

The Neuroscience of Traumatic Stress in Early Childhood: implications for intervention and systems

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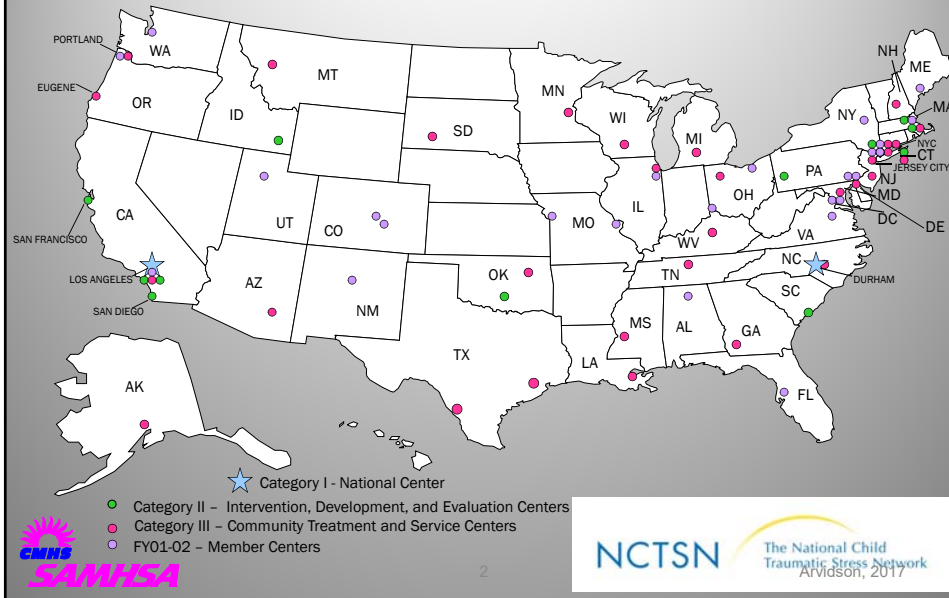
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The National Child
Traumatic Stress Network

National Child Traumatic Stress Network (NCTSN) Sites



Complex Trauma Treatment Network (CTTN)

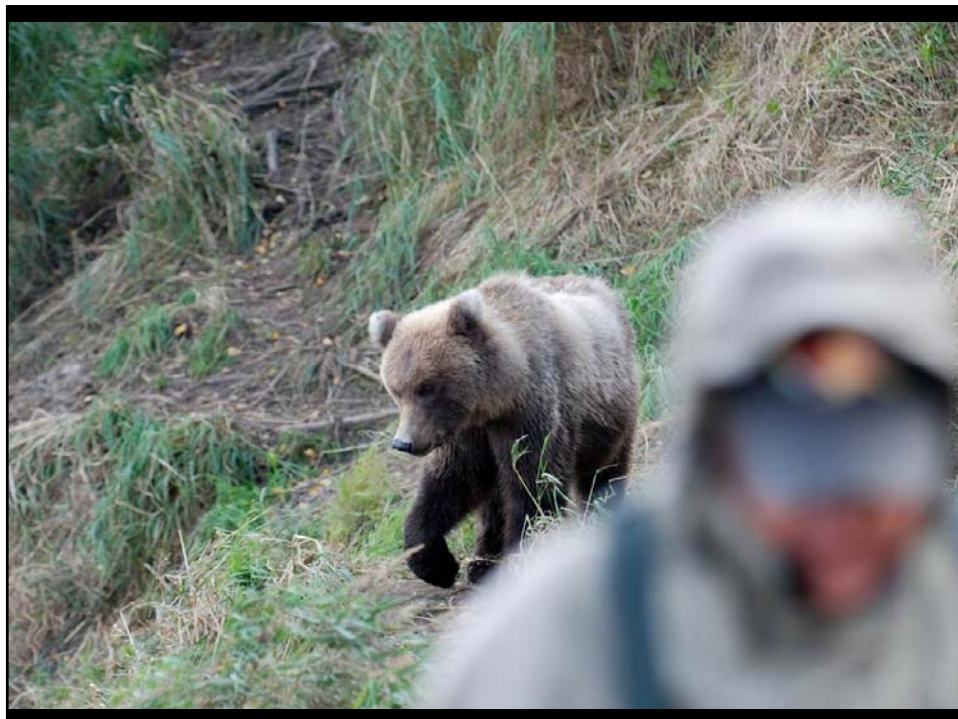


- ★ National Coordination & Training Center, The Trauma Center at Justice Resource Institute (CTTN Director: Joseph Spinazzola; Co-Director: Bessel van der Kolk; Project Coordinator, Hillary Hogden. Lead Trainers: Margaret Blaustein & Kristine Kinniburgh)
- ★ Northeast Regional Training & Technical Assistance Center, University of Connecticut (Co-Director: Julian Ford)
- ★ Midwest Regional Training & Technical Assistance Center, La Rabida Children's Hospital (Co-Director: Bradley Stolbach)
- ★ Southern Regional Training & Technical Assistance Center, DePelchin Children's Center (Co-Director: Robert Hartman)
- ★ Pacific Northwest Regional Training & Technical Assistance Center, Alaska Child Trauma Center (Co-Director: Joshua Arvidson)
- ★ Evaluation Center, Washington State University at Spokane (Evaluation PI: Christopher Blodgett, Natalie Turner.)

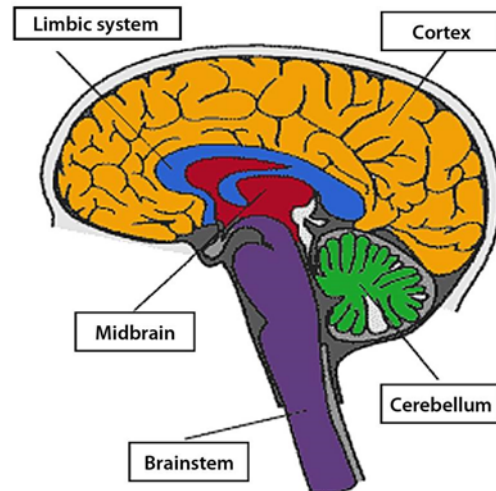
Complex Trauma-Informed (CTI) Systems of Care Initiatives

- Core Concepts
- Trainer Training
- CTI Strategic Planning
- CTI Organizational Evaluation
- Screening & Detection
- EBP Adoption & Dissemination (TARGET, ARC and SPARCS)
- Contextual Adaptation of Assessment & Treatment Materials & Resources
- Sustainability Planning

Training Faculty: Mandy Habib, Robert Abramowitz, Monique Marrow, Ibis Carrien Gonzales, Rocio Chang, Laurel Kiser, Danielle Ferrier.



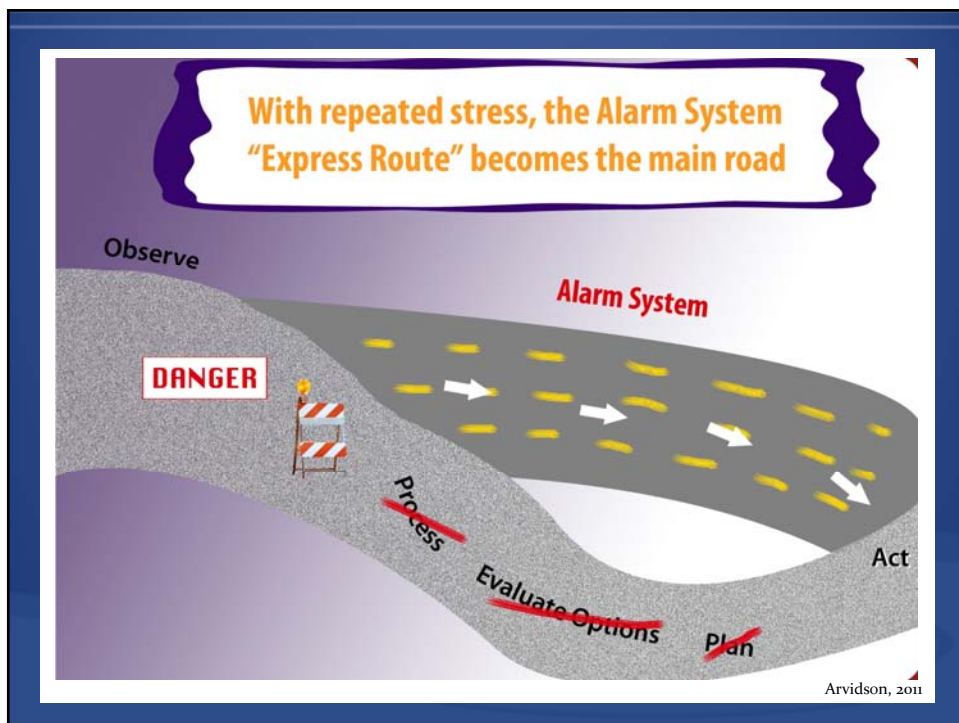
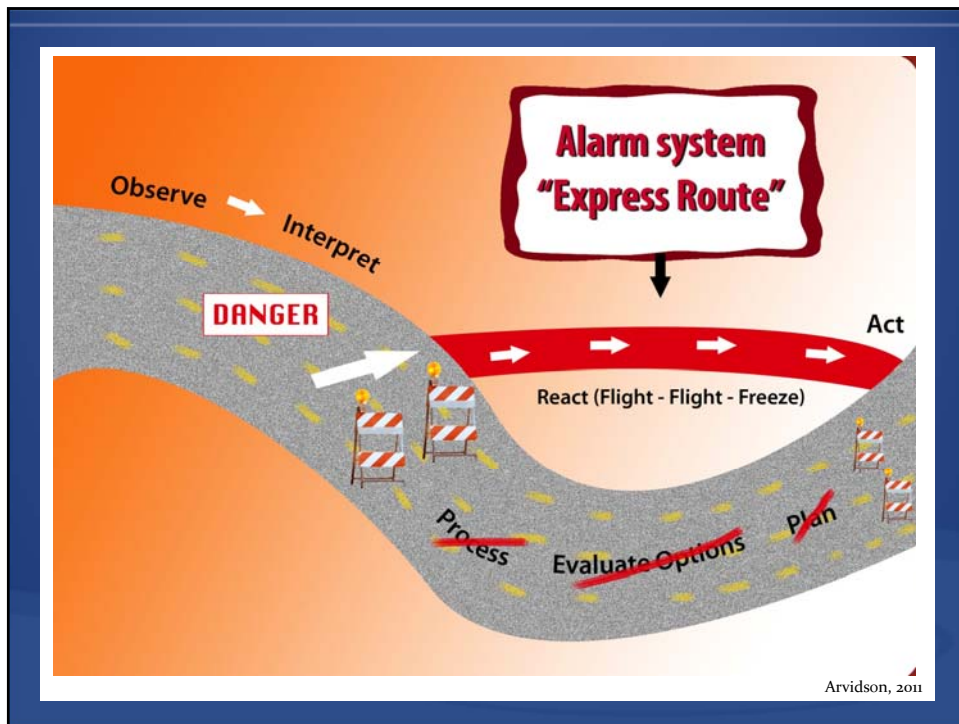
Physiology of Trauma



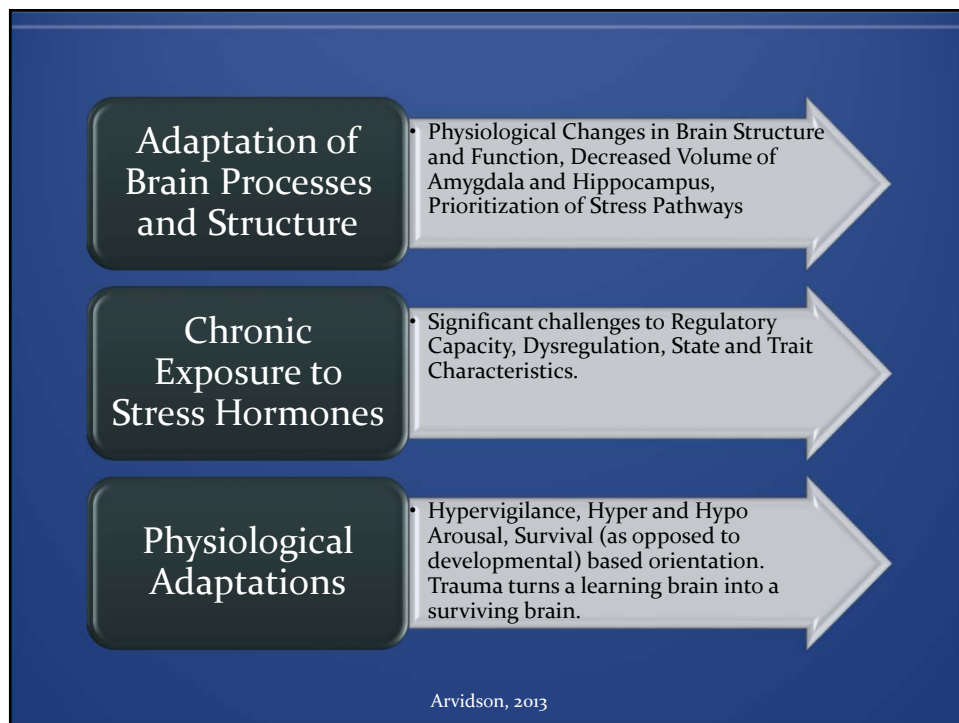
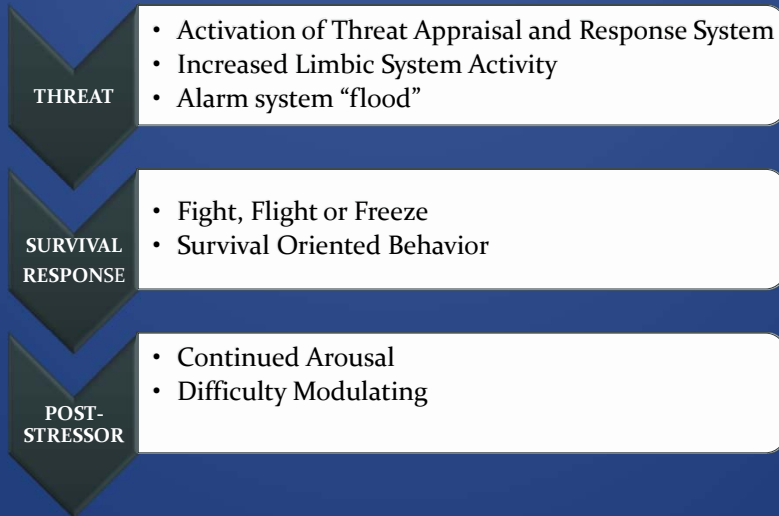
Brain process under typical conditions

Observe → Input → Interpret → Process → Evaluate Options → Plan → Act

Arvidson, 2011



Area of Scientific Advancement Physiology of the Human Stress Response



Contextualizing Trauma within the Attachment System

Attachment allows children to safely explore the world and provides a healthy model for self and others.

Attachment is the dance of the limbic systems of the child and parent.

- Allan Schore



Internal Representational Models

Bowlby model delineates formation of *Internal Representational Models*:

- Model of *SELF*
 - e.g., “I am worthy or competent”; “I am unworthy or incompetent”
- Model of *OTHER*
 - e.g., “Others are reliable or trustworthy”; “Others are unreliable or untrustworthy”
- Model of *SELF IN RELATION TO OTHER*
 - e.g., “Others will respond to my needs”; “Others will not respond to my needs”

These models form the basis (“working models”) for future relationships.

Blaustein, 2005

Areas Impacted by Complex Trauma

Physiology
and brain
development

Control
impulses and
concentrate

Safely negotiate
conflict and
differentiate
safe from unsafe

Form a positive
and cohesive
sense of self

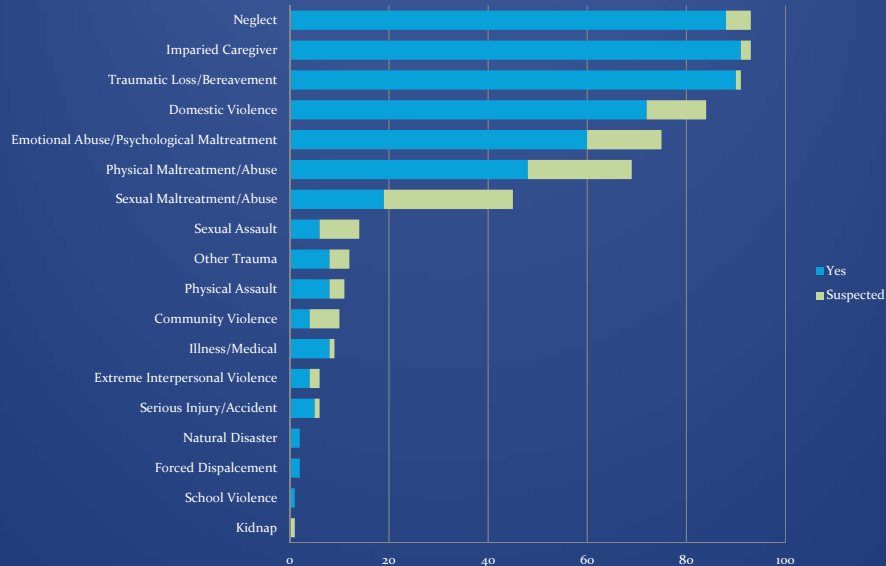
Tolerate, control
and express
emotions and
sensations

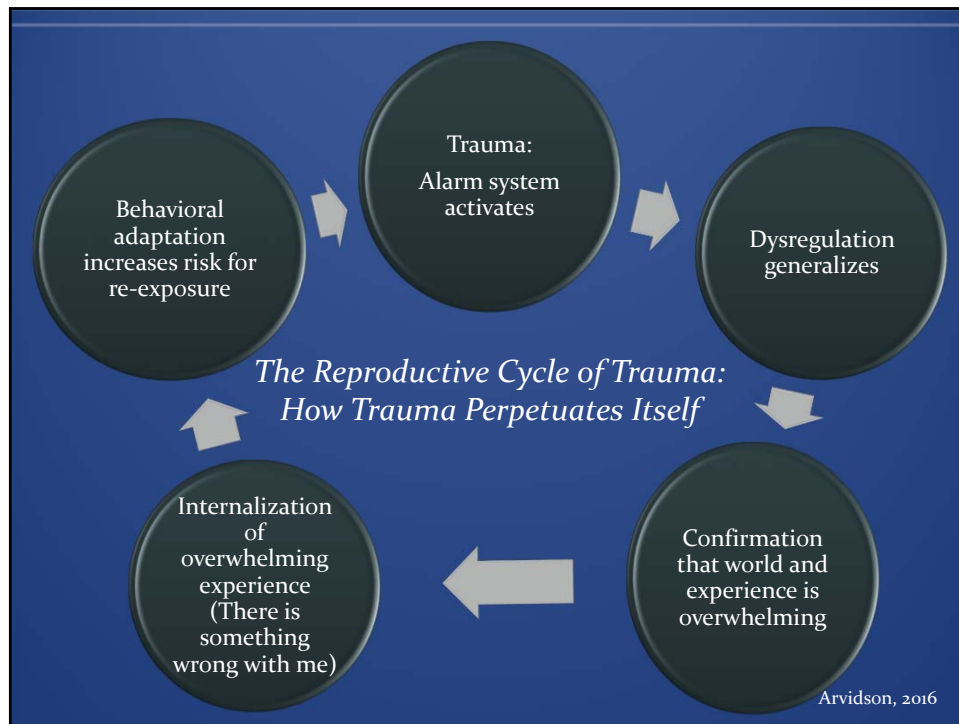
Form healthy
attachments
and social
relationships

Learn and
engage in goal-
directed
behavior

Arvidson et al, 2011, Cook et al, 2005, Kiesel et al, 2009 and Spinazzola et al, 2005

Children Served at the Alaska Child Trauma Center, 2005-2011 Types of Trauma Experienced





The fundamental problem of chronic exposure to traumatic experiences in childhood is that overwhelming stress turns a learning brain into a surviving brain.

But, the brain and the physiological impact of trauma, is only the beginning of the story. Development is the context in which the impact of childhood trauma is fully realized...

...The developmental necessities of childhood: formation of healthy attachments and social development, attentional capacity and cognitive development, mastery, competency, and regulation, (the ability to control one's body, emotions and behaviors) are compromised by chronic exposure to overwhelming stress...

...Childhood trauma can be understood, fundamentally as developmental derailment. Thus, trauma-informed care for children is about helping the child and parent “put the train of healthy development back on the tracks.”

...Trauma-informed care is about helping children and families chart new developmental trajectories that promote healthy development, build resiliency and restore functioning.

- J. Arvidson

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Treatment of Complex Trauma in Young Children: Developmental and Cultural Considerations in Application of the ARC Intervention Model

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The Attachment, Self Regulation, and Competency (ARC) Framework is a theoretically grounded, evidence-informed, promising practice used to treat complex trauma in children and adolescents. This article introduces the ARC model and describes its application with young children of diverse ethnic/cultural backgrounds involved in the child protection system due to maltreatment. Examination of the clinical application of the ARC model with this population underscores the importance of grounding child complex trauma treatment in the caregiving system. Strategies for successful clinical intervention are identified, with attention devoted to cultural and systemic resources to advance the treatment process. This article presents preliminary evidence of the effectiveness of the ARC model derived from program evaluation conducted at a community-based clinic.

Keywords: complex trauma, attachment, regulation, trauma, ARC

Early development takes place largely within the context of the caregiving relationship. The impact of trauma on infants and young children is unique because it occurs within a critical developmental period and is vastly influenced by the nature and quality of the caregiving system (Scheeringa & Zeanah, 2001). The primary attachment system provides the security and safety necessary for children to master an array of competencies including the ability to self-regulate (Schore, 2001a), develop positive relationships (Schneider, Atkinson, & Tardif, 2001), and acquire cognitive skills relevant to learning (Meias, Ferryhough, Russell, & Clark-Carter, 1998). Additionally, it provides the foundation for self and identity formation (McCarthy, 1998).

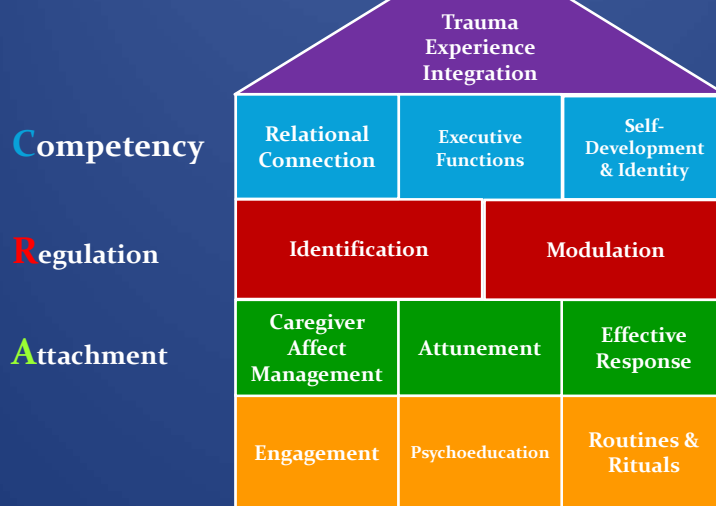
When the caregiving relationship is characterized by uncertainty, unpredictability, or fear, it affects a child's basic sense of safety within relationships and in the world (Hesse & Main, 2006). Young children's sense of themselves develops within the context of their perception and internalization of the relationship with their caregiver. If a child's perception

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Study Conditions: Complex Trauma Treatment using ARC Framework at a clinic serving predominantly child welfare involved clients.

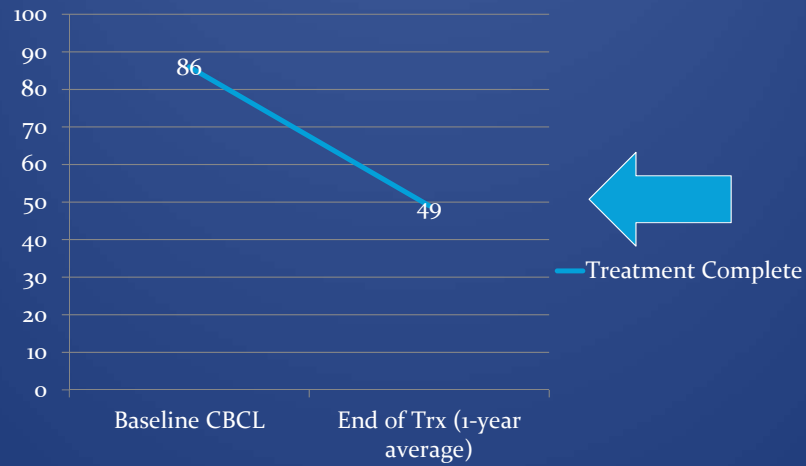


ARC Framework

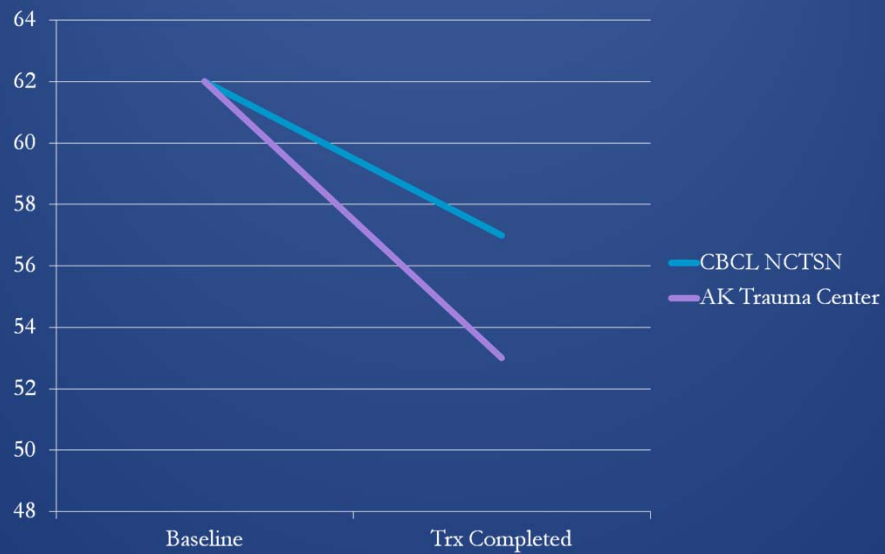


Graphic by Jeremy Karpen; Blaustein & Kinniburgh, 2010; Kinniburgh & Blaustein, 2005

Alaska Child Trauma Center
Child Trauma Clinical Outcomes Study
CBCL Score Changes with 1 – year Complex
Trauma Treatment (Percentile)



CBCL (T-Scores) at Completion of Treatment

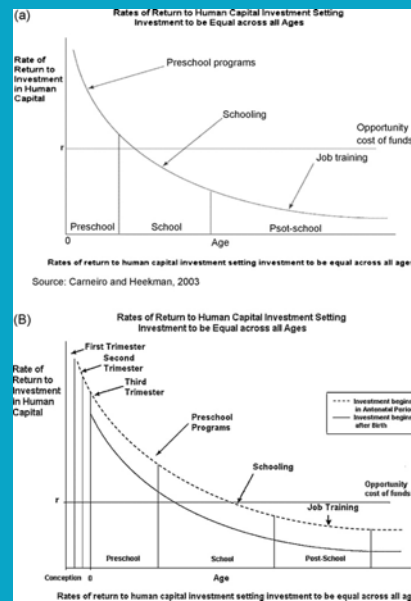


Econometrics of Early Intervention & Prevention

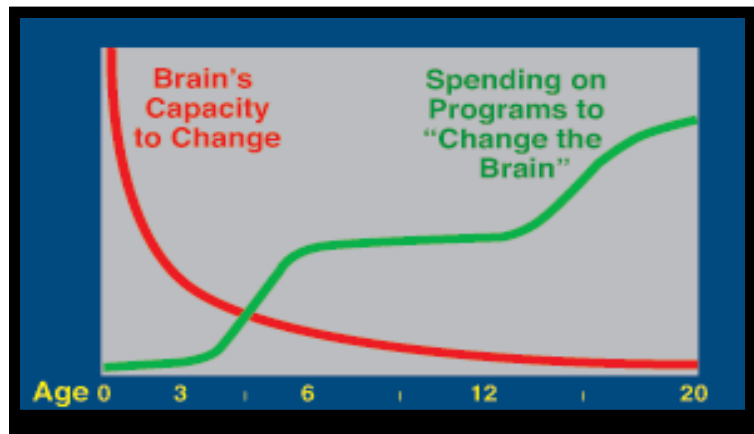
- Funding early interventions provides the largest possible return on investment

Doyle et al. (2009) Investing in Early Human Development. In: Economics and Human Biology v7:pp1-6

From, M. Hirschfeld AAPP



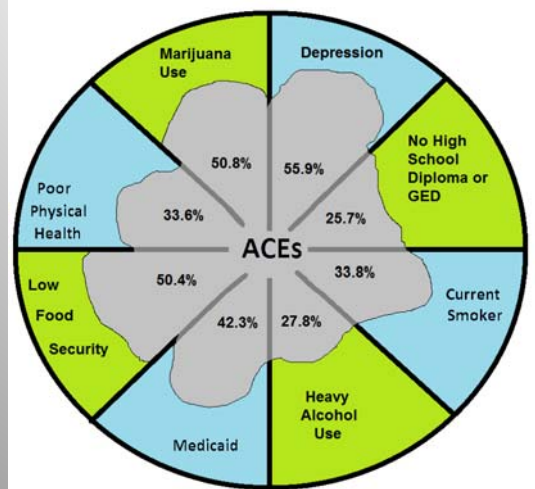
Public Investment in Children by Age



ALL ALASKA
PEDIATRIC
PARTNERSHIP

From, M. Hirschfeld, AAPP

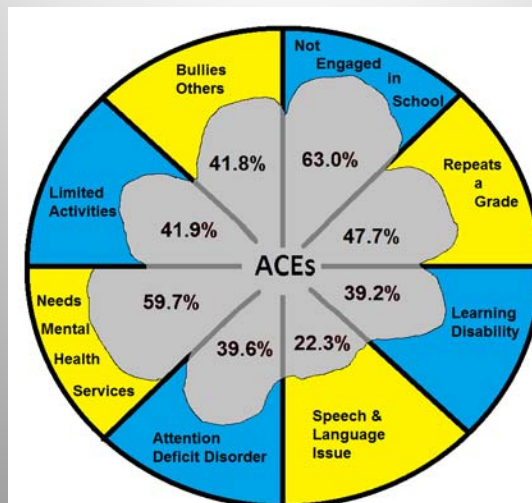
Population Attributable Fraction



Source: 2013-2015 Alaska BRFSS, Section of Chronic Disease Prevention and Health Promotion, Alaska Division of Public Health, Graphic by Alaska Mental Health Board Staff

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Population Attributable Fraction



Source: Child and Adolescent Health Management Initiative (2012), "2011-2012 National Survey of Children's Health (2012), U.S. Department of Health and Human Services, Health Resources and Services Administration. Graphics and analysis done by the Alaska Mental Health Board and Advisory Board on Alcoholism and Drug Abuse Staff

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