

Life Course Indicator: Substantiated Child Maltreatment

The Life Course Metrics Project

As MCH programs begin to develop new programming guided by a life course framework, measures are needed to determine the success of their approaches. In response to the need for standardized metrics for the life course approach, AMCHP launched a project designed to identify and promote a set of indicators that can be used to measure progress using the life course approach to improve maternal and child health. This project was funded with support from the [W.K. Kellogg Foundation](#).

Using an RFA process, AMCHP selected seven state teams, Florida, Iowa, Louisiana, Massachusetts, Michigan, Nebraska and North Carolina, to propose, screen, select and develop potential life course indicators across four domains: Capacity, Outcomes, Services, and Risk. The first round of indicators, proposed both by the teams and members of the public included 413 indicators for consideration. The teams distilled the 413 proposed indicators down to 104 indicators that were written up according to three data and five life course criteria for final selection.

In June of 2013, state teams selected 59 indicators for the final set. The indicators were put out for public comment in July 2013, and the final set was released in the Fall of 2013.

Basic Indicator Information

Name of indicator: Substantiated Child Maltreatment (LC-03)

Brief description: Substantiated child maltreatment including experience of physical abuse, neglect or deprivation of necessities, medical neglect, sexual abuse, psychological or emotional maltreatment

Indicator category: Childhood Experiences

Indicator domain: Risk/Outcome

Numerator: Number of children (under age 17 years) with reports of maltreatment types that include physical abuse, neglect or deprivation of necessities, medical neglect, sexual abuse, psychological or emotional maltreatment and the report is considered substantiated

Denominator: Number of children under 17 years of age in the state

Potential modifiers: Age of child, race, ethnicity

Data source: National Child Abuse and Neglect Data System (NCANDS)

Notes on calculation: The numerator is comprised of the number of children with reports of maltreatment types that correspond to the following codes: ChMal1, ChMal2, ChMal3, ChMal4 with value of anything other than 6 (no alleged maltreatment) AND Mal1Lev, Mal2Lev, Mal3Lev, Mal4Lev with value of 1, 2, 3, or 4 (substantiated, indicated or reason to suspect, alternative response victim, alternative response non-victim). The data source can be found at: ndacan.cornell.edu/ndacan/Datasets/Abstracts/DatasetAbstract_NCA_NDS_Child_File.html

Similar measures in other indicator sets: HP 2020 Focus area IVP-38; MIECHV Benchmark Area Prevention of Child Injuries, Child Abuse, Neglect, or Maltreatment, and Reduction of Emergency Department Visits: Reported substantiated maltreatment (substantiated/ indicated/ alternative response victim) for children in the MIECHV program

Life Course Criteria

Introduction

Maltreatment is defined by the Administration for Children & Families (ACF) National Child Abuse and Neglect Data System (NCANDS) as an act or failure to act by a parent, caretaker, or other person as defined under State law which results in physical abuse, neglect, medical neglect, sexual abuse, emotional abuse, or an act or failure to act that presents an imminent risk of serious harm to a child (ACF NCANDS). The short- and long-term outcomes of these childhood exposures include a multitude of health and social problems. Maltreatment in childhood has been linked to a variety of changes in brain structure and function and stress-responsive neurobiological systems (Brenner 2003). Epidemiological studies have documented the impact of maltreatment on health and emotional well-being (Anda et al 2006).

Overall, the prevalence of substantiated child maltreatment is a life course measure because it captures experiences during sensitive periods of development that can impact health and social outcomes across the life span. The impact of maltreatment throughout the life cycle has been well established within the life course science literature. Research on the impacts of experiencing multiple forms of child maltreatment is addressed by the Adverse Childhood Experiences (ACEs) study and demonstrates that if pervasive, they negatively impact the life trajectory of the individuals experiencing them, and increase the potential for inter-generational familial adversity. In addition, an absence of ACEs and increased prevalence of protective factors can decrease inter-generational familial adversity, reducing the potential for harm for the individual and his or her children (Forrest 2004; Kelly-Irving 2013; Richardson 2013). It is difficult to study the effects of child maltreatment removed from other adverse childhood experiences as child maltreatment is more likely to occur in families affected by poverty, domestic violence, substance abuse, incarceration, and mental health problems (Chatier 2010). However, a significant predictive relationship between child abuse and poor adult health outcomes exists even when controlling for other ACEs, suggesting child maltreatment has an influence on poor health and development independent from other ACEs (Chatier 2010). This influence on health outcomes highlights a need for intervention and prevention strategies designed specifically for child maltreatment. An assortment of programs and interventions, particularly those with a home visiting component, have proven effective in reducing child maltreatment and improving health outcomes for families at risk for child maltreatment (Avellar 2013). Evidence on effectiveness of intervention programs for child maltreatment suggests an opportunity for improvement of this indicator.

Implications for equity

Community level factors related to variation in rates of officially reported child maltreatment have been documented, including structural determinants of community social organization, economic and family resources, residential instability, household and age structure and geographic proximity of neighborhoods to concentrated poverty. Children at the highest risk of maltreatment live in neighborhoods characterized by poverty, excessive numbers of children per adult resident, population turnover, and concentration of female-headed households (Coulton 1995). On the family level, children living in single parent homes have a rate of child abuse twice the rate of child abuse in two parent households (Goldman, 2003).

At a very high level, there are differences in the characteristics of victims by age and race/ethnicity. Data reported by ACF show that young children are more likely to be victims of child maltreatment with the highest rate (14.3 per 1,000) among children three and younger (Child Trends Data Bank, 2011). Among racial/ethnic groups, non-Hispanic Black, American Indian or Alaska Native children and children of multiple race groups had higher rates of maltreatment compared with Hispanic, Pacific Islander, White, and Asian children (Child Trends Data Bank, 2011). Children with disabilities are more likely to be victims of maltreatment than children without disabilities. National data on maltreatment among children with disabilities is lacking, however, research shows a significantly higher incidence of maltreatment among children with disabilities compared to children without disabilities (Children's Bureau, 2012).

Experiences of maltreatment have implications for many social and psychosocial equity-related measures. Examples of social conditions where child abuse and neglect may co-occur are limitations in educational attainment/occupational opportunities, reductions in income/socioeconomic status, and increased risk of food insecurity. Adults who grew up in families with adverse experiences are at increased risk for cognitive and social development problems which may result in learning difficulties and barriers to higher education (Felitti et al 1998; Perry 1998; Anda et al 2006). Lower education levels may translate into fewer job opportunities and a reduced income potential into adulthood (Bremmer 2003).

Public health impact

Experience of child maltreatment puts individuals at risk for a wide variety of chronic mental, physical and emotional health problems in adulthood. Additionally, maltreatment has been associated with an increased propensity to engage in health risk behaviors that are associated with chronic disease and injury, including risky sexual behavior, alcohol, drug, and tobacco use, and a greater likelihood of being overweight/obese (Goodwin 2004; CDC 2013; Anda 2007). Overall, in relation to individual's experiences of ACEs and larger public health impacts, if the number of children experiencing multiple adverse circumstances was reduced, one might expect to see a reduction in mortality and prevalence rates for these key public health risk and chronic disease indicators. Additionally, individuals who have experienced ACEs are more likely to incur higher adult health care costs and medical visits (Walker et al 1999). Reducing individuals exposed to child maltreatment could conceivably reduce overall health care costs.

Beyond the individual level impacts and costs, there are also large costs associated with maintaining the social systems which respond to child maltreatment, including child welfare systems, judicial systems, law enforcement, special education programs, and health care and mental health systems that are needed to respond to and to treat victims of child neglect and their families. Direct costs of child abuse and neglect include those associated with maintaining a child welfare system to investigate and respond to allegations of child abuse and neglect, as well as expenditures by the judicial, law enforcement, health, and mental health systems. A 2012 report by Prevent Child Abuse America estimates these costs at \$33 billion per year. Indirect costs represent the long-term economic consequences of child abuse and neglect. These include costs associated with juvenile and adult criminal activity, mental illness, substance abuse, and domestic violence. They can also include loss of productivity due to unemployment and underemployment, the cost of special education services, and increased use of the health care system. Prevent Child Abuse America estimated these indirect costs at more than \$46.9 billion per year. Combining the direct and indirect costs of child abuse and neglect, the cost to society of the 1.2 million maltreated children in years 2005-2006 adjusted to 2012 dollars sums to \$80,260,411,087. The total yearly cost of each abused or neglected child in the United States is \$63,871 (Gelles 2012).

Leverage or realign resources

Traditionally, MCH programs have tended to focus on physical and developmental health outcomes as they pertain to the pregnant mother and her fetus, infant, or child. Child maltreatment data provide opportunities for data-driven approaches to improving both pediatric and adult primary care. The mechanism for this is through screening individuals for risk factors for poor mental and physical health outcomes in childhood and beyond. The inclusion of child maltreatment reporting in public health analyses and assessments expands the sphere of MCH services to include collaborations with child welfare agencies, mental/behavioral health services, child abuse/neglect programs, and law enforcement. Additionally, the assessment of maltreatment risks within the MCH community could also be of use for other public health promotion and disease prevention programs including chronic disease and communicable/sexually transmitted disease (Fine and Kotelchuck 2010; Shonkoff et al 2009; Foege 1998).

Certain child-, caregiver-, family-, and community-level factors increase the risk of child maltreatment, which presents an opportunity to engage other public health services in reduction and prevention efforts. Parents or caregivers that possess inadequate parenting knowledge and skills, experience high stress, or suffer from substance abuse or depression are at higher risk for child maltreatment (Bethea 2010). Family level poverty, unemployment, or social isolation as well as community level violence, housing instability, and community-level poverty are all associated with an increased risk of child maltreatment (Bethea 2010). Public health services focusing on interventions such as improving health care accessibility and affordability, improving treatment for alcohol and drug abuse, increasing the availability of affordable child care, increasing family planning and parental support services are all potential partners that can be engaged to achieve reductions in risk factors for child maltreatment (Bethea 2010).

In 2010, the *Patient Protection and Affordable Care Act* authorized the Maternal Infant and Early Childhood Home Visiting (MIECHV) program which provides \$1.5 billion in funds over five years for evidence-based home visiting programs (Avellar 2013). Families in maternal, infant, or early childhood home visiting programs participate in home visits with a trained professional who can provide information, support, training, or referrals to overcome barriers to services. Home visiting personnel can identify existing resources available through other programs and departments and refer families to these services including services that will aid in child maltreatment prevention. A review of home visiting programs found five of six programs reviewed resulted in reductions in child maltreatment as measured through substantiated abuse records, encounters with health providers for injuries or poisonings, or self-reported parenting behaviors (Avellar 2013).

Protective factors (e.g., child's positive relationship with a caring adult, easy temperament of the child, health insurance coverage for the child) can be more important than risk factors as they mitigate the negative effects of maltreatment risk factors (Werner and Smith 1992). More attention could be paid to leveraging or realigning resources to provide supports for positive factors. Public health and other partners could work together to support policy and program interventions that contribute to or enhance protective factors such as helping parents and family members understand how to support easy temperament in children. Establishing family friendly work policies, such as paid maternity and paternity leave, flexible schedules, paid sick leave, and infant at work policies all have the potential to improve outcomes for families including reduction of postpartum depression, promotion of breastfeeding, increasing parent-infant bonding, and reducing sick days used to care for a sick child.

Predict an individual's health and wellness and/or that of their offspring

The level of exposure to child maltreatment correlates to an association with adult risk behavior, poor health status and disease. The number of categories of maltreatment experiences shows a graded relationship to the presence of adult diseases (Felitti 1998). This graded relationship has been documented throughout a significant body of research (Dube et al 2003; Danese et al 2009; Hillis et al 2001; Williamson et al 2002; Ford et al 2011; Chapman et al 2013). Specifically, individuals reporting multiple maltreatment exposures, have greater risks of experiencing:

- Chronic diseases (autoimmune, COPD, chronic headaches, ischemic heart disease, liver disease, and lung cancer)
- Poor reproductive health outcomes and risky sexual behaviors (fetal death, promiscuity, sexual risk behaviors, sexually transmitted diseases, teen pregnancy, and unintended pregnancy)
- Health risk behaviors (alcohol abuse, drug abuse, obesity, smoking)
- Poor mental health (memory disturbances, depression, hallucinations, suicidal tendencies, work absenteeism, sleep disturbances)
- Homelessness

As a result, individuals who have experienced child maltreatment are at increased risk of premature mortality (Brown et al 2009). Additionally, multiple maltreatment experiences often do not occur in a vacuum – they are comorbid conditions that often occur simultaneously (e.g. a single parent with mental illness who also suffers from substance abuse and physically abuses their child) (Dong et al 2004; Chartier 2010; Edwards 2003).

Child maltreatment also affects intergenerational health; a number of studies have demonstrated that a history of maltreatment in childhood and adolescence increases the likelihood of perpetrating child maltreatment; victims of maltreatment during adolescence were almost five and a half times more likely to engage in maltreating behavior than those who were never maltreated (Thornberry 2013). The risk of offspring child maltreatment is strongest when child maltreatment of the parent started in childhood and persisted into adolescence (Thornberry 2013). The association between maltreatment in childhood and perpetration of child maltreatment may be mediated through mental health problems, social isolation, and social information patterns such as hostile attributions and aggressive responses which are all predicted by physical abuse and predictive of physical abuse (Berlin 2011).

Data Criteria

Data availability

Each state has its own definitions of child abuse and neglect that are based on standards set by federal law. Federal legislation provides a foundation for states by identifying a set of acts or behaviors that define child abuse and neglect. The *Child Abuse Prevention and Treatment Act (CAPTA)*, (42 U.S.C. §5101), as amended by the *CAPTA Reauthorization Act of 2010*, retained the existing definition of child abuse and neglect as, at a minimum:

Any recent act or failure to act on the part of a parent or caretaker which results in death, serious physical or emotional harm, sexual abuse or exploitation; or an act or failure to act, which presents an imminent risk of serious harm (U.S. Department of Health and Human Services 2013).

The 1988 CAPTA amendments directed the U.S. Department of Health and Human Services (HHS) to establish a national data collection and analysis program. The Children's Bureau in the Administration on Children, Youth and Families, Administration for Children and Families, HHS, collects and analyzes the data, which is now the National Child Abuse and

Neglect Data System (NCANDS), a federally sponsored effort that collects and analyzes annual data on child abuse and neglect. The data are submitted voluntarily by the States, the District of Columbia, and the Commonwealth of Puerto Rico. The first report from NCANDS was based on data for 1990; and the most recent report available is for Federal fiscal year 2011. The 2011 national statistics were based case-level data received from 49 states, the District of Columbia, and the Commonwealth of Puerto Rico; aggregate data were received from one state.

NCANDS collects case-level data on all children who received a Child Protective Services (CPS) agency response in the form of an investigation response or an alternative response. States that are unable to provide case-level data submit aggregated counts of key indicators. Case-level data include information about the characteristics of screened-in referrals (reports) of abuse and neglect that are made to CPS agencies, the children involved, the types of maltreatment they suffered, the dispositions of the CPS responses, the risk factors of the child and the caregivers, the services that are provided, and the perpetrators (U.S. Department of Health and Human Services 2012). NCANDS is a continuous data collection activity with an annual acquisition cycle, with reports released annually approximately 18 months after the close of the collection year.

Data quality

Most states recognize four major types of maltreatment: neglect, physical abuse, psychological maltreatment, and sexual abuse. Although any of the forms of child maltreatment may be found separately, they can occur in combination. Because NCANDS relies on official reports, state variation in reporting laws (for example, states use different definitions of abuse and neglect), evidentiary standards used by child protective services agencies to verify a report of maltreatment, and the number of investigators that a state deploys to influence the process that leads to a disposition of the report (Wulczyn 2009).

Fallon and colleagues described the quality of NCANDS data, beyond challenges with state variation: “Data are evaluated and validated through both qualitative analysis of items for compatibility and a set of rules used to assess data consistency and evaluate data ranges for accuracy, missingness, and cross-submission reliability. Information collected includes report sources, demographics of the children and the perpetrators, maltreatment types, dispositions of the assessment or investigation, worker and supervisor IDs, risk factors, and services and placements that result from the investigation. In addition, an ID linkage is provided to case-level data on children who are included in data submissions to the federal Adoption and Foster Care Analysis and Reporting System (AFCARS). Data in the Agency File are aggregated and include information regarding children and family funding sources, screened-out referrals, CPS workforce, and additional information on child victims and child fatalities” (Fallon et al 2010). Therefore, the data are of sufficient quality to inform a life course approach to health.

Simplicity of indicator

Due to differences between states in the definitions of abuse and neglect, standards used to verify a report of maltreatment and the number of investigators employed, data may not be comparable between states. Analysts are encouraged to explore the definitions and standards used in their state to provide context for these data. Please refer to the Notes on Calculation section for a detailed explanation of the variables from the NCANDS system; the numerator is comprised of information from two variables, which increases the calculation complexity. Despite these challenges and the multiple components of child maltreatment, the concept is simple to explain.

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This publication was supported by a grant from the W.K. Kellogg Foundation. Its contents are solely the responsibility of the author and do not necessarily represent the official views of the W.K. Kellogg Foundation.

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