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Applying a Public Health Approach: The Role of State Health Departments in Preventing Maltreatment and Fatalities of Children

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Abstract

Child maltreatment prevention is traditionally conceptualized as a social services and criminal justice issue. Although these responses are critical and important, alone they are insufficient to prevent the problem. A public health approach is essential to realizing the prevention of child abuse and neglect. This paper discusses the public health model and social-ecology framework as ways to understand and address child maltreatment prevention and discusses the critical role health departments can have in preventing abuse and neglect. Information from an environmental scan of state public health departments is provided to increase understanding of the context in which state public health departments operate. Finally, an example from North Carolina provides a practical look at one state's effort to create a cross-sector system of prevention that promotes safe, stable, and nurturing relationships and environments for children and families.

Although child abuse and neglect, also referred to as child maltreatment, is often viewed as the responsibility of child protective service agencies, public health departments can play an important role in addressing this issue. Public health's mission is assuring the conditions in which people can be healthy (Institutes of Medicine, 1988). A public health approach emphasizes preventing health problems by protecting and improving the health and well-being of individuals and communities. Federal, state, and local public health agencies work

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to prevent harm to children before it can occur through programs and prevention strategies directed at children, families, and the environment in which they interact.

Individual and Societal Consequences of Child Maltreatment

Child maltreatment is defined by the Centers for Disease Control and Prevention (CDC) as any act or series of acts of commission or omission by a parent or other caregiver (e.g., clergy, coach, teacher) that results in harm, potential for harm, or threat of harm to a child (Leeb, Paulozzi, Melanson, Simon, & Arias 2008). The four most common types of abuse are physical abuse, sexual abuse, emotional abuse, and neglect.

According to the National Child Abuse and Neglect Data System (NCANDS), 1,545 children in the United States died from maltreatment in 2011, while 676,569 children were victims of nonfatal abuse and neglect (U.S. Department of Health and Human Services [DHHS], 2012). NCANDS data are based on reports to state and local child protective services and may underestimate the true occurrence of child maltreatment. Another study that used child and parent self-report, showed more than 10 percent of children between the ages of zero and 17 experienced some form of child maltreatment (Finkelhor, Turner, Ormond, & Hamby, 2009). Child welfare data suggest that neglect is the most common form of child maltreatment, that neglect alone or neglect along with other types of maltreatment account for the majority of child fatalities, and that children are most at risk of dying from maltreatment within the first few years of life (DHHS, 2012).

Victims of child maltreatment can experience both short- and long-term consequences affecting both physical and emotional health. Research has shown a link between adverse childhood experiences (ACEs) and adult chronic disease and negative health behaviors (Felitti et al., 1998; Finklehor et al., 2009; Thornberry, Ireland, & Smith, 2001). In addition to immediate consequences such as physical injuries, maltreatment can impact a child's brain development and lead to life-long health problems (Center of the Developing Child at Harvard University, 2010). These include, but are not limited to, heart, lung and liver disease; cancers; obesity; smoking; substance abuse; asthma; depression; and eating disorders (Felitti et al., 1998). Research on brain development has shown that abuse and neglect can lead to sustained stress responses in children. This stress response results in sustained high levels of hormones, which can negatively impact brain architecture (Center of the Developing Child at Harvard University, 2010) and leave individuals less able to manage stress as adolescents and adults. These individuals may subsequently adopt health behaviors, such as smoking, unhealthy eating, and substance (alcohol and drug) use as coping mechanisms, which can lead to a higher risk for developing associated chronic diseases (National Scientific Council on the Developing Child, 2005; Runyan, Wattam, Ikeda, Hassan, & Ramiro, 2002).

The consequences of child maltreatment go beyond an individual's physical and mental health. Recent research by the CDC's National Center for Injury Prevention and Control has estimated the total lifetime financial costs associated with just one year of confirmed cases of child maltreatment at $124 billion (Fang, Florence & Mercy, 2012). The average lifetime cost per victim of nonfatal child maltreatment was $210,012, which included costs for

childhood and adult medical care; productivity losses; and child welfare, criminal justice, special education services. The estimated average lifetime cost per death was $1,272,900, which includes medical costs and productivity losses (Fang et al., 2012). These costs are comparable to the societal costs of other major public health problems such as Type 2 Diabetes (lifetime cost per person estimated at $181,000 – $253,000) and stroke (lifetime cost per person estimated at $159,846) (Fang et al., 2012).

A Public Health Approach

The extreme burden and consequences of child maltreatment, both to individuals and society, makes the issue a public health problem. Public health attempts to solve problems, such as child maltreatment, in a systematic way. One common way of representing the public health approach is the four-step model shown in Figure 1 (Dahlberg & Krug, 2002; Mercy, Rosenberg, Powell, Broome, & Roper, 1993).

The first step is *defining and monitoring the problem* (i.e., surveillance). Well-carried out surveillance provides an understanding of prevalence and risk, and supports effective planning, implementation, and evaluation of public health programs (Centers for Disease Control and Prevention, 2001). Child maltreatment surveillance can be challenging due to lack of data and barriers in implementing common data definitions and sharing data across systems (Leeb et al., 2008). One resource available to public health professionals is the CDC's *Child Maltreatment Surveillance: Uniform Definitions for Public Health and Recommended Data Elements*, which provides definitions and data elements to promote and improve consistency of child maltreatment surveillance (Leeb, et al. 2008).

The second step in the public health model is *identifying risk and protective factors*. This step focuses on characteristics that increase or decrease the likelihood someone will be a victim or perpetrator of child maltreatment. Information about these factors is combined with surveillance data to plan prevention strategies.

Developing and testing prevention strategies is the third step of the public health model and builds on the previous two steps to create programs and strategies that promote protective factors and reduce risk factors in individuals and communities. In this step, public health practitioners build an evidence-base by designing and evaluating child maltreatment prevention programs and practices. This work requires not only identifying programs, but ongoing evaluation of implemented approaches to determine whether or not outcomes are achieved. Increasingly, policymakers, funders, and practitioners are focusing on the use of evidence-based programs to prevent child maltreatment because they are proven effective at achieving results that can be attributed to the program rather than to extraneous factors (e.g., selection of program participants or natural maturation that might occur during the course of the study) (Lewis-Beck, Bryman, & Futing, 2004).

The fourth and last step is *assuring widespread adoption*, which involves scaling-up evidence–based programs and practices through dissemination and implementation in a range of settings. This is the step that moves us from science to practice. It is critical to understand the capacity of individuals and organizations to implement prevention strategies,

and to assure that they have adequate support to implement successfully. Achieving intended outcomes requires quality implementation so that a program or practice is delivered with the highest degree of fidelity possible (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). Fixen and colleagues (2005) summarized the required supports that organizations require to successfully implement an evidence-based program, including: assistance with community and agency planning; staff selection; pre-service and in-service training; ongoing coaching and consultation; and technical assistance in program evaluation and in quality assurance.

In addition to the four-step public health model, there are other frameworks that help us define the content of our prevention strategies, answering the questions, "What, and who, should be the focus of our prevention efforts?" Using a social-ecological framework (McLeroy, Bibeau, Steckler, & Glanz, 1988; Stokols, 1992, 1996) is particularly relevant as we work through the steps of the public health model (for example, step two of the public health model addresses risk and protective factors, which can be found at all four levels of the social-ecology). Public health is ultimately attempting to decrease rates of child maltreatment at the population level, and thus, requires us to look beyond the individual level to the contexts in which maltreatment occurs. The social ecology allows us to address the "range of conditions that place children at risk for abuse and/or neglect, not just at the individual and family level, but also at the community and societal levels" (Zimmerman & Mercy, 2010, p. 4). It moves beyond individual and family dynamics and recognizes that human behavior is affected by a complex interplay of individual, peer, cultural, and environmental factors. (See Figure 2 for strategies related to child maltreatment protective factors at each level of the social ecology).

Child Maltreatment Prevention in State Health Departments

While frameworks such as those previously described are essential for public health to conceptualize and plan comprehensive prevention strategies, it is also important to understand the context in which health departments are implementing child maltreatment prevention efforts. In 2009, the CDC's Division of Violence Prevention, in partnership with the Doris Duke Charitable Foundation and the CDC Foundation, embarked on a joint venture to understand the context of child maltreatment prevention in state public health departments. The purpose of the Public Health Leadership for Child Maltreatment Prevention (PHL) Initiative[1] was to identify the work that state health departments were engaged in to enhance family resilience, promote healthy child development, and prevent child maltreatment. As part of this initiative, an environmental scan was sent to Maternal and Child Health and Injury and Violence Prevention program directors in U.S. state health departments. Program staff members were asked to coordinate one response representing state health departments. The key findings summarized below are based on data received from all 50 states and the District of Columbia (n = 51; response rate = 100%).

[1]More information is available at http://vetoviolence.cdc.gov/childmaltreatment/phl/index.html.

Commitment to Child Maltreatment Prevention

Overall, state health departments indicated a commitment to addressing child maltreatment as a public health issue. Ninety-six percent of health departments reported their state considered child maltreatment a public health issue, and 84% indicated that addressing child maltreatment prevention was in alignment with health department priorities. However, the health department was identified as the lead entity for child maltreatment prevention in only five states.

States also indicated that they had certain structures in place to facilitate child maltreatment prevention efforts. In 31 health departments, one or more of the following states had:

- Designated child maltreatment program or staff person in the state health department (39%)
- Child maltreatment prevention strategic/action plan (41%).
- Law, statute, or executive order (37%) mandating public health participation in child maltreatment prevention.

Commitment to child maltreatment prevention by health department staff and leaders may help garner needed resources (e.g., staff expertise; data and surveillance technical support) that allow for comprehensive efforts at each step of the public health model. A designated child maltreatment staff person in the health department may be a coordinating figure to assure that comprehensive efforts are implementing at multiple levels of the social-ecological framework. Strategic plans may help prioritize steps in the public health framework that are not being addressed (e.g., surveillance of risk and protective factors) or prioritize prevention efforts that address societal and community context (e.g., parenting norms) in addition to individual and relationship factors (e.g., parenting skills).

Health Department Roles

Health departments were asked what role they play in state child maltreatment prevention efforts. The top five roles were:

- Identifying and targeting at-risk populations;
- Making referrals to external resources;
- Communicating best practices;
- Convening partners; and
- Building state capacity for child maltreatment prevention efforts.

When asked what role a health departments *should* play, respondents felt these same five roles were most important. In general, state health departments reported they should be doing more child maltreatment prevention work.

The roles identified by health departments align with the steps of the public health framework. States working to identify and target at–risk populations are helping to define the problem of child maltreatment (steps 1 and 2). Building state capacity for child maltreatment prevention efforts helps states develop and test prevention strategies (step 3)

and convening partners and communicating best practices are part of widespread adoption of prevention strategies (step 4).

Programs

Programs that promote the health, safety, and well-being of families are often the responsibility of health departments. This work has traditionally centered on addressing factors at the individual and family levels of the social-ecological framework and has been done through home visiting programs[2], well child primary care visits, and WIC (Women, Infant's and Children's Nutrition Program) to name a few. The environmental scan showed that this work is still continuing. A majority of states (88%) reported administering home visiting programs, either using well-established national models, such as the Nurse-Family Partnership (Olds et al., 1997), or state designed models. These programs focused on positive family outcomes, such as improved perinatal health, fewer childhood injuries, fewer subsequent pregnancies, decreased parental stress, and improved child development. In addition to home visiting, all 51 state health departments reported being involved in programs that support child and family health and well-being. Examples included: well-child services (e.g., primary care, developmental screenings) (82%); home safety education and checks (75%); shaken baby prevention (69%); and maternal mental health screening (67%)[3].

Collaboration

Collaboration appeared to be an important strategy used by health departments, both internally (i.e., across multiple programs and divisions within the health department) and externally (i.e., across organizations and sectors). Internally, collaboration was most often carried out through data collection; joint committees; joint trainings; local interventions; and cross-program funding of staff. Eight states reported activity in all five of these areas, while 18 states collaborated in three or less. Externally, health departments collaborated with the following organizations:[4]

- Child welfare/protection (92%)
- Children's Trust Fund (76%)
- Strengthening Families Initiative (SFI) (85% of states with SFI)
- Prevent Child Abuse America (PCA) state affiliate (74% of states with a PCA affiliate)

Collaboration was viewed as both an asset and a challenge. Having a broad range of programs in many different locations presented a challenge for coordinated, cross-systems prevention efforts. However, building strong collaborations between different organizations was viewed as an important piece of a comprehensive approach in a resource-limited

[2]The scan was completed prior to the implementation of the Federal Maternal, Infant and Early Childhood Home Visiting Program, which has significantly expanded home visiting services nationally.
[3]Percentages reflect the number of states reporting these activities and states could respond to more than one category. The full report of results is available at http://www.cdc.gov/violenceprevention/pdf/PHLI_CM_environmental_scan-a.pdf.
[4]Health departments could select more than one agency or organization. The full report of results is available at http://www.cdc.gov/violenceprevention/pdf/PHLI_CM_environmental_scan-a.pdf.

environment. Child maltreatment is a complex problem that requires multiple systems working together to bring about necessary change; change not only in individual behavior and family functioning, but also to community and social contexts that effect individuals and families. No one agency or organization will be able to accomplish this alone.

Although there are varying degrees of state health department involvement in child maltreatment prevention, a few states are taking on this important issue as a public health problem. One state that is actively using a public health approach is North Carolina. The next section provides an overview of this experience.

North Carolina's Public Health Approach

In 2004, a group of state leaders from multiple disciplines came together through a North Carolina Institute of Medicine (NCIOM) Task Force to study child maltreatment prevention and develop a state action plan[5]. Leaders from early childhood, public health, mental health, education, child welfare, universities, and civic leadership collaborated to develop a common vision of child maltreatment prevention. They understood North Carolina (NC) needed better coordination between partners promoting healthy family development and community support of families, and most importantly, needed to move from a "child welfare" frame of child maltreatment prevention to a "public health" frame—one that focused investments "upstream." Task Force recommendations fell into six broad areas:

1. leadership for child maltreatment prevention;
2. development of a surveillance system;
3. changing social norms to support healthy parenting and strong families;
4. increasing the use of evidence-based and promising practices;
5. enhancing practice within systems and programs serving families and children; and
6. increasing funding for child maltreatment prevention[6].

The recommendations were not "owned" by any one agency and were endorsed by all Task Force members and their organizations. The recommendations provided a vision for prevention activities with a focus on developing coordinated efforts across the state.

Leadership

State-level leadership was recognized as a need by the Task Force since, at that time, child maltreatment prevention efforts were fragmented across agencies with little shared planning and few shared outcome measures. Numerous public and private agencies provided prevention services; however, no state public agency had programmatic authority or accountability for child maltreatment prevention efforts across the state. As a result, the NC Division of Public Health (DPH) and Prevent Child Abuse North Carolina were charged

[5]The NCIOM Task Force on Child Maltreatment Prevention was a collaborative effort between the NC Institute of Medicine and Prevent Child Abuse NC and funded by a grant from The Duke Endowment.
[6]The full report is available at http://www.nciom.org/task-forces-and-projects/?childabuseprevention

with developing and overseeing these efforts. Funding for a coordinating staff person, housed within the Division of Public Health, was provided by the NC General Assembly.

Surveillance

The Task Force also recognized NC's need for a comprehensive surveillance system to accurately measure the magnitude of child maltreatment, provide information for program planning and implementation, evaluate system success and needs, and inform policymakers and the public on the status of child maltreatment efforts. The lack of consistent information about the number of children affected by maltreatment limited NC's ability to respond effectively to the problem.

In collaboration with multiple external stakeholders, the DPH's Injury and Violence Prevention branch began working on this issue in 2007 and developed a plan for a state-wide surveillance system. Funding was identified in 2011 through the CDC Core Injury and Violence Prevention program. A second grant from the John Rex Endowment was obtained and is being used to develop a comprehensive child maltreatment surveillance system in Wake County, which will inform implementation of the state-level child maltreatment surveillance system.

Social Norms Change

Another key priority identified by the Task Force was the need to shift the perceptions of state leaders, providers, and community members about healthy family development and violence prevention. The Task Force identified distinct, but interrelated, strategies to accomplish this goal: (1) public awareness campaigns focused on individual and community support of positive parenting; and (2) increased statewide support and coordination of grassroots, comprehensive violence prevention efforts. Prevent Child Abuse NC (PCANC) is leading efforts in the state to change the public dialogue related to child maltreatment prevention and healthy child and family development. PCANC works with organizations across the state to increase understanding of framing public messages and to collaborate on communications efforts. The goal is to inform policy decisions by changing the public conversation and is based on the Strategic Framing Analysis method, a form of communications research and practice developed by the Frameworks Institute that focuses on key social problems.

Increasing Use of Evidence-Based Programs

Implementing evidence-based programs (EPBs) was another area the Task Force focused their recommendations, recognizing that strategically investing in proven programs that assist families and communities and promote healthy child development would yield long-term economic and social returns. With limited funding and staff resources, EBPs best utilize resources and meet the standard for public accountability and cost effectiveness (Aos, 2002; Jones, Bumbarger, Greenberg, Greenwood, & Kyler, 2008; Lee et. al., 2012).

There was also a need for a less "silo-based" and a more integrated approach to supporting implementation of EPBs. Therefore, a major focus in NC has been integrating state efforts into a coordinated system and focusing on promoting the use of common or shared

indicators; aligning funding, policies, and priorities; and collaborative policy development. Understanding that achieving positive outcomes would require the selection of the appropriate program for target populations, the state identified a continuum of programs (from promising practice to evidence-based) for communities to implement based on desired outcomes. These included:

Triple P Positive Parenting Program is a population-based, multi-level family and parenting support intervention that aims to prevent child maltreatment by promoting positive and nurturing relationships between parent and child (Sanders, Turner, & Markie-Dadds, 2002). Triple P combines universal and selected elements ranging from media campaigns to targeted interventions with parents. A population-based trial of the Triple P system in the United States by Prinz, Sanders, Shapiro, Whitaker, & Lutzker (2009) demonstrated reductions in substantiated cases of child maltreatment, out of home placements, child hospitalizations, and emergency department visits due to child maltreatment-related injuries. Currently, Triple P is being implemented in 16 NC counties through a variety of funding sources including: the Title V/Maternal and Child Health Block Grant, Project LAUNCH, the Race for the Top Early Learning Challenge, and the American Public Health Association.

Nurse Family Partnership (NFP) is an intensive home visiting program for first time, low-income mothers, which may be implemented as a universal or selective intervention (Olds et al., 1997). Decades of clinical research and experience in high quality replication has demonstrated NFP improves maternal and birth outcomes, young child health, and family self-sufficiency (Eckenrode et al., 2010; Kitzman et al., 2010). In North Carolina, a publicprivate partnership of nonprofits, foundations and government agencies support NFP as a child maltreatment primary prevention strategy. NFP has grown from one program serving one county in 2007 to 10 programs serving 16 counties.

The Period of PURPLE Crying®: Keeping Babies Safe in North Carolina is a statewide, universal approach to prevent abusive head trauma (AHT) or “shaken baby syndrome” (Barr, Barr, Fujiwara, Conway, Catherine, & Brant, 2009). Implemented over a five-year period, the goal of this intervention is to prepare parents and caregivers to respond safely and explicitly to infant crying to reduce hospital admissions and deaths from AHT.

The Incredible Years Parenting Program (IY) fosters healthy development in young children by strengthening parenting competencies and promoting effective strategies for managing children’s challenging behaviors (Webster-Stratton, 1998; Posthumus, Raaijmakers, Maassen, Van Engeland, & Matthys, 2012). In North Carolina, a public-private partnership of nonprofits, foundations, and government agencies supports IY as a child maltreatment primary prevention strategy. The program has expanded from implementation by one community-based organization in 2007, to more than 25 sites across the state.

Strengthening Families Program 6–11 is a family life skills training program that improves parenting skills, enhances family relationships, and increased children’s social and life skills. The goals of the program include: increased resilience; reduced

risk factors for substance abuse, aggression, depression, delinquency, and school failure; and reduced child maltreatment by strengthening bonds between parents and children and increasing use of positive parenting skills (Prevent Child Abuse North Carolina, 2013).

Enhancing Practice

Achieving desired outcomes, such as preventing child maltreatment, requires more than the selection and funding of evidence-based programs. Even the best evaluated programs will not yield expected outcomes if not implemented as designed. Many organizations lack the expertise required for high-quality implementation and may need additional assistance. North Carolina is working to go beyond just disseminating evidence-based prevention practices to creating the infrastructure to ensure implementation is done correctly and consistently. With assistance from philanthropic organizations, such as The Duke Endowment and the Kate B. Reynolds's Charitable Trust, and governmental agencies, such as the state Department of Health and Human Services, NC has begun to build the needed infrastructure support for three evidence-based programs: Nurse Family Partnership, the Incredible Years, and the Strengthening Families Program 6–11. These partners have developed shared indicators, common grant requirements, and shared evaluation for these programs, which reduce duplication of effort and gaps in services.

Funding

The state level infrastructure designed to prevent child maltreatment and promote healthy child development in North Carolina is characterized, as in many other states, by categorical funding streams and categorical programs. Multiple initiatives such as the NCIOM Task Force on Child Abuse Prevention, the Early Childhood Comprehensive System, the NC Child Fatality Task Force, Project LAUNCH, and the Race for the Top Early Learning Challenge, have helped state agencies see the benefits of a more collaborative approach. However, categorical funding and accountability systems remain generally separate, which is a major obstacle to whole system integration. Additional barriers to full implementation include: a state and national fiscal crisis, resulting in increasingly limited resources; changes in leadership at the state and key stakeholder level; and competing priorities.

Conclusion

There is a widely shared vision that all children deserve to grow up in environments that are safe, stable, and nurturing—that promote a child's physical, emotional, cognitive, and behavioral health. There is growing awareness among practitioners, researchers, funders, and policymakers that achieving such a vision requires a public health approach, one which conceptualizes a child's well-being as deeply influenced by the child's ecology, the relationship between the child and his or her environment. This approach focuses on primary prevention and helping families before maltreatment occurs, rather than intervening after the fact. If we are going to ensure that children grow up in safe, stable, and nurturing environments, then we are going to need the leadership, resources, and expertise of our state public health agencies.

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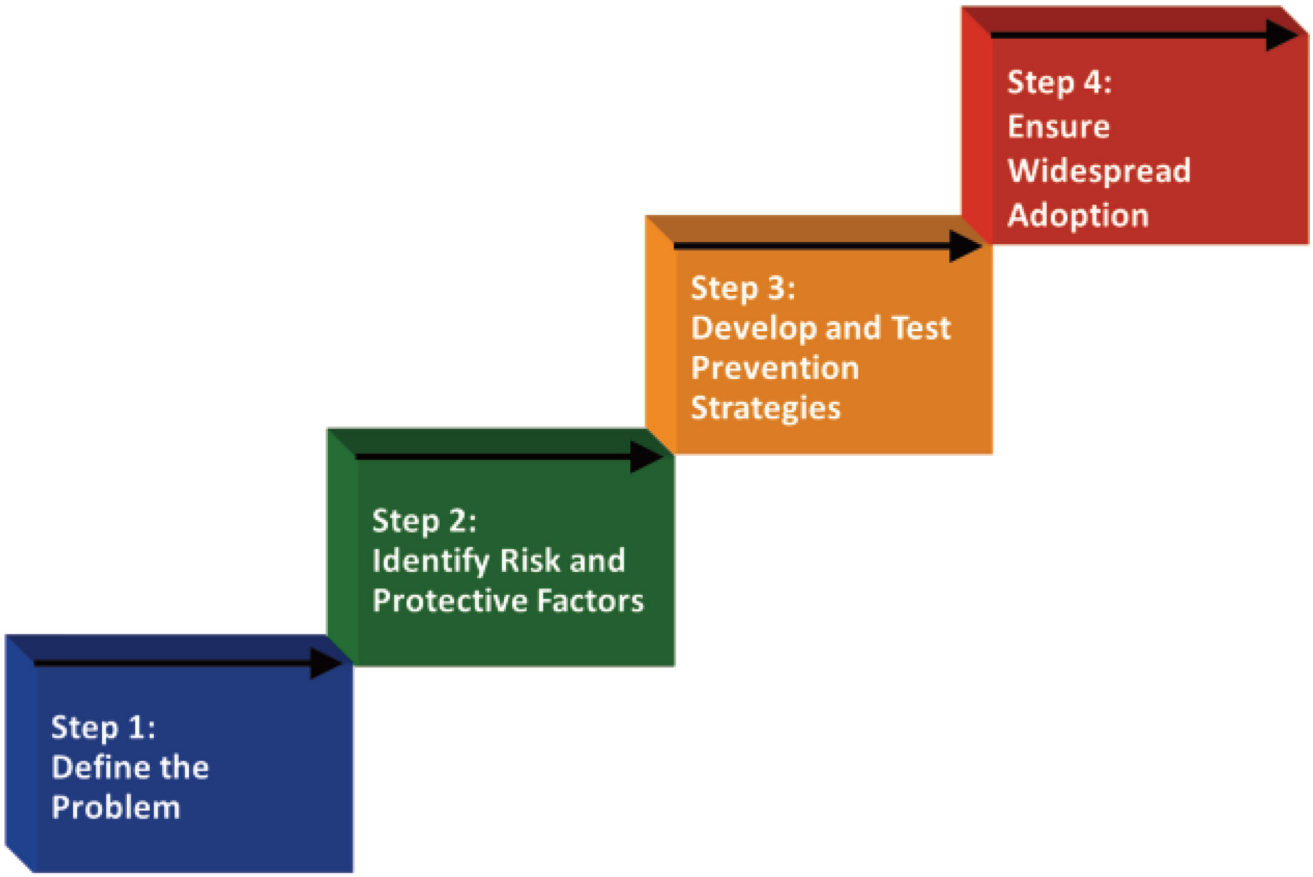

Figure 1.
Public Health Model

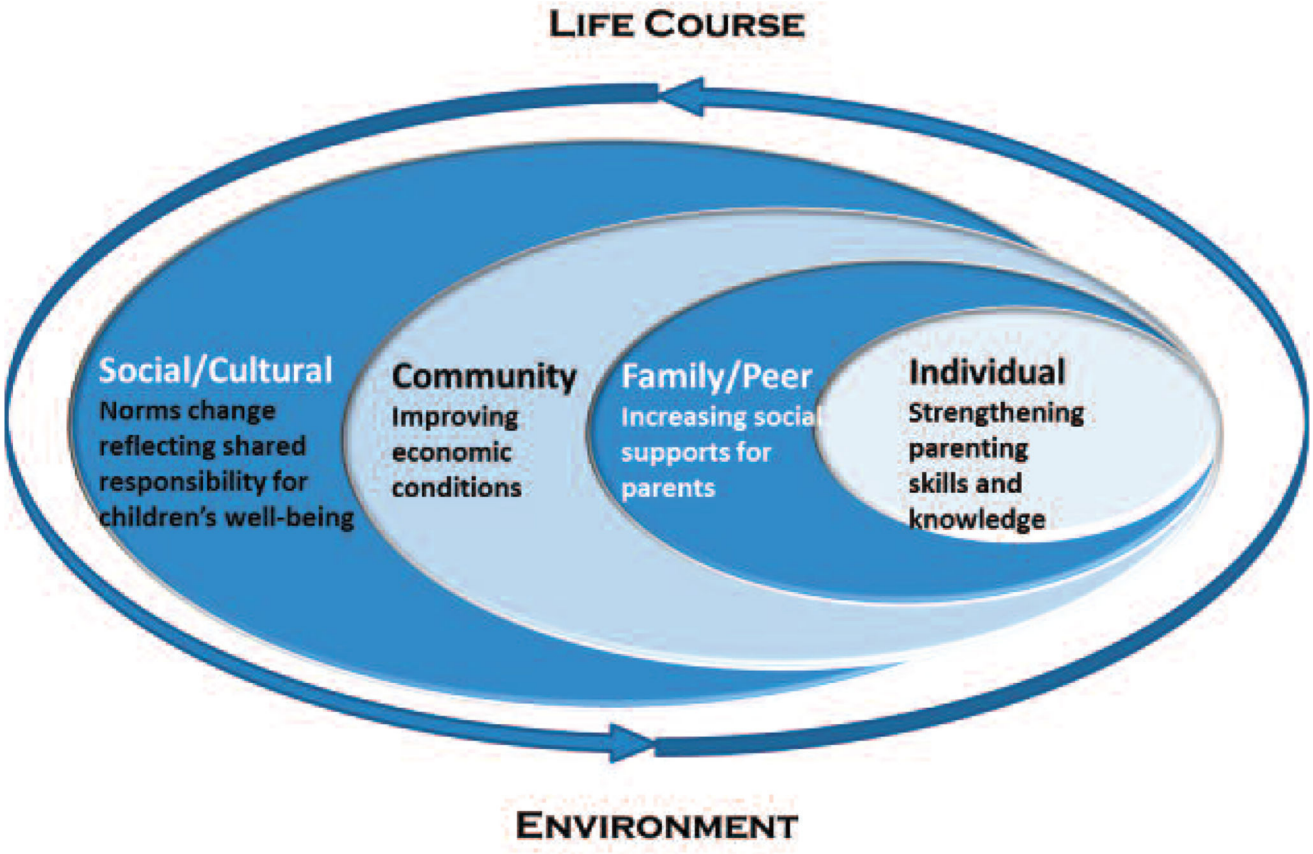

Figure 2.
A Social-Ecological Framework