Using Surveillance to Drive a Public Health Approach to Child Maltreatment Prevention

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Presenters:
Malia Richmond-Crum | Rebecca Leeb
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Using Data and Surveillance for Public Health Child Maltreatment Prevention

A Public Health Leadership for Child Maltreatment Prevention Initiative
Webinar

May 31, 2012

Malia Richmond-Crum, MPH
CDC Foundation Fellow
National Center for Injury Prevention and Control
Centers for Disease Control and Prevention

Public Health Leadership for Child Maltreatment Prevention (PHL) Initiative

- Raise awareness about child maltreatment prevention as a public health issue.

- Support and enhance child maltreatment prevention efforts in public health agencies.

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Polls

Presenters

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Promoting healthy child development through state-based public health surveillance of child maltreatment

Rebecca T. Leeb, PhD
Child Development Studies Team

PHL Webinar Series
31 May 2012

SAFER • HEALTHIER • PEOPLE™

It is in the national interest to have healthy children.

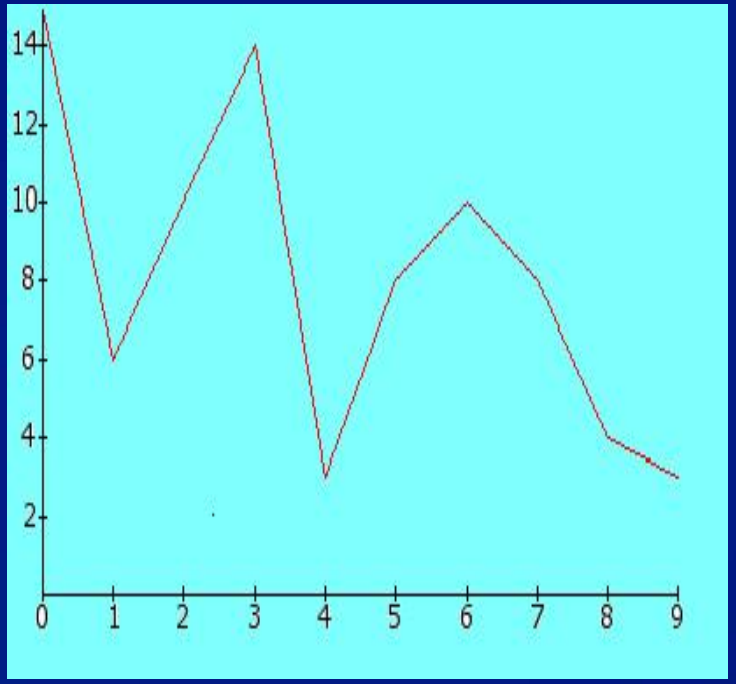
Healthy children are …more likely to become healthy adults who will contribute as a productive citizenry and workforce to the continued vitality of society.

National Academy of Sciences, 2004

Children's Health, the Nation's Wealth:
Assessing and Improving Child Health

What information does surveillance provide?

- Gauge magnitude of the problem
- Identify risk & protective factors
- Track & monitor changes in incidence & prevalence
- Monitor effectiveness of prevention & intervention activities
- Identify areas where change could have the greatest impact



The problem of child maltreatment

Impact

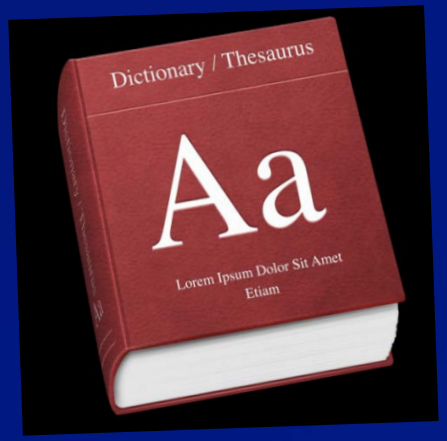
- Psychosocial
  - Health-risk behaviors
  - Psychological problems
- Physical
  - Disease/Injury conditions
- Economic

Magnitude

- Official reports: 9.2/1000, ~695,000 in 2008 (NCANDS, 2010)
- Public health: homicide 3rd-4th leading cause of death age 0-15
- Survey: 136/1000, ~ 1 in 8 (Finkelhor et al., 2009)

In order to count, you must define

- Definitions vary depending on their use and the field in which they are being used.



- No uniform set of definitions for CM, neglect, physical abuse, sexual abuse, or psychological abuse that are used consistently by local, state, and federal agencies

Fear not!
We have resources…

Present definitions of child maltreatment and abusive head trauma, associated terms, and recommended data elements.

Child maltreatment & AHT defined for public health

- **Child Maltreatment:**

  *Any act or series of **acts of commission** or **omission** by a parent or other **caregiver** that results in **harm**, potential for harm, or threat of harm to a **child**.*

- **Abusive head trauma:**

  An injury to the skull or intracranial contents of an infant or young child (< 5 years of age) due to inflicted blunt impact and/or violent shaking.

http://www.cdc.gov/ViolencePrevention/pub/CMP-Surveillance.html

http://www.cdc.gov/ViolencePrevention/pdf/PedHeadTrauma-a.pdf

But wait! There's more!

- **Data elements – indicators of incidence and prevalence**
- **Available data sources**
  - Administrative data
  - Social services data
  - Child death review teams
- **If all states collect similar data**
  - Rates can be compared across states
  - Data can be combined for national rates

Indicators for Nonfatal AHT

	Clinical Diagnosis Code		Injury Code
	ICD-9-CM Narrow Definition	ICD-9-CM Broad Definition	ICD-9-CM External Cause of Injury or Abuse Code
Definite or Presumptive Abusive Head Trauma	781.0-781.4, 781.8, 800.1-800.4, 800.6-800.9, 801.1-801.4, 801.6-801.9, 803.1-803.4, 803.6-803.9, 804.1-804.4, 804.6-804.9, 850.0-850.9, 851.0-851.99, 852.0-852.59, 853.0-853.19, 854.0-854.19, 950.0-950.3, 995.55**	781.0-781.4, 781.8, 800, 801, 803, 804.1-804.4, 804.6-804.9, 850, 851, 852.0-852.5, 853.0, 853.1, 854.0, 854.1, 925.1, 950.0-950.3, 959.01, 995.55**	E960.0, E967, E968.1, E968.2, E968.8, E968.9, 995.50*, 995.54, 995.59*
Probable Abusive Head Trauma	All of those above (except 995.55)	All of those above (except 995.55)	E987, E988.8, E988.9

* Exclude case in the presence of a fall or accident code (see Appendix 3)
** Does not require a cause code

Indicators of child maltreatment

- Child's name
- Child DOB
- Child sex
- Child race/ethnicity
- Date of incident
- Date of report to CPS
- Notation of physical abuse
- Notation of AHT
- Notation of psycholgical abuse
- Notation of failure to provide
- Notation of failure to supervise
- Child fatality related to incident
- Caregiver relationship to child
- Primary caregiver status
- Responsibility for maltreatment

But, how do we use these resources??

- **Model State-based child maltreatment surveillance [1]**
  - Purpose
    - Use recommended data elements
    - Model for routine, sustainable mortality surveillance at the state level
    - Pilot tested in 3 states

- **AHT pilot surveillance [2,3]**
  - Purpose
    - Evaluate the recommended ICD codes for fatal and nonfatal AHT
    - HCUP Kids' Inpatient database – nonfatal AHT
    - NCHS National Vital Statistics System – fatal AHT

1. Smith, L.R. et al. (2011). Public health efforts to build a surveillance system for child maltreatment mortality. *Journal of Public Health Management Practice*
2. Parks, S. et al. (2011). Characteristics of fatal abusive head trauma among children in the U.S.—2003-2007. *Injury Prevention.*
3. Parks, S. et al. (2012). Characteristics of hospitalized non-fatal abusive head trauma among children in the U.S.—2003-2008. *Injury Prevention.*

Applying what we learned to what you want to do

- **Partnerships are key!**
  - Demonstrate value to non-public health partners
  - Get stakeholder commitment in writing
  - Legislative mandates -- helpful but not sufficient
- **Flexibility is a must**
  - Definitions must be flexible
    - Work with partners to reconcile multiple definitions
    - Allow for use of multiple definitions
- **Data quality must be considered**
  - Garbage in. Garbage out.
  - Individual data systems vs. Multi-source systems
  - Look for systems already in place

Research confirms a strong association between child survival and child development…

Irwin, Siddiqi, & Hertzman, 2007 (p. 3)

For more information please contact Centers for Disease Control and Prevention
1600 Clifton Road NE, Atlanta, GA 30333
Telephone, 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348
E-mail: cdcinfo@cdc.gov Web: www.cdc.gov

Supplemental resources

- **CDC, Child Development – Investing in our Children**
  http://www.cdc.gov/Features/ChildDevelopment/
- **Data Resource Center for Child and Adolescent Health**
  http://mchb.hrsa.gov/programs/dataresource/index.html
- **Child Health Care Quality Toolbox**
  http://www.ahrq.gov/chtoolbx/index.htm
- **National MCH Center for Child Death Review**
  https://www.cdrdata.org/
- **National Hospital Ambulatory Medical Care Survey-Emergency Department Component**
  http://www.cdc.gov/nchs/ahcd/ahcd_questionnaires.htm
- **Healthcare Cost and Utilization Project Nationwide Inpatient Sample**
  http://www.hcup-us.ahrq.gov/nisoverview.jsp

Jared W. Parrish, MS
Former director and developer of the SCAN program
CDC Foundation Webinar
May 31, 2012

An Epidemiologic Approach to Identifying Child Maltreatment in Alaska

Agenda

- Process of establishing Alaska SCAN
  - Recognition of a need
  - Education/relationships
  - Key partnerships
  - Data sharing
- A few numbers and utility
- Wrap-up

Recognition of a Need

- Various independent agencies in the state recognized a need for more sensitive CM data (CJA, OCS, MIMR)
- MIMR-CDR – finding high number of fatalities that seemed to have a maltreatment component
- No single agency has jurisdictional responsibility for all CM – victimization rates depend on agency
  - Limited cross-discipline assessments of CM
- Need to focus on prevention
- Formed a position in AK DPH

Key components in establishing CM surveillance

- Point person with both PH and EPI training
  - To get to the point you have to sell the product (CPS, DPH)
- Construction of a multidisciplinary development team (Children's Justice Act Task Force)
  - Advocate to help navigate agency
  - Public health is a "new" partner
- Data sharing…understanding
- Focus on prevention not early intervention

Public health CM surveillance

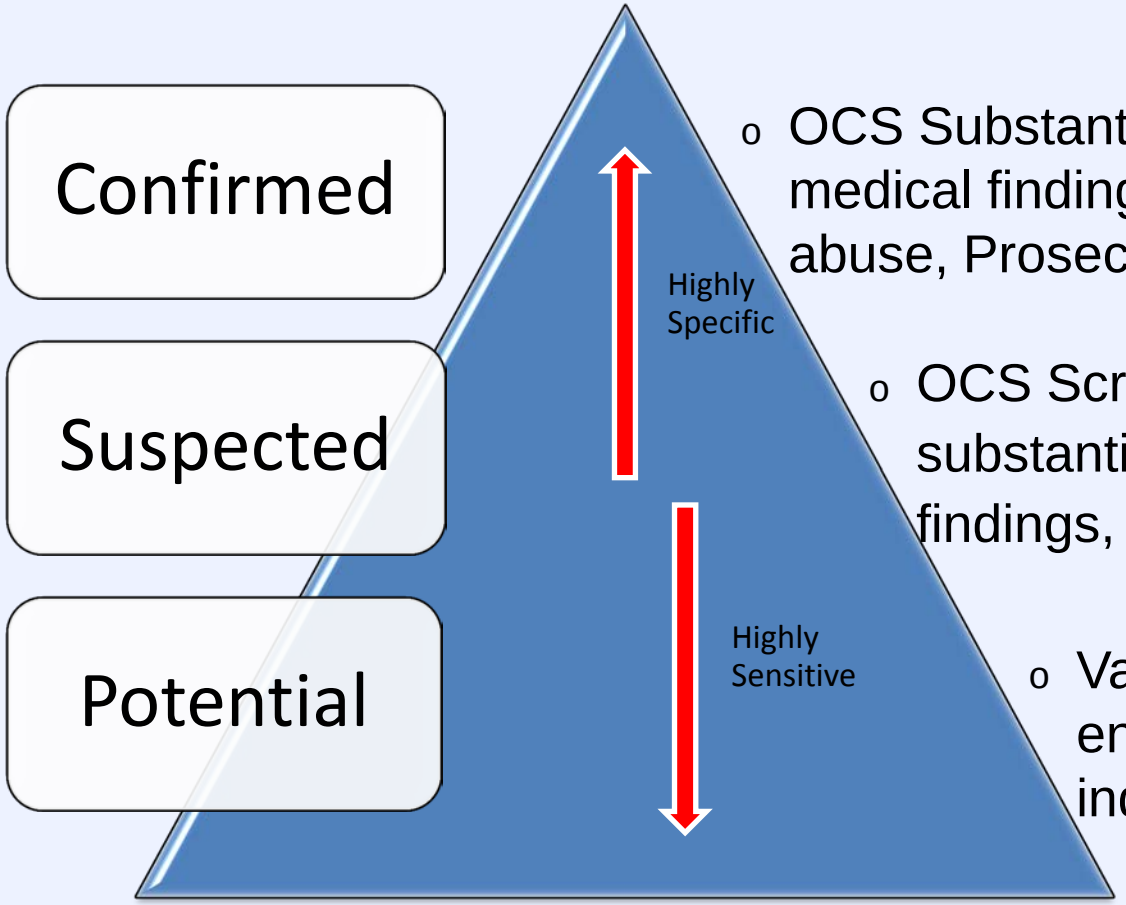
- Ongoing systematic collection and unification of existing data
- Apply public health tiered definitions (working algorithms)
- Measure a more inclusive assessment of the problem over time (resistant to policy changes and staffing)
- Identification of risk/protective factors & offer recommendations
  - Target populations and evaluate interventions
  - Move from programs the “feel right” to those that “show impact”

Key partnerships

- Child Protection – both reports received and outcome
  - Strong relationship: PH focusing on preventing abuse could potentially reduce case loads for CPS
- Law enforcement – both reports and outcome
- Child Advocacy Centers
- Medical providers
- Child Death Review – scaled each child death CM

No----------Yes

Public Health Case Designation



- OCS Substantiation, Abnormal medical finding, Disclosure of abuse, Prosecution
- OCS Screen In P1 or P2 or substantiated P3, inconclusive findings, partial discloser, charges filed
- Valid reports to OCS, Law enforcement, CACs, ICD codes indicative of abuse

Counting CM

- Surveillance in AK of morbidity uses a sentinel/syndromic approach (focus on consistency rather than complete case attainment)
- Every three years a complete statewide assessment conducted to determine overall magnitude*

- Allows surveillance to be timely and reliable!!!
  - Crucial for informing decision makers and evaluation

* To be implemented. We recognized that that we were mixing surveillance with complete case ascertainment which impacted the timeliness of the data substantially.

Making CM Surveillance work

★ Sentinel site - surveillance - CAC, OCS, Law enforcement, health clinic

Detecting maltreatment-related fatalities

Source years: 1992 – 2005 (Infants)	Count	Rate per 1k live births
Death Certificate (DC)	22	0.15
DC + Suspected	74	0.52
DC + Suspected + Potential	133	0.93

35% Abuse

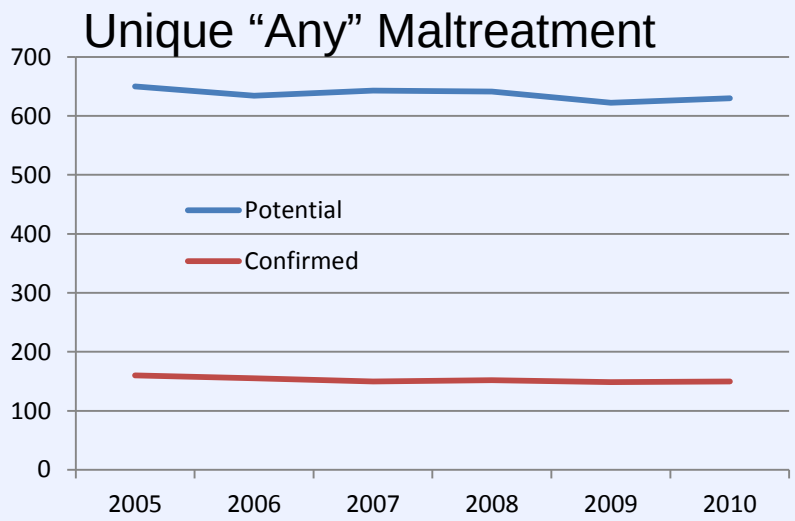
Shaken baby/impact syndrome
Blunt force trauma
Vehicular manslaughter with DUI and Unrestrained child

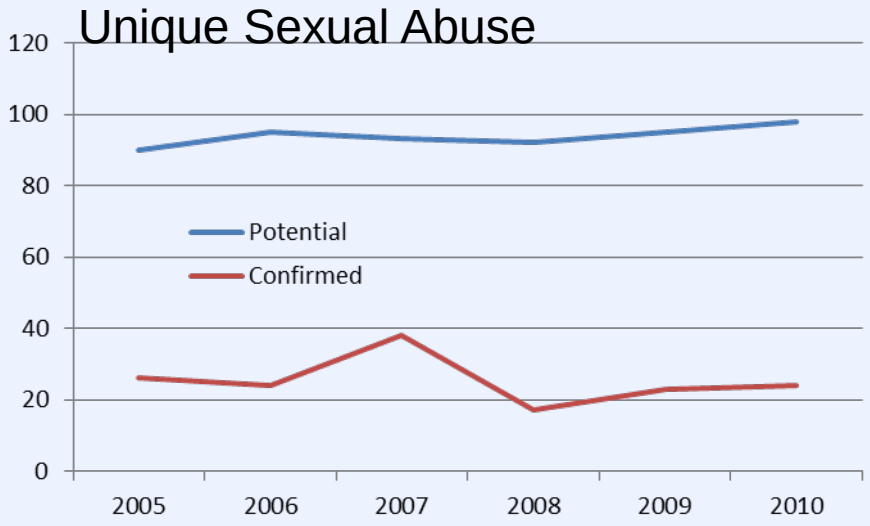
65% Neglect

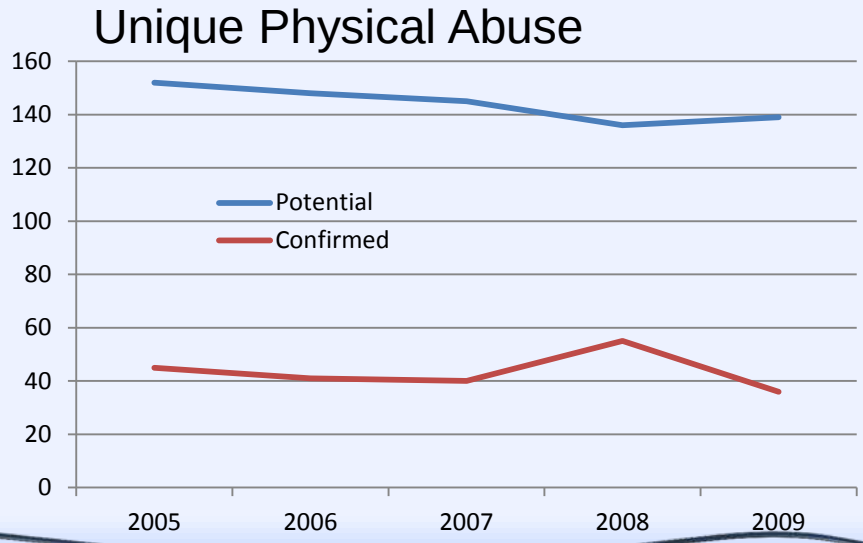
Untreated life threatening illness/infection
Abandonment of live newborn
Loaded gun left out accessible to unsupervised child

*findings consistent with other research from multiple states, Michigan, Missouri, Rhode Island..

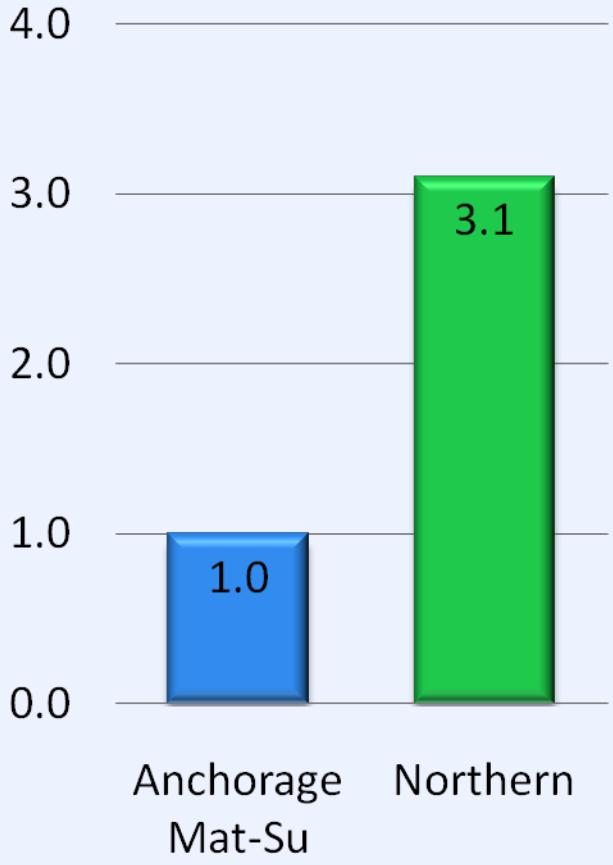
Maltreatment rates among children 0-17 yrs, during 2005-2010 (per 10,000 children)

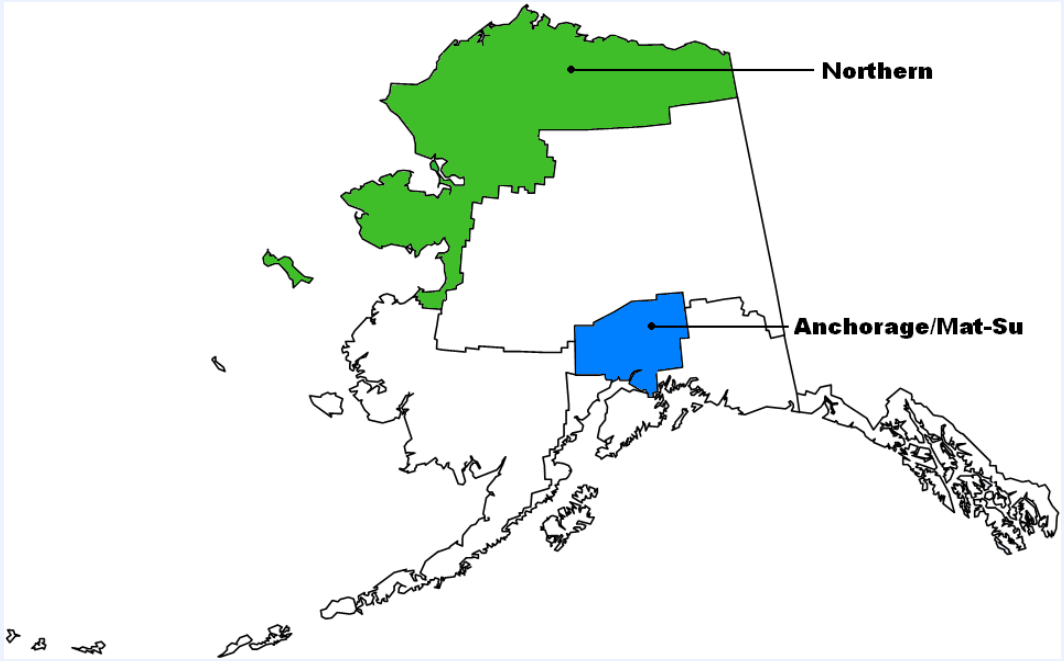






Regional Comparison of fatal CM-related infant death (per 1,000 live births), Alaska 00 - 06





- 3 times higher CM-related infant death
- Nearly 3 out of 10 infant deaths were CM-related (~30%)

Child Maltreatment algorithms broke down substantially at age 14, and performed the best for ages <10 years. (exception was SA). Resulted in shift in focus.

So who uses this data and how

- Every year presented to State legislators alongside child protective services (strong relationship)
- Used to evaluate current home visitation and abusive head trauma prevention programs
- Working in partnership with law enforcement to address specific needs to aid in response
- Health department, CAC's, and Hospitals…\
- AK Native/non-Native distinctions (Different issues require different types of prevention efforts)

Wrap-up

- For public health to operate efficiently, population based numbers are imperative (remove anecdotal prevention efforts to science based – target efforts)
- Relationships are more about understanding roles and purpose, opposed to redefining jobs (reservation/concerns upfront)
  - A few minor 'modification' were needed by some agencies in the form of data collection to avoid repeated efforts…e.g. Child Death Review team was trained on PH definitions and assigned a score.
- Formalize the process to avoid "starting over"
- The "road to nowhere" – definitions (bullet two above), and agendas!

THANK YOU

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CDC Injury Center 20 YEARS
Celebrating the past, protecting the future

Safe, Stable, Nurturing Relationships in Child Maltreatment Prevention

Melissa Merrick, PhD
Behavioral Scientist, CDC/NCIPC

PHL Webinar
May 31, 2012

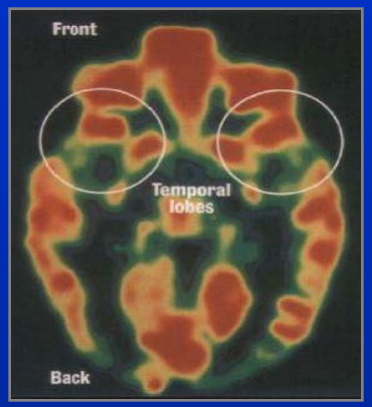
National Center for Injury Prevention and Control
Division of Violence Prevention

History of CM & SSNR Work at CDC

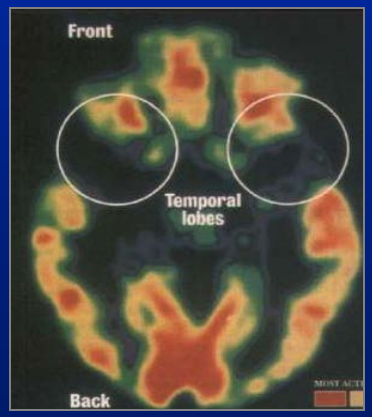
- 2002 – CDC receives funding for CM
  - CDC's prevention strategies build on/ complement work of other agencies
    - OCAN, ACF, NICHD
- 2005 – CM identified as NCIPC priority
- 2006 – SSNR framework developed

Safe, Stable, Nurturing Relationships

- Caregiving behaviors are key
  - Nurturing interactions build healthy brain architecture
  - Safe, stable, nurturing relationships and environments associated with positive outcomes
- Promoting SSNRs will:
  - Increase positive caregiving behaviors and environments
  - Buffer stress and harm



Healthy Brain



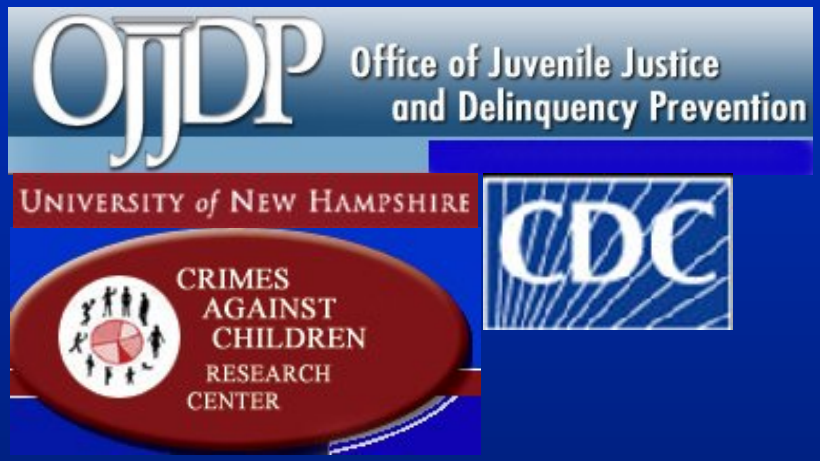
Abused Brain

Safe, Stable, Nurturing - defined

- **Safe – extent to which a child is free from fear and is secure from harm**
  - parental monitoring & supervision
- **Stable – degree of predictability and consistency in interaction with caregivers and others**
  - consistent discipline practices & positive discipline
- **Nurturing – extent to which a caregiver is available and able to respond and meet the needs of the child**
  - empathy & nurturing behaviors

SSNR Surveillance

- National Survey of Children's Exposure to Violence



- Gather baseline, national data on SSNR behaviors

SSNR Surveillance

- Project description
  - 16 SSNRs items between caregivers and children ages 2-17 year were added to NATSCEV in 2008
    - Caregiver report: age 2-9 years
      Youth self-report: age 10-17 yrs
  - First nationally representative survey to examine SSNR behaviors
  - Baseline data on the frequency and type of SSNR behaviors of U.S. caregivers and how these relate to child outcomes.
  - Manuscript focusing on younger sample of children (2-9) from Wave 1 data collection published June 2011 and longitudinal manuscript is in preparation.

Actual Analyses to Date

- Examine relationship between SSNR measures, victimization and trauma symptoms
- Examine relationship between family-perpetrated violence, SSNRs and trauma
- Focus on risk end of SSNR spectrum

Safety Items

- Lack or exposure to...
  - Physical or sexual maltreatment
  - Neglect
  - Witnessing Family Violence
  - Victimization by a sibling
  - Poor supervision
  - Corporal Punishment

Stability Items

- Whether the child lives in more than one household
- Number of times child has moved in past year
- Family adversity
- Hostile and inconsistent parenting

Nurture Items

- Emotional Maltreatment
- Warmth and involvement
- Parent conflict
- Parent psychological disorder
- Family drug and/or alcohol problem

SSNRs and Victimization

Domain	Measure		r
Stable	SSNR item	Victimization item(s)	
	Inconsistent parenting	Poor Supervision	0.22
	Residential instability	Neglect	0.20
Nurturing			
	Emotional maltreatment	Witnessing family violence	0.27
	Emotional maltreatment	Physical/Sexual Abuse	0.25
	Emotional Maltreatment	Neglect	0.25
	Alcohol/drug use	Witnessing family violence	0.26
	Alcohol/drug use	Child neglect	0.26

Multivariate analyses

- Independent effects
  - Controlled for demographic, family & victimization variables
- Cumulative effects of family risk
  - Family risk = SSNRs + victimization

Results

Demographic, family & victimization variables controlled

- Higher trauma symptom levels associated with:
  - Safety

    - none -
  - Stability (B = .27, p<001)

    inconsistent/hostile parenting
  - Nurturing (B = .22; p<.001)

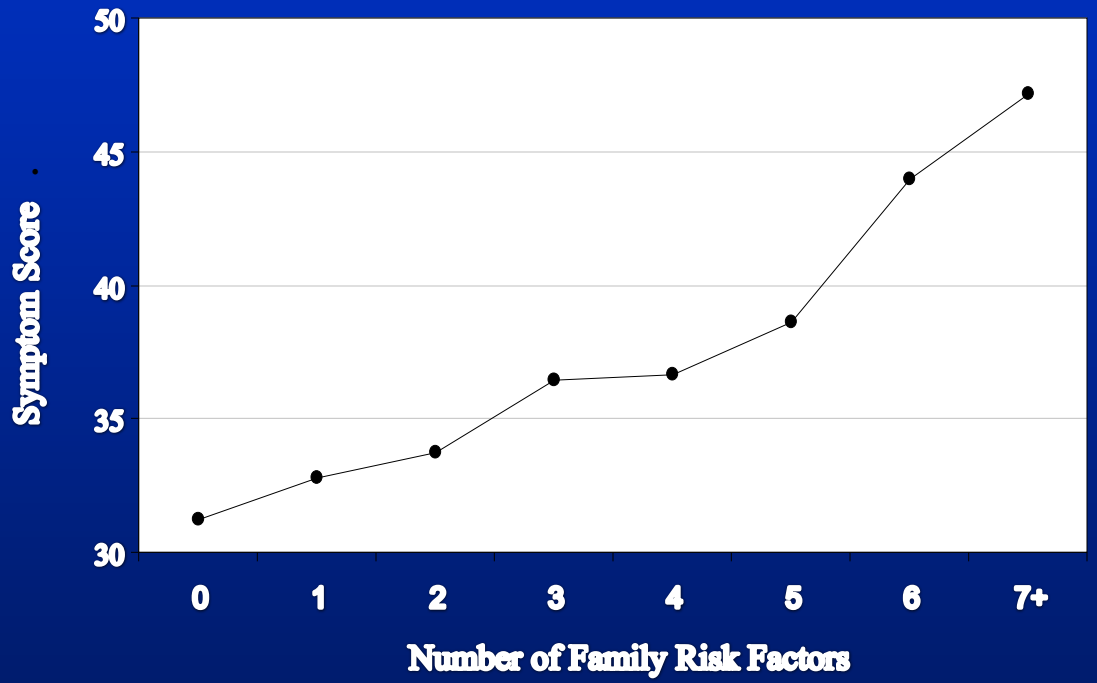
    emotional maltreatment

Cumulative effects of SSNR risk factors

- Index value = cumulative risk on SSNR/victimization dimensions
- Range: 0-7+
- Distribution:

0 = 14.4%	4 = 9.2%
1 = 29.2%	5 = 4.3%
2 = 24%	6 = 2.4%
3 = 14.3%	7+ = 2.2%

Cumulative effects of family SSNR risk variables



Limitations

- Focus on negative end of SSNRs
- Only parent-child SSNRs captured
- May be no benefit beyond “good enough” parenting
  - Measures not sensitive
  - Wrong focal domains for safe, stable and nurturing selected
  - Timeframe problem – SSNRs in last year predicting less CM
  - Social desirability reporting bias
- Predicting CM from SSNRs circular

What do we know now?

- Absence of toxic family contexts important in preventing distress
  - Risk end of SSNRs predict CM
  - Risk end of SSNRs predict trauma symptoms
  - Support cumulative risk hypothesis

Next Steps in SSNR Surveillance

- Refine SSNR domains and items
- Adolescents will report SSNRs in addition to parent report
- Soliciting feedback on SSNRs outside just parent-child relationships
- Examining the role of SSNRs in child maltreatment perpetration
- Prevention focus in analyses

CM Perpetration Prevention Panel Goals

- Examine factors that influence the intergenerational transmission of maltreatment in populations of adults at-risk for perpetration
- Multigenerational longitudinal data
- Role of safe, stable and nurturing relationships across generations in the mitigation of transmission of maltreatment

CM Perpetration Prevention Panel Goals

- Panel meetings held in February & December 2011
- 4 research sites
  - UK Twin/E-Risk Study
  - Family Transition Project
  - Lehigh Family Study
  - Rochester Youth Development Study
- Special Issue/Section forthcoming

Implications

- For Practice
  - Identify/capitalize on family strengths instead of solely risk factors
  - Primary prevention
- For Research
  - Adoption & promotion of standardized definitions & terminology
  - Increasing knowledge of protective factors & interplay between risk & protective factors

Thank you

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Questions and Answers

Save the Date: June 26, 3pm ET

Tools and Strategies to Support Health Departments in Child Maltreatment Prevention Efforts

Register on the PHL webpage:
www.cdc.gov/violenceprevention/phl

PHL Toolkit online June 2012!

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