

Epidemiological Perspectives on Maltreatment Prevention

Fred Wulczyn

Summary

Fred Wulczyn explores how data on the incidence and distribution of child maltreatment shed light on planning and implementing maltreatment prevention programs. He begins by describing and differentiating among the three primary sources of national data on maltreatment.

Wulczyn then points out several important patterns in the data. The first involves child development. Based on official reports, maltreatment rates are highest during certain periods of children's lives, especially infancy and adolescence. Bringing a new baby into the home, in particular, heightens stress and increases the risk of maltreatment by parents, who tend to be younger and less experienced as parents. These data patterns should help shape strategies that target these families.

A second pattern in the data involves social context and the contribution of race and poverty to maltreatment. Children of color, for example, are much more likely than white children to be reported. Research, however, suggests that when the whites and minorities who are being compared live in a similar social context, disparities in maltreatment rates narrow to some extent. What scholars must examine more closely is the means by which community processes contribute to maltreatment. Thus, the question for researchers is not whether investments in communities are an important part of the prevention strategy, but rather what type of investment is most likely to replace what is missing in a given community.

Wulczyn also explores substance abuse and maltreatment recurrence. He points out that substance abuse not only increases the risk that a parent will neglect a child but also appears to affect that child's experience in the child welfare system: when substance abuse is part of an allegation history, decisions affecting the child tilt in favor of deeper involvement with the system. Patterns of recurrence mirror those already described. Base rates of recurrence are about 9 percent but are higher for infants when allegations involve substance abuse and when children received services following the initial report.

Wulczyn stresses that much more research remains before analysts understand the mechanisms that underpin these persistent patterns—knowledge that is essential to designing sound interventions.

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According to federal data, roughly 905,000 U.S. children were abused or neglected in 2006.¹ A 2005 study by David Finkelhor and several colleagues cited by the Centers for Disease Control and Prevention estimates that approximately 8.7 million of the nation's children—about one in every seven—have been maltreated.² A recent California study estimates that 38 percent of black children and 20 percent of white children will have had contact with the child welfare system (including maltreatment reports) by age seven.³ Not surprisingly, the effects of child abuse and neglect are far-reaching. In early childhood, maltreatment can impair brain development and regulatory functioning; later in childhood, maltreatment-related problems such as poor school performance, increased disruptive behaviors, and depression emerge; once maltreatment victims reach adulthood, they are more likely to abuse substances. These are just a few of the ways maltreatment affects the children involved (to say nothing of how it affects others in the family).

The need for effective preventive programs is clear. The question is where to invest, on whose behalf, and when in the life cycle. Maltreatment involves children of all ages. In 2006, for example, 11 percent of the victims reported to state child welfare agencies were under the age of one. That same year, twelve- to fifteen-year-olds accounted for almost one in five victims. Because of the many different populations of children and youth at risk, interventions must be aligned with the unique developmental phase that each group represents: a one-size-fits-all solution will not accurately address the variety of issues these children present.

Perpetrators of maltreatment also span a wide age range. According to National Child Abuse and Neglect Data System data, nearly 75 percent of all perpetrators were between the ages of twenty and thirty-nine, an exceptionally wide age band when viewed through the joint perspectives of life span development and intervention design.⁴ Although perpetrators tend to be parents (more than half are mothers), relatives abuse children, too. In the case of sexual abuse, relatives make up the single largest group—30 percent—of all perpetrators.

Maltreatment is also linked with poverty and its associated burdens: single parenthood, social isolation, unemployment, poor education, and residential segregation among non-whites.⁵ That said, maltreatment is not restricted to poor communities; nor do all similarly poor communities have comparable rates of maltreatment.⁶ Among states reporting to the National Child Abuse and Neglect Data System, the average maltreatment rate in the ten states with the lowest poverty rates was 9.2 per thousand, compared with 13.3 per thousand in the states with highest poverty rates.⁷ In 2000, the maltreatment rate reported for white infants living in low-poverty counties (5.4 per thousand) exceeded the rates reported for all older white children living in high-poverty counties (2.8 per thousand to 4.9 per thousand).⁸

My goal in this article is to show how data on the incidence and distribution of maltreatment might be used to strengthen prevention programs in the face of the myriad challenges—individual, family, and community—facing the child welfare system. Investing in prevention, broadly defined, involves at least three distinct problems. First, the nation's child welfare system is highly diverse. State laws define the behaviors that constitute

maltreatment, govern who must report maltreatment, and shape current investments in the service infrastructure.⁹ Moreover, local child welfare programs, whether public county programs or those within the private sector, operate in their own unique context and represent varying degrees of financial support. The notion that a single set of investments in prevention programs will have direct and unambiguous benefits, even within a single state, reaches well past what the available data tell us.

Prevention programs offer a chance to minimize the effects of maltreatment on the developing child, but many, if not most, jurisdictions lack the infrastructure to do so within the traditional child welfare system.

Second, it is not entirely clear where along the continuum of an individual child welfare case prevention programs ought to start. This problem has at least two dimensions. Inside the relatively narrow world of child protection, it is a given that prevention services should aim to prevent maltreatment in the first instance. Policy discussions inside the child welfare system, however, have engaged problems as diverse as preventing the use of foster care and preventing the problems faced by youth aging out of foster care. Prevention, it seems, depends on one's position along the need-service trajectory. It is important to be clear about where along the continuum preventive services are targeted.

The third problem is that maltreatment affects children's developmental trajectories in profound ways. Victims of child abuse—that is, cases when allegations of maltreatment are substantiated—may or may not receive child welfare services following the investigation. Either way, the available data suggest that children touched by the child welfare system face substantial cognitive, social, and behavioral deficits.¹⁰ Prevention programs offer a chance to minimize the effects of maltreatment on the developing child, but many, if not most, jurisdictions lack the infrastructure to do so within the traditional child welfare system. Creating preventive service capacity that minimizes developmental effects will stretch the system well beyond its current policy, practice, and financial boundaries.

What then do the data say about maltreatment and how can the data be used to promote strategic allocation of preventive service programs? In the first instance, the data must be aligned with experts' views of the causes of maltreatment. As a general matter, scholars recognize that “no single risk factor or set of risk factors [has] emerged as providing a necessary or sufficient cause of maltreatment.”¹¹ In response, they have developed transactional theories that weigh the interplay between the individual (parent and child), the family, and the environmental context in which people grow and develop.¹² Second, it is helpful to understand recent trends in maltreatment and patterns of state variation. As noted, states differ significantly both in the number of maltreatment reports in general and in how the number of reports changes over time. The pattern of these variations yields useful insights about what an increase in preventive service investments might accomplish, given where the investments are made.

With regard to where to invest and on whose behalf, I present two views of the available data. The first view, based on the fact that maltreatment rates are highest during certain periods of children's lives, considers developmental influences on the risk profile. In part, the link between age and maltreatment reflects the institutional context of children's lives (for example, reports of physical abuse increase when children enter school). More important, however, the data reveal bi-directional influences rooted in what a child needs and what a parent can give as children pass through childhood. Inasmuch as these influences are present in a variety of contexts and in a variety of populations, the findings represent the kind of durable patterns one can use to plan and implement preventive service programs.

The second view considers social context and speaks directly to the contribution of poverty in explaining why some places—states,

counties, or neighborhoods—have higher rates of maltreatment. Embedded in this discussion is the issue of race and ethnicity and the fact that children of color are much more likely than white children to be reported to child welfare agencies. The issue of social context also highlights an important policy and practice choice. On the one hand, prevention interventions must target specific risks given a theory of why parents maltreat. On the other hand, investments should go to communities where maltreatment is most common, relatively speaking. The choices are not mutually exclusive: interventions in high-risk neighborhoods have to draw on a theory that explicitly addresses the causes of maltreatment within both the family and the community context.

In the final section of the article, I turn the focus to maltreatment recurrence—that is, to allegations of maltreatment that follow a prior allegation. In this context I highlight

National Child Abuse and Neglect Data System (NCANDS)

The U.S. Department of Health and Human Services established the National Child Abuse and Neglect Data System (NCANDS) as a voluntary national reporting system for states in response to the Child Abuse Prevention and Treatment Act of 1974 (Public Law 93-247) and subsequent amendments. NCANDS represents an effort to develop and improve state and local child welfare services information systems, to implement a national child abuse and neglect data system, and to develop a data source able to respond to a wide range of policy and program analysis needs. Health and Human Services uses data from NCANDS to assess state child welfare programs as part of its review of these programs.

The NCANDS data encompass all reports of suspected child abuse and neglect that result in an investigation (about one-third of reports are screened out before the investigation stage). Reports are included if an investigation or alternative response is conducted following a maltreatment allegation. The results of the investigation or alternative response fall into six categories: substantiated, indicated, unsubstantiated, alternative-response-victim, alternative-response-non-victim, and closed without a finding.

The NCANDS data files contain report data (report date, report identification number, report source, disposition, disposition date, and so on); data describing the child who is the subject of the report (age, sex, race, Hispanic ethnicity, living arrangements, county of residence, military dependent status, and maltreatment history); data describing child-level risk factors (that is, presence of substance abuse, mental or physical disability, emotional disturbance, behavior problem, or other medical problem); data on the type of maltreatment; data on the caretaker; and data on services provided.

substance abuse, because children whose substantiated maltreatment is related to substance abuse are much more likely to experience recurrence than are children investigated for other reasons. Detailing the influence of substance abuse here offers an opportunity to see how it fits within the broader discussion.

Maltreatment Data

For the purpose of developing a basic epidemiology of maltreatment, there are three primary sources of national data: the National Child Abuse and Neglect Data System (NCANDS), the National Survey of Child and Adolescent Well-Being (NSCAW), and the third National Incidence Study (NIS-3).¹³ Each source approaches the issue of maltreatment with a slightly different objective, and each collects data using a different method. NCANDS, described in greater detail in the accompanying box (opposite), is based on administrative data that states collect to manage their child abuse and neglect service systems. The data are tied to official reports of maltreatment, the investigation of those reports, and their disposition. Although NCANDS is comprehensive with respect to a wide range of victim, perpetrator, and service data, it is nevertheless limited in the following ways. First, NCANDS does not capture much in the way of clinical data about the family and the well-being of children, thus limiting the type of research that can be carried out with it. In addition, 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 are thought to influence the process that leads to a disposition of the report.¹⁴

Certain gaps in NCANDS, such as the lack of clinical measures of child and family well-being, have been filled to a very large extent by NSCAW, which is also described in greater detail in the accompanying box (next page). NSCAW permits researchers to develop a much more comprehensive understanding of children investigated for maltreatment, from both a service and a developmental perspective. But because, like the NCANDS data, the NSCAW sample includes only children reported to public child welfare agencies, it is likely that neither source fully documents the extent of maltreatment in the United States.

The National Incidence Studies, initially mandated by Congress in 1974 and conducted periodically under the auspices of the Administration for Children and Families, are designed to provide a better estimate of the true incidence of maltreatment at a national level. The incidence studies rely on community sentinels as the reporting mechanism rather than the official data collected by state (or local) child welfare agencies. These sentinels report child maltreatment to the study team. They may also report the child to the authorities (for example, state child protective services), and child protective investigators may investigate the children thus reported. In the end, sentinel reports are compared with official reports to generate an unduplicated count of children abused during a specific time period. The third National Incidence Study, NIS-3, published in 1996, reported incidence rates that are higher than those reported with NCANDS.¹⁵ In general, findings from NIS-3 suggest that only 28 percent of the children meeting the harm standard were investigated by the child protective agencies. The under-reporting in NCANDS, judging from NIS-3, depends on the type of abuse and the report source.¹⁶ That said, I do not review the NIS findings

The National Survey of Child and Adolescent Well-Being (NSCAW)

In 1996, Congress directed the secretary of the Department of Health and Human Services to conduct a national study of children who are at risk of abuse or neglect or who are in the child welfare system. NSCAW is the first source of nationally representative long-term data developed from firsthand reports of children, families (or other caregivers), and service providers. Moreover, NSCAW is the first national study that examines child and family well-being in detail. The children in NSCAW represent all children from ninety-two primary sampling units whose families were investigated (or assessed) for child abuse and neglect between October 1999 and the end of 2000. NSCAW follows children and their caregivers regardless of how their service histories evolve. Although the study design collects data relevant to the substantiation of child abuse cases, cases that were not substantiated following the investigation are also included in the sample.

The NSCAW instruments were designed to measure a broad range of constructs. Whenever possible, standardized instruments with national norms, or instruments or questions that had been used in previous studies with large and diverse national samples of children and families, were chosen. Instruments were assembled into interviews for each of the survey informants, resulting in six separate interviews: current caregiver, former caregiver, child, teacher, child welfare worker, and agency personnel.

Many measures were single-response items (for example, the race or age of the child); others were derived after consolidating a number of single items intended to capture key case characteristics; and some were standardized measures. Most of the standardized measures were used to capture child functioning as rated by Child Behavior Checklist, Social Skills Rating System, Battelle Developmental Inventory, Bayley Infant Neurodevelopmental Screener, the Kaufman Brief Intelligence Test, the Mini-Battery of Achievement, and the Preschool Language Scale-3. NSCAW is also unique in providing information from self-reports by children.

here because the last published NIS data were collected in 1993. Maltreatment rates have dropped substantially since then, and it is simply not possible to say how findings from fifteen years ago are relevant today. As of this writing, the NIS-4 data have been collected, but the findings have not yet been released.

In addition to the three primary sources of national data, various types of self-report data address the incidence of maltreatment. The Gallup Organization, under the guidance of Murray A. Straus and colleagues, conducted perhaps the most widely cited self-report study.¹⁷ Typically self-report studies ask victims about their experiences (recollections in the case of retrospective studies). By contrast, the Gallup survey used the Parent-

Child Conflict Tactics Scale, developed by Straus in the late 1970s, to ask parents about their behavior. The last Gallup survey (completed in 1995) that involved a national probability sample uncovered very high rates of maltreatment. Rates of physical abuse as reported by parents were about eleven times greater than the rate found in NCANDS and about five times greater than the rate reported with NIS.¹⁸ The Gallup survey also detected considerably more neglect.¹⁹

Research using smaller samples of self-report data has also been reported. Studies of this sort typically focus on improving estimates of the incidence of maltreatment (or understanding the difference between self-report and official report data), improving what is known about the underlying causes, or

improving researchers' understanding of how maltreatment influences child development over the long term. For example, Andrea Theodore and several colleagues sought to explain differences in officially reported abuse in North and South Carolina.²⁰ Using the Parent-Child Conflict Tactics Scale, they found substantially higher rates of physical abuse than were officially reported. They also found that the differences between North and South Carolina using official data were larger than differences using self-report data.

Smaller, focused studies are used to clarify and otherwise sharpen researchers' basic understanding of maltreatment: how often it happens, why it happens, and what its long-term effects are.

Beth Molnar and several colleagues used the Conflict Tactics Scale to differentiate individual, family, and community risk factors and their influence on parent-child physical aggression.²¹ The findings, discussed in somewhat greater detail below, showed slightly higher rates of parent-child physical aggression than reported in other studies, including the Gallup study. The study also found that individual risk factors such as socioeconomic status, employment, and caregiver age were linked to physical aggression. Family and community protective factors, such as social support and a large social network, respectively, were associated with lower rates of physical aggression toward children.

Anne Shaffer, Lisa Huston, and Byron Egeland, in their longitudinal study of caregivers and their children, used a mix of prospective data (for example, collected from caregivers and other sources) and retrospective data (for example, self-reports of adolescents) to understand how the incidence of maltreatment was related to emotional and behavioral problems in late adolescence.²² They found that the incidence of maltreatment depends on how the data are captured. They also found a link between psychiatric disorders and how maltreatment was identified. For example, among subjects with both prospectively and retrospectively identified maltreatment, the share with any diagnosis reached nearly 75 percent. Among those children with only retrospectively identified maltreatment, the proportion with any clinical diagnosis was just under 64 percent.

Collectively, these studies illustrate how smaller, focused studies are used to clarify and otherwise sharpen researchers' basic understanding of maltreatment: how often it happens, why it happens, and what its long-term effects are. The studies also reveal some of the fundamental problems in trying to provide reliable information for the purpose of designing preventive programs. Although maltreatment has broad implications for society as a whole, the dynamics of local communities would appear to influence parenting behavior. Studies based on national probability samples are less likely to reveal these local dynamics. By the same token, the data from smaller, focused studies are less useful when it comes to painting a national picture. Smaller studies are also expensive and are not conducted often enough to feed the continuous need for information felt by those charged with monitoring public programs. Administrative data such as NCANDS have the advantage of being routinely available.

Administrative data can also be used to study maltreatment at small spatial scales.²³ But, as noted, administrative sources likely under-report maltreatment, an important source of measurement error that has implications for how one uses what one learns.

In the end, the data one chooses to collect (and use) have to be matched to the question at hand. From the perspective of how one plans for and designs preventive programs, each type of data has a role. Administrative data and the data from national probability samples provide the information needed to allocate resources in relatively crude but important ways, especially if the data from smaller studies reinforce the essential findings. For example, and as discussed below, administrative data show persistently higher rates of maltreatment for young children (often under the age of one) than for older children, together with rising rates of maltreatment, particularly physical and sexual abuse, among adolescents. For the most part these same patterns are found in the small-sample studies. Administrative data also show that mothers are the most likely perpetrators and that poverty matters. Again, these findings are supported, by and large, in most if not all smaller-scale studies. What the administrative data do not provide is the detail needed to understand the mechanisms that underpin the most persistent patterns—knowledge that is essential to designing sound interventions.

Causes of Maltreatment

The field of child maltreatment has three primary approaches to child abuse and neglect and the underlying causes. The first is what Jay Belsky and Joan Vondra call the parent's contribution.²⁴ At the most fundamental level, researchers who focus on the parent's contribution explore the ways in which adults who

maltreat children differ from those who do not. The underlying propensity to abuse may be a function of psychodynamic processes or social learning.²⁵ Recent research also suggests that whether a parent is neglectful may have a genetic component.²⁶ The point here is that the reasons why certain parents maltreat children have to be considered in designing preventive programs.

A second approach to understanding maltreatment focuses on what might be called the child's contribution.²⁷ Sometimes thought of as a bi-directional influence, the idea is that characteristics of children shape parental behavior. For example, rates of reported maltreatment for low-birth-weight babies are higher than rates for normal-weight babies, perhaps because low-birth-weight babies require more attention from their caretakers and thus may add to the strain a parent experiences.²⁸ Janet Mann reported that infants who are less likely to survive are more likely to be neglected, if the parent has limited resources.²⁹ In a similar vein, Daphne Bugental and Keith Happaney found that at-medical-risk infants are more likely to be treated harshly by their mothers, especially by mothers who feel a low level of control.³⁰

The third approach focuses on the contribution of social context. This perspective places children and families within a series of nested contexts that extend out from the family and encompass the neighborhood and the larger society.³¹ This approach suggests that the attributes of the community—contextual effects—influence child well-being and parent behavior in ways that are distinct from, but interactive with, parent and child contributions.³² Poverty (for example, concentrated urban poverty) is one neighborhood attribute that has received a great deal of attention from researchers examining child maltreatment.³³

State Variation

One of the main challenges policy makers face when trying to expand preventive services programs is the wide variation in state maltreatment rates. Murray Straus and David Moore explain that state rates vary not only because of real differences in the incidence of maltreatment but also because of differences in policies, programs, and resource allocation.³⁴ Untangling these state variations has practical implications for maltreatment prevention to the extent that changes in state variation can be tied to how states invest in programs aimed at reducing maltreatment.

To get at the question of state variation, the most useful, readily available source of data is NCANDS. Each year, the U.S. Department of Health and Human Services publishes a report based on NCANDS that summarizes maltreatment data for the previous year; the most recent such report is *Child Maltreatment 2006*. The report covers a wide range of topics regarding victims, perpetrators, reporting sources, and maltreatment types. Many of the data are reported for individual states. Other than exploring change over time in the reported incidence of maltreatment, however, researchers have done relatively little work to understand state variation in reported maltreatment.³⁵

For 2006, state reporting rates—the number of children reported to and investigated by public child welfare agencies because of suspected maltreatment—range from 7.7 per thousand children up to 59.7 per thousand. Although not significant in a strict sense, the correlation between the number of children living in a state and the reporting rate is negative (-.06), indicating that reporting rates per thousand children tend to be somewhat lower in large states even though two-thirds of all reports come from larger states (that is,

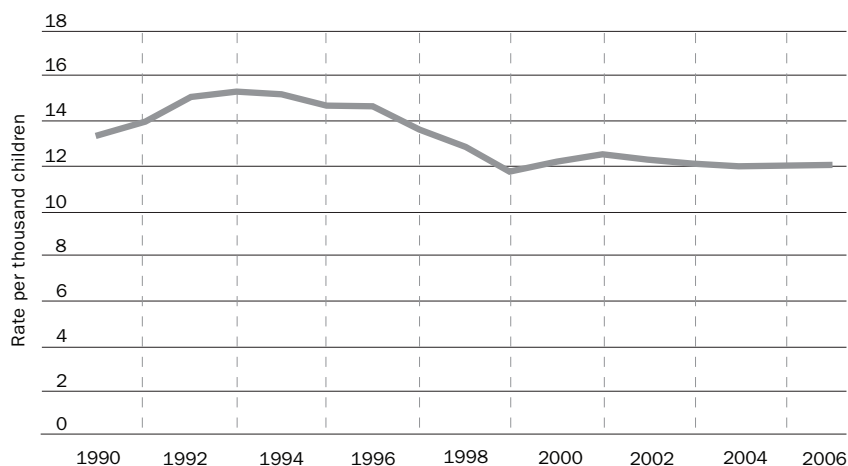
states with more than 1.45 million children). The wide variation in reporting rates also, as noted, highlights state policy differences. For example, Pennsylvania has the lowest reporting rate in part because it does not recognize educational neglect.

The substantiation rate is the number of child victims expressed as a fraction of the number of children identified in maltreatment investigations. In the 2006 maltreatment report, state substantiation rates ranged from 93 percent to 12 percent. The former figure means that nearly every child reported was determined to be a victim; the latter, that barely one in ten children reported was a victim of maltreatment. Whereas one-third of all reports came from smaller states (that is, those with fewer than 1.45 million children), just 28 percent of all victims in 2006 came from smaller states. The under-representation of children from smaller states reflects a lower substantiation rate overall. The weighted average substantiation rate in small states (38 percent) is about 23 percent lower than that in large states (50 percent).

Victimization rate is the term used to describe the number of child maltreatment victims per thousand children. As with other maltreatment indicators, victimization rates vary widely from one state to another, from 1.5 per thousand up to 33.5 per thousand. Victimization rates tend to be higher in large states, in part because the substantiation rates are higher in large states.

State poverty rates are one reason that some states may have higher victimization rates than others, although the dynamics of poverty and maltreatment are complicated when measured at the state level. More than half the families in the NSCAW sample had incomes below the federal poverty line

Figure 1. Number of Maltreatment Victims per Thousand Children in the United States, 1990–2006



Source: NCANDS.

adjusted for family size.³⁶ Research also generally shows that income and maltreatment are related.³⁷ At the aggregate level of states, however, poverty rates do not provide a particularly robust explanation for the wide variation in state victimization rates. Calculations based on the 2006 NCANDS data suggest that the average maltreatment rate in the ten states with the highest poverty rates is about 44 percent higher than that in the states with the lowest poverty rates. Nevertheless, state poverty rates account for just 3 percent of the variation in maltreatment rates. In a 2002 study Chris Paxson and Jane Waldfogel found that income, work status, and family structure are all related to state victimization rates, so it is not entirely reasonable to expect that poverty alone would explain state variation in maltreatment.³⁸

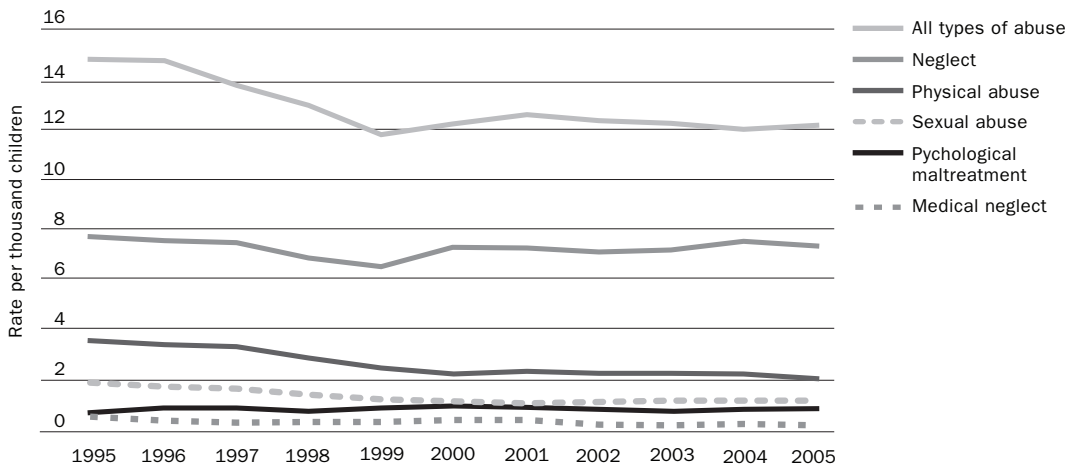
Trends in Child Maltreatment

The availability of state data on maltreatment reports and investigations enables researchers to follow trends in reported maltreatment. Indeed, it is now possible to construct an accurate estimate of the reported number

of American children maltreated per thousand children going as far back as 1990, although estimates from the early 1990s are somewhat less reliable than more recent estimates because state participation in NCANDS was more limited then than it is today. As figure 1 shows, the overall rate of reported maltreatment (of all types) in 2006 was 12.3 per thousand children, a rate consistent with that reported in 2002.³⁹ The peak in maltreatment rates as reported by state child welfare agencies—15.3 reports per thousand children—occurred in 1993 and was about 14 percent higher than the rate reported for 1990. Over the next six years, maltreatment rates dropped nearly 30 percent, reaching 11.9 per thousand in 1999. After 1999, rates drifted slightly upwards, averaging about 12.2 reports per thousand from 2000 through 2006.

Trends with respect to specific maltreatment types follow the general pattern, with some important differences (see figure 2). Rates of physical abuse, the second most common type of maltreatment, dropped from 3.6

Figure 2. Number of Maltreatment Victims per Thousand Children in the United States, by Maltreatment Type, 1995–2005



Source: NCANDS.

per thousand in 1995 to 2.1 per thousand in 2005. Neglect, the most common maltreatment type, declined just 4 percent over the same period and increased somewhat after 1999. Sexual abuse also declined, with most of the drop coming between 1995 and 2000. After 2000 rates of sexual abuse remained unchanged.

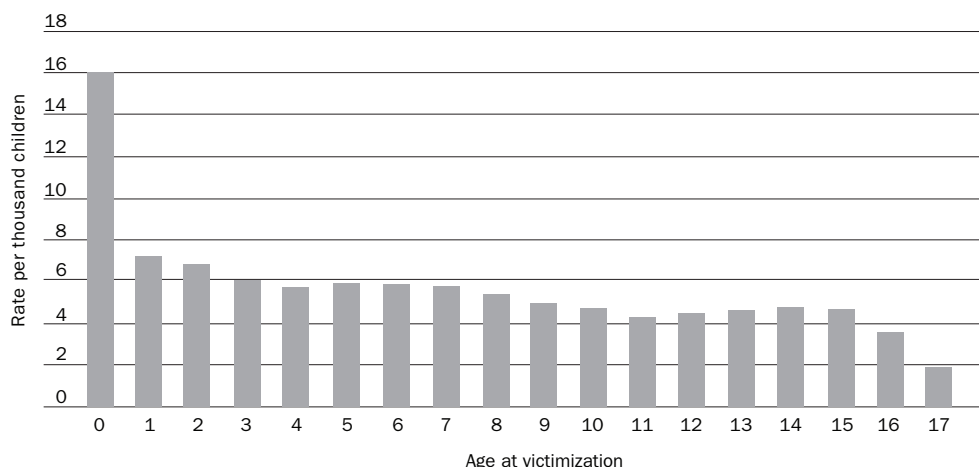
David Finkelhor and Lisa Jones were initially skeptical about the decline in maltreatment rates from the early 1990s through the first part of the current decade.⁴⁰ Noting the continuing view of analysts that official reports are unreliable when it comes to estimating the true incidence of maltreatment, they doubted that changes in funding levels, staff reductions, and shifting standards could account for the observed change in maltreatment rates.⁴¹

They concluded, instead, that the declines are likely real, particularly the drop in sexual abuse.⁴² They noted that data from a variety of other sources including juvenile

victimization and self-report data on sexual assaults all moved in the same direction over the same period. In addition, from 1993 through 1999, child poverty rates fell substantially, from just under 23 percent in 1993 to slightly below 17 percent in 1999, a period that coincides with the most dramatic decline in maltreatment rates.⁴³ In short, a variety of data suggest that general social conditions were improving and that falling maltreatment rates are more or less indicative of the times.

As for why maltreatment declined, Finkelhor and Jones are somewhat more circumspect.⁴⁴ A number of co-occurring social trends—lower poverty rates, dramatically fewer births to teenagers (births to teens per thousand teenagers) from 1990 through 2005, and a drop in drug use (for example, crack cocaine)—all point to reductions in maltreatment, although the precise connection to maltreatment rates is not necessarily clear-cut. Marianne Bitler and Madeline Zavodny present evidence that maltreatment may have dropped because fewer unwanted children

Figure 3. Rate of Initial Victimization, by Age, 2000



Source: Fred Wulczyn and others, *Beyond Common Sense: Child Welfare, Child Well-Being, and the Evidence for Policy Reform* (New Brunswick, N.J.: Aldine Transaction, 2005). Copyright 2005 by Chapin Hall Center for Children.

were born and unemployment rates were lower.⁴⁵ Finkelhor and Jones also raise the possibility that psychopharmacological treatment of depression among women could be having a positive impact, but that issue has not been sufficiently well studied.

Maltreatment and Age

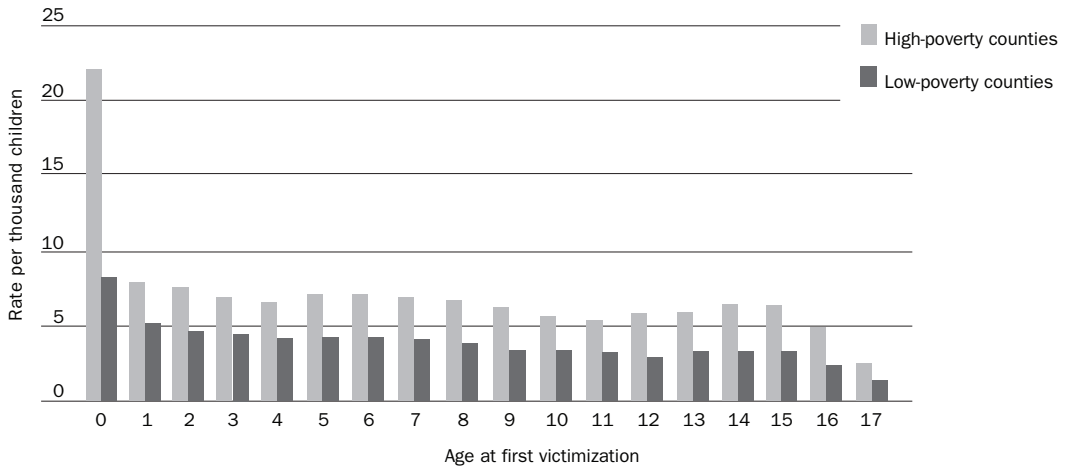
Although the general rate of maltreatment is an important social indicator, theories of child development suggest that the incidence of maltreatment may vary significantly across the life course of children. To the extent that these variations appear in the data, they reflect the interplay between the development of children and parents' care-giving capacity.⁴⁶ If, on average, developmental influences shift the risk-protective equilibrium, then one can expect to find these influences in a range of populations and contexts.⁴⁷

In a 2005 study, several colleagues and I explored developmental themes in the incidence of maltreatment using data for the

year 2000 from NCANDS.⁴⁸ Using inception cohorts (cohorts of children whose first substantiated investigation by the child welfare system took place in the same year) from four states representing 296 counties, 11,450,000 children under the age of nineteen, and 64,000 victims, our analysis began with a simple description of maltreatment rates by age at inception for single-year age groups.

The basic relationship between age and the risk of substantiated maltreatment (without regard for the type of maltreatment) is shown in figure 3. In general, the rate of substantiated maltreatment is highest for children under the age of one at the time of the first-ever substantiated investigation. The rate reported for infants in 2000 was sixteen per thousand, more than twice the rate for one-year-olds, the group with the next-highest rate of maltreatment. Rates of maltreatment decline with age, although the data show small, age-specific exceptions. Substantiated maltreatment rates level off around the time children enter school (approximately six per

Figure 4. Rate of Victimization, by Age and County Poverty Rate, 2000 (Initial Victims)



Source: NCANDS.

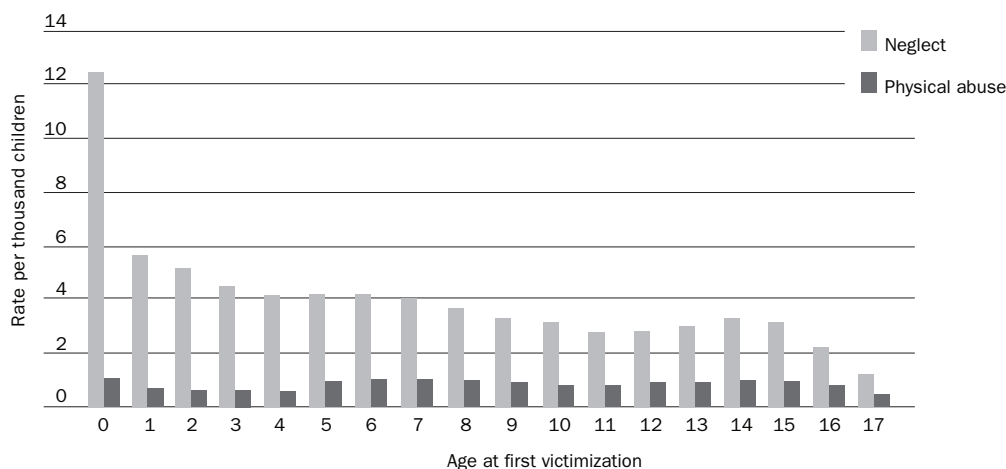
thousand), decline from age eight through eleven (approximately four per thousand by age eleven), and then rise again from ages twelve through fourteen.

We then grouped the same data by county poverty levels. Low-poverty counties, those in the top income quintile, had child poverty rates (in 1999) between 2.3 percent and 12.2 percent. High-poverty counties, those in the bottom quintile, had poverty rates between 17.6 percent and 43.6 percent. As figure 4 illustrates, the risk of maltreatment is elevated for infants in high- and low-poverty counties alike. In high-poverty counties, the risk for infants is 2.7 times as great as that for one-year-olds, the group with the next-highest maltreatment rate; in low-poverty countries, the risk for infants is 1.6 times as great. For children of all other ages, maltreatment rates are considerably lower than they are for infants, regardless of county poverty level, although maltreatment rates overall are consistently higher in high-poverty counties, as one would expect.

As the figure shows, other age-based patterns appear in both high- and low-poverty counties. For example, maltreatment rates of middle adolescents (fourteen- and fifteen-year-olds) in high-poverty counties are about 15 percent higher than those reported for eleven- and twelve-year-olds. In low-poverty counties, where age-based variation is less noticeable, the increase in substantiated maltreatment for middle adolescents, while not as pronounced as it is in high-poverty counties, is still present.

When the children are grouped by race and ethnicity, the data continue to reveal the same underlying pattern of risk. The risk of maltreatment among black infants, however, is substantially higher than that among children of other races and ethnicities. Specifically, among black infants, the risk of maltreatment in 2000 was about fifty per thousand children, a figure that is equivalent to 5 percent of black infants. The comparable figure for white infants is just under ten per thousand, or 1 percent.⁴⁹

Figure 5. Rate of Neglect, by Age and Maltreatment Type, 2000 (Initial Victims)



Source: NCANDS.

More recent (2006) NCANDS data show few if any changes in the relationship between maltreatment and age.⁵⁰ The rate of maltreatment by age shows that infants, with an overall maltreatment rate of twenty-four per thousand, still face the greatest risk. They are 1.8 times more likely to be maltreated than are one- to three-year-olds, the group with the next highest maltreatment rate. State-specific infant maltreatment rates range from a low of 1.6 per thousand to a high of sixty per thousand. Infant victimization rates exceed twenty per thousand in thirty states. The rate of maltreatment is highest for infants in all but two states. In short, few trends in maltreatment are as stable and clear-cut as the link between age and maltreatment risk.

The risks charted in figures 3 and 4 refer to maltreatment in general. Figure 5 displays data on specific types of maltreatment. As noted, neglect is the type most commonly reported; among infants, the rate for neglect in 2000 was nearly twelve times greater than

the rate for physical abuse. Among older children, the difference is smaller but still substantial. For example, among one- to three-year-olds, neglect was seven to eight times more common than physical abuse; among thirteen- to fifteen-year-olds, neglect was three times more common.

The data in figure 5 also illustrate that the age disparities are not as sharp for physical abuse as they are for neglect. That is, for six-year-olds and fourteen- to fifteen-year-olds, the rate of physical abuse (1.02 and 1.04 respectively) is roughly the same as the rate reported for infants (1.06).

Race, Poverty, and Maltreatment

Just as age and maltreatment show a persistent relationship, so, too, do race and maltreatment. Overall the rate of maltreatment among black children in 2006 (19.8 per thousand) was nearly twice the rate for white children (10.7 per thousand), which is equivalent to a disparity rate of 1.85 (19.8 divided by 10.7). At the state level, maltreatment

rates in 2006 were higher for blacks than for whites in all but two states (Hawaii and West Virginia). In the remaining states, the unadjusted disparity rate in black child maltreatment rates relative to white child maltreatment rates ranges from 1.06, which is negligible, to 6.13. Among all states, twelve have disparity rates greater than 3.0; twelve have disparity rates between 1.1 and 2.0.

These large race-based differences in maltreatment are now drawing attention, giving the issue of racial disparities within the child welfare system greater traction as a national policy concern. Much of the research to date has been descriptive, however, and analysts still have much work to do to explain why disparity rates differ so much from one jurisdiction to another. The mainstream argument has two threads.⁵¹ On the one hand, because blacks (as well as other racial and ethnic minority groups) and whites are treated differently (that is, because of racial bias), minorities are more likely to be reported for maltreatment, and reports of their maltreatment are more likely to be substantiated, which then leads to higher rates of foster care placement. On the other hand, because poverty rates are so much higher among racial and ethnic minorities, the associated burdens of poverty place greater strain on parents, which in turn increases the likelihood of maltreatment.

Child welfare as a field has for the most part focused on bias as the reason why blacks are overrepresented among children who have been reported for maltreatment. The primary source of empirical support for this position comes from the third National Incidence Study (NIS-3), which, as noted, was completed in the early 1990s. The authors of the main NIS study “found no race differences in maltreatment incidence.”⁵² They went on to

conclude that racial and ethnic disparities in the child welfare system are a by-product of differing treatment at the various stages of the process rather than inherent differences in the rate of maltreatment.⁵³ More recent work with the NIS-3 data suggests that when the whites and minorities being compared are similar in such characteristics as income and neighborhood stability, maltreatment rates for whites are higher than those for minorities in some cases. For example, maltreatment among white children whose families have incomes below \$15,000 is considerably more common than it is for black children at the same family income level.⁵⁴

Although the NIS study team sees bias in the way cases are processed as being more important than such risk factors as poverty in explaining why black children are overrepresented in the child welfare system, it is not clear that the NIS data can be used to explore the issue at the level of detail required to draw such firm conclusions. First, although the NIS produces useful national estimates of maltreatment, it does not contain information on neighborhood-level (contextual) factors. For this reason, the NIS data cannot be used to understand how neighborhood-level poverty—which may be associated with race—influences maltreatment.⁵⁵ Second, the NIS data do not contain individual-level information on how maltreatment cases were handled (that is, the actual process that was followed in each instance). Without direct observation of the process, inferences about the extent to which the processing of cases influences what happens can only be reached indirectly.

With respect to the role of poverty as a risk factor for maltreatment, several research studies have examined race and poverty in more localized areas. The first is by Claudia

Coulton, Jill Korbin, and several colleagues in Cleveland.⁵⁶ Drawing on both aggregate and individual data, the Cleveland studies examined the link between different forms of social organization and child maltreatment in census tracts distinguished by their racial composition. Although overall rates of maltreatment were much higher in the black tracts (42.8 per thousand) than in the white tracts (13.1 per thousand), average maltreatment rates in predominantly white tracts did not differ from maltreatment rates in predominantly black tracts as long as the white and black tracts studied were comparable in such characteristics of neighborhood social organization as impoverishment, child care burden, and residential instability. They also found that the relationship between the rate of maltreatment and social organization was quite different in white and black tracts. That is, the relationship between race and social organization as it pertained to maltreatment rates depended on the racial composition of the geographic area and was thus an effect of social context, with the predominantly white tracts showing a much stronger, positive relationship between social organization and maltreatment.

A second source of evidence that addresses social context in relation to child maltreatment comes from the Project on Human Development in Chicago Neighborhoods (PHDCN). Designed to provide new evidence regarding racial and ethnic disparities in violent crime, PHDCN uses a multi-level sampling strategy to capture individual behavior in a variety of social contexts.⁵⁷

Respondents were asked a variety of questions about their involvement in violent acts including parent-child physical aggression.⁵⁸

Using data from PHDCN, Robert Sampson, Jeffrey Morenoff, and Stephen Raudenbush

set out to test whether individual differences, as opposed to contextual differences, accounted for “observed racial/ethnic gaps in violence.”⁵⁹ Their findings show that although verbal and reading ability and impulsivity (measures of individual differences) predicted violence at the individual level, those same differences did not account for the racial and ethnic gap. Instead, they found that differing exposure to key risk and protective factors caused by neighborhood segregation explained the violence gap. In particular, blacks are much more likely to live in neighborhoods characterized by concentrated disadvantage than are either whites or Hispanics.⁶⁰

Sampson’s work with his colleagues focuses not on parent-child physical aggression, but on youth violence, which is different from official reports of maltreatment. Beth Molnar and several colleagues filled that gap by taking advantage of the multi-level framework built into the PHDCN data to study self-reported physical aggression directed toward children, including such acts as hitting, biting, slapping, and burning.⁶¹ In general, acts of minor and severe parent-child physical aggression were more common among black families than either white or Hispanic families but the effects were “fully mediated by family social-economic status in the multivariate model”—in other words, the racial and ethnic differences were not statistically significant when the black, white, and Hispanic families being compared had a similar social context.

Brett Drake, Sang Moo Lee, and Melissa Jonson-Reid have also examined racial disparity with social context, particularly community economic context, in mind.⁶² They too isolated contextually similar but racially distinct census tracts. Overall, they found that

black children were more than twice as likely to be reported for maltreatment. But when they considered the racial composition of the tracts along with race-specific poverty rates (that is, contextually similar, racially distinct tracts), they found that reporting rates were higher for whites than for blacks in some contexts. The apparent anomalies arise because black children are much more likely to live in poor, economically segregated communities, thus increasing their exposure to contextual risks. When, as happens but rarely, white children are found living in similar economic circumstances, rates of maltreatment are comparable to those for black children.

Traces of these issues are observable even in the state-level NCANDS data. In West Virginia, the state with the highest white child poverty rates in the country (as estimated for 2006), the white child maltreatment rate is slightly higher than the rate for black children. Overall, the disparity in maltreatment rates at the state level is negatively correlated with overall poverty rates. For blacks, maltreatment rates are negatively correlated with poverty rates—that is, where poverty rates for blacks are higher, maltreatment rates tend to be lower. For whites, by contrast, poverty and maltreatment rates are positively correlated—that is, where poverty rates for whites are higher, maltreatment tends to be higher.

In sum, the data suggest that the effect of context on maltreatment is not yet well understood. At the aggregate level, maltreatment rates for blacks are indeed higher. But the evidence suggests that the relationship between black child poverty and black maltreatment rates may be different from the relationship between white child poverty and white child maltreatment rates. It is fair to conclude that investments in communities

are an important strategy in preventing maltreatment. What is not clear is how, beyond the level of social organization, communities differ with respect to existing services infrastructure and how the existing infrastructure influences observed patterns of (reported) maltreatment.

Substance Abuse

Interest in the role of substance abuse (including alcohol and illicit drugs) in the child welfare system gained traction during the late 1980s and early 1990s when the widespread use of crack cocaine elevated the number of children in foster care from well under 300,000 to well over 500,000.⁶³ Today, a new drug epidemic is perhaps the most worrisome social calamity on the minds of child welfare administrators, who know how quickly drug use spreads within vulnerable populations.

Available data give ample reason for concern about substance abuse and its effect on the child welfare system. First, as measured by the number of new users, substance use increased between 1995 and 2003. According to national data collected by the Substance Abuse and Mental Health Services Administration (SAMHSA), across all drug categories (for example, cocaine, crack, methamphetamine, marijuana, and heroin), the average number of new users each year between 1995 and 2003 was greater than the number of new users each year between 1985 and 1994. In particular, the average number of new female crack users increased by 17 percent from 1995 through 2003 (although the number did decline between 2000 and 2003) and the average number of new female methamphetamine users increased by 25 percent. Heroin use, although it is the smallest user category, increased by 75 percent among men and women.⁶⁴ Among pregnant women,

use of cocaine has declined whereas the use of methamphetamine has increased. That said, alcohol and tobacco are still the drugs used most frequently during pregnancy, by a wide margin.⁶⁵

Substance-abusing parents are more likely to struggle with co-occurring problems such as domestic violence, single parenthood, poor education, depression, and the need for cash assistance, all of which influence the propensity to maltreat in one way or another.⁶⁶ When parents abuse substances, they pay less attention to their children and may not seek medical care for them when needed.⁶⁷ Parents are less likely to be warm and responsive to their children, which affects attachment.⁶⁸ Substance-abusing parents are also more likely to use harsh parenting styles and leave children unsupervised. Over their lifetime, children of substance-abusing parents experience more separation from their parents.⁶⁹

One effect of such parenting on children is problematic behavior. Studies have shown that neglect, coupled with such physical challenges as below-normal weight gain (that is, failure to thrive), is associated with delayed cognitive development in younger children and with behavior problems and poor school functioning in older children. Maltreatment may also be associated with deficits in cognitive, emotional, and behavioral development. For example, substance-abusing mothers in a methadone program reported high rates of school retention, truancy, suspension, and involvement with the law among their children.⁷⁰ Results from NSCAW indicate that cognitive, social, and behavioral problems are pervasive.⁷¹ For example, better than 40 percent of the children assessed with the Child Behavior Checklist scored in the borderline to clinical range, regardless of whether they were served in-home or in foster care.

Findings from NSCAW also support the general view that caretaker substance abuse is a significant problem. At baseline, 8 percent of the caregivers were actively using alcohol and 9 percent were actively using drugs. Both figures are low, but within the range reported by others.⁷² Substance abuse by caregivers was associated with a greater likelihood of service use, including entry into out-of-home care.⁷³

Substance-abusing parents are more likely to struggle with co-occurring problems such as domestic violence, single parenthood, poor education, depression, and the need for cash assistance, all of which influence the propensity to maltreat in one way or another.

Longitudinal administrative data make it possible to see how substance abuse affects a child's entire trajectory through the child welfare system from inception (the time of the first investigation). Tracing that trajectory for an inception cohort of children removes some of the selection bias that affects research that samples children at later points in their service history. Many studies examine children who are reported for maltreatment in a given year, noting whether maltreatment has been reported previously. But controlling for past victimization does not take into account the fact that children returning to the child welfare system are not randomly drawn from the original inception cohort. It

is important to compare children in an inception cohort because whether a child has a subsequent victimization (as opposed to a prior victimization) may be related to the first maltreatment allegation and to what follows as a result. It turns out that substance abuse may be related to child welfare involvement in one of two quite different ways. The first is that substance abuse may influence whether a parent neglects his or her children; that is, substance abuse alters the propensity to abuse. The second is that substance abuse may alter the child welfare decision-making process. Specifically, when substance abuse is part of an allegation history, decisions tilt in favor of greater involvement with the child welfare system. This latter issue is the focus of this section.

Several years ago a colleague and I used inception cohorts to explore the experience of children whose maltreatment investigation includes an allegation of caretaker substance abuse.⁷⁴ Our purpose in following the cohorts was to ascertain how an allegation of substance abuse affects further involvement in the system. Does it affect the likelihood of substantiation? Are substantiated substance abuse allegations more likely to be followed by out-of-home placement? Are children placed in foster care because of substance abuse–related maltreatment more or less likely to be reunified with their families than children who enter foster care for other reasons?

We found that more than any other allegation type, substance abuse influences what happens following the initial allegation. With respect to reports that led to an investigation, just 60 percent of the investigations in 2001 were connected to children with a first-ever investigation (inception cases), a figure that is in line with the data from some states

reported in NCANDS.⁷⁵ Significantly, children with a substance abuse allegation were twice as likely to experience another child welfare event (for example, another report or investigation or placement into foster care) than were children investigated for other reasons. The likelihood of subsequent involvement with the system is reflected in the fact that 79 percent of maltreatment allegations involving substance abuse were substantiated, compared with only 18 percent of all other allegations combined.

Following substantiation, children with a substance abuse allegation were much more likely than those with other forms of allegations to go into foster care. Of all children in substantiated substance abuse cases, 61 percent were placed in foster care, compared with just 17 percent of children in all substantiated cases of any other type. Indeed, our research has shown that a substantiated substance abuse allegation doubles a child's odds of being placed, net of the child's age, race, and geographic area of residence. When the child also has an older sibling known to the child welfare system, that too affects the odds of placement, a finding similar to that of Brenda Smith and Mark Testa, who suggest that substance abuse may be a marker for other dynamics within the family.⁷⁶

Once in foster care, the data suggest, infants who were the subject of a substantiated allegation of substance abuse–related maltreatment were much more likely to be adopted (44 percent) than reunified (28 percent). For infants placed following some other substantiated allegation of maltreatment, the discharge patterns were reversed, with reunification reaching 47 percent and adoptions approaching 25 percent. In both populations, about 20 percent of the infants were still in care at the time the analysis concluded.

A replication study in a second jurisdiction produced similar findings. From inception, children who were the subject of a substance abuse–related investigation in 2002 followed a distinct trajectory starting with substantiation. Substance abuse allegations were 48 percent more likely to be substantiated (46 percent to 31 percent). Following substantiation, children involved with a substance abuse allegation were more likely to have further contact with the child welfare system. In all, 66 percent of the cohort had no further contact with the system between 2002 and 2005. The comparable figure for children investigated as a result of a substance abuse allegation was just 46 percent. Among children with other substantiated allegations (that is, neglect or physical abuse), the likelihood of no future involvement was 56 percent. The primary reason for the differences is that the substance-affected children are twice as likely to be placed in foster care than are children involved with some other substantiated allegation.

Of all the children placed in foster care following the first contact, slightly more than 50 percent were reunified and 21 percent were adopted. If the first contact involved a substantiated substance abuse allegation, however, the likelihood of reunification dropped to 39 percent and the likelihood of adoption increased to 45 percent. In fact, of all the adoptions completed, 56 percent involved children with an allegation history that included substance abuse.

Recurrence of Maltreatment

After an initial maltreatment report, children may be reported to child protective services again. Such “recurrence” may involve both re-reporting and re-victimization, but most research to date has focused on re-reporting.⁷⁷ Using administrative data to trace recurrence

involving re-victimization is complicated because multiple reports may precede the second substantiated allegation. The risk of re-victimization recurrence for children placed in foster care drops because foster care is a protective environment (even though maltreatment also occurs in foster homes). Recurrence following reunification from foster care is of particular importance because it provides a way to judge whether the decision to reunify was correct. Another issue is the interval between recurring reports (or victimization as the case may be). Over the life course, recurrence involving any given children can happen at any time. Most occurs within two years, but children are at risk for substantially longer (depending on their age at victimization).

Although recurrence rates are generally low, state recurrence rates vary considerably. As defined by the federal government for the purpose of monitoring state child welfare programs, recurrence involves the substantiation of an allegation within six months of the first substantiated allegation. State recurrence rates vary between 2 percent and 14 percent, though these data do not take into account whether children are placed in foster care.

The most recent study completed with NCANDS is perhaps the most comprehensive in that it reports both re-reporting and substantiated re-reporting, taking into account service history (in-home services versus foster care), child characteristics (for example, age, gender, race, disability status), and prior allegation history.⁷⁸

The NCANDS findings are for the most part consistent with earlier research. Age at initial report is important for both re-reporting and re-victimization. Infants are more likely than

older children to return to child protective services. The cumulative re-report rate within two years was nearly 27 percent; the rate of substantiated re-reports was a bit higher than 10 percent. Children with a history of victimization had higher rates of re-reporting (22 percent) and substantiated re-reporting (nearly 10 percent) than did children whose initial report was not substantiated. Alcohol and substance abuse increased markedly the likelihood that a child would be the subject of a substantiated re-report, but not that the child would be re-reported.

Both post-investigation service use and post-placement service use were positively linked to re-reports and substantiated re-reports. About 25 percent of the children served in-home after the investigation were re-reported; 10 percent had substantiated re-reports. For children placed in foster care the comparable figures were 27 percent and 15 percent, respectively. The latter figure is close to the rate of reentry for children reunified from foster care.⁷⁹ The higher rate of re-reporting among children who receive services is somewhat of a conundrum. On balance, the explanation appears to be that child welfare workers refer more difficult cases to services. Rates of recurrence are thus higher because the same factors that predict use of services predict whether a subsequent report is recorded.

Summary

If child maltreatment were an isolated problem, one that affected only a certain population living in a particular area, the question of how to prevent it would in some respects be easier to answer. That, however, is clearly not the case. Maltreatment takes place in all communities and affects children of all ages. For the families involved, the underlying risk factors are poor mental health, substance

abuse, and domestic violence, to say nothing of poverty, poor education, unemployment, and social isolation. In short, on any given day, it is hard to say who will walk through the door of a community service agency.

The complexities notwithstanding, available data on the incidence and distribution of maltreatment do point to persistent themes that might be used to target intervention programs. First, the data are clear with respect to developmental influences. Infants, in a variety of contexts and with respect to a variety of other indicators (for example, recurrence), are a particularly important population. Bringing a new baby into the home heightens stress and tends to shift the risk and protective factors within the family in a direction that increases the risk of maltreatment. Maltreatment during infancy also reduces to some extent the clinical heterogeneity within families. Parents of infants will tend to be younger and face similar challenges. As a consequence it may be easier to plan and execute well-thought-out strategies that target the specific ontogenic factors.

The data also make clear that different communities experience different rates of maltreatment. Why the rates differ from one community to the next is less clear. Communities do indeed differ in the kind of social support they can provide, a fact that may explain why communities with the same poverty rates can have vastly different maltreatment rates.⁸⁰ What scholars have yet to examine closely is the extent to which the social structure of communities contributes to community maltreatment rates. The studies in Cleveland suggest that the relationship between poverty and maltreatment depends to some extent on race. Similar findings have been reported with respect to the use of foster care.⁸¹ Thus, the question is not whether

investments in communities are an important part of the prevention strategy. Rather, it is

what types of investments are most likely to replace what is missing in a given community.

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14. With respect to evidentiary standards, most states use either a preponderance of evidence, reasonable evidence, or credible evidence, in a descending order of frequency, as the basis on which to confirm a report. However, at least one state invokes a beyond-a-reasonable-doubt standard. States also rely on probable cause or clear and convincing evidence standards. See U.S. Department of Health and Human Services, *Child Maltreatment 2006* (note 1).
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48. Wulczyn and others, *Beyond Common Sense* (see note 8).
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55. The difference between individual (or family) poverty and community poverty is best thought of in the following way. A poor family is one whose income is below the federal poverty guideline for that family's size. A poor family might live in a high-poverty community, where the proportion of families with incomes below the poverty line is high relative to other communities. The latter instance is much more common among blacks. That is, a poor black family is much more likely to live in an economically segregated community than a poor white family is. Analytically, controlling for poverty at the individual level does not adequately capture the impact of living in the midst of concentrated poverty. For example, see Robert J. Sampson and William Julius Wilson, "Toward a Theory of Race, Crime and Urban Inequality," in *Crime and Inequality*, edited by John Hagan and Ruth D. Peterson (Stanford University Press, 1995); and Robert J. Sampson, Jeffrey D. Morenoff, and Stephen Raudenbush, "Social Anatomy of Racial and Ethnic Disparities in Violence," *American Journal of Public Health* 95, no. 2 (2005): 224–32.

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57. Sampson, Morenoff, and Raudenbush, "Social Anatomy of Racial and Ethnic Disparities in Violence" (see note 55); and Molnar and others, "A Multilevel Study of Neighborhoods and Parent-to-Child Physical Aggression" (see note 5).
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