Addressing the Impact of Trauma on Children from Brain to Policy:
State & National Efforts to Make a Difference

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NC Psychiatric Association

September 18, 2019

Relationships of Interest

I am a full time faculty employee of Duke University School of Medicine which is a not-for profit dedicated to providing quality health care & adjunct faculty at University of NC School of Medicine for which I do not receive salary.

Grant Funding in the last year:
SAMHSA
The Duke Endowment
US Department of Defense
NC General Assembly

- *Neurobiology & developmental science*
- *Biopsychosocial impact of trauma & ACES on developing child*
- *National Policy leverage of awareness & challenge for access & quality treatments*
- *Core Concepts of childhood trauma important in trauma-informed care & treatment*
- *Evidence based treatments & tenets that are successfully being used by community providers*

Translational Science +Public Health + Policy to Clinical and Community Approaches for Trauma

Epidemiology: Child Trauma Exposure in General Population

- 8-28% sexual assault
- 9-19% physical abuse
- 38-70% witnessed serious community violence
- 1 in 10 witnessed violence by caregivers
- 1 in 5 lost family/buddy to homicide
- 9% Internet-assisted victimization
- 20-25% natural/manmade disaster

NatSCEV I , II : n > 4500
NSA : n> 4000
NCS- A: n > 6400

--Saunders & Adams, 2014 in review of nationally representative samples of youth

Preschool:

- **Ages 2-5: 12% experienced maltreatment (any form) & 21% witness to violence**

-Finkelhor, Turner, Ormrod, & Hamby (2009) NatSCEV national phone survey.

Human development expects early caregiving

--S Johnson & Amaya-Jackson, NCTSN Integrated Care Webinar, 2014

Brain Growth

Newborn 6 Year old Newborn 6 Year old

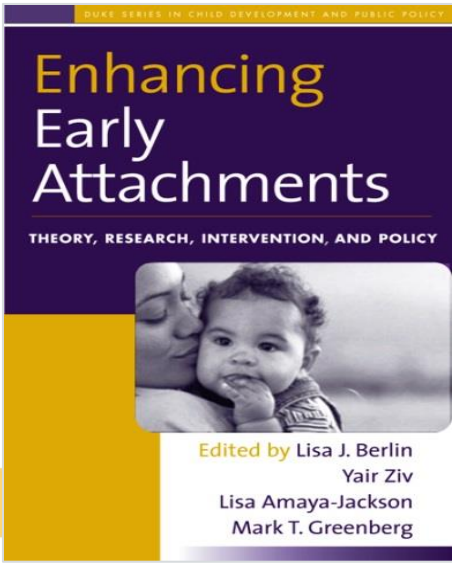
Growth of the Human Brain from birth to 20 years

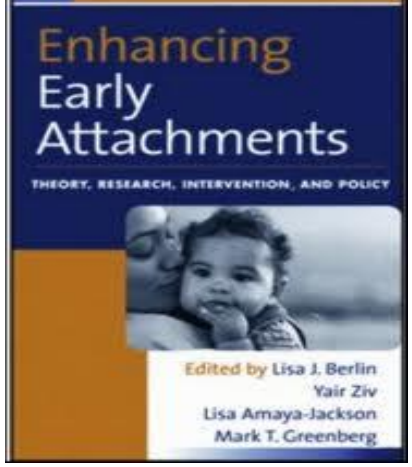
FIGURE 1.1. Growth of whole brain compared when mature weight is taken at 12.5 years and at 20 years. Note the accelerated growth in the first 2 years. (From Himwich,

Brain Growth & Experience-Dependent Development

- > ½ of neuron/glial cells 'born' will die programmed deaths during development (!)
- Only neurons w/ the right synaptic connections survive
- Environmental-stimulated neuronal activity is critical for elaboration of synaptic connections
- Childhood is a time for learning, (languages, music, motor skills) and environmental richness

-- F. Putnam, 2006 (in Berlin, Ziv, Amaya-Jackson & Greenberg)





Key features of infant social emotional development

- Communication between mothers & infants is organized around face, voice, gesture
- There is mutual & **synergistic** regulation ("a dance")
- Secure attachment is the cornerstone of early social emotional development
- Communication directly influences, and is influenced by, brain development, & emerging physiological regulation

–F. Putnam, in Enhancing Early Attachments, 2006


Can something that feels this good really help your baby's brain grow?
Yes!
Your baby needs your loving touch and more.
For information on how to get a free video and magazine, call 1-800-323-GROW.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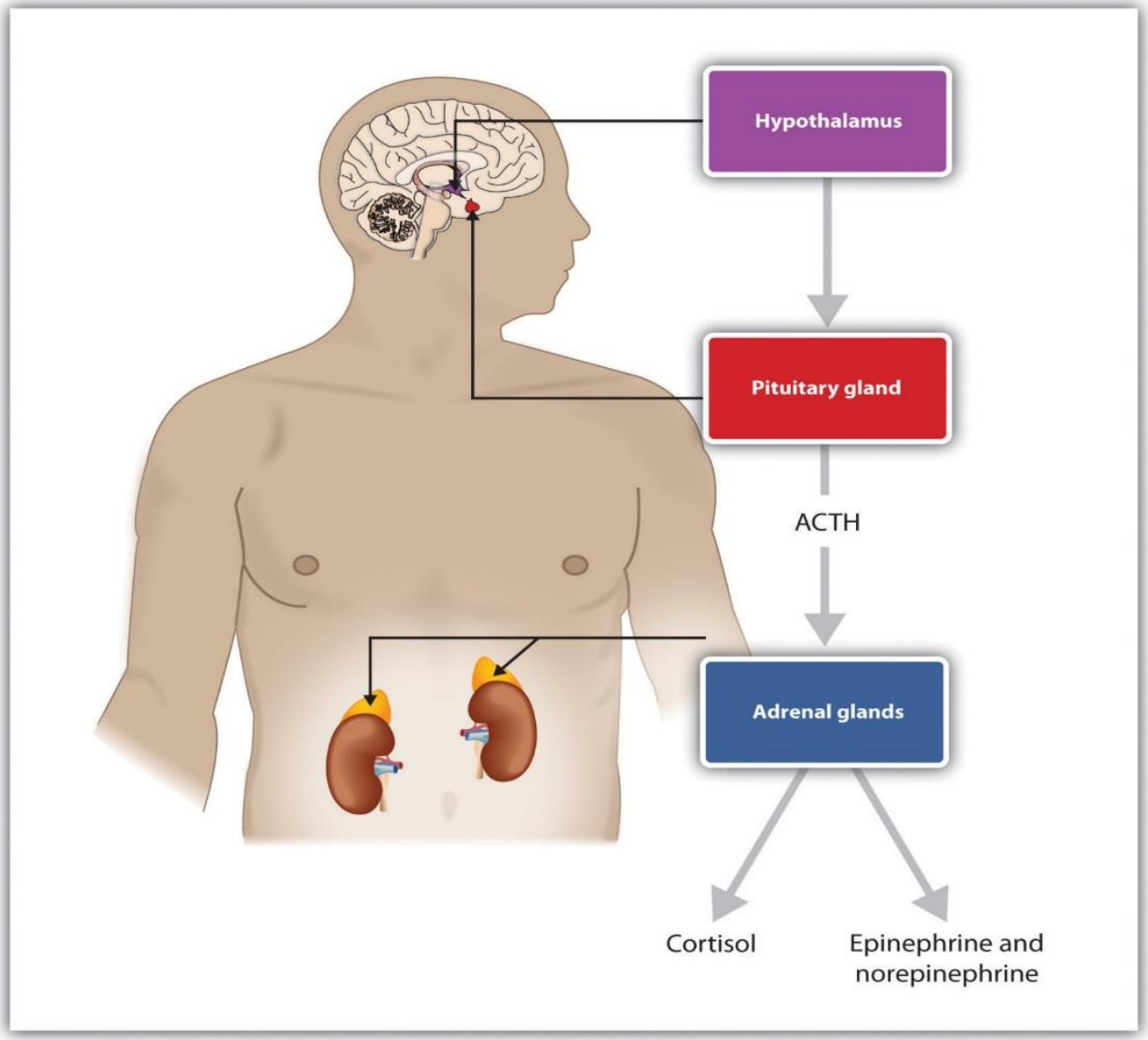
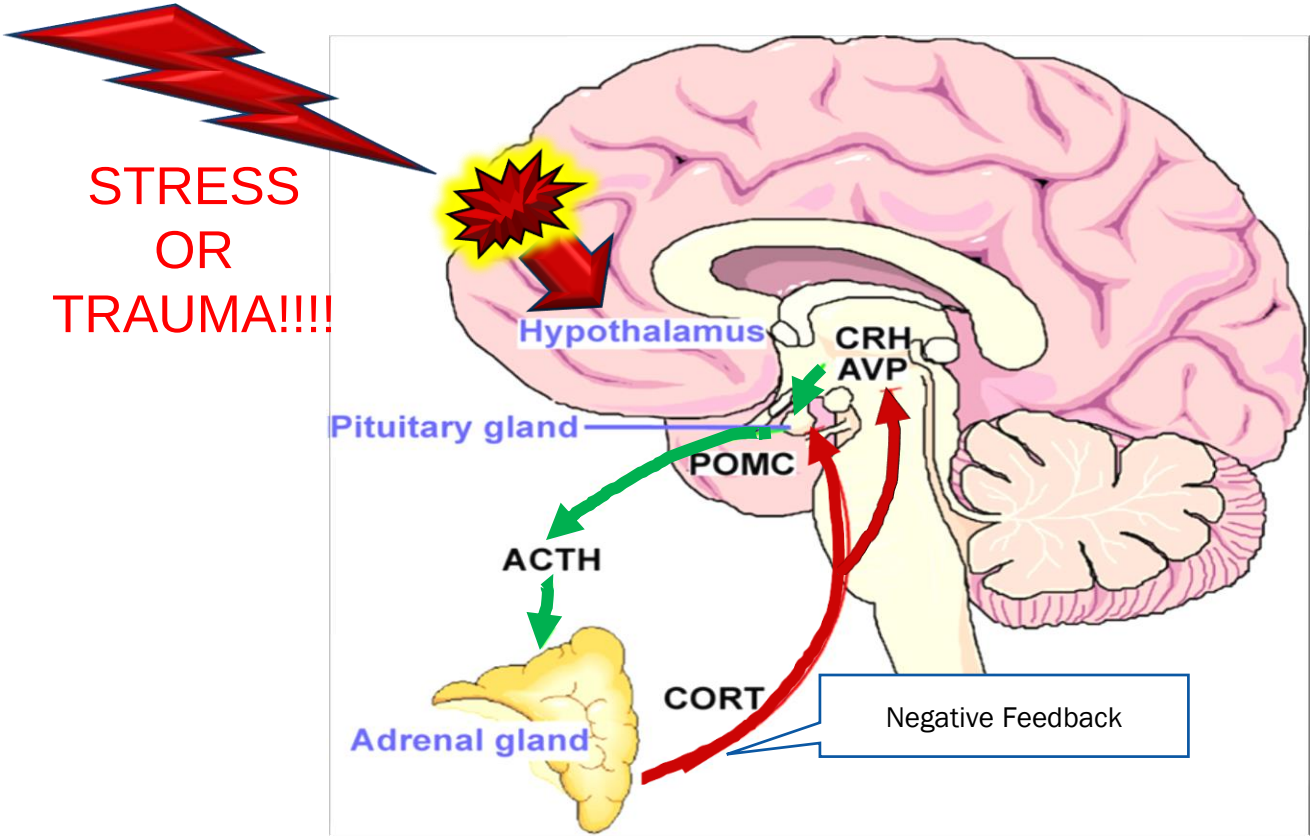
The Hypothalamic-Pituitary-Adrenal (HPA) Axis: A Critical Stress-Response System



HYPOTHALAMIC PITUITARY ADRENAL (HPA) AXIS
Response to Stress



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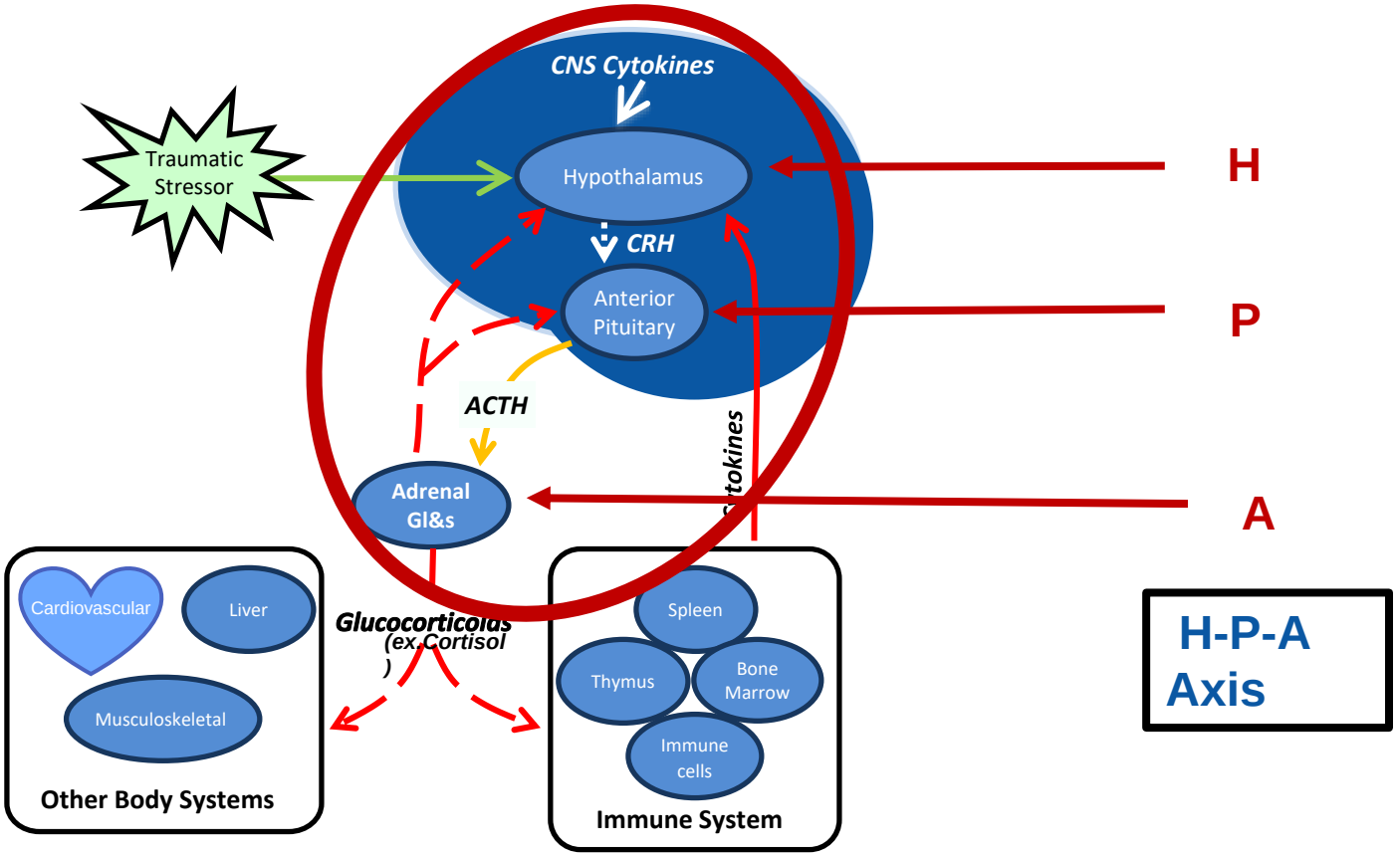
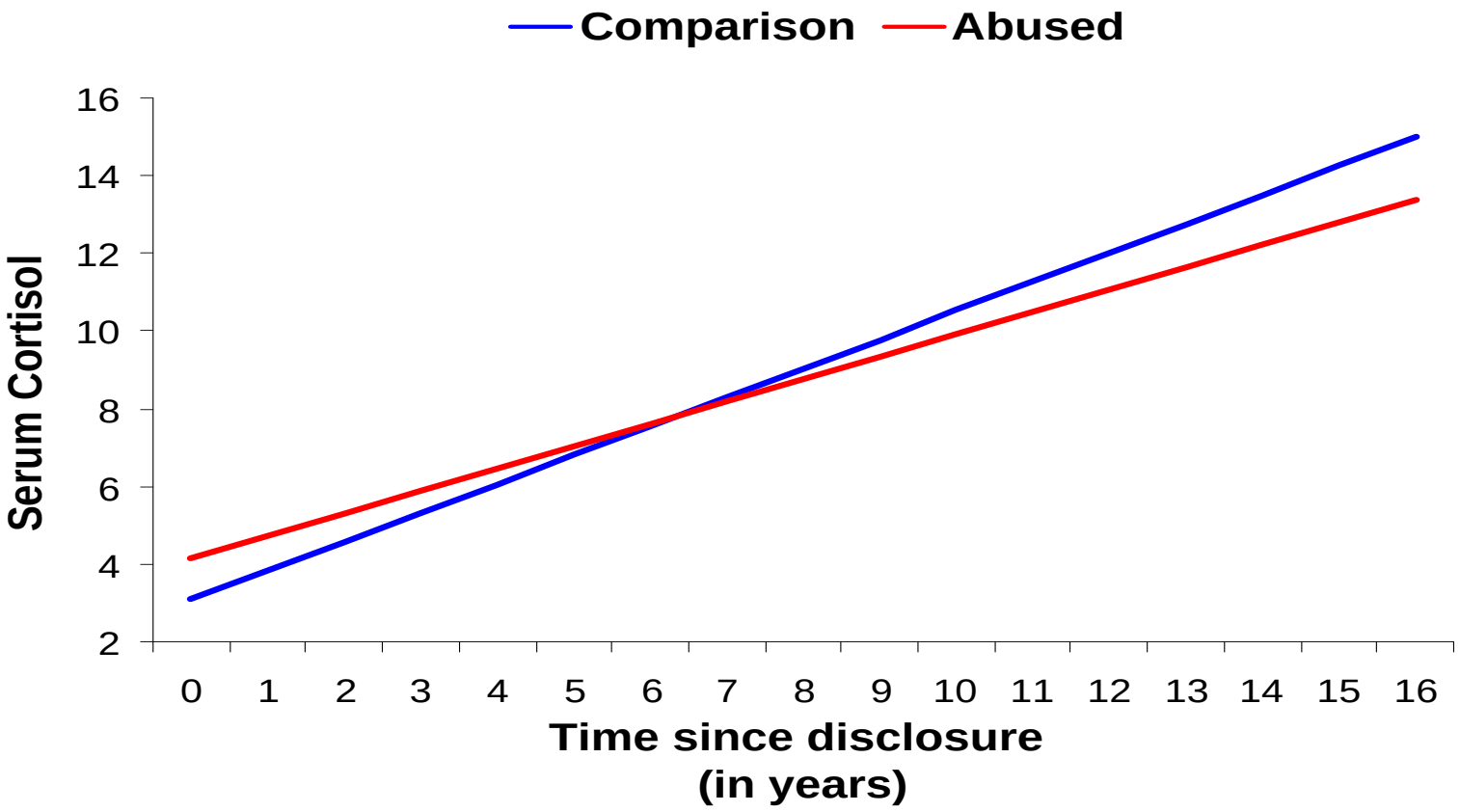
Traumatic Stress Activates Multiple Stress Response Systems*



*Johnson et al, *Pediatrics* 2013

Sexually Abused Girls have Higher Levels of Cortisol in Childhood & Lower Levels in Adolescence & Adulthood



HLM Model:

Group x Intercept

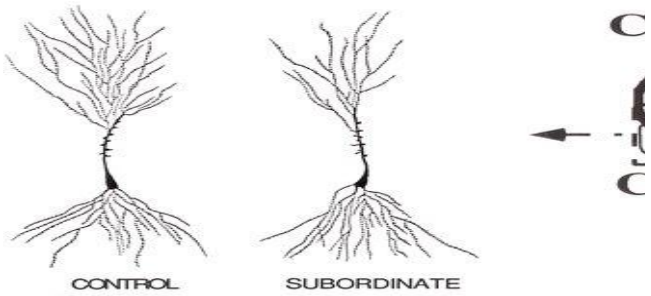
Group x Linear Slope

$P < .05$

Trickett, Putnam et al., (2010) *Development & Psychopathology*, 22, 165-175.

High Levels of Cortisol (Stress Hormone) & Brain Damage

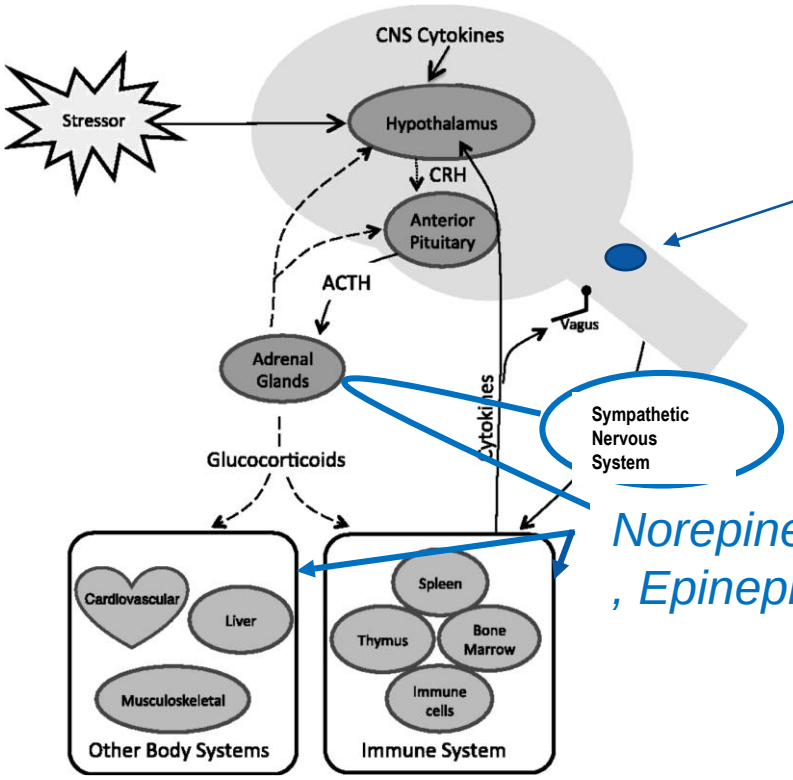
- Loss of dendritic branching in the brain
- Alterations in synaptic structures of neuron cells
- ***"Toxic to the hippocampus"***
  - Due to inhibition of neuronal regeneration (CA3 region) & reduced branching



Fuchs, Uno, Flu ¨gge 1995 Brain Res

Hippocampus – important for Learning & Memory

Relationship between Catecholamines (Norepinephrine & Epinephrine) - to HPA axis, & other body systems



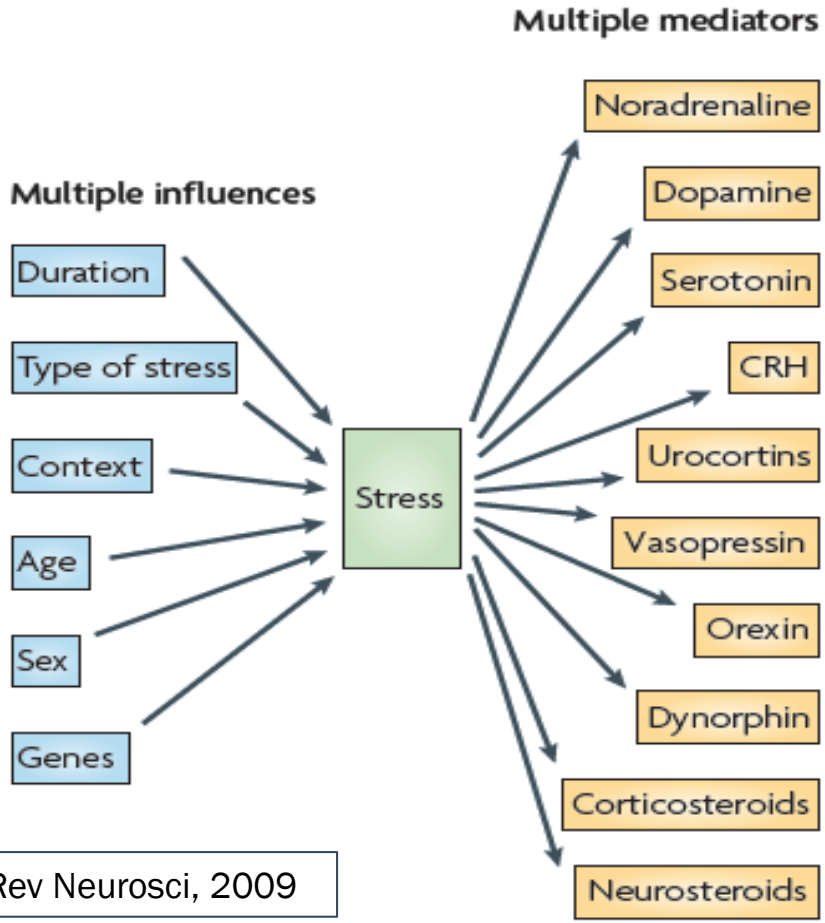
Locus Ceruleus

Norepinephrine , Epinephrine

"FLIGHT OR FIGHT"

Adapted Sara B. Johnson et al. Pediatrics 2013;131:319-327

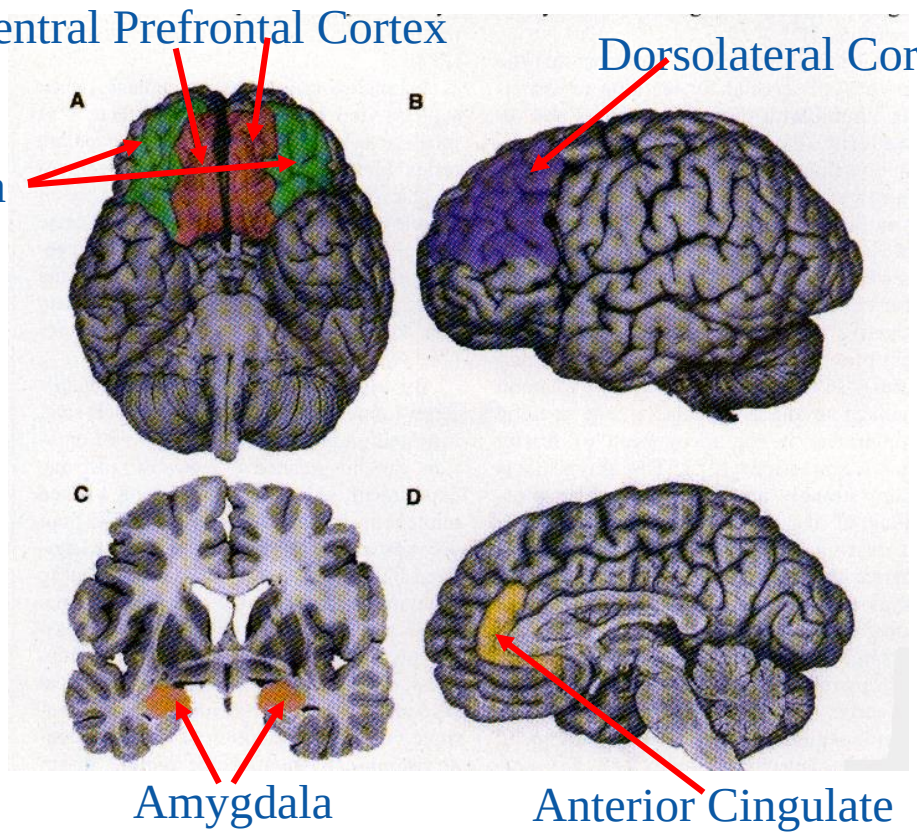
Multiple influences, multiple neurotransmitter / neuro-hormone mediators acting on the Body



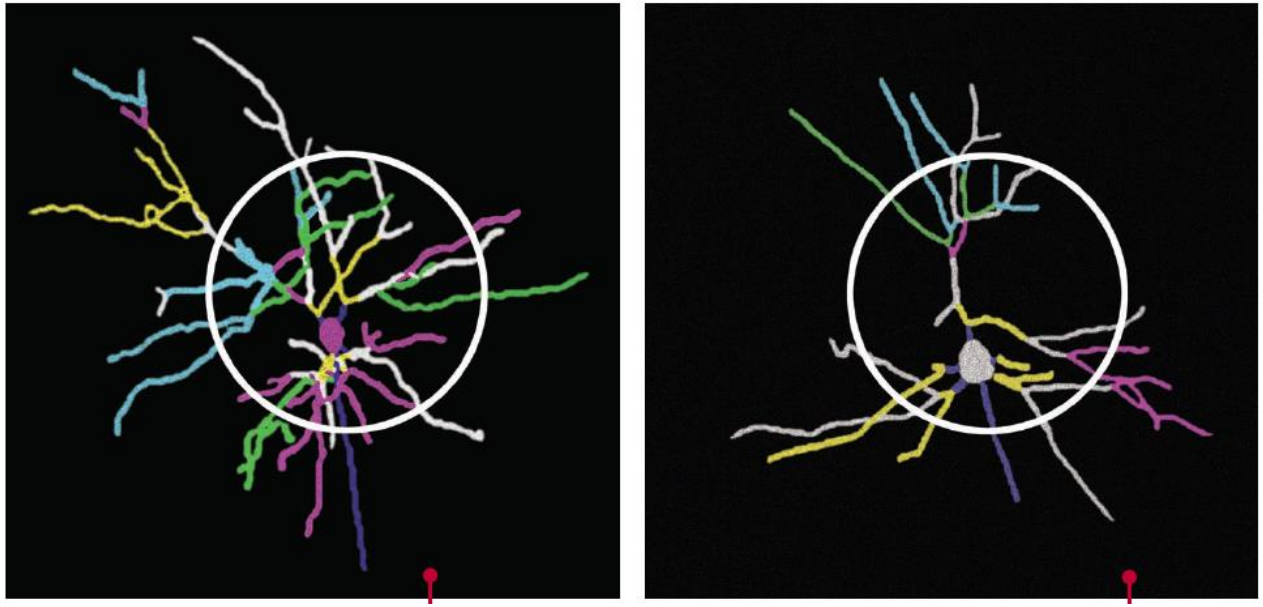
Joëls & Baram Nat Rev Neurosci, 2009

S Johnson & Amaya-Jackson, NCTSN Integrated Care Webinar, 2014

Trauma Impacts Key Structures Underlying Emotional Regulation



Traumatic Stress Reduces Neuronal Branching*



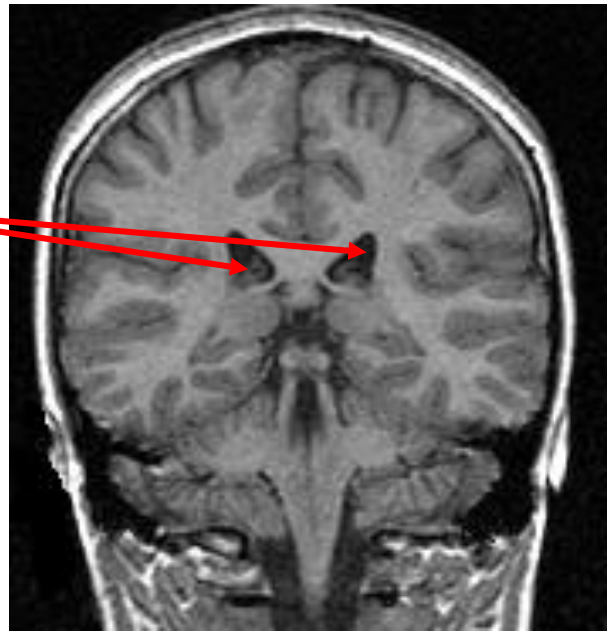
Neuron: Normal Dendritic Branching

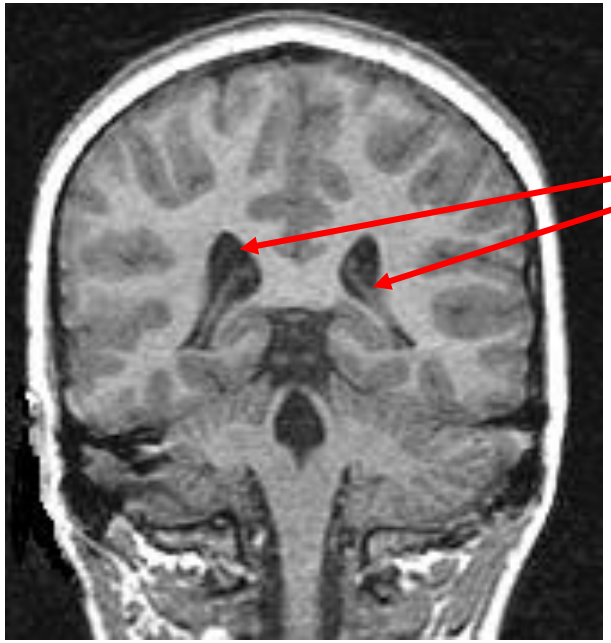
Stress-Related Reduction in Dendric Branchi

*Source: Harvard Center on the Developing Child

Lateral Ventricles Measures in an 11 Year Old Maltreated Male with Chronic PTSD, Compared with a Healthy, Non-Maltreated Matched Control*

Trauma Decreases Brain Volume & Connectivity



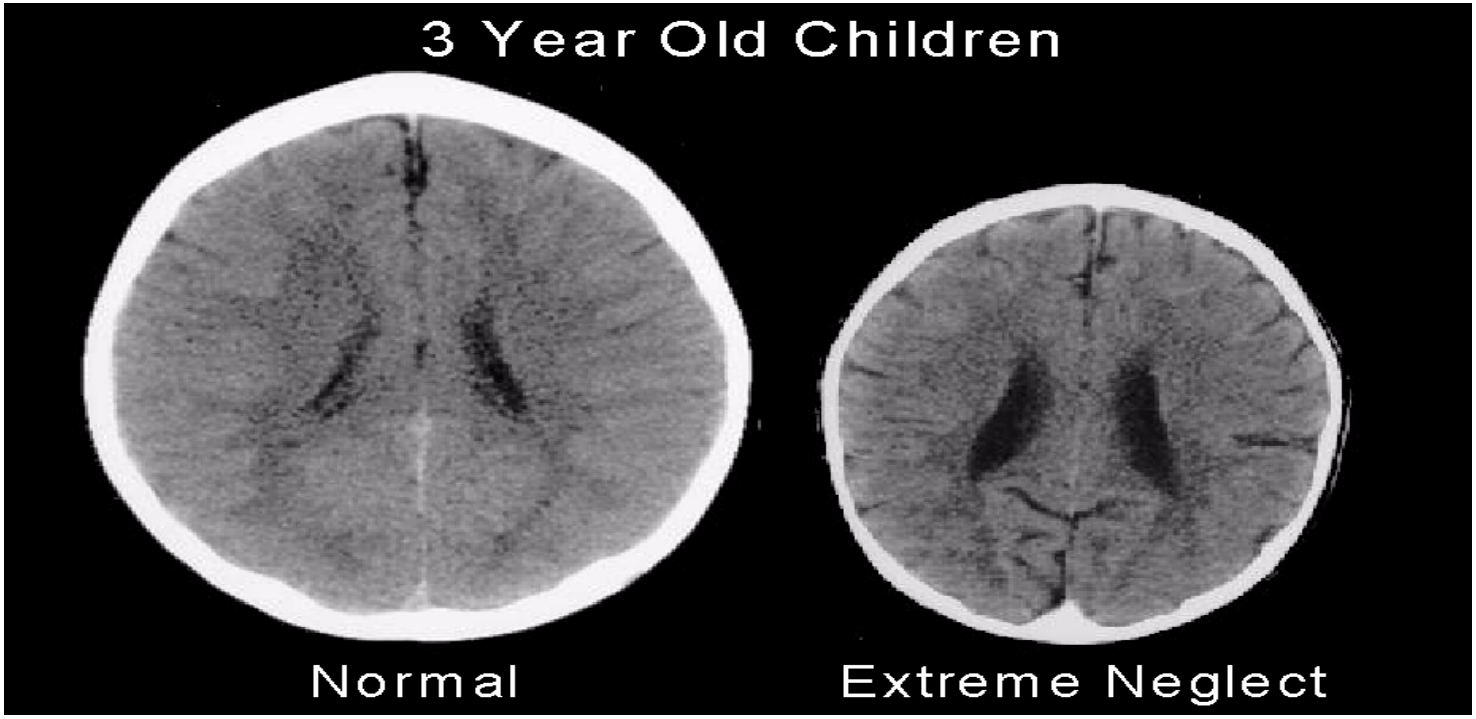


Matched 11-Year Old Comparison Male

Maltreated 11-Year Old Male

*De Bellis et al., Biological Psychiatry, 1999.

The Effects of Extreme Neglect on Brain Development

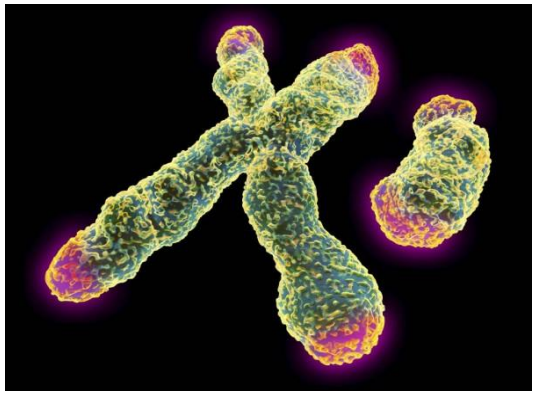


EPIGENETICS: Environment by Gene Interactions

The Effects of Stress & Adversity on DNA

1. Telomere length shortening

   A. *Kiecolt-Glaser et al, 2011; Psychosom Med*
   B. Shalev & Caspi, 2013; Molecular Psychiatry
   C. Drury et al ,2012; 14; Molecular Psychiatry



2. DNA Methylation

   A. Early life social environment

      A. Szyf, 2011, *Epigenetics; Meany et al, 2000; 2001 Neurosci*
   B. Binder et al., 2008
   C. McGowen, 2009 in Suicide abused victims (hippocampus)

   B. Associated w distinct genomic/epigenetic profiles in PTSD in adults with & without child maltreatment

   --Mehta et al, 2011, Arch Gen Psych

   C. Epigenetic modifications now known to cross generations from mother to child

   --Zenk F et al. 2017. Science

Cumulative Childhood Adversity Decreases Telomere Length*

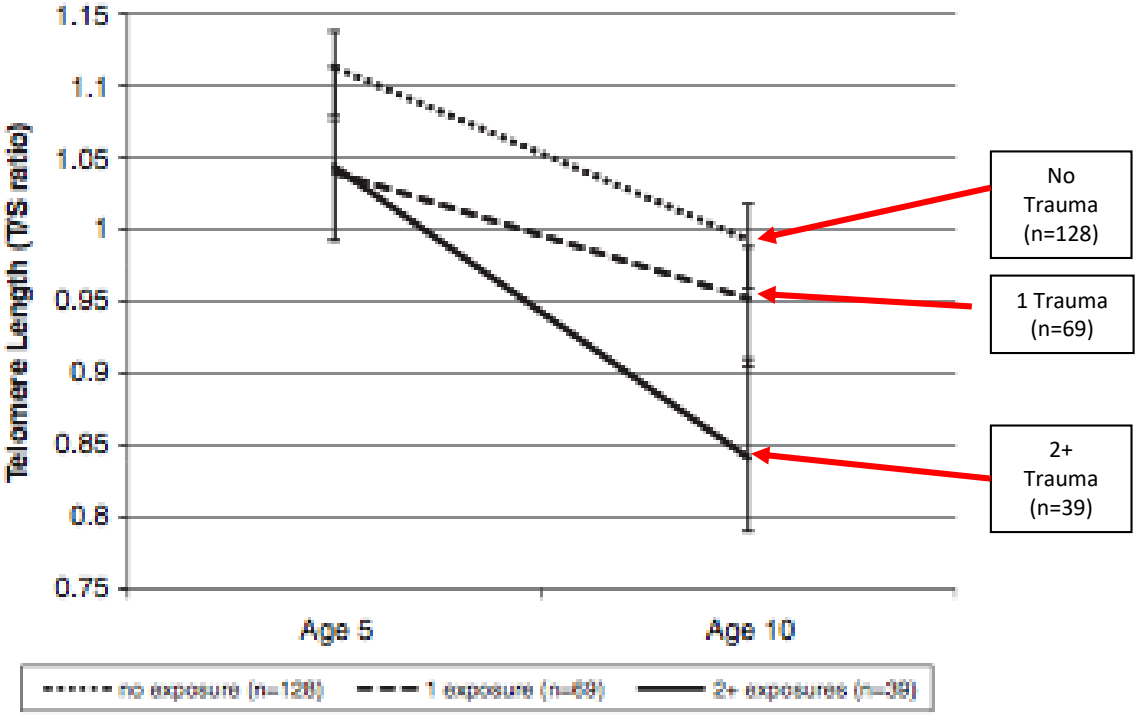
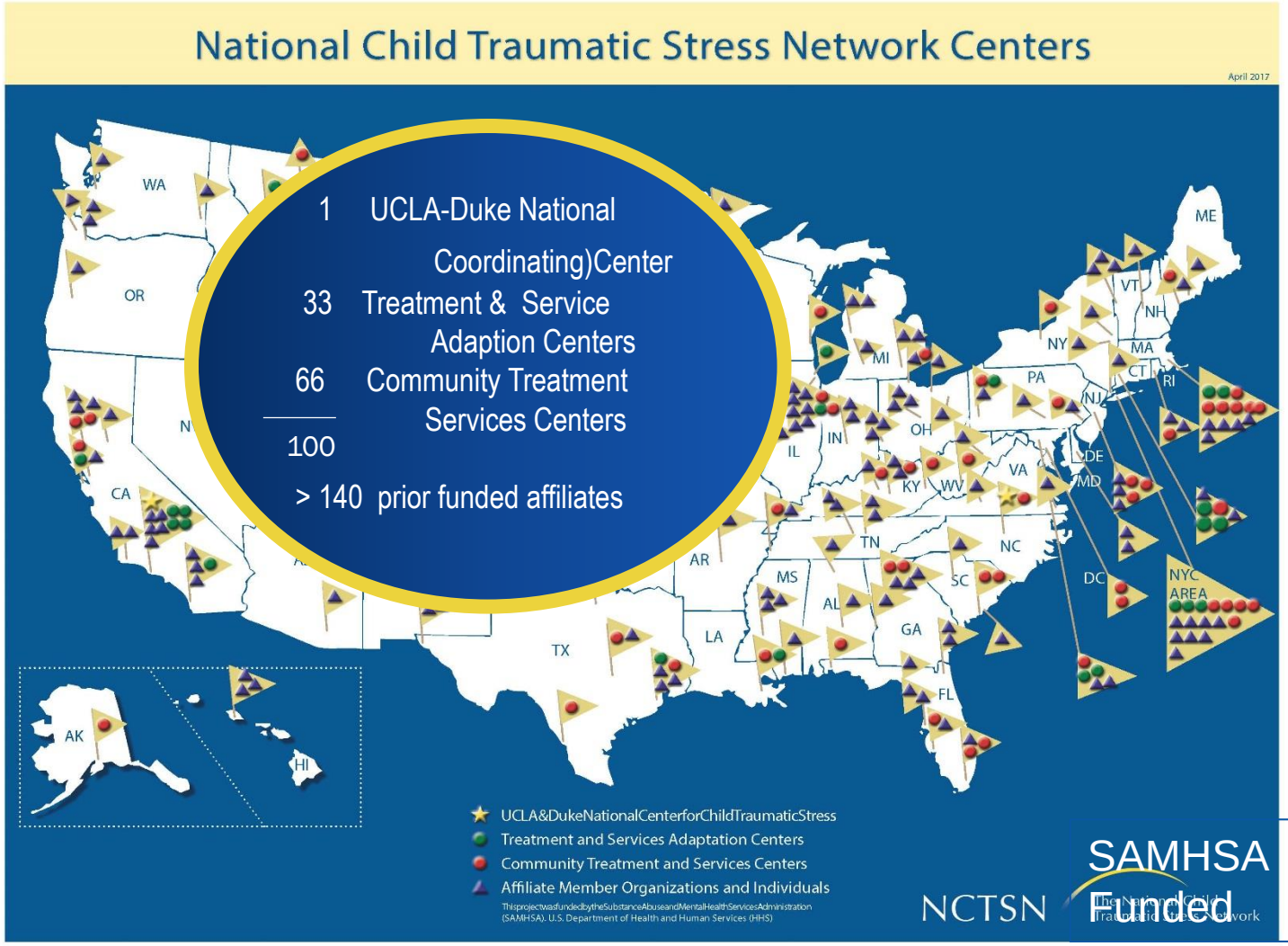


Figure 2. Association between cumulative violence exposure and telomere length at 5 and 10 years of age.

*Shalev et al., (2012) Molecular Psychiatry, 24 April; doi:10.1038/mp.2012.32

2001 Congressional mandate
SAMHSA funded

15 YEARS
NCTSN
The National Child
Traumatic Stress Network


National Child Traumatic Stress Network Centers
April 2017
1 UCLA-Duke National Coordinating)Center
33 Treatment & Service Adaption Centers
66 Community Treatment Services Centers
100
> 140 prior funded affiliates
WA
OR
CA
AK
HI
ME
VT
NH
MA
CT
RI
NY
PA
NJ
MI
OH
IN
IL
KY
WV
VA
MD
DE
DC
NC
SC
TN
MS
AL
GA
FL
LA
AR
TX
NYC AREA
UCLA&DukeNationalCenterforChildTraumaticStress
Treatment and Services Adaptation Centers
Community Treatment and Services Centers
Affiliate Member Organizations and Individuals
ThisprojectwasfundedbytheSubstanceAbuseandMentalHealthServicesAdministration (SAMHSA), U.S. Department of Health and Human Services (HHS)
NCTSN
SAMHSA Funded

North Carolina NCTSN Sites

CURRENT FUNDING CYCLE: (2016-2021, 2018-20123)

1. Center for Child and Family Health, Inc.
Community Treatment & Services Center
PI Kelly Sullivan (Category III) Durham

2. Family Centered Treatment Foundation, Inc.
Treatment and Services Adaptation Center
PI: Janet Fuller-Holden & Bill Painter (Category II) Charlotte

3. Kellin Foundation
Community Treatment and Services Center
PI Kelly Graves (Category III) Greensboro

4. UCLA-Duke Adolescent Suicide/Self Harm and Substance Abuse Prevention (NC)
Treatment & Services Adaptation Center
PIs David Goldston & Joan Asarnow (Category II) Durham

5. UCLA-Duke University National Center for Child Traumatic Stress (NC)
(Category I) Durham

PREVIOUSLY FUNDED / CURRENT AFFILIATE (actively involved):

Gilbert Reyes, PhD
Individual Affiliate

Jan Newman, PhD, JD
Individual Affiliate

The NCTSN works to accomplish its mission of serving the nation's traumatized children and their families by:

- Raising public awareness of the scope and serious impact of child traumatic stress and the safety and healthy development of America's children and youth.

Shine a spotlight on one of our most treatable public health problems

- Advancing a broad range of effective services and interventions by creating trauma-informed developmentally and culturally appropriate programs that improve the standard of care.

Always think best practices, always think developmentally, always think culturally

- Working with established systems of care including the health, mental health, education, law enforcement, child welfare, juvenile justice, and military family service systems to ensure that there is a comprehensive trauma-informed continuum of accessible care.

Be where the children are

- Fostering a community dedicated to collaboration within and beyond the NCTSN to ensure that widely shared knowledge and skills become a sustainable national resource.

Be the national go-to resource for knowledge and skills

- Continuing to build partnerships among youth, families, caregivers, and professionals for the development of trauma-informed services.

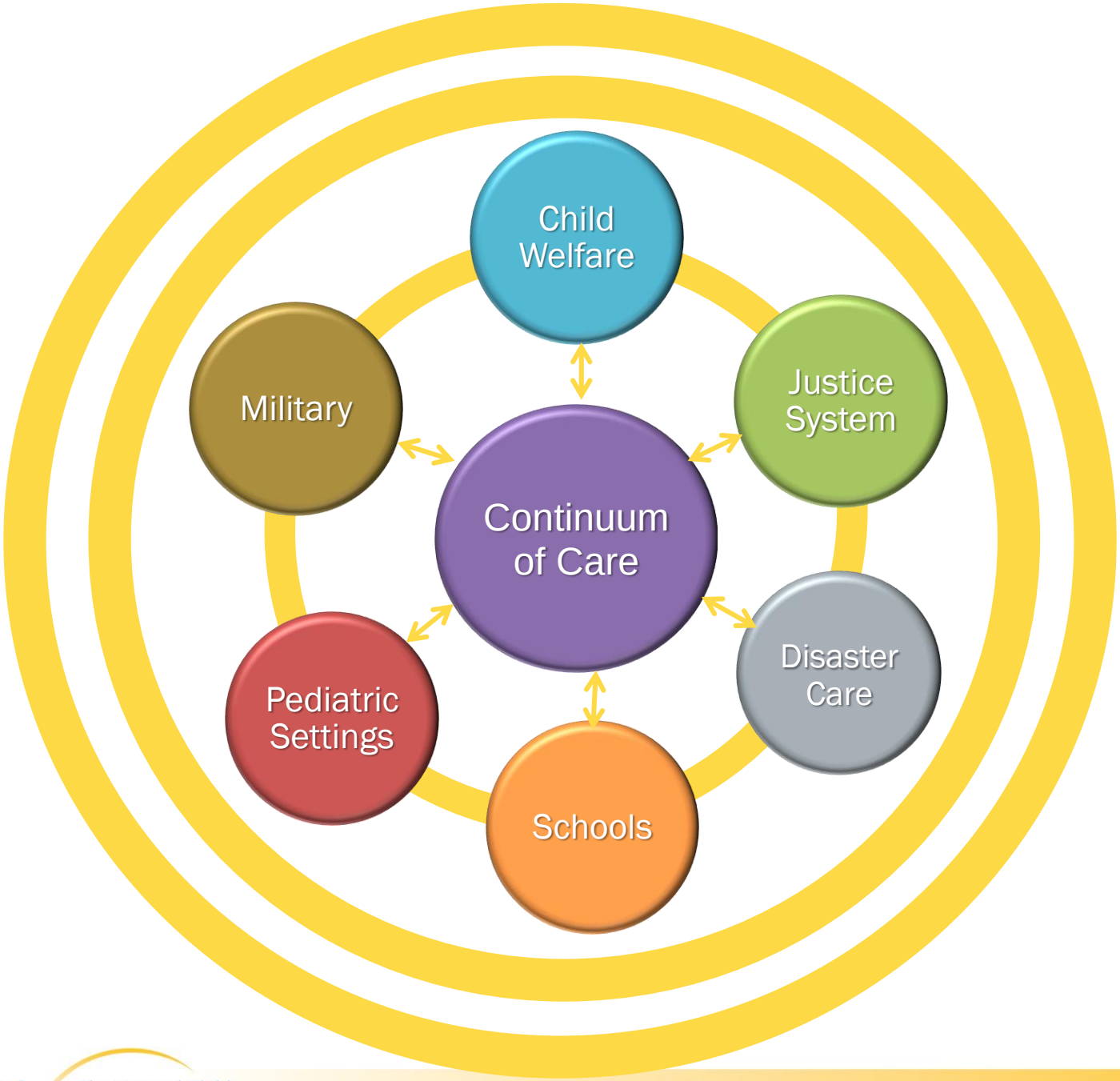
Nourish and sustain all Network activities through partnerships

NCTSN Vision Statement

About National Child Traumatic Stress Network (NCTSN)

The NCTSN brings together expertise to address needs of children exposed to a wide range of trauma, including:

- physical & sexual abuse
- violence in families & communities
- natural disasters & terrorism
- accidental or violent death of a loved one
- refugee & war experiences
- life-threatening injury & illness


Child Welfare
Justice System
Disaster Care
Schools
Pediatric Settings
Military
Continuum of Care

NCTSN.org

Overview

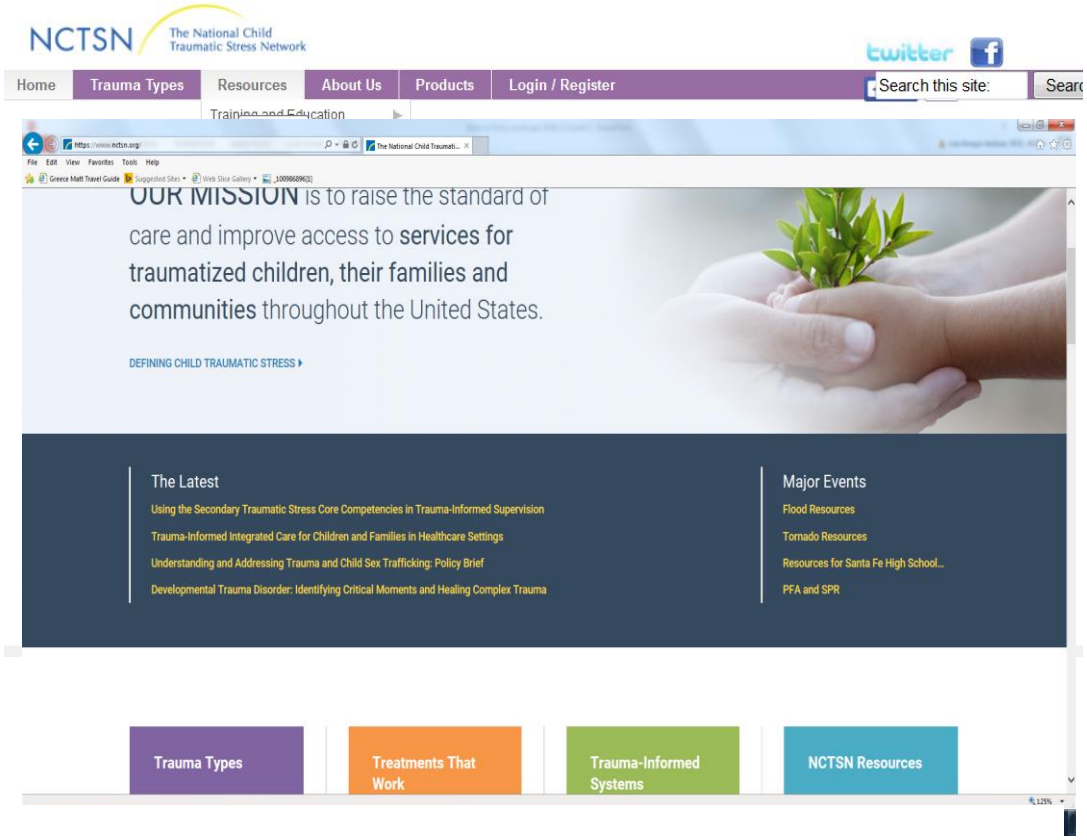
Online resource for professionals and families who want to learn more about child traumatic stress and to engage with others on this topic.

Target Audiences:

- Mental Health Professionals
- Researchers
- Medical Professionals
- Educators
- Parents
- Caregivers

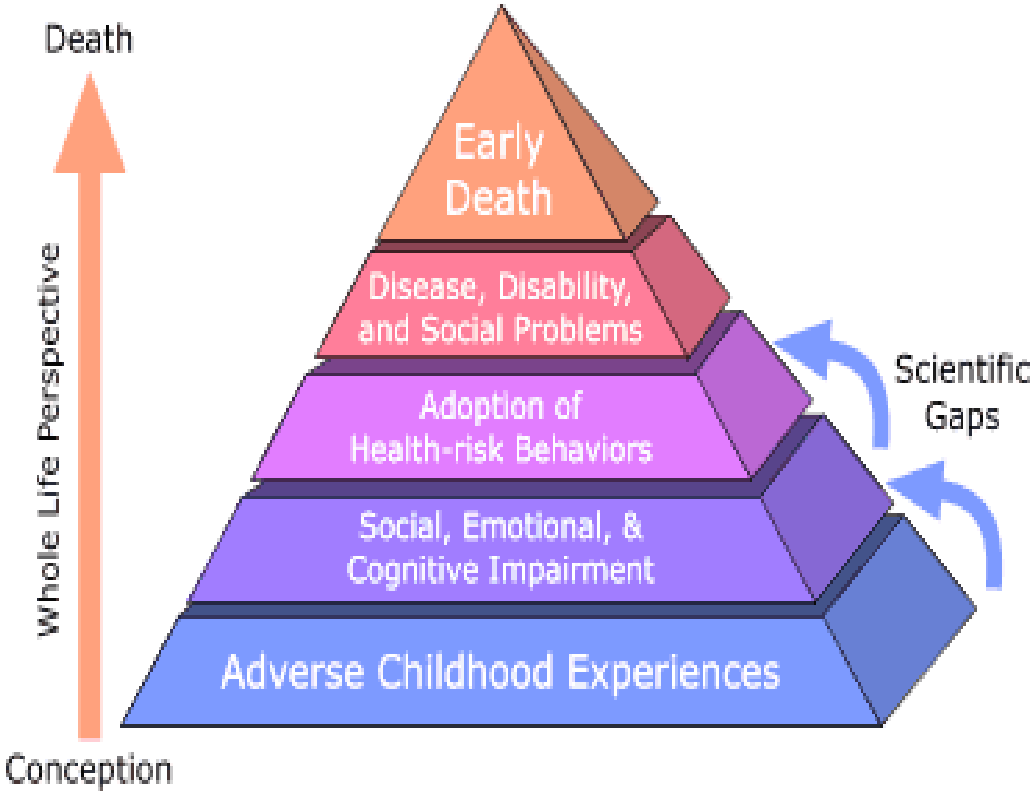
Resources

- Most are result of Collaboration



ACE Studies Background

- Vincent Felitti, MD & Robert Anda, MD
- Kaiser Permanente San Diego adult Clinic; surveys (wave 1 & wave 2) asking (retrospective) ACEs in 1995-1997 for > 17,000 surveyed.
- Matched to health record data & patient report



http://www.cdc.gov/ace/prevalence.htm

ACES Prevalence (%) of Abuse and Neglect In the Original Study[1]

	ACE	Women	Men	Total
		N=9367	N=7970	N=17337
	Abuse			
1.	Physical Abuse	27.0	29.9	28.3
2.	Sexual Abuse	24.7	16.0	20.7
3.	Emotional Abuse	13.1	7.6	10.6
	Neglect			
4.	Emotional Neglect	16.7	12.4	14.8
5.	Physical Neglect	9.2	10.7	9.9

[1]http://www.cdc.gov/violenceprevention/acestudy/prevalence.html

ACES Prevalence (%) of Household Dysfunction In the Original Study[1]

	ACE	Women	Men	Total
		N=9367	N=7970	N=17337
	Household Dysfunction			
6.	Household Substance Abuse	29.5	23.8	26.9
7.	Parental Separation or Divorce	24.5	21.8	23.3
8.	Household Mental Illness	23.3	14.8	19.4
9.	Mother Treated Violently	13.7	11.5	12.7
10.	Incarcerated Household Member	5.2	4.1	4.7

[1]http://www.cdc.gov/violenceprevention/acestudy/prevalence.html

Percent of Cumulative Adverse Childhood Experiences ACES in the Original Study[1]

Number of ACES	Women	Men	Total
	N=9367	N=7970	N=17337
0	34.5	38.0	36.1
1	24.5	27.9	26.0
2	15.5	16.4	15.9
3	10.3	8.6	9.5
4 or more	15.2	9.2	12.5

[1]http://www.cdc.gov/violenceprevention/acestudy/prevalence.html

CANarrative.org

Opportunities To Change The Outcomes Of Traumatized Children

2015

The Childhood Adversity Narratives

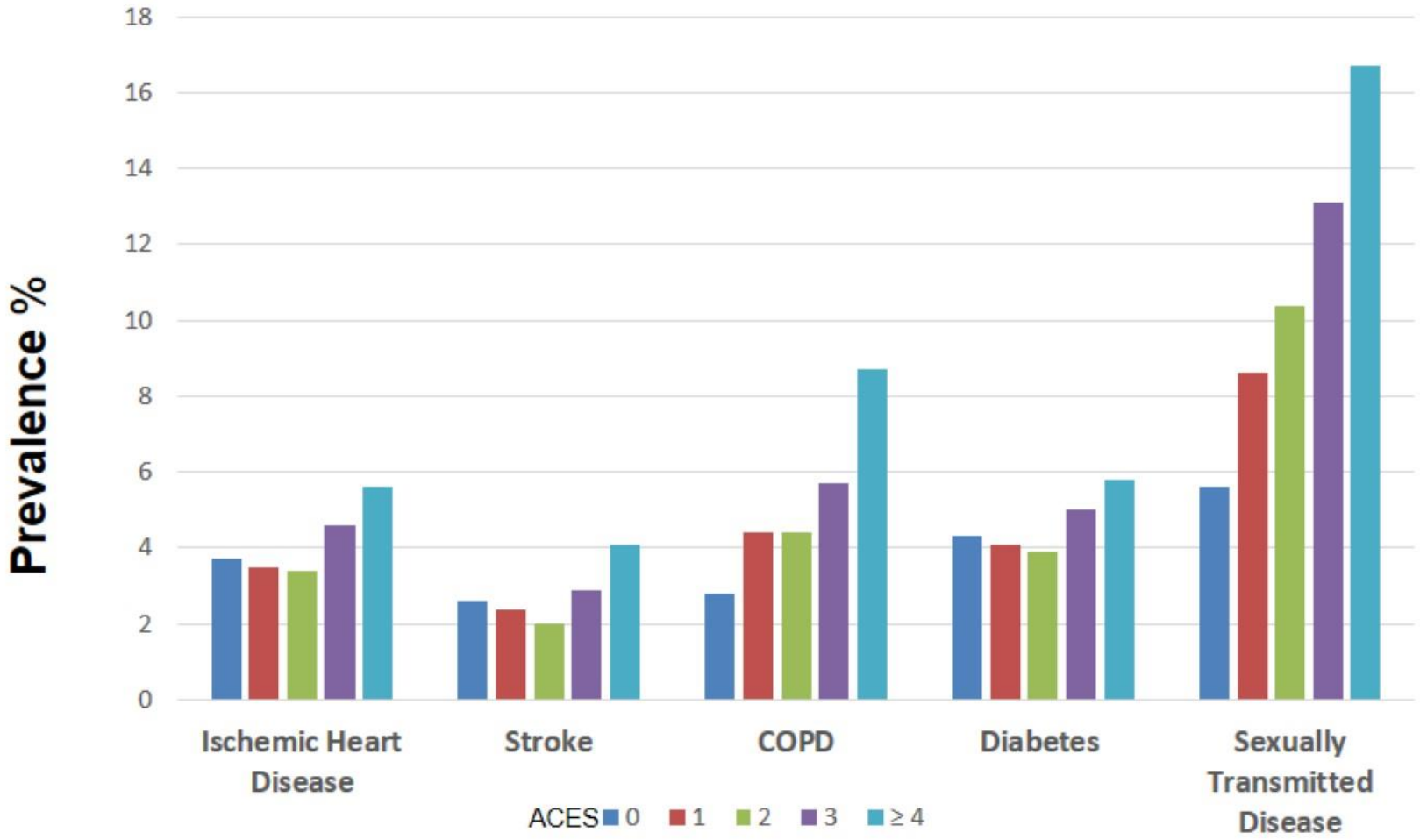
CAN

Frank Putnam, MD, UNC at Chapel Hill, NC
William Harris, PhD, Children's Research & Education Institute, NY
Alicia Lieberman, PhD, UCSF, San Francisco, CA
Karen Putnam, PhD, UNC at Chapel Hill, NC
Lisa Amaya-Jackson, MD, MPH, Duke University, Durham, NC

More than 20,000 unique hits!

www.CANarrative.org

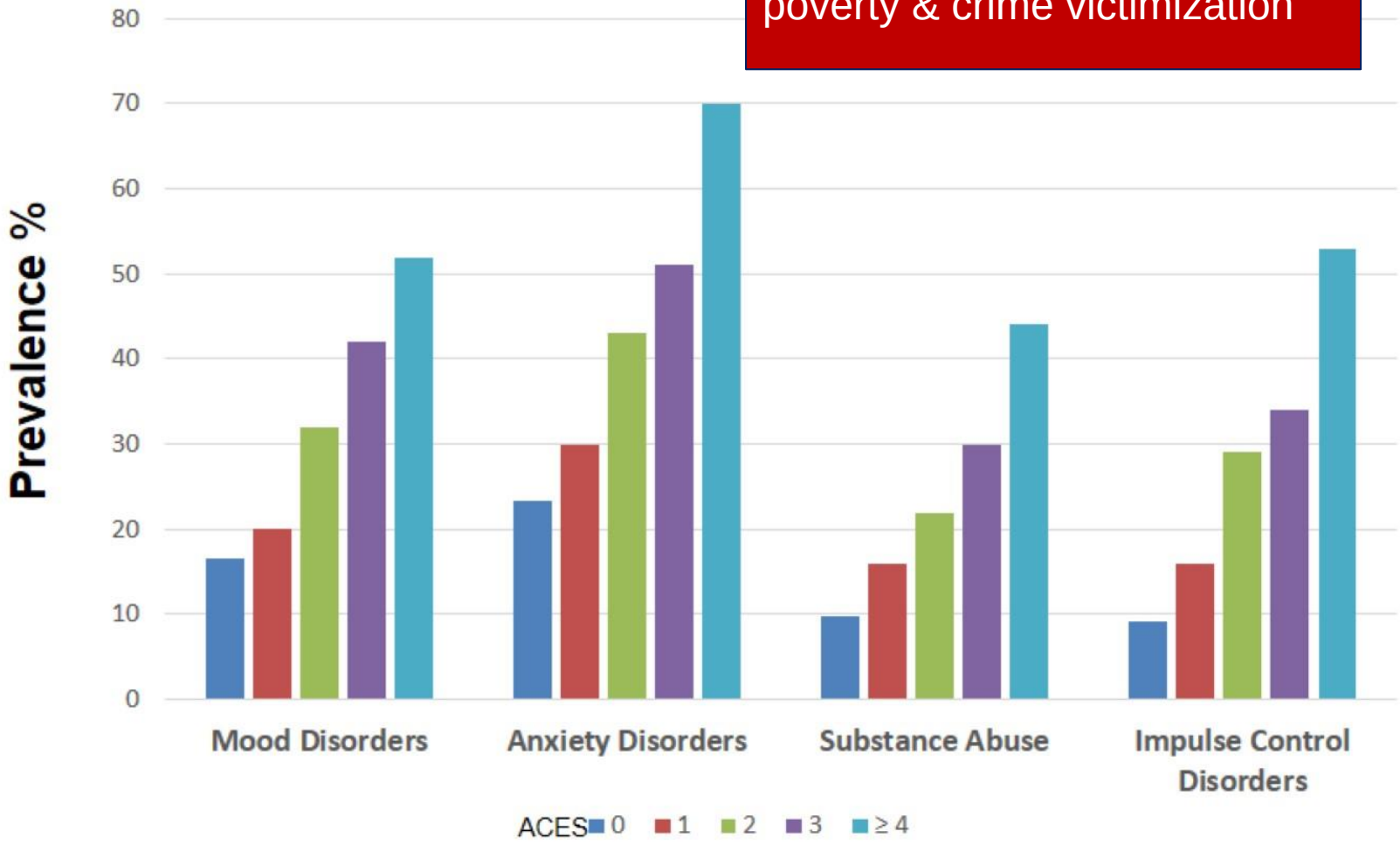
Cumulative ACES & Chronic Disease[1]



[1]Felitti et al., (1998) American Journal of Preventive Medicine, 14:245-258.

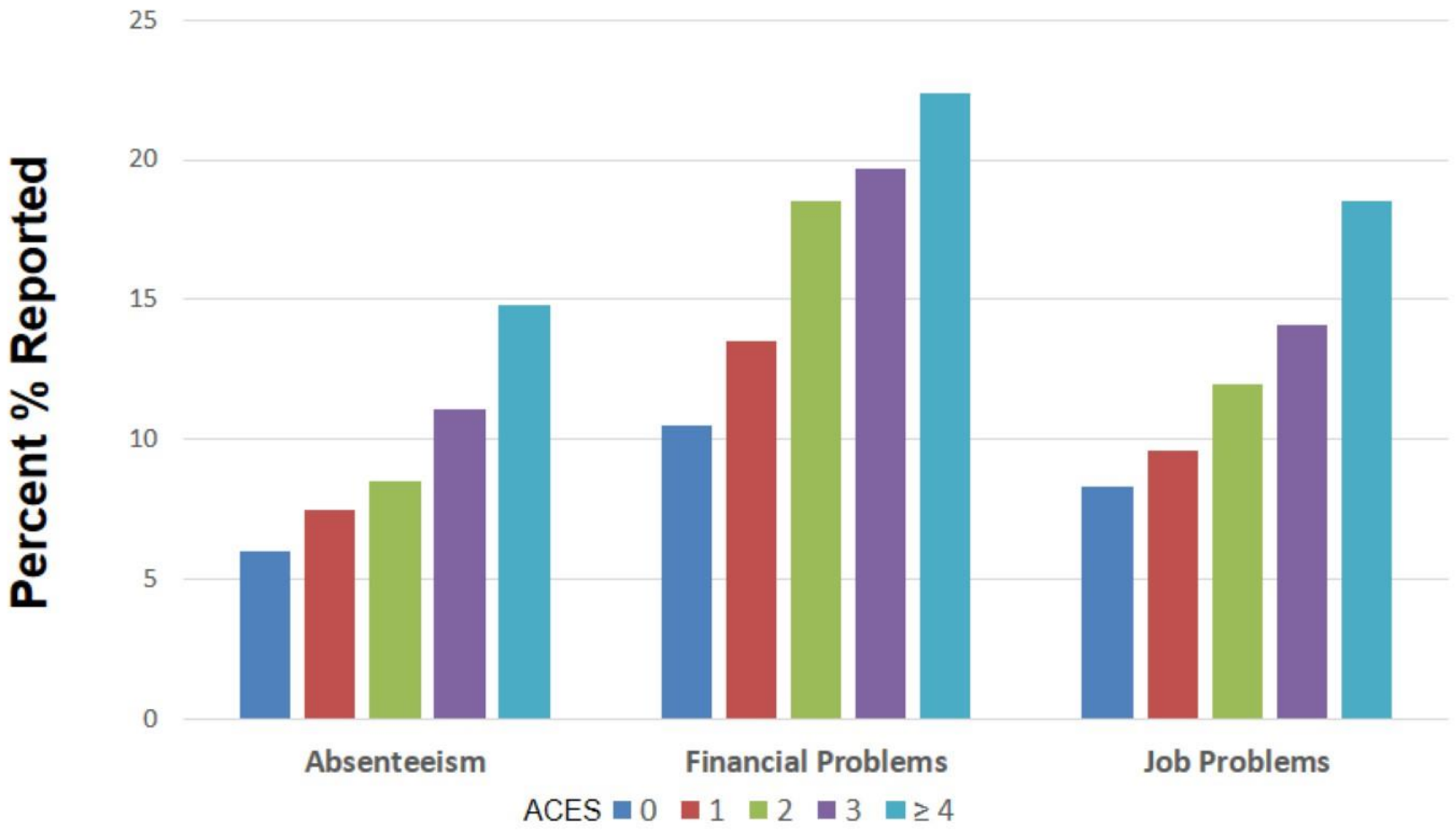
Cumulative ACES & Mental Health[1,2]

Adversities in article include poverty & crime victimization



[1]Data from the National Comorbidity Survey-Replication Sample (NCS-R).
[2]Putnam, Harris, Putnam, J Traumatic Stress, 26:435-442, 2013.

Cumulative ACES & Impaired Worker Performance[1]



[1]Anda et al., (2004) The Permanente Journal/Winter 8:30-38.

Impact of Cumulative ACES & Social Dysfunction[1]

- Lower educational, occupational attainment.
- Increased social service costs.
- Increased medical costs.
- Shortened life span.
- Increased risk for HIV, teen pregnancy, maternal depression[2].
- Intergenerational transmission of ACES to offspring.

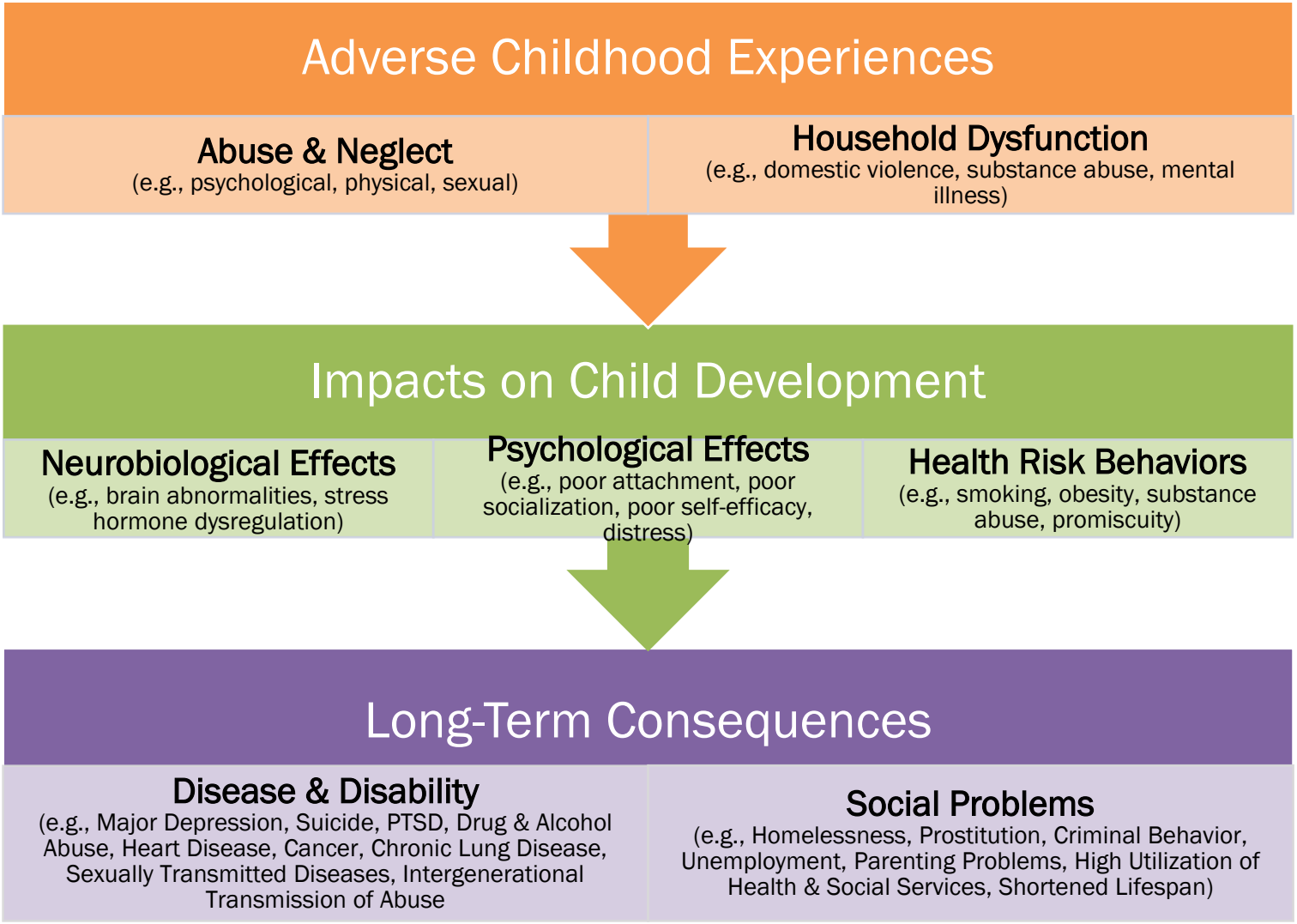
[1]IOM (Institute of Medicine) and NRC (National Research Council). 2013.
New Directions in child abuse and neglect research. Washington, DC: The National Academies Press.
[2]http://www.movingbeyonddepression.org/

Child Trauma Types

with ACEs highlighted (Felitti)

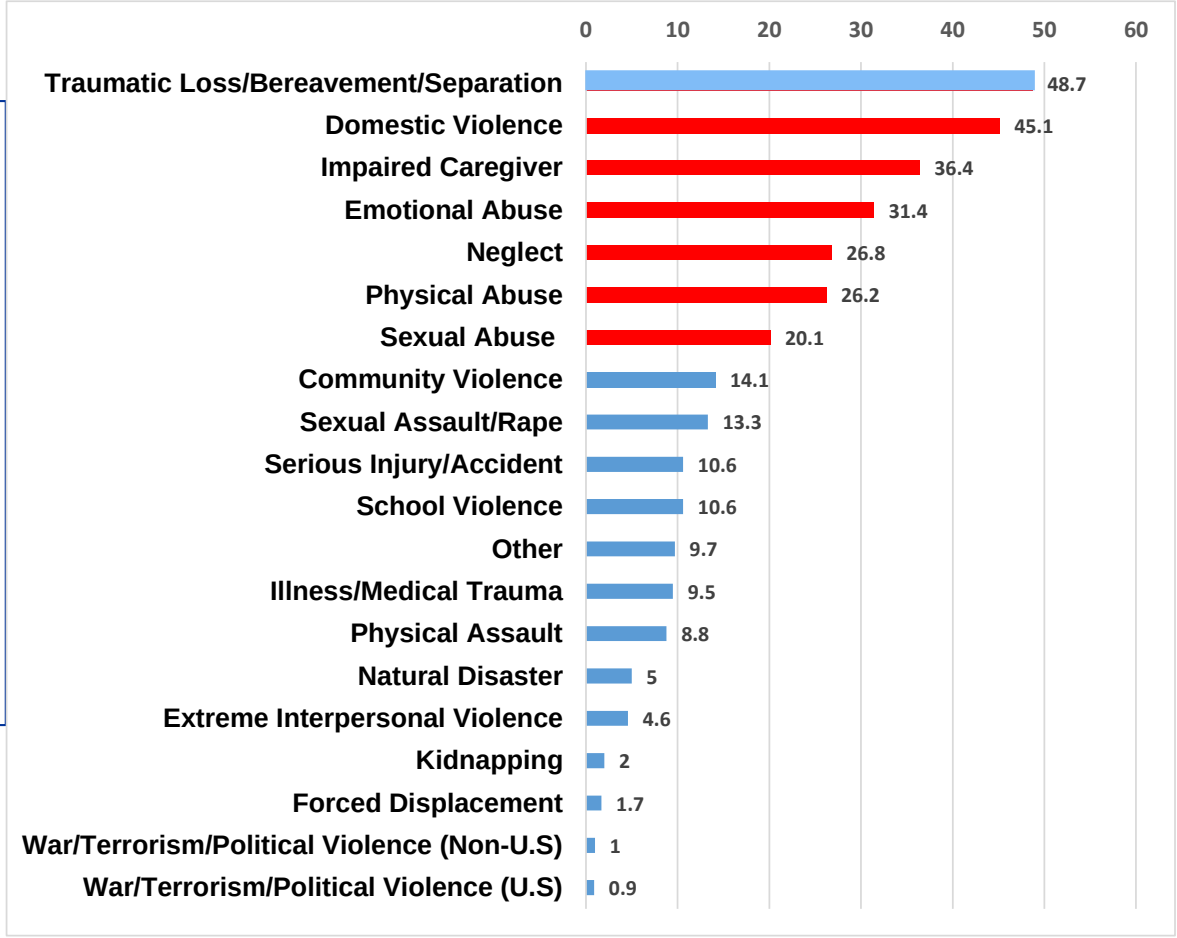
- Sexual abuse
- Sexual assault/rape
- Physical abuse
- Physical assault
- Emotional abuse/psychological maltreatment
- Neglect
- Domestic violence
- War/Terrorism/Political violence
- Community violence
- School violence
- Death or bereavement of loved one
- (Parent divorce or separation)
- Illness/Medical Trauma
- Serious injury or accident
- Natural disaster
- Kidnapping
- Forced displacement
- Impaired caregiver
  - Substance abuse
  - Parental mental illness
- Extreme interpersonal violence
- Separation from family member
  - *Parent incarceration*
- Bullying
- other trauma
  - (including sex trafficking)

How ACES & Other Traumas Perpetuate Harm Across the Lifespan



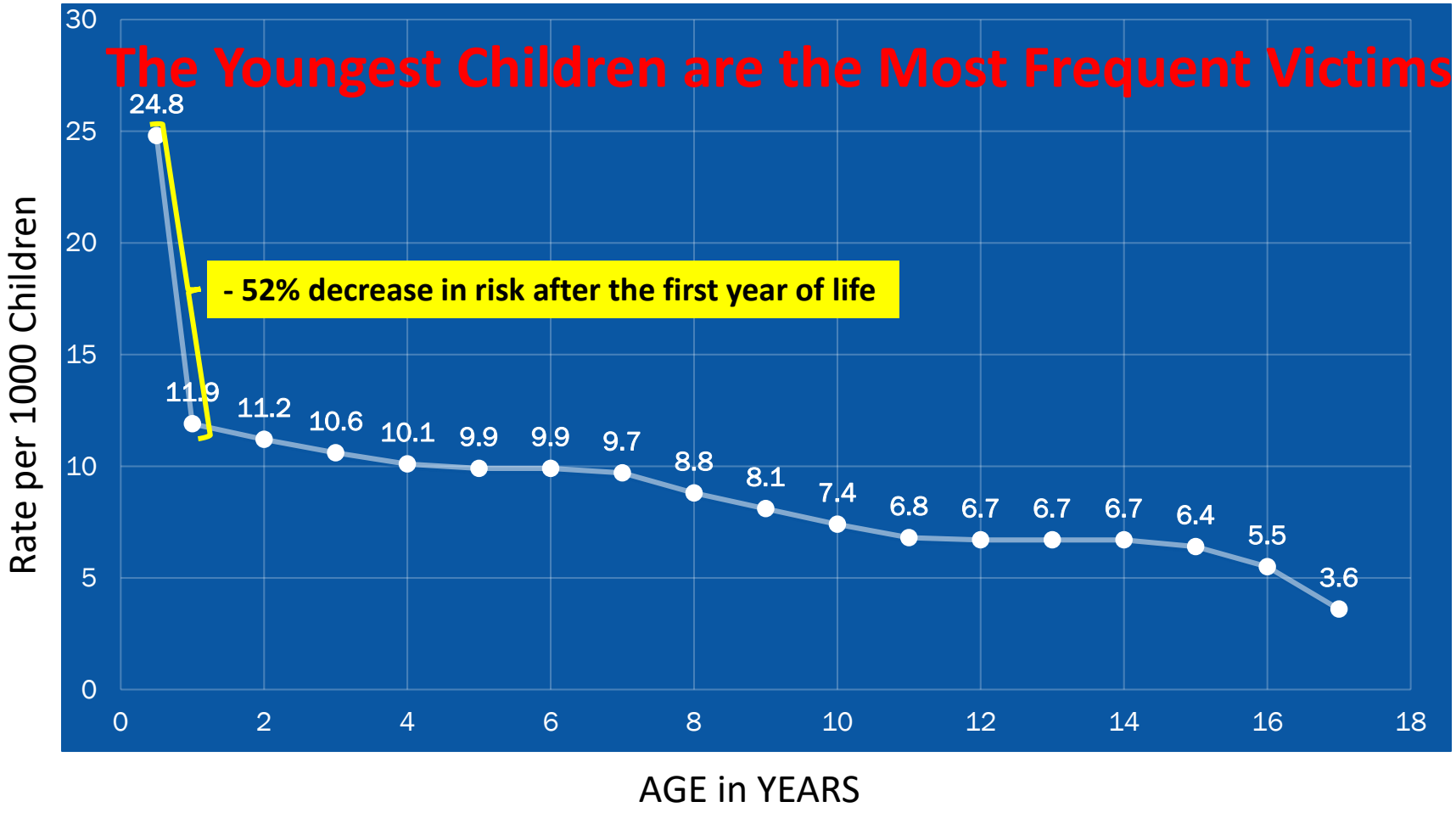
The ACES are Among Many Childhood Traumas & Adversities Measured by the National Child Traumatic Stress Network N=10,991[1]

- The original ACES (in red) are among the most commonly reported traumas in studies that look at additional traumas.
- Over 40% of children & adolescents served by the NCTSN experienced 4 or more different types of trauma & adversity.



[1]Pynoos et. al (2014). Psychological Trauma: Theory, Research, Practice & Policy. 6:S9-S13.

Rates of Child Maltreatment by Age – 2016 NC&S Data



Synergy

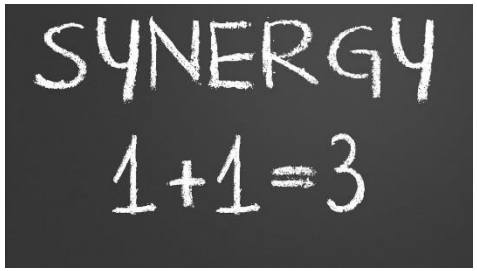
A principle finding of recent work is the extent to which two or more adverse experiences interact so that the risk of a psychological disturbance following is multiplied, often many times over.

John. Bowlby, The origins of attachment theory, 1988

Synergistic childhood adversities & complex adult psychopathology

- People who experience 1 childhood adversity are statistically likely to experience 2 or more childhood adversities

- Are there certain combinations of Childhood Adversities (ACEs) such that their effect is > their sum of individual effects?



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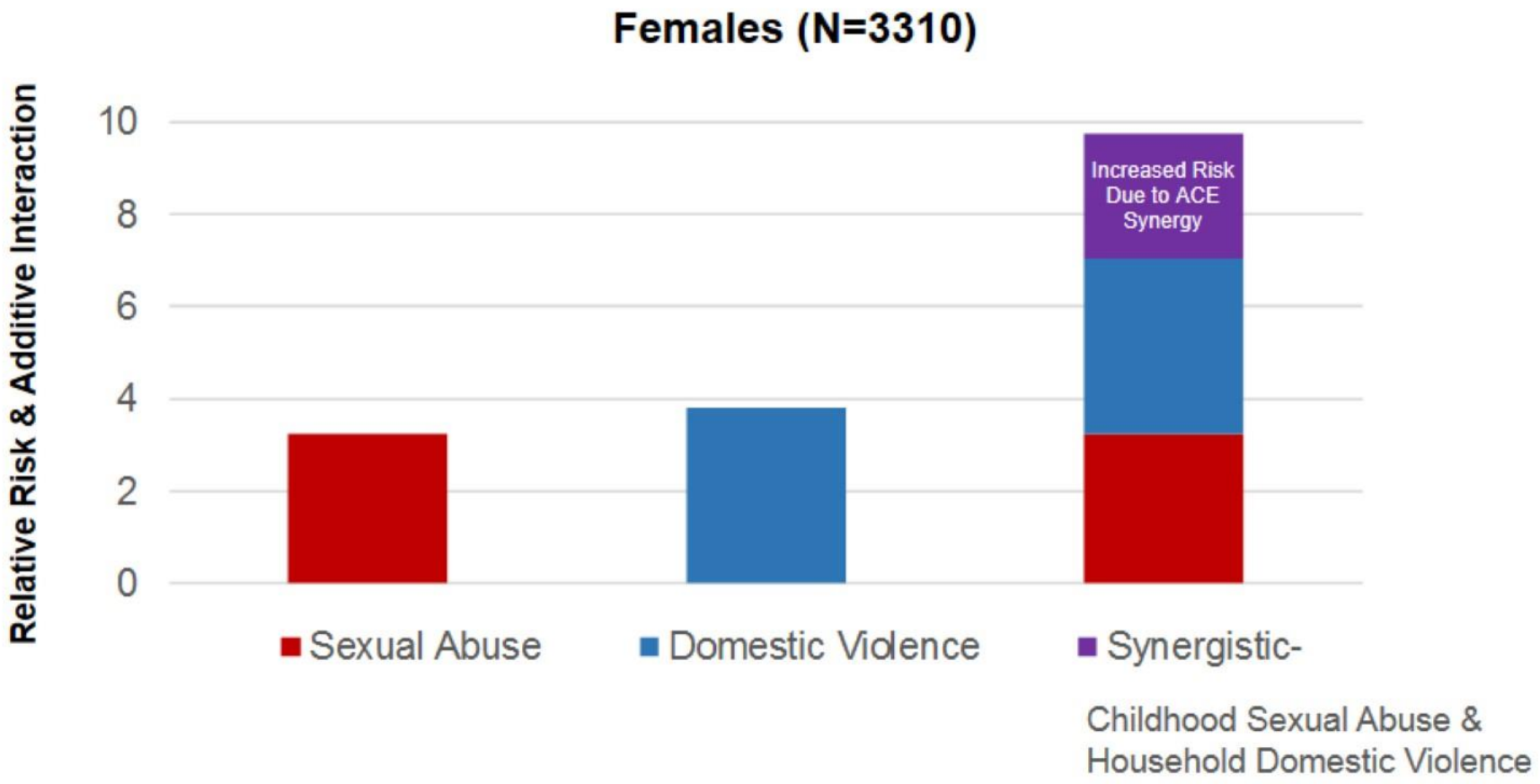
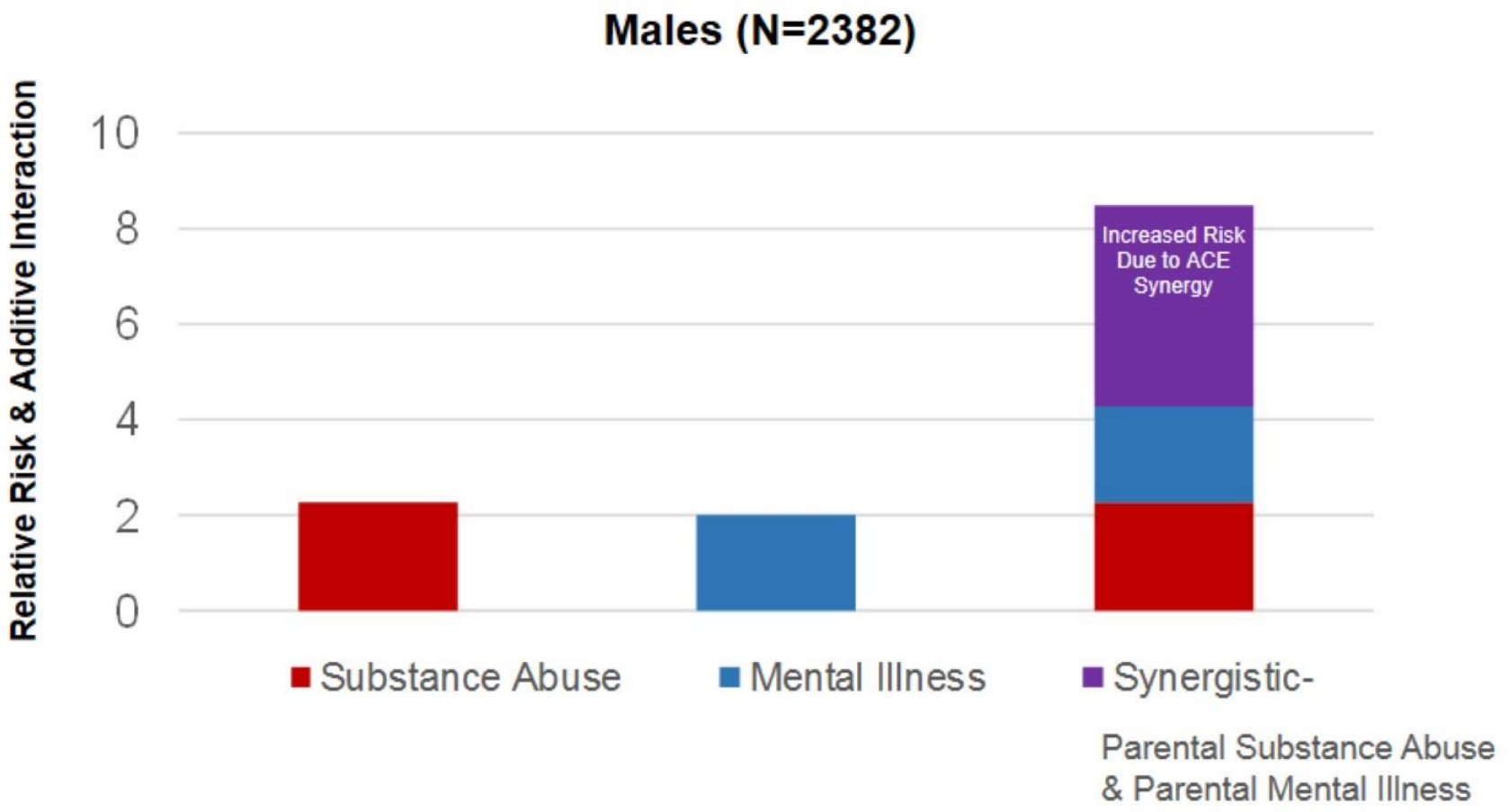
Complexity and Synergy of ACES and Traumas

Co-Existing Childhood Sexual Abuse & Household Domestic Violence ACES are Synergistic & Increase Risk of Complex Adult Psychopathology[1,2]



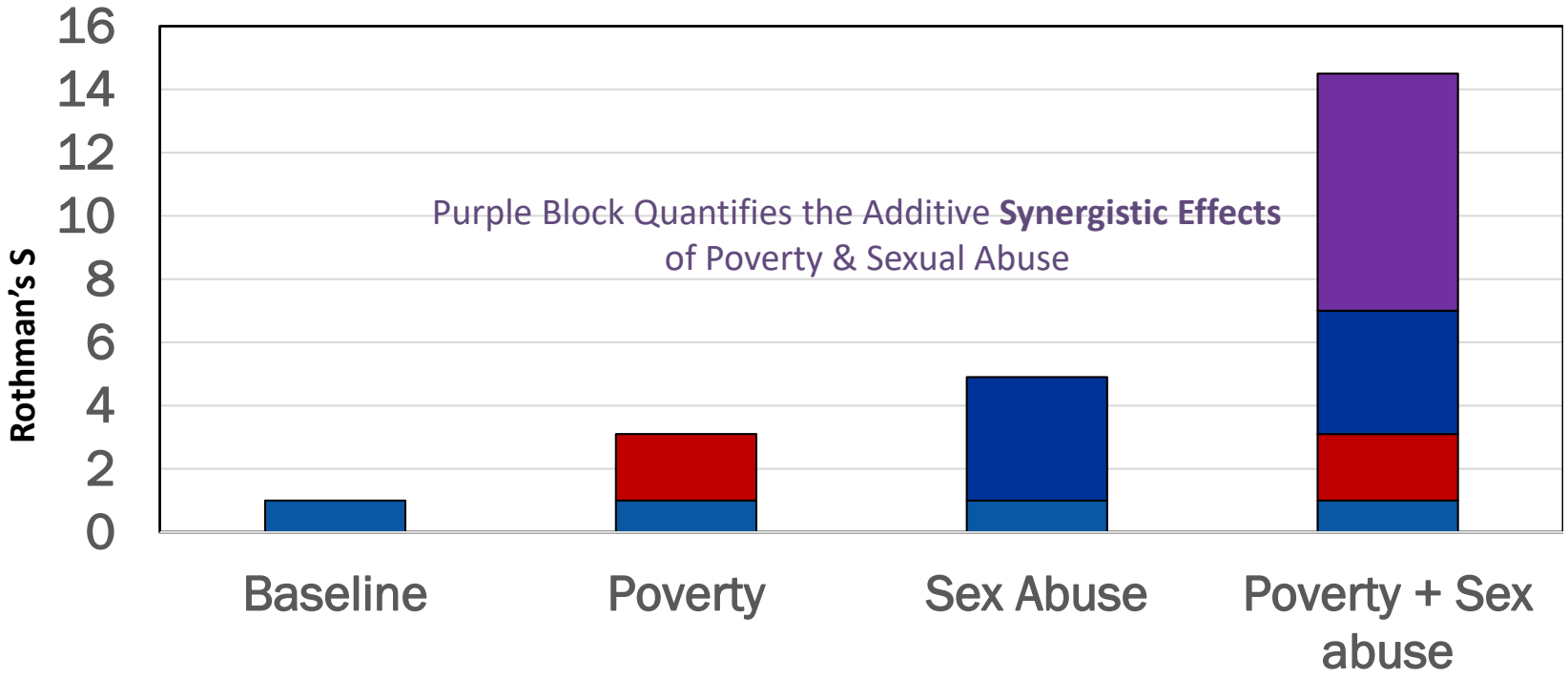
[1]Data from the National Comorbidity Survey-Replication Sample (NCS-R).
[2]Putnam, Harris, Putnam, J Traumatic Stress, 26:435-442, 2013.

Co-Existing Parental Substance Abuse & Parental Mental Illness ACES are Synergistic & Increase Risk of Complex Adult Psychopathology[1,2]



[1]Data from the National Comorbidity Survey-Replication Sample (NCS-R).
[2]Putnam, Harris, Putnam, J Traumatic Stress, 26:435-442, 2013.

Additive Synergistic Effect of Childhood Poverty + Sexual Abuse Increases Risk for Complex Adult Psychopathology in Women



Putnam, Harris, Putnam, J Traumatic Stress, 26:435-442, 2013

CANarratives.org

Synergistic Adversities in Females[1,2]

- For females, the most potent adversity, sexual abuse, is synergistic with:
  - Domestic violence
  - Crime victimization
  - Poverty
  - Parental mental illness (anxiety/ depression)
  - Loss of a parent

[1]Data from the National Comorbidity Survey-Replication Sample (NCS-R)
[2]Putnam, Harris, Putnam, J Traumatic Stress , 26:435-442, 2013.

Synergistic Adversities in Males[1,2]

- For males, the most potent adversity, poverty, is synergistic with:
  - Sexual abuse
  - Parental substance abuse
  - Loss of a parent

[1]Data from the National Comorbidity Survey-Replication Sample (NCS-R)
[2]Putnam, Harris, Putnam, J Traumatic Stress , 26:435-442, 2013.

Costs of Child Maltreatment

- In 2008 (estimated) the total lifetime financial costs associated with one year of confirmed cases of child maltreatment is approximately **$124 billion.**[1]

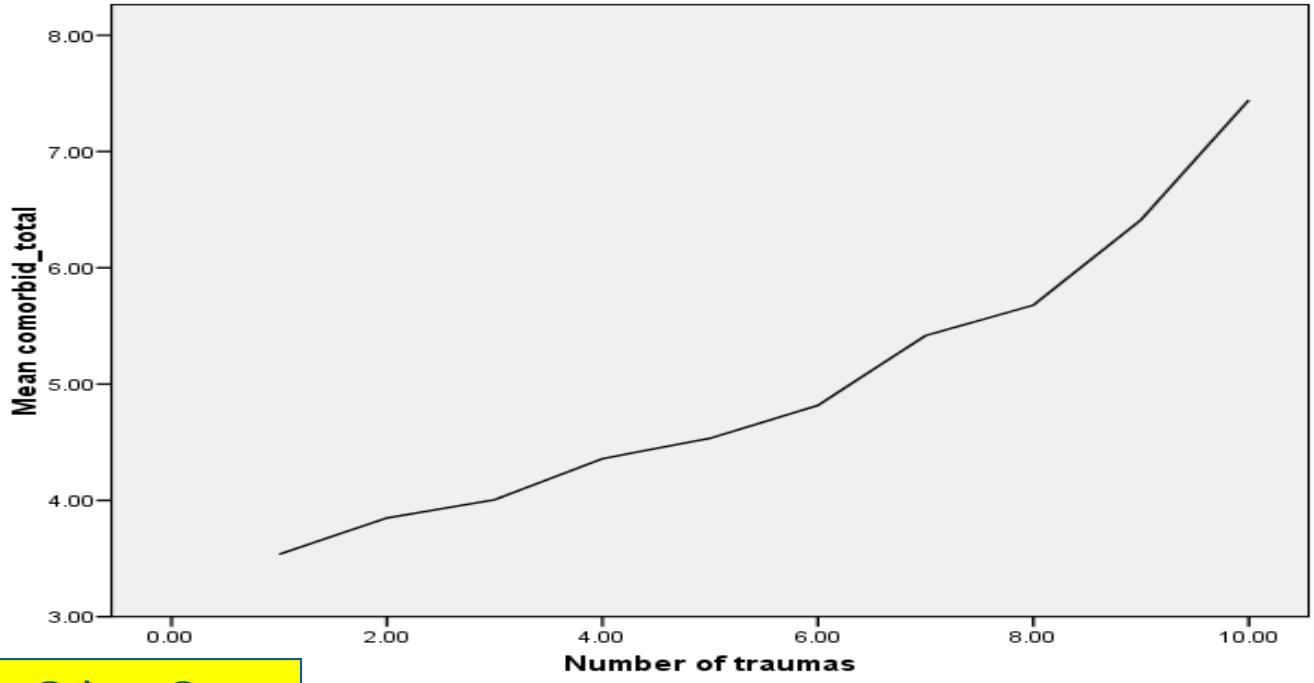
- The lifetime cost child maltreatment victim who lived was **$210,012**
  - $32,648 in childhood health care costs
  - $10,530 in adult medical costs
  - $144,360 in productivity losses
  - $7,728 in child welfare costs
  - $6,747 in criminal justice costs
  - $7,999 in special education costs

[1] Fang, Xiangming, Derek S. Brown, Curtis S. Florence, & James A. Mercy. "The economic burden of child maltreatment in the United States & implications for prevention." Child abuse & neglect 36, no. 2 (2012): 156-165.

15 YEARS
NCTSN
The National Child
Traumatic Stress Network

2001 Congressional mandate
SAMHSA funded

Number of Traumas x Total Co-morbid Conditions NCTSN Core Data Set

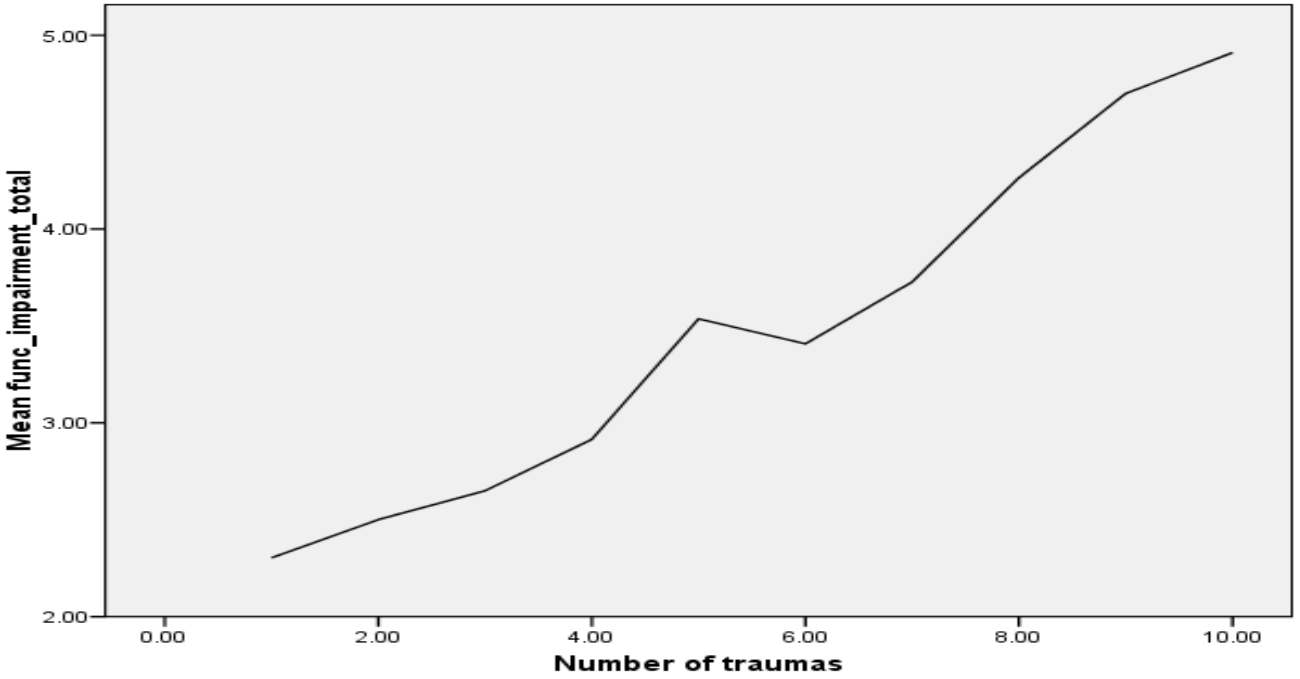


Comorbid = Other Co-occurring psychiatric disorders

Pynoos et al, 2008, ISTSS

Amaya-Jackson, 08

Traumas x Functional Impairment & Behavioral Disturbances NCTSN Core Data Set (N=8,120)



Pynoos et al, 2008, ISTSS

Amaya-Jackson, 08

Odds Ratio Using Trauma Exposure and Severity of PTSD Symptoms as Predictors of Co-morbid Conditions (NCTSN Core Data Set n=8120)

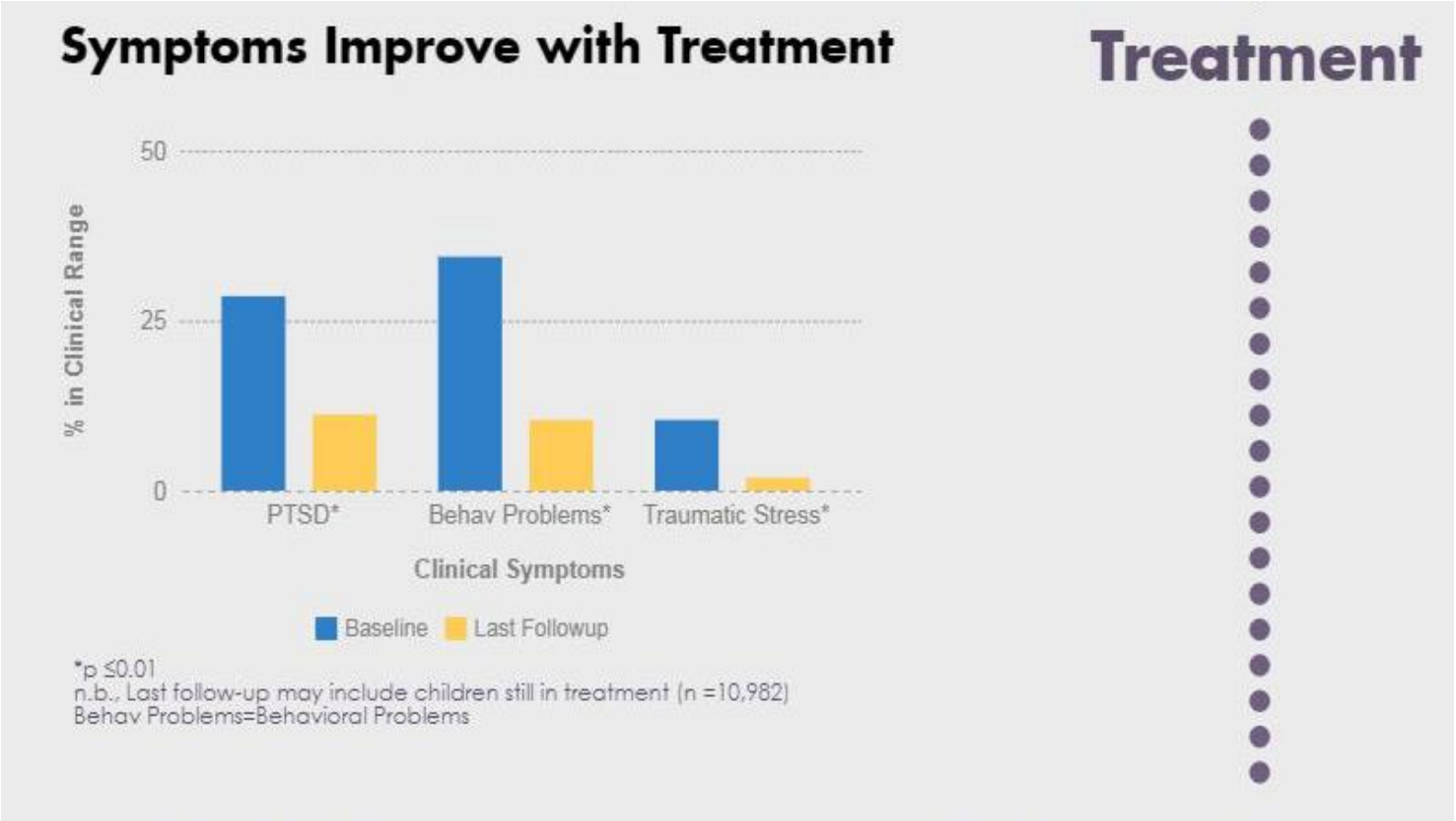
	For every 1-unit increase in trauma exposure (1-10+) the odds ratio for the outcome increases:	A shift from the moderate to the severe range of PTSD increases the odds ratio for the outcome by
ADHD	Negligible	Negligible
Conduct Disorder	10%	Negligible
Depression	11%	62%
Dissociation	17%	72%
GAD	5%	37%
Panic Disorder	11%	160%
Substance Abuse	35%	Negligible
Separation Anxiety	8%	50%
Sleep Disorder	11%	57%
Somatization	13%	50%

Pynoos et al, 2008, ISTSS

Odds Ratio Using Trauma Exposure and Severity of PTSD Symptoms as Predictors of Functional Impairment and Behavioral Disturbances (NCTSN Core Data Set n=8120)

	For every 1-unit increase in trauma exposure (1-10+) the odds ratio for the outcome increases:	A shift from the moderate to the severe range of PTSD increases the odds ratio for the outcome by
Academic Difficulties	4%	41%
Behavioral Probs @ School	4%	24%
Behavioral Probs @ Home	12%	19%
Skipping School	15%	Negligible
Attachment Problems	22%	30%
Inapp Sexual Behavior	10%	43%
Self Injurious Behavior	10%	130%
Suicidality	13%	170%
Prostitution	Negligible	130%* (too few cases)
Criminality	28%	Decreased

Pynoos et al, 2008, ISTSS



Children served by the NCTSN get better

Data reported by the National Center for Child Traumatic Stress (NCCTS) Data & Evaluation Program in 2018. This data was extracted from the CDS September 2012 file. Data was collected between 2004 & 2012 from 74 NCTSN centers.

There are 14,890 children with at least one trauma in this data set. Last follow-up may include children still in treatment (n = 10,982), *p ≤ 0.01.

Post Traumatic Stress Disorder?

"Toxic Stress"?

Chronic Stress?

"ACES"?

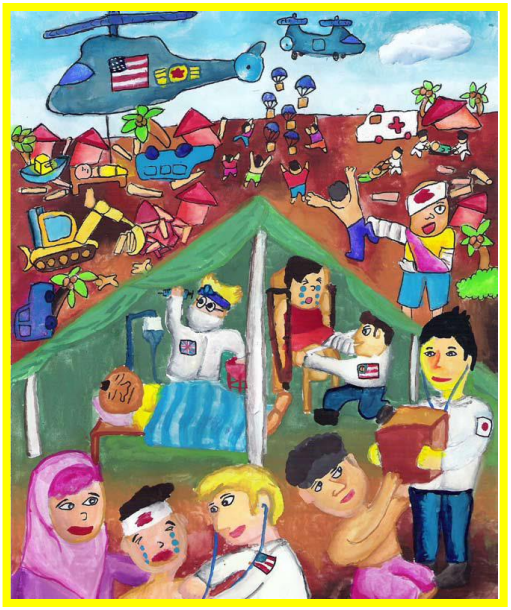
Complex Trauma?

"Child Traumatic Stress" ?

What is child traumatic stress?

Child Traumatic stress refers to *physical & emotional responses* to events threatening 'life or physical integrity' of a child or of someone critically important to child (eg. parent or sibling).

Traumatic events overwhelm child's capacity to cope: feelings of terror, powerlessness, & out-of-control physiological arousal.



Artwork courtesy of International Child Art Foundation (www.icaf.org)

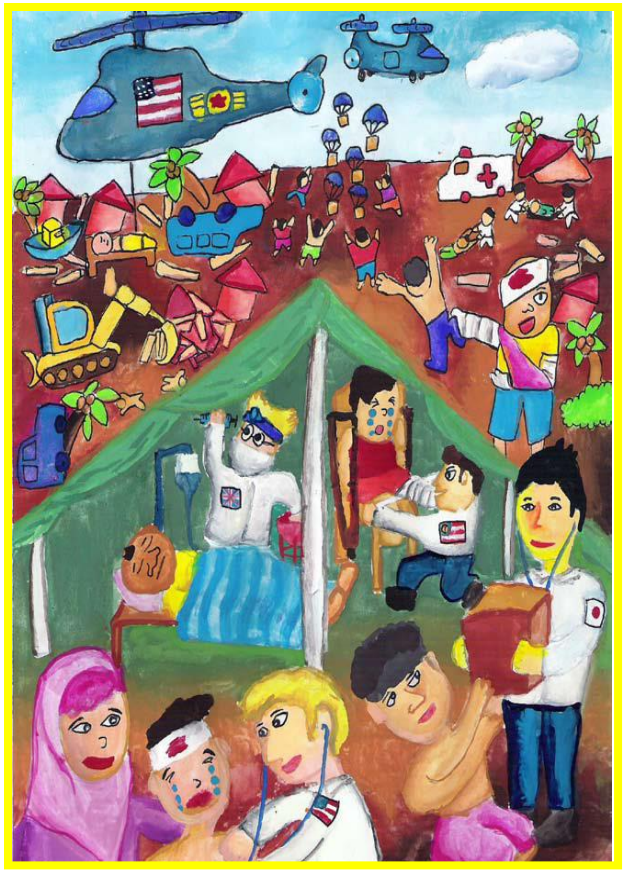
--NCTSN Child Welfare Trauma Training Toolkit

Child traumatic stress

- Post Traumatic Stress Disorder & Symptoms
- Acute Stress Disorder
- Related comorbidity symptoms

  (new onset – not present before the trauma):

  - Depression
  - Anxiety & fears
  - Substance use
  - Affect instability
  - Disruptive behavior



Artwork courtesy of International Child Art Foundation (www.icaf.org)

DSM-5 Posttraumatic Stress Disorder

(American Psychiatric Association, 2013)

A. A **traumatic event**
   - experienced, witnessed involving actual or threatened death, serious injury

B. **Re-experiencing**: intrusive recollections, dreams, flashbacks, distress & physiologic reactivity w/ exposure to cues

C. Persistent **effortful avoidance** of trauma-related stimuli **(1 required)**

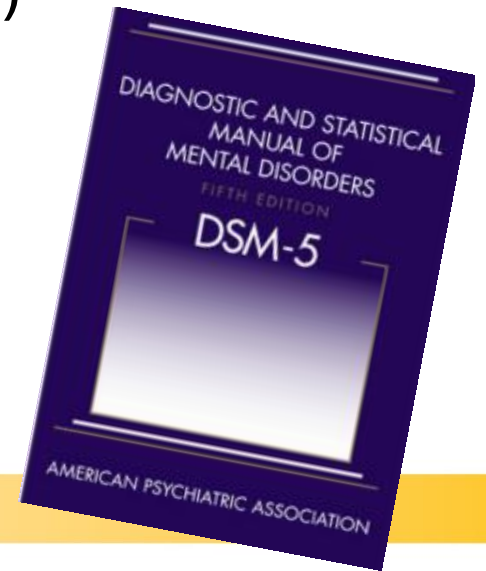
D. **Negative alterations in cognitions & mood (2 required)**

E. Alterations in **arousal and reactivity (2 required)**

F. than 1 month.

G. Functional significance

H. Specify if: with dissociative symptoms



The impact of traumatic stress on children

- Trauma effects (measurable distress)
- Disruption of normal development
- Risk for lifelong impact on physical and psychiatric health

-Amaya-Jackson, 2005,15

WHAT IS COMPLEX TRAUMA?

A) Traumatic exposure: experiences of multiple traumatic events that occur within relational system

- Continuous occurrences of child abuse
- Often chronic and early in childhood

B) Consequences or impact

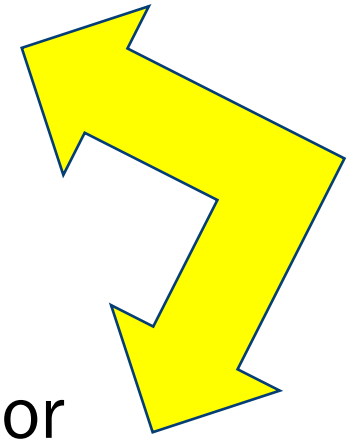
--(Cook, Van der Kolk, Spinnazola et al, 2003,2005, 2007 NCTSN)

Editorial Comment

A) Traumatic exposure: experiences of multiple traumatic events that occur within relational system

→ "Complex trauma <u>experiences</u>"

→ "Polyvictimization"



B) Consequences or impact

→ "Complex trauma <u>presentations or outcomes</u>"

-- Lisa Amaya-Jackson & Ruth DeRosa, J Traumatic Stress, 2007

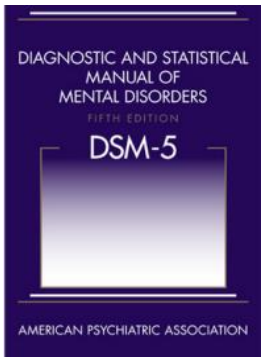
Effects of Complex Trauma Exposures

- In addition to long-term health consequences (ACE study) & economic impact, CT affects multiple domains of functioning including:
  - Attachment & Relationships
  - Biology/Physical Health
  - Emotional Responses /Affective Regulation
  - Dissociation
  - Behavior
  - Cognition
  - Self-Concept & Future Orientation

(Cook et al, 2003,2005, 2007 NCTSN)

Complex Trauma Diagnostic Challenges

- ~~Disorders of Extreme Stress, NOS~~
- ~~Complex PTSD~~
- ~~DSMIV Field Trials (mid-90s)~~



- ~~Trauma Developmental Disorder~~
- But…….the work continues!……

1. van der Kolk,(2005). Developmental trauma disorder. *Psych Annals, 35*,401-8.
2. Roth, Newman, Pelcovitz, van der Kolk,, & Mandel,.(1997).Complex PTSD in victims exposed to sexual & physical abuse: Results from the DSM-IV field trial for PTSD. *JTS,10*,539-55.

ICD-11 Complex PTSD will be added

- Narrowed PTSD: restricted to three symptoms: re-experiencing the trauma, avoiding reminders of the trauma, and experiencing a heightened sense of threat and arousal.,
- (New) complex PTSD: broader.
  - It is comprised of all 3 symptoms of PTSD,
  - Difficulty regulating emotion;
  - Feelings of shame, guilt or failure
  - Conflictual interpersonal relationships.
  - The intent is to distinguish patients whose responses are focused mainly on the trauma itself from those whose difficulties ripple more widely through their lives."
- Not impacting DSM-5R; No indications yet for DSM-6

NCTSN The National Child Traumatic Stress Network

Complex Trauma in Children and Adolescents

White Paper from the
National Child Traumatic Stress Network
Complex Trauma Task Force

This project was funded by the Substance Abuse and Mental Health Services Administration, U.S. Department of Health and Human Services

Within and Outside the NCTSN:

NCTSN Complex Trauma Work Group and Webpages & Products

-NCTS Complex Trauma Master Speaker Series on assessment & treatment

-CT Interventions created to address perceived gaps in science bg to obtain RCT capability

- Proposed Trauma Developmental Disorder progress - discriminatory analyses etc.

(*Ford, Spinazzola, Van der Kolk,, et al, 2016; Ford, 2018)*

- Trauma focused EBTs b/g to include this population in their research, training, & adaptations

-MCOs, State DMHs such as NY " Medical Homes for chronically ill " beginning to explore reimbursement for complex trauma cases

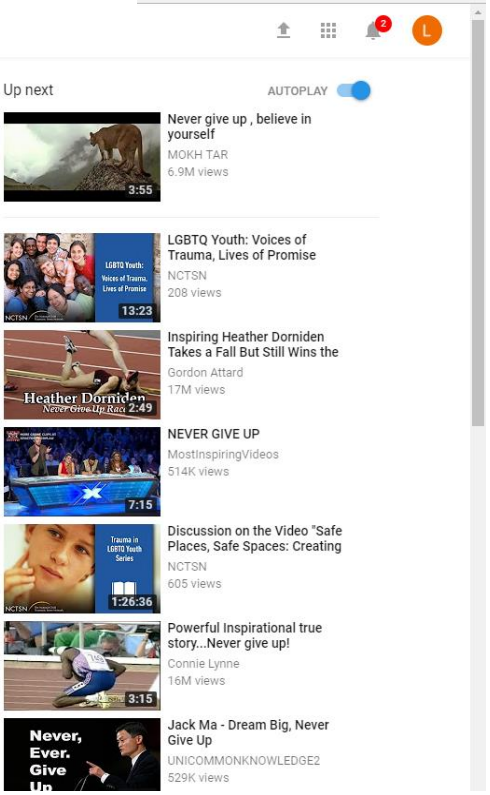
NCTSN Video: Never Give Up By Youth For Youth on dealing with complex trauma experiences & sequela

Never Give Up: A Video by Youth for Youth [FULL]

611 views

LIKE DISLI

NCTSN
Published on Oct 2, 2017



https://www.youtube.com/watch?v=YJqvbPGNvlo

Youth 1: "CT is not a dx, it's way more complicated - when you go thru life w/ people saying what's wrong with you & nobody asks what happened to you? …that's complex trauma."

Youth 2: "When nowhere feels safe not your home not your school not anywhere."

Youth 3: "CT isn't just about the stuff that happens to you-- its what it does to you."

Youth 4: "It changes the way you see yourself and the way you see the world"

12 NCTSN Core Concepts of Childhood Trauma

1. Traumatic experiences are complex-made up of many traumatic moments

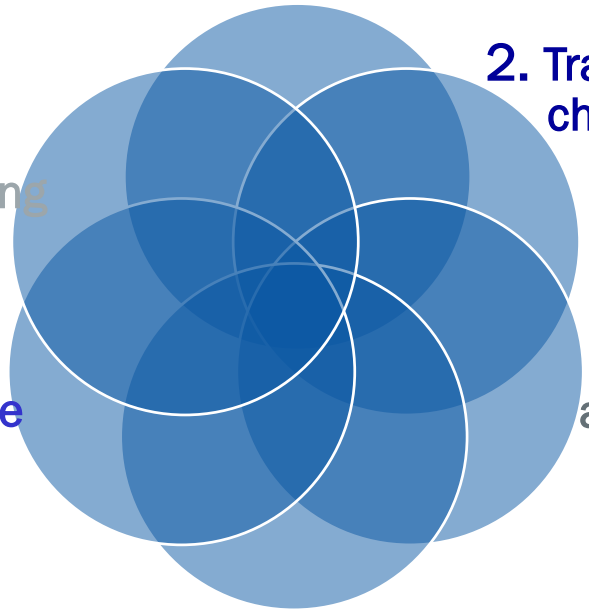
2. Trauma occurs w/in a broad context of child's life inc. personal experiences & current circumstances

3. Traumatic events generate 2° adversities & Distressing reminders

4. Children exhibit a wide range of reactions to trauma

5. Danger & safety are core concerns

6. Trauma affects caregiving systems



NCTSN Core Curriculum Task Force, 2008

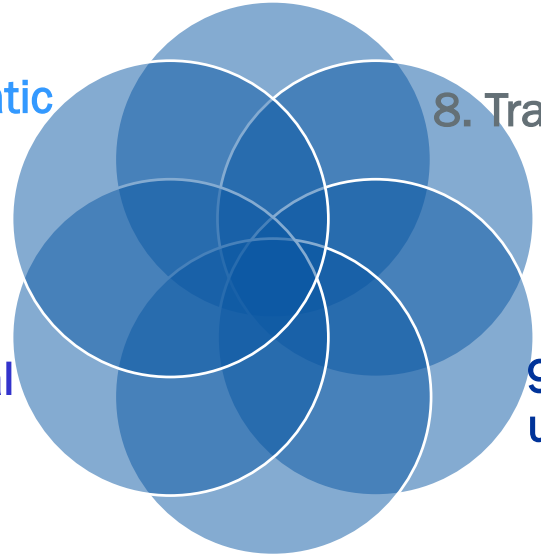
Layne, Strand, Abramovitz, Amaya-Jackson, Ross, CCCT 2013

12 NCTSN Core Concepts of Childhood Trauma

7. Protective factors reduce adverse impact of trauma

12. Secondary Traumatic Stress common

8. Trauma & post-trauma adversities can influence development



11. Challenges to the social contract, affect trauma response & recovery

9. Developmental neurobiology underlie children's reactions to trauma

10. Culture is closely interwoven w response, & recovery

NCTSN Core Curriculum Task Force, 2008

Layne, Strand, Abramovitz, Amaya-Jackson, Ross, CCCT 2013

NCTSN Core Concept #1 of Childhood Trauma

1. Traumatic experiences are inherently complex & made up of different traumatic moments--each includes varying degrees of objective life threat, physical violation, & witness to injury or death. Trauma-exposed children experience reactions to these moments including changes in feelings, thoughts,& physiological responses; & concerns for the safety of others. Children's thoughts, actions, or inaction during various moments may lead to feelings of conflict at the time, & to feelings of confusion, guilt, regret, or anger afterward.

NCTSN Core Curriculum Task Force, 2008

Traumatic expectations

"By their very nature & degree of personal impact, violent experiences skew expectations about the world, the safety & security of interpersonal life, and one's sense of personal integrity."

--Robert S Pynoos, 2002

Core Curriculum on Childhood Trauma (CCCT)

Strengthen trauma-informed conceptual knowledge & clinical reasoning skills

- Integrates 12 Core Concepts,
- Detailed clinical case vignettes (w/ diverse ages, trauma types)
- Problem-based learning facilitator guides to

- Embedded into graduate coursework. **>60 graduate schools of social work nationwide**

- Available training for mental health providers across country

Layne,Ghosh, Strand, Stuber, Abramovitz, Reyes, Amaya Jackson, Curtis. et al.(2011) *The Core Curriculum on Childhood Trauma: A Tool for Training a Trauma-Informed Workforce*. Psychological Trauma: Theory, Research, Practice,& Policy issue #3

Excerpt from a case vignette in the NCTSN Core Curriculum on Childhood Trauma

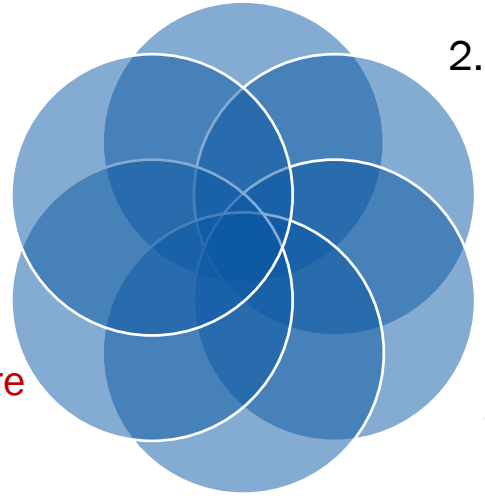
--Ibrahim (Late Elementary)

**The events in this case represent actual experiences, but the details have been altered to protect the client's anonymity.*

Gewirtz, A. & the NCTSN Core Curriculum on Childhood Trauma Task Force (2012). *Ibrahim case study: Core curriculum on childhood trauma*. Los Angeles, CA, & Durham, NC: UCLA-Duke University National Center for Child Traumatic Stress.

NCTSN Core Concepts of Childhood Trauma

1. Traumatic experiences are complex-made up of many traumatic moments



2. Trauma occurs within a broad context

3. Traumatic events generate secondary adversities

4. Children exhibit a wide range of reactions

5. Danger & safety are core concerns

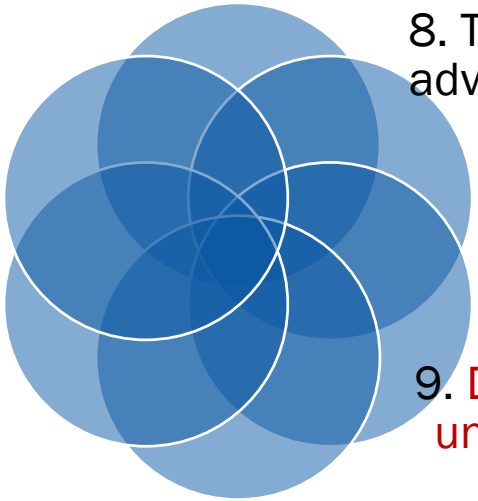
6. Trauma affects caregiving systems

NCTSN Core Curriculum Task Force, 2008

NCTSN Core Concepts of Childhood Trauma

7. Protective factors reduce impact of trauma

12. Secondary Traumatic Stress



8. Trauma & post-trauma adversities can influence development

11. Challenges to the social contract, affect trauma response & recovery

9. Developmental neurobiology underlie children's reactions

10. Culture is closely interwoven w response, & recovery

NCTSN Core Curriculum Task Force, 2008

Deeper dive into complexity of trauma experiences

- Even a circumscribed traumatic event, of short duration, can't be reduced to simple categorical description.
- Each event carries individualized personal experience about the multiple domains of danger. (appraisal of danger's magnitude, cause, emotional/physio response & efforts to regulate them that go hand in hand with thoughts or actions to protect oneself/others.
- All therapeutic trauma narrative work relies on a solid understanding of the complexity of these child traumatic experiences and the developmental knowledge about danger, memory, ongoing cognitions & feelings.

--Robert Pynoos, 2013 as interpreted by Amaya-Jackson

Ibrahim: Sample Discussion Points

- Prior function and family life
- Bridge collapse reactions
- Trauma reminders
- Siblings
- Other children and adults
- Major Dilemmas of Ibrahim
- Most scary/difficult/sad
- Trigger of past trauma
- Role of oldest child - culture, expectations

NCTSN Core Concept #12 of Childhood Trauma

12. Working w/ trauma-exposed children can evoke distress in providers that makes it more difficult for them to provide good care

- Mental health providers deal with many personal & professional challenges as they hear details of children's traumatic experiences & life adversities, witness children's & caregivers' distress, & attempt to strengthen children's & families' belief in the social contract.
- Engaging in clinical work may also evoke strong memories of personal trauma- & loss-related experiences. Proper self-care is part of providing quality care & of sustaining personal & professional resources & capacities over time.

NCTSN Core Curriculum Task Force, 2008

Trauma Evidence-Based Treatments & Promising Practices

Let's Remember…

- We have evidence of dysregulation of function & structure—but we are still not able to directly link one specific biological change to a specific outcome.
- Profound changes…but brain & body compensations can happen. Humans very adaptable.
- Biology is not destiny. Some changes are reversible. Neuroplasticity continues beyond what we originally thought. We have evidence that the right treatment works.

Amaya-Jackson & Putnam, 2014

Caregiver's Experiences with Trauma

- Child's Trauma:
  - Caregiver's must deal with **child's trauma reactions:** nightmares about blood; sexual acting out & disruptive behavior & emotional dysregulation
- Caregiver's 2° trauma reaction & 2ndary traumatic stress
  - Foster parents hear child's story & cope w/ hearing/knowing the horrors causing their child's behaviors
- Caregiver's rekindled past trauma exposures & reactions

— Amaya-Jackson, NCTSN - ACYF, 2007

Treatments/Interventions with high levels of evidence (RCTs) being used in the Network:

1. Trauma-Focused CBT (Cohen et al) child sexual abuse
2. Alternatives for Families CBT (Kolko et al) child physical abuse
3. Parent-Child Interaction Therapy (Eyberg) child physical abuse prevention and reduced recidivism
4. Child Parent Psychotherapy (Lieberman et al) Early childhood
5. Cog- Behavioral Intervention for Trauma in Schools (Jaycox)
6. Surviving Cancer Competently Intervention Program (Kazak)
7. UCLA Trauma Grief Focused Tx Program for Adolescents (Saltzman, Layne, Pynoos)
8. Attachment & Biobehavioral Catch-up (Dozier)

–Amaya-Jackson, ISTSS, 2011

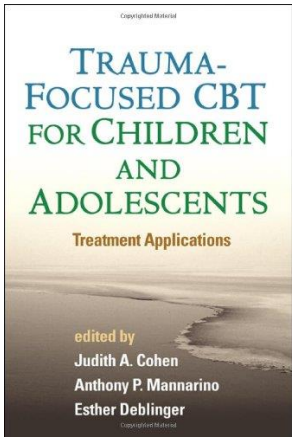
Treatments gathering evidence intent on filling gaps in current science base

1. Attachment, self-Regulation, & Competency (Kinniburgh, Blaustein, Spinazzola, van der Kolk, 05)
2. Integrative Psychotherapy for Complex Trauma (Lanktree & Briere, 03)
3. SPARCS: Supportive Psychotx for Adolesc Responding to Chronic Stress (DeRosa & Pelcovitz, 2004)
4. Real Life Heroes, (Kagan, 04)
5. Psychological First Aid (Brymer, Steinberg, Pynoos, Layne)
6. TARGET Trauma Affect Regulation: Guidelines for Educ. & Therapy (Ford & Russo)
7. Trauma Systems Therapy (Saxe, Ellis, & Kaplow, 06)
8. Strengthening Family Coping Resources (Kiser et al, 2010)
9. Child & Family traumatic Stress Intervention (Marans, Berkowitz et al)
10. Family Emergency Intervention for Suicide Prevention *for Trauma* (Asarnow, 2016)

— Amaya-Jackson & DeRosa, JTS, 2007

General Factors in Trauma Treatment

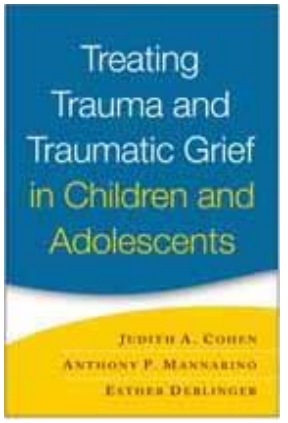
- Establish individual/family in safe environment
- Establish therapeutic alliance
  - Set guidelines for boundaries & safety
  - Establish relationship
- Address traumatic experiences
- Address traumatic reminders
- Address disrupted emotional regulation
- Address post-trauma stressors & adversities
- Realign developmental impact



TF-CBT Treatment Outcome Research

–Deblinger, Cohen, Mannarino

8+ RCTs (Randomized Controlled Trials)



Results:

- ↓ PTSD, depression, behavior problems, & social competence compared to nonspecific treatment
- PTSD improves only with direct child treatment
- Parent Involvement improves child behavior, child depression.
- ↓ parental distress, compared to non-specific treatment
- Sexual abuse was index trauma, but study subjects had other traumas

TF-CBT Treatment Research: Randomized Clinical Trials

- 20 RCTs
- 9 RCTs have been completed by the Cohen, Deblinger, & Mannarino team
  - Average number of trauma in recent studies: 3.4
- Two RCTs in Democratic Republic of Congo for sex trafficked girls & boy soldiers (O'Callaghan et al , 2013) Mean # Traumas: 12
- Study in Zambian HIV Affected Orphans & Vulnerable Children (Laura Murray et al. 2013) Mean # trauma types: 5
- One RCT in Norway (Tine Jensen et al.)
- The Netherlands: TF-CBT vs. EMDR (Diehle et al, 2015)
- One RCT in Germany (L Goldbeck, et al 2016)

(Single) Trauma Narrative (Exposure) Goals

1. Conceptualizes trauma as series of traumatic moments to work through *(Pynoos, 87)*
2. Anxiety & stress desensitization in addressing the event
   a. *Must include client emotionally engaging in recounting event (Foa, '98)*
3. Build coherent recollection of event (*Foa, A-J & March, '95)*
4. ↑ Organization of narrative *(Foa, '95)*
   a. clear recounting of event w/ beginning, middle, end
5. ID & ↓ cognitive/behavioral avoidance to trauma reminders (unpair fearful associations) *(Pynoos, '87)*
6. Identify & correct distortions for cognitive & emotional processing
7. Increase mastery & efficacy
8. Contextualize events & meaning making *(Lifton, '91)*

- *Amaya-Jackson & March, '95*

PRACTICE - TFCBT

- **P**sychoeducation and Parenting Strategies
- **R**elaxation
- **A**ffect expression & regulation
- **C**ognitive coping
- **T**rauma narrative and processing
- **I**n vivo exposure
- **C**onjoint parent child sessions
- **E**nhancing personal safety and future growth

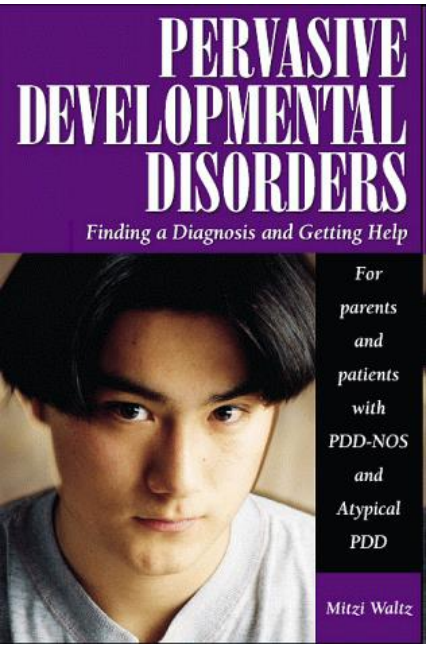
-Cohen, Mannarino, Deblinger

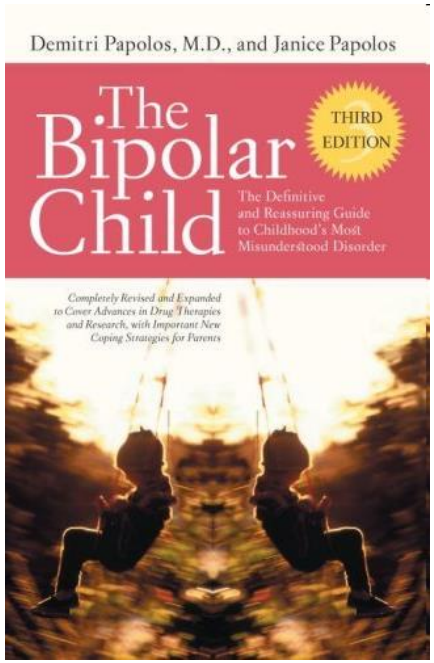
Psychopharmacology & Child Traumatic Stress

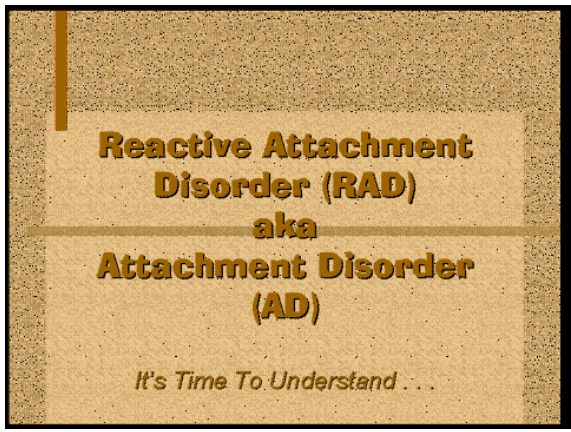
- Evidence for treatment of posttraumatic stress disorder (PTSD) or posttraumatic stress (PTS) and related trauma sequela is strongest for trauma-focused psychotherapy. TF-CBT has the highest level of evidence.
- Medication efficacy studies in children are limited & not generalizable from adult research of PTSD.

--Amaya-Jackson, Am Acad Ch Adol Psychiatry Annual Meeting, 2012

What are disorders often attributed to children with histories of child maltreatment ?

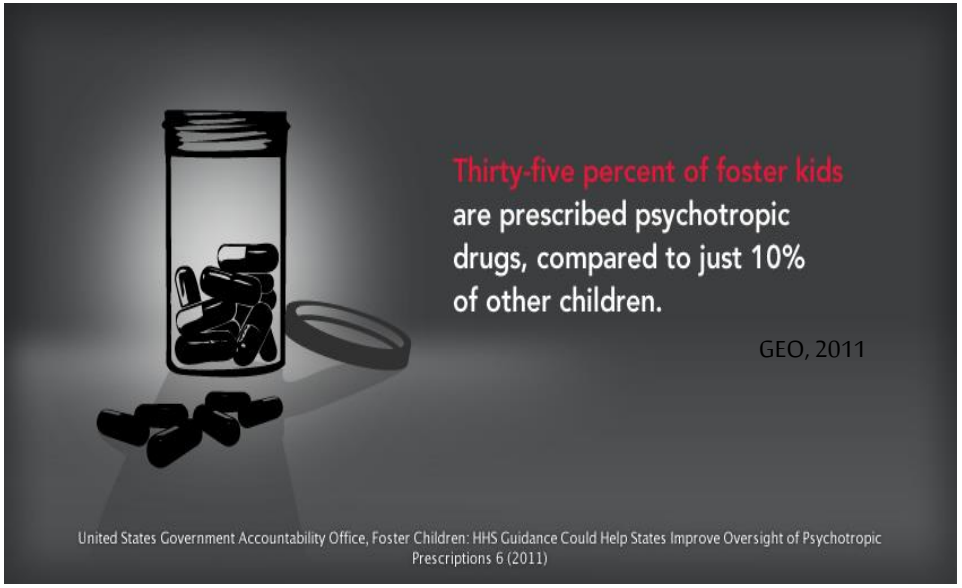






- Emotional dysregulation & mood swings
- Interpersonal difficulties
- Behavior extremes

Cautions



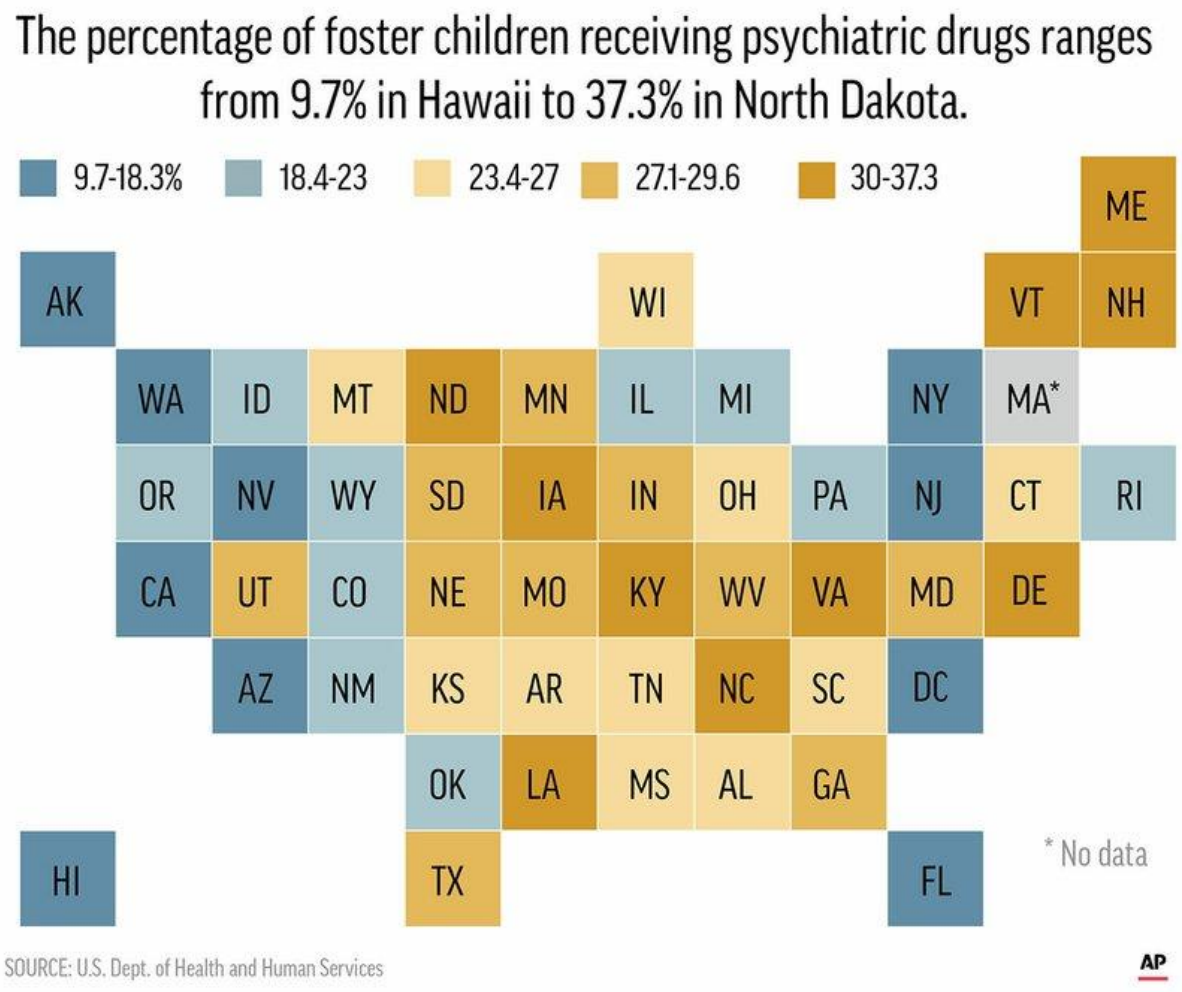
Children in Foster Care:

- Sept. 2011: Congress passed an Act (PL 112-34)
- Requires state child welfare (CW) to develop protocols for use & monitoring of psychotropics.
- U.S. Government Accountability Office (GAO) showed FC 3-5X likely to be on psychotropics than other youth on Medicaid.
- Hailed *AACAP Position Statement on Psychotropic Guidelines for CW Children. ACYF has one as well.*

In 2018, Health & Human Services inspector general's office reported that 34 % children in foster care were prescribed psychiatric drugs without treatment plans or follow up.

- Inspector general examined 625 cases – 125 cases from NH, IA, ND, VA, ME – "the 5 states with the highest overall percentages of foster children treated with psychiatric drugs"*
- Report found that children in foster care were both at greater risk of being prescribed powerful medication unnecessarily and at greater risk for not getting medication they need.

*Alonso-Zaldivar, R. (Sept 17 2018) 'Watchdog slams safeguards for foster kids on psych drugs,' *AP News,* Available at: https://www.apnews.com/5407dd7e5abf4ced819415 40649e3795


The percentage of foster children receiving psychiatric drugs ranges from 9.7% in Hawaii to 37.3% in North Dakota.
9.7-18.3%
18.4-23
23.4-27
27.1-29.6
30-37.3
ME
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OR
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LA
MS
AL
GA
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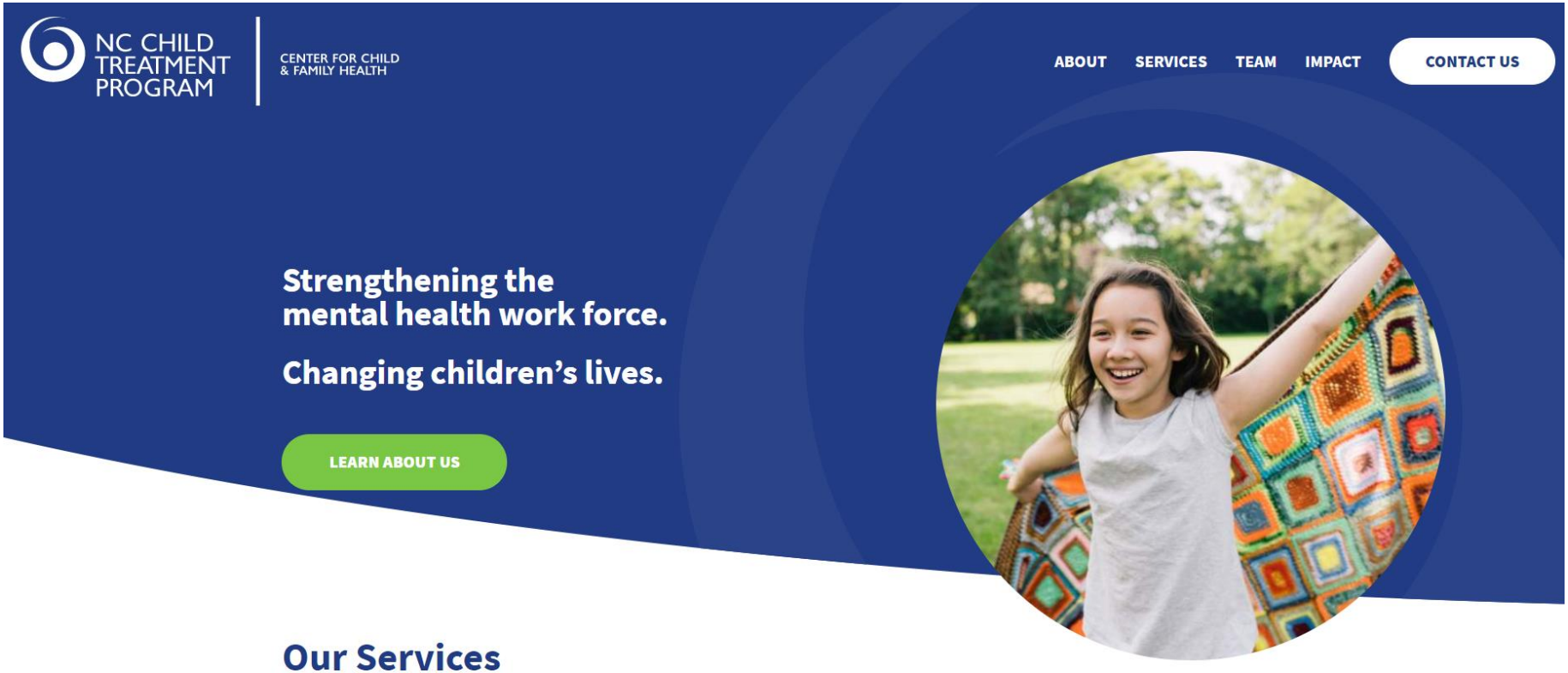
TX
FL
* No data
SOURCE: U.S. Dept. of Health and Human Services
AP

You are working in your office, and the phone rings……

Can you or someone you would recommend see this chld for PTSD and trauma impact?

N.C. Child Treatment Program
Center for Child & Family Health

Co-Directors: Dana Hagele & Lisa Amaya-Jackson



NC CHILD TREATMENT PROGRAM

CENTER FOR CHILD & FAMILY HEALTH

CONFIGURING A STATE PROGRAM:

Dissemination and Implementation of EBTs in Trauma

General Assembly Funding

Hagele, Amaya-Jackson, Alvord, Murphy, 2012

NC CHILD TREATMENT PROGRAM

CENTER FOR CHILD & FAMILY HEALTH

Selected Treatments:

- Trauma Focused CBT - TF-CBT (20)
- Parent Child Interaction Therapy - PCIT (14)
- Child Parent Psychotherapy - CPP (5)
- SPARCS (4)

*Attachment & Biobehavioral Catchup – ABC (2)

- Problematic Sexualized Behavior CBT
  - Launch Fall 2019

Training Platform:

- NCTSN's Learning Collaborative on Adoption & Implementation of EBTs

Quality Assurance: Standards

- Monitor Fidelity (Adherence) + Competence + Level of Coaching Necessary
- Monitor agency, clinician, client progress & outcomes

Public Health Approachthat includes Sustainability:

- Roster of Trained Providers to link children to trauma trained clinicians
- Post-training platform

NC POP - Performance Outcome Platform

- Data Management Capture for clinician fidelity, progress Monitoring & client Outcomes

NC CTP ROSTER CRITERIA FOR TFCBT CLINICIANS

1. Participation in full training curriculum

2. Take ≥ 2 traumatized child (1=sexual abuse) through TF-CBT with fidelity monitoring & documentation

3. Completion of Clinical Outcomes & online Clinician Encounter Forms

--Amaya-Jackson & Hagele, 2010

2006-09 PILOT DATA: ALL POST-TEST SCORES SIGNIFICANTLY* LOWER THAN PRE-TEST SCORES ON OUTCOMES

1. A. PTSD* RI– Child Report

   B. PTSD* RI– Parent Report

2. **Child Depression*** – Child Depression Inventory

3. **Suicidal Ideation & Intent***

4. **Parent Report on Behavior*** – Strengths Difficulties Q

5. **Parent Symptoms*** - Brief Symptom Inventory

Research data:
n=124 clinicians
n= 310 clients

*p< .001

Controlling for: *Client age ,gender, race, Medicaid status, Clinician characteristics (age, gender, race), & prior trauma training.*

Amaya-Jackson, Hagele Slderis, et al, 2018 ,Pilot to Policy: Statewide dissemination & implementation of ET for traumatized youth. BMC Health Serivces Research 18; 589

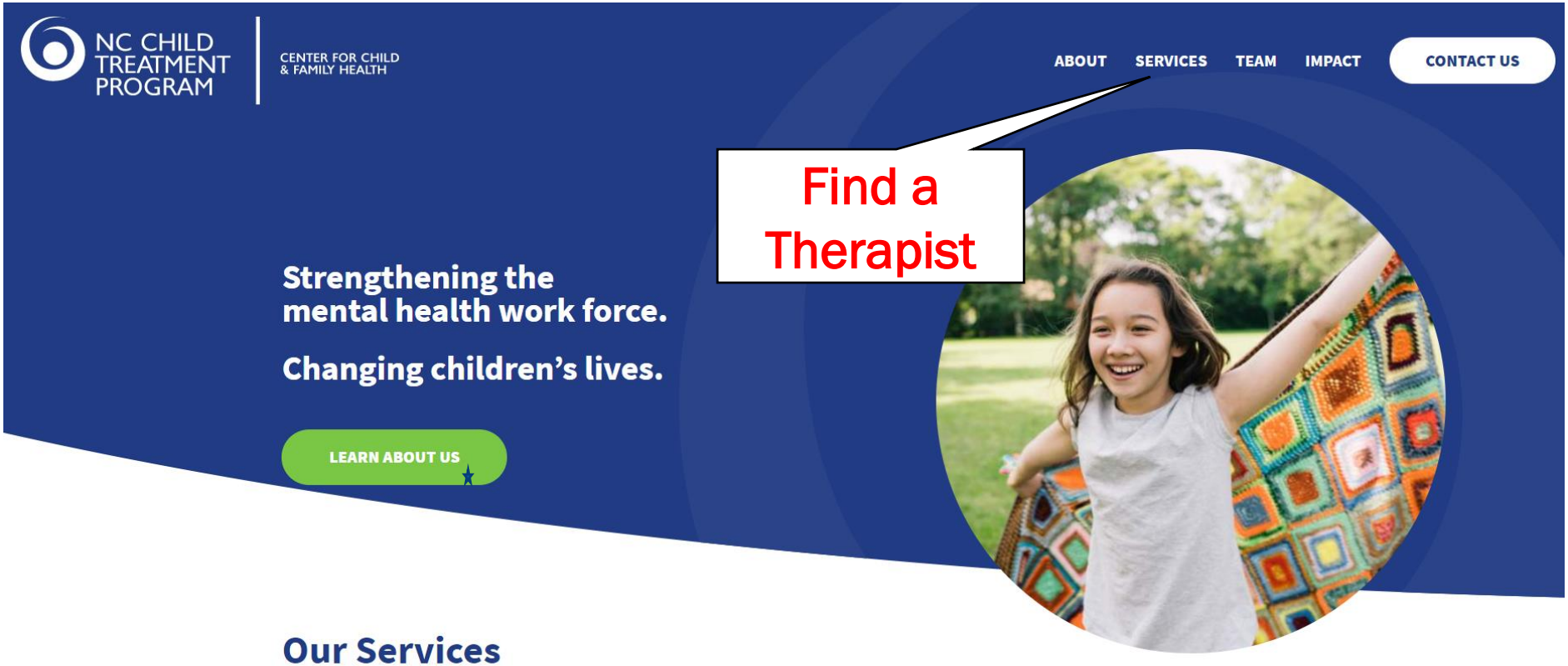
EFFECTIVENESS OF TRAINING COMPONENTS

(JOYCE AND SHOWERS, 2002)

COMPONENTS	KNOWLEDGE	SKILL	TRANSFER/USE
Lecture/theory	10%	5%	0%
Demonstration	30%	20%	0%
Practice	60%	60%	5%
Coaching	95%	95%	95%

NC CHILD TREATMENT PROGRAM WEBSITE:

www.ncchildtreatmentprogram.org



Hagele, A-J, Alvord, et al. 2014

110

Provider Roster

c access to find a trauma EBT therapist

The NC Child Treatment Program Roster is a searchable list of all NC CTP trained providers who are currently accepting referrals.

Please use the form below to search for therapists by county, treatment model, or use advanced search options.

VIEW OUR ROSTER REQUIREMENTS

VIEW A LIST OF ALL PROGRAM GRADUATES

odel"
ose:
CPP,
TI,
CS,
BT

By County or Agency

Filter Providers:

Provider First Name...

Provider Last Name...

County...

Insurance Accepted...

Training Level...

Agency Name...

Treatment Models

- Any Model
- Attachment and Biobehavioral Catch-up (ABC) *
- Child-Parent Psychotherapy (CPP)
- Parent-Child Interaction Therapy (PCIT)
- Structured Psychotherapy for Adolescents Responding to Chronic Stress (SPARCS)
- Trauma-Focused Cognitive Behavioral Therapy (TF-CBT)

Additional Language Spoken

- Spanish
- Other

Language (Spa

FILTER

RESET

Melinda Clontz, LCSW CPP PCIT, TF-CBT Lincoln LES

Languages Spoken: English

Clinic Information

Live N Joy Counseling
117 North Poplar Street,
Lincolnton, NC 28092
Lincoln County

Phone: 704-754-4726 Ext: 102
Fax: 704-754-4726

Insurances accepted at this location:

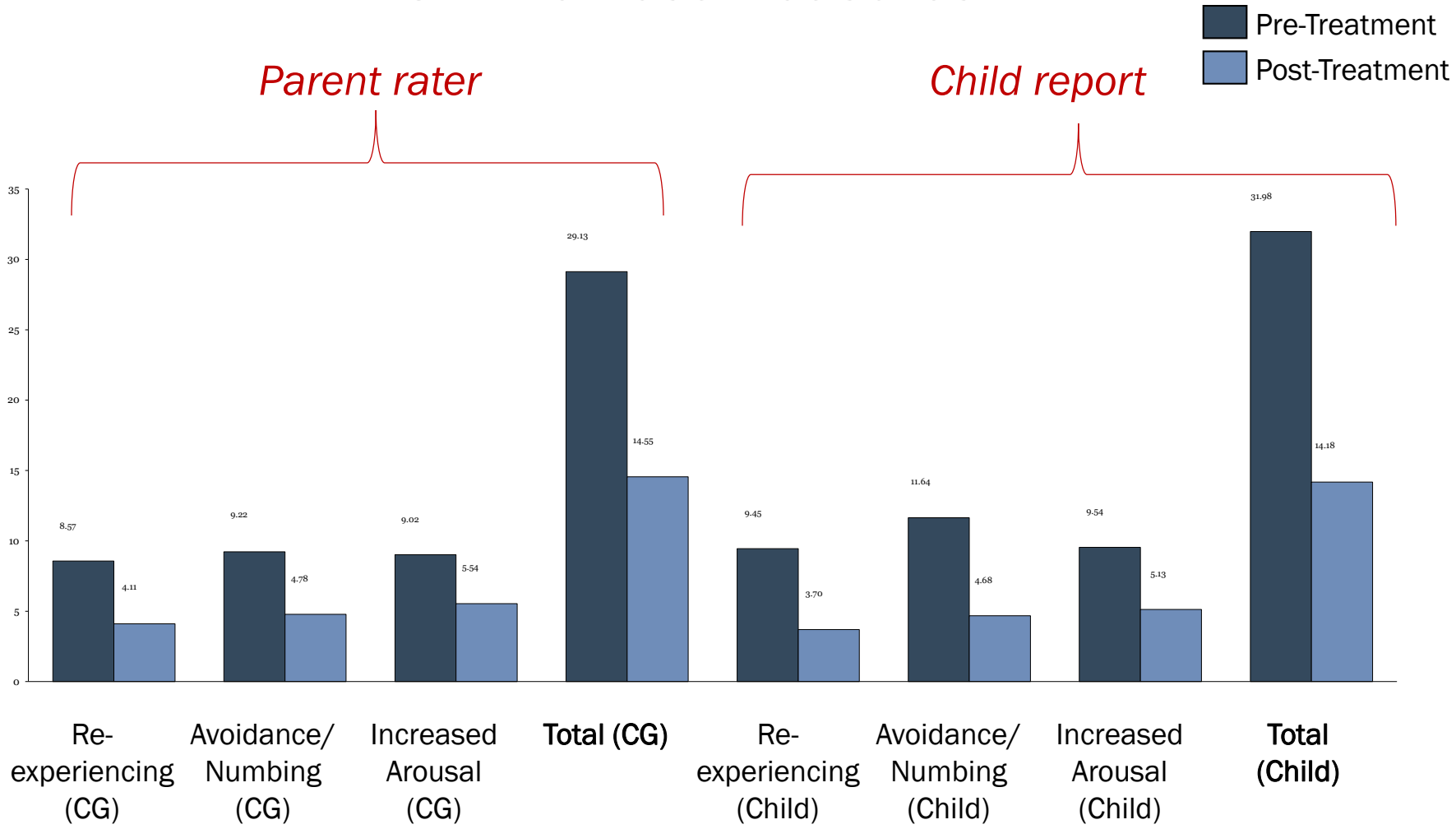
- Medicaid
- BCBS
- NCHealthChoice

Services Offered

- Provides office-based treatment

2014 CLINICAL OUTCOMES: TF-CBT COHORT 8

PTSD Pre-Post Measures

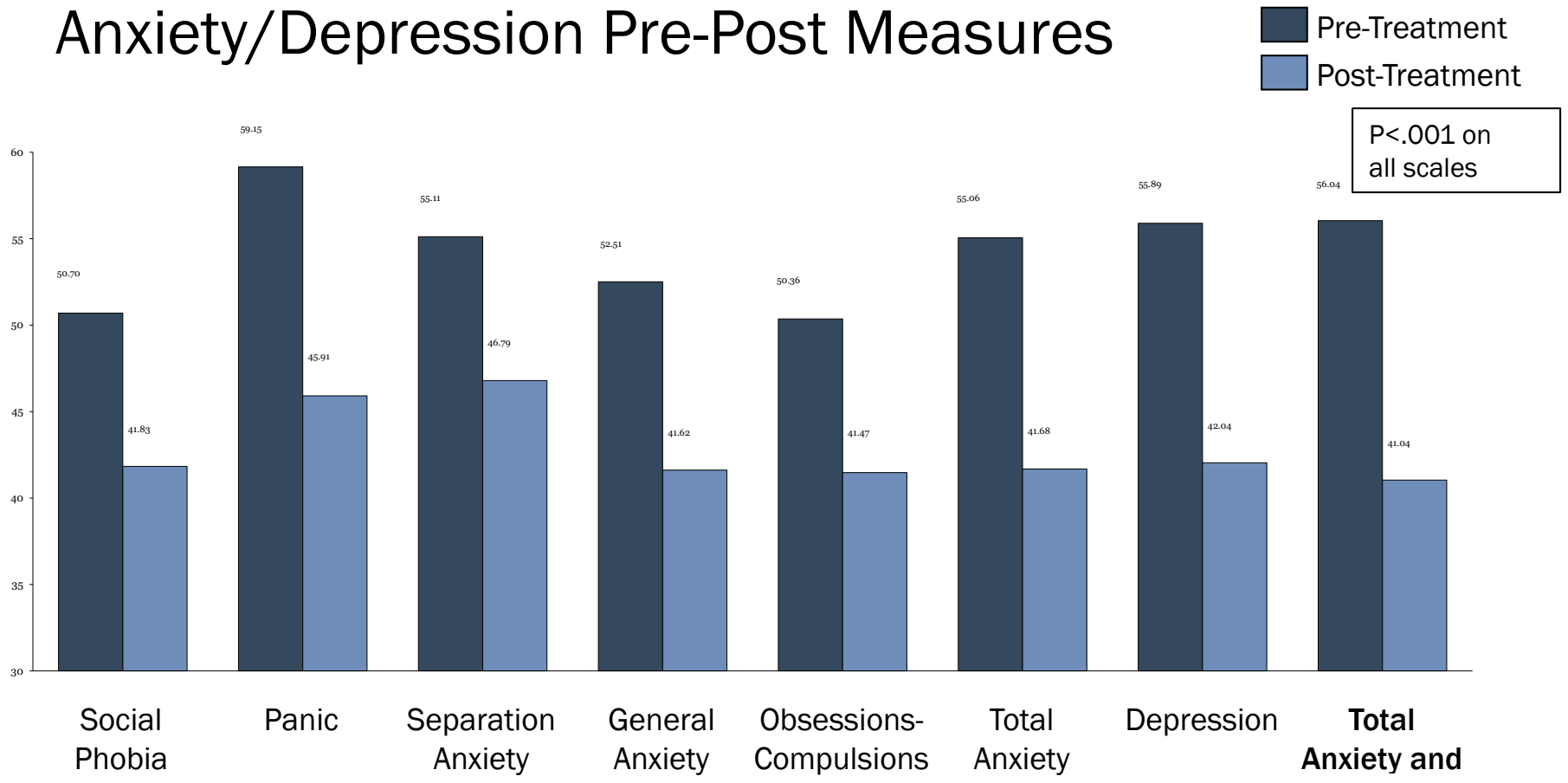


P<.001 on all scales

-Steinberg, Glienke, Hagele, Amaya-Jackson, Alvord et al, 2014

NC CHILD TREATMENT PROGRAM | CENTER FOR CHILD & FAMILY HEALTH

2014 CLINICAL OUTCOMES: TF-CBT COHORT 8

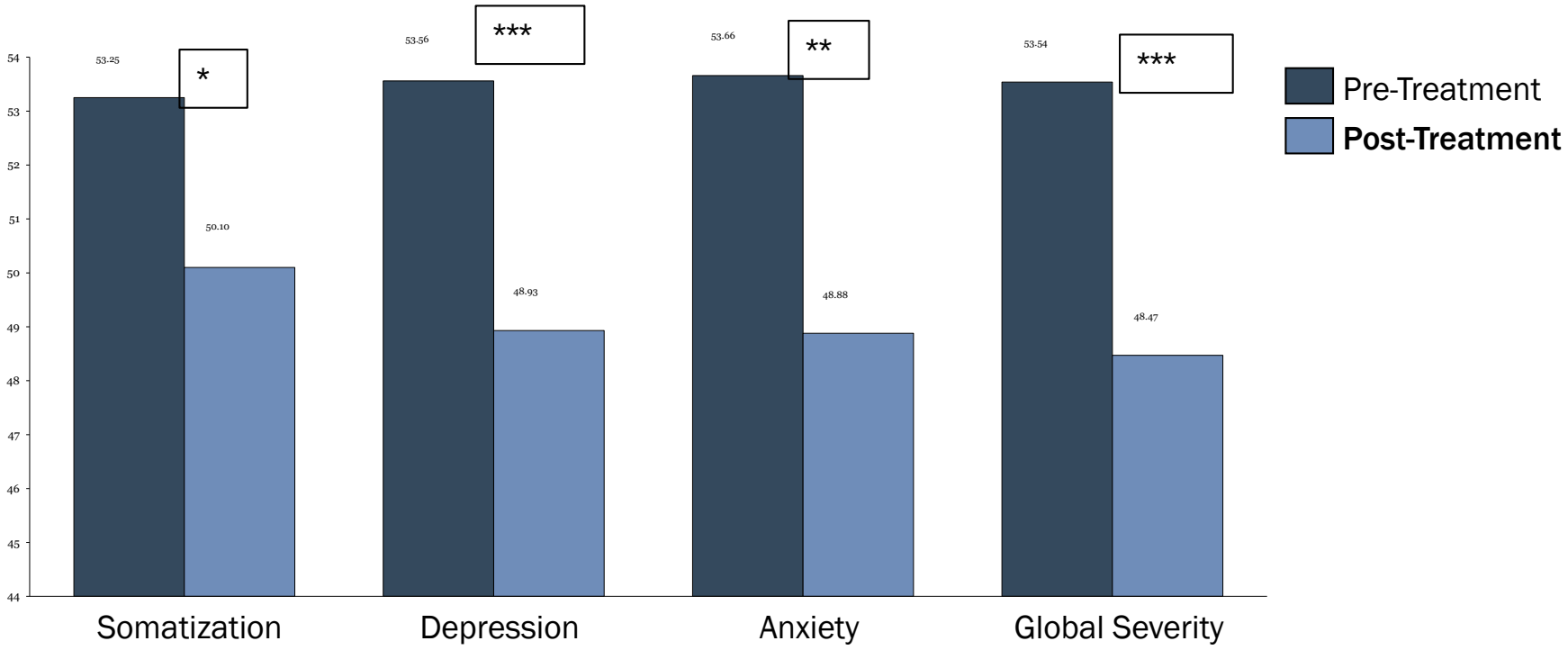


-Steinberg, Glienke, Hagele, Amaya-Jackson, Alvord et al, 2014

NC CHILD TREATMENT PROGRAM | CENTER FOR CHILD & FAMILY HEALTH

2014 CLINICAL OUTCOMES: TF-CBT COHORT 8

Parents Own Symptoms: Pre-Post Measures



***p <.001
**p <.01
*p < .05

-Steinberg, Glienke, Hagele, Amaya-Jackson, Alvord et al, 2014

NC CHILD TREATMENT PROGRAM | CENTER FOR CHILD & FAMILY HEALTH

INSTITUTIONAL FUNDING AND SUPPORT

- $1.8 million annually-recurring appropriation from the NC General Assembly to support:
  - Training & Implementation of Trauma EBTs that include fidelity, outcomes, & progress monitoring
  - Tailoring the LC platform for the models in this child mental health service array
  - Necessary infrastructure supports
  - Emphasis: Outcomes, accountability & cost-savings
  - EBT sustainability in the workforce
  - Ongoing Evaluation (not research)
- $500,000 allocation: Expand a training and treatment data exchange platform (NC POP 2.1)
- 2019 Additional DMH funds to pilot PSB-CBT platform
- 2016 -2021 NCTSN dollars fund ABC dissemination

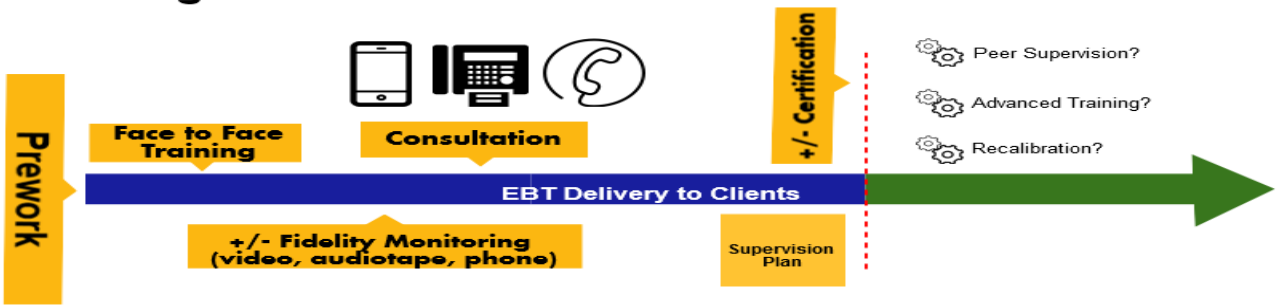
Hagele, A-J, et al, 2013

#ANC2016

Get it Going, Keep it Going

Implementation Science added to Training for the adoption & implementation of an EBT

Training + Consultation on EBT



Amaya-Jackson and Spencer, 2016

NC CTP: POST TRAINING PLATFORM

- To maintain status on NC CTP-Roster:
  - Clinicians need to:
    - Graduate from a model-specific learning collaborative
    - Demonstrate fidelity to the model
    - Active license in good standing
  - In FY 2018, the following requirements were added:
    - Accepting referrals and/or maintaining active caseload
    - 6 EBT relevant CEU's per 2 years
    - EBT specific clinical supervision or peer supervision
    - Completion of 2 EBT cases in previous 2 years, including monitoring of case-level fidelity and completion of pre- and post-treatment assessment.
- Currently, there are over 620 clinicians on the roster (ABC, CPP, PCIT, SPARCS, TF-CBT)
- Roster location: www.ncchildtreatmentprogram.org

Glienke, Hagele, Potter, et al. 2018

NC CHILD TREATMENT PROGRAM | CENTER FOR CHILD & FAMILY HEALTH

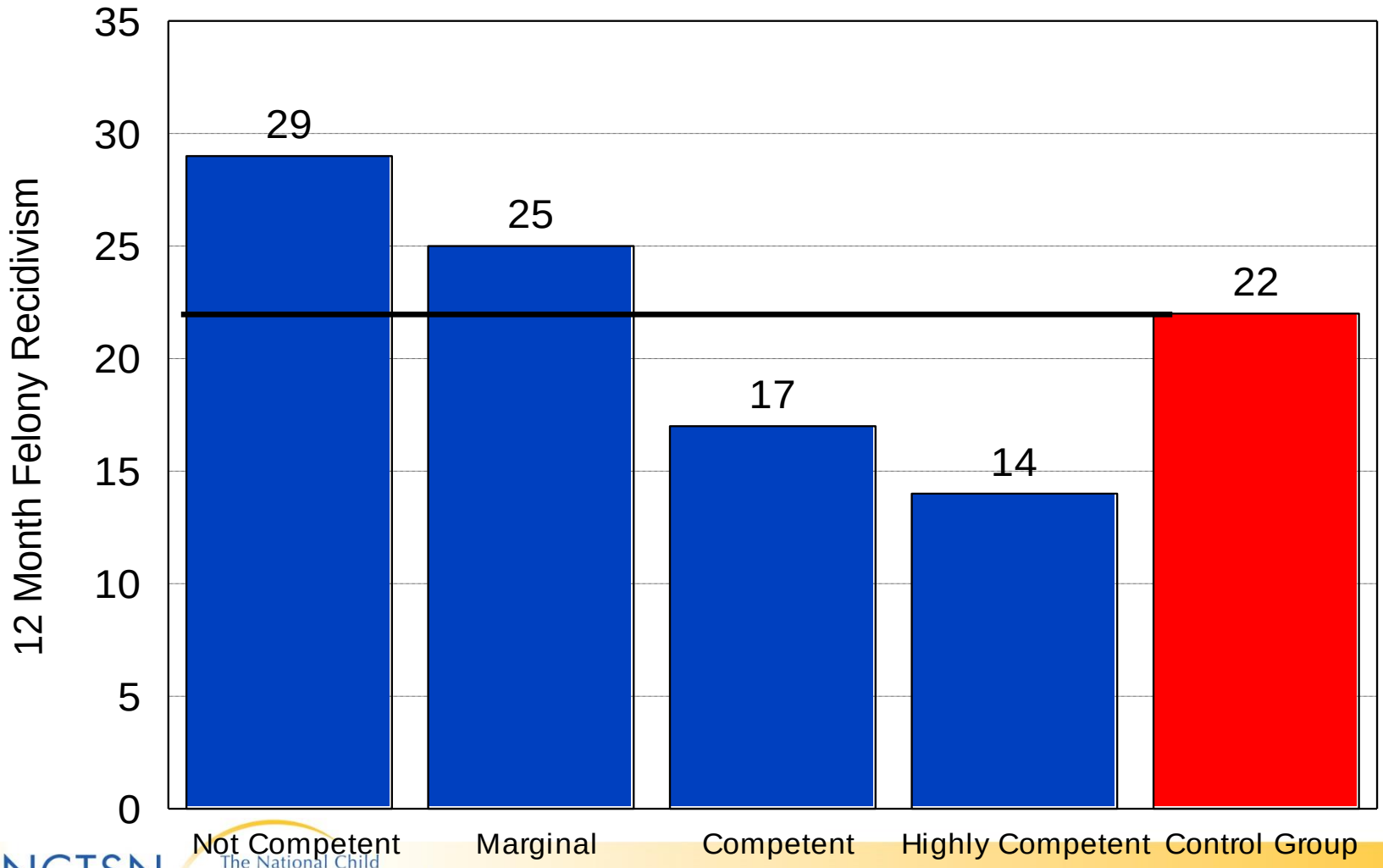
2014-15 CTP Next Phase Questions: Sustainability

- How do we keep this going?
- What would incentivize Managed Care Organizations to offer enhanced Medicaid rates?
- What quality assurance mechanism are in place to "protect their investment"
  - How do they know that the trained providers stay "high quality" now that they don't have

Hagele & Amaya-Jackson, Glienke 2015

FIDELITY: IS IT KEY TO GET OUTCOMES?

Therapist Competency Ratings and Recidivism



Source: Outcome Evaluation of Washington State's Research-Based Programs for Juvenile Offenders. January 2004. Washington State Institute for Public Policy.

EBT TIME MODEL:

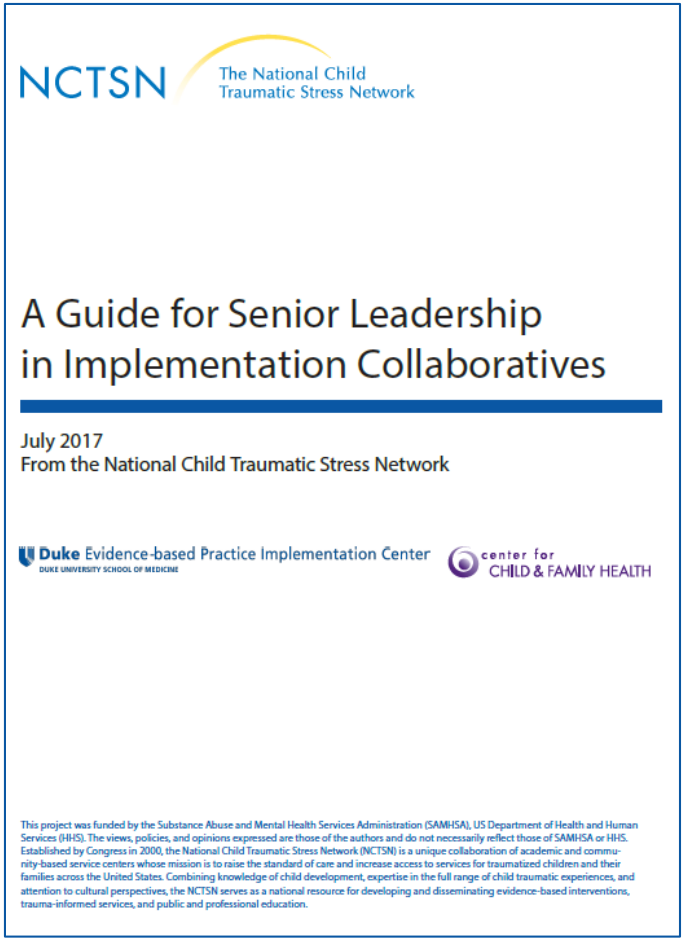
PURPOSE FROM AN IMPLEMENTATION PERSPECTIVE

- To inform agency-level logistics (e.g., scheduling)
- To determine true cost of EBT delivery from a clinical perspective
- To inform development of a cost model (i.e., to help determine payment mechanisms and cost)
- To better understand workforce capacity

Hagele, Steinberg, Glienke et al, 2013

A Guide for Senior Leadership in Implementation Collaborative

- Collaboration between NCTSN, CCFH, & Duke EPIC:
- Sections include:
  - Selecting the senior leader
  - Orienting & engaging the senior leader
  - Preparing for implementation
  - Putting training into action
  - Sustaining the work

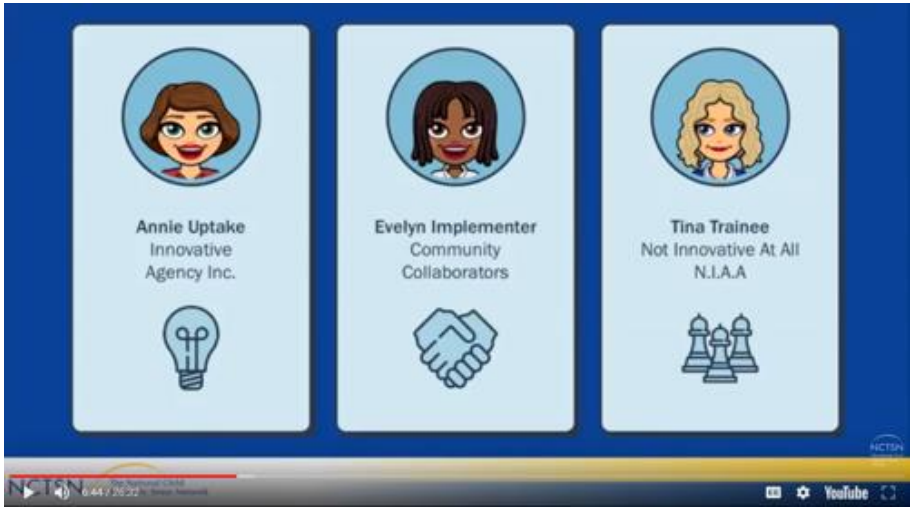


Agosti J, Ake G., Amaya-Jackson L, Pane-Seifert H, Alvord A, Tise N, Fixsen A, & Spencer J. (2016). A Guide for Senior Leadership in Implementation Collaboratives. Los Angeles, CA & Durham, NC.

Reviewed by an NCTSN Expert Panel 9, 2016

NCTSN Implementation Learning Series

- 3-part Web Conference Series
  - The Exploration, Preparation, Implementation, and Sustainment (EPIS) Framework
  - Two's Company, Three's…A Learning Collaborative
  - Readiness, Set, Go! What to Look for Before You Leap to Implementation
  - Translating Implementation Science into Practice
  - Sustainability and Leadership
  - 9 Strategies to Keep EBTs Going After Training Ends



https://learn.nctsn.org/course/view.php?id=466&section=1

What does it take to keep an EBT going in your agency after you have invested in significant training?

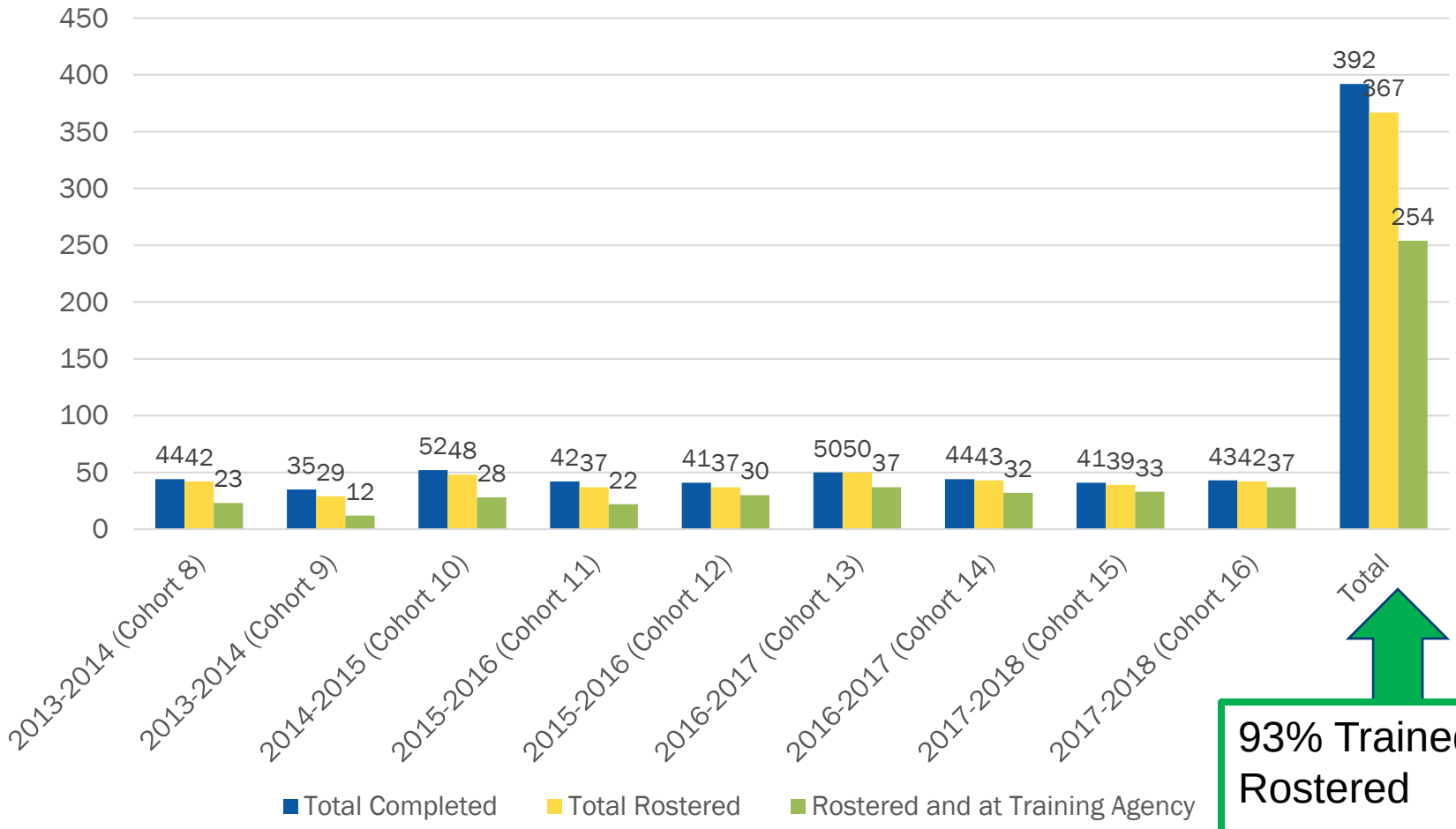
Sustainability 9 : Strategies &Applications

1. Model-specific supervision or consultation after training complete
2. Access to ongoing education in the EBT
3. Supervisor support
4. Cultivating an agency champion
5. Fidelity monitoring
6. Client outcomes monitoring
7. Ongoing leadership support for quality EBT delivery
8. Funding and adequate (enhanced) rate for EBTs
9. Training new staff

Fitzgerald, Amaya-Jackson, Kolko, Goldman-Fraser, Lang, Kliethermes, Ake
NCTSN ANC, 2016; 2017

https://learn.nctsn.org/mod/page/view.php?id=11696

North Carolina Sustainment of Trainees After TFCBT LCs



93% Trained Still Rostered

69% of Rostered Still at Agency

Glienke, Pane-Siefert, et al. 2018

Thank You. Questions?

Email at:
Lisa.Amaya.Jackson@duke.edu

NCTSN Website & Learning Center