising Path to Success initiative?
- What were some of the important trends over time for children and families engaged with CSOC? Specifically, how did selected markers of wellbeing, service use and costs change over time?
- How were Promising Path to Success tenets and related strategies implemented throughout the New Jersey System of Care and what were the implications for youth/young people and their families?

This evaluation uses a mix of quantitative and qualitative methods and relies on several data sources, including:

- **Interviews with over 200 stakeholders**, including: system leaders; CSOC partners; and those on the frontlines of implementing the trauma-informed Promising Path to Success initiative;
- Primary and secondary **data collected from CSOC partners and providers**;
- Data from CSOC's **Electronic Behavioral Health Information System** (CYBER), including from the **Child and Adolescent Needs and Strengths** (CANS) assessment tool; and
- **NJ Medicaid** claims and managed care encounter data (i.e., NJ Medicaid Management Information System or NJMMIS).

Together, these sources help inform answers to key questions linked to the work of the Children's System of Care and related impacts for the many youth and families it serves. Below is a road map of this evaluation, including brief descriptions of the chapters and key questions related to each.

TABLE 1.1: **KEY EVALUATION QUESTIONS BY CHAPTER**

Chapter 1: Overview of the Evaluation of the Children's System of Care and its Promising Path to Success Initiative	What are the objectives of the evaluation and key questions focused on understanding overall CSOC trends and selected impacts over time, and, specifically, those stemming from its system-wide trauma-informed Promising Path to Success (PPS) effort? What are the key perspectives from program and system leaders and architects as they reflect on CSOC's development, achievements, and impact overall? What are key CSOC developments and trends over time?
Chapter 2: Lessons from Developing a Statewide Initiative to Promote Trauma-Informed Care: Reflections on the Promising Path to Success Experience	What are key pillars of PPS, its Six Core Strategies© and Nurtured Heart Approach? What lessons emerge from efforts to adopt a trauma-informed lens throughout organizations across a state-wide system of care?
Chapter 3: Promising Path to Success: Perspectives from the Frontlines	How was PPS implemented throughout CSOC's many diverse provider and partner organizations? What were the views from those on the frontlines of implementation and what lessons can be culled to inform future expansion, adaptation, or replication of system wide efforts?
Chapter 4: Changes in Restraint Use in Out-of-Home Facilities	How did PPS implementation deliver on a key aim of reducing use of physical restraints throughout the New Jersey System of Care? How has restraint use changed across different types/levels of care?
Chapter 5: Evaluating Outcomes Related to Promising Path to Success: Child and Adolescent Needs and Strengths (CANS) and Re-entry into Out-of-Home Treatment	What were the effects of PPS in terms of re-entry into out-of-home (OOH) treatment settings among children and youth? Were there reductions in lengths of stay among children and youth receiving OOH treatment? What were impacts on different domains of child needs and strengths?
Chapter 6: Impact of Promising Path to Success Implementation on Medicaid Service Utilization	What were effects of PPS in terms of the ability of children to avoid returning to treatment indicating increased intensity of need, including ED visits, inpatient hospitalizations, and screening for and/or psychiatric admissions?
Chapter 7: Medicaid Utilization and Spending among Youth Receiving Out-of-Home Treatment before and after Implementation of Promising Path to Success	How does total acute care Medicaid utilization and associated spending compare over a period of time for children and youth engaged with PPS compared to other children and youth?
Chapter 8: Medicaid Behavioral Health Services Utilization among Youth Receiving Out-of-Home Treatment before and after Implementation of Promising Path to Success	How does Medicaid utilization and associated spending on behavioral health services compare over time for children and youth engaged with PPS compared to other children and youth?
Chapter 9: Findings and Lessons from the Evaluation	Looking across the findings from the above chapters, what are the most important takeaways examining the impacts of CSOC and its work in and beyond PPS to transform delivery of services and treatment for children and youth within the state?

Roads Taken (and Not Taken) on the Evaluation

NJ's CSOC evolved over time to create a shift toward preventive, child- and family-centered, and closer-to-home care and treatment (as detailed below). The evaluation was initially designed as a larger return-on-investment analysis—focused on long-term and "spillover effects" from creating a system of preventive services for children and youth in New Jersey. This initial strategy included potential examination of CSOC's impact on resource use across other relevant systems and sectors, such as juvenile justice, child welfare, and education. Unfortunately, these paths could not be taken. Greater than foreseen challenges in accessing related linkable data within an acceptable timeframe, combined with logistical data-sharing considerations, precluded exploration of all of these important returns on investment. Though not as encompassing as originally planned for the evaluation, the team narrowed the focus toward understanding returns in health system use and spending, through analyzing NJ Medicaid claims and encounter data linked with program information.

Background on New Jersey's Children's System of Care

The New Jersey CSOC is one of the nation's oldest Systems of Care and the first to be implemented statewide. In 2000, Governor Christie Whitman launched reforms of children's behavioral services within New Jersey designed to "maintain the integrity of family and community life while delivering effective clinical care and social supports services" through "organizing and delivering services for children and families that support the dignity and integrity of children, families, and the communities in which they live."[1] This reform agenda unfolded over time to grow into what is now known as New Jersey's Children's System of Care (CSOC)—a system of care that serves nearly 60,000 children with emotional and behavioral health challenges, intellectual and developmental disabilities and substance use challenges.[2]

The NJ Department of Human Services received an initial Children Mental Health Initiative (CMHI) grant from the Substance Abuse and Mental Health Services Administration (SAMHSA) in 1999 to develop comprehensive community mental health services

for children and adolescents with serious behavioral, emotional, and mental health challenges, completing the transition to a statewide system of care in 2006, thereby becoming the nation's first such system.

CSOC serves youth with emotional and behavioral health care challenges and their families; youth with intellectual and developmental disabilities and their families, and youth with substance use challenges and their families, through coordinated care, treatment and intervention.

Consistent with CSOC core values, these services aim to be:

- Strength-based and promoting independence;
- Family driven;
- Youth guided;
- Collaborative and team supported;
- Individualized;
- Home, school and community based;
- Culturally and linguistically competent; and
- Evidenced based.[3]

Today, CSOC is one of the four major divisions of the New Jersey Department of Children and Families (DCF).[4] CSOC administers New Jersey's public behavioral health system for youth up to age 21 through contracts with community-based service providers and a contracted system administrator (CSA) to implement the system of care model. CSOC service areas are aligned with the fifteen Court Vicinages to assure seamless connections and coordination of care, particularly for youth with multi-system involvement.[5]

CSOC offers an array of services across the continuum of care, including, but not limited to: assessment, care management, family support, mobile crisis response, intensive in-home services, out-of-home treatment and respite services.[6]

Over the past two decades, there has been a nearly nine-fold increase in children served through community-based services and programs (Figure 1.1).

FIGURE 1.1: **NUMBER OF CHILDREN/YOUTH IN COMMUNITY-BASED CARE MANAGEMENT, IN-HOME AND DAY TREATMENT PROGRAMS**

SOURCE: Division of Children's System of Care, March 2020
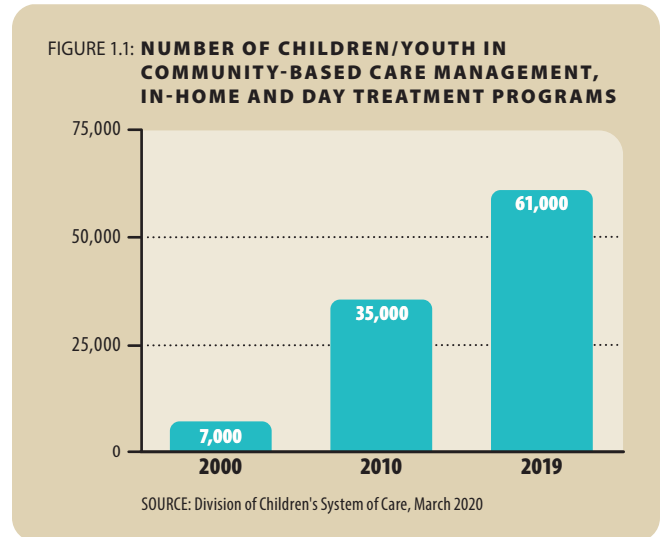
Community-based services include the availability of 24/7 Mobile Response aligned with CMOs and Family Support Organizations (FSOs) to support all of New Jersey's 21 counties.

The addition of this mobile service has allowed many children experiencing crises to remain within their homes or in their current living situations, rather than being transported to emergency rooms or displaced to other treatment settings (Figure 1.2).

FIGURE 1.2: **PERCENT OF CHILDREN SERVED BY MOBILE RESPONSE REMAINING AT HOME OR IN CURRENT SETTING**

- Remaining at Home or in Current Setting
- Needing Other Setting

SOURCE: NJ Department of Children and Families, 2020 DCF Statewide Profile, Mobile Response Stabilization Services Dispatch Data
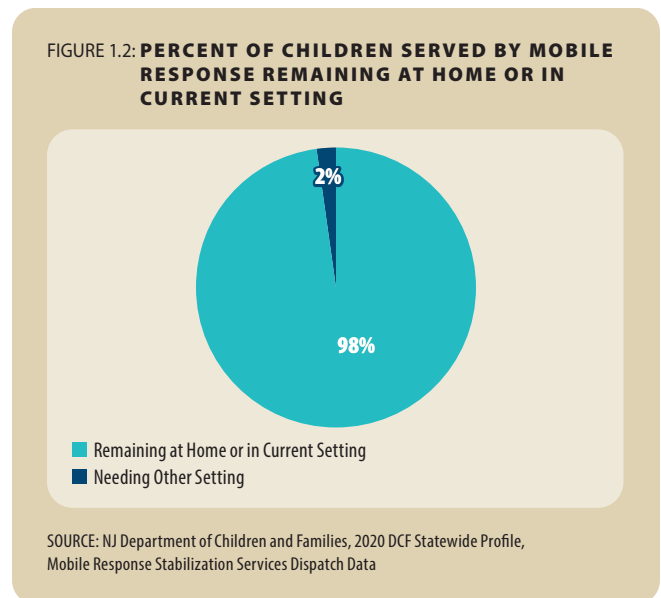
CSOC's OOH treatment services range from diagnostic/evaluation programs to intensive residential treatment centers that provide stabilization and concentrated individualized treatment. Between 2014 and 2020, the number of children in OOH treatment dropped by more than 40% (Figure 1.3).

FIGURE 1.3: **NUMBER OF CHILDREN/YOUTH ADMITTED TO OUT-OF-HOME RESIDENTIAL TREATMENT, 2014–2020**

SOURCE: Rutgers School of Social Work CSOC Data Portal
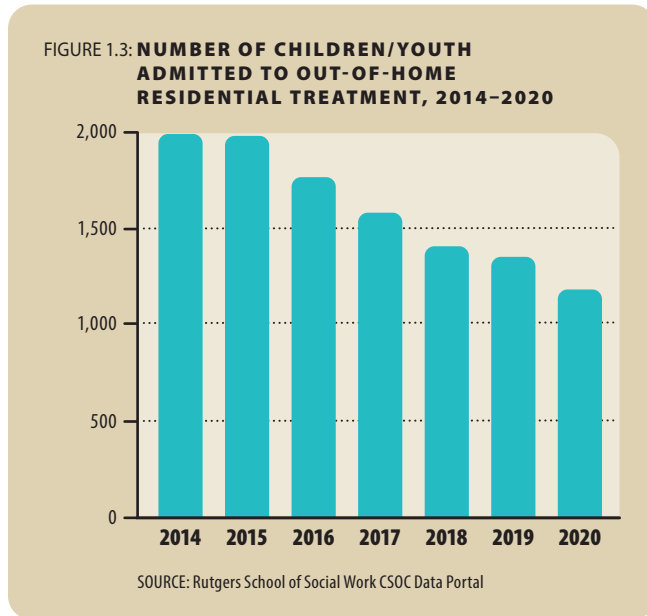
Building the continuum of these services helped bring more than 325 youth, who had been receiving out-of-state OOH behavioral health services back to New Jersey (between 2007–2012), for appropriate care closer to home.

CSOC's Contracted System Administrator (CSA)—PerformCare—creates a common single point of entry that registers all youth and authorizes services in an electronic record, as well as tracks and coordinates care for all New Jersey youth enrolled in CSOC. While CSOC retains all regulatory and policy-making authority, the CSA supports CSOC in its role of implementing the children's system of care, including offering recommendations for improvements to the delivery of services. The CSA performs a broad range of administrative service functions including: providing a Customer Service/Call Center with 24-hour/7-day intake; managing a web-based application/interface with its management information system; overseeing care management, including utilization management and care coordination; coordinating access to services for all youth, including facilitating access to specialized services for youth involved with the Division of Child Protection and Permanency (DCP&P) and transitions to adult services; providing quality and outcomes management, and system measurement supporting CSOC's goal to promote best practices, as well as providing assistance in assuring compliance with State and federal guidelines.[7]

The CSA reviews and authorizes the type, intensity and frequency of services based on need, as driven and requested by Child Family Teams and supported through the Child and Adolescent Needs and Strengths (CANS) assessment.[8] CSA informatics provide targeted data reports and analyses to help facilitate CSOC quality improvement and strategic planning efforts, including data pointing to the need to address trauma throughout the CSOC.[9]

Promising Path to Success—A Statewide Initiative to Promote Trauma-Informed Care

To promote trauma-informed care delivery across all levels of the System of Care, in November 2015, CSOC launched Promising Path to Success (PPS). PPS focuses on the use of the evidence-based Six Core Strategies© to Prevent Violence, Trauma, and the use of Seclusion and Restraint, which has demonstrated effectiveness in achieving reduction of seclusion and restraint use,[10,11,12] along with the relationship-focused Nurtured Heart Approach® (NHA) aimed at building the inner wealth and resources of youth and families, while supporting system partners in creating more trauma-informed environments.

PPS was launched through regional training programs, coupled with coaching support provided by the Behavioral Research and Training Institute at University Behavioral Health Care (UBHC) within Rutgers University. The Behavioral Research and Training Institute at UBHC provided a site-specific team for each of the out-of-home treatment providers.

Along with its overall goal of building the inner wealth and resources of children and adolescents, their families and caregivers, as well as the workforce that serves them, Promising Path to Success aimed to:

- Reduce/eliminate restraint, seclusion & coercion;
- Reduce the share of youth re-entering treatment after transitioning back to the community following an initial treatment episode;

- Reduce the share of youth who required multiple episodes of out-of-home (OOH) treatment;
- Shorten the average length-of-stay for youth in OOH treatment to nine months or less; and
- Understand the impact of system components to guide resource allocations.

The PPS-focused parts of the evaluation (Chapters 2-8) explore how well the program delivered on these aims.

CSOC KEY TOUCH POINTS:

Contracted Systems Administrator (CSA) – Administrative Service Organization that provides a single point of entry/portal for access to care

Care Management Organizations (CMOs) – Provide intensive and moderate care management through the wraparound model serving youth and their families

Mobile Response and Stabilization Services (MRSS) – Provide crisis services and planning for youth with behavioral/ emotional/IDD/ Substance Abuse needs 24/7/365

Family Support Organizations (FSOs) – Provide family-led support for families, community education, warm lines and advocacy

Youth Partnership – Provides an opportunity for youth to come together to offer peer support, participate in awareness activities, and provide system of care advice and leadership

Source: CSOC Background Presentation

ABOUT THIS PART OF THE EVALUATION

Along with setting forth key questions and the roadmap for the larger evaluation, the remainder of this chapter draws from interviews of leaders who helped create and implement key initiatives within CSOC, including Promising Path to Success (PPS), as well as presents data trends across the system of care. While interviews were largely focused on understanding key strategies behind PPS implementation, they also included broader reflections related to the Children's System of Care overall, and strategies that helped build and advance its success over time. This chapter focuses on those broader reflections. Finally, this chapter also examines some key data from over the past decade to better understand effects and results of these strategies as the Children's System of Care matured over time, including implications for the children, youth and their families served by these programs.

KEY QUESTIONS ADDRESSED

This part of the evaluation examined the following questions:

- What steps were viewed as critical in the development of New Jersey's Children's System of Care?
- Which strategies helped move the vision for the system forward?
- What can others learn from New Jersey's experience?
- What are some key characteristics of children served by the Children's System of Care?
- How have use of services and treatments, costs and selected outcomes for these children changed over time?

EVALUATION APPROACH

The Rutgers evaluation team conducted interviews with leadership from the New Jersey Children's System of Care (CSOC), along with its partner agencies aimed primarily at understanding the strategies engaged in implementing a statewide initiative to integrate trauma-informed care across a system spanning diverse regions, organizations, and clinical settings. Two-person teams conducted (either in-person or by phone) over 200 semi-structured, 45-90 minute qualitative interviews with key informants from OOH treatment programs and program coaches (152), CMOs and FSOs (45) as well as state and system leaders

(6). Interviewees were purposefully selected based on participation and engagement with PPS; they ranged from CEOs and system leaders to staff providing direct care. Interviews were transcribed, coded and entered into the Dedoose software program, organized thematically, and put into matrices including recommendations, rationales, and interview excerpts. Among the responses stemming from these efforts were (from several interviewees) reflections about the overall development of the Children's System of Care over time, focusing on key drivers of its success, growth and maturation. This chapter first seeks to highlight some themes and lessons from those reflections. As a companion to these reflections, the evaluation team also examined data spanning the past decade—including information on service use, markers of child health and needs and related spending—to gain an overall picture of selected results and impacts associated with the maturation of the Children's System of Care over time for the children, youth and families relying on its programs.

KEY FINDINGS:
REFLECTIONS ON THE SYSTEM OF CARE

Reflections from interviewees in speaking of the evolution of the Children's System of Care, emphasized the following:

- First, developing a system that would heal, not compound, childhood trauma;
- Second, leveraging partnerships to help achieve the vision for the system;
- Third, focusing on being a data-driven, learning, and continually-improving system of care; and
- Lastly, incrementally building, layering and spreading over time.

Do No Harm: CSOC Recognized the Role of Trauma in the Lives of the Children it Served, and the Need to Shift Toward a System of Care that Healed, Not Exacerbated, that Trauma

Interviewees spoke of the recognition of the role trauma was playing among the children coming to the System of Care, and a corresponding understanding of the need for the system to *address* that trauma, *not exacerbate it.* "So this all was an evolutionary process…We never looked at another child who came to us without the lens

of trauma…seeing trauma as the foundation of most kids' challenges in our system." One recalled a CSOC leader as saying, "No child who's coming to our system of care because they've been traumatized should be further traumatized *because* of the care they're receiving." According to one, a significant driver for bringing over 300 children back from out-of-state programs was the acknowledgement that by leaving them outside of New Jersey and so far away from their families and other supports, the system was "just further deepening their trauma."

"…We know we're successful when everybody who's in a building with youth thinks that their job is to take kids who've been hurt and make [a] relationship with them in a way that helps them heal."

The recognition of the important role of the system in addressing and healing trauma needed to flow throughout CSOC and be present in the mindsets of those who worked within it. As one noted, this involved "changing hearts and minds," including, among some of those working with these children, shifting understanding among those who viewed their jobs as getting "bad kids" in line, to, instead, recognizing their own roles in helping "hurt" children heal.

System leaders spoke of the importance of a realization that mediocrity in achieving this shift—having a system or treatment that was "just being okay" in caring for vulnerable children—was not enough. "We came to conclude that there was no way to be in the middle… we just can't be okay…" (meaning, risking providing treatment or services that were not healing or helping).

Building Toward the "Vision:" Leaders had a Vision for what the System Should Look Like, Continuously Refined Approaches, and Worked with Partners to Advance that Vision.

System leaders focused on a clear vision for the system they were seeking, and continually refined approaches toward reaching it, including by working with and leveraging their partnerships to achieve it. As described

by one partner, "…They've got the vision to kind of see where they want New Jersey to go and what needs to happen…" They linked this vision with partners who had "the practical ability to hit the ground running and make things happen."

> "…We've got kind of the practical ability to hit the ground running and make things happen…and they've got the vision to kind of see where they want New Jersey to go and what needs to happen [to get there]."

Some described the relationship as "a fairly unique thing," recalling, "Someone at CSOC [would] reach out and say, 'Hey, we're hearing more about x, y, z, could you develop something around this?'" They noted ongoing efforts to work toward that vision and continued explorations of strategies to achieve it: "They were very good at coming up with big ideas and then calling … and saying, 'So, here's what we're thinking, can you do this?'"

Interviewees spoke of the importance of wrapping in an array of partners throughout efforts to achieve this vision, including "…youth and families always," emphasizing the importance of having "conversations with those stakeholders before we ever put pen to paper or finger to keyboard." CSOC understood the importance of intentionally cultivating partnerships, recognizing, that, even in bringing along partners from other youth-serving systems, they (meaning, CSOC) needed to adjust their own "lens" and "talk in their language," (meaning, the language of their partners) while "infusing" their own.

Focus on Creating a Learning- and Data-Driven System of Care

As indicated above, CSOC worked to constantly adjust and refine its approaches…as one put it, working continually "to change the structure in how children and families got services." Several emphasized the role information played in helping to deliver on the promise of a more responsive system. "One of the things built in" they noted, "was tremendous data resources."

"We had a Contracted Systems Administrator, and we had a common electronic record that allowed us to collect data, and using the CANS as well, developing a consistent evaluative methodology –where every youth would get the same bio-psychosocial evaluation, allowed us to gather tremendous data in terms of the detail of children's lives. And, we worked closely with [the Developer of CANS] to be able to gather that data, develop different cadres of children who we needed to serve and in different ways."

And, they noted, most importantly, in response, "We developed resources that were contoured to their needs." "We looked at the data…what the outcomes were for children who had touched on that particular program…the big data for the program and the smaller interventions for the youth themselves." The availability and consistent leveraging of this data was viewed by some as a key underpinning of progress throughout the system.

> *"The System of Care has these components that are so uniquely extraordinary for being able to look at what we're doing…we can access things that other states can't even dream of…"*

> *"We prioritize what data we want and how we're going to collect it…it's a collaborative process."*

> *"So we'll compare CANS data before and after the delivery of any treatment."*

> *"Our ability to drill down into one youth record to be able to say…what happened, where were the decision points?"*

CSOC not only had data, but continually integrated this data into system decision-making and improvement.

Embrace the Opportunities of Incrementalism: Start Slowly and Build Smart over Time

The System of Care started small, but built big. Reflecting now, after reaching more maturity as a system of care, some noted, "People want what we have in New Jersey, but it took a long time to build this capacity." "It was a slow build-up…"

> *"…It took a long time to build this capacity."*

They emphasized the importance of "layering," "spread[ing]," "building and getting buy in…" over time. In order to maintain and expand system capacity, continued investment of resources and collaboration with system partners and providers help ensure services and treatment remain relevant and effective for youth and their families.

What has been a series of incremental changes—aligned in pursuit of that vision of transforming services and care to address "whole child" needs and strengths and break down "barriers between child-serving systems"[13]—has resulted in a system and a workforce community one described as a "very different" culture—centered on improving the way services and treatments are provided to the children, youth and families who need them. As one put it, ultimately, working toward "change[ing] the structure in how children and families got services." Following are selected milestones in CSOC's development over time aligned with some of the strategies outlined above.

Milestones in CSOC Development

	BUILDING INCREMENTALLY AND STRENGTHENING OVER TIME
1999	With support from a 1999 SAMHSA development grant, New Jersey launches its Children's System of Care in 2001 in just three (Burlington, Monmouth and Union) of its 21 counties. By 2006, CSOC expands throughout New Jersey—the first to implement such a system statewide.
2001	Aligned with its commitment toward community-based, wraparound care, in 2001, CSOC builds-in intensive, in-community services throughout the state. This was just one of many "add-ons" aimed at creating an array of care options "closer to home" for children.
2003	Out-of-Home Treatment programs are integrated into CSOC, with accompanying case management services following shortly thereafter. Over time, successful integration of a range of services substantially reduces Out-of-Home treatment engagements.
2012 2013	IDD services for youth and young adults (2012), as well as substance use treatment services (2013) are brought into CSOC.
2015	Through an expansion grant, CSOC launches **Promising Path to Success**— incorporating a trauma-informed focus and "healing connections" throughout its care and services.
2019	NJ awarded second consecutive SAMHSA Grant System of Care—Expansion and Sustainability.
2021	CSOC submits state plan amendment supporting system-wide rate rebalancing and Infant Early Childhood Mental Health Initiative is launched.
	ENGAGING KEY PARTNERS AND STAKEHOLDERS IN ITS WORK
1999	A key ingredient to success was including stakeholders in the journey and fostering partnerships, including with Medicaid—a critical partner for CSOC from its inception—as well as other youth-facing agencies, such as Juvenile Justice and Child Protection Services, enabling "cross-system" work.
2002	One hallmark of NJ's CSOC was shifting toward child-centered, family-driven care, with both being "active participants" in planning and organizing services. 2002 saw creation of the first Youth Partnership—a youth-driven advocacy organization. Soon after, grants lifted up Family Support Organizations to ensure family voices were heard and incorporated into CSOC.
2009	Over time, a Youth Advisory Council was created to involve youth voices in state policymaking.
2019	CSOC establishes a stakeholder advisory group; sets priorities for integration, improving access, and advancing evidence-based practices.
	LEVERAGING TOOLS AND PARTNERS TO REINFORCE AND SUSTAIN ITS EFFORTS
1999	From its inception, CSOC capitalized on braiding and blending funding to expand services, with even its earliest efforts supported through Medicaid Rehabilitative Services funding.
2000	CSOC's Information Management Decision Support System helps facilitate creation of need-based services. It was followed by tools to uniformly assess child needs and strengths. Both were hallmarks of evidence-based decisionmaking driving service delivery and evaluation.
2001	The statewide Contract System Administrator serves as a single point of entry; over time, supporting information and analytics feed into refining and improving need-based service delivery.
2006	The Department of Children and Families emerges (DCF) as the first cabinet level department focusing exclusively on coordinating services for children and families within the state.
2013	Care Management Organizations work throughout the state with child-family teams to develop strength-based service plans.

Sources: Mackie, T. "New Jersey Children's System of Care: Implementation Timeline of Key Innovations" 2021; Davis, D, Gurden A, Ippoliti, M. "Looking Back, Looking Forward: Core Values and the Evolution of the New Jersey System of Care"; Stroul, B.A., Pires, S.A., Armstrong, M.I., McCarthy, J., Pizzigati, K., & Wood, G.M., McNeish, R., & Echo-Hawk, H. (2009). Effective financing strategies for systems of care: Examples from the field—A resource compendium for financing systems of care: Second edition. Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute (FMHI), Research and Training Center for Children's Mental Health. "Promising Path to Success: An Experiential Tour of NJ's Trauma-Informed Children's System of Care Transformation and Evaluation." University of Maryland Training Institutes, Washington, DC. 2108. Unpublished "Division of Children's System of Care" Document. March 2020. Department of Children and Families. Excerpts from "CSOC History."

KEY FINDINGS:
EXAMINING CSOC DATA AND TRENDS

Along with the above qualitative information, the evaluation team examined quantitative data from Medicaid claims and encounter data (NJMMIS), along with CYBER data, to get a clear picture of the demographics of CSOC children and how the maturation of the system of care may have influenced important areas of service use over time. Apart from the CANS data (presented in Figure 1.20), all other data presented here focuses on children and youth enrolled in NJ Medicaid and receiving CSOC services (in some cases, comparisons with children and youth covered by Medicaid but not engaged with CSOC services are included as well and labeled, or noted, as such).

Questions addressed include:

- What are some key characteristics of CSOC children and youth?
- How have needs among these children and youth changed over time?
- What have been some impacts associated with these shifts and the development of CSOC programming overall in use of selected services and treatments over time?
- How has spending on Medicaid services changed?
- How have markers of need and strength changed over time?

In examining key trends over time, we first look at CSOC overall and then break out the overall trend into four important sub-groups whose collective trajectories can sometimes point to key differences underlying the overall trends. These groups include:

- Children/Youth with no intellectual or developmental disability who did not need out-of-home treatment (this is the largest subgroup of children, accounting for just under 70% of CSOC children in the 2018 data);
- Children/Youth with an intellectual or developmental disability who did not need out-of-home treatment (roughly 27% of CSOC children in the 2018 data);
- Children/Youth with no intellectual or developmental disability who needed out-of-home treatment (representing about 3% of CSOC children in the 2018 data); and
- Children/Youth with an intellectual or developmental disability who needed out-of-home treatment (the smallest group, or just over 1% of the 2018 data).

What follows are selected charts showing the overall demographic data (for 2018) and trends over time (with most of these focusing on the 2011-2018 timeframe).

***A Quick Snapshot of Demographics of CSOC Children and Youth Enrolled
in NJ Medicaid and Receiving CSOC Treatment and Services, 2018***

*Looking overall at children covered by Medicaid and engaged with CSOC, we see
that nearly half are in the midst of middle-adolescence, more are male, and nearly
one in five live in Camden (10%) and Essex (9%) counties (not shown).*

Almost half of children and youth treated by CSOC are at or near mid- adolescence (Figure 1.4). While CSOC treats children from early childhood to early adulthood, the largest share of children treated fall into middle adolescent years, with nearly half (49%) aged 13–18. As a comparison, just over a quarter (26%) of children enrolled in Medicaid but not treated through CSOC are ages 13–18. Over 75% of children requiring out-of-home treatment in CSOC also fall into the 13–18 age range.

Children and Youth relying on CSOC treatment come from diverse racial/ethnic backgrounds (Figure 1.6). About 40% of children served by CSOC are white. A quarter are black and a little less than a fifth are Hispanic, while 16% are children of other races/ethnicities. Comparing again to children covered through Medicaid not receiving CSOC treatment—33% are white; 23% are Black; 31% are Hispanic and 13% are children of other races/ethnicities.

FIGURE 1.4: **AGE OF CHILDREN IN NJ CSOC**
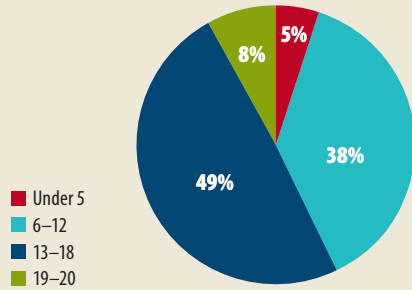
FIGURE 1.6: **RACE/ETHNICITY OF CHILDREN IN NJ CSOC**
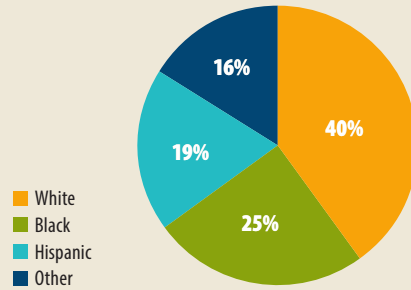
Nearly 60% of children and youth in the CSOC are male (Figure 1.5). Males account for more than half (59%) of children and youth within the CSOC, while females account for 41%. Again, comparing children covered through Medicaid without CSOC treatment, the split is roughly 50%/50%. The gender gap widens when focusing on out-of-home treatment settings, where just over two-thirds or 67% of those in treatment are male. (Our data do not allow us to measure whether youth identify outside of the male/female categories.)

FIGURE 1.5: **GENDER OF CHILDREN IN NJ CSOC**
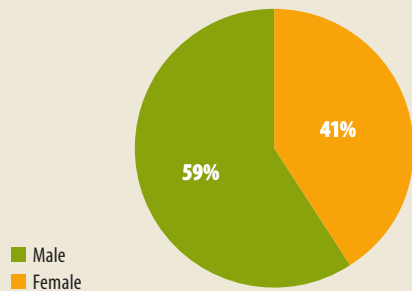
*Examining Key Trends over Time in Children and Youth
Covered through Medicaid and Engaged with CSOC (2011–2018)*

*Over time, CSOC has not only cared for more children, but children with more complex needs, with mean Chronic
Illness and Disability Payment System (CDPS) scores rising over time, a greater share of children with mental health
needs, and more subgroups of children with concurrent mental health and substance use disorders.*

**Between 2011 and 2018, the number of children and youth
enrolled in Medicaid and engaged with CSOC grew by
roughly 50%** (Figure 1.7), increasing by nearly 16,000, with children
with Intellectual and Developmental Disabilities (IDD) accounting
for the largest share of growth.

FIGURE 1.7: **NUMBER OF CHILDREN/YOUTH COVERED
THROUGH MEDICAID AND ENGAGED WITH CSOC**
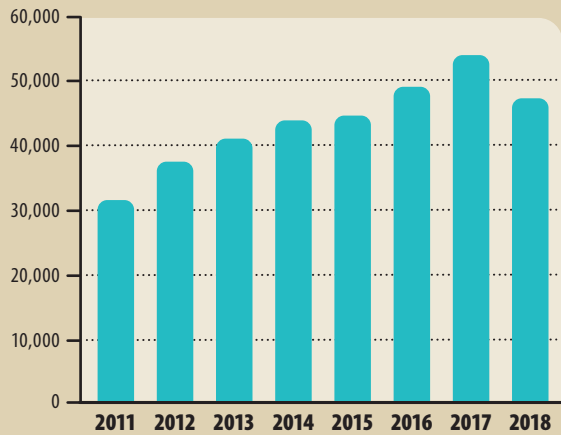
**Overall, mean Chronic Illness and Disability Payment
System (CDPS) scores have increased by 25% since 2011**
(Figure 1.8). By 2018, mean CDPS scores were 2.5, meaning
projected treatment costs were 2.5 times the average treatment
costs for Medicaid enrollees overall.

FIGURE 1.8: **MEAN CDPS SCORES FOR CHILDREN/YOUTH
COVERED THROUGH MEDICAID AND
ENGAGED WITH CSOC**
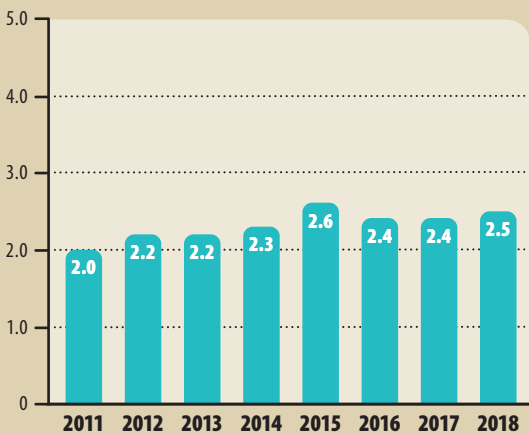
**Levels and trends in CDPS scores varied substantially among
child subgroups** (Figure 1.9). For children without IDD and not
in out-of-home treatment (32,893 in 2018), mean scores increased
just slightly (1.8 to 1.9). Among those without IDD in Out-of-Home
(OOH) treatment (1,342 in 2018), mean scores increased from 3.0
to 3.6 (+20%). Scores rose from 2.8 to 3.8 (+36%) among those
children with IDD not needing OOH treatment (12,566 in 2018),
but decreased slightly for those with IDD needing OOH treatment
(558 in 2018) from 4.1 to 4.0.

FIGURE 1.9: **MEAN CDPS SCORES FOR CHILDREN/YOUTH
COVERED THROUGH MEDICAID AND
ENGAGED WITH CSOC**
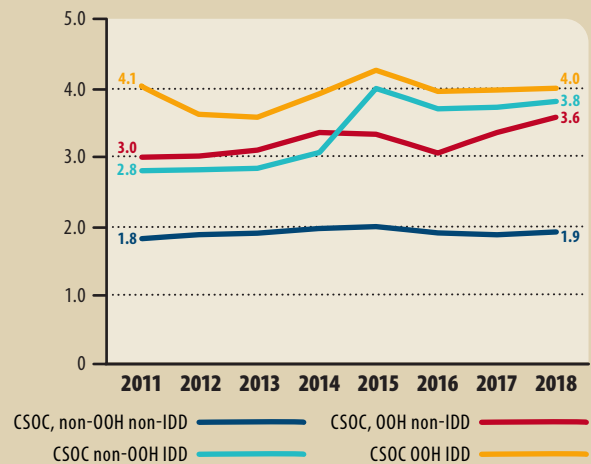
Overall, the share of CSOC children with mental health conditions grew slightly over the study period from 67% to 69% (trend not shown). However, this growth was driven *solely* by a rise of mental health conditions among those children without IDD and not needing OOH treatment (rising from 63% to 68%). There were drops in mental health conditions among all other subgroups (Figure 1.10).

Rates of co-occurring disorders nearly doubled among those children without IDD in (or requiring) OOH treatment and grew among children with IDD in (or requiring) OOH treatment (Figure 1.11). Overall, however, the share of CSOC children with co-occurring mental health and substance use disorders actually dropped from 7.3% to 6.4% (trend not shown).

FIGURE 1.10: **PERCENT OF CHILDREN/YOUTH WITH MENTAL HEALTH CONDITIONS**
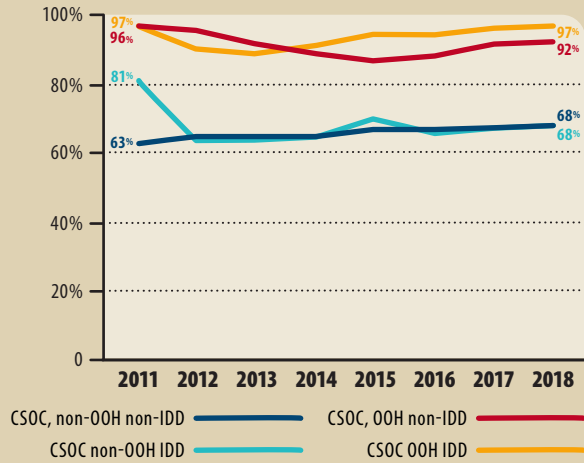
FIGURE 1.11: **PERCENT OF YOUTH WITH CO-OCCURRING SUBSTANCE USE AND MENTAL HEALTH DISORDERS**
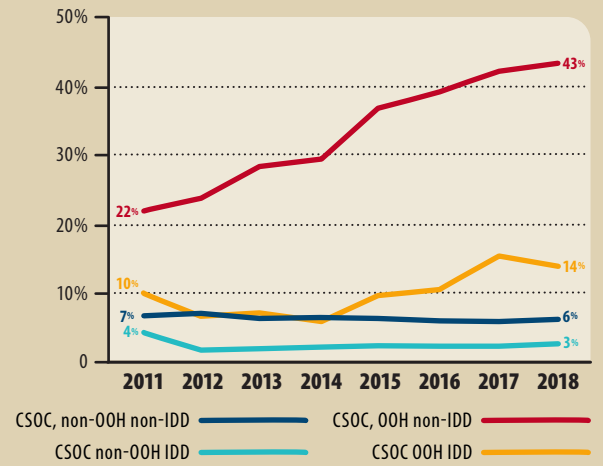
***Examining Trends in Service Use over Time among Children and Youth
Covered through Medicaid and Engaged with CSOC (2011–2018)***

Examining trends over time (2011-2018) show decreasing rates (as measured per 100 children) of hospital emergency department (ED) use, inpatient hospitalization use, and mental health hospitalization use among children and youth covered through Medicaid and engaged with CSOC. For some areas, like inpatient use, this downward trend was consistent across all subgroups of children and youth studied. However, for other areas, like ED use and mental health hospitalizations, there were increases among children without IDD (both those in and not in OOH treatment) and decreases among children with IDD.

***ED and Inpatient Hospitalization Use among Children and Youth Covered
through Medicaid and Engaged with CSOC (2011–2018)***

Overall, while many children engaged with CSOC and covered through Medicaid visited the ED, over the study period, overall rates of ED use per 100 youth (for any cause) dropped by 6% (Figure 1.12). (Details on ED use among CSOC children engaged with Promising Path to Success are presented in Chapters 6 and 7.)

FIGURE 1.12: **ED USE PER 100 CHILDREN/YOUTH COVERED THROUGH MEDICAID AND ENGAGED WITH CSOC**

ED trends varied substantially among subgroups of youth (Figure 1.13). While ED use (for any cause) per enrollee rose slightly among youth without IDD and not requiring OOH treatment (+3%), and more so among youth without IDD requiring OOH treatment (+17%), it dropped among youth with IDD not requiring OOH treatment (-38%) and among youth with IDD requiring OOH treatment (-9%).
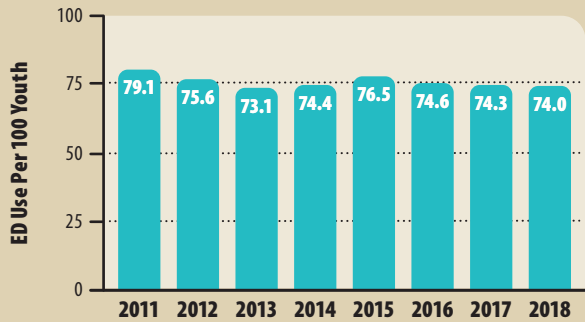
FIGURE 1.13: **ED USE PER 100 CHILDREN/YOUTH COVERED THROUGH MEDICAID AND ENGAGED WITH CSOC**
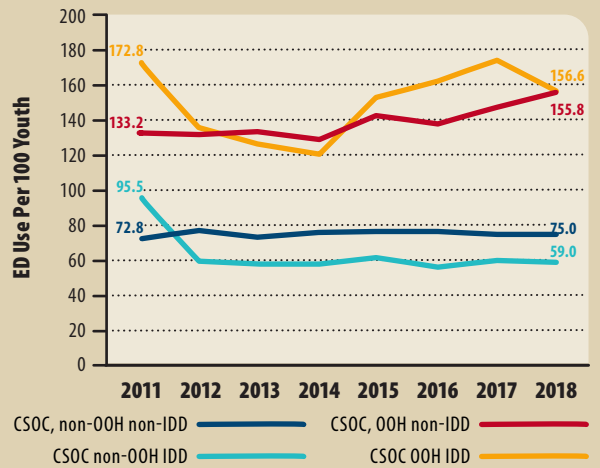
Over the study period, overall hospital inpatient utilization (for any cause) per 100 children covered through Medicaid and engaged with CSOC dropped by 24% (Figure 1.14).

FIGURE 1.14: **INPATIENT USE PER 100 CHILDREN/YOUTH COVERED THROUGH MEDICAID AND ENGAGED WITH CSOC**
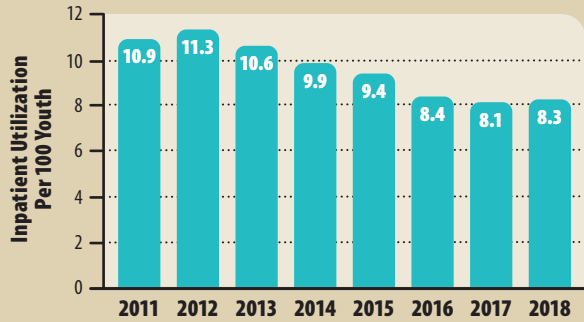
Inpatient use per 100 dropped among all the subgroups of children engaged with CSOC studied. Interestingly, as with ED use above, by 2018, inpatient use per 100 was similar among non-IDD children requiring OOH treatment (19.9 per 100) and those children with IDD requiring OOH treatment (19.8 per 100—also the group with the greatest drop in inpatient use) (Figure 1.15).

FIGURE 1.15: **INPATIENT USE PER 100 CHILDREN/YOUTH COVERED BY MEDICAID AND ENGAGED WITH CSOC**
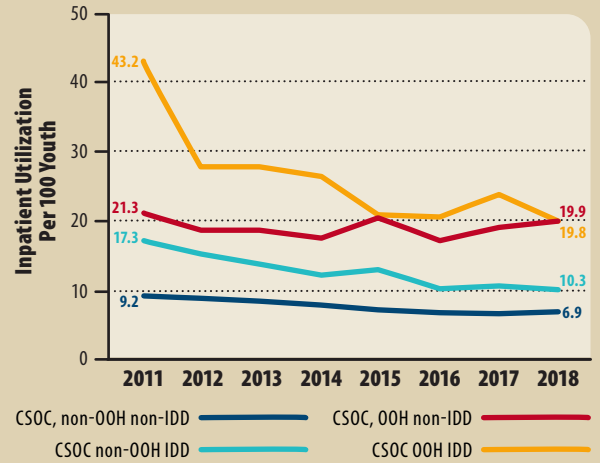
*Mental Health Hospitalizations among Children and Youth
Covered through Medicaid and Engaged with CSOC (2011–2018)*

Over the study period, while the trend line fluctuated, overall mental health hospitalizations per 100 children and youth enrolled in Medicaid and engaged with CSOC dropped by 13% (Figure 1.16).

FIGURE 1.16: MENTAL HEALTH HOSPITALIZATIONS PER 100 CHILDREN/YOUTH COVERED THROUGH MEDICAID AND ENGAGED WITH CSOC
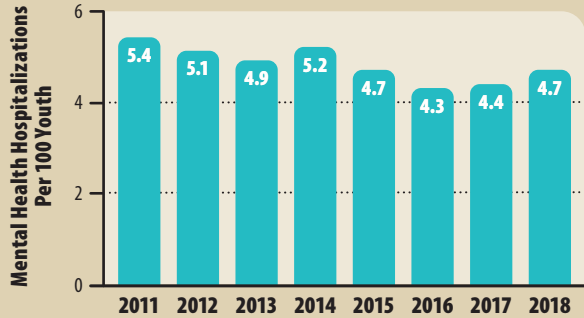
Mental health hospitalizations *increased* per 100 children/youth without IDD (both those requiring and not requiring OOH treatment) and *decreased* for children with IDD (both those requiring and not requiring OOH treatment) (Figure 1.17). Like the above trends in ED and inpatient use, mental health hospitalizations per 100 were similar among children requiring OOH treatment (16.9 per 100 among those children without IDD requiring OOH treatment and 17.3 per 100 among children with IDD requiring OOH treatment).

FIGURE 1.17: MENTAL HEALTH HOSPITALIZATIONS PER 100 CHILDREN/YOUTH COVERED THROUGH MEDICAID AND ENGAGED WITH CSOC
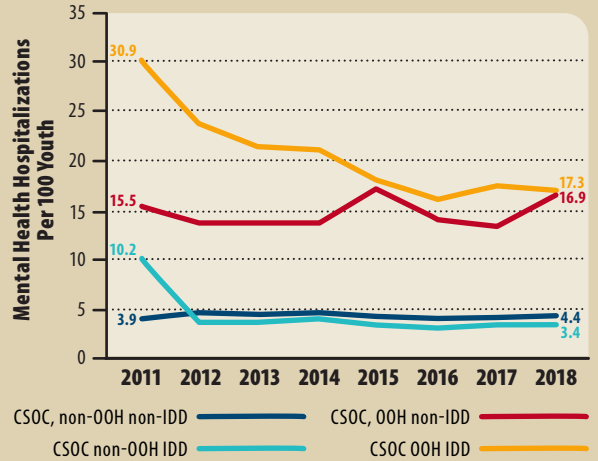
Per Child Medicaid Spending Over Time among Children and Youth
Covered through Medicaid and Engaged with CSOC (2011–2018)

CSOC per child spending has remained relatively flat (except for an increase in 2015), growing by 18% over the 2011-2018 period. This growth was below growth in CDPS scores over the same period (25%). Overall, despite several reductions in high-cost services outlined above, spending for those children with IDD has grown substantially compared to children without IDD (even those children without IDD who are in OOH treatment).

Over the study period, looking across children enrolled in Medicaid and engaged with CSOC, per child spending has remained relatively flat (except for during 2015 with no obvious explanation), increasing by 18 percent from 2011 to 2018 (below the accompanying rise in CDPS scores mentioned above) (Figure 1.18).

FIGURE 1.18: **PER CHILD SPENDING FOR CHILDREN/YOUTH COVERED THROUGH MEDICAID AND ENGAGED WITH CSOC**
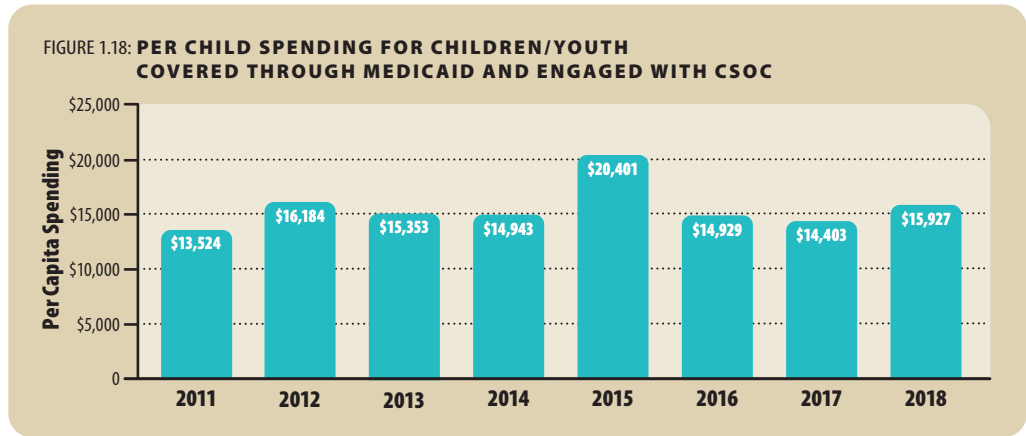
Levels and trends in Medicaid spending varied by subgroup (Figure 1.19). Per child spending increases have been 7% for children without IDD and not in OOH treatment and .5% for children without IDD in OOH treatment. Despite substantial reductions in several high-cost services noted above, per child spending among children with IDD has increased by 31% among those in OOH treatment and by 21% among children with IDD not in OOH treatment.

FIGURE 1.19: **PER CHILD SPENDING FOR CHILDREN/YOUTH COVERED THROUGH MEDICAID AND ENGAGED WITH CSOC**
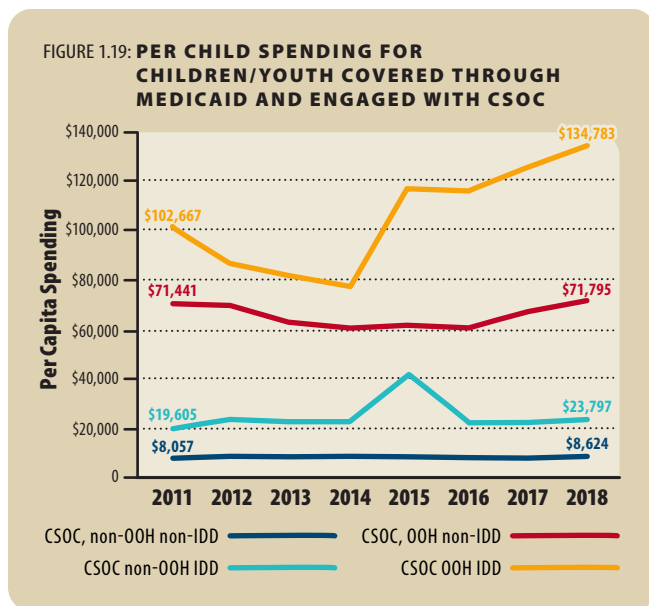
***Trends in CANS Scores Over Time among
Children/Youth Engaged with CSOC 2014–2019***

*While primarily used to assess children's needs for referral to clinically appropriate services,
trends in CANS scores suggest improvements occurred across a range of domains (all except
child emotional and behavioral health needs) over the 2014-2019 period. While we note that
the data show changes in CANS scores from cohorts of CSOC children at different points in time
(rather than following a panel of children over time), the aforementioned rise in CDPS scores
as well as increases in mental health conditions and co-occurring conditions among several
subgroups of children studied does not suggest that these improvements are due to children
with less complex needs being served by CSOC over the accompanying time period.*

**Examining trends in CANS data among children engaged
with CSOC over time shows slight increased need in the
area of Child Emotional and Behavioral Health. However,
in each of the other areas, there were reductions (meaning,
improvements or increases in strengths and reductions in** **needs) for children served by CSOC over time** (Figure 1.20).
While primarily used to assess need for services, reductions across
these domains indicates increased strengths and reduced needs
among CSOC children/youth.

FIGURE 1.20: **CANS SCORES* FOR CHILDREN/YOUTH ENGAGED WITH CSOC 2014–2019**

	Life Domain Functioning	Child Strengths	Child Emotional/BH Needs	Child Risk Behaviors	Caregiver Strengths
2014	6.8	9.5	9.6	4.4	4.7
2019	6.2	8.8	9.9	4.2	3.7
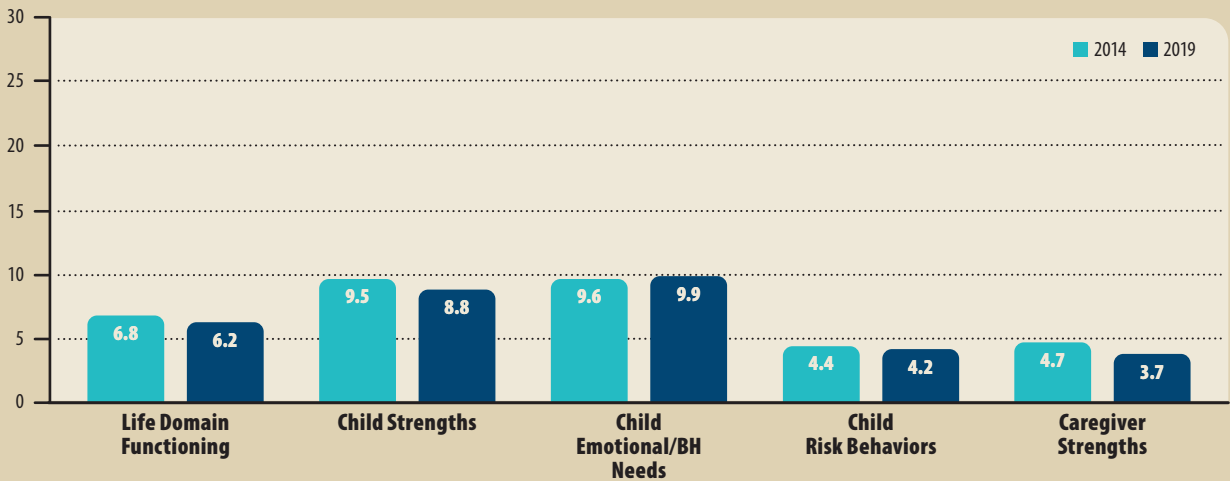
* CANS Scores (scored 0–3) were put on a 30-point scale, with 0 indicating No Evidence of Need (among Need Items)/Centerpiece Strength (among Strength Items) and 30 indicating Immediate/Intensive Action Needed (among Need Items) and No Strength Identified (among Strength Items) and mean scores were calculated across domains.

LESSONS AND RECOMMENDATIONS

Retrospective reflections from those with key vantage points on the evolution of the Children's System of Care focused on important lessons learned on its development over time, including: a relentless pursuit of a "big vision" for changing the way services are provided to children who need them, including ensuring the system would help "hurt" children "heal," and not, in any way, further traumatize them; involving and leveraging the work of partners along the way to help achieve this vision; using data to understand and drive use of what worked in changing outcomes; and realizing the benefit of starting small and working on incremental expansions and improvements over time—recognizing that a true system of care is not built in a day (or a year), but rather, through continuously responding, growing, listening and learning over time.

Examining an intersection of Medicaid and CYBER data shows dramatic increases, not only in the number of children treated through CSOC programs over the past decade, but in the complexity of needs among these children, as indicated through rising mean CDPS scores (which point to the overall burden of illness and cost of treatment), as well as increases in the share of children with mental health conditions, along with growth of co-occurring mental health and substance use disorders among some groups of children. While holding per capita costs relatively steady over time, CSOC was able to fulfill its goal of delivering services "closer to home" for the children and youth it served, with associated reductions in per child inpatient hospitalizations, reductions in ED use, and reductions in mental health hospitalizations. Moreover, as these shifts occurred, examining changes in aggregate CANS scores over time suggests steady or declining levels of need/and steady/increasing levels of strength across several domains among CSOC engaged youth (again, despite an increasingly complex mix of diagnoses in youth as shown by increasing CDPS scores, increases in mental health conditions and increased prevalence of co-occurring substance use disorders among some subgroups of children).

In looking underneath these overall trends, reductions in service use were not always realized evenly across the four subgroups of children examined (namely, children with no out-of-home treatment, children requiring out-of-home treatment, children with IDD and no out-of-home treatment and children with IDD requiring out-of-home treatment), perhaps pointing toward the need for even further analyses to better understand, build on, and further target improvements over time.

Taken together, these findings link developments in the system of care over time with many aims envisioned over two decades ago—treatment in less restrictive settings, cutting use of high-cost and avoidable services, and, ultimately, providing the opportunity for children to remain in their communities. Deeper understanding of the ultimate impacts on children stemming from behavioral health services delivered through the now mature system of care, some of which are presented in the following chapters, can lead to even further gains.

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Lessons from Developing a Statewide Initiative to Promote Trauma-Informed Care: Reflections on the Promising Path to Success Experience

INTRODUCTION

Widespread recognition of the prevalence of trauma among children and its detrimental effects on health and wellbeing has highlighted the need for more system-wide trauma-informed approaches toward care. This chapter summarizes lessons on implementing Promising Path to Success—an initiative that adopts trauma-informed approaches throughout a diverse set of regions, organizations and clinical settings across New Jersey's Children's System of Care. It captures reflections from those involved with developing and implementing the initiative, with an eye on documenting lessons learned to inform future program implementation or adaptation.

Background and Study Process

Understanding the prevalence and impact of trauma among the children and families it serves, New Jersey's Children's System of Care launched Promising Path to Success (PPS), a statewide trauma-informed approach built upon the evidence-based Six Core Strategies© to Prevent Violence, Trauma, and the use of Seclusion and Restraint, along with the companion Nurtured Heart Approach® aimed at reinforcing success and building inner-wealth and resources among children, their caregivers and the workforce serving them. Implementation was supported by ongoing training and coaching provided by the Behavioral Research and Training Institute, part of University Behavioral HealthCare at Rutgers University.

Implemented incrementally across the state, PPS was aimed at strengthening the inner wealth and resources among youth as well as staff throughout the CSOC service line; reducing/eliminating restraint, seclusion & coercion; reducing the share of youth needing to re-enter treatment and the share requiring multiple consecutive episodes of out-of-home (OOH) treatment; cutting average lengths-of-stays for children needing OOH treatment; and using program impacts as a guide to invest system resources.

A synthesis of reflections from interviews conducted in 2019 with key stakeholders responsible for designing, implementing and sustaining Promising Path to Success captures lessons instructive for comparable future initiatives both within and beyond New Jersey.

Highlights of Results

Collectively, interviewees identified six key strategies that helped Promising Path to Success reach across the diverse range of organizations, partners and providers forming the Children's System of Care, some leveraging overall system strategies described in Chapter 1:

1. Relying on data-informed decision-making to drive the initiative;
2. Providing leadership to inspire a culture shift around trauma-informed tenets;
3. Engaging partners in promoting trauma-informed care;
4. Ensuring contracts, regulations and other administrative mechanisms were infused with trauma-informed principles;
5. Selecting an approach that fit system needs and could be "practiced by anybody" and "build a connection for everyone"; and
6. Embedding practice expertise and ongoing learning.

Below are summaries of these strategies.

Strategy 1: Relying on data-driven and -informed decision-making to drive the initiative: CSOC and its system partners relied on evidence to inform, shape and refine implementation of Promising Path to Success. First, in shaping the effort, a review of risk and protective factors showed children with multiple out-of-home treatment episodes were disproportionately likely to have recorded histories of trauma. As discussed in Chapter 1, as part of its maturation as a system of care, in collaboration with the statewide Contract System Administrator, CSOC relied on informatics to show system-wide trends and facilitate a "drill down" to better

understand both the need for and the effectiveness of specific treatments for children, youth and their families and caregivers, linking "big program data" to data on children. Data were routinely used.

Strategy 2: Providing leadership to inspire a culture shift around trauma-informed tenets: CSOC continually worked on transforming "the way the system was responding" to move toward widespread understanding of the role trauma plays among the families, children and caregivers, and building a culture supportive of trauma-informed service delivery across all care systems. This included overhauling the language used by the system, training staff, and actively seeking, integrating and empowering voices of those children, their families and caregivers relying on the system of care.

Strategy 3: Engaging partners in promoting trauma-informed care: Recognizing that CSOC children were engaged in multiple systems with other youth-facing agencies, CSOC reached out to bring in its many partners to assist with PPS implementation, seeking to create "multi-system" diffusion that would create a "wave within the community."

Strategy 4: Ensuring contracts, regulations and other administrative tools were leveraged in support of PPS and infused with trauma-informed principles: CSOC leveraged administrative tools to reinforce trauma-informed tenets, ensuring appropriate language was incorporated into contracts, regulations, licensing procedures and other administrative mechanisms.

Strategy 5: Selecting an approach that addressed system needs and could be "practiced by anybody" and "build a connection for everyone": The strategies underlying Promising Path to Success—6 Core Strategies and Nurtured Heart Approach—worked in tandem to help address system deficiencies, strengthen work within organizational settings, as well as equip and empower workforce, parents and caregivers with positive practices like the "3 stands" ("Absolutely No", "Absolutely Yes", "Absolutely Clear") that were easy to grasp, and "walk out the door and start to implement," with these ultimately allowing broad spread into the community.

Strategy 6: Embedding practice expertise and ongoing learning: CSOC worked to engage a coaching team with diverse, practical experience in implementing change, as well as one committed to ongoing learning and refinement of approaches over time, with a learning collaborative facilitating and sharing approaches throughout the system of care. Separately, some also spoke to "a core group" of people within CSOC and "long-standing" relationships with key partners also helping to advance progress.

These strategies worked together to infuse a trauma-informed approach throughout New Jersey's Children's System of Care, helping strengthen the range of care and treatments provided to the children, caregivers, and families it supports.

BACKGROUND

Child Trauma: A Widespread and Costly Problem

Nearly half (46 percent) of children and youth in the United States are estimated to have been exposed to trauma.[1] In 2016, 41 percent of New Jersey's children and youth were reported to have experienced at least one traumatic event between birth and age 17 (Figure 2.1).[2] Among children and families engaged with public mental health programs, rates of trauma are estimated to be even higher, with trauma being nearly universal among children and adolescents with emotional, behavioral, and mental health conditions.[3]

FIGURE 2.1: **PREVALENCE OF ADVERSE CHILDHOOD EXPERIENCES AMONG NJ CHILDREN, BIRTH-AGE 17**

- 0 ACEs
- 1 ACE
- 2 ACEs
- 3 or More ACEs
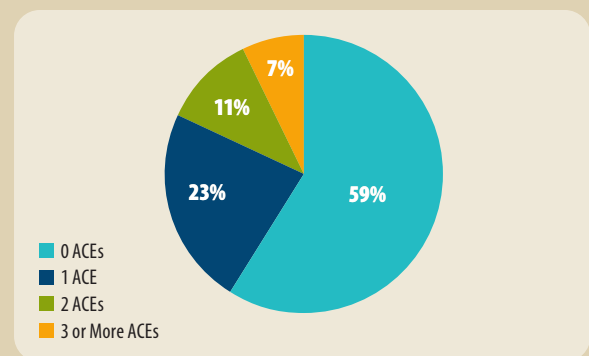
SOURCE: Child Trends: The prevalence of adverse childhood experiences (ACEs), nationally, by state, and by race/ethnicity.

Trauma is a widespread and costly problem that can arise from a range of experiences, including exposure to violence, abuse, neglect, disaster, or other emotionally harmful experiences.[4] Trauma can have lasting effects on functioning and health, including mental, physical, social, emotional or spiritual wellbeing.[5] A growing body of research demonstrates an association between traumatic experiences and impaired neurodevelopmental and immune responses, possibly leading to risky behaviors and resulting in chronic physical or mental health disorders.[6]

Increased Calls for Trauma-Informed Care, with New Jersey Poised to Launch a System-wide Response

Increased awareness and understanding of the negative role that trauma plays in health and wellbeing has prompted adoption of trauma-informed approaches toward providing care. Mental health and pediatric workforces are called to: realize the effects of trauma; recognize how trauma presents in children, families, and staff; and respond in ways that resist re-traumatization.[7] The ability to respond to trauma is increasingly seen as a critical element of effective behavioral health systems. Despite widespread recognition of the importance of providing trauma-informed care throughout delivery systems, little consensus exists on *how* to implement these principles system-wide—across a range of organizational settings.

New Jersey's Children's System of Care (CSOC) was uniquely positioned to implement such an approach in 2015, when it began work on its Promising Path to Success—a statewide initiative that sought to build the inner wealth and resources of children and adolescents, their families and caregivers, as well as the workforce that serves them.

About New Jersey's Children's System of Care

The New Jersey CSOC is one of the nation's oldest system of care initiatives and the first to be implemented statewide. As described in Chapter 1, the New Jersey Department of Human Services received an initial Children Mental Health Initiative (CMHI) grant from the Substance Abuse and Mental Health Services Administration (SAMHSA) in 1999 to develop comprehensive community mental health services for children and adolescents with serious behavioral, emotional, and mental health challenges, completing the transition to a statewide system of care in 2006, thereby becoming the nation's first such system.

CSOC serves youth with emotional and behavioral health care challenges and their families; youth with intellectual and developmental disabilities and their families, and youth with substance use challenges and their families, through coordinated care, treatment and intervention. Consistent with CSOC core values, these services aim to be:

- Strength-based and promoting independence;
- Family driven;
- Youth guided;
- Collaborative and team supported;
- Individualized;
- Home, school and community based;
- Culturally and linguistically competent; and
- Evidenced based.[8]

Today, CSOC is one of the four major divisions of the New Jersey Department of Children and Families (DCF).[9] CSOC administers New Jersey's public behavioral health system for youth up to age 21 through contracts with community-based service providers and a contracted system administrator (CSA) to implement the system of care model. CSOC service areas are aligned with the fifteen Court Vicinages to assure seamless connections and coordination of care, particularly for youth with multi-system involvement.[10]

CSOC offers an array of services across the continuum of care, including, but not limited to: assessment, care management, family support, mobile crisis response, intensive in-home services, out-of-home treatment and respite services.[11]

CSOC's Contracted System Administrator (CSA)—PerformCare—creates a common single point of entry that registers all youth and authorizes services in a single electronic record; as well as, tracks and coordinates care for all New Jersey youth enrolled in CSOC. While CSOC retains all regulatory and policy-making authority, the

CSA supports CSOC in its role of implementing the children's system of care, including through offering recommendations for improvements to the delivery of services. The CSA performs a broad range of administrative service functions including: providing a Customer Service/Call Center with 24-hour/7-day intake; managing a web-based application/interface with its MIS; overseeing care management, including utilization management and care coordination; coordinating access to services for all youth, including facilitating access to specialized services for youth involved with the Division of Child Protection and Permanency (DCP&P) and transitions to adult services; providing quality and outcomes management, and system measurement supporting CSOC's goal to promote best practices, as well as providing assistance in assuring compliance with state and federal guidelines.[12]

The CSA reviews and authorizes the type, intensity and frequency of services based on need, as driven and requested by Child Family Teams and supported through the Child and Adolescent Needs and Strengths (CANS) assessment.[13] CSA informatics provide targeted data reports and analyses to help facilitate CSOC quality improvement and strategic planning efforts, including data pointing to the need to address trauma throughout the CSOC.[14]

Launching Promising Path to Success—A Statewide Initiative to Promote Trauma-Informed Care

To promote trauma-informed care delivery across all levels of the system of care, in November 2015, CSOC launched Promising Path to Success (PPS), receiving grant funding from SAMHSA under its "Cooperative Agreements for Expansion and Sustainability of the Comprehensive Community Mental Health Services for Children with Serious Emotional Disturbances" program.

PPS focuses on the use of the evidence-based Six Core Strategies© to Prevent Violence, Trauma, and the use of Seclusion and Restraint, which has demonstrated effectiveness in achieving reduction of seclusion and restraint use[15,16,17] along with the relationship-focused Nurtured Heart Approach® (NHA) aimed at building the inner wealth and resources of youth and families while supporting system partners in creating more trauma-informed environments (see descriptions of program pillar components below).

Implementation of PPS was launched through regional training programs, coupled with coaching support provided by the Behavioral Research and Training Institute at University Behavioral Health Care (UBHC) within Rutgers University. The Behavioral Research and Training Institute at UBHC provided a site-specific team for each of the out-of-home treatment providers, emphasizing the Six Core Strategies© throughout.

Key Aims of Promising Path to Success

Along with its goal of building the inner wealth resources of children and adolescents, their families and caregivers, as well as the workforce that serves them, CSOC's PPS aimed to:

- Reduce/Eliminate restraint, seclusion & coercion;
- Reduce the share of youth re-entering treatment after transitioning back to the community following an initial treatment episode;
- Reduce the share of youth who required multiple consecutive episodes of out-of-home (OOH) treatment;
- Shorten the average length-of-stay for youth in OOH treatment to nine months or less; and
- Understand the impact of various system components to guide resource allocations.

PPS Pillars: Six Core Strategies © and Nurtured Heart Approach:

Components of Six Core Strategies© to Prevent Violence, Trauma, and the use of Seclusion and Restraint	About the Nurtured Heart Approach
1) Leadership Towards Organizational Change: Emphasizes that efforts to create a violence-free environment are most successful when facility executives provide guidance, direction, participation and ongoing reviews, beginning with assuring that the facility's mission, philosophy of care and guiding values are congruent with this initiative	The Nurtured Heart Approach® (NHA) is designed to transform life experiences of "intense" youth by creating relationships that reinforce success rather than failure. NHA training helps adults maintain an "in-the-moment" focus on their own energy, as well as on the youth and their behavior choices.
2) Using Data to Inform Practice: Monitors performance and shares related data	NHA is based on 3 Stands:
	Stand 1 — **Absolutely No** — instructs adults to actively choose not to give their energy to negative youth behaviors.
3) Workforce Development: Reshapes hiring, training and job performance practices to promote trauma-informed, recovery-oriented, non-coercive care	**Stand 2** — **Absolutely Yes** — offers four types of recognition statements designed to provide youth with irrefutable, detailed, and in the moment evidence of their positive character qualities.
4) Use of Seclusion/Restraint Reduction Tools: Prioritizes trauma assessment, primary prevention and de-escalation strategies, and calming environments	**Stand 3** — **Absolutely Clear** — offers guidance on creating rules of behavior that are easily understood, consistently enforced, and set youth up for success.
5) Consumer Roles in Inpatient Settings: Provides full and formal inclusion of consumers and family members in a variety of decision-making roles in the organization	Used together, these 3 Stands aim to create successes designed to build confidence, competence, and successful relationships among youth and the adults who support them.
6) Debrief Strategies: Analyzes restraint/seclusion events to mitigate further trauma and inform policy, procedures and practices	

ABOUT THIS PART OF THE PPS EVALUATION

This component of the PPS evaluation is focused on capturing perspectives from the leaders who created and helped implement Promising Path to Success across New Jersey's Children's System of Care. It provides a summary of their views on the state's experience in developing and adopting the initiative, with hopes of capturing lessons for those interested in launching similar state- or system-wide trauma-informed or related efforts. While guidance often targets trauma-informed efforts at the organizational or clinical level, this evaluation has a broader scope, capturing reflections from experiences of launching a state- and system-wide, multi-organizational effort to promote trauma-informed care.

KEY QUESTIONS ADDRESSED

This component of the evaluation examined the following questions:

- What strategies did New Jersey use to adopt PPS throughout its system of care?
- Which of these were viewed as most critical to PPS implementation?
- What can other systems learn from the PPS experience?

EVALUATION APPROACH

The Rutgers evaluation team conducted interviews with leadership from the New Jersey Children's System of Care (CSOC), along with its partners aimed primarily at understanding the strategies engaged in implementing a statewide initiative to integrate trauma-informed care across a system spanning diverse regions, organizations, and clinical settings. Two-person teams conducted (either in-person or by phone) over 200 semi-structured, 45-90 minute qualitative interviews with key informants from OOH treatment programs and program coaches (152), CMOS and FSOs (45) as well as state and system leaders (6). Interviewees were purposefully selected based on participation and engagement with PPS; they ranged from CEOs and system leaders to staff providing direct care. Interviews were transcribed, coded and entered into the Dedoose software program, organized thematically, and put into matrices including recommendations, rationales, and interview excerpts.

Among the responses stemming from these efforts were reflections, experiences and perspectives from key informants who made critical decisions to inform the design, implementation, and sustainment of New Jersey's PPS initiative. This chapter highlights some themes and lessons from those reflections.

The following strategies emerged as critical to PPS implementation across the System of Care:

- Relying on data-informed decision-making to drive the initiative and promote trauma-informed care;
- Providing leadership to inspire a culture shift around the tenets of trauma-informed care;
- Engaging partners and stakeholders, including other agencies interfacing with youth served by the NJ Children's System of Care;
- Embedding the language and principles of the initiative into contracts and regulations;
- Selecting an approach that could address organizational needs and be "practiced by anybody" and "build a connection for everyone;" and
- Facilitating ongoing learning through diverse disciplinary and practice expertise.

Highlights from each of these strategies follows.

CSOC relied on data-informed decision-making to drive the initiative and promote trauma-informed care.

First, leadership within the CSOC identified the importance of implementing a statewide initiative to

"We looked at the big data for the program, and then we looked at the smaller interventions for the youth, themselves. We had some conversations with the people around them... the wraparound team, who were part of those children's lives..."

promote trauma-informed care based on a data-driven needs assessment. The proposal for PPS stemmed from an "audit through its Contracted Systems Administrator [CSA] to identify both risk and protective factors that increased or decreased the probability of multiple out-of-home treatment episodes," with results showing that children with multiple treatment episodes were disproportionately likely to have recorded histories of trauma.

This analysis helped inform both the development of PPS and its implementation within OOH treatment settings.

"We started to really study the data—the real data around children's experiences..."

"In looking at the different kids...one of things that was very, very clear...basically, all the children who came to us—these were kids with intensive needs or intensive challenges in their lives...suffering from some form of trauma..."

"We wanted to develop methodologies to address those traumas."

Efforts to build this data capacity were done in collaboration not only with the CSA, but also with the developers of specific screening and assessment tools, ensuring they were reflective of the needs of the end users—decision makers within the System of Care.

Investments in CSOC data resources were capitalized through routine analyses and the integration of these analyses into programmatic decision-making. Leadership reported on the opportunity for this data infrastructure (CYBER)—which was tapped routinely and combined with other data, including frontline perspectives—to facilitate deeper understanding of challenges and opportunities for improvement:

"So we have frequent...monthly meetings... And we could ask them to run reports on anything that we were interested in... different types of family engagement[s] that we were interested in seeing..."

"We could see what their length of stay was. We could see the engagement of families. I mean, there were a ton of data points we could see just within the context of the [administrative data] record just by drilling down into each one of those records. So we did that. We looked at the big data for the program, and then we looked at the smaller interventions for the youth, themselves. We had some conversations with the people around them; the wraparound team, who were part of those children's lives with pre- and post-transition from the residential interventions."

CSOC provided leadership to inspire a culture shift around the tenets of trauma-informed care.

Leaders laid the groundwork for PPS by proactively emphasizing commitment to the multiple tenets of a trauma-informed system of care, increasing knowledge on: 1) the widespread role of trauma among the children, families, and workforce engaged in the system of care; 2) the value of family and youth empowerment and collaboration; 3) the importance of moving towards zero tolerance for seclusion and restraint; and 4) the promotion of health equity. Leadership emphasized the goal of a cultural transformation in the way the work

...the "charge" was "...to change hearts and minds."

was done. As one articulated, the "charge" was "...to change hearts and minds" of those working with children engaged with the Children's System of Care.

"But I think it's really transforming the culture ... in those communities where the greatest need and the greatest risk is...I think it changes the way that people experience their work and the people that they work with..."

"This initiative is about hearts and minds... facilitating a paradigm shift for the people doing this work so that they'll see and engage with these [kids] in a different kind of way that's more helpful."

"...Can that person enter into a genuine appreciative relationship with someone else—that's where the healing happens...the right kind of heart and brain being there for a kid."

As part of this cultural transformation, leadership actively worked to change language used throughout and across the system of care. Example of language shifts include:

- children and youth—*not* clients;
- treatment—*not* placement; and
- transition—*not* terminate.

CSOC engaged partners and stakeholders, including other agencies interfacing with youth served by the Children's System of Care as well as children and their families.

"...We had multisystem kids...When we made moves, we said we can't just make moves for kids who have complex behavioral health needs. These moves have to be able to impact everyone."

Stakeholder engagement was critical in development, adoption, execution, and continuation of PPS, with CSOC involving multiple stakeholder groups viewed as foundational to statewide implementation of a trauma-informed approach. Specific attention was given to the need for engagement with other public sector agencies, all levels of service delivery within the system of care, as well as the workforce, caregivers, families and youth engaged in the initiative.

"We had the whole group of kids, right. So we didn't just have child welfare children, and we didn't have juvenile justice kids. We had multi-system kids. We had children with autism, and children with substance use challenges. When we made moves, we said we can't just make moves for kids who have complex behavioral health needs. These moves have to be able to impact everyone. The impact should feel like a wave within a community."

"How do you get stretched out enough to get influences in other places, not just in the four walls of what you have control over..."

"...So sitting down with [Leadership in Child Protection], sitting down with the leader of the resource unit, and being able to say how can this help in the work that you're doing?...It's about engaging the stakeholders."

"[CSOC chose an approach]...that would be more broadly accessible to all the partners within the system of care...to have better uptick."

CSOC embedded the language and principles of the initiative into contracts and regulations.

Respondents articulated the importance of embedding the language and commitments of the initiative into both contracts and regulations. They specifically spoke to the importance of needing to "infuse in contracts" and embed in regulations the tenets of trauma-informed care. Nurtured Heart Approach and Six Core Strategy (6CS) language were included in RFPs and reinforced through contract expectations for behavioral health OOH programs.[18]

> "...It included how we put regulations together and contracting...That was important to... begin to think about..."

"...It included how we put regulations together and contracting...That was important to...begin to think about, as an organizational framework, what needed to be in the contract, what did we need to think about licensing? What did we need to think about in the regulations...all that good stuff."

CSOC selected an approach that both fit its system needs and could be "practiced by anybody" and "build a connection for everyone."

Interviewees highlighted the importance of the PPS interventions—6CS and NHA—working together to address system needs, coupling a focus on reducing the use of restraints with shifting the overall aperture and lens guiding interactions with children toward a more positive, trauma-informed approach. Leaders spoke of the importance of PPS emphasizing both interventions together. The complementarity of these approaches mirrors trauma-informed practice recommendations—pairing changes in the larger organizational setting with efforts aimed at improving clinical encounters.

6CS helped address the need to reduce use of restraints and shift away from practices that leaders viewed as exacerbating trauma among children in its care.

"We could not ever have kids be put in a restraint and be ok with it..."

"...The idea of laying hands on kids seems to be anathema to making them well, using restraints or seclusions, or calling the police, because calling the police is a form of restraint...because if you don't do it yourself, you get somebody else to do it, that's a restraint."

Six Core Strategies© was described as a "reasonable approach" to change practices, where system partners would "begin to look at it [meaning, restraint]...involve children and families...keep data... [and] do post-restraint retrospective[s]."

Leaders articulated the value of these approaches in terms of a range of organizations and staff members being able to successfully implement them. In the case of 6CS, coaches were able to customize strategies for particular treatment settings. The two arms of PPS worked in tandem to help, as one put it, "infuse a lot of trauma competencies throughout [the] system."

Likewise, the range of individuals that could practice NHA throughout everyday encounters led to its widespread adoption and spread, as well. While alternatives interventions were considered, the accessibility and simplicity of NHA made it an ideal complement to Six Core Strategies©.

"Because of the rich practical experience they [meaning, CSOC leadership] all had, they were really looking for things that were simple enough for folks to actually grasp onto and do something with, while actually still being powerful...And I think they really hit a home run in terms of choosing Six Core and Nurtured Heart..."

"Nurtured Heart is not heavy. Its milder...compared to Six Core, but it gives people a different approach, a different thinking, a different language. It makes it easier ...to kind of change what we do so we don't deepen the child's alienation, or we don't further traumatize..."

"Nurtured Heart was really chosen, it was an approach that was utilized already for some of our providers within the state, but I think what really drove the idea was that it's something that could be practiced by anybody...It's really something that a parent, a youth, a staff member can learn and be able to walk out the door and start to implement."

> "[NHA is] really something that a parent, a youth, a staff member can learn and be able to walk out the door and start to implement."

"It was designed as more practical...I think in the fast-paced lives of overwhelmed providers too much complexity means things get left by the side of the road."

"...It was very mindful and very deliberate and very successful..."

Interviewees spoke to the approach as equipping not only the workforce, but parents and caregivers as well—critical reinforcements to trauma-informed engagements-- changing the lens that they were looking through in seeing these children. One described Nurtured Heart as "a way of thinking that went along with the system of care approach."

> "I think what makes Promising Path really unique as part of a SAMHSA grant... is that the focus was really on the workforce. And not just on the workforce in the out-of-home treatment providers, but our system as a whole..."

> "So part of the problem with the other things that we were looking at, they were interventions in which the trained professionals were the focus. What we loved about Nurtured Heart...it had these...long tentacles that could go into the community, and get to places we couldn't get to, to get to families before they ever knew who we were."

> "Helping people understand...how the brain is

impacted by trauma...how youth who might be seen as being willfully defiant are actually just doing the best they can with what they've got... And if you give them something else, they're going to do better...that's a big shift."

CSOC facilitated ongoing learning through diverse disciplinary and practice expertise.

Finally, respondents emphasized the importance of engaging an implementation team of coaches with experience in working within OOH treatment settings, diverse expertise, and capacity to offer practical and grounded solutions for a workforce confronted by competing demands.

> "... [The core coaching team] knew what it was like to run a program and try to get inexperienced junior frontline staff to do something that didn't necessarily make sense to them. And what it was like to talk to a manager, who's too busy, about how actually carving out time to do something new in a real way could really make...life easier."

CSOC relied on a team that had "the vision and the knowledge base and the gravitas to be taken seriously by providers." While grounded in the "values and principles" of the system of care, the coaching team included diverse disciplines that fostered intra-team learning and collaboration. The use of a learning collaborative to facilitate sharing across the System of Care helped disseminate approaches across multiple treatment settings. For example, the team accessed an occupational therapist who brought new tools and approaches to facilitate self-regulation and calming environments.

LESSONS AND RECOMMENDATIONS

Retrospective reflections from those responsible for creating and launching Promising Path to Success underlined the importance of drawing on key levers to help the effort take hold across a large, diverse system of care.

- First, the team integrated the information it collected into decision-making—incorporating understanding of broader trends and system needs with deeper data dives in designing and refining Promising Path to Success. Data analysis was routinely integrated into discussions at the decision-making table.
- Second, CSOC leveraged other administrative tools to help shift its work and culture to reinforce PPS. Organizational language was revamped. And trauma-informed principles were infused throughout contracts and regulations to help support and reinforce a wave of culture change within and outside the System of Care.
- Finally, an important consideration for future programming is that CSOC took an incremental (multi-phased), inclusive, accessible approach, bringing along important stakeholders, including its partner youth-facing agencies, its workforce and the youth, parents and caregivers its supports, allowing Promising Path to Success to reach well-beyond the system that launched it.

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Promising Path to Success: Perspectives from the Frontline

INTRODUCTION

From 2015 to 2019, the New Jersey Department of Children and Families rolled out a statewide initiative to broaden and enhance trauma-informed approaches to care, including reducing the use of restraints. In this chapter, we build on the former chapter and examine the implementation experiences on the ground, focusing especially on residential programs, and report on the feedback and recommendations from both out-of-home service providers and care coordinating organizations across the state's system of care.

KEY QUESTIONS ADDRESSED

As described in detail in Chapter 2, the statewide initiative of Promising Path to Success (PPS) comprised two components: The Six-Core Strategies© (6CS), and the Nurtured Heart Approach (NHA). The 6CS, with the primary objective of reducing restraint and seclusion, targeted out-of-home (OOH) facilities but also extended the 2-day training to care management organizations (CMOs), family support organizations (FSOs), and mobile response support services (MRSS), while NHA was implemented widely to all Children's System of Care (CSOC) providers including OOH as well as the community-based CMOs, FSOs and MRSS. Figure 3.1 below depicts the rollout of PPS in New Jersey and flags the focus of this chapter, namely: The **OOH program** characteristics, the **reach** and **translation** of 6CS, as well as **feedback and recommendations** from the frontline of OOH, CMO, and FSO providers.

FIGURE 3.1: **PROMISING PATH TO SUCCESS ROLLOUT**

OOH Programs

6-Core Strategies → **Reach** → Active implementation coaching (6+ months) + Initial training for implementation teams (2 days) → **Translation** → Implementation: Strategies and dissemination to program staff

Nutured Heart Approach → Intensive "train-the-trainer" for staff representatives (5 days) + Participation in regional super-user groups (periodic) → **Feedback and recommendations**

CMOs / FSOs / MRSS

This chapter addresses the following questions:

- What are the **OOH program characteristics and prior experience** in providing trauma-informed care?
- To what extent did PPS rollout **reach OOH programs**?
- To what degree have PPS 6CS strategies **translated to OOH policy and practice**?
- What are the **feedback and recommendations** from OOH, CMO, and FSO program staff?

EVALUATION APPROACH

Interviews were conducted with 190 key informants across the New Jersey System of Care providers – the regional CMOs, FSOs, and 94 OOH programs in eleven of the fifteen service areas that implemented PPS during phases 1 through 4. The map on the left shows the number of OOH programs in each service area. The interviews were conducted between November 2015 and March 2018.
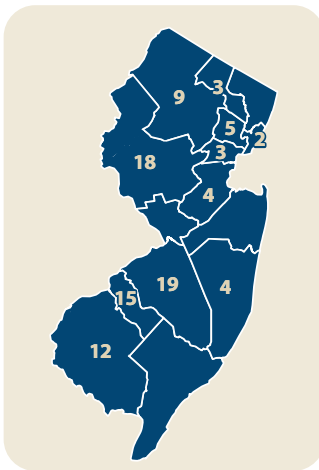
While the leadership and staff of both OOH and community-based programs provided feedback and recommendations, lessons on the reach and translation of 6CS were drawn exclusively from OOH experiences.

Acronyms Used in This Chapter:	
6CS	Six-Core Strategies©
CMO	Care management organization
FSO	Family support organization
NHA	Nurtured Heart Approach
OOH	Out-of-home treatment program
PPS	Promising Path to Success

KEY FINDINGS

New Jersey has a **diverse fleet of OOH programs** across its Children's System of Care, both in terms of the level of care and size.

- OOH programs in New Jersey vary greatly in size and capacity: Among the programs interviewed, full-time staff range from half a dozen to about 100, and program capacity from five to nearly 100 beds.

- Most of these OOH programs organizationally fall under umbrella agencies that are also diverse: These agencies could encompass anywhere from two to more than 30 OOH programs and have staff size from fewer than 10 to over 1,000.
- A minority of the OOH programs serve youths with not only behavioral health issues but co-occurring substance use disorders or intellectual/developmental disabilities, making their care needs more complex.

OOH providers came to 6CS primed with some experience – the majority of the programs reported implementing at least some of the strategies, to varying extents, prior to the implementation of PPS.

- At least half of the programs already instituted strategies to reduce or eliminate restraint prior to PPS rollout. All programs have been prohibiting the use of seclusion or types of restraints other than physical ones prior to when PPS began.
- Compared to Phase 1, programs in later PPS phases were more likely (through umbrella agencies) to have existing quality improvement infrastructure and acknowledge the importance of using data to improve practice.
- Likewise, as PPS rolled out, more and more of the OOH programs reported having trained staff in trauma-informed care and/or NHA, invested in workforce development, and instituted rigorous post-event debriefing prior to the formal start of their implementation. This was partly explained by the structural as well as informal transfer of information, knowledge, and staff across programs within an agency. While such "cross-contamination" of training may complicate program evaluation efforts, we consider it an organic process and did not hear any negative reaction from the interviewees (beyond some wishing for broad expectation-setting or communication upfront, as noted below).

PPS rollout successfully reached all behavioral health OOH treatment programs, as 100% of OOH programs that were slated to implement PPS were represented at the initial training for 6CS and NHA, and subsequently received program-specific coaching for 6CS.

- On average, program-specific coaching on 6CS began 1-2 months after the initial training. That said, this duration varied widely across programs from a few days to nearly half a year.
- Attendance of the initial training on 6CS and NHA were well-represented by OOH program leadership and direct care staff in counseling or medical care roles. Non-counseling and non-medical direct-care personnel from more than half of the OOH programs also received training in these initial sessions.
- During the early part of PPS rollout, NHA certified trainers were more likely to be agency-level rather than program-level personnel. In the later phases of the rollout, more programs elected to train and certify program-level direct-care staff.

Overall, OOH program leadership and staff successfully translated PPS strategies – both 6CS and NHA – into organizational policies and practice. Each program, aided by program-specific and on-site coaching, had the autonomy to adapt the strategies to mitigate local barriers and take advantage of local facilitators.

- OOH programs generally selected four or five out of the six strategies in 6CS to implement during the PPS rollout.
- Within the 6CS framework, OOH programs consistently identified leadership orientation for organizational change, investment in workforce development, utilization of restraint reduction tools, and inclusion of youth voice as the priority strategies.
- OOH programs have embraced NHA as a guide to configure the culture of care: The vast majority incorporated NHA strategies in enhancing the physical environment; embedding NHA in workforce hiring and retention including supervision, and routine meetings; incorporating NHA principles and language in care plans and other documentation.

- OOH program staff reported mixed results with regard to their outreach efforts and expanding the training and NHA culture to other system partners. We expand on this topic in the next section.

Recommendations from the frontline (i.e., OOH programs, CMOs and FSOs) organized along the PPS rollout process: Preparing, implementing, sustaining, and going beyond PPS.

PREPARE

- Widely communicate the process and necessary effort up front
- Anticipate workflow disruptions and facility enhancements
- Allocate sufficient resources to accommodate disruptions and other needs

While applauding the initiative and its goals, frontline staff reported not always being prepared for the time commitment involved in PPS implementation.

> *"Obviously I... loved the [PPS] program and, you know, the changes we saw. But I just didn't know it was going to roll out that way. [...] I just thought it was going to be like a two-day training and then we were going to be done."*

> *"I think it would have been helpful to do an overview for everybody early on so that you know what was coming down the pike because you'd go to meetings and people would be talking about the coaching, and other people didn't really know what that was. And I think that might've been helpful."*

IMPLEMENT

- Monitor and flexibly mitigate unexpected challenges
- Be mindful of disseminating to, and engaging with, staff on non-standard shifts
- Provide ample financial and human resources to facilitate implementation

Interviewees voiced the importance of accommodating unexpected obstacles while implementing PPS. For example, resources and training were less accessible to staff working outside of the typical 9-5 workday

window. Resource limitations were another constraint cited by many.

> *"Maybe a little bit more flexibility with... access to people on evenings, and weekends, and support during those times as well."*

> *"I think that part of this initiative [is] with the sensory-related items... OK, how are we going to incorporate sensory-related items when we don't have money?"*

> *"We're working on a relaxation room and it's taking a while to get started, because...we have to fit it in the budget that we currently have."*

SUSTAIN

- Ensure a sufficient and stable pool of trainers / trained experts on staff
- Provide on-going, periodic refresher training
- Establish learning collaboratives to facilitate peer-to-peer learning
- Support continuous monitoring tools and capacity

Sustaining efforts amidst ongoing challenges, including staff turnover, was a widely shared concern. Those interviewed underscored the importance of establishing training teams with "stable" staffers and equipping them to carry forward and sustain the program-wide efforts to practice trauma-informed care. They also voiced the need for a larger pool of certified NHA trainers. Other suggestions included tools to monitor and quantify performance, and platforms or venues (such as learning collaboratives, annual meetings, online portals) to promote shared learning.

> *"So we have a way to sustain it by having... a pool of people with expertise that we can call upon."*

> *"Maybe if we had an annual meeting where we can kind of share information with each other. Like what we are doing maybe someone else is not doing and vice versa, and we can share and build upon that..."*

GO BEYOND PPS

- Provide opportunities/resources for content deep-dive, e.g., diverse types of trauma and appropriate responses
- Promote trauma-informed care in systems beyond CSOC, e.g., education, law enforcement

Program staff suggested building upon the accomplishments of PPS and promoting deeper as well as broader adoption of trauma-informed care through ongoing workforce training on responding to different types of traumas (e.g., sexual abuse, human trafficking), and by extending trauma-informed care training to parents, law enforcement, and school personnel.

LESSONS & RECOMMENDATIONS

Feedback from the Children's System of Care providers attest to a successful statewide rollout of PPS initiative – a remarkable feat given the diversity of sizes, treatment intensities, and profiles of youth served by these organizations. High-level lessons and recommendations from the feedback are distilled as follows:

- Practice transformation is essential to implementing PPS successfully. To ensure sustained progress, the implementation should be integrated into the providers' existing workflow and processes.
- Programs should continuously monitor the translation of PPS into program-level policies and practices so that they can identify and address challenges in real time.
- Unanticipated challenges are the norm. Ample resources should be allocated for programs to react and resolve them as needed on the ground.
- Program administrators can leverage umbrella agency-level resources and infrastructure to disseminate information efficiently via coordinated training and shared learning.
- Sustain the progress by establishing an infrastructure for shared (peer-to-peer) learning, such as through learning collaboratives or annual meetings.

Changes in Restraint Use in Out-of-Home Facilities

INTRODUCTION

A series of research studies from the 1990s and early 2000s concluded that restrictive measures, such as seclusion and restraint—intended to stabilize disruptive or noncompliant behavior and ensure the safety of care providers and recipients—are not supported by evidence. Most importantly, these measures may lead to physical and psychological harm among both care providers and recipients in mental health care settings.[1] In addition, an episode of physical restraint could involve 25 tasks, require up to 12 hours of total staff time, and cost well over $400 in 2021 dollars.[2] The practice of restraint also is associated with heightened risks for injuries among staff and youth, further driving up costs, as well as contributing to workforce volatility through turnover, absenteeism, and replacement hiring.[3]

These findings culminated in *A National Call to Action* Summit in 2003, marking the start of a broad-based effort to end the use of restraint and seclusion and promote trauma-informed approaches in mental health care settings.[4] Prevalence of use of such measures is difficult to assess given the heterogeneity of contexts, definitions, attributes of youths receiving services, and widespread underreporting. According to a recent systematic review of 16 published studies, between 27% and 44% of children and adolescents in inpatient mental health services have experienced physical restraint.[5]

As described in Chapter 2, a primary objective of Six Core Strategies© (6CS), a key component of Promising Path to Success (PPS), was to eliminate restraint and seclusion. In this chapter, we examine whether the use of such restrictive practices changed in frequency during the rollout of PPS. As New Jersey System of Care providers have largely ceased the use of seclusion even before PPS rolled out, we restrict our analysis to the use of restraint.

KEY QUESTIONS ASKED

Since 6CS targeted out-of-home (OOH) treatment settings, we focused the analysis on OOH rather than the community-based programs to answer the following questions:

- Was there a reduction in the use of restraint over time?
- How did the trends vary across OOH site types?

EVALUATION APPROACH

Since a centralized, statewide repository of restraint data was not available (since, currently, providers are required to report restraint incidents to the New Jersey Department of Children and Families only when they result in injuries), we reached out to OOH programs directly to request monthly restraint use, both in terms of the number of episodes and number of youth involved in the restraint episodes.

To facilitate consistent data collection, the research team designed a template to track restraint use per month. Also included in the template were measures of investment into, and potential impact of, practicing trauma-informed care. Those measures included facility enhancement, equipment purchase, workforce training and opportunity costs, injuries among youth and staff, staff sick time use and turnover, and police involvement. We hosted a series of webinars to orient relevant staff to the template and offer clarifications before programs began the data collection process.

For nearly all programs, the compilation of these aggregated data was not part of the existing workflow. As a result, only 56 of the 95 programs (59%) we outreached to were able to provide usable data on the monthly counts of restraint episodes and youth affected, and very few of them provided data on the remaining measures noted above. Overall, out-of-home programs providing higher intensity of care (i.e., psychiatric community homes and specialty programs) were more likely to provide restraint data than lower intensity programs (i.e., group homes). This discrepancy is perhaps expected,

given, as presented below under the Key Findings, the use of restraint is extremely rare in group homes.

Table 4.1 below lists these respondent programs by site type, as well as basic characteristics in aggregates.

TABLE 4.1: RESPONDENT PROGRAMS AND KEY ATTRIBUTES

Out-of-home site type*	N	Number of beds			Gender: % Programs serving		
		Mean	Median	Min–Max	Male only	Female only	Coed
GH	6	8.33	9	5–12	50%	50%	0%
IRTS	2	6.50	6.5	6–7	0%	100%	0%
PCH	11	8.36	8	5–17	18%	27%	55%
RTC	18	12.33	5	5–47	67%	22%	11%
SPEC	19	7.32	5	5–28	58%	37%	5%

*GH: Group home; IRTS: Intensive residential treatment service; PCH: Psychiatric community home; RTC: Residential treatment center; SPEC: Specialty program

For each program, the use of restraint was aggregated into three time "points": the **Pre-PPS period**, which was from January 2014 to the month prior to 6CS initial training; the **Implementing** period, which began from 6CS training and lasted 9 months (which was the time elapsed, on average, from one phase to the next), followed by the **Sustaining** period ending in December 2019, when data collection concluded.

KEY FINDINGS

In addition to the data, we asked each OOH program for its formal definition of "restraint" to ensure valid comparisons. Consistently, they **defined "physical restraint" as a form of physical intervention, to be used only when all verbal de-escalation and other less restrictive methods have been exhausted, and when imminent danger of serious physical harm to oneself or other was noted**.[6]

Across all programs depicted in the table above, **the average number of restraint episodes per month per program dropped from 3.3 to 2.3 from the Pre-PPS to Sustaining period**, and the number of youths affected per month decreased from 1.7 to 1.3. The following charts disaggregate these numbers by site type to show the differences across levels of care. (Because the sample sizes were very small, ranging from 2 to 19, statistical testing was not done across groups.) (Figures 4.1–4.2)

FIGURE 4.1: **NUMBER OF RESTRAINT EPISODES BY SITE TYPE**
Average per Month per Program

	Pre-PPS	Implementing	Sustaining
PCH	8.09	6.46	5.20
IRTS	4.23	3.61	2.72
RTC	2.91	2.62	1.79
SPEC	2.00	1.96	1.87
GH	0.07	0.00	0.02
All	**3.33**	**2.90**	**2.32**
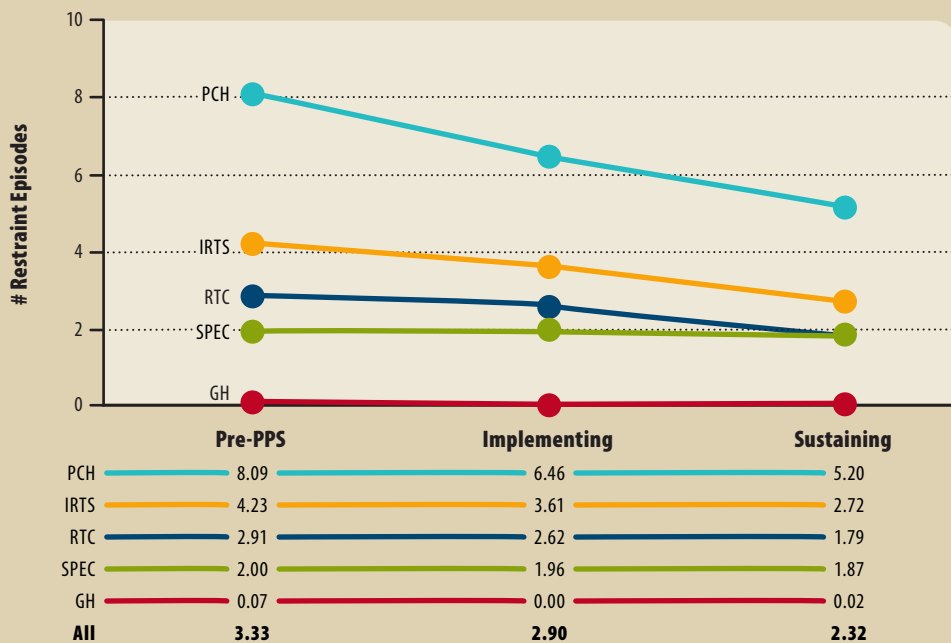
Psychiatric community homes used restraint most frequently, but also had the sharpest drop (from 8.09 to 5.20, or a 36% decrease), pre- to post-implementation. Similarly, intensive residential treatment services saw a 36% drop, and residential treatment centers a 38% drop. The occurrence at specialty programs held steady at around 2 episodes per month, and group homes rarely practiced restraint, even before the start of PPS.

FIGURE 4.2: **NUMBER OF YOUTHS RESTRAINED BY SITE TYPE**
Average per Month per Program

	Pre-PPS	Implementing	Sustaining
PCH	2.84	2.34	2.00
RTC	2.07	2.06	1.42
IRTS	1.89	1.83	1.58
SPEC	1.27	1.17	1.28
GH	0.07	0.00	0.02
All	**1.7**	**1.55**	**1.33**
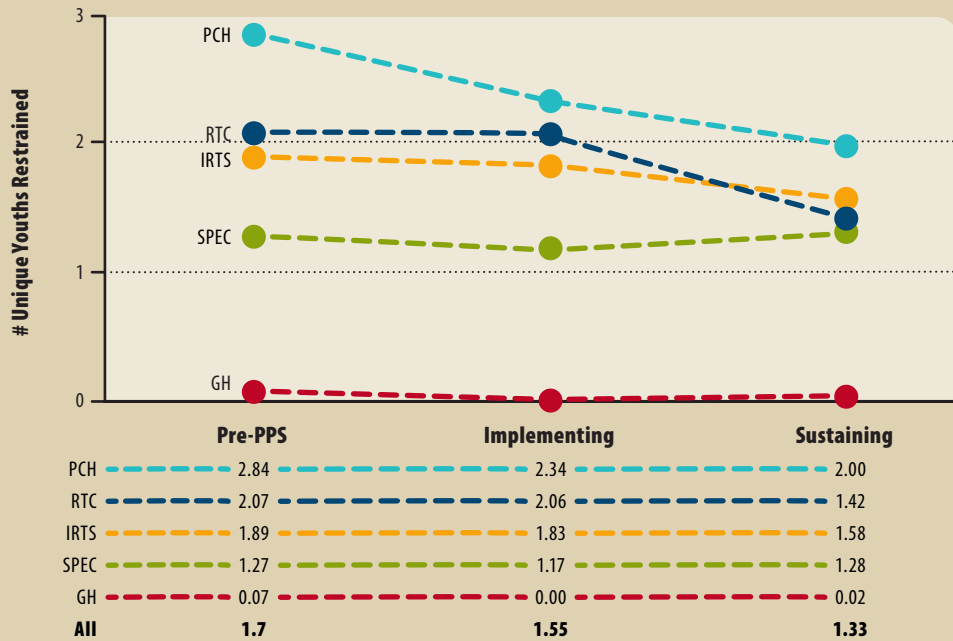
Similar downward trends were observed in the number of unique youths experiencing restraint. Psychiatric community homes, residential treatment centers, and intensive residential treatment services all saw a substantial decrease. Specialty programs kept the number at just over one youth per month, and youths in group homes rarely experienced restraint.

To shift from using physical restraint to measures that were less restrictive, programs likely needed to adjust the workflow, train their workforce, and possibly alter or enhance the facility environment and invest in new equipment. As mentioned earlier, we did not have sufficient quantitative data on these program-level factors and programs efforts. Nor were we able to explore the potential impact such as injuries among youths and staff and staff retention.

LESSONS & RECOMMENDATIONS

As Promising Path to Success rolled out, out-of-home treatment providers reported a marked overall decrease (from 3.3 to 2.3) in the monthly incidence of restraint. Of the five OOH levels of care we examined, three – psychiatric community homes, intensive residential treatment services, and residential treatment centers – lowered the incidents of physical restraints by at least 36% over the course of rolling out PPS. The use of restraint appeared to be extremely rare in group homes, where fewer than one episode occurred in a year or longer.

The following are additional lessons learned from this evaluation as well as recommendations for similar future efforts.

- A data limitation is that the study team did not have information on actual program occupancy (i.e., number of youth in each OOH for each month from 2014 to 2019) which prevents further analysis of the use of restraint as a proportion of youth in each program. Therefore, if there has been a steady decrease in youth referred to these out-of-home treatment programs, the extent of the reduction in restraint could be less substantial than the measures in this analysis suggest.
- Most OOH programs did not have the capacity to monitor longitudinal trends of restraint use on a program level. That said, all of them keenly recognized the importance of continuous tracking and would embrace DCF's guidance and support in standardizing such monitoring workflows.
- As programs move away from restraints towards alternative measures, it would be instructive to contextualize the trends by tracking the financial and workforce investments to foster alternative de-escalation measures, as well as the potential impact of the transition, such as injuries on premises, workflow changes, and staff retention.

- Recent research suggests that the practice of restraint in residential treatment facilities may be influenced by youth, staff, and environmental characteristics, as well as the interaction between the staff and youth.[7] For example, younger youth, males, those with poor medication management, and those presenting aggressive behavior are more likely to experience restraint.[8,9] Staff members who are younger, more highly educated, and who perceived aggression in youth had stronger association with the use of restraint.[10] Collecting detailed person- and program-level data on these factors, as well as on the impacts on youth should be considered in future efforts to model and assess similar programs in other states.

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Evaluating Outcomes Related to Promising Path to Success: Child and Adolescent Needs and Strengths (CANS) and Re-entry into Out-of-Home Treatment

INTRODUCTION

The analysis in this chapter focuses on examining outcomes for youth and their families engaged with CSOC's out-of-home (OOH) treatment programs before and after implementation of Promising Path to Success (PPS). This chapter explores changes in key areas of strengths and needs as measured by Child and Adolescent Needs and Strengths (CANS) scores, re-entry to OOH treatment, and changes in length-of stay and intensity of service in OOH treatment —all important markers related to PPS and its objectives.

The New Jersey Children's System of Care uses CANS as an Information Management Decision Support Tool to assist with individual care planning, standardize the way treatment recommendations are made (informed by CANS scores), as well as to identify opportunities to improve the service delivery system. CANS covers a range of domains (including life functioning, child strengths, child behavioral/emotional needs, child risk behaviors, and caregiver strengths), helping to paint a picture not only of the child but also the family, as the dynamics and challenges and strengths inherent in those relationships are so influential. Care managers collect these data from the child and family, as well as from prior assessments and collateral perspectives. Once data are gathered, they are entered via CANS scores into an electronic record. The scores are used to support decision-making to determine levels of treatment. A child's CANS scores are re-assessed routinely to ensure all strengths and needs are evaluated and tracked over time. This allows the treatment team to support areas of strength, focus treatment planning on areas of need, and monitor progress over time. While CANS is not specifically designed as an outcomes evaluation tool, examining changes over time in selected domains can shed light on trends related to CANS and OOH treatment as PPS was implemented across the System of Care.

Along with examining changes in CANS scores, our evaluation also examines whether investments in the trauma-informed approaches embedded in PPS were associated with reductions in re-entry into OOH treatment, reductions in the duration of OOH treatment, as well as transitions to lower-intensity treatment in OOH settings. PPS specifically aimed to reduce re-entry into OOH treatment settings in order to help keep children and youth in their communities. As articulated in the initial proposal to design and launch PPS, leadership in CSOC conducted a needs assessment, including "an audit through its Contracted Systems Administrator (CSA) to identify risk and protective factors that increased or decreased the probability of multiple out-of-home treatment episodes."[1] The needs assessment engaged the statewide CSA to identify the protective and risk factors associated with re-entry into out-of-home treatment settings. Findings of this needs assessment identified that children who had multiple OOH treatment episodes were disproportionately likely to have recorded histories of trauma. As a result of these findings, PPS was developed using the Six Core Strategies© and Nurtured Heart Approach, discussed in earlier chapters, to infuse a trauma-informed approach throughout the Children's System of Care and its OOH treatment settings.

KEY QUESTIONS ADDRESSED

- How was PPS implementation associated with strengths and needs of children and families engaged in out-of-home treatment?
- Was PPS associated with reduced re-entry to out-of-home treatment thereby allowing children to remain in their communities?
- Was PPS associated with reduced length of stay in OOH treatment?
- Was PPS associated with a shift toward lower intensity treatment among youth who needed to re-enter OOH treatment?
- What lessons can be learned from this evaluation that could inform future study or initiatives?

EVALUATION APPROACH

This analysis is based on a relational dataset that is managed by the CSA, referred to as CYBER. CYBER is an administrative database that is used by all providers across the New Jersey CSOC. It is important to note that the database exists for administrative, clinical, and reimbursement reasons rather than for research purposes. This contributes to some of the analytic limitations discussed later in this chapter.

The designation of exposure to PPS is based upon whether a youth received services from an OOH CSOC provider that had implemented PPS. Assignment of "pre-PPS" versus "post-PPS" was determined by the phased rollout of PPS across counties where providers are located as shown in Table 5.A below.

TABLE 5.A: **PHASES OF PROMISING PATH TO SUCCESS (PPS) BY REGION AND TIMING OF SIX CORE STRATEGIES© TRAINING**		
Phase	**Implementation Regions**	**Six Core Strategies© Training**
1	Morris, Sussex, Middlesex	January 2016
2	Cumberland, Gloucester, Salem, Passaic	September 2016
3	Burlington, Ocean, Essex, Union	June 2017
4	Hunterdon, Somerset, Warren, Hudson, Camden	March 2018
5	Atlantic, Cape May, Monmouth, Bergen, Mercer	January 2019

Changes in Needs and Strengths as Measured through CANS Scores

The first part of our analysis measured CANS scores for youth engaged in OOH settings before and after PPS was implemented in the areas defined by PPS phases 1-5. Using CYBER data covering the years 2014-2019, we examined changes in average CANS scores within the following five domains: 1) Life Domain Functioning (LDF), 2) Child Emotional and Behavioral Health Needs, 3) Child Risk Behaviors, 4) Child Strengths, and 5) Caregiver Strengths. Within each domain, we calculated the 30-point mean domain score defined as the mean of all original scores, in their original values of 0-3, in a domain and multiplied by 10. Given the focus of PPS on improving the strengths and inner resources of youth engaged with CSOC across treatment settings, we hypothesized that PPS would result in improvement (i.e., reduction in scores) in each

of the CANS domains. In the results presented below, we scored "child strengths" and "caregiver strengths" consistent with the CANS, with higher scores indicating greater need for intervention. In other words, **lower CANS scores indicate preferred outcomes for all domains.**[2] In each case, we displayed changes in CANS scores over time by phase and tested for statistically significant differences in average CANS scores within phase using t tests. We considered differences with p-values less than 0.05 to be statistically significant, less than 0.01 to be strongly statistically significant, and from 0.05 to 0.1 to be only marginally significant.

Time to Re-entry into Out-of-Home Treatment

The second part of our analysis used CYBER data from 2011-2019 to examine returns to OOH treatment after transition from initial treatment. For this part, we used methods from "survival analysis" (alternatively known as "time to event analysis") to determine whether, and after what length of time, youth initially treated in an OOH site return to an OOH site for treatment before and after PPS. The key concept for this analysis is the "survivor curve," which determines, for any given number of days after initial OOH discharge, the proportion of youth who have avoided a return to OOH treatment (OOH treatment is the "event" in these analyses). An important feature of this methodology is that it includes all the observable time in which youth are "at risk" for a return OOH treatment. Youth are considered to be at risk from the time of OOH transition until they return to OOH treatment or until the end of 2019, which is the last time an event could be observable in our data (individuals who reach the end of 2019 with no return OOH event are considered "censored"). To ease interpretation, we display the inverse of the survivor curve, known as the "failure curve" and which we call the "return-to-treatment" curve, to show for any given number of days, the number of youth returning to OOH treatment as a proportion of those remaining at risk at that time (i.e., among youth who have not returned to OOH treatment or who were not censored from the analysis).

Given the goal of PPS to prevent returns to OOH treatment, we hypothesized, that, for any given amount of time after initial OOH transition, a smaller proportion

of youth would return to OOH treatment in the post-PPS period relative to the pre-PPS period for each of the 5 phases.

In our survival analysis, each individual was observed from the end of their first OOH treatment in the CYBER database until a return to treatment or until the end of 2019 (whichever came first). We compared the return-to-treatment curves for the pre- and post-PPS periods. Consistent with our hypothesis above, we expected the return-to-treatment curve to be lower in the post-period relative to the pre-period. We also expected that numerically, at any given number of days past initial OOH transition, the proportion having a return to treatment would be lower in the post-PPS period.

Length of Stay during OOH Treatment

To analyze length of stay, we consider all OOH treatment regardless of whether it is deemed initial or subsequent and compare stays prior to and after PPS. PPS embedded a trauma informed approach of Six Core Strategies© to Prevent Violence, Trauma, and the Use of Seclusion and Restraint. Previous evaluations of Six Core Strategies© have shown an association between restraint reduction and length of stay.[3] Given our findings on restraint reduction in the previous chapter, we hypothesize that PPS is associated with reduced LOS. This is aligned with other system goals of keeping youth in their communities as long as possible or within the least restrictive setting if OOH treatment is ultimately warranted. We give special attention to lengths of stay beyond 270 days (nine months), because CSOC aims for OOH treatment episodes not to exceed this threshold.

Intensity of Service

We classify intensity of OOH treatment according to relative ranks in the Care Management Organization (CMO) Policy Manual.[4] To maximize the ability to conduct statistically valid comparisons, we combined categories according to Table 5.B below. For this analysis, we focus on individuals with initial OOH treatment in categories 1 and 2 and tracked their intensity of service in subsequent OOH treatment (if any), hypothesizing that, for those children and youth needing to return to OOH treatment, that PPS might be associated with a shift to less intense treatment settings (Table 5.B).

TABLE 5.B: **INTENSITY OF SERVICE CATEGORIES**

Category	Place of Service
1 (High)	Intensive Residential Treatment Services (IRTS) Psychiatric Community Home (PCH)
2 (Med)	Specialty Program (SPEC) Residential Treatment Center (RTC)
3 (SU)	Residential Treatment Center Co-Occurring Behavioral Health and/or Substance Use (RCT-BH/SU, RTC-LT-SA, RTC-ST-SA)
4 (Low)	Group Home (GH)
5 (Other)	All other

KEY FINDINGS: CANS SCORES

Changes in Life Domain Functioning Scores

As shown in Figure 5.1 and Table 5.1, there were modest but statistically significant reductions in average Life Domain Functioning (LDF) scores among youth for phases 2-4, indicating some improvement in markers related to everyday functioning of youth in areas related to their communities, interpersonal relationships, school achievement, health and emotional wellbeing. Phase 1 showed no change. Unlike phases 2, 3 and 4, there was a statistically significant *increase* (meaning worsening of) in the corresponding scores in phase 5 (showing an increase of marginal statistical significance at the 10% level).

FIGURE 5.1: **CHANGES IN LIFE DOMAIN FUNCTIONING PRE- AND POST-PPS AMONG YOUTH IN OOH TREATMENT**
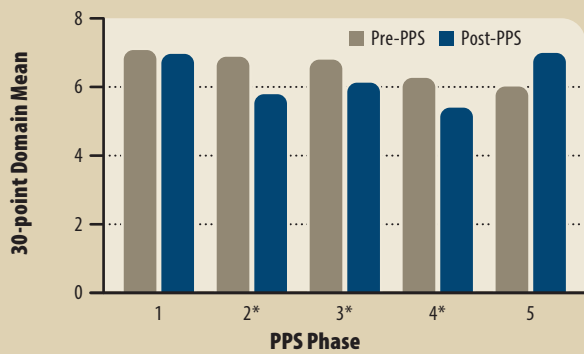
* Statistically significant at 0.05 level.

TABLE 5.1: **DETAILED STATISTICS ABOUT CHANGES IN LIFE DOMAIN FUNCTIONING PRE- AND POST-PPS AMONG YOUTH IN OOH TREATMENT**

Phase	SAMPLE SIZE		CANS SCORE		
	Pre-PPS	Post-PPS	Pre-PPS	Post-PPS	p-value
1	1,167	3,000	7.03	6.95	0.72
2	846	1,057	6.87	5.76	<0.01
3	2,203	1,793	6.76	6.07	<0.01
4	1,056	1,115	6.23	5.41	<0.01
5	257	171	5.96	6.98	0.09

Changes in Child Strengths Scores

As shown in Figure 5.2 and Table 5.2, there were also modest, but statistically significant reductions in average Child Strengths (CS) scores for phases 1-4, indicating improvements in areas such as key relationships, involvement, wellness and resilience. Phase 5 showed no significant change.

FIGURE 5.2: **CHANGES IN CHILD STRENGTHS PRE- AND POST-PPS AMONG YOUTH IN OOH TREATMENT**
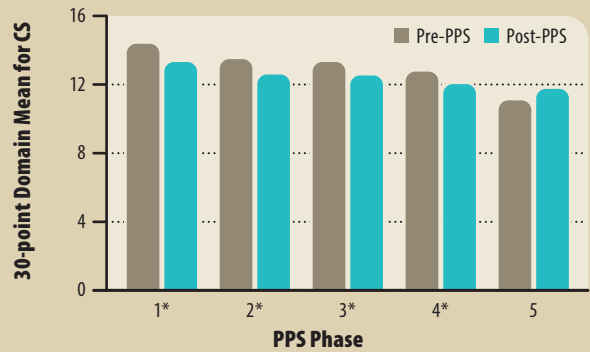
* Statistically significant at 0.05 level.

TABLE 5.2: **DETAILED STATISTICS ABOUT CHANGES IN CHILD STRENGTHS PRE- AND POST-PPS AMONG YOUTH IN OOH TREATMENT**

Phase	SAMPLE SIZE		CANS SCORE		
	Pre-PPS	Post-PPS	Pre-PPS	Post-PPS	p-value
1	1,167	3,002	14.38	13.34	<0.01
2	846	1,057	13.43	12.54	<0.01
3	2,203	1,796	13.3	12.5	<0.01
4	1,056	1,119	12.75	11.92	<0.01
5	257	171	11.02	11.71	0.13

Changes in Child Emotional and Behavioral Health Needs

As shown in Figure 5.3 and Table 5.3, there were modest, but statistically significant reductions in average Child Emotional and Behavioral Health Needs (CEBN) scores for phases 2–4, meaning improvements in areas such as anxiety, depression, anger management, impulsivity and response to trauma. Phases 1 and 5, however, showed no significant change in this domain.

FIGURE 5.3: **CHANGES IN CHILD EMOTIONAL AND BEHAVIORAL HEALTH NEEDS PRE- AND POST-PPS AMONG YOUTH IN OOH TREATMENT**
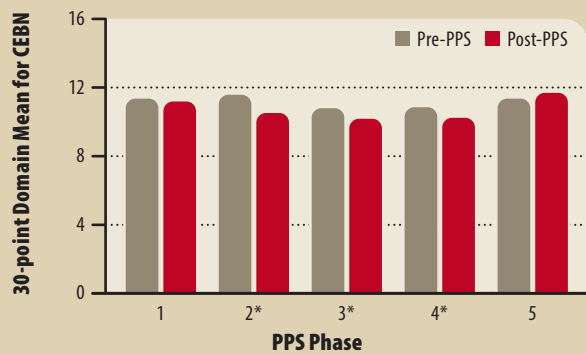
* Statistically significant at 0.05 level.

TABLE 5.3: **DETAILED STATISTICS ABOUT CHANGES IN CHILD EMOTIONAL AND BEHAVIORAL HEALTH NEEDS PRE- AND POST-PPS AMONG YOUTH IN OOH TREATMENT**

Phase	SAMPLE SIZE		CANS SCORE		p-value
	Pre-PPS	Post-PPS	Pre-PPS	Post-PPS	
1	1,167	3,002	11.39	11.19	0.15
2	846	1,057	11.54	10.52	<0.01
3	2,203	1,796	10.79	10.17	<0.01
4	1,056	1,119	10.85	10.23	<0.01
5	257	171	11.36	11.69	0.35

Changes in Child Risk Behaviors

As shown in Figure 5.4 and Table 5.4, there were *increases* in average Child Risk Behaviors (CRB) scores for phases 1, 3, and 5, indicating increases in needs among children in areas such as suicidal thoughts and self-harm, violence, judgement, and substance use. There were no changes in phases 2 or 4.

FIGURE 5.4: **CHANGES IN CHILD RISK BEHAVIORS PRE- AND POST-PPS AMONG YOUTH IN OOH TREATMENT**
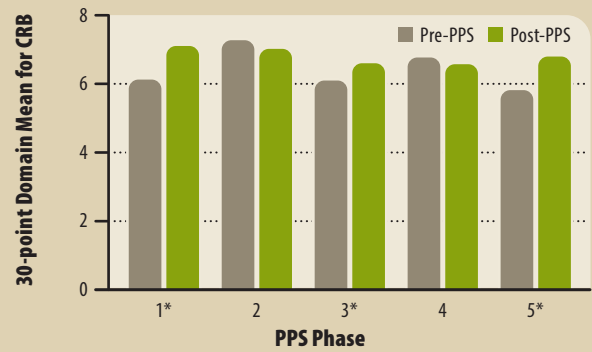
* Statistically significant at 0.05 level.

TABLE 5.4: **DETAILED STATISTICS ABOUT CHANGES IN CHILD RISK BEHAVIORS PRE- AND POST-PPS AMONG YOUTH IN OOH TREATMENT**

Phase	SAMPLE SIZE		CANS SCORE		p-value
	Pre-PPS	Post-PPS	Pre-PPS	Post-PPS	
1	1,167	3,002	6.12	7.12	<0.01
2	846	1,057	7.25	7.03	0.28
3	2,203	1,796	6.11	6.64	<0.01
4	1,056	1,119	6.78	6.61	0.35
5	257	171	5.82	6.83	<0.01

Changes in Caregiver Strengths

As shown in Figure 5.5 and Table 5.5, there were substantial statistically significant *increases* in Caregiver Strengths (CSA) scores for all 5 phases. In other words, there were greater deficiencies in caregiver strengths to support the healthy development of their children, including discipline and involvement. (It should be noted that caregivers were not directly engaged in PPS unless an OOH facility focused on caregivers as part of their PPS goals and vision.)

FIGURE 5.5: **CHANGES IN CAREGIVER STRENGTH ASSESSMENTS PRE- AND POST-PPS AMONG YOUTH IN OOH TREATMENT**
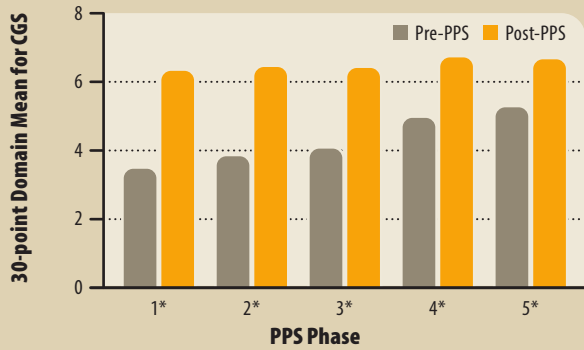
* Statistically significant at 0.05 level.

TABLE 5.5: **DETAILED STATISTICS ABOUT CHANGES IN CAREGIVER STRENGTH ASSESSMENTS PRE- AND POST-PPS AMONG YOUTH IN OOH TREATMENT**

	SAMPLE SIZE		CANS SCORE		
Phase	Pre-PPS	Post-PPS	Pre-PPS	Post-PPS	p-value
1	1,151	2,998	3.46	6.33	<0.01
2	837	1,056	3.82	6.43	<0.01
3	2,203	1,796	4.05	6.39	<0.01
4	1,056	1,119	4.96	6.73	<0.01
5	257	171	5.28	6.66	<0.01

KEY FINDINGS: TIME TO RE-ENTRY INTO OUT-OF-HOME TREATMENT

From 2011-2019, there were 8,693 individuals with initial OOH treatment in facilities targeted by PPS. Among these, 6,848 had their initial treatment during the pre-PPS phase and 1,845 had their initial treatment during the post-PPS phase. Figure 5.6 shows the return-to-treatment

(i.e., failure) curves for the pre- and post-PPS groups, indicating the proportion of individuals in each group who had a return to OOH treatment at different time intervals. For example, in the pre-PPS group, after 30 days 5% of individuals observed to be at risk for returning to OOH treatment did so. After 365 days 22% had a return to OOH treatment. After approximately 730 days (2 years), the curve flattens out in the 0.27 to 0.30 range. This means that **approximately 70-73% of individuals initially admitted in the pre-PPS period reached 2 years without a return to OOH treatment and once they reached that mark, never returned for as long as we could observe them in the data**.

FIGURE 5.6: **RETURN-TO-TREATMENT CURVES FOR OOH TREATMENT: PRE- VERSUS POST-PPS**
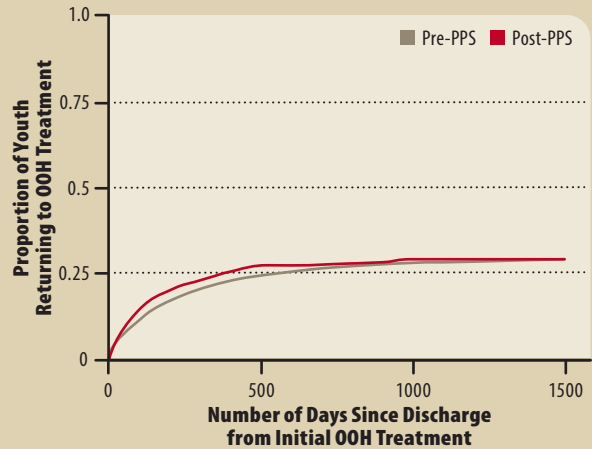
Comparatively, the return-to-treatment curve for individuals in the post-PPS period lies slightly above the corresponding curve for the pre period. This indicates that at any given number of days after the initial transition, a *slightly larger* proportion of individuals are experiencing returns to treatment in the post-PPS period. However, a statistical test shows that these differences are not statistically significant (p-value = 0.12). This means that **at any time after initial OOH treatment, there is no evidence that PPS affected the proportion who avoided a return to treatment**.

Table 5.6 shows that 30 days after completing initial OOH treatment, both groups had a similar percentage of individuals who had a return to treatment in the pre- versus post-PPS periods at 0.05 and 0.06, respectively. At 730 days (2 years) post-index treatment, the pre/post proportions remained similar in both groups at 0.27 and 0.28, respectively. The table below provides additional detail for other time periods (i.e., number of days) after initial OOH treatment (Table 5.6).

TABLE 5.6: PROPORTION OF YOUTH RETURNING TO OOH TREATMENT FOR GIVEN NUMBER OF DAYS AFTER INITIAL OOH FACILITY TRANSITION

Days after transition from initial OOH treatment	Pre-PPS	Post-PPS
1	0.02	0.02
30	0.05	0.06
60	0.08	0.10
90	0.11	0.14
120	0.13	0.16
150	0.15	0.18
180	0.16	0.19
270	0.20	0.22
365	0.22	0.25
545	0.25	0.2
730	0.27	0.28
910	0.28	0.28
1095	0.29	0.29
1275	0.29	0.29
1460	0.29	†
1640	0.29	†
1825	0.30	†

†All individuals had either re-entered OOH treatment or were no longer observable in the database by this time (known in survival analysis as "censored").

KEY FINDINGS: LENGTH OF STAY IN OUT-OF-HOME TREATMENT

The box-whisker plot in Figure 5.7 shows the complete range, outliers, and most common values of length of stay for OOH treatment before and after PPS. Generally, there is a downward shift in the distribution of length-of-stay values post-PPS. This includes a reduction in high-end outlier values as well as the mean, median, and other values. Moreover, a greater proportion of OOH treatment episodes in the post-PPS period fell below the 270-day threshold.

FIGURE 5.7: **DISTRIBUTION OF LENGTH OF STAY TIMES (IN DAYS) FOR OUT-OF-HOME TREATMENT: PRE- VERSUS POST-PPS**
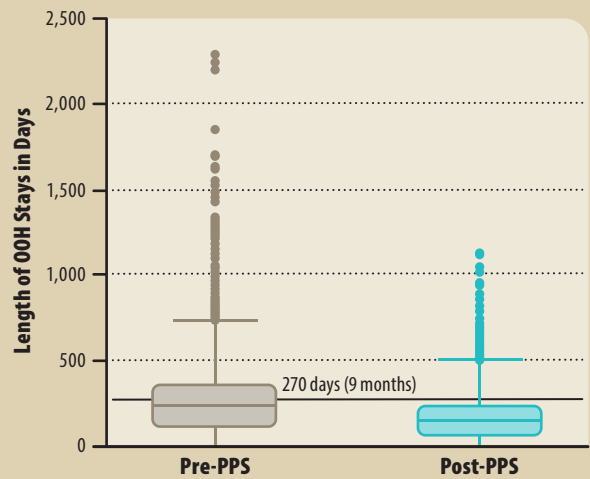
Table 5.7 shows in more detail how lengths of stay differed between the two time periods. **The mean length of stay declined by 92 days (roughly three months) from the pre- to the post-PPS period**. Similar declines were observed for various percentiles of the length-of-stay distribution. In addition, the proportion of OOH treatment episodes less than 9 months increased from 57% in the pre-PPS period to 79% in the post-PPS period. We conducted two sensitivity analyses to understand whether these findings were driven by anomalies occurring due to the short post period for PPS Phase 5 or long lengths of stay. These analyses produce the same pattern of results even when Phase 5 facilities are excluded from the analysis

and also when stays longer than 365 are excluded. For each analysis, the differences between pre- and post-PPS lengths of stay are statistically different at the 0.1% using t tests and rank sum tests. Thus, the finding of lower lengths of stay in the post-PPS period is consistent across alternative methods of analyzing the data.

TABLE 5.7: **LENGTH OF STAY STATISTICS FOR OUT-OF-HOME TREATMENT: PRE- VERSUS POST-PPS**						
			Length of Stay			
	Number of stays	**Mean**	**25th percentile**	**Median**	**75th percentile**	**Less than 270-day OOH Stay**
All						
Pre-PPS	11,620	265	116	236	364	57%
Post-PPS	3,468	173	63	146	242	79%
Removing Phase 5						
Pre-PPS	9,101	273	132	243	367	56%
Post-PPS	3,218	178	67	151	251	78%
Removing stays longer than 365 days						
Pre-PPS	8,760	178	86	183	266	57%
Post-PPS	3,143	141	57	131	209	79%

Figure 5.8 shows length of stay by intensity of service using the categories defined in Table 5.B above. Within each category length of stay fell from the pre- to post-PPS periods. For the first 3 intensity levels, the differences were statistically significant at the 0.1% level according to t tests. The difference for the last intensity level was not statistically significant (p-value=0.43). Nevertheless, this finding overall provides another set of confirming evidence for reduced length of stay in OOH treatment under PPS.

FIGURE 5.8: **AVERAGE LENGTH OF STAY FOR OUT-OF-HOME TREATMENT BY INTENSITY OF SERVICE: PRE- VERSUS POST-PPS**
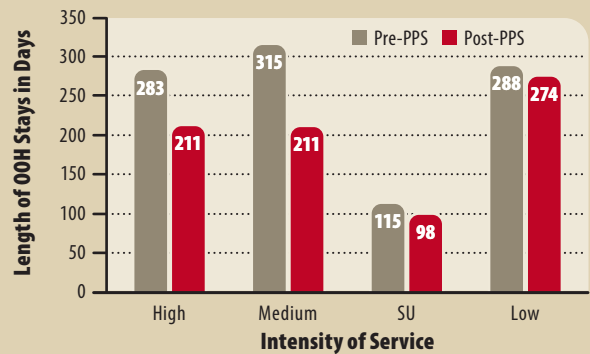
KEY FINDINGS: INTENSITY OF SERVICE

Youth in the post-PPS group were more likely to leave the study observation window before receiving subsequent OOH treatment (79% versus 51%, Table 5.8). This is largely due to the shorter observation time among youth in the post-PPS group. As shown above, there were no differences in repeat OOH treatment between the pre and post groups among those with enough observation time to observe whether a return treatment occurred or not.

TABLE 5.8: INTENSITY OF SERVICE DURING SUBSEQUENT OOH TREATMENT AMONG YOUTH WITH HIGHER INTENSITY OF SERVICE DURING INITIAL OOH TREATMENT: PRE- VERSUS POST-PPS

Intensity of Service	Pre-PPS†	Post-PPS†	Combined
No subsequent treatment	2,372 (51%)	780 (79%)	3,152 (55%)
1 (High)	346 (7%)	33 (3%)	379 (7%)
2 (Med)	1,020 (22%)	109 (11%)	1,129 (20%)
3 (SU)	90 (2%)	‡	‡
4 (Low)	323 (7%)	‡	‡
Other	547 (12%)	32 (3%)	579 (10%)
Total	4,698 (100%)	994 (100%)	5,692 (100%)

† Total number followed by column percentage.
‡ Cell size too small to report

LESSONS & RECOMMENDATIONS

In this chapter, we examined linkages of implementation of Promising Path to Success (PPS) with key outcomes of interest, including improving the strengths of youth and their families and keeping youth in their communities. While changes were sometimes small and uneven across PPS phases, consistent with our hypothesis, PPS implementation was linked with improvements in CANS scores across key domains, such as Life Domain Functioning, Child Strength, and Emotional and Behavioral Health Needs. However, in some domains, including Child Risk Behaviors and Caregiver Strengths, PPS implementation was linked with worsening CANS scores, meaning greater needs in these areas. More study is needed to understand inconsistencies across phases, as well as increased scores in certain areas.

As mentioned previously, while CANS—as currently administered by service providers—yields rich data to help with care planning, monitoring, and communication, it is not an optimal outcomes assessment tool for evaluating population-level changes over time. Indeed, in contrast to its widespread administrative use, few longitudinal research studies of CANS have been conducted.[5]

One limitation is the lack of consistent "continuum of progress" on the 0-3 scale across domains. For some items, the lowest-need score (0) indicates "no history," thus complicating the interpretability of longitudinal trends: i.e., once the score moves up from 0, it cannot revert back. There are also reliability concerns, with variations in scoring depending on who is administering the tool and the way in which the information obtained is interpreted. Interestingly, some have hypothesized that PPS might have increased awareness of trauma among those working with CANS, thereby elevating the recognition of needs and the scores. Without standardizing the administration and scoring of CANS, and with certain domains (e.g., caregiver strength) likely reflecting somewhat distant effects of the intervention, CANS scores in this evaluation should be interpreted with caution. Despite these limitations, using CANS assessments to examine program performance longitudinally remains an active area of new research. The CYBER database system provides a rich collection of data for future research, notwithstanding the contextual caveats.

With regard to the association between the implementation of PPS and time-to-return to OOH treatment, contrary to our hypothesis, we found no significant correlation between the two. In fact, children in OOH treatment post-PPS mirror re-entry patterns of those treated before PPS implementation. While this finding was not aligned with the PPS aims, it is important to note that over 70% of these children and youth were able to remain in their communities without re-entry to treatment even after three-and-a-half years, which has benefits to the youth and their families.

Although PPS implementation was not associated with any change in repeated OOH treatment episodes, there is strong evidence that length of stay per episode fell substantially in the post-PPS period. Moreover, the goal of limiting OOH treatments to less than 9 months was met with much greater frequency after PPS implementation. Thus, OOH treatment under PPS was associated with an apparent gain in efficiency of service – i.e., a reduction in resource use through lower length of stay with no decline in quality as measured by return OOH treatments. This efficiency gain can be roughly estimated by measuring the cost per day of OOH treatment. **Although this cost will vary by site and intensity of service, data on OOH treatment reimbursement rates for facilities targeted by PPS suggest that cost savings would be in the range of $258 to $882 per day. Since the average decline in length of stay was 92 days, this would amount to an approximate savings of $23,690 to $81,144 per episode under PPS**.

Our analysis of changes in intensity of service among youth who had their initial OOH treatment at a higher intensity level proved to be inconclusive due primarily to a limited number of youth falling into the higher intensity categories. Future research on this topic would require either a larger sample of youth with a high intensity of OOH treatment or a longer observation period to increase the likelihood that further OOH treatments are observable in the data (although preventing these episodes altogether would remain a higher program priority than reducing subsequent intensity of service).

Along with the aforementioned limits in CANS, a further limitation in our analysis is the absence of an appropriate comparison group for both the CANS and re-entry analyses. We considered examining OOH treatments not targeted by PPS as a comparison group. However, upon further review, we concluded that the groups were too dissimilar, as the potential comparison group disproportionately included children and youth with intellectual and developmental disabilities.

One recommendation with regard to developing a comparison group would be to partner with another state that included comparable populations without a PPS-type intervention. This type of partnership would facilitate shared learning by both states and enhance the rigor of the evaluation.

Another consideration is the truncation of information on Phase 5 PPS implementation, which initiated in 2019, leaving at most one year of post-PPS data to evaluate CANS and return OOH treatments. This has implications on the ability to draw conclusions due to limited program time and smaller sample sizes. For similar reasons, the analysis of time-to-return to OOH treatment was not broken out by phase. Instead, we conducted an overall, pre/post-PPS survival analysis where limited observation periods, particularly those associated with Phase 5, were treated as "censored" – i.e., removed from consideration once the individual youth could no longer be observed in the data – when limited observable time was available for youth to be at risk for re-entry into OOH treatment. These considerations are especially important for future evaluations of other PPS-like programs that are designed to limit or avoid the repeat occurrence of events such as OOH treatment.

Perhaps achieving large reductions in re-entry into OOH care may require additional capacity and resources within PPS programs. It is also possible that PPS led to other improvements (in addition to length of stay reductions) that were too subtle to be detected by the CYBER database. Future evaluations of PPS-type interventions should consider collecting primary data aligned more directly with outcomes of interest for youth, their families and caregivers, and providers to capture and track important results and areas of opportunity over time.

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[4] New Jersey Department of Children and Families. Care Management Organization Policy Manual. Trenton NJ: 2017. https://www.nj.gov/dcf/policy_manuals/CSOC-I-B-1-100_issuance.shtml

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Impact of Promising Path to Success Implementation on Medicaid Service Utilization

INTRODUCTION

As part of the evaluation of CSOC's system-wide trauma informed care initiative, we now focus on use of Medicaid services among youth engaged with CSOC's out-of-home (OOH) treatment programs, comparing patterns of use before and after implementation of Promising Path to Success (PPS). Specifically, we analyze use of emergency department (ED) visits and inpatient admissions, as both are common markers of services that might have been avoided or prevented through earlier intervention. In the context of youth served by CSOC, use of the ED or inpatient care could be the result of unsafe or harmful behaviors, or symptoms left unaddressed or inadequately treated until they escalate to a hospital-based episode.

Along with increasing the inner-resources of children and introducing new behavioral strategies to families and the CSOC-partnering workforce, PPS was aimed at reducing the share of youth needing to re-enter treatment after transitioning back to their communities following an initial treatment episode, as well as reducing the share of youth who required multiple episodes of OOH treatment. This analysis is rooted in the theory that the trauma-informed approaches embedded in PPS, and previously described in this report, enabled better support for the overall inner strength and wellbeing of youth treated in OOH facilities, possibly resulting in reduced need for more intensive services, such as the aforementioned ED visits or inpatient admissions. This chapter examines the experiences of youth who received OOH treatment and explores whether youth receiving this care following PPS implementation were less likely to require going to a hospital for an ED or inpatient treatment. It also examines use of hospital admissions for psychiatric care and use of emergency screening centers, both of which may also become more avoidable as a result of PPS. This analysis focuses on New Jersey Medicaid, which covers the majority of youth receiving services through CSOC and houses a comprehensive analytic data set able to help answer key questions related to important outcomes that might be associated with PPS.

KEY QUESTIONS ADDRESSED

- Was PPS implementation associated with decreased use of emergency department (ED) visits following an out-of-home treatment episode?
- Was PPS implementation associated with decreased inpatient admissions after out-of-home treatment?
- Was PPS implementation associated with decreased inpatient admissions for psychiatric conditions after out-of-home treatment?
- Was PPS implementation associated with decreased visits to emergency screening centers after out-of-home treatment?
- What lessons can be learned from the PPS experience and its relationship to the use of potentially avoidable health service utilization?

EVALUATION APPROACH

This analysis relies on two databases. The first is the CYBER database, which includes information about OOH treatment and has been described in earlier chapters. The second is the New Jersey Medicaid Management Information System (MMIS), which includes all Medicaid fee-for-service claims and Medicaid managed care encounters. For purposes of this analysis, Medicaid is inclusive of the Children's Health Insurance Program (CHIP). The MMIS also provides Medicaid enrollment information, including periods of enrollment, disenrollment, and re-entry into the Medicaid program.

The designation of exposure to PPS is based upon whether a youth received services from an OOH CSOC provider that had implemented PPS. Assignment of "pre-PPS" versus "post-PPS" was determined by the phased rollout of PPS across counties where providers are located as shown in Table 6.A below.

Phase	Implementation Regions	Six Core Strategies© Training
1	Morris, Sussex, Middlesex	January 2016
2	Cumberland, Gloucester, Salem, Passaic	September 2016
3	Burlington, Ocean, Essex, Union	June 2017
4	Hunterdon, Somerset, Warren, Hudson, Camden	March 2018
5	Atlantic, Cape May, Monmouth, Bergen, Mercer	January 2019

TABLE 6.A: **PHASES OF PROMISING PATH TO SUCCESS (PPS) BY REGION AND TIMING OF SIX CORE STRATEGIES© TRAINING**

We used the combined CYBER and MMIS data from 2011-2019 to examine ED visits, total inpatient admissions, and psychiatric admissions. For use of emergency screening centers, the analysis begins on May 6, 2014, the date Medicaid first began reimbursing for services provided at these centers. Psychiatric admissions were identified by applying algorithms created by the federal Agency for Healthcare Research and Quality (AHRQ) to primary diagnosis codes. Use of screening centers was identified based on guidance provided by the New Jersey Department of Human Services, Division of Medical Assistance & Health Services (i.e., New Jersey Medicaid). For each of the four utilization

events described above, we examined time after initial treatment with a PPS provider to the event of interest and compared the timing of these events before and after PPS implementation as described above. We examine use of the aforementioned services while the youth is still being treated in an OOH facility or any time thereafter. For this component of the evaluation, we used methods from "survival analysis" (i.e., a procedure to estimate of the proportion of youth who would either avoid or experience an event) similar to the analysis in Chapter 5, which focused on return to OOH treatment settings after an initial OOH event. For this analysis, we determine whether, and after what length of time, youth initially placed in an OOH site had an ED visit, inpatient admission, psychiatric admission, or screening center visit. Specifically, we compare these events for youth who had an initial OOH treatment before versus after PPS (given the location and phase relevant to the PPS OOH facility). The key concept for the analysis is the "failure curve," which determines, for any given number of days after initial OOH discharge, the proportion of youth who had one of the aforementioned episodes. As discussed above, with adoption of a system-wide trauma-informed approach, the aim was to improve the inner strength and wellbeing among children and youth, helping reduce their need for any care away from home. Therefore, we hypothesized that for any given amount of time after an initial OOH treatment, a smaller proportion of youth would experience these more intense and possibly preventable utilization events in the post-PPS period relative to the pre-PPS period.

In our survival analysis, each individual was observed from the beginning of their first OOH treatment in the CYBER database until they had an ED visit, were disenrolled from Medicaid, or until the end of 2019 (whichever came first). **To facilitate interpretation of diagrams in the context of OOH treatment received, we have included vertical lines in each figure below. The first vertical line represents the average OOH length of stay (LOS) for youth in the post-PPS period, which was 173 days (see Chapter 5). The second vertical line represents average OOH LOS for youth in the pre-PPS period, which was 265 days (see Chapter 5).**

We conducted similar observations involving total inpatient admissions, psychiatric admissions, and visits to emergency screening centers. We compared "failure curves" for the pre- and post-PPS periods. Consistent with our theory about the potential impact of the PPS program, we expected youth to be less likely to experience Medicaid utilization events in the post period compared to the pre period, making the curve lower for youth exposed to PPS in the post period relative to the pre period. We also expected that numerically, at any given number of days past initial OOH treatment, the proportion having Medicaid utilization events would be lower in the post-PPS period.

KEY FINDINGS

From 2011-2019, there were 8,782 individuals with initial OOH treatment episodes in facilities targeted by PPS (which was launched in its first phase in 2016). Among these, 6,915 had their initial OOH treatment during the pre-PPS phase and 1,867 had their initial OOH treatment during the post-PPS phase. Figure 6.1 shows the "failure curves" for the pre- and post-PPS groups, indicating the proportion of individuals in each group who avoided an ED visit at different time intervals – i.e., days after initial OOH treatment. The curve for the post-PPS group lies well below the corresponding curve for the pre-PPS group. This indicates that **after a certain number of days (approximately 270, or 9 months) since initial OOH treatment, individuals in the post-PPS group were much less likely to have an ED visit relative to the pre-PPS group. This cutoff point exceeds the average length of stay for youth in both the pre- and post-PPS periods.** A statistical test for equality of failure functions shows that the differences between the curves are statistically significant (p<0.001).

FIGURE 6.1: **FAILURE CURVES FOR ED VISIT SINCE INITIAL OOH TREATMENT: PRE- VERSUS POST-PPS**
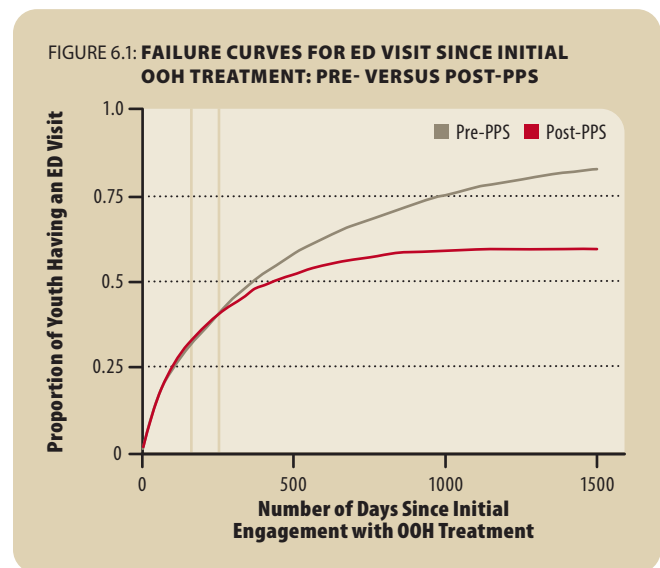
Table 6.1 provides more detail about the proportion of youth in the two study groups who had an ED visit after a given number of days since the beginning of their OOH treatment. As shown graphically, the "failure rates" were similar between the two groups until after 270 days, or 9 months. After that, the proportion having an ED visit increased steadily for the pre-PPS group, rising to 86% by the end of the study observation period. For the post-PPS group, this proportion leveled off and never exceeded 60%. In other words, **over time, children and youth exposed to PPS were much less likely to experience an ED visit compared to those children and youth not exposed to PPS**.

TABLE 6.1: **PROPORTION OF YOUTH HAVING AN ED VISIT FOR GIVEN NUMBER OF DAYS SINCE INITIAL OOH TREATMENT**

Days After Initial Treatment	Pre-PPS	Post-PPS
1	0.00	0.00
30	0.11	0.1
60	0.18	0.18
90	0.23	0.23
120	0.27	0.28
150	0.31	0.31
180	0.34	0.34
270	0.42	0.42
365	0.50	0.47
545	0.60	0.53
730	0.67	0.57
910	0.73	0.58
1095	0.77	0.59
1275	0.80	0.59
1460	0.82	0.59
1640	0.84	0.59
1825	0.86	0.60

Table 6.2 provides an additional perspective on the survival analysis for ED visits. It shows that over the entire study period, a higher percentage of youth in the pre-PPS period had an ED visit as their first post-OOH outcome relative to youth in the post-PPS period. In contrast, a higher percentage of youth in the post-PPS period experienced a Medicaid disenrollment as their first post-OOH outcome. However, over the long-term,

the post-PPS group was twice as likely to avoid ED visits and Medicaid disenrollment (although this outcome was rare for both groups).

TABLE 6.2: **DISTRIBUTION OF SUBSEQUENT EVENTS SINCE INITIAL OOH TREATMENT**

Event	PPS EXPOSURE		
	Pre-PPS	Post-PPS	Total
ED Visit			
Number	4,965	993	5,958
Column %	71.80%	53.19%	67.84%
Disenrolled			
Number	1,887	840	2,727
Column %	27.29%	44.99%	31.05%
Neither			
Number	63	34	97
Column %	0.91%	1.82%	1.10%
Total			
Number	6,915	1,867	8,782
Column %	100.00%	100.00%	100.00%

We investigated this issue further to determine whether a higher proportion of youth in the post-PPS period was likely to age out of the Medicaid program (and CSOC programs). However, Table 6.3 shows that the age distribution for the two groups is very similar, ruling out this possibility.

TABLE 6.3: **AGE DISTRIBUTION FOR THE PRE- AND POST-PPS STUDY GROUPS**

Age	PPS EXPOSURE	
	Pre-PPS	Post-PPS
Observations	6,915	1,867
Mean	15.53	15.85
Standard Deviation	2.31	2.25
Percentile		
1%	7.61	7.98
5%	10.92	11.49
10%	12.55	13.15
25%	14.52	14.93
50%	16.01	16.24
75%	17.13	17.33
90%	17.84	18.00
95%	18.26	18.56
99%	19.52	19.95

We conducted additional survival analysis, examining the proportion of youth who experienced Medicaid disenrollment at different times after OOH placement. As shown in Figure 6.2, the failure curve for the post-PPS group initially rose more quickly than for the pre-PPS group, indicating that if disenrollment did occur, it did so more quickly for the post-PPS group for the first 910 days (2½ years) after initial OOH placement. Thereafter, while the failure curve leveled off at about 0.48 for the post-PPS group, it continued to rise for the pre-PPS group, indicating that over the long-term more disenrollments occurred in the pre-PPS group. Thus, the apparent effects of PPS on Medicaid disenrollment are complex and dependent on the time window of observation.
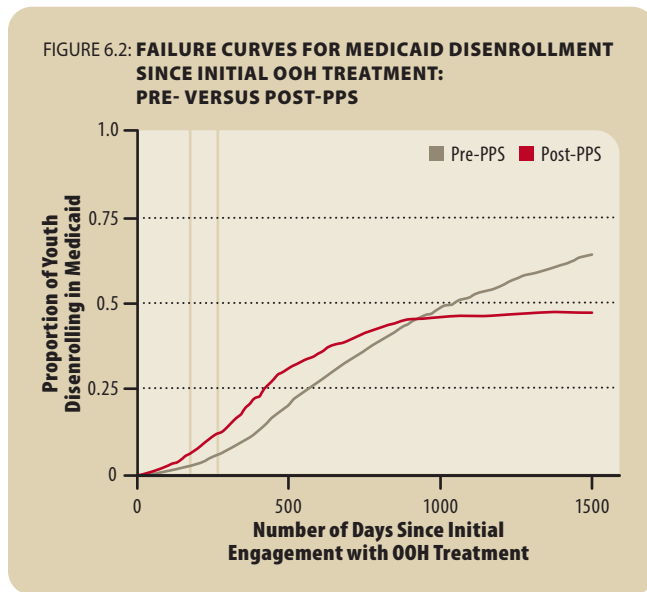
Figure 6.3 shows the failure curves for the two study groups for inpatient admission after initial OOH treatment. Both groups have a lower failure rate at any point in time, meaning that inpatient admissions were (intuitively) less common than ED visits. But similar to ED visits, the failure curve for the post-PPS group lies below that for the pre-PPS group, indicating that **PPS is associated with avoidance of inpatient admissions**. A similar statistical test shows that the difference between the two curves is statistically significant ($p<0.001$).

FIGURE 6.3: **FAILURE CURVES FOR INPATIENT ADMISSION SINCE INITIAL OOH TREATMENT: PRE- VERSUS POST-PPS**

FIGURE 6.2: **FAILURE CURVES FOR MEDICAID DISENROLLMENT SINCE INITIAL OOH TREATMENT: PRE- VERSUS POST-PPS**
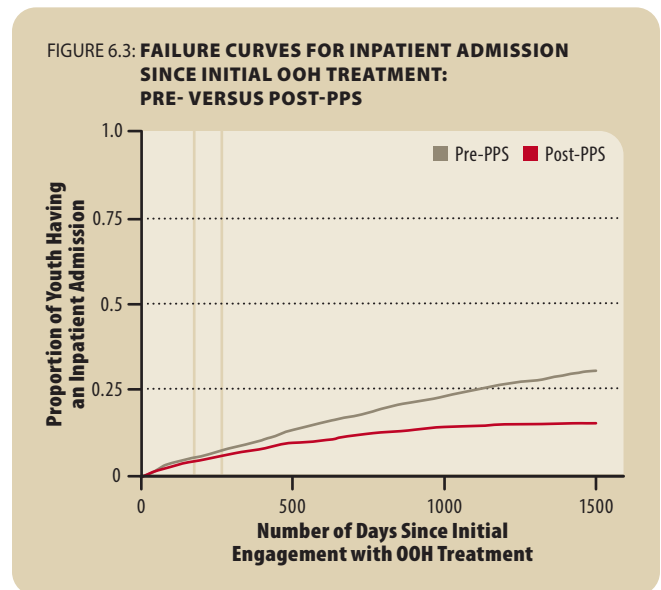
As shown in Table 6.4, **over five years, less than half as many children and youth in the post-PPS group had an inpatient admission compared to the pre-PPS group (15% versus 34%)**. The break between the two inpatient failure curves occurred much sooner for inpatient admissions compared to ED visits. Specifically, the curves begin to separate after 60 days for inpatient admissions relative to 270 days for ED visits (Table 6.1). In other words, **the observed effects of PPS preventing inpatient admissions occurred sooner than the PPS effect of preventing ED visits**.

FIGURE 6.4: **FAILURE CURVES FOR PSYCHIATRIC INPATIENT ADMISSION SINCE INITIAL OOH TREATMENT: PRE- VERSUS POST-PPS**

TABLE 6.4: **PROPORTION OF YOUTH HAVING AN INPATIENT ADMISSION FOR GIVEN NUMBER OF DAYS SINCE INITIAL OOH TREATMENT**

Days After Initial Treatment	Pre-PPS	Post-PPS
1	0.00	0.00
30	0.01	0.01
60	0.02	0.02
90	0.03	0.02
120	0.04	0.03
150	0.05	0.04
180	0.05	0.04
270	0.07	0.06
365	0.10	0.08
545	0.14	0.10
730	0.18	0.12
910	0.22	0.13
1095	0.25	0.15
1275	0.28	0.15
1460	0.30	0.15
1640	0.32	0.15
1825	0.34	0.15

The pattern for psychiatric admissions is similar to that observed for total inpatient admissions (Figure 6.4, Table 6.5). **Specifically, 180 days after initial OOH admission, psychiatric admissions are more likely to occur pre-PPS relative to post PPS**. A similar statistical test shows that the difference between the two curves is statistically significant (p<0.001). Over five years, nearly 23% of the pre-PPS group had a psychiatric admission, compared to only 11% for the post-PPS group.

TABLE 6.5: **PROPORTION OF YOUTH HAVING A PSYCHIATRIC INPATIENT ADMISSION FOR GIVEN NUMBER OF DAYS SINCE INITIAL OOH TREATMENT: PRE- VERSUS POST-PPS**

Days After Initial Treatment	Pre-PPS	Post-PPS
1	0.00	0.00
30	0.01	0.01
60	0.02	0.02
90	0.02	0.02
120	0.03	0.03
150	0.03	0.03
180	0.04	0.03
270	0.05	0.04
365	0.07	0.06
545	0.10	0.07
730	0.13	0.09
910	0.16	0.10
1095	0.18	0.10
1275	0.19	0.11
1460	0.21	0.11
1640	0.22	0.11
1825	0.23	0.11

Finally, **after the first 180 days from initial OOH treatment, individuals in the post-PPS period were also increasingly less likely to use Screening Centers relative to the pre-PPS group (Figure 6.5, Table 6.6)**. A similar statistical test shows that the difference between

the two curves is statistically significant (p<0.001). After five years, over 32% of the pre-PPS group went to screening centers compared to only 18% for the post-PPS group.

FIGURE 6.5: **FAILURE CURVES FOR USE OF SCREENING CENTERS SINCE INITIAL OOH TREATMENT: PRE- VERSUS POST-PPS**
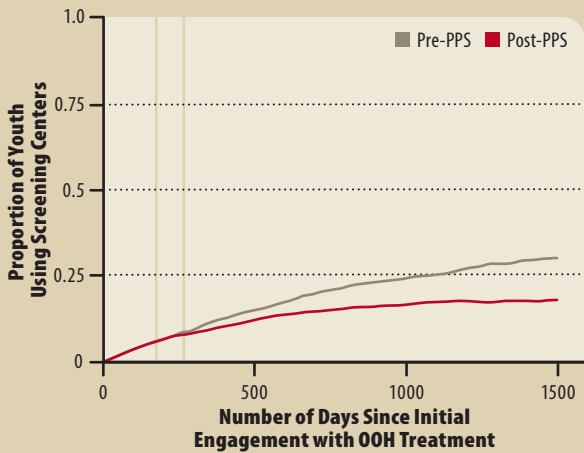
TABLE 6.6: **PROPORTION OF YOUTH USING SCREENING CENTERS FOR GIVEN NUMBER OF DAYS SINCE INITIAL OOH TREATMENT: PRE- VERSUS POST-PPS**

Days After Initial Treatment	Pre-PPS	Post-PPS
1	0.00	0.00
30	0.02	0.02
60	0.03	0.03
90	0.04	0.04
120	0.05	0.05
150	0.06	0.05
180	0.06	0.06
270	0.09	0.08
365	0.12	0.10
545	0.16	0.13
730	0.21	0.15
910	0.23	0.16
1095	0.25	0.17
1275	0.28	0.18
1460	0.30	0.18
1640	0.31	0.18
1825	0.32	0.18

LESSONS & RECOMMENDATIONS

In this chapter, we examined the association of PPS implementation with use of Medicaid-financed healthcare utilization services that are possibly avoidable. **Consistent with the aims of PPS, youth who received care in OOH treatment settings that were exposed to PPS, over time, were less likely to experience ED visits, inpatient admissions, psychiatric admissions, or use screening centers compared to youth in the same facilities before PPS implementation**. (Youth in the post-PPS period were never more likely to experience these events after initial OOH treatment.) For example, after approximately 9 months following transition from an OOH setting, youth who received care in the post-PPS period were more likely to avoid EDs compared to those who received care in OOH treatment settings that had not yet implemented PPS. By the end of five years, the proportion of those avoiding ED visits in the post-PPS group was more than twice that of the pre-PPS group. A similar pattern occurred for inpatient care, but it began after 4 months. **In many cases, differences between the pre- and post-PPS groups appeared after the average OOH length of stay, suggesting that PPS may have had lasting effects after children and youth returned to their communities**.

We also found that youth in the post-PPS period were more likely to disenroll from Medicaid versus appearing in the ED, which would constitute their next post-OOH treatment event. We initially suspected that youth in the post period may have been older than those in the pre-PPS period, and that this might drive the higher rates of disenrollment (i.e., "aging out"). However, when we examined the data empirically, we found no discernible differences between the ages of youths in both periods. Moreover, when youth did disenroll from Medicaid, the timing of disenrollment followed a complicated pattern in terms of timing between the pre- and post-PPS groups. Thus, we recommend that maintaining consistent Medicaid enrollment be a priority for CSOC programs—most importantly to ensure that youth have access to health services when needed, and, also, to better enable tracking key outcomes associated with measuring performance of specific CSOC programs such as PPS. It is also important to monitor any changes in Medicaid

enrollment rules and related policies that might have direct impact on, or interact with, CSOC programs aimed at youth with Medicaid coverage.

As we mentioned in Chapter 5, a limitation of our analysis is the absence of an appropriate comparison group not affected by PPS. This should be considered carefully by policymakers in future adaptations of this program. The challenge in New Jersey is finding youth with similar needs who were not engaged with PPS activities during the study period. As also suggested in Chapter 5, a similar comparison group might be derived by partnering with another state that included comparable populations without a PPS-type intervention. This type of partnership would facilitate shared learning by both states and enhance the rigor of the evaluation. Another limitation, common to all of our analyses, is the truncation of information on Phase 5 PPS implementation, which initiated in 2019, leaving at most one year of post-PPS data to evaluate.

We stress that our analyses in this chapter used methods from survival analysis to understand ED, inpatient, and screening center use from a time-to-event perspective. This perspective allows us to measure precisely the timing of events and make adjustments for "observed time at risk," which varies for each individual due to the potential for disenrollment from Medicaid and different post-OOH treatment observation periods, with longer periods possible for youth who enter the CYBER data earlier in the study period. However, in Chapter 7 which follows, we will take an alternative approach and examine not just initial healthcare utilization events but total events for youth in the pre- and post-PPS periods.

Overall, PPS appears to have had positive impact on reducing a variety of potentially avoidable Medicaid services among youth who had received OOH treatment. Although we could not specifically identify and evaluate how these reductions took place, our findings suggest that the PPS focus on boosting child strength and wellbeing may have been reflected in reduced need for services and that it generated spillover effects for the New Jersey Medicaid program. Future evaluations of PPS or similar programs should include a qualitative assessment, ideally with primary data collection from youth and their families, to better understand the "whys" behind these changes, along with those impacts that are not as well-measured in administrative data (e.g., youth and family assessment of youth health and wellbeing). We also recommend further exploration regarding the interactions between CSOC programs, youth health and wellbeing status, and use of other healthcare resources.

Medicaid Utilization and Spending among Youth Receiving Out-of-Home Treatment before and after Implementation of Promising Path to Success

INTRODUCTION

Chapter 7 complements the analyses found in Chapter 6, which examined the amount of time that elapsed between initial engagement with out-of-home (OOH) treatment and the first Medicaid emergency department (ED) visit, inpatient (IP) admission, psychiatric admission, or emergency screening center visit, if any, comparing youth whose initial OOH placement occurred in the pre-versus post-Promising Path to Success (PPS) period. In Chapter 7, we examine the **total volume and associated spending of Medicaid ED and IP utilization** within specified time intervals after initial engagement with OOH treatment, before and after implementation of PPS. In upcoming Chapter 8, we conduct similar analysis for psychiatric admissions and emergency screening visits as well as antipsychotic drugs.

Consistent with Chapter 6, we focus on emergency department (ED) visits and inpatient admissions, as these are widely accepted markers of health episodes that may be prevented through earlier medical or social service intervention. In the context of youth served by CSOC, use of the ED or inpatient care could be the result of unstable environments, unsafe behaviors, and/or symptoms not addressed until they reach a crisis and require some type of hospital-based attention and treatment. As we have previously noted, in addition to increasing the inner resources of children, their families, and the workforce that cares for them, PPS was also aimed at reducing the share of youth needing to re-enter treatment after transitioning back to the community following an initial treatment episode, as well as reducing the share of youth who required multiple episodes of OOH treatment. This analysis is rooted in the theory that the trauma-informed approaches embedded in PPS tapped into and empowered the overall inner strength and wellbeing of youth treated in OOH facilities, possibly resulting in reduced need for more intensive services, such as ED visits or inpatient admissions.

KEY QUESTIONS ADDRESSED

- Was PPS implementation associated with a decrease in the total volume of, and spending associated with, use of Medicaid emergency department (ED) visits following an out-of-home treatment episode?
- Was PPS implementation associated with a decrease in the total volume of, and spending associated with, Medicaid inpatient (IP) admissions following an out-of-home treatment episode?
- What trends have been observed in Medicaid ED utilization and spending and IP utilization and spending, overall and relative to other Medicaid-covered youth not engaged with CSOC?
- What lessons can be learned from these analyses to inform future program decision making?

EVALUATION APPROACH

As in the previous chapter, this analysis examined two databases. The first is the CYBER database, which includes information about OOH treatment and has been described in earlier chapters. The second is the New Jersey Medicaid Management Information System (MMIS) which includes all Medicaid fee-for-service claims and managed care encounters. In this report, all statements about Medicaid also include the Children's Health Insurance Program (CHIP). The MMIS also

provides individuals' Medicaid enrollment information, including periods of enrollment, disenrollment, and re-entry into the Medicaid program.

The designation of exposure to PPS is based upon whether a youth received services from an OOH CSOC provider that had implemented PPS. Assignment of "pre-PPS" versus "post-PPS" was determined by the phased rollout of PPS across counties where providers are located as shown in Table 7.A below.

TABLE 7.A: PHASES OF PROMISING PATH TO SUCCESS (PPS) BY REGION AND TIMING OF SIX CORE STRATEGIES© TRAINING		
Phase	Implementation Regions	Six Core Strategies© Training
1	Morris, Sussex, Middlesex	January 2016
2	Cumberland, Gloucester, Salem, Passaic	September 2016
3	Burlington, Ocean, Essex, Union	June 2017
4	Hunterdon, Somerset, Warren, Hudson, Camden	March 2018
5	Atlantic, Cape May, Monmouth, Bergen, Mercer	January 2019

We used the combined CYBER and MMIS data from 2011-2019 to examine Medicaid utilization and spending indicators after initial OOH treatment from a PPS provider. We studied various time intervals after initial OOH admission – specifically 90, 180, 365, 545, and 730 days, which allowed examination of both long- and short-term PPS impacts--ranging from a few months to two years. **To facilitate interpretation of diagrams in the context of OOH treatment received, we have included vertical lines in each diagram. The first vertical line represents the average OOH length of stay (LOS) for youth in the post-PPS period, which was 173 days (see Chapter 5). The second vertical line represents average OOH LOS for youth in the pre-PPS period, which was 265 days (see Chapter 5)**.

It is important to note that individuals with no enrollment in the duration of these intervals are not included in the analysis. Also, we "enrollment-adjusted" for days of enrollment in each time interval which means, for example, that for the 90-day ED visit measure (i.e., ED visits within 90 days of OOH treatment) we divide observed ED visits for each individual by the individual's

number of Medicaid enrollment days and multiplied the result by 90. The importance of this analysis is that we effectively estimate the number of ED visits that would have occurred if the individual had the full 90 days of enrollment in Medicaid and maintained their average number of ED visits per day of enrollment. We make similar adjustments for all other measures and time intervals. For ease of interpretation, utilization counts are measured as number of visits or admissions per 100 individuals and dollar amounts are measured per individual. Our overarching hypothesis, derived from the discussion above, is that PPS engagement would be associated with a reduction in Medicaid utilization and spending. Because our data do not follow the simple statistical assumption of a normal distribution, we used nonparametric rank sum tests to determine statistical significance. Differences between pre- and post-PPS groups were considered statistically significant if the p-value was less than 0.05.

Due to data limitations, we examined trends in utilization and spending for all CSOC-engaged youth in the years 2011-2018. Our extract of CYBER data does not include information about all CSOC-engaged youth in 2019, making it impossible to conduct the comprehensive analysis of Medicaid utilization and spending among all CSOC-engaged youth. For the years in which data are available, we compare CSOC-engaged youth who used OOH services during the year, CSOC-engaged youth with no OOH service use, and all other children ages 20 and under covered by Medicaid.

KEY FINDINGS

Utilization and Spending Indicators during Specified Time Intervals before and after PPS

There were 2,337 individuals with an initial OOH treatment in the post-PPS period and 6,445 individuals with an initial OOH admission in the pre-PPS period. **ED visits show no statistically significant differences between the pre- and post-PPS periods 90 and 180 days after initial OOH treatment (Figure 7.1). However, statistically significant reductions do occur at later time intervals, beyond the average length of stay for the pre- and post-PPS periods**. For example, during the 365 days after initial OOH treatment episode,

youth initially placed into OOH care in the post-PPS period had 135 ED visits per 100 individuals compared to 142 ED visits per 100 individuals among youth initially placed in the pre-PPS period. Similar reductions in the post-PPS period are observed for the 545-day (one-and-a-half-year) interval and the 730-day (two-year) intervals, with the gap widening over time.

FIGURE 7.1: **CHANGES IN TOTAL VOLUME OF EMERGENCY DEPARTMENT (ED) VISITS PER 100 INDIVIDUALS IN THE PRE- AND POST-PPS PERIODS**

* Differences are statistically significant at the 5% level.

In addition, total spending per person on ED visits shows a statistically significant increase during the 90- and 180-day intervals, no change during the 365-day interval, and statistically significant decreases during the 545- and 730-day intervals (Figure 7.2). As discussed below, some spending increases might have been expected due to medical price inflation over time, but our later-period findings suggest a reduction even when using nominal (unadjusted for inflation) spending totals. Given the observed declines in volume of ED visits, increases in spending may also reflect a higher intensity of service provided within the initial six-month period.

FIGURE 7.2: **CHANGES IN SPENDING ON EMERGENCY DEPARTMENT (ED) VISITS PER INDIVIDUAL IN THE PRE- AND POST-PPS PERIODS**
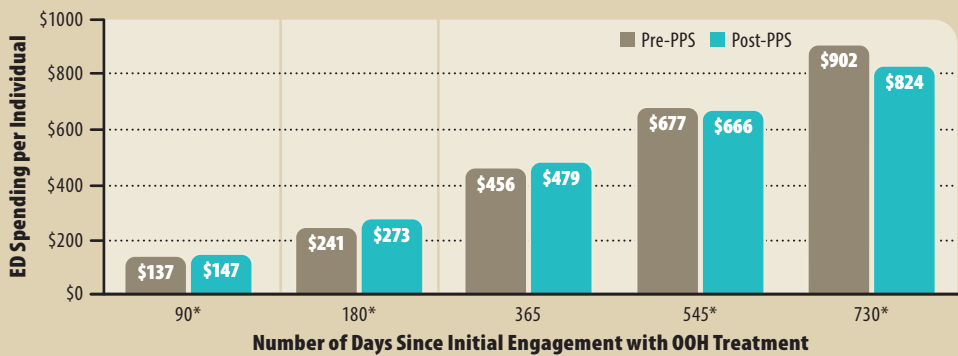
* Differences are statistically significant at the 5% level.

Inpatient admissions per 100 individuals show a mostly rising trend in the post-PPS period but these are not statistically significant until the 545-day interval (Figure 7.3). In contrast, the 730-day interval shows a reduction of inpatient admissions per 100 individuals from 25.6 in the pre-PPS period to 24.6 in the post-PPS period.

FIGURE 7.3: CHANGES IN TOTAL VOLUME OF INPATIENT (IP) ADMISSIONS PER 100 INDIVIDUALS IN THE PRE- AND POST-PPS PERIODS

IP Admissions per 100 Individuals

Pre-PPS — Post-PPS

Number of Days Since Initial Engagement with OOH Treatment	Pre-PPS	Post-PPS
90	3.5	3.8
180	6.3	7.2
365	12.2	13.5
545*	19	19.4
730*	25.6	24.6
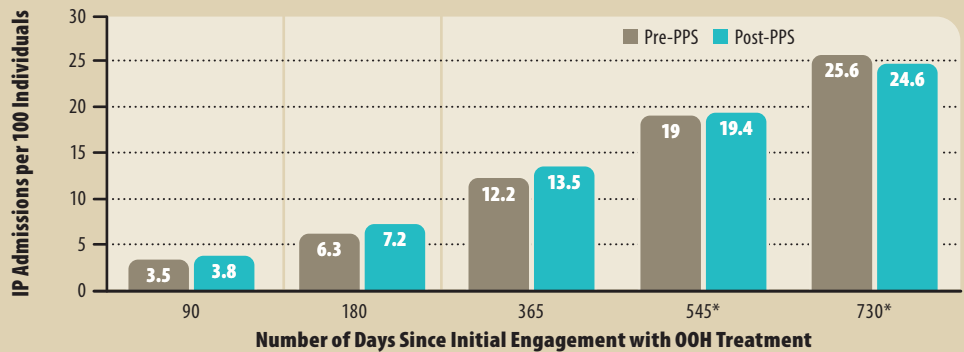
* Differences are statistically significant at the 5% level.

Inpatient spending per individual shows an increase in the post-PPS period for all of the time intervals examined (Figure 7.4). These increases are statistically significant in the last three time intervals. Like ED spending, increases in IP spending reflect a combination of general price inflation and greater intensity of service being provided. During the study period (2011-2019), the price of medical care increased by approximately 27%.[1] While the date of the IP admission varies across the study period, increases in spending for 90 days (62.4%), 180 days (71.1%), and 365 days (63.1%) following initial OOH treatment were larger than what would be predicted by medical inflation, alone.

FIGURE 7.4: CHANGES IN SPENDING ON INPATIENT (IP) ADMISSIONS PER INDIVIDUAL IN THE PRE- AND POST-PPS PERIODS

IP Spending per Individual

Pre-PPS — Post-PPS

Number of Days Since Initial Engagement with OOH Treatment	Pre-PPS	Post-PPS
90	$182	$296
180	$349	$597
365*	$700	$1,142
545*	$1,204	$1,649
730*	$1,643	$2,061
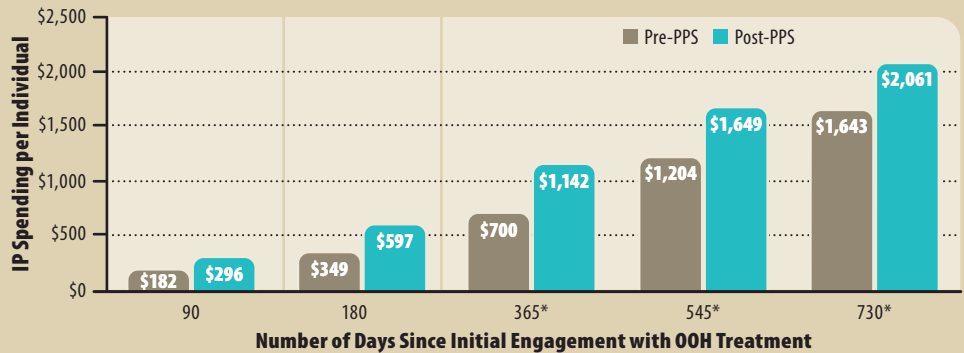
* Differences are statistically significant at the 5% level.

LESSONS & RECOMMENDATIONS

While the analysis above suggests **that PPS is associated with small increases in ED utilization and spending in the short term (less than one year from OOH treatment), it is associated with decreases in the longer term (greater than one year and beyond transition from OOH treatment)**. This is a promising finding and consistent with our expectations described above, since medical spending tends to rise over time due to changes in technology and general price inflation, and the post-PPS period obviously occurs later in time. One limitation of these findings is that the analysis did not have an adjustment for inflation or patient diagnostic risk factors, which also affect spending. This could be an area for further in-depth exploration.

The pattern for inpatient admissions is less clear, however. **PPS is associated with a reduction in inpatient admissions per 100 individuals 730 days (two years) after initial OOH treatment, but it is associated with increases in this measure during shorter time intervals. It is also generally associated with increases in inpatient Medicaid spending. We note that IP admissions tend to be less discretionary than visits to the ED and so might be less amenable to change through PPS exposure**. Moreover, in our prior time to event analyses in Chapters 5 & 6, a limitation was that observation time was shorter in the post-PPS period, especially for those in PPS Phase 5. In this analysis, we implicitly neutralize this problem by examining consistent periods of time between the pre- and post-PPS groups and adjust for the amount of time that individuals were enrolled in Medicaid.

REFERENCES

[1] U.S. Bureau of Labor Statistics, Research Consumer Price Index: Medical Care [CPIEMEDCARE], retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/CPIEMEDCARE, March 12, 2022.

Medicaid Behavioral Health Services Utilization among Youth Receiving Out-of-Home Treatment before and after Implementation of Promising Path to Success

INTRODUCTION

Chapter 8 complements the analyses found in Chapter 7, which examined emergency department and inpatient use and associated spending over specified time intervals for youth enrolled in Medicaid who were admitted to out-of-home (OOH) treatment before and after implementation of Promising Path to Success (PPS). In this chapter, we conduct similar analyses, but focus on **behavioral health services and related spending**. Specifically, we focus on changes before and after PPS on utilization and spending associated with: 1) psychiatric inpatient admissions; 2) emergency screening services; and 3) antipsychotic prescription drugs (hereafter, referred to as "antipsychotics").

As we have previously noted, in addition to increasing the inner resources of children, their families, and the workforce that cares for them, PPS was also aimed at reducing the share of youth needing to re-enter treatment after transitioning back to the community following an initial treatment episode, as well as reducing the share of youth who required multiple episodes of OOH treatment. This analysis is rooted in the theory that the trauma-informed approaches embedded in PPS tapped into and empowered the overall resilience and wellbeing of youth treated in OOH facilities, possibly resulting in reduced need for behavioral services, especially those more intensive services, such as inpatient psychiatric admission. Our assessment of emergency screening services and antipsychotics is somewhat more exploratory and less hypothesis driven in nature.

KEY QUESTIONS ADDRESSED

- Was PPS implementation associated with a decrease in the volume of, and spending associated with, Medicaid psychiatric admissions?
- Was PPS implementation associated with a change in the total volume of, and spending associated with, emergency screening services?
- Was PPS associated with a change in total volume of, and spending associated with, antipsychotics?

EVALUATION APPROACH

This analysis relies upon two databases. The first is the CYBER database, which includes information about OOH treatment and has been described in earlier chapters. The second is the New Jersey Medicaid Management Information System (MMIS) which includes all Medicaid fee-for-service claims and managed care encounters (and was also used to inform analysis in previous chapters). In this report, all statements about Medicaid also include the Children's Health Insurance Program (CHIP). The MMIS also provides individuals' Medicaid enrollment information, including periods of enrollment, disenrollment, and re-entry into the Medicaid program.

The designation of exposure to PPS is based upon whether a youth received services from an OOH CSOC provider that had implemented PPS. Consistent with analysis in earlier chapters, assignment of "pre-PPS" versus "post-PPS" was determined by the phased rollout of PPS across counties where providers are located as shown in Table 8.A below.

TABLE 8.A: **PHASES OF PROMISING PATH TO SUCCESS (PPS) BY REGION AND TIMING OF SIX CORE STRATEGIES© TRAINING**

Phase	Implementation Regions	Six Core Strategies© Training
1	Morris, Sussex, Middlesex	January 2016
2	Cumberland, Gloucester, Salem, Passaic	September 2016
3	Burlington, Ocean, Essex, Union	June 2017
4	Hunterdon, Somerset, Warren, Hudson, Camden	March 2018
5	Atlantic, Cape May, Monmouth, Bergen, Mercer	January 2019

We used the combined CYBER and MMIS data from 2011-2018 to examine the utilization and spending outcomes described above after an initial OOH treatment with a PPS provider. We studied various time

intervals after initial OOH treatment – specifically 90, 180, 365, 545, and 730 days, which allowed examination of both long- and short-term PPS impacts--ranging from a few months to two years. It is important to note that individuals with no enrollment in the duration of these intervals are not included in the analysis. Also, we "enrollment-adjusted" for days of enrollment in each time interval which means, for example, that for the 90-day psychiatric admission measure we divide observed ED visits for each individual by the individual's number of Medicaid enrollment days and multiplied the result by 90. The importance of this analysis is that we effectively estimate the number of psychiatric admissions that would have occurred if the individual had the full 90 days of enrollment in Medicaid and maintained their average, or expected, utilization per day of enrollment. We make similar adjustments for all other measures and time intervals. For ease of interpretation, utilization counts are measured as number of visits or admissions per 100 individuals and dollar amounts are measured per individual.

Finally, many of our measures are potentially influenced by the needs youth bring with them as they enter OOH treatment. Given that CSOC's strategic goal is to serve children and youth in their communities, relying on OOH treatment only for those youth with challenges and needs that are unable to be met closer to home, we might observe a rising post-PPS trend in acuity, which could confound some of the measures we examine. To provide some insight into this issue, we also display individual risk scores during the year of OOH admission measured by the Chronic Illness and Disability Payment System (CDPS). The CDPS risk scores were designed to adjust payments made to Medicaid managed care plans for taking on higher-risk enrollees and represent deviation from the average Medicaid enrollee. (For example, a CDPS risk score of 2.0 would indicate that the individual's expected medical costs are twice as high as the average Medicaid enrollee's expected medical costs).

Because our data do not follow the simple statistical assumption of having a normal distribution, we used nonparametric rank sum tests to determine statistical significance. Differences between pre- and post-PPS groups were considered statistically significant if the p-value was less than 0.05. As discussed in Chapter 5, PPS reduced the OOH treatment length of stay (LOS) from 265 days pre-PPS to 173 days post-PPS. **To facilitate interpretation of diagrams in the context of OOH treatment received, we have included vertical lines in each diagram to reflect these findings. The first vertical line represents the average OOH LOS for youth in the post-PPS period, which was 173 days. The second vertical line represents average OOH LOS for youth in the pre-PPS period, which was 265 days.**

KEY FINDINGS

There were 2,337 individuals with an initial OOH treatment in the post-PPS period and 6,445 individuals with an initial OOH treatment in the pre-PPS period. As shown in Table 8.1, **the CDPS risk scores are slightly higher in the post versus pre-PPS period. This suggests that youth admitted to OOH treatment in the post-PPS period were slightly more complex and costly from a medical perspective relative to youth in the pre-PPS period**.

TABLE 8.1: **DESCRIPTIVE STATISTICS FOR CDPS RISK SCORES: PRE- VERSUS POST-PPS**

	Pre-PPS	Post-PPS
Mean	3.7	4.0
Standard deviation	3.9	3.8
10th percentile	0.5	0.5
25th percentile	0.9	1.0
50th percentile (median)	2.2	2.8
75th percentile	5.0	5.5
90th percentile	7.9	8.5

Psychiatric admissions show no statistically significant differences between the pre- and post-PPS periods within the first three time intervals (90, 180, & 365 days) after initial OOH treatment (Figure 8.1). However, statistically significant reductions do occur at later time intervals (545 & 730 days). For example, during the 545 days (one and a half years) after initial OOH treatment, youth initially placed into OOH care in the post-PPS period had 13.3 psychiatric admissions per 100 individuals compared to 14.6 psychiatric admissions per 100 individuals among youth initially placed in the pre-PPS period. Similar reductions in the post-PPS period are observed for the 730-day (two-year) interval. **Both of the time intervals showing reductions are well past the average OOH LOS for either PPS group, suggesting that the effects of PPS may have been most salient after youth were transitioned from OOH treatment**.

FIGURE 8.1: **CHANGES IN TOTAL VOLUME OF PSYCHIATRIC INPATIENT ADMISSIONS PER 100 INDIVIDUALS IN THE PRE- AND POST-PPS PERIODS**

Psychiatric Inpatient Admissions per 100 Individuals

Pre-PPS ■ Post-PPS

Days	Pre-PPS	Post-PPS
90	2.7	2.9
180	5.1	5.4
365	9.6	9.4
545*	14.6	13.3
730*	19.9	16.7

Number of Days Since Initial Engagement with OOH Treatment

* Differences are statistically significant at the 5% level.

Total spending per person on psychiatric admissions mirrors the results for psychiatric utilization (Figure 8.2). Specifically, there are no pre/post-PPS differences within the first three time intervals after initial OOH admission but significant reductions after 545 and 730 days, which are well beyond the average LOS for OOH treatment.

FIGURE 8.2: **CHANGES IN SPENDING ON PSYCHIATRIC INPATIENT ADMISSIONS PER INDIVIDUAL IN THE PRE- AND POST-PPS PERIODS**

Spending per Person on Psychiatric Inpatient Admissions

Pre-PPS ■ Post-PPS

Days	Pre-PPS	Post-PPS
90	$141	$188
180	$282	$337
365	$550	$590
545*	$893	$875
730*	$1,277	$1,073

Number of Days Since Initial Engagement with OOH Treatment

* Differences are statistically significant at the 5% level.
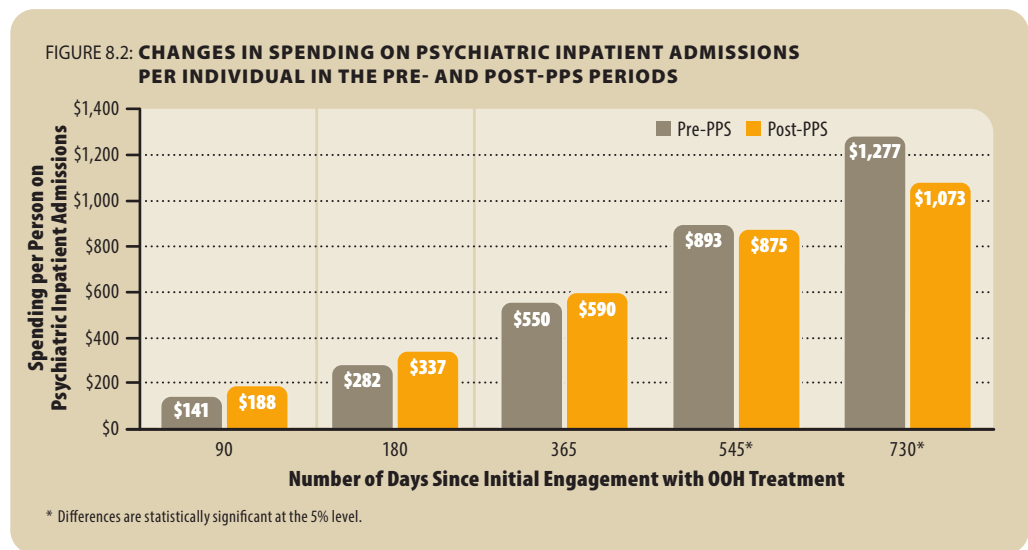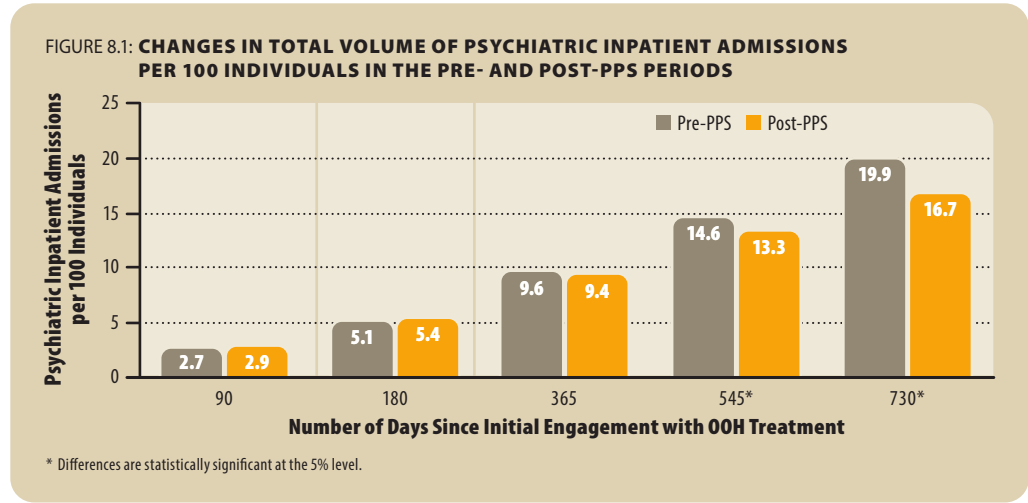
Emergency screening visits show a rising trend in each of the time intervals examined (Figure 8.3). This rising trend is statistically significant for the first three time intervals. Although the observed differences for the last two time intervals are fairly large, there are fewer individuals who maintain Medicaid enrollment during these larger stretches of time. Therefore, estimates of utilization are statistically less precise (i.e., less statistical power), which suggests that the statistical significance in these two time intervals should be interpreted with caution.

FIGURE 8.3: **CHANGES IN TOTAL VOLUME OF EMERGENCY PSYCHIATRIC SCREENING SERVICES PER 100 INDIVIDUALS IN THE PRE- AND POST-PPS PERIODS**

* Differences are statistically significant at the 5% level.
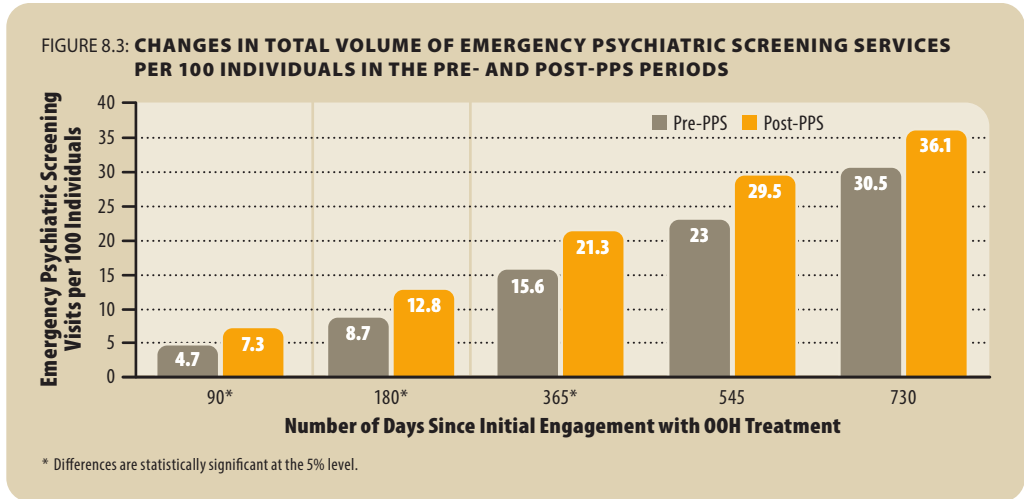
Consistent with Figure 8.3, the results in Figure 8.4 show rising post-PPS levels of spending on emergency screening visits for all the time intervals examined. The pre/post difference in spending for these visits loses its statistical significance at 730 days likely for similar reasons described above regarding emergency screening visits.

FIGURE 8.4: **CHANGES IN SPENDING ON EMERGENCY PSYCHIATRIC SCREENING SERVICES PER INDIVIDUAL IN THE PRE- AND POST-PPS PERIODS**

* Differences are statistically significant at the 5% level.
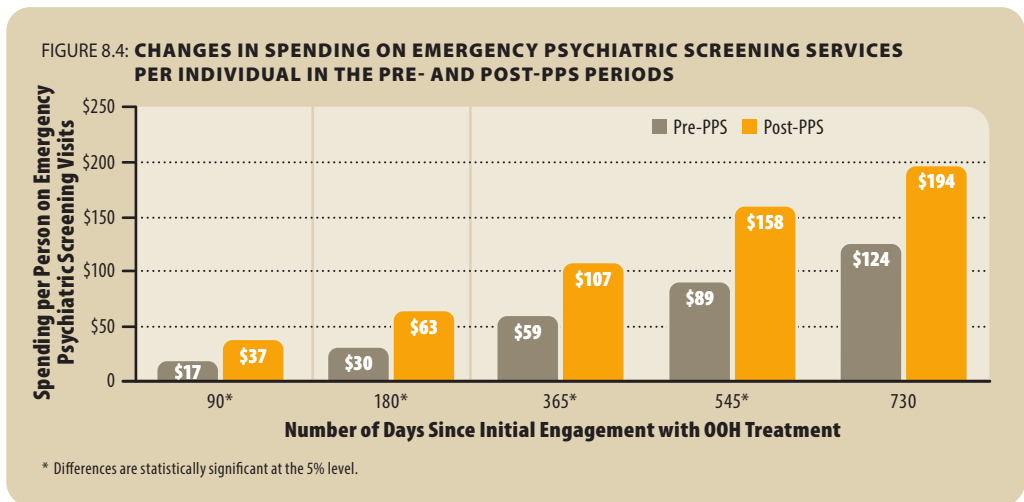
There was a large post-PPS reduction in percentage of youth with any antipsychotic use across all five of the time intervals examined, i.e., before and after the average OOH length of stay in the pre and post periods (Figure 8.5). All of these differences are quantitatively robust and statistically significant suggesting positive impact of PPS on the need for antipsychotic pharmaceutical treatment, despite the rising levels of risk scores described above.

FIGURE 8.5: **CHANGES IN PERCENTAGE OF YOUTH WITH ANY ANTIPSYCHOTIC UTILIZATION IN THE PRE- AND POST-PPS PERIODS**

* Differences are statistically significant at the 5% level.
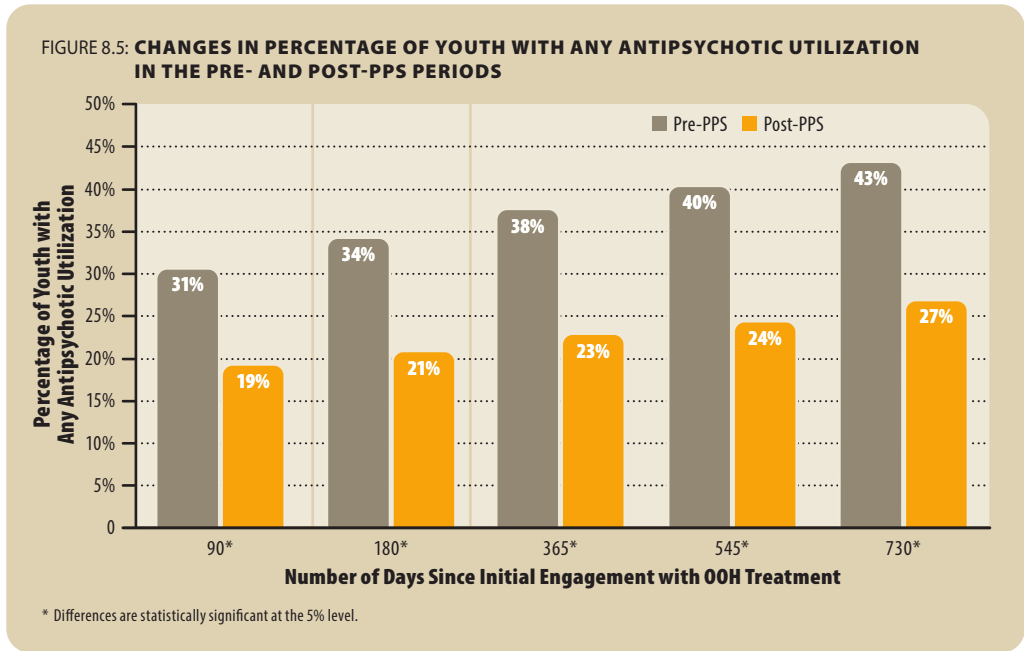
There was also a decline in total number of antipsychotics prescribed per 100 individuals in the post-versus pre-PPS period.[1] The decline was consistent across the time intervals examined and was quantitatively large and statistically significant. These declines appeared before and after the average LOS in OOH treatment. We note that this is a proxy measure for level of antipsychotic utilization and does not necessarily indicate whether or not these medications are being prescribed according to best-practice guidelines (see NCQA[2]) or if these medications are ultimately being used properly by the youth to whom they are prescribed (Figure 8.6).

FIGURE 8.6: **CHANGES IN NUMBER OF ANTIPSYCHOTICS PRESCRIBED PER 100 INDIVIDUALS IN THE PRE- AND POST-PPS PERIODS**

* Differences are statistically significant at the 5% level.
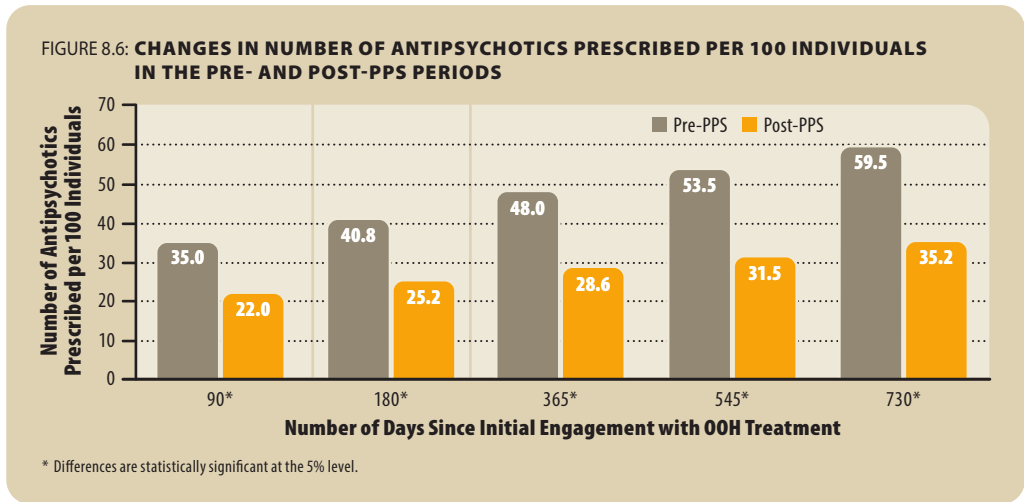
The number of youth using 3 or more antipsy-chotics declined in the post-PPS period but only at longer observation windows – i.e., 365 days or longer (Figure 8.7). These time intervals are well beyond the average LOS for OOH treatment in both the pre- and post-PPS periods, suggesting that the apparent PPS impacts on multiple antipsychotic use occurred after OOH discharge. For the same reasons as those high-lighted for the measures in Figure 8.6, the 3+ an-tipsychotic measure is a proxy for multiple concurrent antipsychotic utilization.

FIGURE 8.7: **CHANGES IN NUMBER OF YOUTH PER 100 USING 3 OR MORE ANTIPSYCHOTICS IN THE PRE- AND POST-PPS PERIODS**

* Differences are statistically significant at the 5% level.
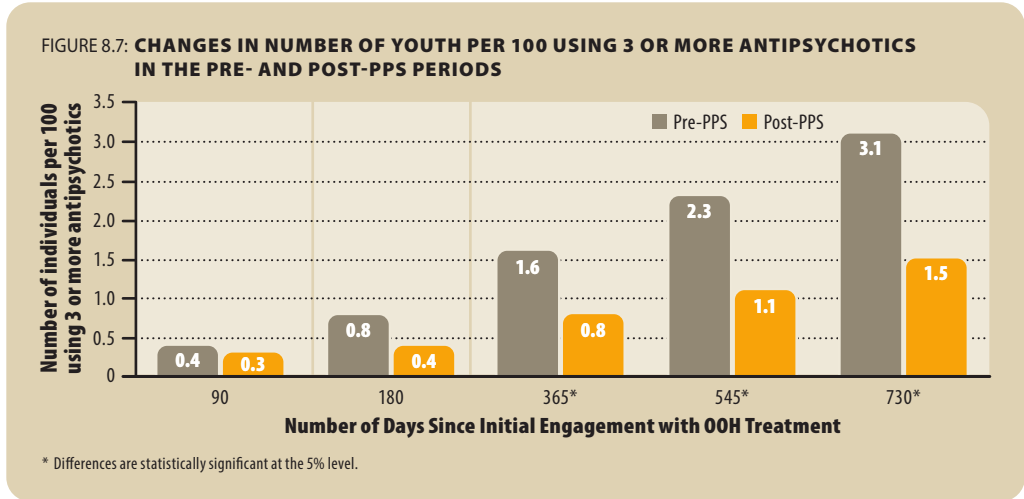
Figure 8.8 shows that **spending per person on an-tipsychotics is consistent with findings shown in the previous figure, though with much larger magnitudes of difference**. We note, however, that some of this difference is attributable to three med-ications, which were made available in generic formulations during our study period (i.e., Abilify in 2015, Seroquel in 2016, and Zyprexa in 2011). These medications were widely utilized among youth in the study and the availability of generics accounts for much of the change in spending. This is reflected in lower spending during the post-PPS period.

FIGURE 8.8: **CHANGES IN SPENDING PER PERSON ON ANTIPSYCHOTICS IN THE PRE- AND POST-PPS PERIODS**

* Differences are statistically significant at the 5% level.
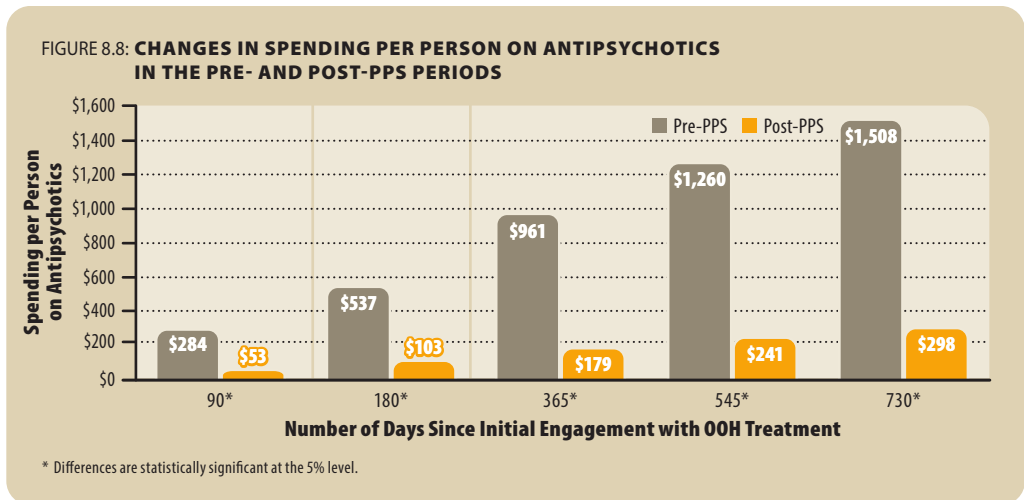
LESSONS & RECOMMENDATIONS

The analysis above shows that children and youth in OOH treatment became medically more complex and costly as measured by CDPS risk scores as PPS was implemented. Still, PPS is associated with reductions in the use of services that indicate potentially avoidable medical/behavioral episodes. One is reduction in inpatient psychiatric admissions when considered over longer time periods (1.5-2 years). However, the post-PPS period is also associated with increases in use of emergency screening visits over a shorter time horizon (one year or less). A recommended future area of research would be to determine if greater screening use in the short term is driving reductions in intense behavioral health episodes requiring hospital admission. Our analysis also showed large reductions in antipsychotic use over short and long observation periods, including proxies for overall antipsychotic utilization and measures of multiple concurrent antipsychotic utilization, and spending in the post-PPS period. Some of the spending reduction is likely due to some widely used antipsychotics going off patent (i.e., Abilify, Zyprexa, and Seroquel). However, the finding that volume of use and percentage of youth using antipsychotics decreased suggests that part of the spending reductions are associated with changes occurring under PPS.

A deeper analysis of antipsychotic prescribing and utilization patterns would help to clarify the PPS impact in this important area. More detailed measures should include simultaneous use of multiple antipsychotics, metabolic monitoring for children and youth on antipsychotics, and broader utilization of psychotropic medications beyond anti-psychotics. Subject to these caveats on confirming the results based on broad proxy measures, it appears that PPS is associated with improvements in some behavioral health indicators, which should continue to be monitored and evaluated.

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Findings and Lessons from the Evaluation

INTRODUCTION

This chapter synthesizes findings across the previous eight chapters, including those related to: an examination of trends over time within the New Jersey Department of Children and Families, Children's System of Care (CSOC); results from an evaluation of implementation of its Promising Path to Success initiative; as well as considerations stemming from the overall assessment, including areas for future study.

The complete set of evaluation results and related methods are described in more detail throughout the previous eight chapters. In addition, a table highlighting collective findings from these chapters follows in the Appendix.

This chapter includes highlights from what we "found" in our evaluation (i.e., the evaluation research findings), as well as what we "learned" (i.e., implications from broader project discussions and activities), as we examined CSOC trends and worked through evaluating its PPS initiative. In addition, this chapter highlights how this study can help inform future efforts and related assessments.

AN EXAMINATION OF CSOC'S DEVELOPMENT AND TRENDS OVER TIME, INCLUDING THOSE RELATED TO PROMISING PATH TO SUCCESS IMPLEMENTATION

In 2016—nearly two decades into transforming the delivery, scope and reach of mental health and substance use treatment and intellectual and developmental disabilities services for children and families in the state—the Children's System of Care asked Rutgers University to examine its progress and impacts, including those related to implementation of Promising Path to Success, a statewide initiative to adopt a trauma-informed strategy across the system of care.

The evaluation was anchored by three foundational questions:

- What were key strategies in NJ CSOC's overall progress and development to become a "mature"

system of care, as well as in implementing its statewide Promising Path to Success initiative?
- What were some of the important trends over time for children and families engaged with CSOC? Specifically, how did selected markers of wellbeing, service use and costs change over time?
- How were Promising Path to Success tenets and related strategies implemented throughout the system of care and what were the implications for children and families served?

This evaluation relied on several data sources, including:

- A series of interviews with more than 200 stakeholders, including system leaders, CSOC partners, and those on the frontlines of implementing the trauma-informed Promising Path to Success initiative,
- Primary and secondary data collected from CSOC partners and providers,
- Data from CSOC's Electronic Behavioral Health Information System (CYBER), including Child and Adolescent Needs and Strengths (CANS) data, and
- NJ Medicaid claims and managed care encounter data (i.e., NJ Medicaid Management Information System, NJMMIS).

Together, these sources helped address many key questions related to implementation of PPS, the broader development of the system of care over time and, most importantly, associated impacts of these efforts on the many children, youth and families CSOC serves.

ASSESSING STRATEGIES IN CSOC DEVELOPMENT AND TRENDS OVER TIME

In 2000, Governor Christie Whitman launched reform efforts of children's behavioral services within New Jersey designed to "maintain the integrity of family and community life while delivering effective clinical care and social supports services" through "organizing and delivering services for children and families that support the dignity and integrity of children, families, and the communities in which they live."[1] These efforts grew over time to become what is now known as New Jersey's Children's System of Care (CSOC). Examining CSOC

trends over time shows the maturation of a system of care that has delivered on a host of its aims to transform care delivery, while expanding the scope and reach of services, creating a continuum of care more effectively able to serve and strengthen children, including those with more complex needs.

A series of interviews with CSOC leaders and partners reinforced the clear "vision" that guided CSOC's development and transformation over time. CSOC worked incrementally toward that vision with the help of key partners and integration of data-driven decision-making to guide and steer its efforts.

Looking over time, at CYBER and NJMMIS data, the number of children enrolled in Medicaid and engaged with CSOC grew by 50%—or nearly 16,000—between 2011 and 2018. Examining trends shows the growing numbers of children brought under the umbrella of the system of care often included ones with more complex needs. The temporal trend of CDPS (Chronic Illness and Disability Payment System) scores, a diagnosis related risk-adjustment measure used to predict health expenditures for Medicaid enrollees, shows increases in scores by 25% over that same period (2011-2018). By 2018, mean CDPS scores for children covered through Medicaid and engaged with CSOC had grown to 2.5 (meaning, predicted treatment costs 2.5 times the average treatment costs for a Medicaid enrollee). Some groups of children have CDPS scores at or near 4.0, including children who need out-of-home treatment (3.6), children with IDD who do not need out-of-home treatment (3.8) and children with IDD who need out-of-home treatment (4.0).

Over that same period (2011-2018), the share of children served by CSOC with mental health conditions also grew slightly, as did increases in co-occurring substance use and mental health disorders among some groups of children served.

Despite the substantial growth in children and families served and a simultaneous increase in complexity of needs, trends suggest that CSOC was able to shift toward less intense modes of treatment and provide more treatment "closer to home," thereby helping to realize one of the fundamental goals of maintaining the stability of family and community life for those children and families it serves.

Growth in community-based services, allowing more children to heal closer to home, was associated with:

- More than 300 children being brought back to New Jersey from out-of-state, allowing them to receive treatment in settings that are closer to and more integrated with their families, their homes and their social networks within their communities,
- Nearly all (98%) children who needed community mobile crisis services being able to stay in their homes or current settings, rather than have their crisis perhaps compounded through trips to the hospital or emergency department,
- A nearly nine-fold increase in the number of children able to be treated through community-based programming, and
- A concurrent drop in the number of children with behavioral health challenges requiring out-of-home treatment—dropping to fewer than 800 children (out of approximately 60,000 children served by CSOC) by October 2021.[2]

Together, these metrics and milestones point to CSOC's expanded programming allowing more children to access treatment while maintaining connections with their families, caregivers and communities—connections that can help with healing.

Moreover, despite markers of increased need among the children served, data on children covered by Medicaid and engaged with CSOC suggest reductions in utilization of some selected, but important, avoidable and costly services. Trends over time (2011-2018) among CSOC children covered through Medicaid show:

- Rates of emergency department use dropped by 6%,
- Rates of overall inpatient hospitalization dropped by 24%, including reductions for all subgroups of children served by CSOC (meaning, children with and without IDD and including both those requiring and not requiring out-of-home treatment), and
- Rates of mental health hospitalizations dropped by 13%.

Collectively, these reductions in "away from home"

care and treatment for CSOC children over time point to avoidance of substantial costs, and avoidance of disruptions to their routines and ability to remain with and contribute to their families and communities.

Although presenting limitations as outcome measures, companion CANS scores over the 2014-2019 period also show decreases in need and increases in strength among CSOC children and their families across four of five areas, including life domain functioning, child strengths, child risk behaviors and caregiver strengths. CSOC was able to shift towards less intense treatment settings while holding needs and strength steady.

ASSESSING RESULTS FROM THE NEXT STEP IN CSOC'S GROWTH AND DEVELOPMENT: ADOPTING A SYSTEM-WIDE TRAUMA-INFORMED LENS THROUGH PROMISING PATH TO SUCCESS

As it matured, CSOC took a further step in care transformation by adopting a system-wide effort to promote trauma-informed care through its Promising Path to Success initiative (PPS). PPS helped to reinforce and expand on gains made throughout CSOC's development. It included two key components:

- Six Core Strategies© to Prevent Violence, Trauma and the Use of Seclusion and Restraint, an evidence-based practice with demonstrated results in reducing the use of restraints, and
- Nurtured Heart Approach®, a relationship-focused promising practice aimed at reinforcing success and building inner-wealth and resources among children and their caregivers.

PPS had several aims, including:

- Reducing/Eliminating restraint, seclusion and coercion,
- Reducing the share of youth needing to re-enter treatment,
- Reducing the share of youth requiring multiple episodes of out-of-home (OOH) treatment, and
- Cutting the lengths-of-stay for children and youth in OOH treatment to nine months or less.

By 2016, when PPS implementation efforts began state-wide, CSOC was well-practiced in employing strategic tools to advance growth and improvements in its system of care.

First and importantly, PPS was data driven. Underpinning PPS development, in part, was data stemming from a review showing that children requiring multiple episodes of OOH treatment were disproportionately more likely to have recorded histories of trauma. A critical underpinning of PPS aimed at ensuring that OOH providers were not in any way exacerbating the trauma that these children had experienced by using restraints in their treatment and care.

Second, PPS was enriched through work with partners, with CSOC relying on data from its Contracted Services Administrator (CSA) to help shape, refine and assess the effort, as well as bringing in experienced teams of coaches from the Behavioral Research and Training Institute at University Behavioral Health Care (UBHC) within Rutgers University to help coach, customize, drive and spread the effort across a range of diverse CSOC providers and partners throughout the system of care.

Third, PPS was implemented incrementally over time, in five county-focused phases, starting with three counties in January 2016, and moving over time to implementation throughout all of New Jersey's 21 counties by January 2019.

Lastly, CSOC also leveraged a series of administrative mechanisms to reinforce trauma-informed principles throughout the system of care, changing its own organizational language, as well as infusing trauma-informed tenets throughout its contracts, regulations and licensing.

Interviews with system leaders and partners pointed to CSOC's strategic choice in pairing an evidence-based targeted strategy focused on reducing use of restraints within organizations (Six Core Strategies©) with a companion relationship-focused practice (Nurtured Heart Approach®) aimed at changing the shape of interactions between families, caregivers and youth. These mirrored recommendations for successful implementation of trauma-informed care at the clinical

level and directed at changes at both the organizational and encounter levels.

Six Core Strategies© was flexible enough to be adopted and adapted across a range of CSOC treatment settings, including providers spanning different regions and varying in capacity and size. Nurtured Heart Approach®, with its 3 Stands – "1) Absolutely No! I refuse to energize negativity. 2) Absolutely Yes! I will super-energize experiences of success and 3) Absolutely Clear! I will set clear limits and provide clear, un-energized consequences"[3] was simple enough in the view of one interviewee to be "practiced by anybody," arming kids, their families and their caregivers with everyday skills to reshape interactions and, according to one, "engage… in a different kind of way that's more helpful."

Both components of PPS were used to "infuse" trauma competencies throughout and beyond the system of care.

PPS was implemented successfully, as planned, reaching across the system of care, with 6 Core Strategies adopted and incorporated throughout OOH treatment settings. While key informants in the qualitative component of this evaluation noted some "phase creep" due to many providers being affiliated with agencies and adopting the principles before their official designated implementation phase, this early spread of PPS principles might have helped pave the way for advancing practice change. Providers most often focused on implementing strategies related to leadership, workforce development, restraint reduction and elevated youth voice.

Nurtured Heart was integrated across settings into workforce hiring and retention practices, enhancement of the physical environment, and individual care plans.

While many interviewees were very positive about the initiative, they also spoke of the importance of preparing the workforce for what to expect through disseminating information on "what's coming" upfront, as well as ensuring changes are sustained through developing durable training platforms, opportunities for shared learning and special resource pools to support on-the-ground implementation efforts.

As the growth over time in CSOC's continuum of care had allowed more children to access treatment within community settings, PPS and its Six Core Strategies©, often resultantly focused on children with more complex needs (those who were not able to be treated within those community settings and required OOH treatment).

Information collected from over 50 programs throughout the system of care between 2014 and 2019 showed fewer episodes of restraint overall when comparing data from a pre-PPS to a post-PPS or "sustaining" period, with decreases of 35% or more across high-intensity treatment settings, including Psychiatric Community Homes (36% reduction in restraint episodes); Intensive Residential Treatment Services (36% reduction in restraint episodes); and Residential Treatment Centers (38% reduction in restraint episodes).[4] **These changes reflect progress toward a key aim of PPS to deliver treatment in a way that heals, not exacerbates, trauma**.

CANS data also point to PPS being associated with increased strengths and reduced needs in important areas, such as Life Domain Functioning (with significant reductions—meaning improvements in scores--in phases 2-4), Child Strengths (with significant reductions in phases 1-4) and Child Emotional and Behavioral Health Needs (with significant reductions in scores in phases 2-4) . However, the picture is muddied a bit, as there were associations with *increased* need in areas related to Child Risk Behaviors (with increases—meaning worsening of scores--in phases 1, 3, and 5) and Caregiver Strengths (with increases across all phases).

Importantly, **the data indicate PPS was associated with some positive changes in the care delivered to children requiring out-of-home treatment**:

- First, PPS was associated with reducing lengths of stay, with mean lengths of stay declining by roughly three months after PPS implementation and a greater share of treatment episodes lasting less than nine months (rising from 57% of episodes under nine months before PPS to nearly 79% in the post-PPS period).

- Further, *over time*, PPS was associated with reduced use of several avoidable and intense "away from home" services. Five years after the initial OOH treatment:
  - Children exposed to PPS were much less likely to have an ED visit (60% of children exposed to PPS compared to 86% of children not exposed to PPS).
  - Children exposed to PPS were less likely to have inpatient admissions; less than half (15%) of children exposed to PPS required inpatient admissions compared to their pre-PPS counterparts (34%).
  - Children exposed to PPS had reduced rates of psychiatric admissions, with just 11% of children exposed to PPS needing to access inpatient psychiatric care compared to 23% of children not exposed to PPS.
  - Fewer children exposed to PPS had screening center visits compared to their pre-PPS counterparts (18% vs. 32%).

Although avoiding the need for return to treatment was an important goal of PPS, the data show no changes in return to treatment during the post- versus pre-PPS period. However, as noted above, there were significant reductions in length-of-stay among an increasingly complex case-mix. Even among children with more complex needs, the trends indicate an association of PPS strengthening children in a number of resilience-building areas (as measured through CANS) and increasing the ability of these children to avoid many more intensive treatment settings, including inpatient care, psychiatric admissions and emergency departments, especially over the long-term.

An examination of Medicaid data suggests associations between PPS-exposure and reductions in relatively more intense levels of care among children served, namely:

- A year following initial OOH treatment, there were reductions in ED use among children exposed to PPS, with widening gaps in use over time between children exposed to PPS and their pre-PPS counterparts, indicating a 15% reduction in ED use two years later among children exposed to PPS.
- There were statistically similar rates of inpatient stays among PPS-exposed children, until one-and-a-half years following treatment, after which use dropped (two years following initial OOH treatment).

Importantly, rates of inpatient admission are much lower (approximately 25 per 100 children) than rates of ED use, even after two years.

The following markers also suggest that PPS may be associated with reduced need for certain intensive behavioral health services.

- There were 16% fewer psychiatric admissions among PPS-exposed children two years following their initial admission to OOH treatment.
- There were large reductions in the share of children prescribed antipsychotics: Two years following the initial OOH treatment, 27% of PPS-exposed children were utilizing antipsychotics vs. 43% of children not exposed to PPS).
- Two years after the initial OOH treatment, children exposed to PPS were prescribed 40% fewer antipsychotics compared to those not exposed.

There was, however, an increase in use of screening centers among children exposed to PPS. As noted above, over time, these increases did not appear to be linked with increased psychiatric admissions.

The evaluation of data related to CSOC and its recent reforms—Promising Path to Success—shows successful implementation of the initiative across the system of care, as well as the embedding of PPS practices and principles throughout CSOC. Due in part to PPS's intensive concentration on out-of-home settings, resulting in a focus on children with more complex needs, comparing a range of metrics for children pre- and post-PPS suggests a myriad of positive outcomes associated with implementation of the initiative. Changes associated with PPS include: reductions in restraints; shifts away from more intensive services and increases in several areas of strength among children exposed to the initiative. Importantly, however, beyond CANS measures, the available evaluation data did not include outcomes data collected directly from families and children. While greater understanding of changes among PPS-exposed children, such as increased resilience and greater ability to manage their challenges, is an area for future research, our findings, taken collectively, suggest that children exposed to PPS gained capacity to better thrive within their communities, homes and families.

LESSONS AND REFLECTIONS ON THE
OVERALL EVALUATION PROCESS

It is important to pause and consider what was learned from this evaluation to inform the continued growth of the NJ CSOC program as well as the potential replication of this effort in other states.

Challenges to Conducting a Detailed Return on Investment: As CSOC was working to help children who are often involved with many other systems, there was a desire to understand a broad scope of impacts (i.e., returns on investment) from this work, including impacts on education, juvenile justice, and other areas. Ultimately, challenges in acquiring and linking data across multiple domains precluded the team from exploring and understanding these broader effects. With our more narrowly focused data, understanding the true impact and range of cost avoidance was limited. It is also important to remember that not all costs are undesirable, particularly if they are associated with services that have a positive impact on CSOC children and youth.

Complications Relating to Shifts in OOH Treatment Focused on Youth with More Intense Needs: While there were many positive developments stemming from shifting children with less complex needs to community-based, closer-to-home treatments, these developments made understanding the effects of PPS more complicated as out-of-home treatments were resultantly focused on youth with sometimes more intense and complex needs.

Importance of Identifying Appropriate Comparison Groups: In evaluating CSOC programs overall, it was difficult for the evaluation team to find a robust comparison group with similar characteristics to CSOC children and youth. In such cases, we relied upon other children and youth in NJ Medicaid (breaking out comparisons for those with intellectual and developmental disabilities) as the best available option. Though, clearly, this was a limitation.

For the PPS evaluation, the geographically phased approach provided opportunity for comparison via a pre/post study design. While useful to a degree, this approach cannot account for other changes in the environment occurring at the same time as the PPS rollout. We were also limited by the short observation time allowed by the later phases of PPS. Exploring options for robust comparison is key for future analysis. Such options may include longer phase-in times across geography or partnering with other states to obtain data on children and youth with similar needs but are not exposed to programs similar to those under evaluation.

Ensuring Evaluation Considerations are Linked and Synchronized when Programs are Designed: In certain cases, along with the above comparison group difficulties, timing of the evaluation and last phase of PPS implementation created an inability to fully examine the effects of PPS on children in Phase 5. While our evaluation greatly benefitted from regular consultation with system leaders, future efforts could gain from additional collaboration, including evaluator presence at early conversations on initiative design and roll-out, planning for comparison groups, and uniform timing and duration regarding program exposure.

Including the Child/Family Outcomes and Perspectives: While a number of interviews were conducted for the evaluation, important additional perspectives and outcome metrics could have been obtained by including child and family voices (e.g., through surveys, interviews, or tracking a panel of children and families over time). Fully understanding and overcoming the challenges of primary data collection from CSOC children and youth is key for future projects. This would include appropriate attention to human subject protections.

Adding Precision to Selected Measurements: As the evaluation team sought to understand the range of impacts stemming from PPS, there was a recognition that some tradeoffs needed to be made to measure important concepts within the constraints of evaluation resources. For example, many of the prescription drug quality prescribing measures (i.e., antipsychotics) include various counts of service use, serving as a proxy for potential overuse, which was the main consideration for their inclusion in the evaluation. However, overuse (or overprescribing) of prescription drugs requires many subtle considerations such as, for example, simultaneous versus sequential use of multiple prescriptions within a year. Our proxy measure was unable to capture that

information. Future evaluations would benefit from more detailed measurement that better accounts for prescription timing and unique circumstances that affect whether more drug use is ultimately helpful or harmful.

Limitations of CANS: While CANS yields rich data for care planning, it was not designed as an outcomes assessment tool, and therefore, serves mainly as a proxy for program impacts on the strengths and needs of families, children, and youth. The utility of CANS for evaluation purposes could be strengthened by triangulating CANS measures with patterns observed in primary data collected as described above.

Timing of Outcomes: While we examined service use over set periods of time following PPS, like the system of care itself, for many of these children, growth, development and healing will happen over a longer period of time. We suspect that impacts of changes that took place through avoiding trauma and improved relationships with families and caregivers will continue to unveil themselves long after the observation window of this evaluation.

While taking on more children, many of whom have more complex needs, the data point to CSOC's ability to reduce use of several away-from-home treatments, while holding strengths and needs steady among children served. Moreover, CSOCs work to develop, improve and expand its system of care through standing up a broader continuum of community services over time and adopting trauma-informed principles system-wide enabled fewer restraints, treatment in less restrictive settings, cutting use of many high-cost and sometimes avoidable services, and, ultimately, providing the opportunity for children to remain in their communities. The strategies employed in implementing and evaluating this statewide effort can be looked on to inform and assess future initiatives inside New Jersey and beyond aimed at continuing to enhance delivery of treatment, services and supports in a way that maintains the integrity and wellbeing of the children and families they reach.

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[2] CSOC communication (November 2021)

[3] Glasser H., Easley J. Nurtured Heart Publications; Tucson, AZ: 1998. Transforming the Difficult Child. The Nurtured Heart Approach® and NHA Core Methodology "The 3 Stands™ of the Nurtured Heart Approach® https://ncjtc-static.fvtc.edu/resources/RS00008806.pdf

[4] Data collected January 2014-December 2019 across PPS implementation sites (see Chapter 4 for more details)

TABLE A.1: KEY EVALUATION FINDINGS BY CHAPTER

Chapter 1: Overview of the Evaluation of the Children's System of Care and its Promising Path to Success Initiative

Examining strategies pursued—and key trends over time—as New Jersey's Children's System of Care (CSOC) grew into a mature system of care:

Reflections from system leaders and partners show:

- CSOC leaders had a clear vision for transforming the delivery, scope and reach of treatment and services for children and their families.

- CSOC worked continuously and incrementally to move toward that vision through developing critical partnerships, focusing on data-driven decision-making, and "layering," "spreading," and building its continuum of care to help "hurt children" heal, including by infusing a trauma-informed lens throughout its work.

Analyzing trends over time:

- Overall CSOC data show there has been an increase in children served "closer to home," with a nearly nine-fold increase in children/youth served through community-based services and programs; children previously served out-of-state returned to New Jersey; and fewer children are in out-of-home (OOH) residential treatment.

- Over the last decade (2011- 2018), the number of children and youth enrolled in Medicaid and engaged with CSOC grew by roughly 50%. CSOC took on not only more children, but children with more complex needs: Among Medicaid-covered children engaged with CSOC, Chronic Illness and Disability Payment System scores (which help measure projected treatment costs/ severity of illness) increased by 25% over this period, and their 2018 projected treatment costs were 2.5 times the average treatment costs for Medicaid enrollees overall.

- Despite caring for many more children, and children with more complex needs, over time, CSOC was able to reduce overall rates of ED use (-6%), inpatient hospitalizations (-24%), and mental health hospitalizations (-13%), while holding needs/strengths steady among children and families it served.

Chapter 2: Lessons from Developing a Statewide Initiative to Promote Trauma-Informed Care: Reflections on the Promising Path to Success Experience

Examining strategies pursued in implementing Promising Path to Success (PPS):

Reflections from System leaders and partners showed the importance of:

- Continuing pursuit of data-driven and informed decision-making to drive and develop a system-wide effort to promote trauma-informed care;

- Transforming the culture through adopting a trauma-informed lens throughout the work and relationships with children and youth;

- Leveraging administrative mechanisms to amplify these changes by embedding language and principles into contracts and regulations;

- Strategically pairing a customizable evidence-based intervention, Six Core Strategies, with a companion practice, Nurtured Heart Approach, that could be "practiced by anybody" and "build a connection for everyone," thereby extending the uptake and reach of the initiative; and

- Facilitating ongoing learning through diverse disciplinary and practice expertise.

Chapter 3: Promising Path to Success: Perspectives from the Frontline

Examining frontline experience and recommendations in implementing PPS:

- Rollout of PPS successfully reached all behavioral health out-of-home treatment programs, where leadership and staff reported translating PPS strategies into organization policies and practice.

- Service providers reflected that, in preparation for a statewide rollout, CSOC programs should be fully informed of the expected process and effort, and allocate sufficient resources to accommodate workflow disruptions and facility enhancements.

- Continuous monitoring is essential for successful implementation, and for mitigating unexpected challenges as they arise.

- To sustain PPS beyond the implementation phase, programs need to ensure a stable pool of trainers and on-site "experts" on staff, provide ongoing refresher training and periodic content deep-dives, and establish/ participate in learning collaboratives to facilitate peer-to-peer learning.

- Sustainability strategies should include wide-spread dissemination of trauma-informed care to systems beyond CSOC – such as education and law enforcement.

Chapter 4: Changes in Restraint Use in Out-of-Home Facilities

Assessing whether the application of restraint in OOH treatment settings changed through the implementation of PPS:

• Across high-intensity out-of-home settings, the average number of restraint episodes per month per program dropped from 3.3 to 2.3, and the number of youths affected decreased from 1.7 to 1.3.

• The sharpest decrease (36-38%) in monthly restraint use was seen in three high-intensity OOH site types: psychiatric community homes (PCH, from 8.1 to 5.2); intensive residential treatment services (IRTS, from 4.2 to 2.7); and residential treatment centers (RTC, from 2.9 to 1.8).

• PCH, IRTS, and RTC all saw a substantial decrease in number of unique youths experiencing restraint.

Chapter 5: Evaluating Outcomes Related to Promising Path to Success: Child and Adolescent Needs and Strengths (CANS) and Re-entry into Out-of-Home Treatment

Evaluating outcomes of PPS on needs and strengths, re-entry to treatment and changes in OOH length of stay:

Child and Adolescent Needs and Strengths (CANS) scores:

• PPS implementation was linked with reductions in CANS scores (meaning reduction in needs/increase in strengths) across key domains, such as Life Domain Functioning, Child Strength, and Emotional and Behavioral Health Needs.

• However, in some domains, including Child Risk Behaviors and Caregiver Strengths, PPS implementation was linked with increased CANS scores, meaning greater needs in these areas.

• More study is needed to understand inconsistencies across phases, as well as increased scores in certain areas.

Return to treatment

• Approximately 70-73% of individuals initially admitted in the pre-PPS period reached 2 years without a return to out-of-home (OOH) treatment and never returned for as long as we could observe them being at risk in the data.

• At any time after initial OOH treatment, however, there is no evidence that PPS affected the proportion of children/youth who avoided a return to treatment.

Length of stay for OOH treatment

• The mean length of stay declined by 92 days (roughly three months) from the pre- to the post-PPS period.

• Across different intensities of treatment, lengths of stay fell after PPS implementation.

• In addition, the proportion of OOH treatment episodes less than 9 months increased from 57% in the pre-PPS period to 79% in the post-PPS period.

Chapter 6: Impact of Promising Path to Success Implementation on Medicaid Service Utilization

Examining the impact of PPS on delaying Medicaid hospital utilization following OOH treatment:

• After 270 days (9 months) following initial OOH treatment, children and youth in the post-PPS group were less likely to have an ED visit compared to the pre-PPS group.

• This trend appeared enduring: By the end of the 5-year study observation period, 86% of pre-PPS children and youth had an ED visit compared to only 60% of post-PPS children and youth.

• PPS is also associated with a decrease in inpatient admissions: By the end of the 5-year study observation window, 34% children and youth in the pre-PPS group had an inpatient admission compared to only 15% in the post-PPS group.

• After 180 days since initial OOH treatment, there was a rising trend in the percentage of pre-PPS youth with a psychiatric admission, while psychiatric admission in the post-PPS group leveled off faster.

• By the end of the 5-year observation window, 23% of children and youth not exposed to PPS had a psychiatric inpatient admission compared to only 11% for those who were exposed.

• After 180 days since initial OOH treatment, there was a rising trend in the percentage of pre-PPS youth with an emergency screening visit, while this percentage in the post-PPS group leveled off faster.

• By the end of the 5-year observation window, 32% children and youth in the pre-PPS group had an emergency screening visit compared to only 18% among those in the post-PPS group.

Chapter 7: Medicaid Utilization and Spending among Youth Receiving Out-of-Home Treatment before and after Implementation of Promising Path to Success

Examining Medicaid inpatient and ED use and spending among youth following OOH treatment pre- and post-PPS:

- PPS is associated with small increases in per-person ED utilization and spending in the short term (less than one year) but decreases in the longer term.

- PPS is associated with a reduction in total per person inpatient admissions over time–two years after initial OOH treatment, but it is associated with increases in this measure during shorter time intervals.

Chapter 8: Medicaid Behavioral Health Services Utilization among Youth Receiving Out-of-Home Treatment before and after Implementation of Promising Path to Success

Examining behavioral health utilization and spending among youth in PPS:

- Youth admitted to OOH treatment in the post-PPS period were slightly more complex and costly from a medical perspective relative to youth in the pre- PPS period.

- However, there were reductions in both volume of psychiatric admissions per 100 individuals and spending on psychiatric admissions following exposure to PPS in the longer-term (545 and 730 days after initial treatment).

- There were increases in both volume of emergency screening services per 100 individuals and spending per individual on emergency screening services following exposure to PPS.

- There were large short- and long-term declines in overall use of antipsychotic drugs among children/youth, in the number of antipsychotics prescribed per child/youth, and associated spending in the post-PPS period.