Risk and Resilience in Children: The Science that Underlies Congregate Care Reform

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Professor, Department of Psychiatry, Johns Hopkins School of Medicine

Workshop Sessions

• The Science of Risk and Resilience
• Translating the Science into Best Practice
• Clinical Vignette Workgroups and Discussions
The Science of Risk and Resilience

Overview

• Yale CARE Program
• Introduction to Epigenetics
• Studies in Maltreated Children
• Introduction to Key Factors for Promoting Resilience
Key Concepts

- Neuronal Plasticity
- Genomic Plasticity

CARE Program
Child and Adolescent Research and Education Program

The CARE program was founded in 2001 and was dedicated to work with maltreated children and their families. The focus of the CARE program was broad and spanned from neurobiology to social policy.
The focus on neurobiology…

.. comes from preclinical (e.g. animal) and clinical studies that suggest that stress early in life can promote long-term changes in stress reactivity and brain development.

The focus on social policy …

... comes from knowledge of the problems that can occur once children enter the system which increase the likelihood of long-term mental health problems (e.g. separation from attachment figures and siblings, multiple changes in placements, congregate care, re-abuse).
Maltreated Children are at High-Risk for a Range of Psychiatric and Other Problems

- Child maltreatment associated with significant academic difficulties (e.g., special education, grade retention, lower grades)
- Children involved with child welfare at high risk for PTSD, depression, suicide, substance abuse, and more
- Children in protective services custody are grossly over-represented in psychiatric hospitals

Individuals with History of Child Abuse More Likely to Have Chronic Course of Psychopathology

- More likely to have recurrent and persistent course of illness
- Less likely to respond favorably to evidence-based treatments

Nanni, Uher, & Danese (2012)
Serotonin Transporter Gene Moderates Risk for Depression in Maltreated Children

Serotonin Transporter x BDNF Gene x Gene x Environment Interaction

PNAS:2004;101:17317-17321

Biological Psychiatry:2006: 59: 673-680
Modifying Effects of Social Support

### Maltreated Children’s Data

<table>
<thead>
<tr>
<th>5HTT Genotype</th>
<th>Depressive Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>l/l</td>
<td>High Support</td>
</tr>
<tr>
<td>l/s</td>
<td>Low Support</td>
</tr>
<tr>
<td>s/s</td>
<td></td>
</tr>
</tbody>
</table>

**BDNF-Val66Met**

**BDNF-Val66Val**

---

Moratorium on Genetics Work

- **Established August 2006 under new IRB leadership**
- **Forbidden to by State IRB to:**
  - Recruit new maltreated children
  - Collect new DNA
  - Further characterize stored DNA specimens
  - Analyze collected data without IRB approval
2/11/11 Learned Time is Running Out: Unused grant money to be returned 6/30/11

Could I get -

• Permission to analyze stored DNA specimens?
• Conduct pilot whole genome epigenetic study?
Are epigenetic mechanisms implicated in conferring risk for psychiatric and other problems among individuals maltreated as children?
The Brain and the Stress Response

- The brain produces an orchestrated response to stress
- Many of the brain areas involved in the stress response are also a part of brain circuits that regulate emotion and behavior.

Weder & Kaufman, 2010

The Stress Response
The HPA Axis

- Hippocampus (GR)
- Hypothalamus (CRH)
- Pituitary (ACTH)
- Adrenal (glucocorticoids/cortisol)
Maternal neglect in rodents

Maternal Behavior
Programs the Brain and Stress Reactivity

Kaffman & Meaney 2007

A. Kaffman, 2009
Differences in Maternal Care Associated with Behavioral Differences in Adulthood

Maternal behavior promotes long-term changes in GR gene expression in the hippocampus

Kaffman & Meaney 2007
Cross-Fostering Experiments Show Differences in Stress Reactivity and Behavior Due to Differences in Maternal Care

![Diagram showing differences in stress reactivity and behavior between offspring and foster mothers.](#)

Kaffman & Meaney 2007

Epigenetic (e.g. chemical) Modifications: How the environment (e.g. rearing) affects gene expression

- For a gene to be transcribed, DNA has to be unwound
- DNA methylation in the promoter region can silence genes by causing the DNA to stay coiled
- Rats subjected to non-optimal rearing have elevated GR gene methylation in the promoter, and therefore reduced GR gene expression – fewer glucocorticoid receptors to minimize the effects of stress!

Adapted from Taylor, 2006
Child Abuse and Epigenetic Mechanisms of Disease Risk
A Methylation Pilot Study

Sample: 96 Maltreated children
96 Community control children

Method: Illumina 450 K BeadChip
a whole genome study


Maltreated vs. Comparison Children

- Maltreated and control children had significantly different methylation values at a total of 2,868 CpG sites (p < 5.0 x 10^{-7}, all sites)
- Significant CpG sites were identified on all 23 chromosomes
- 20% of significant CpG sites in intergenic regions
Child maltreatment and other adverse childhood experiences are non-specific risk factors for multiple psychiatric disorders, and several health risk behaviors including smoking, overeating, and excessive alcohol and drug use.

Above and beyond the effect of these risk behaviors, adverse childhood experiences predict ischemic heart disease, stroke, respiratory problems, diabetes, and cancer.

Association of Adult Health Conditions by ACE Score

Biological Process Networks Associated with the Genes which are Differentially Methylated in Maltreated and Control Children

<table>
<thead>
<tr>
<th>Networks</th>
<th>pValue</th>
<th>Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>8.51E-06</td>
<td>44</td>
</tr>
<tr>
<td>Psychiatric and Substance Use Disorders</td>
<td>5.01E-05</td>
<td>51</td>
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<tr>
<td>Development_Neurogenesis_Axonal guidance</td>
<td>2.38E-03</td>
<td>32</td>
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<tr>
<td>Respiratory Disease</td>
<td>2.97E-03</td>
<td>28</td>
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<tr>
<td>Cell cycle GI-S Interleukin regulation</td>
<td>2.28E-05</td>
<td>25</td>
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<tr>
<td>Diabetes</td>
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<tr>
<td>Inflammation</td>
<td>3.10E-05</td>
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<tr>
<td>Gene Regulation</td>
<td>2.55E-04</td>
<td>31</td>
</tr>
<tr>
<td>Translation_Regulation of initiation</td>
<td>8.51E-06</td>
<td>44</td>
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Although replication is required, this study suggests that epigenetic mechanisms may be associated with risk for health problems later in life in maltreated children. This study lays the groundwork for future studies examining health and methylation measures to further characterize the role of epigenetic mechanisms in conferring risk for medical problems in individuals with histories of early adversity.
Follow-Up Study - New Cohort
Child Maltreatment and Obesity

- 168 children, 53% female, 95% European Americans
- Saliva samples were collected for DNA specimens
- Trauma was characterized using the Yale-Vermont Adversity in Childhood Scale (Y-VACS), a dimensional measure of adverse experiences that integrates data from multiple sources (e.g., parents, children, protective service records).
- Measures of waist circumference attained and height and weight to calculate the BMI.

Child Maltreatment and Obesity

- Obesity is the first medical health problem apt to be observed in children
- Strong meta-analytic support for the association between child maltreatment and obesity across the lifecycle

OR=1.36
Danese & Tan, Molecular Psychiatry, 2014, 19:544–554
Trauma Experiences Predict Indices of Obesity

<table>
<thead>
<tr>
<th>Body Mass Index</th>
<th>Wald Chi-Square</th>
<th>DF</th>
<th>Significance</th>
<th>Waist Circumference</th>
<th>Wald Chi-Square</th>
<th>DF</th>
<th>Significance</th>
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<td>Race</td>
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<td>.02</td>
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<td>Child Trauma</td>
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<td>.008</td>
<td>Child Trauma</td>
<td>6.6</td>
<td>1</td>
<td>.01</td>
</tr>
</tbody>
</table>

Methylation and Trauma Measures Together Predict BMI (N=168)

- PCK2 and GALE involved in glucose metabolism; CXCL10 correlates significantly with measures of visceral fat area in obese children; BCAT1 identified as a candidate risk gene for obesity; PRDM16 is involved in the differentiation of brown adipose tissue; OSBPL9 encodes a group of intracellular lipid receptors; MADD implicated in type 2 diabetes; PXDN deletions associated with early onset obesity.
Replicated Findings: Methylation and Trauma Measures Together Predict BMI

<table>
<thead>
<tr>
<th>ID</th>
<th>Gene Symbol</th>
<th>Original Cohort (N=168)</th>
<th>Replication Cohort (N=74)</th>
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<tbody>
<tr>
<td>eg10264579</td>
<td>PCK2</td>
<td>7.53E-09 ns p-value</td>
<td>0.003 .02 ns p-value</td>
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<tr>
<td>eg16110788</td>
<td>HIDI</td>
<td>4.79E-08 ns p-value</td>
<td>0.03 .03 ns p-value</td>
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<tr>
<td>eg26103104</td>
<td>GALE</td>
<td>4.81E-07 ns p-value</td>
<td>0.02 .03 ns p-value</td>
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<tr>
<td>eg22806444</td>
<td>HIDI</td>
<td>ns ns 1.94E-08 p-value</td>
<td>0.02 .04 ns p-value</td>
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<tr>
<td>eg26737766</td>
<td>GALE</td>
<td>ns ns 2.75E-07 p-value</td>
<td>.11 .04 .066 + p-value</td>
</tr>
</tbody>
</table>

Legend. The covariates age, sex, race, cell type (CD14, CD34, buccal), and the first three principal components to account for population stratification were included in all analyses.

*PCK2* encodes for an enzyme in the mitochondria involved in glucose metabolism.

*HIDI* associated with body fat mass regulation, preadipocyte number and adipocyte size in rats.

*GALE* gene encodes UDP-galactose-4-epimerase which catalyzes two distinct but analogous reactions with important metabolic consequences.

New Grant: Social adversities, epigenetics, and the obesity epidemic

- Recruit 470 high risk women in the third trimester of pregnancy and follow mothers and infants through the first two years of life
Bucharest Early Intervention Project

- Largest longitudinal study of institutionalized children less than 2 years old ever conducted
- First randomized controlled trial of foster care as an intervention for institutionalization in abandoned infants and toddlers in Bucharest, Romania

http://www.bucharestearlyinterventionproject.org
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- 136 infants aged 6 to 30 months were randomly assigned to a high-quality foster care intervention or continued institutional care
- A control group of never institutionalized children also included in the study
- Children were followed through age 12 and those in the intervention group showed improved brain activity (EEG), attachment, internalizing symptoms, language and some measures of cognition

Key Findings

- Language deficits in particular are not well explained by existing models and appear better explained by the newly proposed theory of neglect as a violation of species-expectant experience
- Most neural and developmental consequences of deprivation are not permanent but are amenable to intervention due to neuroplasticity
Epigenetic modifications are frequently long-lasting, but they are not necessarily permanent.
The concept that experiences early in development during limited critical periods could lead to **permanent** changes in brain development was strongly influenced by Wiesel and Hubel’s classic experiments on monocular deprivation.

**Emerging Findings – Negative Effects can be Reversed**

**NEW DATA:** Ocular dominance changes due to epigenetic mechanisms. Normal visual acuity and ocular dominance can be restored via pharmacological and environmental interventions. Visual deprivation early in life need not lead to permanent changes in vision and brain structure.
Promoting Resilience in Maltreated Children: Tipping the Scale in Favor of Positive Outcomes

Outcomes

Optimal ‘foster care’ reverses HPA axis and behavioral changes associated with early adversity

- HPA axis and other changes associated with early adversity are not permanent
- The quality of the subsequent caregiving environment can modify effects
- Stress reactivity of deprived rats provided optimal ‘foster care’ comparable to ideally reared animals

Huot, Plotsky, et al, 2004
Effects of an Attachment-based Intervention on Cortisol of Infants in Foster Care

- Randomized controlled trial (ABC vs. DEF)
- Stress reactivity assessed in laboratory strange situation paradigm
- Post-intervention: Cortisol secretion of infants that participated in ABC intervention comparable to non-maltreated controls
- 3-Year Follow-up: HPA axis gains retained (Bernard, Hostinar, Dozier, 2015)

Positive Parenting Reduces Impact of Poverty on Brain Development

Positive parenting moderates the impact of poverty on brain development in key areas involved in emotion regulation and executive function (e.g., dorsal PFC, orbital PFC, amygdala)

Whittle et al., JAMA Pediatrics, 2017
Enrichment can reverse the neurobiological and behavioral effects associated with early adversity

- Rats provided high-LG and low-LG (neglectful) parenting as infants, provided standard or enriched environments as early adolescents
- The enriched environment (e.g., cognitive and physically challenging experiences) reversed gene expression changes in the hippocampus associated with fearful and non-adaptive behavior.
Mental Health Outcomes of Casey and Public Foster Care Young Adult Alumni

- Casey youth provided multiple enrichment opportunities (e.g., counseling, tutoring, summer camps)
- Enriched foster care associated with significantly better physical and mental health outcomes

Kessler et al., 2008

Rates of anxiety disorders (e.g., PTSD) in both groups is elevated compared to community controls

- Enrolls freshman bottom 25% of their class
- Matches students with a team of 5 volunteers
- Customizes support for each child
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92% of students who have been in Thread for 5 years have graduated high school
90% of students who have been in Thread for 5 years have been accepted to college
80% of student alumni have completed a 4 or 2 year degree or certificate program
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Musical instrument playing was not only associated with more rapid cortical thickness maturation within areas implicated in motor planning and coordination, visuospatial ability, but also brain areas involved in emotion and impulse regulation.

Hudziak et al., JAACAP, 2014

Promoting Resilience in Maltreated Children: Tipping the Scale in Favor of Positive Outcomes

Outcomes

- Child and Parent Services
- Attachment
- Birth
- Multiple Placements
- Separation
- And Loss
- Re-Abuse

- Good
- Bad
TF-CBT with Foster Care Children

- TF-CBT associated with significantly greater improvement in PTSD and emotional and behavioral problems than TAU
- TF-CBT ½ as likely to experience placement disruption
- TF-CBT 1/10 as likely to run away

Data presented by J. Cohen 10/28/10

http://tfcbt.musc.edu/

Child Maltreatment, Anxiety, Depression, and Amygdala Response to Threat Stimuli

- Child maltreatment is associated with increased risk for depression, anxiety, and PTSD
- The presence of these disorders are associated with increased reactivity of the amygdala to threat stimuli
- Findings related to child maltreatment, depression and anxiety, and amygdala reactivity are highly replicated

Syed & Nemeroff, 2017, Chronic Stress
Changes in Amygdala Functional Connectivity with Successful TF-CBT

Cisler et al., 2016

Treatment of Parental Psychopathology

Weissman et al., *JAMA* 2006

- 151 Mother-Child Dyads; Participants in STAR*D study
- Remission of maternal depression after 3 months associated with reductions in the children’s diagnoses and symptoms.
- 11% decrease in rates of diagnoses in children of mothers whose depression remitted; 8% increase in rates of diagnoses in children of mothers whose depression did not.
**Key Concepts**

- Neuronal Plasticity
- Genomic Plasticity

**Key Factors for Resilience**

- Attachment
- Enrichment
- Child and Parent Services

**Take Home Messages From Research**

A history of early adversity need NOT lead to bad outcomes. There are many factors that can tip the scale in favor of positive outcomes for children.
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Alain Gibson
Beth Relyea
Cindy Walcott
Kara Warren

Translating the Science into Best Practice
Key Concepts

• Neuronal Plasticity
• Genomic Plasticity

Key Factors for Resilience

• Attachment
• Enrichment
• Child and Parent Services

Attachment
Consensus Statement Position

This consensus statement on group care affirms that children and adolescents have the need and right to grow up in a family with at least 1 committed, stable, and loving adult caregiver. In principle, group care should never be favored over family care. Group care should be used only when it is the least detrimental alternative, when necessary therapeutic mental health services cannot be delivered in a less restrictive setting.
UN Disability Committee recognizes groundbreaking rights for children

September 28, 2017 - Washington, DC - The United Nations Committee on the Rights of Persons with Disabilities has explicitly stated that every child has a right to grow up in a family, not in an institution or group home, in response to comments submitted to the Committee by Disability Rights International.

SAFE Homes: Is it worth the cost?
An evaluation of a group home permanency planning program for children who first enter out-of-home care

Allen D. DeSena, Robert A. Murphy, Heather Douglas-Palumbo, Gary Blau, Blandina Kelly, Sarah M. Horwitz, Joan Kaufman

Objective: To evaluate the SAFE Homes (SH) program, a short-term group care program for children between 3 and 12 years of age who enter care for the first time. The program aims to improve case outcomes by consolidating resources to facilitate assessment and treatment planning.

Results: Prior to the initiation of the SAFE Homes program, 75% of the children who entered care in the State experienced three or more placements in the first year. The outcomes of both the SH and FC cases were significantly improved over pre-SAFE Home State statistics. The FC group, however, had comparable or better outcomes on most variables examined. In addition, the total cost for out-of-home care for the children in FC was significantly less, despite the fact that the two groups spent similar amounts of time in care (average time in care: 7 months). This finding held when the total placement cost was calculated using the State reimbursement rate of $206.00 per day for SAFE Home care (SH: $20,851 ± 24,231; FC: $8,441 ± 21,126, p < .001), and a conservative SAFE Home program fee of $85.00 per day that only considered the child care and custodial staffing costs uniquely associated with the program (SH: $13,314 ± 21,718; FC: $8,441 ± 21,126, p < .001).
Congregate Care Costs More

While the SH and FC children spent a comparable time in placement, the total cost for the out-of-home care of the children who were originally placed in the SAFE Homes was twice the total out-of-home care expenditures of the children who went to traditional foster care with NO clinical benefit.

The cost of placing children in non-family based longer-term placements is estimated to be 7-10 times higher than the cost associated with family based settings (National Center for State Courts, 2017).

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Institutional Care Associated with Negative Outcomes for Children Across Multiple Domains of Functioning

- Long-term changes in stress reactivity
- Elevated rates of psychiatric disorders
- Cognitive deficits
- Improvement in some domains with move from Institution to family foster care
- The less time spent in Institutional care, the greater the developmental gains

IC = Continuous Institutional Care
IC+FC = Foster Care after Institutional Care
NIC = Never Institutionalized

Nelson, Zeanah, et al., 2007
**Group Care Increases Risk for Delinquency Dramatically**

- N=8227 (7-16 years old)
- Propensity matched sample
  
  **Sample Matched on:** Age at first placement; Race; Gender; Total number of placement changes; Placement changes related to AWOL; Placement changes related to child behavioral problems; Physical abuse as the primary reason for placement

- After accounting for all the above factors – group care increases the risk for delinquency 2.5 fold

**Residential Care is Associated with an Increased Risk for Physical Abuse**

- Youth 12-17
- Rate of physical abuse for youth in residential care twice the rate of youth in foster care and approximately 3 times the rate of youth in the general population
Positive Attachment Relationships Ameliorate the Risk for Depression Associated with Child Abuse and Genetic Vulnerability

Maltreated Children’s Data  
Kaufman et al., 2006

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Whittle et al., JAMA Pediatrics, 2017
Albert Solnit, MD

“… All the best professionals, does not one good parent make …”

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Bredy et al., 2003
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Hudziak et al., JAACAP, 2014

Neural Plasticity following Mindfulness Intervention

• RCT – Mindfulness vs Shared Reading & Learning
• Mindfulness intervention associated with increased dIPFC activation during emotion inhibitory control task
• dIPFC key structure in top-down executive control

Allen et al., J Neuroscience, 2012
Mental Health Outcomes of Casey and Public Foster Care Young Adult Alumni

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Kessler et al., 2008

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<th>80%</th>
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</tr>
</tbody>
</table>
College Tuition Waiver

Policy for Wards: The Connecticut Department of Children and Families (DCF) shall pay higher education expenses for tuition, fees, room and board, books, tutoring and health care remaining after calculating educational grants and scholarship awards, until the young adult’s twenty-third (23rd) birthday.

Policy for Children Adopted from DCF: The Department will provide financial assistance to youth who were adopted through the Department’s foster care program by the youth’s eighteenth (18th) birthday and who plan to attend an accredited college, university, or institution of higher learning upon completion of their high school education. The adoption must have taken place after December 31, 2004.

Child and Parent Services

*Images and logos related to child and parent services are included.*
Trauma Focused Cognitive Behavioral Therapy (TF-CBT)

- Strongest evidenced based treatment (3-21)
- Targets PTSD and other trauma symptoms
- Adaptations to address traumatic grief
- PRACTICE components
  - Psychoeducation
  - Relaxation
  - Cognitive coping
  - Trauma narrative
  - In-vivo mastery of trauma reminders
  - Enhancing safety (https://tfcbt.musc.edu)

TF-CBT with Foster Care Children

- TF-CBT associated with significantly greater improvement in PTSD and emotional and behavioral problems than TAU
- TF-CBT ½ as likely to experience placement disruption
- TF-CBT 1/10 as likely to run away

Data presented by J. Cohen 10/28/10

http://tfcbt.musc.edu/
TF-CBT Effectively Targets Sexual Acting-out Behaviors

- TF-CBT effective tx for children with sexual abuse histories and sexual acting out behaviors
- 6 children in TAU group removed from study due to persistent sexual inappropriate touching of other vs 0 children in TF-CBT

Cohen & Mannarino, 1996

Changes in Amygdala Functional Connectivity with Successful TF-CBT

Cisler et al., 2016
Dialectical Behavior Therapy (DBT)

- Trauma informed, promising practice for youth ages 12-18 who have a history of complex trauma exposure
- Utilizes DBT - an evidenced based treatment
- Treats adolescents who are engaging in tension reduction behaviors such as substance abuse, self-injurious behaviors, high-risk sexual behaviors, or elopement

Multiple Effective Outpatient Treatments for Adolescent Substance Misuse

- Motivational Interviewing (with other interventions)
- Cognitive Behavioral Interventions
- Family System Interventions
- 12-Step Facilitation Programs
- DBT-S for youth with self-injurious and other high risk behaviors and substance misuse

Treatments can effectively be provided in outpatient and day treatment settings
Multisystemic Therapy (MST)

- MST home-based model that targets individual, family, peer, school, and neighborhood factors that increase risk for criminal behavior
- Effective with juvenile sex offenders and youth with a broad range of delinquent behaviors
- Associated with decreased rates of criminal behavior in the parents and siblings of youth treated with MST

Multidimensional Treatment Foster Care (MTFC)

- Family-based intervention for delinquent youth with foster parents trained to implement behavioral reinforcements
- MTFC effective with a range of delinquent behaviors – MTFC vs Group Care associated with lower rates of recidivism, and fewer subsequent days in detention centers
- In long-term follow-up MTFC associated with lower rates of drug use and fewer pregnancies
Therapeutic Foster Care for Medically Fragile Children

- 10% foster care children medically complex or fragile (AAP)
- TFC requires interdisciplinary team – SW, RN, foster parents
- Comprehensive training
- 24/7 emergency support
- Respite Care
- Home accommodations
- Permanency Planning

Spring 2018 Hopkins to sponsor symposium on placement challenges of medically-complex children

Treatment of Parental Psychopathology

- 151 Mother-Child Dyads; Participants in STAR*D study
- Remission of maternal depression after 3 months associated with reductions in the children’s diagnoses and symptoms.
- 11% decrease in rates of diagnoses in children of mothers whose depression remitted; 8% increase in rates of diagnoses in children of mothers whose depression did not.

Weissman et al., JAMA 2006
Child Welfare and Substance Abuse

- 60%-70% child welfare cases have SUD
- 80%-90% of children who enter foster care have parents with SUD
- Among child welfare cases, parental substance abuse is associated with:
  - Higher rates of child re-victimization;
  - Longer stays in care;
  - Higher rates of termination of parental rights and child adoption

Drop off Points for Parents involved in Child Welfare Accessing Substance Abuse Services

General Accounting Office Report, 1998
Family Treatment Drug Courts (FTDC):

- First FTDC established in Reno 1994
- As of 2009, over 272 FTDC nationwide
- Modeled after drug courts in criminal justice system
- Assessments completed in court
- Recovery coaches
- Frequent drug testing
- Regular, weekly, court hearings
- Rewards, sanctions, and frequency of court hearings dependent on treatment compliance

Family Treatment Drug Courts (FTDC):

Three FTDC evaluations – one with historical controls, one with overflow controls, and one propensity matched controls

- Treatment Entry:
  FTDC > Control
  90% vs 54%
- Treatment Completion:
  FTDC > Control
  68% vs 32%
- Days in Care:
  FTDC < Control
  605 vs 1000 days

Re-entry Into Care

- FTDC > Control
  23% vs 14% (ns)
Building Stronger Families (BSF):

- Home-based model that integrates MST and RBT interventions
- PTSD interventions for parents
- 24/7 on call clinician - ~ 6-month intervention
- Frequent urine drug testing in home – 3 times per week
- Family safety plans developed with parent, CPS, and natural supports
- 87% of parents referred - engage in tx (N=54)
- 93% of parents who initiate treatment - complete treatment
- Majority of BSF cases retained home (75%) - at discharge, 86% with family
- Propensity Matched Sample Study – BSF versus TAU – BSF associated with lower rates of substantiated re-abuse at 2-year follow-up and improved parent and child well-being

FTDC vs. BSF

<table>
<thead>
<tr>
<th>Comparison of FTDC and BSF Models</th>
<th>FTDC</th>
<th>BSF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intensive case management</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Frequent urine testing</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Integrated parenting, SUD, MH services</td>
<td>Sometimes</td>
<td>Always</td>
</tr>
<tr>
<td>Location of SUD treatment</td>
<td>Office</td>
<td>Home</td>
</tr>
<tr>
<td>Frequency of judicial oversight</td>
<td>Up to weekly</td>
<td>Every six months</td>
</tr>
<tr>
<td>Out-of-home placement of children</td>
<td>Majority of cases</td>
<td>Minority of cases</td>
</tr>
</tbody>
</table>
FTDC vs. BSF

- Comparable rates of treatment engagement and treatment completion
- FTDC – 100% out-of-home placements. Durations range from 400-650 days – reunification rate 40%-70%
- FTDC – high rates of re-entry into care (23%)
- The majority of BSF cases retained safely at home (75%). At discharge, 86% with family

Promoting Resilience in Maltreated Children: Tipping the Scale in Favor of Positive Outcomes
Clinical Vignette
Workgroups and Discussions
Clinical Vignettes

Key Factors for Resilience
• Attachment
• Enrichment
• Child and Parent Services