



Promoting Positive Health by Addressing Adverse Childhood Experiences: Advancing Awareness, Research, and a New Research Agenda

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PROMOTING HEALTHY DEVELOPMENT & WELLBEING: WHY FOCUS ON ADVERSE CHILDHOOD EXPERIENCES

As the call for the transformation of the US health care system grows, health care leaders are challenged to catalyze and foster a model of public health and health care focused on the proactive pursuit of whole person and whole population health and well-being. This is coupled with an increasing consensus on the importance of promoting health by advancing our understanding of child development and well-being through the lens of adverse childhood experiences (ACEs) and the trauma and extreme and often chronic stress children undergo when exposed to ACEs. Such experiences include emotional and physical abuse, neglect and deprivation, exposure to violence and social discrimination. Adult longitudinal studies show that even decades after ACEs occur, a strong dose-response effect exists between the experience of ACEs and adult health.

Burgeoning neuroscience, biologic, epigenetic and long standing social psychology studies reveal potential mechanisms for the enduring impact of ACEs. Promising methods to promote resilience and prevent or ameliorate the impact of ACEs are also evolving rapidly. Less is known about the population based epidemiology of ACEs among all US children, including associations with both positive and negative health experiences, health care services and the family, school and neighborhood contexts in which children live.

PROJECT SUMMARY

Here we report examples of recent findings on ACEs in children in the US, and early outcomes of a national child health services and policy research and action agenda to promote the rapid promotion and further translation of social determinants of health, life course theory models, and knowledge into health systems policy and practice.

QUANTITATIVE METHODS

Data: 2011-2012 National Survey of Children's Health (NSCH) public use data files.

Sample: Representative sample of 95,677 children age 0-17 years, weighted to represent the population of non-institutionalized children nationally and in each state.

Key Measures: Prevalence of 9 ACEs categories in the NSCH, aspects of resilience, other positive and negative health outcomes, and risk factor variables.

Analysis: Multivariate and multi-level logistic regression models in SPSS were used to evaluate state variations and examine associations among ACEs, children and family demographic characteristics, child resilience, and other parental health, family, community, school, and health care factors, including access to a medical home.

QUALITATIVE METHODS

Discovery phase

- Literature and environmental scan of existing knowledge and programs on ACES, and needs and opportunities in MCH and pediatric health services
- Application of a national "collective insight" process using Co-Digital software to identify goals and priorities for a child health services and policy research and action agenda on ACES promoting positive health
- Two "wild imagining" meetings bringing together key actors in the field of ACES research and policy to discuss the state of current evidence, identify and prioritize research gaps, and select promising approaches to prevent and address ACES

Synthesis phase

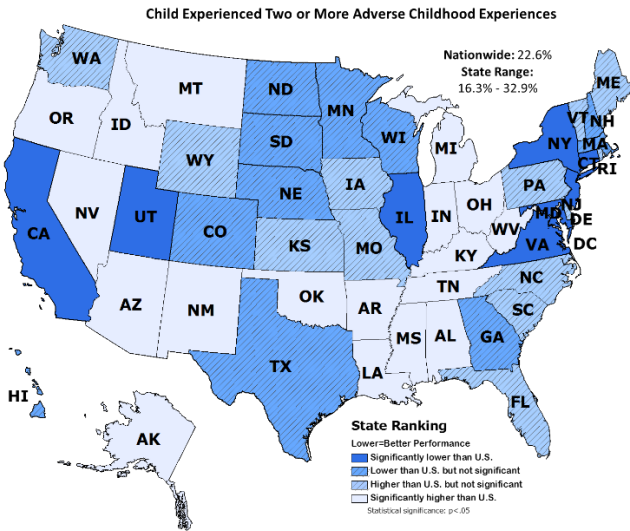
- Synthesis of findings , translation to pediatrics and MCH policy and practice
- Commission a series of papers on the priority research issues identified

Dissemination phase

- Production of the research and action agenda
- Design and dissemination of a communications toolkit to support pediatric providers, MCH leaders and health system leaders and family organizations
- Dissemination of research papers on priorities and opportunities to innovate and advance positive health developments and address ACES

ACROSS STATE PREVALENCE AND ASSOCIATIONS WITH CHRONIC CONDITIONS AND SCHOOL SUCCESS

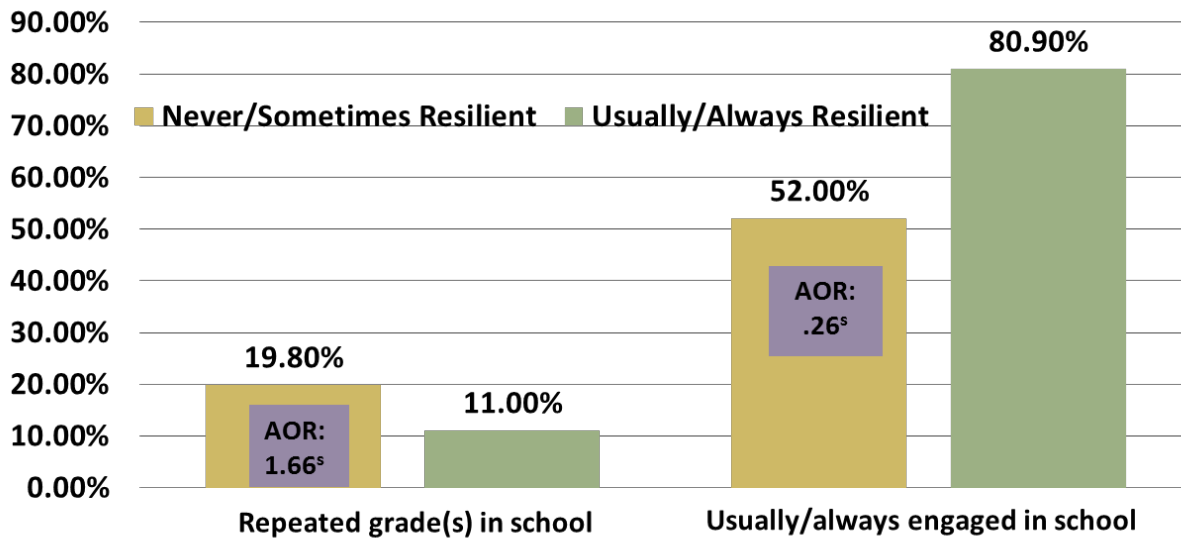
NATIONAL & STATE PREVALENCE OF ACES AMONG US CHILDREN



Adverse Childhood Experiences	National Prevalence	State Range	Has Chronic Condition / Special Needs	Mother's Health Excellent / Very Good
No ACE reported	52.1%	42.5% (AZ) – 59.4% (CT)	14.6% (0.44 AOR)	68.3% (2.52 AOR)
At least 1 ACE reported	47.9%	40.6% (CT) – 57.5% (AZ)	20.3% (0.63 AOR)	48.6% (1.47 AOR)
2 or more ACEs reported	22.6%	16.3% (NJ) – 32.9% (OK)	31.6% (REF)	35.8% (REF)
Extreme Economic Hardship	25.7%	20.1% (MD) – 34.3% (AZ)	26.0%	36.65
Divorce/parental separation	20.1%	15.2% (DC) – 29.5% (OK)	28.8%	46.5%
Lived with someone who had an alcohol or drug problem	10.7%	6.4% (NY) – 18.5% (MT)	31.7%	38.4%
Victim or witness of neighborhood violence	8.6%	5.2% (NJ) – 16.6% (DC)	37.1%	32.8%
Lived with someone who was mentally ill or suicidal	8.6%	5.4% (CA) – 14.1% (MT)	37.6%	31.6%
Witnessed domestic violence	7.3%	5.0% (CT) – 11.1% (OK)	34.0%	33.2%
Parent served time in jail	6.9%	3.2% (NJ) – 13.2% (KY)	33.5%	37.7%
Treated or judged unfairly due to race/ethnicity	4.1%	1.8% (VT) – 6.5% (AZ)	30.1%	41.6%
Death of parent	3.1%	1.4% (CT) – 7.1% (DC)	30.0%	39.7%

THE PROMISE OF RESILIENCE & MEDICAL HOMES AS MITIGATING FACTORS

School factors among Children with Special Health Care Needs (CSHCN) with 2+ ACEs, by resilience



Children with ACEs and special health care needs who demonstrate aspects of **resilience** are 1.55 times more likely to be engaged in school and nearly half as likely to have repeated a grade in school. Resilience can be trained.

Rates of resilience were found to be significantly higher among children who received care in a **family-centered medical home**. Additionally, receiving care within a medical home has an ameliorating effect on negative health outcomes for children with ACEs. Among CSHCN with 2+ ACEs, those who have a medical home are significantly less likely to have missed 2 or more weeks of school or repeat a grade, and are more likely to be engaged in school.

PUTTING THE RESEARCH INTO ACTION: WHY CREATE A RESEARCH & ACTION AGENDA TO ADDRESS ACES & PROMOTE HEALTHY DEVELOPMENT

While the scientific literature has grown on ACES and several community programs have been launched in recent years, the health services research and policy community has not been actively focused on this topic.

In 2013, the Child and Adolescent Health Measurement Initiative (CAHMI) partnered with AcademyHealth to conduct a series of activities which will result in a child health services research and action agenda focused on the prevention and healing from ACEs in children, youth, and families, and promoting healing and resilience. The effort is explicitly designed to complement an intersect with broader child health systems transformation and research and policy efforts such as the Title V Block Grant Transformation Initiative, the Accountable Care Act and many other private and public sector efforts to advance child health.

PARTNERSHIP GOALS

- 1) A **prioritized ACEs research and policy agenda** widely distributed to key stakeholders & funders,
- 2) The policy agenda and communication materials are distributed to **key actors who use them in action strategies**,
- 3) New **connections are formed between essential actors** that advance a collective impact around childhood trauma prevention, healing, and family well-being

THE EMERGING RESEARCH & ACTION AGENDA TO PROMOTE HEALTHY DEVELOPMENT

Promoting healthy development and positive health qualities such as resilience and engagement in life requires understanding and effective response to adverse childhood experiences. Sufficient knowledge exists to support a strong focus on building awareness, education and training in understanding ACEs, and promoting positive health in public health, primary care and community settings. Yet, substantial theoretical, measurement, training and practice innovation gaps exist and require continued research, synthesis of knowledge across disciplines and widespread innovation experiments. Especially promising are existing efforts to (1) promote safe, stable and nurturing relationships in community and family contexts, (2) facilitate development of self-regulatory capacities among school age children, (3) integrate mental and behavioral health care approaches with primary care and (4) support the socio-emotional well-being of parents and families. All approaches requires shifts in existing culture, mindset and capacities of health care systems and providers and a departure from the medical model that has dominated health services.

Emerging Research and Action Framework

Three interlocking components comprise the emerging research and action agenda as outlined below:

Component 1: Function & Types of Research

- 1. Design & Develop:** synthesize existing knowledge and design, and develop new translational knowledge, methods, and tools
- 2. Implement & Evaluate:** adapt, implement, and evaluate existing and emerging strategies to prevent and buffer impact of ACEs to promote well-being
- 3. Educate & Communicate:** assess existing awareness and contribute to public, provider, and stakeholder education, awareness, knowledge, action
- 4. Disseminate & Support:** develop methods and capacity to scale, spread, and support effective prevention, intervention, and training models in the field

Component 2: Priority Topics & Focal Areas

- 1. Measures:** Advance standardization of definitions, measures, and data
- 2. Core Science:** Promote research to address gaps in science especially pertinent to policy and practice
- 3. Public Health:** Understand public health impact and opportunities for translation of knowledge into public health practice
- 4. Communities:** Know what a healthy community is and how to address ACEs through community based collaborations and efforts

5. Economics: Define and measure economic impact of ACEs and return on investment through effectively addressing ACES

Component 3: Short Term Collaborative Actions

- 1. Move the Game Board:** Define a conceptual map and model to clarify definitions and foster shifts in mindset and norms to facilitate collection action
- 2. Continuous Translation and Improvement:** Synthesis, dissemination, translation, and ongoing assessment of existing models, methods, and practices
- 3. Training and Capacity Building:** Provider, community, and family education and training
- 4. Policy Platform and Demonstration:** Define recommendations to align health reform and systems design with needs and health improvement opportunities

SELECTED REFERENCES

Felitti VJ, Anda RF, Nordenberg D, et al. Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: the Adverse Childhood Experiences (ACE) Study. *Am J Prev Med.* 1998;14(4):245-258.

Centers for Disease Control and Prevention. Adverse Childhood Experiences (ACE) Study: major findings by publication year. <http://www.cdc.gov/ace/year.htm>. Accessed May 7, 2013.

Anda RF, Felitti VJ, Bremner JD, et al. The enduring effects of abuse and related adverse experiences in childhood: a convergence of evidence from neurobiology and epidemiology. *Eur Arch Psychiatry Clin Neurosci.* 2006;256(3):174-186.

Bethell, CD, Newacheck, P, Hawes, E, Halfon, E. Adverse Childhood Experiences: Assessing the impact on health and school engagement and the mitigating role of resilience. *Health Affairs*, 33, no. 12 (2014): 2106-2115

Schor, Edward. Addressing Millennial Morbidities: Accentuate the Positive, *Journal of the American Medical Association*, January 19, 2015

ACKNOWLEDGEMENTS

To date this work is funded by the Child and Adolescent Health Measurement Initiative with additional support from the California Endowment and made possible through the collaborative leadership of AcademyHealth and the devoted MCH and pediatrics health services and policy research leaders willing to participate in the wild imagining! Portions of the analysis presented were made possible by Grant Number U59MC27866 from the Health Resources and Services Administration (HRSA), an operating division of the U.S. Department of Health and Human Services. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the Health Resources and Services Administration or the U.S. Department of Health and Human Services.