Mobilizing Trauma Resources for Children

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INTRODUCTION

Childhood Trauma is a Public Health Problem

The consequences of child trauma constitute a major public health problem worldwide. For many children, the unaddressed consequences of trauma will adversely affect their entire lives and the lives of those around them – and even the lives of their unborn children. The effects of trauma can be pervasive, impacting on school readiness and performance, diminishing cognitive abilities, and leading to substance abuse, crippling mental disorders and costly physical health problems. Rapid identification of traumatized children could lead to early interventions which can diminish the negative sequelae and save enormous sums relative to the cost to society of the consequences in adulthood.

Numbers of Traumatized Children

Children are at greater risk for experiencing serious trauma than any other age group. Findings from the Great Smoky Mountains Study (GSMS), a longitudinal study of the mental health of the general population of children living in the western counties of North Carolina, have shown that fully one quarter of children (25.1%) experienced at least one traumatic event by age 16 [1]. Children's experiences assessed in the GSMS included traumatic loss of a loved one, exposure to life-threatening accidents, fires, and natural disasters, as well as maltreatment by caregivers and other forms of serious violence and victimization. A recent study of children in grades 4-12 in New York City found that 64% had experienced at least one significant traumatic event *prior to* the attack on the World Trade Center[2]. Indeed, the number of America's children – our children -- who have been the victims of serious interpersonal violence is shockingly high. The National Survey of Adolescents in the United States, sponsored by the National Institute of Justice, estimated that nearly 4 million adolescents aged 12 to 17 experienced a serious physical assault during their lifetime[3]. This nationally representative survey of American teenagers also found that 9 million youth witnessed serious violence during their lifetime.

While precise annual estimates of the number of children maltreated by caregivers do not exist, the total number of children nation-wide experiencing abuse, neglect, or exposure to domestic violence is estimated to exceed three million cases per year [4-6]. The Child Maltreatment Report from the National Child Abuse and Neglect Data Systems

(NCANDS), which annually aggregates state child protection reports, estimates that 879,000 children were confirmed victims of child abuse and neglect in 2000 [7]. The victimization rate was 12.2 per 1000 children, of which 63% suffered some form of neglect, 19 % were physically abused, and 10 % were sexually abused. Many children suffered multiple forms of abuse and neglect but were only included in one category for reporting purposes. General population surveys yield rates 2- to 3-fold higher than official child abuse reports, and there is a significant overlap (estimated to be 30-60%) between families involved in child abuse and domestic violence [8].

Consequences of Trauma

Traumatized children, as a group, manifest significantly higher levels of behavioral and emotional problems and academic failure than non-abused children. Problems commonly include depression, anxiety, aggression, conduct disorder, sexualized behaviors, eating problems, somatization, and substance abuse. Although the relative contribution of abuse and neglect versus family environment and genetic factors has been debated, recent twin studies confirm a significant causal relationship between child abuse and major psychopathology [9]. These deficits predispose children towards negative adolescent trajectories including early school drop-out, substance abuse, and promiscuity, and they contribute significantly to adverse adult outcomes such as depression, posttraumatic stress disorder, substance abuse, poorer medical health, and low occupational attainment. In twins discordant for child abuse, abused twins have significantly higher rates of depression, attempted suicide, conduct disorder, alcohol

dependence, nicotine dependence, and sexual promiscuity [9-11]. To date, the research base on emotional abuse, neglect, and exposure to domestic violence is not as extensive as that for child abuse, but the findings are similar [12].

Abused and neglected children have significantly poorer school performance than non-abused children [13-16]. In some abused children, cognitive deficits (perhaps abuse-related) may trigger the emergence of behavioral difficulties [17, 18]. Children having difficulty learning may, in turn, act out or be inattentive. Behavior problems may lead to rejection by peers and teachers, decreasing opportunities for positive instruction, classroom participation, and supportive feedback [19, 20]. The Trickett and Putnam longitudinal study of sexually abused girls found that teachers, blinded to the abuse status of the child, rated maltreated children as significantly less likeable than matched controls [21]. Studies have also identified significant effects on IQ scores, language ability and school performance [15]. Children with maltreatment-related PTSD have significant impairments on attention tasks, abstract reasoning, and executive functioning compared with matched healthy children [22]. A population-based sample of over a thousand twin pairs found that exposure to domestic violence accounted for approximately 4% of the variation in child IQ and was associated with an average decrease of 8 points [23]. This compares with an average decrease of 3-4 IQ points for significant lead exposure.

What Constitutes Trauma?

While there are many types of trauma experienced by children, the most common forms typically occur at the hands of their parents and caregivers. Neglect, physical and sexual abuse are often combined with emotional abuse and exposure to domestic violence [5]. In addition, many of the same children live in unstable and crime-ridden neighborhoods and are exposed to violence in their schools and communities. Researchers seeking to understand the effects of trauma on child development often draw distinctions between acute or single incident trauma and chronic trauma, sometimes referred to as Type I and Type II trauma respectively. Single episodes of serious accidental trauma can cause significant problems, but with a stable and supportive caregiving environment symptoms often resolve so that the rate of serious long-term complications such as posttraumatic stress disorder is relatively low.

Chronic trauma involves either sustained or repetitive traumatic experiences and typically also occurs in an environment where there is little adult support or healthy caregiving. Children exposed to chronic trauma generally have significantly worse outcomes than those exposed to acute accidental traumas. In addition, the failure of caregivers to significantly protect the child is experienced as a betrayal and further contributes to adversity of the experience. When trauma is deliberately inflicted on a child by a caregiver, as is often the case in child abuse, the intentional quality of that experience further contributes to its severity.

How does Trauma Hurt Children?

Research has identified a set of critical developmental processes, both psychological and biological, that are impacted by traumatic experiences. These processes, often conceptualized as developmental threads, run the course of the child's development and set the pattern for adult life. They broadly shape the individual's capacity to self-regulate in the face of stress and their sense of self and ability to relate to others. The age and gender of the child, the number and types of trauma, the duration of the experience(s), the presence or absence of supportive adults, and other factors complexly influence the outcomes in ways that are presently only partially understood [24]. It is, however, well-established that significant trauma disrupts normal development in ways that are detrimental to many areas of adult functioning and often leads to costly emotional and physical problems that could be avoided or minimized by much earlier intervention [25].

The capacity for emotional regulation is one of the major causalities of significant early trauma. Traumatized individuals often suffer significant mood swings, anger, irritability, and profound depression. Numerous studies have established that a history of child abuse increases major depression approximately three-fold compared with non-abused individuals [24]. Serious problems with the modulation of mood and regulation of anger can greatly complicate a child's ability to perform in school and to develop healthy peer relations as well as leading to situations that may result in injury to self or others. The ability to regulate attention is often similarly compromised in traumatized children. Problems with concentration, sometimes due to PTSD symptoms such as hyperarousal or hypervigilance, impair school performance.

The traumatized child's social development is further compromised by significant problems with self-esteem and sense of identity. One of the most devastating effects of child abuse in particular is that abused children often hate themselves and express these feelings in self-destructive behavior. Indeed, studies have established that a history of child abuse increases suicide attempts by as much as twelve-fold [24, 26]. A parallel process is the abused child's extreme difficulty in forming healthy social relationships with peers and partners. Disruptions in attachment, the fundamental caregiver-child bonding, are believed to be primarily responsible for the difficulty in developing trusting, reciprocally mutual relationships. Difficulties with modulation of anger and affect further compromise this process.

Finally, research is finding that traumatic experiences such as sexual abuse can actually affect the development of the brain and impair important neuroendocrine systems. The areas of the brain affected appear to be those associated with the regulation of emotion. Regions of the brain essential to the linkage of the two hemispheres and learning and memory appear to be most affected [27-29]. Other brain regions associated with control of impulses and reasoning, problem solving and judgment are also impaired and become less influential in the individual's behavior [27-29]. Major hormonal systems such as the hypothalamic-pituitary-adrenal axis, which plays a crucial biological role in buffering the physical effects of stress, are significantly dysregulated in victims of childhood trauma [30-34]. In addition, the sympathetic nervous system – sometimes referred to as the 'fight or flight' system - has been found to be hyperactive, leading to increased

arousal and hypervigilance, in trauma victims [33]. This, in turn, probably contributes to hyperarousal, poor concentration, and increased irritability, which extract their toll in school and social success.

Protective Factors and Resiliency

Studying children in various adverse situations, developmental psychologists have identified a number of protective factors associated with increased resistance to stress. Protective factors are individual or environmental characteristics that predict or are correlated with positive outcomes for children [25]. The most important of these are: intelligence, the capacity for emotional regulation, the presence of social supports provided by caring and competent adults, holding a positive belief about self, the child's belief in the safety and fairness of their situation, and a motivation to act effectively on one's environment. It should be evident from the discussion above, however, that traumas such as child abuse and neglect seriously undermine these protective factors, even to the point of significantly reducing IQ, which may be the single most important factor[23].

Even the co-occurrence of multiple protective factors can be overwhelmed by significant levels of trauma. The Adverse Childhood Experiences (ACE) study is a decade-long collaboration between the Centers for Disease Control (CDC) and the Kaiser Permanente's Department of Preventive Medicine in San Diego. These studies, co-led by Drs. Robert Anda of the CDC and Dr. Vincent Felitti from Kaiser, have examined the cumulative effects of multiple adverse childhood experiences on physical and mental

health. Using a simple 0 to 6 scoring system that counts the number of types of adverse childhood experiences (ACEs) occurring before age 18, the study has repeatedly found that as the number ACEs increase, there is a graded increase in the number of affected subjects [26]. Compared to subjects with no ACEs, individuals with 4 or more ACEs are at many fold greater risks for a range of serious health problems (see below). The study provides clear evidence that multiple and/or chronic trauma can overwhelm all but the most resilient of children.

Trauma as a Risk Factor

Risk generally refers to an increased probability of negative outcome among members of a group that shares one or more characteristics [25]. Factors that predict or are correlated with negative outcomes either in terms of symptoms or of failures to achieve potential are termed risk factors. Risk factors can be genetic, individual or environmental and interact with protective factors in complex ways. Risk factors often co-occur, particularly in highly traumatizing environments, and are, in combination, more predictive than in isolation. Studies of risk and resiliency in children have involved studies of broad and cumulative risks, studies of stressful life events and studies of acute trauma and chronic adversity.

Recent studies have identified childhood trauma and adversity as a major risk factor for many serious adult mental and physical health problems. Depression is at least three-fold higher in victims of child abuse than in the general population. Estimated to

have cost the U.S. $44 billion dollars in lost worker productivity in 2003, depression is one of the top public health problems in the world [35]. The ACE Study has found that the presence of 4 or more ACEs increase risk 4 to 12-fold for alcoholism, drug abuse, suicide attempts and 2 to 4-fold for smoking, poor general health, having >50 sexual partners, and sexually transmitted diseases. There was a 1.4 to 1.6-fold increase in physical inactivity and severe obesity [26]. Similar results have been obtained in a number of controlled studies including co-twin studies which control for genetic factors [9, 36, 37].

Childhood trauma then can be regarded as a significant risk factor for a number of major public health problems including: depression, substance abuse, and sexually transmitted diseases including AIDS. In addition, trauma through its effect on health risk behaviors such as smoking and obesity, contributes to multiple health problems including heart disease, cancer, and liver disease [26]. Finally, the children of victims of child abuse and neglect are at significantly increased risk to be victimized themselves [38, 39]. Thus, childhood trauma is not merely a risk factor confined to one generation, but can cross generations placing evermore children at risk for negative outcomes. The cumulative costs of these outcomes, particularly when aggregated across generations, far outweigh the cost of prevention and early intervention programs, which could reduce or eliminate many of the effects of childhood trauma.

Assessment and Evaluation Strategies and Issues

Systematic, large-scale, screening of children for trauma-related symptoms and behavioral problems offers both critical opportunities and significant challenges. Public health screenings generally involve the administration of a test or a selective examination to individuals who are not overtly symptomatic for the purpose of classifying them with respect to the condition of interest. In some instances, the individual may be asymptomatic (e.g., using a PAP smear to detect early cervical cancer). While in other instances, the individual may be symptomatic but the underlying disorder has not been identified (e.g., screening for depression). Generally screening tests are not definitive and further diagnostic evaluation is required for individuals who test positive. Screening has played a critical role in public health over the years and in many cases has become a routine part of standard medical care.

Public health screening, however, always involves a complicated trade-off of a number of issues that must be considered for each condition. To be appropriate for screening a disorder must be serious, early treatment must make a significant difference in outcome, and the prevalence of the disorder must be sufficiently high among the population screened. The ultimate costs of the disorder's outcomes must be high enough to offset the costs associated with screening, further evaluation, and treatment. For the screening to be beneficial, early treatment must make a significant difference compared with later or no treatment. Finally the epidemiological mathematics of screening require that the disorder must be common enough in the population screened such that the costs of the program can be justified relative to the number of the cases detected.

Universal vs. targeted screening for traumatized children.

Universal screening involves testing an entire population, or at least as many people as can be readily reached. Universal screening of adults for hypertension can be justified in that it is a serious condition resulting in significant mortality and the prevalence in the population is high, estimated to be up to one quarter of U.S. adults. Universal screening for phenylketonuria (PKU), a rare (1/15,000 live births) congenital absence of a liver enzyme, is justified because the resulting irreversible, severe mental retardation can be prevented when detected by a simple, accurate, and cheap, one-time test. However, when the condition is relatively rare, and/or the test is not entirely accurate or is very expensive, screening must be focused on a high-risk population to be feasible and justifiable.

Although the prevalence of trauma among children is high, it is not evenly distributed across all children. Certain groups of children have dramatically higher rates of exposure to trauma. Several groups of children can be identified, who are known to have high rates of trauma and exposure to violence, and would benefit from early detection and intervention. High-risk groups include: 1) children who are known to have been abused and neglected (most of whom currently receive little or no interventions for the trauma); 2) children in foster care (of whom 70-80% are placed because of abuse or neglect to them or their siblings); 3) children who witness domestic violence or the violent death of a parent, sibling or friend; 4) children who are victims of catastrophic accidents or mass causality events associated with school violence, forms of terrorism or

natural disasters; 5) children in the juvenile justice system; 6) refugee children from countries with major armed conflicts and civil disturbances; and 7) children who require psychiatric hospitalization for certain symptoms or behavioral problems (e.g., suicide, running away).

What should we screen for?

Because trauma comes in many different forms for children of varying ages, gender, and cultures, there is no simple, universal, highly accurate screening measure. Moreover, definitively establishing whether specific traumatic events have occurred is not feasible in many of the service systems now working with these children. Therefore, screening approaches should be directed towards identifying children with a constellation of risk factors such as poverty, homelessness, multiple births during adolescence and other environmental vulnerabilities of trauma-related symptoms and behavior problems that are highly associated with traumatic antecedents. These would include: 1) PTSD symptoms (which vary with age [40]), and 2) certain behavioral symptoms strongly associated with traumatic antecedents (e.g., sexualized behaviors, certain fears, and aggressive behaviors). Parents, guardians or other involved adults would have to participate in the screenings of younger children. Older children and adolescents could complete a self-report measure. Positive screens will require a more comprehensive follow-up evaluation conducted by a professional familiar with the manifestations of childhood trauma.

The validity of a screening measure is measured by how well it does what it is supposed to do, that is, to accurately categorize individuals as to whether they are positive or negative for a particular disorder. A given measure's effectiveness can be quantified by calculating its sensitivity, specificity, and positive and negative predictive value. Sensitivity is defined as the probability of testing positive if the disorder is truly present. Specificity is the probability of testing negative when the disease is truly absent. While the ideal test is both highly sensitive and highly specific, in practice there is a tradeoff that involves systematically weighing the probability of having false positives and false negatives for various cut-off scores of the screening measure. The feasibility of a screening program depends on its acceptability, cost effectiveness, and yield of cases. The yield is often quantified by calculating the predictive values of the test. The positive predictive value is the probability that a person who tests positive actually has the disorder. The negative predictive value is the probability that a person who tests negative is truly disorder-free. Before a screening program can be instituted on a large scale it is necessary to establish these parameters for a given measure in the population being screened.

Candidate screening measures for childhood trauma.

Much work remains to be done before all of the populations described above who are at high risk for trauma-related negative outcomes can be effectively screened. A number of child trauma measures have, however, been developed that can serve as starting points for pilot screening programs. A good example is a simple screening

measure recently published in JAMA that predicts PTSD in children who were seriously injured in accidents or burned in fires [41]. Using four simple questions of the child, 4 questions of the parent and 4 items easily obtained from the medical record, it is possible to predict subsequent PTSD symptoms with good accuracy. The sensitivity of the measure for predicting posttraumatic stress at 3 months post injury was 0.88 for children and 0.96 for parents, with negative predictive values of 0.95 for children and 0.99 for parents.

Other trauma-focused behavioral measures such as the Trauma Symptom Checklist – Child (TSC-C) are well along in the development and validation process and could be widely deployed in the near future. In addition, widely used general behavioral measures such as the Child Behavioral Checklist (CBCL) could be also calibrated as screening measures based on analyses of previously collected samples from traumatized children. For example, in the Great Smoky Mountains Study (GSMS), Costello et al. (1996) successfully used items from the externalizing problems scale of the CBCL to screen a general population sample in western North Carolina[42]. In the GSMS, all children scoring above a predetermined cutoff point (the top 25% of the CBCL scale total scores) plus a 1 in 10 random sample of the rest were recruited for detailed interviews. Comprised of more than 50 centers that provide treatment and services to traumatized children and families and located in 32 states and the District of Columbia, the SAMHSA-sponsored National Child Traumatic Stress Network (NCTSN) is well situated to undertake the validation of these and other measures across a wide range of age

groups, service sectors, cultural settings, and types of trauma, including exposure to mass casualty events [43].

Ethical Issues in the Assessment of Traumatized Children

Mandated Reporting. One of the major, but often unacknowledged reasons, that children are currently not more actively screened for possible trauma is that all states have laws that require certain persons (who vary state by state) to report any and all suspicions of child abuse or neglect to the proper authorities under legal penalty for failure to do so. Rather than risk finding themselves in an awkward situation where they must make a formal report of suspicions of child abuse, many professionals who are mandated reporters choose not to inquire about traumatic experiences, especially child abuse and neglect. A number of federally-funded national surveys of mental health issues in children have also deliberately chosen not to inquire about trauma to avoid the obligation of mandatory reporting. Any widespread screening program of trauma in children must have an established and well-vetted protocol for handling suspicions of child abuse and neglect.

A related issue is the question of false positive screens. Virtually all screening measures will misidentify some individuals as having the condition, when, in fact, they are free of the disorder. Reporting a false positive trauma screen to child welfare authorities could lead to a stressful investigation and conceivable harm to the child or family. This is a difficult risk to quantify that must be balanced against the necessity to

protect children from further harm that would result if the proper report were not made for a true positive case. One way in which such false positive risks can be minimized is the use of multiple evaluation measures administered serially which tends to increase the specificity of the screen because a positive series is more likely to represent true disorder. The threshold of mandated reporting then can be set at a much higher level than just based on the initial screening measure.

Therapeutic response to positive screens.

It is generally considered unethical to screen for a medical or psychological disorder unless there is an effective intervention. When a proven intervention exists, a secondary concern involves the availability of that intervention to the population being screened. The creation of a systematic, large-scale screening program to identify traumatized children must proceed in concert with deployment of evidence-based interventions readily accessible to the populations of children being screened. The NCTSN is the entity perhaps best positioned to couple trauma screening across multiple systems serving children with effective therapeutic interventions in the same communities.

MAIN FINDINGS

The Current Public Health Emergency Requires a New Asset-Focused Public Health Approach to Childhood Trauma

The scientific and clinical evidence shows that there are sufficiently large numbers of undiagnosed and untreated trauma-affected children in America today to warrant a larger public concern - both for these affected children and society at-large. Indeed, we consider the situation to be a true, serious public health emergency which warrants the following necessary actions to mobilize the needed resources for children and families.

1. The various epidemiological studies pertaining to traumatized children and families need to be accumulated and aggregated. While these studies often provide point-in-time counts of the number of teen-pregnancies, the number of reported abuse cases, the number of incarcerated juveniles or domestic violence incidents involving children, they rarely acknowledge the frequent overlaps in the counting. Many of the children accounted for in one setting are the same children showing up in multiple problem arenas.

2. Systematically identifying, studying, and developing relationships and partnerships between and among trauma service providers and current and potential agencies that have pre-existing relationships with these children and families (see below) and also have concerns and responsibilities for them is critical. Such partnerships can identify and serve more children in a more timely and effective manner.

3. Moving beyond the boundaries of traditional trauma agencies and programs into those locations where traumatized children are -- such as schools, juvenile detention facilities, adolescent substance-abuse treatment programs, shelters and other residential settings -- and establishing and undertaking a systematic program for screening, diagnosing, and treating traumatized children will also be required.

4. Assessing unmet needs for services and matching the identified needs to the capacity to deliver the required services is another necessary step. This requires a clear-headed approach to identifying the available mental health assets, and the capacity - or shortfall - to deliver these assets to where the identified needs are located.

At this stage, a mismatch between needs and capabilities – assets - will likely appear. If so, a separate analysis and focused study must be undertaken to determine how best to address this situation. Understanding insurance program funding and training requirements – for both partners and primary trauma paraprofessional service providers is critical.

5. Identifying, examining, experimenting, developing and implementing best-practice strategies and protocols for reaching and helping as many of these children and families as possible will be difficult. It will require a long-term commitment by people in the trauma field in partnership with policy makers, elected officials, and their staffs (see below).

6. These efforts should be evaluated continuously for program quality improvement reasons and for determining program effectiveness and other outcomes. Continuing to learn and being open to outcome research is a given, but it is not necessary to wait for the "perfect research answers" to begin this challenge. As Voltaire noted, the perfect is the enemy of the good.

7. Concurrent to the above actions, an active group of policy and political analysts must begin to learn about and understand better the opportunities and barriers to securing the necessary government supports for these public health emergency actions. Some policies can be affected by regulation - state and Federal. Others, particularly those concerning funding streams, will require legislative action.

8. A public education project must begin in order to elucidate this child trauma public health emergency. Policy analysts, elected officials, and their staffs, and the public at large must be made aware of the causes and effects on these children of experiencing directly and being exposed to various traumatic events. This means that they need to understand that there are severe personal and societal consequences for not acknowledging and addressing this public health emergency with treatment options. But it is imperative for them to learn that for many of these children and families, a timely diagnosis and provision of access to appropriate mental health services can make a real and measurably positive difference in their lives, their developmental trajectories, and for society at large.

9. Finally, we must become more vigilant about sensing and acting upon - taking advantage of opportunities to prevent some of these traumatic events from occurring for these children in the first place. The trauma field has learned a great deal about preventing teen pregnancy, decreasing repeated domestic violence attacks, intervening successfully - if rarely - in alcohol and substance abuse cases, etc. Any new frontal attack on the public health trauma emergency will require an active, dynamic prevention component.

If this action plan seems overly ambitious or unrealistic, let us remember New York City's recent experience with crime reduction. As the story goes 48, a New York City transit police officer observed that certain crime "posses" frequented certain places at certain times and acted in predictable ways to victimize the public. The transit police efforts, however, had not considered the mismatch between where the law enforcement assets were at specific times and the predictable locations of the expected crimes. When the assets were finally mapped and matched dynamically to the most probable crime locations as well as the times at which they occurred, a dramatic reduction in crime resulted.

We believe this model of observation, analysis, experimentation, implementation and evaluation can be adopted by the trauma field to address this public health emergency. The notion of moving resources from where they are out to the problem areas in order to be more efficient in the identification and the delivery of services to specific populations is not new. Indeed, several examples exist over the last decades

where trauma professionals have implemented this approach. Together, with partnerships from other fields, they have achieved important successes. Some examples follow.

In 1989, Boston City Hospital pediatrician Dr. Barry Zuckerman and his colleagues noticed an alarming increase in the number of women who were delivering babies with crack cocaine in their systems. Previously, the standard procedure to address this problem was to refer the mother out to a drug counseling program. Unfortunately, "referring out" became a self-fulfilling prophecy: the mothers rarely succeeded in getting the counseling help and services they so desperately needed, although they did bring the newborn for pediatric care.

Dr. Zuckerman decided to form a partnership with a drug counselor and brought her directly to the pediatric primary care clinic to serve the mothers in this familiar setting. The reasoning was clear: mothers loved their babies and cared about their babies' health. They had a self-interest in bringing the babies for their checkups. Drug counselors on site used the pediatric visit as an opportunity to provide an important service, substance abuse counseling, to the mothers who were in critical need.

Dr. Zuckerman and his colleagues subsequently formed additional partnerships bringing more services to the pediatric setting, including early childhood education, early literacy training for mothers – the successful national program, "Reach Out and Read," currently serving over 1.5 million children at 1,800 pediatric sites. Additionally, public interest lawyers were also brought into the pediatric service to help patients insure their

basic legally entitled needs for food, safety, housing, access to health, mental health and social services, etc. This legal model of situating lawyers directly in the setting is also being replicated in several locations around the country. A third program, Healthy Steps, includes a child development specialist on-site who, as part of the pediatric team, provides information and support for parents to promote their children's development. In each of these cases, personnel from other fields were brought to the pediatric site, where the current and future clients – children and their families – had either a pre-existing or potential relationship.

In the early 1990's, Dr. Steven Marans, a psychoanalyst, and colleagues at the Yale Child Study Center (YCSC) initiated the Child Development-Community Policing (CDCP) program in New Haven, Connecticut. The program, a partnership with the New Haven Police Department, began after the NHDP had implemented a model of community policing that assigned officers to permanent neighborhood beats and emphasized the development of close, problem-solving relationships with the citizens for whom they worked. Based on his early experiences and on the high rates of community violence that was fueled nationally by the explosion in the crack-cocaine drug market, former chief of police, Nick Pastore, also wanted to focus on ways his officers might be of greater help to children and families affected by the violence around them—in their homes, schools and neighborhoods. As he turned to Dr. Donald Cohen, former director of the Yale Child Study Center, Dr. Marans and other Center colleagues, Chief Pastore recalled an experience that demonstrated both the opportunity and great need for help in addressing these issues.

He had been called to a crime scene where a woman had been stabbed to death. Upon leaving the scene, he noticed several young children who had witnessed her murder. With pain mixed with determination, Chief Pastore recognized that ignoring these children, leaving them alone and unaided in dealing with their traumatic experience, was unacceptable. He also realized that, alone, his police officers could not help the many children and families who were caught up in the scenes of violence to which the police responded on a daily basis. Chief Pastore found ready, potential partners at the Yale Child Study Center where Cohen and colleagues had also recognized the limits of their current, clinic-based, approaches to identify and provide help to the many psychological casualties of violent trauma whom they were unlikely to ever see.

The CDCP program now trains police officers in principles of child development, human functioning and trauma as they apply to policing strategies and responses. Simultaneously the program trains clinicians in policing practices as applied to acute and follow-up trauma interventions that are both community- and clinic-based, in forensic work and crisis consultation. Clinicians are on-call 24/7 to respond acutely, on the scene, to critical cases involving children and families caught up in violence and other crises requiring a police call for service. Weekly case conferences are conducted among senior police personnel, Child Study Center clinicians as well as additional partners from the schools, child protective services, and juvenile courts to discuss and develop coordinated strategies for responding to current cases involving children and violence. This program has been replicated in 14 communities around the country, and a pilot program to

construct a similar program with firefighters and their departments is in its beginning stages[44, 45].

Dr. Alicia Lieberman, a developmental clinical psychologist, directs the Child Trauma Research Program at the University of California San Francisco. The program works in close collaboration – partnership - with the San Francisco Unified Family Court. Domestic violence crimes brought to the attention of the court, where young children have witnessed a crime are referred to Dr. Lieberman and her colleagues, who, in turn, establish, when possible, a treatment program for the mother and child.

A similar program exists with Dr. Joy Osofsky, a professor of pediatrics and psychiatry, and her colleagues at the Louisiana State University Health Science Center, the Violence Intervention Program for Children and Families. The collaboration/partnership with Judge Cindy Lederman began when they both served on the National Research Council Committee studying evaluation of family violence intervention programs where they shared concern for young traumatized children. Dr. Osofsky started to consult with Judge Cindy Lederman, who is Administrative Judge of the 11th Circuit Juvenile Court in Miami/Dade. Judge Lederman became a Fellow for Zero to Three/National Center for Infants, Toddlers and Families. Now, when children and families appear before Judge Lederman, and violence and/or trauma has been indicated, she calls upon her trauma partners to assist in the disposition of the cases.

The above programs are examples of trauma professionals forming partnerships to bring additional perspectives, resources, and services to children. Not coincidentally, each of these programs has a current relationship with the National Child Traumatic Stress Network (NCTSN). Several other participants in this network are also involved in a wide variety of partnerships tangential to, but not directly in, the trauma field. The NCTSN is in an excellent position to serve as a unifying entity for professionals and caregivers to facilitate extended reach of services to traumatized children and families wherever they may be located.

Other successful examples of trauma service programs taken to the consumer's location exist, including the over 200 Vet Center Outreach programs administered by Readjustment Counseling Service in the Department of Veterans Affairs, as well as Head Start and other early childhood programs administered by the federal Department of Health and Human Services and the states. In many of these programs, trauma professionals train others on site, where the teachers, peer counselors or caregivers encounter traumatized families and children.

The idea of establishing partnerships in the same setting where a population of those who need services already is situated has often been referred to over decades as "co-location," "one-stop shopping," or "wrap-around service programs." This notion of providing more comprehensive services in one site underpins Head Start, Early Head Start, and several other Federal and state programs.

However, not all such efforts have been successfully implemented. For example, co-locating pregnancy health programs and mental health programs in schools has often been blocked because some people objected to the distribution of birth control devices (including condoms) and the provision of abortion counseling. When child service providers undertook efforts to join data banks from police departments and/or welfare agencies and departments of children and youth services, they were stymied both by technological - computer interaction difficulties - as well as regulatory privacy concerns.

We are not suggesting that mobilizing trauma resources for children is a simple task. But we emphasize that history and current activities show that it is possible for some trauma professionals and programs to undertake these partnerships successfully. We are also not the first to call the conditions of children who are experiencing and witnessing traumatic events a public health emergency. Nor are we the first to describe earlier, successful programs where trauma professionals have established partnerships to bring more resources and better services to children and families. For example, public health approaches to screening and assessing the extent of trauma in specific populations have been undertaken in Hawaii[46] and New York City post 9/11[2]. Efforts are currently underway to expand and broaden these diagnostic approaches elsewhere.

Local governments have mapped existing social services in a specific locale. For example, over the last couple of years, Manhattan Community Board 7 has used a geographic Information System (GIS) to create a comprehensive map of services in their neighborhood (which includes the over 2000,000 who live on the West Side of New York

City's central Park), overlaying governmental, non-profit, and business functions (David Harris, personal communication). Mapping poverty and other risk factors by census tracts is a commonly accepted practice. Preparing dynamic maps of where children are throughout the day, week and year by age and care giving institution has also been suggested [47].

Collaborative efforts underway in Israel among the Israeli defense forces, Departments of Mental Health, and several other agencies present promising models of developing relationships and partnerships among agencies and clinicians to mobilize and deliver trauma resources to needy populations in real time. These efforts serve as a model for addressing mental health preparedness in the face of ongoing war and terrorism. We have much to learn from our Israeli colleagues.

While there is a deep frustration today regarding the accessibility to and the ability to pay for mental health/trauma services for many traumatized children and their families, the United States Congress has promised to consider again enacting a Mental Health Parity law. If enacted, this law could establish important new regulations that could require the provision of better access to and resources for services for these traumatized children and families.

Historically, the U.S. Congress has been organized according to strict, separate jurisdictional powers so that separate functions, responsibilities, and funding decisions are made over many separate committees and subcommittees. This atomistic, fragmented

structural approach results in several different committees addressing problems faced by some children, at some times, in some places, as if children came in pieces, not as whole people, living in a context of family and community. The challenge for policy makers working in this fractionated jurisdictional environment is prodigious.

Nevertheless, this fractionated reality of many different Congressional committees with separate powers can be considered an opportunity for trauma professionals. During most years, authorizing legislation is considered to address some of the problems these children and families face - both original legislation, as well as reauthorization of existing spending authority - and can become vehicles for improvements in the provision of resources for them. For example, the recent effort by the United States Senate to reauthorize the Individuals with Disabilities Education Act (IDEA) contains some important new language for the assessment and provision of services for eligible traumatized children age three and under (the Senate-passed bill has not yet been conferenced with the House of Representatives)[49]. Next year, Congress will consider the reauthorization of the Higher Education Act. There may be opportunities in this legislation to consider future training needs for trauma paraprofessionals and professionals.

The new Department of Homeland Security will have huge resources within its domain. How much will be devoted to children's mental health services associated with terrorism? How will preparedness, prevention, and trauma service opportunities be addressed in an "Orange Alert?" While this Department is organized as a new Federal

entity, it is clear that state and local government agencies and programs will have critically important roles to play and will be called upon to help children and families in the event of a natural or man-made disaster. Will the trauma field be at the table in designing these responses? Will the field have a role in advising how these limited resources will be allocated?

Trauma professionals must become more aggressive in considering "the best interests of the child". New partnerships must be forged and nurtured with other colleagues and agencies that serve and are often responsible for traumatized children on a daily basis. These partnerships have the potential of identifying problems at an earlier stage so that resources can be called in more rapidly to help these children and families.

Pediatricians provide a particularly important potential for partnerships. They often see traumatized children in the regular course of events - whether for physical, emotional, or comorbid presentations. They are uniquely attuned to the developmental stages of children - and to the potential for negative sequelae for unaddressed problems. Working with trauma partners in a timely fashion could have important and positive consequences for affected children and families.

DISCUSSION and SUMMARY CONCLUSIONS

Our children are increasingly becoming the collateral damage of a violent society. We all know the potential adverse consequences of not finding, assessing, and treating

those in need. The public health emergency of traumatized children and families presents a unique opportunity and responsibility to the trauma community to organize and mobilize a coordinated effort to confront this unacceptable situation.

While small, clear steps forward are possible and indicated, the larger picture must be kept in mind as well. We need to organize ourselves with a new sense of urgency and determination to address these problems. It is up to us to educate our government officials - local, state, and national - as well as the public at large so that they understand how trauma affects children and families. It is important that people understand that there are potential serious, negative consequences for leaving affected children and families unserved. It is equally important that people understand that if services are provided, they can significantly help many of these children and families and that the payoff extends beyond these individuals to society at large.

We suggest two parallel approaches for next steps to be considered by the community of trauma providers, researchers, advocates and consumers of services. The first is an incremental approach for moving ahead from where we are to where we want to go – an inductive reasoning exercise. The formal and informal networks that already exist can take some of these steps immediately. The same is true for individuals and/or organizations and programs. The following list is meant to be suggestive, not all-inclusive and no priority is intended in the order.

We need to learn what partnerships between and among trauma professionals, across institutions, child serving agencies, associations, government programs and agencies exist today. Sharing this list broadly may give others ideas for creating new relationships and partnerships for themselves and their programs.

We also need to identify the associations to which trauma people belong, as well as the conferences they regularly attend: the International Society for Traumatic Stress Studies (ISTSS), Children's Defense Fund, American Professional Society on the Abuse of Children, the list goes on and on. Charting these memberships/attendance data can give others ideas for expanding their reach and extending their learning and teaching opportunities. Some may wish to invite others to share research, present papers, collaborate at conferences or meetings they have not attended before. This exercise could pay big returns to the trauma field by fertilizing and cross-fertilizing other groups of potential partnership arrangements.

Most of us are on one or more e-mail list serves, and we have preexisting digital relationships with others in our respective fields. More can and should be done to embed actively our research, calls for papers and presentations, etc. in/on others' web sites. This can help us reach literally millions of additional people outside the trauma field to offer useful information on trauma if we approach this task in a purposeful and focused manner. By imbedding ourselves in other partners' electronic and print communications environments, we take advantage of their preexisting relationships with their clients to extend the potential for trauma services to additional children. The National Resource

Center of the National Center for Child Traumatic Stress, the coordinating center for the NCTSN, is well positioned to take such an assertive, outward looking perspective to extend the reach of web-based information and knowledge about the scope, impact and effects of treating childhood traumatic stress by embedding the NCTSN website into the websites of other organizations.

There are surely many more incremental approaches to be pursued. The point here is to start now and share information actively with a focus on how we can do a better job serving traumatized children and their families.

Nevertheless, an incremental approach to the future often leads people to what appear to be insurmountable barriers that discourage change, innovation and creativity. The incremental approach is necessary, but not sufficient. A "deductive" approach is also called for – one that requires us to lay out a vision of what the gold standard for trauma knowledge and services would look like in ten years, and what barriers would have had to be surmounted (overcome) to get to this higher level of knowledge and service for children.

We often limit ourselves to enumerating future research needs and, of course, this is essential, but too often, we stop there. The discussion above regarding the issues associated with broad-based screening and assessment is instructive. We must consider carefully the mandatory reporting requirements and false positive/negative results referred to above. But can we not go further with experimental approaches – screening

and assessments for discreet populations – incarcerated children, for example, or children and parents who sign informed consent documents, thoroughly vetted through Institutional Review Boards, to see if indeed we can find, assess and treat more needy children than we are currently serving?

What methods of reimbursements will be required to sustain a gold standard trauma field in the future? What role will a mental health parity bill play in the future? How will private and public – Medicaid – resources be allocated to the problems? How should limited resources be allocated? Who will decide? What cost/benefit studies exist today which demonstrate the costs of providing some services to some children – and the benefits that attach thereto? What additional studies are required? Who will undertake and fund them?

Any analysis of unmet need for services in populations of traumatized children will quickly reveal a need for more trained trauma professionals and paraprofessionals. Additionally, training needs will be identified as partnerships between and among child serving agencies and programs increase in size and scope. Longer range planning considerations should address the capacity gap between available trauma personnel assets and what is needed. Moreover, the training opportunities of the future should reflect the rich cultural diversity of the children and families served, as well as that of the professionals who serve them. A strong effort to broaden and deepen the talent pool of trauma-informed professionals and caregivers is of the highest priority. A major goal of the National Child Traumatic Stress Network (NCTSN) is to bring about such a

fundamental and sustained change in the availability of opportunities for training in order to help providers help traumatized children.

Finally, who will be the leaders who take the field into this future? How will they organize? What existing and new partnerships will be required to empanel such a group charged with planning for the future? What should the makeup of such a body be? What auspices will be required: the Institute of Medicine? National Academy of Science? National Institutes of Health? Private foundations?

We believe strongly we can do an even better job in the future of mobilizing trauma resources for children, of finding, treating and helping traumatized children and their families. We know that the work is important to each child, and that we can often be successful in helping children gain a more secure claim on their futures.

To achieve to this goal, we also know we have to do a much better job of communicating with the policy, political and advocacy communities – and especially with the public at large. All must become aware that trauma matters. Left alone and untreated, it can have serious deleterious effects on children. But, in many cases, if detected and treated, meaningful help can be provided that will improve the life chances for children.

This public health approach to these issues carries with it a potential for a more hopeful future for our children. As clinicians, researchers, and advocates for traumatized

children, our role is to serve simply as the mediators for providing America's many traumatized children with the help that they need to achieve their full potential as healthy and productive citizens.

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