PROMISING PATH TO SUCCESS

An Experiential Tour of New Jersey’s Trauma-Informed Children’s System of Care Transformation and Evaluation

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TODAY’S OBJECTIVES

• Provide a basic understanding of New Jersey’s Children System of Care and why we sought to design, implement and evaluate a statewide trauma-informed approach across treatment and service delivery settings within the established system of care.

• Participants will be able to describe at least two of the Six Core Strategies© for Preventing Violence, Trauma and the Use of Seclusion and Restraint organizational cultures

• Participants will be able to identify the 3 stands of the Nurtured Heart Approach®

• Participants will be able to explain the rationale for and the approach taken for an ongoing return on investment analysis of PPS in NJ.

• Participants will be able to construct a logic model and consider potential costing approaches for a ROI analysis within their respective service delivery systems.
New Jersey’s
Children’s System Of Care Overview
1999
NJ wins a federal system of care grant that allowed us to develop a system of care.

2000 - 2001
NJ restructures the funding system that serves children. Through Medicaid and the contracted system administrator, children no longer need to enter the child welfare system to receive behavioral health care services.

2006
The Department of Children and Families (DCF) becomes the first cabinet-level department exclusively dedicated to children and families [P.L. 2006, Chapter 47].

January 2013
Intellectual/developmental disability (I/DD) services for youth and young adults under age 21 is transitioned from the Department of Human Services (DHS) Division of Developmental Disabilities to the DCF Children’s System of Care (CSOC).**

July 2013
Substance use treatment services for youth under age 18 is transitioned from DHS, Division of Mental Health and Addiction Services, to DCF/CSOC.

January 2013
Substance use treatment services for youth under age 18 is transitioned from DHS, Division of Mental Health and Addiction Services, to DCF/CSOC.

May 2013
Unification of care management, under CMO, is completed statewide.

July 2015
NJ wins a Federal SAMHSA Grant System of Care - Expansion and Sustainability

December 2014
Integration of Physical and Behavioral Health is initiated in Bergen and Mercer County with expected Statewide rollout

January 2013
Intellectual/developmental disability (I/DD) services for youth and young adults under age 21 is transitioned from the Department of Human Services (DHS) Division of Developmental Disabilities to the DCF Children’s System of Care (CSOC).**
Service Array Expansion to Reduce Use of Deep End Services

Prior to Children’s System of Care Initiative

- Low Intensity Services
- Out of Home

Today

- Intensive In-Community
  - Wraparound – CMO
  - Behavioral Assistance
  - Intensive In-Community

- Lower Intensity Services
  - Outpatient
  - Partial Care
  - After School Programs
  - Therapeutic Nursery

Out of Home
Children’s System of Care Objectives

**At Home**
Successfully living with their families and reducing the need for out-of-home treatment settings.

**In School**
Successfully attending the least restrictive and most appropriate school setting close to home.

**In The Community**
Successfully participating in the community and becoming independent, productive and law-abiding citizens.
Why trauma informed?

1. Trauma informed care is the right approach to youth services
2. Staff will find coming to work more satisfying
3. Healing connections between youth, families and staff will be stronger
4. Youth and staff crises will likely decrease
5. Unplanned transitions will likely decrease
6. Transition plans to the community will likely become more sustainable, reducing returns to OOH treatment
7. Participating programs will be aligned with CSOC values and be more competitive in contract awards
### Children’s System of Care Values & Principles

- Youth Guided & Family Driven
- Community Based
- Culturally/Linguistically Competent

#### Key Principles:

<table>
<thead>
<tr>
<th>Strength Based</th>
<th>Unconditional Care</th>
<th>Promoting Independence</th>
<th>Family Involvement</th>
<th>Individualized</th>
<th>Collaborative</th>
<th>Cost Effective</th>
<th>Comprehensive</th>
<th>Home, School &amp; Community Based</th>
<th>Team Based</th>
</tr>
</thead>
</table>

Language Is Important

Client Case Placement
Language Is Important

Language of CSOC
- Children, youth, young adult
- Parents, caregivers
- Treatment
- Engagement
- Transition
- Missing
- Family Time

Not the Language of CSOC
- Clients, Case, Consumer
- Mom and Dad
- Placement
- Not Motivated
- Close, Terminate
- Runaway
- Home visits
Youth Served in Care Management
Youth Served in Out of Home Treatment - Behavioral Health
How do we know what we are doing is working?

• Fewer children accessing inpatient treatment
• Fewer children in institutional care
• Closure of state child psychiatric hospital and state run residential treatment centers.
• Only one youth with behavioral health challenges in an out-of-state program
• Fewer youth in detention centers-closure of 9 centers
• Youth entering system of care at younger age
• Children in out of home care have more intense needs than prior to the system of care development
Out of Home Treatment is an Intervention, not the destination
Promising Path to Success

New Jersey’s SAMSHA System of Care Expansion Grant
Promising Path to Success

A statewide initiative, developed through the support of a 4 year SAMHSA System of Care Expansion Grant, that combines the evidenced based methodology of Six Core Strategies© with the Nurtured Heart Approach® to build inner wealth in youth and families while supporting system partners in creating safer & more trauma informed environments.
Goals of Promising Path to Success

✧ Strive to reduce & eliminate restraint, seclusion & coercion
✧ Reduce the percentage of youth who re-enter treatment after transitioning back to the community after an initial treatment episode
✧ Reduce the percentage of youth in the system of care who require multiple episodes of Out of Home (OOH) treatment
✧ Reduce the average length of stay for youth in OOH treatment to 9 months or less
✧ Analyze and understand the impact of each type of system involvement to aid in making resource allocation decisions
Phase 2
October 2016
* Cumberland, Gloucester, Salem
* Passaic

Phase 1
November 2015
* Morris and Sussex
* Middlesex

Phase 3
June 2017
* Burlington
* Ocean

Phase 4
March 2018
* Hunterdon, Somerset, Warren
* Hudson

Phase 5
December 2018
* Atlantic and Cape May
* Monmouth

Phase 4
March 2018
* Hunterdon, Somerset, Warren
* Hudson

Phase 5
December 2018
* Atlantic and Cape May
* Monmouth

Phase 6
December 2018
* Atlantic and Cape May
* Monmouth
Promising Path to Success

- Six Core Strategies© (6CS)
  - OOH Coaching Component
- Nurtured Heart Approach® (NHA)
  - Full Day and Certification Trainings
- Return on Investment (ROI)
  - ROI on PPS as well as the System of Care as a whole
Each Phase Includes:

• Local Kick Off through the Children’s Inter Agency Coordinating Council (CIACC)
• NHA Trainings (1 day) for Out of Home Treatment Providers (OOH), Mobile Response & Stabilization Services (MRSS), Care Management Organizations (CMO), Family Support Organization (FSO) staff & other community partners
• NHA Trainings for parents & caregivers through local FSOs
• 6CS Training (2 days) for OOH, CMO, FSO, MRSS & Children’s Inter Agency Coordinating Councils (CIACC) Leadership, OOH staff, & other providers
• Coaching for OOH sites on 6CS implementation
• Trauma Informed Care and Technical Assistance Trainings for OOH staff
• NHA Trainer Certification for OOH, CMO, FSO, MRSS and Intensive In Community (IIC) trainers nominated by their programs
• NHA Superuser Group for Certified Trainers
Six Core Strategies© To Prevent Conflict and Violence: Reducing the Use of Seclusion and Restraint

1. Leadership toward organizational change
2. The use of data to inform practice
3. Workforce development
4. Full inclusion of individuals and families
5. The use of seclusion and restraint reduction tools, which include the environment of care and use of sensory modulation
6. Rigorous debriefing after events in which seclusion and restraint might have been used

*This is not just about Out Of Home Treatment
The Nurtured Heart Approach® Philosophy

- Intense youth have learned that they get more connection from adults when things are going wrong (using their intensity in negative ways)
- Create new Portfolios that are energetically aligned
- Build Inner Wealth in youth
- NHA asks us to alter our lens, create first hand experiences of success, & make miracles out of molecules
Return on Investment-
Rutgers Center for State Health Policy

With support and data from Medicaid, Education, OOH providers, Juvenile Justice, Child Welfare and other system partners, we are looking to measure the impact of both the Promising Path to Success grant as well as the Children’s System of Care as a whole.
Strategies for Sustainability and Wide Scale Adoption

1. Training, Coaching & Implementation Monitoring for Residential programs
   ✷ Six Core Strategies©
   ✷ The Nurtured Heart Approach®
   ✷ Expansion on our training contract with Rutgers University

2. NHA Certified Trainers & Super User Groups to provide in-house staff training & sustain fidelity to the model

3. Embed values and strategies in organizations, policies & practice

4. Research
   ✷ Return on Investment (ROI) Study
Engagement Process

Welcome letter/MOU/Kick Off Announcement
CIACC based Kick Offs for each phase
Onboarding meeting with organizational executive leadership
Monthly update meetings with System Partners
Participation on and Support of Implementation Teams
Follow up surveys
Pre & Post NHA CTI Session
Quarterly NHA SuperUser Regional Meetings
CSOC Newsletter
Year to Date Initiative Achievements

- Engaged 4 Phases = 16 Counties, 16 CMOs/FSOs/MRSSs, 111 OOH sites in 32 different organizations
- Trained over 13,000 individuals in NHA
- Certified nearly 250 NHA trainers statewide
- Over 900 people attended Six Core Strategies©
- All EDs and Director of Operations of CMOs & FSOs, CSOC leadership received NHA Leadership training
- Initiative Values, Principles & Strategies are embedded in policy & practice
Examples of Programmatic Achievements

- Decrease in physical restraints/holds
- Decrease in staff callouts
- Creation of Youth Advisory Boards
- Removal of level systems
- Changes in hiring, evaluating, supervising
- Creation or improvement of debriefing process
- Decrease in length of stay
Expansion Beyond System of Care

- Desire of DCP&P (Child Welfare), Juvenile Justice, Intensive In Community and Education Partners to receive PPS/NHA/6 Core training

- PPS has had a major impact on our Care Plan Redesign and Electronic Health Record

- We have already reached our initial training goal

- Currently looking at next steps & opportunities
Key points to remember....

✓ Removing a child from their natural environment is a life altering decision.
✓ The pursuit of OOH treatment is a CFT decision that should be made with clear purpose **AND** expectations.
✓ OOH treatment is an intervention, **NOT** a destination.
✓ Short length of stay/one episode of care is optimal.
✓ CFT collaboration and communication is **CRUCIAL**.
✓ IOS is **NOT** defined by its environment.
✓ IOS is a clinical decision made by PerformCare based on provided clinical information.
✓ Caregiver involvement is always **EXTREMELY** important.
Section Objective:
Describe implementation best practices for at least two of the Six Core Strategies© for Preventing Violence, Trauma and the Use of Seclusion and Restraint
PPS COACHING PROCESS OVERVIEW

Intensive Initial Coaching
• 9-10 “Monthly” Meetings per OOH Site (average)
• Overview & Team Selection
• 6CS Assessment, Team Vision, Data Sources
• Action Steps, Strategies, Progress Updates
• NHA Training & other Technical Assistance
• Re-Assessment, Celebrating Successes, Transition

Follow-up Coaching
• Quarterly meetings to track continued progress & assist as needed
SIX CORE STRATEGIES© (6CS)

- **LEADERSHIP** toward organizational change
- **DATA** used to inform practice
- **RIGOROUS DEBRIEFING** following seclusion and restraint or other critical incidents
- **ENVIRONMENT OF CARE/SENSORY MODULATION** tools used to reduce the need for seclusion and restraint
- **YOUTH & FAMILIES** – full inclusion – voice & choice
- **WORKFORCE DEVELOPMENT** to support trauma informed care

#LEADINGCHANGE
LEADERSHIP – PPS COACHING TEAM

- 8 Parents (2 adoptive, with lived experience of youth behavioral health systems)
- 10 Master’s Degrees, 1 Doctorate, 5 Clinical Licenses
- Expertise in Social Work, Clinical Psychology, Psychiatric Nursing, Family Therapy, Health Education, Human Services, Public Administration
- 3 Post Grad Certificates in Traumatic Stress Studies from JRI; 4 trained in the ARC Treatment Framework
- Significant experience in SOC and Residential Treatment
- Peer Support expertise
LEADERSHIP – COACHING SITES

• Critical role of leadership
  • Agency and Site
  • Formal and Informal

• Communicating the Vision

• Supporting staff training

• Providing resources for environmental updates

• Sharing data
St. Peter’s Village

... One Year Later
Do they really think we can pull this off?

- This will never work; the kids will not respond to this.
- If our level system is gone, it will be a free-for-all.
- If everyday is a “clean slate” they are taking our power/authority
- How are we going to get the families to cooperate?
- What happens if we have to physically restrain? Are we allowed? Will we be in trouble?
DATA – PPS COACHING TEAM

• Focus Groups Phase 1 Post Transition
• Coaching Surveys – Survey Monkey Post Transition
• Periodic NHA Superuser Surveys
• NHA Training Fidelity Checklist
• NHA Pre-Post Questionnaire
• NHA Observation Tool in development
DATA – COACHING SITES

*Where thought goes, energy flows...*

Each site team chooses key indicators such as:

- Restraints, Police Calls, Staff Callouts
- Family Contacts, Treatment Participation, Use of NHA by staff
St. Peter’s Physical Intervention Data
(we do not use seclusion)

<table>
<thead>
<tr>
<th>Year</th>
<th>Restraints</th>
<th>Duplicated Youth</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>28</td>
<td>10</td>
</tr>
<tr>
<td>2016</td>
<td>14</td>
<td>5</td>
</tr>
<tr>
<td>2017</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

*Numbers are as of 6/15/17*
RIGOROUS DEBRIEFING

How might we respond differently next time?

• No Blame, only opportunities for learning!
• Ways to involve youth, staff, leadership
• Reflection and learning to broaden understanding
RIGOROUS DEBRIEFING

1) Event
2) Response
3) What we know
4) What we need to know
5) Where to place focus
6) Take Away
ENVIRONMENT & SENSORY

• Individualized Self-Regulation Plans
• Occupational Therapy Consultations
• Sensory Spaces & Sensory Kits
  • Creative options from Wish Lists to DIY
## “How to Deal” Plan

<table>
<thead>
<tr>
<th>Things that upset me!</th>
<th>How people can tell I’m upset:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Changing plans at the last minute</td>
<td>- Mean face</td>
</tr>
<tr>
<td>- Exaggerating or making things up</td>
<td>- Yelling, stomping and swearing</td>
</tr>
<tr>
<td>- Accusations</td>
<td>- Breaking rules</td>
</tr>
<tr>
<td>- Overhearing staff talking about me and my family</td>
<td></td>
</tr>
</tbody>
</table>

### When I’m having a hard time controlling my anger please don’t do this:
- Talk about it as soon as it happens
- Talk about something over and over
- Give me negatives
- Take away privileges

### Please do this:
- Give me some space and time alone
- Distract me with something I like to do like watch a video or get a drink
- Encourage me to take a walk

<table>
<thead>
<tr>
<th>Things that help me to calm down when I’m upset:</th>
<th>When I am feeling low or not motivated I can do these things to increase my energy:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Listen to music on my headphones</td>
<td>- Open a window</td>
</tr>
<tr>
<td>- Use the rocking chair</td>
<td>- Take a shower</td>
</tr>
<tr>
<td>- Use the weighted blanket</td>
<td>- Go for a walk</td>
</tr>
</tbody>
</table>

#LEADINGCHANGE
I can't even! I wish I could send you a pic, just walked into the living room. Daniel laying on the sofa neck wrap on holding a soothing sound machine, BP has the lights dimmed down low, JB is late on the other couch under the acupuncture mat. Playing with a squishy ball, MM is sitting on the small seat with the Weighted blanket.
😂😂😂 AMEN AMEN just too funny
Have a great weekend.

Wahooooo !!!!!! It works ! It really works !!! Thanks for letting me know. I'm smiling ! You must be gitty !
DIY Individualized Sensory Box
YOUTH & FAMILIES – Full Inclusion

• Youth Advisory Boards
  • Rules Reviews, Staff Interviews, PPS Teams

• Youth & Family Surveys

• Youth & Family Peer Staff Positions

• Former Resident/Family Board Members
Youth Advocacy Board

– Board members are elected by their peers
– All residents meet monthly with the Youth Advocacy Board to discuss changes they would like to see within the program
– Meeting minutes are taken by our Clinicians
– Board members meet with our Administration to effect change
HOW ARE WE DOING?

St. Peter’s is committed to providing your son and your family state-of-the-art treatment. We value your input, as it will aid us in strengthening treatment delivery. The following questionnaire will be provided to you and your son at every treatment conference. It only takes a few minutes to complete. It covers the following: visitation, youth choice, community integration and behavior support. There is a space for comments, in the event all of your concerns or compliments aren’t addressed.
YOUTH & FAMILIES – Full Inclusion

• Family Engagement
  • 1st Night Calls, Positive Reach Outs, Events
  • Open Door & Phone Policies

• Supporting Youth at Home
  • In-Home Therapy, Tracking Positives

• Family Support/Youth Partnership Linkages
  • FSO presentations, Youth Conference planning
WORKFORCE DEVELOPMENT

Framework for Coaching with Site Teams - Six Core Strategies© 2-Day Training

- Youth & Family Panel
- Out of Home Provider Panel
- *Implementing Effective Short-Term Residential Interventions: A Building Bridges Initiative Guide*
WORKFORCE DEVELOPMENT

Nurtured Heart Approach®

• Statewide 1-day trainings by Rutgers PPS Team
• Customized on site trainings in various formats
• Trainer Certification (5 days plus Pre & Post meetings) to embed expertise in provider agencies
• Quarterly Regional Superuser Groups to support fidelity and collaboration
• Full-day trainings by national & international experts to inspire folks to “notch it up”
WORKFORCE DEVELOPMENT

Technical Assistance – customized formats offered on site and regionally for OOH staff

• Family Engagement
• Adverse Childhood Experiences & the Neurobiology of Trauma
• Complex Trauma, Developmental Attachment & Trauma Informed Care
• Emotional Regulation, Self-Care & Mindfulness
• Positive Behavior Supports
• Cultural & Linguistic Competence
Cultural Responsiveness refers to the ability to learn from and relate respectfully to people from your own and other cultures.

- How does this family/youth interpret behaviors?
- What expressions does this family/youth use when talking about trauma?
- How does this family/youth perceive what happens to them?
- Does this family/youth have particular ways to self-regulate?
- How does this family/youth handle stress?

Are particular behaviors cultural or not?

Adapted from: Marta Casa, 2013
PPS Coaching – Lessons Learned

Agency/Site Readiness for Coaching

• Value of peer sharing to inspire

• Prior orientation around “Trauma Informed”
PPS Coaching – Lessons Learned

Challenges:

• Pre-existing cultures & values
• Connecting staff with training
• Impact of staff turnover
• Youth in treatment far from home
• Prior staff-family interactions
PPS Coaching – Lessons Learned

What Helps:
• Team Approach
• Attending to Energy (meeting them where they are, attending to group process, getting in sync)
• Arousing Curiosity
• Individualizing the process based on local factors (census concerns, staff changes, environments)
• Repetition
• Having NHA trainers on site/on the floor
• Regular review of 6CS with implementation teams
Section Objective:
Identify the 3 stands of the Nurtured Heart Approach®
WHAT IS THE NURTURED HEART APPROACH®?

A set of strategies for helping children (and adults) use their intensity in successful ways …and awaken to their greatness!
A Day in the Life of...

Experiential
The way we talk to our children becomes their inner voice.
~Peggy O'Mara
The NHA Core Methodology: The 3 Stands™

1. Absolutely No!
2. Absolutely Yes!
3. Absolutely Clear!
Stand 1: Absolutely No!

I refuse to energize negativity. I will not reward negativity with my energy, connection or relationship.
The Energetic Undercurrent Really Runs the Show

Children perceive what really gets us going.

The energy behind what we are saying is the real message.
Stand 2: Absolutely Yes!

I relentlessly create and energize positivity and success. I energize and nurture firsthand experiences of success.
Brain, LOOK!

Not NOW! Can't you see I'm BUSY?!
TRAIN YOUR MIND TO SEE THE GOOD IN EVERYTHING.
NHA Recognitions

• What do you see?
• What is happening?
• What is not happening?
• Give the in the moment details!
• What does it say about who they are as a person of growing greatness?
Energizing success
Stand 3: Absolutely Clear!

I set and enforce clear limits and clear consequences in an unenergized way. I will always provide a true consequence.
You & Resets

• Think of a moment when you were really escalated.
• What helps you to reset yourself?
• What doesn’t help you reset?
Counting down from 10-1

Deep breathing – various options

“hmmm…” “ommm…” “zzzzz…”

Slowly tap your thumb to each fingertip

Meditation

Progressive muscle relaxation

Stand 1 Mantra

Think about positive interactions with a child

Self-massage

Visualization

Rhythmic exercises

Engage all of your senses
The 3 R’s

**Reset** – self-regulate

**Restart** – welcome back, appreciate realignment with greatness

**Restore** – as needed, individualized natural & logical consequences
“Almost everything will work again if you unplug it for a few minutes, including you.”

— Anne Lamott
3 Stands in Balance

- Absolutely No!
- Absolutely Yes!
- Absolutely Clear!
“Children do not awaken by the fear of punishment. They awaken to their greatness!”

- Howard Glasser
PROMISING PATH TO SUCCESS
An Experiential Tour of New Jersey’s Trauma-Informed Children’s System of Care Transformation and Evaluation
PART 3: Return on Investment Analysis
Acknowledgements

• Rutgers, the State University of New Jersey
  – Center for State Health Policy
    • Joel Cantor
    • Sujoy Chakravarty
    • Sana Ahmad
    • Jolene Chou
    • Oliver Lontok
    • John Palatucci
  – Colleagues
    • Jaime Walkup
    • Ramesh Raghavan
• Members of the Promising Path to Success (PPS) ROI Advisory Committee
Objectives

Participants will be able to:

• Explain the rationale and identify resources for an ongoing return on investment analysis.

• Explain the approach taken for an ongoing return on investment analysis of PPS in NJ

• Construct a logic model and consider potential costing approaches for a ROI analysis within their respective service delivery systems.
How have you demonstrated to others that your work was effective? A good investment?
OBJECTIVE 1

EXPLAIN THE RATIONALE AND IDENTIFY RESOURCES FOR AN ONGOING RETURN ON INVESTMENT ANALYSIS
The Triple Aim

**BETTER CARE** Improving the individual experience of care

**IMPROVE HEALTH** Improving the health of populations

**BETTER VALUE** Reducing the per capita cost of care for populations.

What is a return on investment (ROI) analysis?

• **Key performance measure:** Derived from comparing the cost of the investment with the return (or cost savings) of the investment.

• **Social return on investment:** Includes the social value of items that can be “monetized”

• Measures the **value of an initiative** (in dollars) that provides health, social, and education services and communicate value to stakeholders.
Why conduct a ROI for the system of care?

- **Opportunities for a Return on Investment are cross-cutting**
  - Disproportionate cost spending for youth who benefit from a system of care
    - EXAMPLE: For children using behavioral health services, Medicaid costs were (on average) $8,520 per year, compared with $1,729 per year. (Pires et al, 2013)

- **Scaling up and sustaining a system of care:** Cost information a critical component of “making the case” for expansion (Gruttadaro, Markey, & Duckworth, 2009).

What kinds of questions could a ROI analysis answer for you?

• How do we allocate resources given scarce resources?

• How do we demonstrate the value of our intervention in monetary and non-monetary terms?

• What value might we expect from investing in scaling up of a local demonstration or pilot?

• How do we systematically collect data on service utilization and cost as part of continuous quality improvement efforts?
What are some of the major challenges for a ROI within systems of care?

• Obtaining data from multiple sources

• Determining cost implications of changes in service utilization

• Monetizing benefits from systems of care
How is a return on investment analysis conducted?

- **Step 1: Understand What to Measure**—Includes engaging stakeholders, reviewing and refining a theory of change, and defining the analysis parameters.

- **Step 2: Prepare for the ROI Analysis**—Includes determining a sample, identifying outcomes and indicators to be measured, establishing a data collection process (existing and/or new data), collecting outcome and cost data, and developing an impact map.

- **Step 3: Model and Calculate the ROI**—Includes determining financial values and proxies, calculating impact, and calculating the ROI.

Objective 2.

DEMONSTRATE THE PROCESS FOR A RETURN ON INVESTMENT ANALYSIS OF PPS, EMPLOYING NJ AS CASE STUDY
Return on Investment Analysis

- In the case of *PPS*, a positive ROI is:
  - Improved **distribution and overall reduction of expenditures** for:
    - children and families
    - youth-serving public sector agencies (e.g., Medicaid, CSOC, child welfare, juvenile justice, and education) against the costs of investment (i.e., start-up and ongoing investments in the initiative.)
  - **Demonstrated effectiveness** in key indicators.
  - **Improved service utilization** over time and various outcomes before, during and after the implementation of 6CS and NHA.
Steps of a ROI

• **Step 1: Understand What to Measure**—Includes engaging stakeholders, reviewing and refining a theory of change, and defining the analysis parameters.

• **Step 2: Prepare for the ROI Analysis**—Includes determining a sample, identifying outcomes and indicators to be measured, establishing a data collection process (existing and/or new data), collecting outcome and cost data, and developing an impact map.

• **Step 3: Model and Calculate the ROI**—Includes determining financial values and proxies, calculating impact, and calculating the ROI.
Step 1: Understand What to Measure

**Stakeholder Engagement**
- Convene ROI Advisory Panel quarterly
- Meet with membership individually
- Receive feedback on areas including:
  - Objectives of the ROI Analysis
  - Available data sources and feasibility
  - Measurement approach
  - Dissemination approach
Step 1: PPS Primary Research Questions

**Evaluation of Effectiveness (Primary Outcomes of Interest)**

1. For children receiving Promising Path to Success (PPS) services, is there a reduction in out-of-home treatment?
2. For children and families receiving PPS services in out-of-home treatment settings is there a reduction in seclusion and restraint episodes?
3. For children receiving Promising Path to Success, is there improvement in behavioral and physical health outcomes?

**Evaluation of Economic Endpoints**

1. What, if any, return on investment is achieved across children and families and youth-serving public sector agencies for those counties exposed to PPS in OOH and community-based settings, as compared to comparison counties not exposed to PPS?
Overall Logic Model

**Investment (Input)**
- CSOC
- UBHC
- OOHs
- Community- & home-based programs
  - Care Management Organizations (CMOs)
  - Family Support Organizations (FSOs)
  - Mobile response and stabilization services (MRSS)

**Activities (Thruput)**

*Training activities:*
- 6 Core Strategies
- Nurtured Heart Approach

*Reach:*
- OOHs
- CMOs
- FSOs
- MRSS

**Objectives (Output)**
- Improved service delivery system
- Improved lives of youth and family
- Improved cost and quality of care

- Primary Data collection on "assessing implementation variation"
- Programmatic investment and impact
- ROI Data Work Group: Linked dataset with Medicaid & CYBER
Logic Model for Evaluating PPS

<table>
<thead>
<tr>
<th>Input &amp; Resources</th>
<th>Activities &amp; Outputs</th>
<th>Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CSOC:</strong></td>
<td>6 Core Strategies:</td>
<td><strong>Improved service delivery system</strong></td>
</tr>
<tr>
<td>• Roll-out of project and ongoing coordination costs, including Human Resources</td>
<td>• Initial (2-day) training</td>
<td>✆ Home- and community-based service/support utilization</td>
</tr>
<tr>
<td><strong>UBHC:</strong></td>
<td>• On-going coaching and support (6 months)</td>
<td>✅ Hospital (incl. psych) &amp; ED utilization</td>
</tr>
<tr>
<td>• Project Leadership and Administrative costs (HR)</td>
<td></td>
<td>✅ Behavioral, emotional, physical health problems</td>
</tr>
<tr>
<td>• Six Coaches (HR)</td>
<td><strong>NHA:</strong></td>
<td>✅ Sub substance use</td>
</tr>
<tr>
<td>• Sub-contracts with 6CS and NHA Trainers</td>
<td>• Initial (5-day) training for site-based trainers</td>
<td>✅ Needs (functional outcomes)</td>
</tr>
<tr>
<td><strong>OOH &amp; community-based programs (CMO, FSO, MRSS):</strong></td>
<td>• Ongoing (1-day) training for staff at site</td>
<td>✆ Strengths (functional outcomes)</td>
</tr>
<tr>
<td>• Organization characteristics (e.g. size, staffing)</td>
<td>• On-going coaching and support</td>
<td>✅ Educational performance of youth</td>
</tr>
<tr>
<td>• Trainers’ time to attend initial training of trainers, potential for overtime costs</td>
<td></td>
<td>✆ Successful employment as adult</td>
</tr>
<tr>
<td>• OOH treatment and community-based setting staff’s time to attend trainings, potential for overtime costs</td>
<td><strong>Community-based programs:</strong></td>
<td>✆ Injuries in youth</td>
</tr>
<tr>
<td></td>
<td>• Staff training</td>
<td><strong>Improved cost &amp; quality of care</strong></td>
</tr>
<tr>
<td></td>
<td>• Site’s approach to adoption (selected strategies)</td>
<td>✅ Behavioral health expenditures (incl. psychotropic meds)</td>
</tr>
<tr>
<td></td>
<td><strong>Training activities</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Reach</strong></td>
<td>OOH trtmt settings (implementing 6CS):</td>
<td>✅ Restraint/seclusion related costs</td>
</tr>
<tr>
<td></td>
<td>• Staff training</td>
<td>✅ Family/caregiver cost</td>
</tr>
<tr>
<td></td>
<td>• Site’s approach to adoption (selected strategies)</td>
<td></td>
</tr>
</tbody>
</table>

* Indicates measure is primarily of relevance to analyses of 6CS and NHA’s implementation in OOH treatment settings, specifically those implementing 6CS.

** Indicates measures is primarily of relevance to analyses of NHA’s implementation in community-based settings.
Step 2: Prepare for the ROI Analysis

<table>
<thead>
<tr>
<th>INPUT</th>
<th>THRUPUT</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimate start-up and investment</td>
<td>Assess variation in PPS implementation</td>
<td>Evaluate effectiveness and estimate post-implementation savings</td>
</tr>
<tr>
<td>Estimate start-up and initial investment for PPS.</td>
<td>Analyze costs across systems of Care (OOH, FSO, and CMOs)</td>
<td>Measure outcomes of PPS implementation</td>
</tr>
<tr>
<td>Document review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary data collection: Key informant interviews</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secondary data collection and analysis: Investment and Impact Tool</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secondary data analysis: Medicaid-CYBER linked dataset</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secondary data analysis: NJ SPIRIT, FACTS</td>
<td></td>
</tr>
</tbody>
</table>
Data Collection Approach for Assessing (1) Implementation Variation and (2) Investment/Costs and Impact at OOH

- **UBHC Lead Coach Interviews** on program implementation.

- **Obtain agency/program representative contact information to discuss implementation.**

- **Agency and program key informants** on program implementation.

- **Obtain agency/program representative contact information to discuss impact and investment.**

- **Agency and program informative contact** attend webinar to review investment and impact data collection tool.

- **Customize data collection tool to accommodate agency/program.**

- **Agency and program contacts** complete data collection tool.

- Make arrangements and process completed tool at Rutgers CSHP.

Note: Leadership in FSOs and CMOs are also being interviewed at the close of respective phases to assess implementation approach and investment and impact.
<table>
<thead>
<tr>
<th><strong>Input &amp; Resources</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CSOC</strong></td>
</tr>
<tr>
<td>- Roll-out of project and ongoing coordination costs, including Human Resources</td>
</tr>
<tr>
<td><strong>UBHC</strong></td>
</tr>
<tr>
<td>- Implementation start-up costs and staff training.</td>
</tr>
<tr>
<td>- Project Leadership and Administrative costs (HR)</td>
</tr>
<tr>
<td>- Six Coaches (HR)</td>
</tr>
<tr>
<td>- Sub-contracts with 6CS and NHA Trainers</td>
</tr>
<tr>
<td><strong>ROI</strong></td>
</tr>
<tr>
<td>- Data use agreements and datasets</td>
</tr>
<tr>
<td>- Meetings of ROI Stakeholder Advisory Group</td>
</tr>
<tr>
<td>- Software programs and data infrastructure.</td>
</tr>
</tbody>
</table>

| **Start-up and Initial Investment (Input)** |

<table>
<thead>
<tr>
<th><strong>csoc</strong></th>
<th><strong>UBHC BRTI 2-day 6CS Leadership Trainings</strong></th>
<th><strong>UBHC BRTI 5-day NHA Certification Training Intensives (CTI)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Human Resources and Related Systems Investments</td>
<td>• UBHC Training Costs</td>
</tr>
<tr>
<td></td>
<td>• UBHC Training Costs</td>
<td>• OOH agency/program attendees’ opportunity costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• FSO agency/program attendees opportunity costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CMO agency/program attendees opportunity costs</td>
</tr>
<tr>
<td></td>
<td>• UBHC Training Costs (e.g., facility, trainers, etc)</td>
<td>• OOH program attendees opportunity costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• FSO program attendee opportunity costs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• CMO agency program attendees opportunity costs</td>
</tr>
<tr>
<td></td>
<td>• Cost for ROI evaluation</td>
<td></td>
</tr>
</tbody>
</table>
Investigating Implementation Variation: Domains for PPS Implementation at OOH Treatment Program, CMO, and FSO

<table>
<thead>
<tr>
<th>6 Core Strategies (6CS) Implementation:</th>
</tr>
</thead>
<tbody>
<tr>
<td>UBHC BRTI 2-day 6CS training</td>
</tr>
<tr>
<td>6CS Implementation Team Composition</td>
</tr>
<tr>
<td>(OOH only)</td>
</tr>
<tr>
<td>6CS Implementation Team Meetings</td>
</tr>
<tr>
<td>(OOH only)</td>
</tr>
<tr>
<td>6CS prioritized (OOH only)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nurtured Heart Approach Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Day Certification Training Intensive</td>
</tr>
<tr>
<td>CTI</td>
</tr>
<tr>
<td>Attendance at super-user meetings</td>
</tr>
<tr>
<td>Initial NHA Training of staff at program</td>
</tr>
<tr>
<td>Booster NHA Training of staff at program</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activities &amp; Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training activities</td>
</tr>
<tr>
<td>OOH trtmnt settings</td>
</tr>
<tr>
<td>6 Core Strategies:</td>
</tr>
<tr>
<td>Initial (2-day)</td>
</tr>
<tr>
<td>On-going coaching</td>
</tr>
<tr>
<td>and support (6</td>
</tr>
<tr>
<td>months)</td>
</tr>
<tr>
<td>NHA:</td>
</tr>
<tr>
<td>Initial (5-day)</td>
</tr>
<tr>
<td>training for site-</td>
</tr>
<tr>
<td>based trainers</td>
</tr>
<tr>
<td>Ongoing (1-day)</td>
</tr>
<tr>
<td>training for staff at</td>
</tr>
<tr>
<td>site</td>
</tr>
<tr>
<td>On-going coaching</td>
</tr>
<tr>
<td>and support</td>
</tr>
<tr>
<td>FSO and CMO</td>
</tr>
<tr>
<td>programmatic</td>
</tr>
<tr>
<td>investment and</td>
</tr>
<tr>
<td>fiscal impact:</td>
</tr>
<tr>
<td># Staff trained</td>
</tr>
<tr>
<td>Site’s approach to</td>
</tr>
<tr>
<td>adoption (selected</td>
</tr>
<tr>
<td>strategies)</td>
</tr>
<tr>
<td># Staff trained</td>
</tr>
<tr>
<td>Site’s approach to</td>
</tr>
<tr>
<td>adoption (selected</td>
</tr>
<tr>
<td>strategies)</td>
</tr>
</tbody>
</table>
### Implementation Summary Sheet

| TABLE 1: RELEVANT PRIOR INITIATIVES AT PROGRAM |
| TABLE 2: UBHC TRAININGS FOR 6CS AND NHA TRAINERS |
| TABLE 3: CHARACTERISTICS OF IMPLEMENTATION TEAM MEETINGS FOR 6CS |
| TABLE 4: 6CS IMPLEMENTATION APPROACH: PRIORITIZED STRATEGIES |
| TABLE 5: NHA IMPLEMENTATION APPROACH: |
| TABLE 6: OTHER TRAININGS PROVIDED TO SUPPORT PPS IMPLEMENTATION AT PROGRAM |
| TABLE 7: PROGRAM CHARACTERISTICS |
| TABLE 8: AGENCY CHARACTERISTICS (If Applicable) |
| TABLE 9: YOUTH, FAMILY, AND STAFF ENGAGEMENT |

#### TABLE 8: AGENCY CHARACTERISTICS (If Applicable)

<table>
<thead>
<tr>
<th>Agency Characteristic</th>
<th>Value</th>
<th>Notes</th>
<th>Reference (participant or resource when applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Affiliated Agency</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of Agency-Wide Quality Improvement Team, at time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of Agency-Wide Trainers, at time of PPS initiation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size of Overseeing Agency (number of treatment programs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>statewide), at time of PPS initiation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of staff employed by agency; please specify in FTEs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Presence of agency-level board?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Investigating Implementation Variation: Exposure Variables

### Domains

- **Trainings (UBHC BRTI 2-day 6CS, NHA 5-day CTI)**
- **6CS Implementation Team Composition**
- **6CS Implementation Team Meetings**
- **6CS Prioritized**
- **NHA Implementation Approach**

### Exposure Variables (Examples)

- Participation in trainings provided by UBHC: [Agency-and program-level leadership, direct care staff, leadership only, direct care staff only]
- Participation in implementation team: [Agency-and program-level leadership, direct care staff, leadership only, direct care staff only]
- Proportion of total team in attendance, average number of meetings during implementation, proportion of meetings in person/virtually
- Total and individual strategies prioritized
- Percent of total staff trained [90-100%; 75-89%; less than 75%]; Length of initial training sessions; Number of total training sessions; Presence of booster trainings; Training incorporated into new employee orientation
PPS ROI Evaluation: Measuring Implementation Variation across Programs

Why examine variation across programs Promising Path to Success (PPS) implementation?

As part of our Return on Investment (ROI) analysis, we recognize implementation of PPS may not occur comparably across programs or phases. Our greatest concern is that core elements of 5 Core Strategies (C5S) and/or Fulfilled Heart Approach (FHA) may not actually be implemented as anticipated. This might occur, for example, if implementation delays occur due to lack of organizational readiness for implementation (e.g., competing demands at the program). Such challenges are well-documented in implementation of evidence-based programs to promote trauma-informed systems of care.

By systematically identifying the extent of implementation variation across programs, we can make the necessary adjustments in our study design and statistical analyses to estimate the true effect of PPS.

How are measuring implementation variation?

To assess potential program variation, we are examining implementation of core elements at the end of the respective implementation phase. To do this systematically, we are conducting:

1. Review of relevant documents provided by UBHC BRTI and
2. Interview with key informants, including:
   2.1. UBHC BRTI leadership
   2.2. Out-of-home treatment program PPS leadership
   2.3. Family Support Organizations’ PPS leadership
   2.4. Care Management Organizations’ PPS

After translating and synthesizing information from these different data sources in a summary sheet, we are proposing to categorize their respective approaches through a set of quantitative measures. These measures are outlined in Table 1, column 1, with associated value sets in column 2.

What do we need you to know? In Table 1, we list proposed measures and respective values to document variation in PPS implementation. We would request that you review the measures and values and respond to the following questions:

- From your perspective, are there any measures missing that might influence whether PPS is effective and/or cost-effective? If so, which ones?

- From your perspective, would you expect any of the measures not to substantively impact whether PPS was effective if so, which ones?

---

Table 1. Measures for Program Variation in PPS implementation

<table>
<thead>
<tr>
<th>Measure</th>
<th>Value</th>
<th>Year Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>C5S Implementation</td>
<td>UBHC BRTI 1-day C5S training</td>
<td>2020</td>
</tr>
<tr>
<td>Agency level leadership attendance</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Agency CIO/Executive level leadership attendance</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Program level leadership attendance</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Program level direct care staff attendance</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>C5S Implementation Team Composition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agency level leadership in implementation team</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Program level leadership in implementation team</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Program level direct care staff in implementation team</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Work on implementation team</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>C5S Implementation Team Meetings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of total implementation team membership in attendance</td>
<td>Percentage of total team</td>
<td></td>
</tr>
<tr>
<td>Average number of implementation meetings during PPS implementation</td>
<td>Number</td>
<td></td>
</tr>
<tr>
<td>Percentage of meetings held in person during PPS implementation</td>
<td>% of total meetings conducted in-person</td>
<td></td>
</tr>
<tr>
<td>Proportion of total meetings by conference call or virtual during PPS implementation</td>
<td>% of total meetings conducted virtually</td>
<td></td>
</tr>
<tr>
<td>C5S prioritized</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of strategies prioritized during PPS implementation</td>
<td>1-4</td>
<td></td>
</tr>
<tr>
<td>Leadership centers organizational change</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Using data in decision making</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Workforce development</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Executive and network initiatives</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Inclusion of youth and family voice</td>
<td>Yes/No</td>
<td></td>
</tr>
<tr>
<td>Evidence shared</td>
<td>Yes/No</td>
<td></td>
</tr>
</tbody>
</table>

NIMI Implementation:

- Domain: 2-Day CTD (at UBHC or other)

- Agency level leadership attendance | Yes/No |
- Agency staff participation | Yes/No |
- Program level leadership attendance | Yes/No |
- Program level direct care staff attendance | Yes/No |

- Attendance at user group meetings
- Required and/or user group attendance of NIMI training | Yes/No |

Initial NIMI training

- Duration of initial NIMI training sessions | Yes/No |
- If no variation, length of initial NIMI Training sessions (in hours) | Number |
- If variation, range in length of initial NIMI Training sessions (in hours) | Number |
- Percentage of initial MST in Initial NIMI Training | Number |
- Number of initial training sessions | Number |
- Are above-mentioned sessions for UBHC Training | Yes/No |
- In UBHC Training incorporated into user group training | Yes/No |

*Responses should be checked prior to implementation only if consistent with PPS’s objectives.*
What do we need you to inform? In Table 1, we list proposed measures and respective values to document variation in PPS implementation. We would request that you review the measures and values and respond to the following questions:

- From your perspective, are there any measures missing that might influence whether PPS is effective and/or cost-effective? If so, which ones?

<table>
<thead>
<tr>
<th>Initial NHA training</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Variation in length of initial NHA training session</td>
<td>Yes/No</td>
</tr>
<tr>
<td>If no variation, length of Initial NHA Training sessions (in hours)</td>
<td>Numeric</td>
</tr>
<tr>
<td>If variation, range in length of Initial NHA Training sessions (in hours)</td>
<td>Numeric</td>
</tr>
<tr>
<td>Percent of total staff trained in NHA Training</td>
<td>Numeric</td>
</tr>
<tr>
<td>Number of total training sessions</td>
<td>Numeric</td>
</tr>
<tr>
<td>Are there booster sessions for NHA Training</td>
<td>Yes/No</td>
</tr>
<tr>
<td>Is NHA Training incorporated into new staff training</td>
<td>Yes/No</td>
</tr>
</tbody>
</table>
Investigating Implementation Variation:

Sample includes key informants from:
– UBHC BRTI Lead Coaches
– OOH treatment agency/program-level staff
– Family Support Organizations
– Care Management Organizations

PHASE 1, Participants Interviewed: n=27
PHASE 2, Participants Interviewed, n=35
PHASE 3, ongoing
## Activities (i.e., throughput)

<table>
<thead>
<tr>
<th>Activities</th>
<th>Associated costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>UBHC BRTI 2-day 6CS Leadership Trainings</td>
<td>UBHC Training Costs (e.g., facility, trainers, etc)</td>
</tr>
<tr>
<td></td>
<td>OOH agency/program attendees’ opportunity costs</td>
</tr>
<tr>
<td></td>
<td>FSO agency/program attendees opportunity costs</td>
</tr>
<tr>
<td></td>
<td>CMO agency/program attendees opportunity costs</td>
</tr>
<tr>
<td>UBHC BRTI 5-day NHA Certification Training Intensives (CTI)</td>
<td>UBHC Training Costs (e.g., facility, trainers, etc)</td>
</tr>
<tr>
<td></td>
<td>OOH program attendees opportunity costs</td>
</tr>
<tr>
<td></td>
<td>FSO program attendee opportunity costs</td>
</tr>
<tr>
<td></td>
<td>CMO agency program attendees opportunity costs</td>
</tr>
<tr>
<td>Site-specific initial NHA staff training</td>
<td>UBHC Coaches</td>
</tr>
<tr>
<td></td>
<td>OOH agency/program trainers and attendees opportunity costs</td>
</tr>
<tr>
<td>Ongoing 6CS implementation team meetings</td>
<td>Agency/program staffs’ opportunity costs</td>
</tr>
<tr>
<td>Ongoing NHA training</td>
<td>UBHC Coaches or Trained agency/program staff</td>
</tr>
<tr>
<td></td>
<td>Agency/program attendees opportunity costs</td>
</tr>
<tr>
<td>Investment in environment of care</td>
<td>Investment in sensory modulation, soothing rooms, etc.</td>
</tr>
</tbody>
</table>
Data Source: Impact and Investment Tool (OOH Treatment Programs)

- **UBHC Lead Coach Interviews** on program implementation.
- **Agency and program key informants** on program implementation.
- **Obtain agency/program representative contact information to discuss impact and investment.**
- **Agency and program informative contact** attend webinar to review investment and impact data collection tool.
- **Customize data collection tool to accommodate agency/program.**
- **Agency and program contacts** complete data collection tool.
- **Make arrangements and process completed tool at Rutgers CSHP.**
Data Sources: Impact and Investment Tool (OOH Treatment Programs)

- Incidence of s&r / enrollee-year
- Duration of s&r
- Decreased use of seclusion & restraint (s&r)
- Injuries among youths
- Injuries among staff
- Police involvement
- Property destruction
- Increased use of trauma-sensitive care
- Direct care staff instability
  - Missed days
  - Missed hours
  - Turnover
- Other youth outcome

- Savings from workflow improvements
- Medical expenditures
- Liability payouts
- Workers comp
- Facility expenditures: infrastructure, human resources

Investment
Impact
Monetized
Requested directly from OOH
Agency X - Program Y

Monthly Summary of Restraint Episodes

Below, we ask that you indicate the monthly total for each of the requested data points.

Our data request: From January 2014 onward.
* Please populate ONLY cells that are colored.

<table>
<thead>
<tr>
<th>MM-YYYY</th>
<th>Total Receiving Restraint</th>
<th>ONLY Physical</th>
<th>ONLY Mechanical</th>
<th>ONLY Drug / Chemical</th>
<th>COMBINED Physical &amp; Mechanical</th>
<th>COMBINED Physical &amp; Drug</th>
<th>COMBINED Mechanical &amp; Drug</th>
<th>COMBINED Physical &amp; Mechanical &amp; Drug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Feb-2014</td>
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<td>Mar-2014</td>
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<td>Apr-2014</td>
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<td>May-2014</td>
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<td>Jun-2014</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Jul-2014</td>
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<tr>
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</table>
Data Source: Impact and Investment Tool (OOH Treatment Programs) Tracking Programmatic Variation in Data Collection

Site-specific Tracking form

Dashboard

READ-ONLY: Do not modify
EXAMPLE:

• Received measure of:
  – Physical restraint from 2011-2017 in monthly process control charts from xx programs underneath one agency
  – Physical restraint from 2011-2017 from one implementing program
## Outcomes

<table>
<thead>
<tr>
<th>Improved service delivery system</th>
<th>Improved lives of youth &amp; family</th>
<th>Improved cost &amp; quality of care</th>
</tr>
</thead>
<tbody>
<tr>
<td>↑ Home- and community-based service/support utilization</td>
<td>↓ Behavioral, emotional, physical health problems</td>
<td>↓ Hospital (incl. psych) &amp; ED utilization</td>
</tr>
<tr>
<td>↓ OOH utilization (entries, re-entries, length of stay)</td>
<td>↓ Substance use</td>
<td>↓ Behavioral health expenditures (incl. psychotropic meds)</td>
</tr>
<tr>
<td>↓ Seclusion/restraint use at OOH settings</td>
<td>↓ Needs (functional outcomes)</td>
<td>↓ Physical health expenditures</td>
</tr>
<tr>
<td>↓ Staff turnover at OOH settings</td>
<td>↑ Strengths (functional outcomes)</td>
<td>↓ Restraint/seclusion related costs</td>
</tr>
<tr>
<td>↓ Police involvement</td>
<td>↑ Educational performance of youth</td>
<td>↓ Family/caregiver cost</td>
</tr>
<tr>
<td>↓ Entry &amp; transition in child welfare system</td>
<td>↑ Successful employment as adult</td>
<td>↓</td>
</tr>
<tr>
<td>↓ Entry in juvenile justice system</td>
<td>↓ Injuries in youth</td>
<td>↓</td>
</tr>
</tbody>
</table>

- Improved service delivery system
  - Home- and community-based service/support utilization
  - OOH utilization (entries, re-entries, length of stay)
  - Seclusion/restraint use at OOH settings
  - Staff turnover at OOH settings
  - Police involvement
  - Entry & transition in child welfare system
  - Entry in juvenile justice system

- Improved lives of youth & family
  - Behavioral, emotional, physical health problems
  - Substance use
  - Needs (functional outcomes)
  - Strengths (functional outcomes)
  - Educational performance of youth
  - Successful employment as adult
  - Injuries in youth

- Improved cost & quality of care
  - Hospital (incl. psych) & ED utilization
  - Behavioral health expenditures (incl. psychotropic meds)
  - Physical health expenditures
  - Restraint/seclusion related costs
  - Family/caregiver cost

- Improved service delivery system
  - Improved lives of youth & family
  - Improved cost & quality of care
Outcomes: Improved Service Delivery System

<table>
<thead>
<tr>
<th>Domain</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased utilization of home-based services/support**</td>
<td>Medicaid, CYBER</td>
</tr>
<tr>
<td>Increased utilization of community-based services/supports**</td>
<td>Medicaid, CYBER</td>
</tr>
<tr>
<td>Decreased OOH utilization: entries</td>
<td>Medicaid, CYBER</td>
</tr>
<tr>
<td>Decreased OOH utilization: re-entries</td>
<td>Medicaid, CYBER</td>
</tr>
<tr>
<td>Decreased OOH utilization: length of stays</td>
<td>Medicaid, CYBER</td>
</tr>
<tr>
<td>Decreased use of seclusion or restraint: # episodes*</td>
<td>OOH</td>
</tr>
<tr>
<td>Decreased use of seclusion or restraint: duration*</td>
<td>OOH</td>
</tr>
<tr>
<td>Decreased staff turnover at OOH</td>
<td>OOH</td>
</tr>
<tr>
<td>Decreased police involvement*</td>
<td>OOH</td>
</tr>
<tr>
<td>Decreased entry / transition into child welfare system</td>
<td>SPIRIT, unlinked</td>
</tr>
<tr>
<td>Decreased entry / re-entry into juvenile justice system</td>
<td>FACTS, unlinked/ CYBER</td>
</tr>
<tr>
<td>Domain</td>
<td>Data Source</td>
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<td>-----------------------------------------------------------------------</td>
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<tr>
<td>Decreased behavioral and emotional health problems (including re-traumatization)</td>
<td>CYBER</td>
</tr>
<tr>
<td>Decreased physical health problems</td>
<td>CYBER</td>
</tr>
<tr>
<td>Decreased substance use</td>
<td>CYBER</td>
</tr>
<tr>
<td>Decreased needs (functional outcomes)</td>
<td>CYBER</td>
</tr>
<tr>
<td>Increased strengths (functional outcomes)</td>
<td>CYBER</td>
</tr>
<tr>
<td>Improved educational performance of youth (e.g., academic achievement; school attendance; school behavior)</td>
<td>CYBER</td>
</tr>
<tr>
<td>Decreased incidence of injuries in youth due to restraint techniques</td>
<td>OOH</td>
</tr>
</tbody>
</table>
## Outcomes: Improved Costs & Quality

<table>
<thead>
<tr>
<th>Domain</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality of Care</strong></td>
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<tr>
<td>Decreased hospital (including psych) admissions</td>
<td>Medicaid</td>
</tr>
<tr>
<td>Decreased ED visits</td>
<td>Medicaid</td>
</tr>
<tr>
<td>Decreased behavioral health expenditures (short- and long-term)</td>
<td>Medicaid, CYBER</td>
</tr>
<tr>
<td>Decreased use of psychotropic meds</td>
<td>Medicaid</td>
</tr>
<tr>
<td>Decreased physical health expenditures (short- and long-term)</td>
<td>Medicaid, CYBER</td>
</tr>
<tr>
<td>Decreased seclusion/restraint related costs: Human resource burden</td>
<td>OOH</td>
</tr>
<tr>
<td>Decreased seclusion/restraint related costs: Staff injuries and related expenditures</td>
<td>OOH</td>
</tr>
<tr>
<td>Decreased risk of facility liability payout</td>
<td>OOH</td>
</tr>
<tr>
<td><strong>Medicaid/Children’s Systems of Care Spending</strong></td>
<td></td>
</tr>
<tr>
<td>Mean raw spending and total enrollment adjusted spending</td>
<td>Medicaid/CYBER</td>
</tr>
<tr>
<td>Mean spending for inpatient hospital, outpatient, physician, home health, pharmacy, mobile spending and other service utilization</td>
<td>Medicaid/CYBER</td>
</tr>
<tr>
<td>Mean spending on mental health related pharmacy (e.g. psychotropic medication) and psychiatric inpatient and outpatient</td>
<td>Medicaid</td>
</tr>
</tbody>
</table>
Motivating Research Questions:

1. What is the trend (marginal/population-average) in the rate of physical restraint usage during the pre-intervention period (July 2012-December 2015) among out-of-home treatment programs exposed to PPS and comparison group programs?

2. Does Promising Path to Success reduce the rate of physical restraint usage among exposed programs compared to programs that did not receive PPS?
Study Methods

Data Sources:

1. Semi-structured interviews conducted with Coaches from the Rutgers Behavioral Research Training Institute and out-of-home treatment program staff to identify program characteristics and implementation approach.

2. A NJ OOH Treatment Agency provided monthly reports on crisis hold counts (i.e. physical restraint episodes) from July 2012-May 2017 for programs that operate under them.
Study Methods Cont.

**STUDY DESIGN**

Exposed:
- 2012
- 2015
- 2016: PPS Implemented
- 2017

Comparison:
- Analysis 1: Assess trends in pre-PPS period
- Analysis 2: Assess impact of PPS

*******Analysis 2: Assess impact of PPS*******
Measures of Interest

- **Exposure of interest**: binary variable indicating exposure to PPS (coded 0 for “comparison” and 1 for “exposed”)

- **Exposure group**: 2 programs within agency that received PPS in Jan 2016

- **Comparison group**: 9 programs within agency that did not receive PPS

- **Outcome measure**: Crisis hold counts/month (i.e. rate of physical restraint episodes)

- **Other covariates**: Gender, age, no. beds (in order to control for the varying sizes of the programs), treatment intensity offered by the program, and binary indicator for intervention period (coded 0 for “pre-” and 1 for “post-”)
Statistical Approach

• To answer both research questions, we used negative binomial regression to model crisis hold counts/month and GEE method with working exchangeable correlation structure (adjusting for gender, age group, no. beds, and treatment intensity)

• To answer question 2, we utilized a difference-in-difference estimation approach to assess the impact of PPS on the rate of crisis hold counts among the exposed programs compared to the comparison programs
### Main Results

<table>
<thead>
<tr>
<th>Expected number of physical restraint episodes/month (n=464)</th>
<th>Exposed to PPS</th>
<th>Not Exposed to PPS</th>
<th>(D-in-D^{a,b})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>1.282</td>
<td>2.927</td>
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<tr>
<td>Post</td>
<td>0.518</td>
<td>2.952</td>
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</tr>
<tr>
<td>(Post - Pre)</td>
<td>-0.764</td>
<td>0.025</td>
<td>-0.914&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Expected number of police calls/month (n=464)</th>
<th>Exposed to PPS</th>
<th>Not Exposed to PPS</th>
<th>(D-in-D^{a,b})</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>0.434</td>
<td>0.183</td>
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<tr>
<td>Post</td>
<td>0.147</td>
<td>0.516</td>
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</tr>
<tr>
<td>(Post - Pre)</td>
<td>-0.287</td>
<td>0.333</td>
<td>-2.119&lt;sup&gt;d&lt;/sup&gt;</td>
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<thead>
<tr>
<th>Expected number of combined staff &amp; youth injuries/month (n=464)</th>
<th>Exposed to PPS</th>
<th>Not Exposed to PPS</th>
<th>(D-in-D^{a,b})</th>
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</thead>
<tbody>
<tr>
<td>Pre</td>
<td>2.992</td>
<td>3.223</td>
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<tr>
<td>Post</td>
<td>5.324</td>
<td>3.171</td>
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<tr>
<td>(Post - Pre)</td>
<td>2.332</td>
<td>-0.052</td>
<td>0.593</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Expected number of staff sick hours/month (n=452)</th>
<th>Exposed to PPS</th>
<th>Not Exposed to PPS</th>
<th>(D-in-D^{a,b})</th>
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<tbody>
<tr>
<td>Pre</td>
<td>4.897</td>
<td>5.116</td>
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<tr>
<td>Post</td>
<td>5.397</td>
<td>5.67</td>
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<tr>
<td>(Post - Pre)</td>
<td>0.5</td>
<td>0.554</td>
<td>-0.006</td>
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![Graph showing trends in predicted count over 24 months pre and post PPS](image-url)
Study Implications & Future Directions

• Overall, results from this case study of 12 OOH programs for youth with serious behavioral and mental health diagnoses suggest that reductions in physical restraint episodes and police calls are possible and sustainable through organizational leadership and staff efforts based on trauma-informed care.

• Cost estimation based on task-process analysis and national estimate for averted restraints (LeBel & Goldstein, 2005).

Objective 3.
CONSTRUCT A LOGIC MODEL AND CONSIDER POTENTIAL COSTING APPROACHES FOR A ROI ANALYSIS WITHIN THEIR RESPECTIVE SERVICE DELIVERY SYSTEMS.
Activity

• Consider an initiative that you’ve implemented or an activity for which a return on investment would inform future decision-making.

• Complete worksheet in 15 minutes

• Discuss with neighbor

• Raise your hand if questions arise
Questions

• How was this helpful? What benefits did you see to your system of care in conducting ROI analyses?

• What challenges did you identify?

• What next steps, if any, might you take to explore opportunities to use a ROI in your system of care?
Summary

• Return on Investment Analyses are generally partial economic evaluations, not full economic evaluations.

• Critical to be clear about the decision point needing to be informed and the appropriate research question to answer it.

• Return on Investment studies can hold multiple methodological approaches and should be based on purpose of analysis, availability of data, and resources available.

• Multiple resources exist to inform your work in return on investment, see resources listed on handout.