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Institutional Care for Young Children: Review of Literature and Policy Implications

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Abstract

Millions of infants and toddlers are in institutional care around the world, care that is poorly suited to meet young children's developmental needs. In this article, we briefly review the history of institutional care and surrogate care. We then discuss why institutional care is at odds with children's needs, and review the empirical evidence regarding the effects of institutional care on young children's development. Finally, we discuss alternatives to institutional care, and make recommendations for changes.

Orphaned, abandoned, and maltreated children pose problems for societies throughout the world. Although the actual number of children in residential institutions is impossible to gauge accurately, estimates have ranged from 2,000,000 to more than 8,000,000 (Browne, 2009; Save the Children, 2009). Most institutions are staffed with caregivers who work rotating shifts in rather bleak material conditions. Young children in institutional care have often been abandoned at birth or soon after because of poverty or parental instability. In some cases, the state may have intervened to remove young children from their parents' care. In this article, we argue that institutional care is structurally and psychologically at odds with what young children need and that we should work to develop alternatives for orphaned and abandoned children.

To support this recommendation, we briefly review the political and economic forces that led to creation of institutional rearing, and we trace its decline (but not extinction) in the United States during the past century. Although by no means a dominant view, there are still those who wholeheartedly endorse institutional rearing as a preferred approach (see McKenzie, 1999), and others who have presented evidence that institutional rearing may be less harmful—or no more harmful—than other approaches (Whetten et al., 2009). We review results from a number of studies, including a randomized clinical trial, that indicate that institutional care does indeed have pernicious effects on the development of young children. We suggest foster care, adoption, or keeping families intact as preferable alternatives to institutional care for young children. We make this recommendation fully aware that foster care fails children too often as well, but we believe that the evidence is clear that foster care has greater potential for reducing developmental harm than institutional care, especially for the youngest and most vulnerable children. We present models of foster care with demonstrated effectiveness and consider implications and challenges for national and international policy.

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This article focuses on children in the first 5 or so years of life. For important developmental reasons, these children have urgent needs for regular contact with a small number of caregivers devoted to their well-being. For older children who can sustain relationships with parents in the absence of regular contact, the situation is somewhat different and beyond the scope of this article.

History

Caring for orphaned, abandoned, and maltreated children through informal kin care and adoption has a long history (Boswell, 1988; Hrdy, 1999). Formal governmental systems to deal with these children, such as orphanages and government-sponsored foster care, emerged more recently. The reliance on different systems of care over time has been influenced by social and political factors, as well as changing perspectives on child development.

The historical literature describes many examples in which families took in abandoned children. Boswell (1988) painted a very positive picture of the treatment children received by surrogate parents, and the likelihood that they survived abandonment because of the "kindness of strangers." Hrdy (1999) pointed out that, prior to the age of sterilized bottles and formula, it was difficult for young infants to survive abandonment unless a lactating woman was available to care for them. The care received in these informal foster and adoptive homes was variable, ranging from children being treated as family members to children being treated as servants. Nonetheless, fostering and adoption have had at least some acceptance throughout much of history for parents who felt unable to care for their children. At times, especially during periods of economic hardship, abandoned babies have outnumbered those available to care for them through informal systems of care.

Foundling homes were first established in the 14th and 15th century in Italy in response to the growing number of abandoned babies in cities (Hrdy, 1999). From the beginning, many of the children placed in these institutional settings were not true orphans, but rather had one or both parents surviving. These first foundling homes had very high documented mortality rates, ranging from 20% to 40% annually, and reaching nearly 100% during some epidemics (Hrdy, 1999; Trexler, 1973). Many infants failed to survive, either because of the outbreak of disease in the homes, or because breast milk was not available.

Over the next several centuries, foundling homes increased in number in Italy, and later in England, Russia, and other parts of Europe. Still, throughout most of the 18th century in North America and Europe, institutional care was uncommon; abandoned and orphaned children were typically placed with neighbors or in city almshouses, or indentured into apprenticeships. During the 1800s, religious organizations and charities began to establish orphanages in response to increased urbanization, the American Civil War, and multiple epidemics of cholera, tuberculosis, yellow fever, and influenza (Crenson, 1998; Hacsi, 1997). The expansion, both in the number of new orphanages created and in the number of children cared for, continued into the early 1900s (Smith, 1995).

A nodal event contributing to the eventual decline of institutional care in the United States was the first White House Conference on Children, which was organized on the authority of President Roosevelt in 1909. Child welfare professionals from around the country met and agreed on several policies those remain in place today. Specifically, they endorsed the concepts that: (1) children should be raised by their own families; (2) when it was necessary to remove children from their families, the settings in which they were cared should be other families' homes or resemble families as much as possible; and (3) no child should be removed from parental care because of poverty alone (Crenson, 1998). Subsequent legislation, such as the Social Security Act of 1935, allowed for federal funding to be given

to states to address issues of child welfare. Yet, the adoption of such federal policies and the numerous arguments against orphanages did not lead to the immediate end of institutionalized care in the United States. These policies led to a steady decline in institutions, so that by the 1970s orphanages had almost disappeared. There was a brief resurgence in the late 1980s and early 1990s when several large urban child welfare systems were overwhelmed by the influx of cocaine-exposed newborns. In some places, institutions were reinvented to cope with the sudden influx of children into state's custody (see Harden, 2002). Although most of these were subsequently closed, many states still have some form of group care with shift workers even for young children, although the numbers are small.

Throughout the 20th century, government and church sponsored foster care increased not only in North America but also in Europe. In the mid-20th century, a series of studies began to highlight the harms of institutional rearing (Goldfarb, 1945; Provence & Lipton, 1962; Skeels & Dye, 1939; Spitz, 1945). The emergence of this evidence was associated with a move away from institutional care in the United States and Western Europe, but countries in the Soviet bloc and China lacked access to these data, and foster care remained scarce there. Furthermore, the communist ideology not only destigmatized institutional rearing but in some cases encouraged it (see Kligman, 1998).

Currently, institutional care for young children is common in Eastern Europe, Asia, Central and South America, Africa, and the Middle East (The St. Petersburg-USA Orphanage Research Team, 2008). Although there are relatively few orphanages in Western Europe, institutions nonetheless exist in Portugal, France, and Belgium, among other countries (see Browne, Hamilton-Giachritsis, Johnson, & Ostergren, 2006).

Description of Institutional Care

The ecology of institutional life for young children has been described (Provence & Lipton, 1962) and studied empirically (Muhamedrahimov, 1999; Smyke et al., 2007; The St. Petersburg-USA Orphanage Research Team, 2008). There are often large differences from one institution to another, from one unit to another within an institution, and even variability in the care individual children receive within the same grouping. Nonetheless, there are certain modal features of institutional care that have characterized these settings across countries and continents. These include: generally high child to caregiver ratios; caregivers with low wages and little education or training who work rotating shifts; regimented and nonindividualized care; and a lack of psychological investment in the children (Chapin, 1915; The St. Petersburg-USA Orphanage Research Team, 2008; Zeanah et al., 2003). These qualities of institutional care present challenges to children's development (Nelson, 2007; Zeanah, Smyke, & Settles, 2006). Older children may be able to develop adequately in a setting that does not allow for close caregiver-child relationships. However, interactions with consistent and committed caregivers are key to the development of young children.

Key Developmental Tasks from Attachment Theory Perspective

We approach our understanding of key developmental tasks from an attachment theory perspective. Bowlby (1969/1982), the architect of attachment theory, proposed that human infants, like the young of many other species, have a need to form attachments to primary caregivers. The attachment system serves to enhance the child's likelihood of survival (and thus survival of the genes) because the infant seeks to maintain proximity to the caregiver under conditions of threat.

Human infants, as well as the young of many other mammals, are dependent upon parents for survival early in life. Evolution has followed different courses for different species; humans have evolved such that there is a long period of immaturity with associated

dependence on the parent. Infants are dependent on parents for nearly everything, including regulation of temperature, neuroendocrine functioning, safety, and felt security (Hofer, 1994, 2006). Young children whose parents died or were unable to care for them likely only survived if they were taken in by other adults. Having a caregiver therefore likely represents an "experience expectant" condition for the child, that is, an experience the species has evolved to "expect" (Greenough, Black, & Wallace, 1987). Not having a caregiver (biological or surrogate) may exceed the capacity of young children's capacity to adapt successfully. Findings regarding institutional care for very young children should be considered in this context.

During early childhood, caregivers play an especially salient role in helping children develop regulatory capabilities. Human infants are born nearly fully dependent upon caregivers for help regulating behavior and physiology. When children do not have primary caregivers, as is the case for many institutionalized children, development is compromised. During the first several years of life, key tasks include forming selective attachments to primary attachment figures and beginning to develop the abilities to regulate physiology, attention, and behavior (Bowlby, 1969/1982; Hofer, 1994). These tasks are integrally related to one another. The caregiver functions as a "co-regulator" for the infant, helping the infant return to a homeostatic condition behaviorally and physiologically (Hofer, 1994). Over time and after many experiences of successfully regulating behavior and physiology, the infant/young child becomes increasingly able to regulate behavior and physiology.

This process is subserved by what Bowlby (1969/1982) described as the attachment "system." The infant's attachment to the caregiver develops over the first half year of life, with attachments to primary attachment figures seen clearly by the end of the first year of life (Ainsworth, 1967). By a year of age, nearly all family-raised infants have developed attachments to preferred caregivers (Ainsworth, 1967; Ainsworth, Blehar, Waters, & Wall, 1978). These attachments can be seen in children's maintaining proximity to caregivers under possibly threatening conditions, and in signs of distress when they are not able to maintain proximity. Infants developing under normative circumstances differ in their attachment quality (that is, the security and organization of attachment), but they almost universally develop clear attachments to specific, preferred caregivers (Ainsworth, 1967; Bowlby, 1969/1982). As discussed later, conditions of institutional care make it less likely that children will develop clear, classifiable attachments to their parents and age-appropriate behavioral and physiological regulation.

Effects of Institutional Care on Young Children's Development

A number of observational studies have compared institutionalized children to noninstitutionalized children. These studies tell a compelling story of the effects of institutional care; most studies find that institutionalized children have significant developmental deficits across virtually every domain that has been examined (e.g., Gunnar, Van Dulmen, & The International Adoption Project Team, 2007; Johnson et al., 1996; Rutter, Kreppner, & O'Connor, 2001; Rutter et al., 2007, 2010; van IJzendoorn, Luijk, & Juffer, 2008). Following adoption into advantaged families, many (though clearly not all) of the developmental delays and behavior problems seen in children living in institutions are no longer evident (Juffer & van IJzendoorn, 2005; van IJzendoorn & Juffer, 2006). This suggests enormous capacity for adaptation. The limitation of these adoption studies is that there is a potential selection bias in terms of which children are adopted. For example, it is plausible that more competent children are more likely to be adopted than less competent children, thus overestimating children's capacities for resilience.

One randomized clinical trial, the Bucharest Early Intervention Project (BEIP), has been conducted in which children in institutional care in Romania were comprehensively assessed and then randomly assigned to continued institutional care or to quality foster care (Zeanah et al., 2003). The BEIP is especially important because randomized design allows causal inferences about the role of continued institutional care on children's functioning. In fact, the children placed in foster care performed better than the children with continued institutional care on almost every measure, thus supporting the conclusions reached in correlational studies regarding the power of foster and adoptive care in remediating the effects of institutional care (e.g., Marshall, Reeb, Fox, Nelson, & Zeanah, 2008; Nelson et al., 2007; Zeanah, Smyke, & Dumitrescu, 2002). The findings of the randomized clinical trial, combined with findings from correlational studies of institutional care, underscore the importance of reducing reliance on institutional care.

We next present an overview of the literature that provides strong evidence that institutional care of infants and young children has profound effects on essentially all domains of development. When young children experience institutional care, social and interpersonal development is impaired, physical growth is retarded, and cognitive and language development is delayed (Beckett et al., 2006; Carlson & Earls, 1997; Nelson et al., 2007; O'Connor, Rutter, & the English and Romanian Adoptees Study Team, 2000; Zeanah, 2000).

Attachment

Institutional care is associated with differences in whether children form specific attachments to their caregivers, and the quality of attachments they form to caregivers. Virtually all children raised in families develop clear attachments to specific caregivers (Zeanah, Smyke, Koga, Carlson, & the Bucharest Early Intervention Project Core Group, 2005). However, the attachments of the majority of institutionalized children are incompletely developed or even absent, as demonstrated in two recent studies (Dobrova-Krol, Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2010; Zeanah et al., 2005). Zeanah et al. (2005) developed a scale for assessing the range of attachment behavior, with the highest rating reflecting definite attachment behaviors that clearly fit with the traditional coding scheme for attachment. Of the never institutionalized children, 100% received this highest rating for clear, classifiable attachment, whereas only 3% of the institutionalized children received this rating. Although about 60% of the institutionalized children showed at least fragmented attachment behaviors, more than 30% showed little to no attachment behaviors.

Attachment security refers to children's ability to find comfort in their care-givers when they are distressed. Among children who have never been institutionalized, van IJzendoorn, Schuengel, and Bakerman-Kranenburg's meta-analysis (1999) has indicated that the majority (62%) develop secure attachments to their caregivers, with a minority (about 24%) of children developing insecure attachments, and a smaller proportion (about 15%) developing disorganized attachments to caregivers. Disorganized attachment is most indicative of risk (Fearon, Bakermans-Kranenburg, van IJzendoorn, Lapsley, & Roisman, 2010) and is characterized by odd behaviors that appear to reflect a breakdown in strategy to obtain proximity. Among children who are institutionalized, disorganized attachments and other aberrant forms of attachment quality (i.e., disorganized, unclassifiable, and insecure other) predominate (Smyke, Zeanah, Fox, Nelson, & Guthrie, 2010; Vorria, Rutter, Pickles, Wolkind, & Hobsbaum, 1998; Vorria et al., 2006; Zeanah et al., 2005). For example, Zeanah et al. (2005) found that only 22% of institutionalized children were classified as having organized attachments (secure or insecure), whereas 65% were classified as having disorganized attachments and 13% were unclassifiable.

Recovery—As with other domains of functioning, impressive gains in attachment are seen for children adopted following institutional care. Nonetheless, children who have been institutionalized are still distinguishable from never institutionalized children, and the length of time institutionalized plays a role in the likelihood that problems are seen.

Smyke et al. (2010) found that children who were randomly assigned to foster care showed higher rates of secure attachment than children who continued to live in institutional care. Of the children who were assigned to continued institutional care, 17% showed secure attachments to their caregivers in contrast to 49% of the children who were assigned to foster care (Smyke et al., 2010). Thus, this study suggests impressive recovery in the ability to form attachments to new caregivers following institutional care. The proportion of children in the foster care group who were secure (49%) was very similar to those from the meta-analytic results reported by van IJzendoorn and Juffer (2006), in which 47% of adopted children were securely attached. Relative to children who remained institutionalized, this is impressive, but well below the percentage of nonadopted children with secure attachments (67%) (van den Dries, Juffer, van IJzendoorn, & Bakermans-Kranenburg, 2009). The percentage of adopted children with disorganized attachment is also elevated relative to nonadopted children (33% vs. 15%).

A meta-analysis of nonexperimental studies of adopted children (some, but not all of whom had been in institutional care) suggest that children adopted before 12 months of age developed secure attachments at about the same rate as children from intact dyads (van den Dries et al., 2009). This is contrasted with children adopted after 12 months who showed significantly higher rates of insecure and disorganized attachments.

Indiscriminately Sociable Behavior

Indiscriminately sociable behavior refers to children's lack of reticence with unfamiliar adults, willingness to approach and engage strangers, and failure to maintain proximity to attachment figures in unfamiliar settings. O'Connor and colleagues (O'Connor et al., 2000; O'Connor & Zeanah, 2003) have emphasized the lack of social boundaries among children with this behavior pattern. Zeanah et al. (2005) found that 44% of institutionalized children showed high levels of indiscriminately sociable behavior as contrasted with 18% of children who had never been institutionalized.

Recovery—This is an area of development that is resistant to change following children's removal from institutional care (Chisholm, Carter, Ames, & Morison, 1995; Chisholm, 1998; Gleason et al., in press; O'Connor et al., 2000; Rutter et al., 2007). Rutter et al. (2007) found that indiscriminate sociability among previously institutionalized children was stable from 6 to 11 years, although there was a decrease in the behavior over that time. Hodges and Tizard (1989) found that children who were indiscriminately sociable as 8-year olds were not indiscriminately sociable toward adults as 16-year olds; however, these children were indiscriminately sociable in their relationships with peers. Thus, it is possible that indiscriminate sociability serves as a marker of later problems in social relationships, even though manifesting differently by the teen years. As with most other variables, the duration of institutional care is important for recovery. For example, Chisholm and colleagues (Chisholm et al., 1995; Fisher, Ames, Chisholm, & Savole, 1997) found that fewer of the children institutionalized for less than 4 months showed indiscriminately sociable behavior than children institutionalized for more than 8 months.

Physical Development

Children in institutional care lag behind other children in physical development. Relative to their peers, they show atypically short height, low weight, and small head circumference

(Johnson et al., 1996; Smyke et al., 2007). Smyke et al. (2007) found that height, weight, and head circumference of infants and toddlers in institutions were about a standard deviation below norms and significantly different from children living in the community. Johnson et al. (1996) found that children in Romania lost about 1 month of growth for every 3 months of institutional care, whereas children in the former Soviet Union showed 1 month growth delay for every 5 months of institutional care. A meta-analysis conducted by van IJzendoorn, Bakermans-Kranenburg, and Juffer (2007) found that the longer infants remained in institutional care, the more they differed from normal growth parameters. Even in institutions where nutritional needs are met, physical growth is delayed.

Recovery—Although physical development is very much affected by institutional development, rapid recovery is seen after children leave the institution (Boersma & Wit, 1997; Sonuga-Barke, Schlotz, & Rutter, 2010; van IJzendoorn et al., 2007). Among children randomly assigned to foster care in the BEIP, mean height and weight were near normal within a year of placement into families' homes, an outcome not seen for children assigned to continued institutional care (Johnson et al., 2010). The foster care intervention had no effects on head circumference, however. In their nonexperimental study, Sonuga-Barke et al. (2010) found massive catch-up in growth soon after children left institutional care. Although differences between previously institutionalized children and comparison children in height were no longer apparent when children were 10 years old, those differences were significant and pronounced at the age of 15. (This comparison group was made up of three subgroups: children who had been raised continuously by their parents, children who were adopted within the United Kingdom, and children who were adopted from Romania before the age of 6 months.) Sonuga-Barke et al. (2010) interpreted this pattern of results as a function of early puberty of previously institutionalized children (resulting in accelerated early growth followed by deceleration).

Cognitive Development

Children living in institutional care show very significant deficits in intellectual and cognitive development (Carlson & Earls, 1997; Johnson et al., 1996; Kreppner, O'Connor, Rutter, & the English and Romanian Adoptees Study Team, 2001; Moulson, Westerlund, Fox, Zeanah, & Nelson, 2009; O'Connor et al., 2000; Smyke et al., 2007). For example, Rutter (1998) found that the mean IQ of children leaving institutional care in Romania shortly after the fall of Ceausescu was about 50 (population mean = 100, $SD = 15$). In a meta-analysis of 75 studies, van IJzendoorn et al. (2008) found that children living in institutional care scored on average 20 points lower on intelligence tests than children who were raised in families. Differences between institutionalized children and comparison children were similar regardless of whether the comparison data represented children raised by birth parents, children raised by foster parents, or normative data (van IJzendoorn et al., 2008).

To assess cognitive functioning at the level of differential brain activation, Marshall, Fox, and the BEIP Core Group (2004) examined differences in alpha and theta power through electroencephalogram (EEG) data among institutionalized and never institutionalized children. Institutionalized children showed lower alpha power at prefrontal cortex sites, and higher theta power at posterior sites, relative to never institutionalized children. This pattern of results is suggestive of either cortical hypoactivation or delayed cortical maturation, that is, either deviant or delayed development (Marshall et al., 2004; McLaughlin et al., 2010). The specific deficits in attention and executive functioning that have been seen among children who have been institutionalized are consistent with these EEG results (Gunnar, Bruce, & Grotevant, 2000; Gunnar et al., 2007; Kreppner et al., 2007).

Recovery—Adoption serves as a powerful intervention in terms of general intellectual functioning. Children who are placed into the community have higher IQ's than children who remain in institutional care (Fox, Almas, Degnan, Nelson, & Zeanah, in press). Rutter (1998) found that children adopted from Romanian orphanages, who had IQ's of about 50 when they left institutional care, had mean IQ scores of 92 by the age of 11. Nonetheless, even though there are gains, mean intellectual functioning is lower than among comparison groups. Further, a subgroup of children show significant deficits in functioning even after adoption (Beckett, Castle, Rutter, & Barke-Sonuga, 2010; Fox et al., in press; Nelson et al., 2007).

A relatively high proportion of previously institutionalized children have problems with attention, with differences persisting for some children years after adoption (Gunnar et al., 2007; Kreppner et al., 2001; Kreppner et al., 2007). Hodges and Tizard (Hodges & Tizard, 1989; Tizard & Hodges, 1978) found that teachers reported elevated levels of concentration problems among previously institutionalized children. These problems with attention seem especially resistant to change, with 42% of previously institutionalized 11-year olds showing elevated levels of attention problems (Kreppner et al., 2007). Similarly, Gunnar et al. (2007) found that early institutional care was associated specifically with attention and social problems, but not with internalizing and externalizing problems more generally.

The length of time of institutionalization is an important predictor of cognitive problems (Bakermans-Kranenburg, van IJzendoorn, & Juffer, 2008). Beckett et al. (2006) found that children who had been institutionalized for more than 6 months showed lower cognitive functioning than children who had been institutionalized less than 6 months. Duration of institutional care beyond 6 months did not add to predictive power, however. Conversely, Nelson et al. (2007) found that the length of time children were institutionalized was linearly related to developmental quotient among children assigned to family care. There was a "cost" of 0.85 developmental quotient points for each additional month institutionalized when children were assessed at 42 months.

Regulation of the Hypothalamic-Pituitary-Adrenal (HPA) Axis

A number of studies with humans, nonhuman primates, and rodents have been conducted that suggest that severe early deprivation affects the regulation of the HPA system (e.g., Dobrova-Krol, van IJzendoorn, Bakermans-Kranenburg, Cyr, & Juffer, 2008; Dozier et al., 2006; Gunnar, Morison, Chisholm, & Schuder, 2001; Levine, Wiener, & Coe, 1993). Glucocorticoids (CORT: cortisol in primates, and corticosterone in rodents) represent an end product of the HPA axis. Because the HPA axis appears to be sensitive to perturbations in the caregiving system, and cortisol can be easily and noninvasively measured in saliva, there have been many studies of cortisol production in recent years. Among human young, differences related to early adversity appear most robust when considering the diurnal pattern rather than stress reactivity (e.g., Gunnar & Vazquez, 2001).

Results from studies of cortisol production among children in institutional settings are somewhat complex (e.g., Gunnar, Frenn, Wewerka, & van Ryzin, 2009). Gunnar et al. (2001) found elevated basal levels of cortisol among postinstitutionalized children relative to controls. Wismer Fries, Shirtcliff, and Pollak (2009) found that postinstitutionalized children showed slower recovery of the HPA system under some conditions. Extrapolating from the literature on adversity more generally (e.g., Bruce, Fisher, Pears, & Levine, 2009; Dozier et al., 2006; Fisher, van Ryzin, & Gunnar, in press; Gunnar & Vazquez, 2001), it seems likely that the functioning of the HPA system is affected by institutional care.

Interventions for Children Who Have Experienced Institutional Care

Institutional care has profound, negative effects on young children across multiple domains of functioning. Still, there are many children in the world who are abandoned or orphaned and in need of care, leaving unanswered the question of how best to provide such care. We consider approaches to this issue below.

Changes to Institution

There are differences across institutions, and even within institutions, in the care provided (Groark, Muhamedrahimov, Palmov, Nikiforova, & McCall, 2005; Gunnar et al., 2000; Smyke et al., 2007). For example, staff-to-child ratios and philosophies regarding staff interactions with children vary, but have important implications for child well-being (Groark et al., 2005). Groark et al. (2005) in St. Petersburg, Russia, as well as Smyke, Dumitrescu, and Zeanah (2002) in Bucharest, Romania, found that conditions in institutions can be substantially improved (e.g., increasing caregiver interactions with children), resulting in changes in child behavioral outcomes. Yet, despite evidence that improved institutions leads to better outcomes than poorer institutions, even institutional care with relatively high staff-to-child ratios and adequate cognitive stimulation has deleterious effects on young children's development (Gunnar et al., 2007; Rutter et al., 2007).

Moving Children Out of Institutional Care

Placing children from institutional care into families can be seen as the most significant intervention possible for any human condition (van IJzendoorn & Juffer, 2006). Although experimental work with nonhuman primates and rodents sometimes involves assignment to extreme conditions (e.g., isolation reared vs. enriched environment), it is hard to imagine human conditions that represent as great a contrast as institutional and family care. The effects of placing institutionalized children in stable foster homes have been examined experimentally (Zeanah et al., 2003). The BEIP's randomized clinical trial and many correlational studies provide support for adoption as a highly potent intervention (e.g., van IJzendoorn & Juffer, 2006).

Of course, even after placement in families, some children who were raised in institutions have ongoing difficulties. There has been little systematic study of intervention programs, beyond adoption itself, for this population. International adoption clinics often provide some help in anticipating issues, but to our knowledge, there have been no experimental studies of interventions implemented within international adoption clinics. Filling this void for families are interventions that lack an evidence base. Interventions for postinstitutionalized children that have gained considerable attention among adoptive parents and clinicians are sometimes called "attachment therapy" (Cline, 1992; Keck & Kupecky, 1995) or "holding therapy." Many of these interventions use coercive techniques, such as rage induction or forced holding. A number of researchers have called such therapies into question (e.g., Chaffin et al., 2006; Lilienfield, 2007; Pignotti & Mercer, 2007), suggesting that the treatment may actually be harmful to children and families. In fact, at least six children have died from coercive holding therapies (Chaffin et al., 2006). This illustrates the urgency of developing evidence-based practice for this population.

Interventions for Postinstitutionalized Children

We describe here two models of intervention for postinstitutionalized children. The first model, the BEIP model of foster care, has demonstrated efficacy. This model was developed by the second author (C. H. Zeanah) along with his colleagues at Tulane University. The second, Attachment and Biobehavioral Catch-up (ABC), represents an adaptation of an

evidence-based training program for foster parents. This model was developed by the first author (M. Dozier) and her colleagues.

BEIP model of foster care—The BEIP created a model of foster care and implemented it as an alternative to institutional care (Smyke, Zeanah, Fox, & Nelson, 2009). Government sponsored foster care had been used rarely in Bucharest at the time the study began in 2001. In this attachment-based intervention, foster parents were encouraged to invest psychologically in the children in their care and to love them as if they were their own children. Also, because resources were limited, foster parents were trained in establishing structure and routines, as well as taught basic techniques for language stimulation and behavior management.

In recruiting, BEIP sought foster parents who seemed to understand young children and who seemed to possess the requisite emotional availability for the intensive work of caring for a postinstitutionalized infant or toddler. Foster parent-training manuals, written by and for Romanians, were available from international adoption agencies that had previously developed foster care on a small scale for children awaiting adoption.

Foster parents were monitored and supported by a team of three Romanian social workers hired by the project. They received regular weekly consultation from the United States based clinicians. The social workers helped foster parents manage the complex challenges of caring for the postinstitutionalized children. Each of the social workers was responsible for a third of the study participants in foster care and their foster parents. Initially they visited each foster family on a weekly basis, reducing the visits to three times monthly after a year. Frequent phone contact was maintained with each family throughout the project.

As reviewed earlier, nearly all developmental outcomes were more favorable for the children in foster care compared to children who remained in institutions (e.g., Nelson et al., 2007). For some domains of development, earlier placement was associated with better outcomes but for others, timing of placement did not appear to matter.

Attachment and biobehavioral catch-up—Dozier and colleagues adapted an intervention to specifically target identified issues of children adopted internationally. In particular, the intervention targets regulatory issues, attachment quality, and indiscriminate sociability. The original ABC intervention model had been shown to be effective with high-risk birth children and with foster children (Bernard et al., in press; Dozier et al., 2006). The adapted intervention is currently being tested in a randomized clinical trial with internationally adopted children. Three issues targeted in the intervention are described below:

1. The first component of ABC targets children's self-regulatory capabilities by helping parents to learn to behave in synchronous ways with their children. This component is adapted from interventions that have targeted the importance of interactional synchrony in enhancing regulatory capabilities among infants (Calkins, 2011). Shonkoff and colleagues (Shonkoff & Bales, 2011; Shonkoff, Boyce, & McEwen, 2009) have suggested that such interactions be referred to as "serve and return" in that the caring adult "returns" the child's "serve." For example, when a child bangs two blocks together, the parent is urged to follow along (e.g., banging two blocks together herself or commenting on what the child is doing) rather than to direct the play (e.g., suggest that the child build a tower or comment on the color or shape of the blocks).

   Children who have been institutionalized are often dysregulated biologically (e.g., as seen in HPA axis functioning), and behaviorally (e.g., as seen in problems in

sustained attention). It is expected that this intervention component will enhance children's cortisol regulation, attention, and behavioral control. In randomized clinical trials with foster and high-risk children living with their birth parents, the intervention has been found to enhance cortisol regulation and behavioral outcomes (Dozier et al., 2006; Dozier et al., 2009; Dozier, Peloso, Lewis, Laurenceau, & Levine, 2008).

2. The second issue targeted in the intervention is children's attachment quality. This is an especially salient issue because previously institutionalized children are at increased risk for insecure and disorganized attachment (van den Dries et al., 2009). This issue is addressed by helping parents learn to behave in nurturing ways even when children fail to elicit nurturing care. This is critical for children who have experienced early adversity because they often behave in ways that make it unclear that they need nurturance. Stovall and Dozier (Stovall & Dozier, 2000; Stovall-McClough & Dozier, 2004) found that children who experienced early adversity often behave in avoidant or resistant ways (e.g., turning away from caregivers when distressed), eliciting complementary behaviors from their parents. In the intervention, adoptive parents are helped to reinterpret their children's behavioral signals, providing nurturance even when it is not elicited. This intervention component is expected to enhance parental nurturance, and to enhance children's attachment quality. In our randomized clinical trial with high-risk birth parents, only 32% of the children whose parents received the ABC intervention showed disorganized attachments, as contrasted with 57% of the children whose parents received the control intervention (Bernard et al., 2011).

3. The final issue addressed by the ABC intervention is indiscriminately sociable behaviors. These behaviors are targeted by helping adoptive parents recognize the signs of indiscriminate sociability and develop strategies for discouraging the behavior. Decreased indiscriminate sociability is expected as a result of this intervention component. We do not yet have data that suggest whether we will be successful in affecting this behavior because we have not targeted this behavior in other interventions. Given that this is a persistent behavior among a subset of children, we consider it important to target.

At this point, we do not have outcome data from our randomized clinical trial with children adopted internationally. Intervention data from randomized clinical trials with other populations suggest that this intervention may be effective, but it is critical to await outcomes from the randomized clinical trial with children adopted internationally before assuming it is effective.

Policy Recommendations

Institutional care of infants and young children persists despite numerous calls for its abolition (e.g., Browne, 2009; Save the Children, 2009; Wilton Park Conference, 2009). In many nations, institutions are maintained because there is a widespread belief at the level of the government, the community, and charitable organizations that institutions represent a preferable alternative to families for poor children. Institutional care is also maintained because systems of support exist for establishing and maintaining institutional facilities and there is not an organized system of support for caring for children in the community. For change to occur and to be sustained, each of these three issues needs to be addressed effectively.

Changing Beliefs

One of the first steps in ending reliance on institutional care is changing individuals' and organizations' beliefs regarding the benefits of this type of care. Identifying the factors that sustain these beliefs can help produce targeted messages aimed at changing positive attitudes toward institutional care.

Families and the community—Many of the children living in institutional care are not orphaned, but rather have one or both parents living. In a number of countries, 80–90% of institutionalized children have at least one living parent (Save the Children, 2009). Anecdotal evidence suggests that many parents consider their children's future more promising in the institutional setting than in the family (Save the Children, 2009). For example, parents often consider opportunities for adequate nutrition and education superior in an institutional setting to opportunities that could be provided within their families. Information regarding the importance of the family in raising children and the problematic outcomes of institutional life needs to be shared with parents and with extended family and community members.

Donors—Institutions are maintained partly because donors, the great majority of whom are not from the communities or even the countries where these facilities are located, underwrite the institutional model (Williamson & Greenberg, 2010). The ready availability of resources provides an incentive for establishing and maintaining these facilities. These institutions give the impression that children are being cared for, pulling funding away from more developmentally appropriate interventions.

It seems likely that international donors, including those from faith-based organizations, support the concept of orphanages largely because they believe that these institutions provide a home to children without parents or families. Donors are usually unaware of the harm that institutions cause. Indeed, the experience of visiting institutions is likely to be powerful for many donors because institutionalized children, often displaying signs of indiscriminately sociability, make visitors feel valued and needed. Further, donors are often unaware that most of the children in institutional care have living parents. The use of the term orphans to refer to the children living in the facilities, and the term orphanages to refer to these facilities, likely perpetuate this misconception. The Wilton Park Conference Report (2009) suggests that the use of the term "orphan" be dropped in favor of more descriptive language (e.g., child who has one parent, or child who has lost both parents). Finally, donors often think that institutional care is essential for the care of children, unaware that community-based alternatives are feasible. Admittedly, supporting community-based programs may not be as appealing as supporting an orphanage. Whereas donors can visit orphanages and see tangible results of financial support, the evidence may be less visible in community-based programs. An education effort should target helping donors and volunteers develop a sophisticated understanding of institutional care and its effects, and of the availability and importance of community options for at-risk children.

Recognizing Impediments to Transitioning from Institutional Care

There are a number of factors that can undermine attempts to transition from institutional to community-based care. Not surprisingly, there may be resistance from those who have a financial interest in the institution, and from those who are employed by the institution. Also, costs of maintaining institutions remain high during the transition whereas, at the same time, new expenditures for supporting families increase. On the one hand, Tobis (2000) argued, on the basis of analysis of experiences of deinstitutionalization in Eastern Europe, that the institutional setting not be closed prior to putting community supports in place. On the other hand, until the institution is fully closed down, cost savings are not realized, a

lesson learned from the United States era of psychiatric deinstitutionalization (e.g., Fakhourya & Priebea, 2007). In addition, institutions may be perpetuated because of how governments finance them. In Romania, a major impediment to deinstitutionalization was the large number of government agencies that received support based upon the number of children who were in institutions (Cristian Tabacaru, personal communication, March 28, 2011). Therefore, although we recognize the risks of closing institutions before community-based services are fully operational, we argue for a very brief transitional period during which institutional facilities are closed; the risk that institutions will remain open indefinitely is too great otherwise. Romania is an example of a country that relied almost exclusively on institutional care and within a decade made dramatic strides toward reducing the numbers of children being raised in institutions (Greenwell, 2006). Finally, it may not be possible to divert funds from institutions to community-based programs if donors are not persuaded of the value of doing so. If these various forces mitigating against closing down of institutions are not anticipated, they can serve to impede or derail progress.

Developing System of Support for Families and Communities

If institutional care is to be eliminated, it is critical to establish an alternative community-based system. Thus, building a child welfare infrastructure that incorporates family support and a system of kinship and foster care is critical. An important step in the development of this system is eliminating, or at least reducing, the disincentives for local governments in establishing community-based programs (United Nations General Assembly, 2010). In many nations, the national government runs institutional care facilities whereas local governments are expected to finance family support programs (United Nations General Assembly, 2010). Therefore, changing the system of financing programs (e.g., such that the national government provides support to community-based programs) may be essential.

Support for birth parents—Given that most children are placed into institutional care as the result of poverty (Save the Children, 2009), financial support is needed to ensure that children can be cared for adequately in their homes. Financial support may take a number of forms, including regular cash transfers or financial assistance; short-term housing and food allowances during droughts, floods, and other disasters; and free health and education services (Save the Children, 2009; Tobis, 2000). Conditional cash transfers, that represent an adaptation of cash transfers, are contingent on parents complying with certain conditions, such as preventive health and education program requirements. In a randomized clinical trial, Fernald, Gertler, and Neufeld (2008) found that children whose families were enrolled in the conditional cash transfer program showed better physical growth and cognitive outcomes relative to children whose families were not in the program. An advantage of the conditional cash transfer is that it integrates the social welfare system with the system of financial support. However, these cash transfer programs are expensive, raising the possibility that their expense may limit the ability to pay for social support programs (Save the Children, 2009; Wilton Park Conference Report, 2009; Yablonski & Bell, 2009).

Vulnerable birth parents need social support, services, and educational programs to promote their ability to care for their children adequately. As discussed previously, introducing programs that target parents' sensitive and nurturing care toward their children is expected to enhance children's developmental outcomes and create more rewarding parent-child relationships. Interventions such as the BEIP and ABC interventions are examples of such programs. A system of kinship and foster care can provide a safety net.

Kinship and foster care system—Informal kinship care systems should be encouraged and supported at the local and national level. The cost of caring for children in kinship and foster care has been estimated as 1/6 and 1/3, respectively, of the cost of caring for children

in institutions (Carter, 2005; Save the Children, 2009). A kinship care network can provide support for parents temporarily or as a longer term solution. Financial support for kinship care is often important to offset the costs for relative caregivers.

In some situations, a child must be removed temporarily from parental care. This is the case with many children in the United States who are in foster care. Addressing these children's needs requires a robust, high-quality foster care system. The foster care system developed to care for children leaving orphanages in Romania includes many of the components of such a system (Zeanah & Smyke, 2005). Families were chosen carefully for their ability to work effectively with children who had been subjected to the depriving conditions of institutionalization. They were provided with effective training and consistent ongoing support in working with these children. Families were able to provide loving long-term care for children.

Adoption—Adoption should be included as a realistic and viable alternative for children who cannot return home. Adoption should not take the place of community supports for parents or appropriate relative care. However, there are some children whose families are unwilling or unable to care for them for whom adoption represents an appropriate option. Depending on legal constraints, this could be legal or de facto adoption, but in any case, involves a lifelong commitment to the child. Increased supports in the form of economic subsidies will be important for community members with limited resources. Appropriate training and support will be important for community members as well as for internationally adopting parents.

Evaluation and Research

All too frequently in the area of child welfare, programs are implemented that do not have an evidence base. To the extent possible, programs and services that have strong empirical support should be implemented. It is critical that new and modified services be rigorously assessed.

Conclusion

The effects of institutional care are seen in the most tangible indicator of children's functioning, physical growth, and extend to every domain of physical and psychological health examined. Given these profound effects on functioning, the recent proliferation of orphanages worldwide is alarming. The evidence is clear—young children do not belong in institutions. We advocate here for moving toward a system where children are cared for in family environments. As the first White House Conference on Children concluded more than a century ago, young children's needs are best met in families, and if that is not possible, they should be in the most family-like setting possible.

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