

Delivery of Mental Health Services for a State's Population of Children in Foster Care: A Comparison of Illinois and National Data

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Abstract

States play a major role in providing mental health services for children in foster care, but previous research uses either local or national samples. Using 2003 and 2005 data, the present study compares children in foster care in Illinois and nationally on mental health need and service receipt. Caregivers completed measures of children's mental health problems and service receipt and youths completed self-report measures of mental health problems. From 46.5% to 55.9% of Illinois children and youth in foster care scored in the clinical or borderline clinical range on a caregiver measure of children's mental health, comparable to national rates. Children and youth self-reported lower rates of mental health problems both in Illinois and nationally. Though sizable proportions used mental health services across samples, Illinois children in foster care were significantly less likely to receive a range of different mental health services than children in foster care nationally. Challenges to service delivery for Illinois children in foster care and recent service improvements are reviewed in this and a companion paper.

Introduction

Numerous studies over more than 30 years have found that a large percentage of children and adolescents in foster care have mental health problems (see, e.g., Heflinger, Simpkins, & Combs-Orme, 2000; Pilowsky & Wu, 2006; Pilowsky, 1995; Rosenfeld et al., 1997; Trupin, Tarico, Low, Jemelka, & McClellan, 1993). Most studies find that between 30% and 50% of youth in foster care have emotional or behavioral problems in a range suggesting impairment (Chemoff, Combs-Orme, Risley-Curtiss, & Heisler,

1994; Fanshel & Shinn, 1978; Farmer, Burns, Chapman, Phillips, Angold, & Costello, 2001; Garland, Landsverk, Hough, & Ellis-MacLeod, 1996; Hellinckx & Grietens, 1994), and some studies have found rates higher than 50% (Clausen, Landsverk, Ganger, Chadwick, & Litrownik, 1998; Swire & Kaveler, 1977; Tarren-Sweeney & Hazell, 2006). This is not surprising, because the vast majority of children placed in foster care have experienced serious maltreatment, which often significantly impairs children's mental health, and placement in foster care adds loss and disruption (Clausen et al., 1998). Children in foster care are more likely than many other children at risk to receive mental health services (Halfon, Berkowitz, & Klee, 1992; Harman, Childs, & Kelleher, 2000; Takayama, Bergmann, & Connell, 1994); nevertheless, many children in foster care with mental health problems are unserved (Halfon, Berkowitz, & Klee, 1992; Leslie, Hurlburt, Landsverk, Barth, & Slymen, 2004; Takayama, Bergmann, & Connell, 1994; United States Department of Health and Human Services, 2003).

This study examines the rate of mental health problems and services for Illinois children in foster care. States will need to play a major role in improving mental health services for children in foster care, because child welfare is a state function and state child welfare agencies are responsible for helping children in their care access services. Research on mental health services for state populations of children in foster care is needed to guide state policy and practice. This research should use state service data both to assess met and unmet need for services at a baseline and to measure progress in service delivery

thereafter. These studies will be particularly valuable if state data can be compared to national data to identify trends that are unique to a state.

All of the research on mental health services for children in foster care that we have found, however, uses either local or national samples; we have seen no research that contrasts state and national data. The present study is the first we are aware of that examines mental health need and service receipt in a random sample from an entire state population of children in foster care, and compares it to parallel national data. This study is also unusual because, in addition to standardized caregiver measures, it uses standardized self-report measures in which youth age seven and older report their own mental health problems, and because it examines a wide range of individual specialty and nonspecialty mental health services.

To help explain how and why Illinois has the empirical results reported here, a companion paper in this issue qualitatively examines the challenges to providing mental health services to Illinois children in foster care and reviews the history of efforts over two decades to improve services. These two papers thus provide a sort of case study into one state's efforts to provide mental health services for its children in custody. Illinois is particularly interesting to study because its child welfare system has undergone substantial reform in the past two decades, and was described as the "gold standard" in child welfare practice by the deputy director of the Pew Commission on Foster Care (Rolock, 2008; Testa, Fuller, & Rolock, 2005). Other states may want to consider the Illinois methodology for tracking need and services, and can learn from the successes and failures of Illinois initiatives to improve care.

Previous research on mental health services for children involved with child protective services has examined three relevant percentages: the percentage of children with mental health problems, the percentage who receive mental health

services, and the percentage with a mental health problem who receive services. In parallel, this study examines mental health need, service receipt, and receipt in relation to need, through the following research questions:

1. What percentage of Illinois children in foster care have mental health problems in the clinical or borderline clinical range, and how does that compare to the percentage for children in foster care nationally?
2. What percentages of Illinois children in foster care receive services from a range of specific mental health settings (e.g., outpatient services from a community mental health center, school-based services, residential treatment centers, etc.), and how do these compare to percentages for children in foster care nationally?
3. What percentage of Illinois children with mental health problems in the clinical or borderline clinical range receive specialty mental health services, and how does that compare to the parallel national percentage?

The third question focuses on specialty mental health services, to allow comparison with Burns et al.'s (2004) research on children involved with child welfare services (CWS). It should be mentioned at the outset that these questions concern mental health services provided in dedicated mental health settings, such as community mental health centers or residential treatment centers, or in other service settings such as schools or doctors' offices. As discussed in more detail later in this article, data were not available on private professional help to Illinois children in foster care from a mental health professional (psychiatrist, psychologist, social worker, or the like).

Method

The current paper analyzes Illinois data from the Illinois Child Well-Being Study (IL-CWB) and national data from the National

Survey of Child and Adolescent Well-Being (NSCAW) and compares the two.

The IL-CWB

The IL-CWB is a statewide study of the well-being of Illinois children in foster care conducted to assist the state in determining whether the Illinois Department of Children and Family Services (DCFS) complied with the terms of a 1988 consent decree governing child welfare practice in the state (see Hartnett, Bruhn, Helton, Fuller, & Steiner, 2009). For more information on the consent decree, see the companion paper and Mezey (1998, 2000).

Rounds 2 and 3 of the IL-CWB are used here (Round 1 did not include the range of measures needed for this analysis). Round 2 used a stratified random sample of 655 Illinois children in foster care on September 30, 2003 (see Hartnett et al., 2009). To facilitate study of children with shorter and longer tenure in foster care, half the sample consisted of children in care less than three years and half of children in care for more than three years. Because of this stratification, results are weighted to take into account the frequency with which each of these halves of the sample occurs in the population. In Round 3, stratification was no longer seen as necessary; instead, a simple random sample was drawn of 697 Illinois children in foster care on December 31, 2004 (see Bruhn, Helton, Cross, Shumow, & Testa, 2007). Each sample was drawn from the population of all Illinois children in foster care for a minimum of three months (to ensure that caregivers and caseworkers would have adequate knowledge about the child). Children in detention and pregnant girls were excluded in response to ethical concerns of the Institutional Review Board of the University of Illinois at Urbana-Champaign, and children who were included in the Round 2 sample were excluded from Round 3. Only one child per caregiver was eligible for selection, which reduced both the survey burden on caregivers and statistical dependence between cases, though there was no such restriction on children in group or residential care.

After sampling, field interviewers contacted caregivers and asked permission to interview their foster children. Confidential interviews were conducted with assenting youths age 7 or older during home visits. The Audio-CASI (Computer-Assisted Self-administered Interview) technology was used, in which youths used a touch-screen laptop computer and headphones to move from question to question (i.e., screen to screen) as they heard each question and all possible responses read aloud (see NSCAW Research Group, 2002). Telephone interviews were conducted with consenting caregivers and caseworkers as well.

The interview schedules were adapted from interviews used in the NSCAW (see more later in this article), and consisted mainly of standardized measures covering a wide range of constructs related to child well-being and services. Parts of the caregiver and youth interviews included questions about the mental health of the children and youths in foster care, and the caregiver interview included questions on mental health services for the child or youth. These are the data used in this analysis. Data on demographics and child welfare interventions were collected from DCFS administrative data files as well as from interviews.

NSCAW

NSCAW is a congressionally mandated national probability study of the safety, permanence in living situations, well-being of, and services to children involved with child protective services. It is conducted by the nonprofit research firm RTI International for the federal Administration on Children and Families (see NSCAW Research Group, 2002; U.S. Department of Health and Human Services, 2003, 2005). The study yields public-use data sets accessible to qualified investigators who obtain licenses. Because NSCAW is longitudinal, most variables were measured at multiple time points. There are two different NSCAW samples. The One Year in Foster Care (OYFC) sample (N = 727) included children who had been in foster care for at least

one year (as assessed from December 1999 to February 2000; see U.S. Department of Health and Human Services, 2003). The Child Protective Services (CPS) sample (N = 5501) included children involved in a child protective services investigation during a 15-month period beginning in October 1999 (see U.S. Department of Health and Human Services, 2005). Each sample was constructed by two-stage random sampling: first, 97 primary sampling units (PSUs, primarily county child protection agencies) were randomly sampled across the country and then children were randomly sampled within PSUs. Because of the need for statistical power for certain case categories, cases involving infants, sexual abuse cases, and cases that were open in CWS were oversampled. Results are weighted to take into account the probability of selection of the child's PSU and the probability of selection of that child, given the PSU.

This analysis used the subsets of children in the OYFC and CPS samples who were in foster care at the follow-up periods studied here. Unlike the OYFC sample, the CPS sample included children in foster care for less than a year as well as those in foster care for more than a year. Note that NSCAW results on use of mental health services by children in foster care have also been reported in other publications (Leslie, Hurlburt, James, Landsverk, Slymen, & Zhang, 2005; Leslie et al., 2004; U.S. Department of Health and Human Services, 2003).

IL-CWB and NSCAW data used in this analysis

Although they include parallel data on children's mental health problems and services, the IL-CWB samples and each of the two NSCAW samples had somewhat different design characteristics, and the dates at which data were collected for each were somewhat mismatched. Because of these differences, we used a strategy of comparing multiple IL-CWB samples to multiple NSCAW samples for a robust comparison that would be relatively

unaffected by differences in the design characteristics of the samples. Two sets of IL-CWB results (Round 2 and Round 3) were compared to four sets of NSCAW results (two NSCAW samples x two follow-up periods). The six samples used were as follows:

1. The IL-CWB Round 2 sample, which included Illinois children in foster care on March 31, 2003
2. The IL-CWB Round 3 sample, which included Illinois children in foster care on December 31, 2004
3. NSCAW OYFC sample, Wave 3, which included children nationally who had been in foster care for at least one year at the beginning of the study (December 1999 through February 2000) and were also in foster care 18 months later
4. NSCAW OYFC sample, Wave 4, which included children nationally who had been in foster care for at least one year at the beginning of the study (December 1999 through February 2000) and were also in foster care 36 months later
5. NSCAW CPS sample, Foster Care subset, Wave 3, which included children nationally who were involved in child protective investigations between October 1999 and December 2000 and were in foster care 21 months after the completion of the investigation
6. NSCAW CPS sample, Foster Care subset, Wave 4, which included children nationally who were involved in child protective investigations between October 1999 and December 2000 and were in foster care 39 months after the completion of the investigation

Table 1 shows the design characteristics of the six samples. The NSCAW baseline OYFC and CPS samples were not used because they were not historically contemporaneous with the IL-CWB samples and because they had small numbers of children in longer-term foster care. Note

that the comparison of results from Illinois to results from NSCAW is conservative because some Illinois children are in the NSCAW sample. For dichotomous variables, results from the two Illinois samples were compared to results from the four NSCAW samples through independent sample *t*-tests with a Bonferroni-adjusted $\alpha = .00625$, because of the eight comparisons made on every variable tested. For multicategory variables, the same comparisons with the same adjusted α were made using Pearson chi-square tests in which the raw cell sizes were adjusted to reflect the proportions evident with the weighted cell sizes.

The IL-CWB and NSCAW samples differed on some demographic and out-of-home care characteristics (see Table 2). Children and caregivers in the Illinois sample were more likely to be Black and less likely to be Hispanic, reflecting demographic differences between the state and the rest of the country. Illinois children were significantly younger than children in the Wave 4 NSCAW samples, with a larger percentage of children age 0 to 5—this was probably an artifact stemming from the Wave 4 NSCAW children having been in the study for 18 months at that follow-up. The differences in length of time in care are a function of differences in research design across the samples: IL-CWB sampled from all children who had been in care at least three months on a given day, whereas the NSCAW OYFC study specifically sampled children who had been in care for one year and NSCAW CPS sampled children involved in investigations and not in care at the time of the investigation. Once we take into account the fact that NSCAW did not distinguish between specialized and traditional foster care placements, the percentages in different placements in the IL-CWB sample and NSCAW look very similar. Youth in several of the NSCAW samples were significantly more likely to be in group care than youth in the IL-CWB samples, which is related to lower use of this placement modality in Illinois compared to other states.

Data Collection

Because Rounds 2 and 3 of the IL-CWB were modeled after the NSCAW study, data collection procedures were mostly parallel in the two studies. Field representatives received intensive training with emphasis on the administration of standardized child assessment instruments. They contacted caregivers and asked permission to interview them about the selected children and to conduct interviews with those youths age 7 or older. IL-CWB caregiver interviews were conducted over the telephone, whereas NSCAW caregiver interviews were conducted in person.

Measures

Standardized measures of children's mental health problems were used in the caregiver and youth interviews and a standardized measure of mental health service delivery was used in the caregiver interview. The child mental health problem measure completed by caregivers was the Child Behavior Checklist (CBCL; Achenbach, 1991a). This 118-item checklist of emotional and behavioral problems yields, among other scores, a total problem score indicating the child's or youth's overall level of mental health problems. This measure has been used in hundreds of studies and has well-demonstrated reliability and validity (Achenbach, 1991a). Following established CBCL guidelines (Achenbach, 1991a), a score of 60 or higher was used as indication of a borderline clinical to clinical level of mental health problems. NSCAW used the 1991 version of the CBCL, which measure behavior problems in children age 4 to 16, but IL-CWB used the 2001 version of the measure, which measures behavior problems in children age 6 to 15. Therefore, analysis of the CBCL here is limited to children age 6 to 15. The unavailability of mental health measures in the IL-CWB for children younger than age 6 should not, however, suggest that the mental health need of very young children is not a major policy and practice concern (see, e.g., Silver & Dicker, 2007): children

Table 1
Design Characteristics of the Samples Used in this Study

Overall sample size	655	IL-CWB Round 2 Full Sample	697	IL-CWB Round 3 Full Sample	NSCAW, Wave 3, One Year in Foster Care Sample, Children in Out-of-Home Care	354	NSCAW, Wave 4, One Year in Foster Care Sample, Children in Out-of-Home Care	262	NSCAW, Wave 4, One Year in Foster Care Sample, Children in Out-of-Home Care	1140	NSCAW, Wave 3, CPS Sample, Children in Out-of-Home Care	805	NSCAW, Wave 4, CPS Sample, Children in Out-of-Home Care
Geographic area	Illinois	Illinois	Illinois	United States ^a									
Child population	All children in foster care in Illinois on March 31, 2003	All children in foster care in Illinois on December 31, 2004	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point	All U.S. children who had been in foster care for at least one year between December 1999 and February 2000, ^b and were in foster care at the follow-up point
Follow-up point	Not applicable; single point of time measured	Not applicable; single point of time measured	Approximately 18 months from baseline	Approximately 21 months from completion of child maltreatment investigation	Approximately 21 months from completion of child maltreatment investigation	Approximately 39 months from completion of child maltreatment investigation	Approximately 39 months from completion of child maltreatment investigation						
Year(s) of data collection	2003	2005	2001–2002	2001–2002	2001–2002	2001–2002	2001–2002	2001–2002	2001–2002	2001–2002	2001–2002	2002–2004	2002–2004

Note. IL-CWB = Illinois Child Well-Being Study; NSCAW = National Survey of Child and Adolescent Well-Being.

^a 36 states are represented in NSCAW.

^b This was broadened to July 1999 to February 2000 in some PSUs in order to boost sample size; see U.S. Department of Health and Human Services, 2003.

Table 2
Characteristics of Illinois and National Samples

	A IL-CWB Round 2 Full Sample (N ≤ 655)	B IL-CWB Round 3 Full Sample (N ≤ 697)	C NSCAW, Wave 3, One Year in Foster Care Sample, Children in Out-of-Home Care (N ≤ 354)	D NSCAW, Wave 4, One Year in Foster Care Sample, Children in Out-of-Home Care (N ≤ 262)	E NSCAW, Wave 3, CPS Sample, Children in Out- of-Home Care (N ≤ 1140)	F NSCAW, Wave 4, CPS Sample, Children in Out- of-Home Care (N ≤ 805)	Columns That Are Significantly Different
<i>Age at time of study</i>							
0-5	37.6 (36.1-39.2)	38.6 (35.0-42.3)	33.4 (26.6-40.9)	17.5 (11.7-25.4)	41.0 (33.6-48.9)	23.3 (17.2-30.6)	
6-13	45.1 (42.1-47.9)	41.9 (38.3-45.6)	45.0 (37.0-53.3)	53.3 (46.4-60.2)	39.9 (32.4-47.8)	44.7 (33.8-56.1)	
14 and older	17.3 (15.0-19.8)	19.5 (16.7-30.0)	21.6 (15.1-30.0)	29.2 (22.3-37.1)	19.1 (14.8-24.3)	32.1 (24.4-40.8)	A, B vs. D, F
<i># of years in substitute care</i>							
< 2 years	39.5 (36.7-42.4)	44.8 (41.1-48.5)	98.3 (88.2-99.8)	18.9 (9.4-34.4)	100	50.8 (41.8-59.9)	
2-4 years	35.1 (31.5-38.8)	35.9 (32.4-39.5)	01.7 (0.2-11.8)	81.1 (65.6-90.6)	0	49.2 (40.2-58.2)	A, B vs. C, D, E, F
5 years or more	25.5 (23.3-27.8)	19.4 (16.6-22.5)	0	0	0	0	A vs. B
<i>Gender</i>							
Female	49.9 (45.8-54.0)	57.1 (53.4-60.7)	55.9 (48.5-63.1)	51.0 (43.1-59.0)	50.0 (43.3-56.6)	51.0 (43.0-59.0)	A vs. B
Male	50.1 (46.0-54.2)	42.9 (39.3-46.6)	44.1 (36.9-51.5)	49.0 (41.0-57.0)	50.0 (43.4-56.6)	49.0 (41.0-57.0)	
<i>Race/Ethnicity</i>							
African-American	71.2 (67.2-74.8)	63.2 (59.5-66.7)	47.8 (37.5-58.3)	50.6 (39.0-62.3)	38.6 (30.2-47.4)	37.6 (29.4-46.5)	A, B vs. C, D, E, F
White	23.6 (20.2-27.3)	30.9 (27.5-34.4)	30.3 (22.8-34.4)	29.4 (21.8-38.5)	41.2 (33.3-49.6)	38.6 (29.1-49.2)	A vs. B

under the age of 6 make up a substantial proportion of the population of children in foster care (see Table 2), are among those at greatest risk because of maltreatment and disruption of attachments surrounding their removal, and can have significant mental health needs (see American Academy of Pediatrics, 2002; U.S. Department of Health and Human Services, 2005).

The Youth Self-Report (YSR; Achenbach, 1991b) is a measure completed by youths age 11 or older which is designed to parallel the CBCL and is almost identical in format and content. Again, a score of 60 was used to indicate a borderline clinical to clinical level of mental health problems. The YSR has also demonstrated acceptable reliability and validity and has been used in dozens of studies. The Children's Depression Inventory (CDI) is a self-report measure of behaviors and feelings characteristic of youth depression, and has demonstrated adequate reliability and validity (Kovacs, 1992). Following Kovacs (1992), children scoring above 65 were scored as in the clinical range; a borderline clinical range was not used for the CDI. We used the Post-Traumatic Stress Subscale from the Trauma Symptom Checklist for Children (Briere, 1996), with a score greater than 64 representing the borderline clinical to clinical range. This subscale focuses specifically on symptoms related to trauma, such as intrusive thoughts and dissociation. The subscale itself has demonstrated reliability and validity (see Briere, 1996), and the scale has become a common measure in trauma studies.

An adapted version of the Child and Adolescent Services Assessment (CASA; Ascher, Farmer, Burns, & Angold, 1996) was used to assess mental health service delivery. This measure asks caregivers whether the child received a range of specific services. The specific services measured were: psychiatric hospital, inpatient detoxification unit, hospital medical inpatient unit, residential treatment center or group home, emergency shelter, day treatment, outpatient drug or alcohol clinic, mental health or community

mental health center, in-home counseling or crisis services, mental health services from a family doctor or other medical doctor, mental health services from a hospital emergency room, and school mental health professional.

We also derived two additional composite variables from the service variables just listed. One measured whether children received any specialty mental health service. The specialty mental health services were scored when a child received at least one of the following services: psychiatric hospital, inpatient detoxification unit, residential treatment center or group home, emergency shelter, day treatment, outpatient drug or alcohol clinic, or mental health or community mental health center. A second composite variable measured whether children received any of the entire list of services set out previously.

Because of its focus on mental health services provided in care settings (e.g., treatment centers, hospitals, schools, and so forth), the IL-CWB interviews did not ask about private professional help from mental health professionals such as psychiatrists, psychologist, social workers, and nurses. The IL-CWB also did not ask about therapeutic nursery programs, because these programs were thought to be rare in Illinois (but see Jewish Children and Family Services-Chicago, n.d.). The NSCAW interview asked about both private professional help and therapeutic nursery services. The questions about services from private practitioners and therapeutic nurseries were not used in the comparison of IL-CWB to NSCAW, and were not included in the calculation of any specialty service or any service composite variables.

The IL-CWB and NSCAW measures of services used here differed slightly in another way. In the IL-CWB, the caregiver was asked about service delivery lifetime. The NSCAW service variables used here were composites we created based on caregivers' responses at baseline, which asked about lifetime use, together with

caregivers' responses at Wave 3 and Wave 4, which asked about service delivery since the last interview. These questions in some cases left some time gaps in which a child could have received a service but not have it recorded as such in the NSCAW service variable composites we created. Therefore, a priori, one would expect slightly higher service delivery rates in the IL-CWB samples. For more detail on the methodology of the Illinois Child Well-Being study, see the study reports (Bruhn et al., 2007; Hartnett et al., 2009). More detail on NSCAW methods is available in several publications (NSCAW Research Group, 2002; U.S. Department of Health and Human Services, 2003, 2005).

Results

Mental health problems

Table 3 compares the two IL-CWB samples and the four NSCAW samples on the proportion of children in the borderline clinical to clinical range on several different mental health measures. On the Child Behavior Checklist, the caregiver measure, the percentage of Illinois children in foster care with mental health problems in the clinical or borderline clinical range was substantial: 46.5% in 2003 and 55.9% in 2005. There were very similar percentages in the NSCAW comparison samples, ranging from 45.3% to 56.8%.

The percentages of youth reporting problems in the borderline clinical and clinical range on the YSR were also substantial, though lower than the percentages on the CBCL. In the Illinois

sample, 33% of youth reported problems in this range in 2003 and 30.8% in 2005. Again, results from the NSCAW samples were similar, with percentages ranging from 28.5% to 37.2%. The differences between the caregiver and the adolescent self-report measures in the percentages indicating need is discussed further later in this section.

The CDI and the Post-Traumatic Stress Scale of the Trauma Symptoms Checklist measure a narrower range of problems, and therefore the percentages in the borderline clinical and clinical range were smaller. This percentage on the CDI for Illinois was 7% in 2003 and 7.2% in 2005, with percentages in the NSCAW comparison samples ranging from 4.1% to 11.5%. On the trauma scale, the Illinois percentages in this range were 5.8% in 2003 and 5.1% in 2005, with the percentages for NSCAW samples ranging from 7.2% to 15.8%.

On most comparisons, the percentages in the borderline clinical and clinical range in the Illinois samples were within four points of the percentages in the national samples, and none of the Illinois-national differences were statistically significant. Thus, the results show that the need for mental health services for children in foster care is great in both Illinois and the nation as a whole, with few difference between the two.

Mental health services

Table 4 presents the rates at which 10 different specific mental health services were used for children in foster care in Illinois and nationally. Inpatient detoxification unit and

Hispanic	5.3 (3.6-7.5)	6.0 (4.4-8.1)	21.9 (15.7-29.6)	19.9 (13.0-29.4)	20.2 (14.6-27.3)	23.8 (17.2-31.9)	
<i>Placement Type</i>							
Home of relative	37.0 (33.2-41.1)	34.3 (30.9-38.0)	36.1 (29.2-43.7)	35.0 (24.7-46.9)	43.7 (37.4-50.3)	46.4 (37.1-56.0)	A, B vs. C, D, E, F ^a
Traditional foster care	37.0 (33.2-41.1)	43.9 (40.2-47.6)	All foster care 47.1 (39.9-54.4)	All foster care 48.6 (38.1-59.1)	All foster care 41.1 (33.9-48.7)	All foster care 35.8 (27.2-45.3)	
Specialized foster care	22.3 (17.7-27.7)	15.2 (12.7-18.0)					
Group home or residential care	5.2 (3.7-7.1)	6.6 (5.0-8.8)	14.3 (9.6-20.8)	13.9 (9.4-20.0)	9.7 (6.6-14.2)	15.9 (10.6-23.0)	
Other	0	0	2.5 (1.2-5.3)	2.6 (0.9-7.2)	3.5 (2.8-10.2)	2.0 (1.0-4.0)	

Note. Each cell contains the percentage and 95% confidence interval. Significance testing compared NSCAW samples to IL-CWB samples at Bonferroni-adjusted $\alpha = .00625$ and IL-CWB Round 2 to IL-CWB Round 3 at $\alpha = .05$. No comparisons were statistically significant.

^a Illinois specialized foster care and traditional foster care were collapsed into one category for significance test.

Table 3
 Comparison of Illinois and National Estimates on Percentage of Youths in Foster Care in
 Borderline Clinical and Clinical Range on Standardized Mental Health Measures

Measure	Age Group	IL-CW/B Round 2 Full Sample (N ≤ 201)	IL-CW/B Round 3 Full Sample (N ≤ 229)	NSCAW, Wave 3, One Year in Foster Care Sample, Children in Out-of-Home Care (N ≤ 215)	NSCAW, Wave 4, One Year in Foster Care Sample, Children in Out-of-Home Care (N ≤ 198)	NSCAW, Wave 3, CPS Sample, Children in Out-of-Home Care (N ≤ 544)	NSCAW, Wave 4, CPS Sample, Children in Out-of-Home Care (N ≤ 498)
Child Behavior Checklist	7-15 ^a	46.5 (39.6-53.4)	55.9 (49.4-62.2)	52.3 (42.1-62.2)	47.0 (40.2-53.8)	56.8 (46.5-66.5)	45.3 (32.2-59.1)
Youth Self-Report	11-15	33.0 (24.7-42.4)	30.8 (23.1-39.7)	37.2 (25.4-50.8)	28.5 (20.1-38.7)	32.3 (22.7-43.7)	31.4 (20.6-44.7)
Children's Depression Inventory	7-15	7.0 (3.9-12.2)	7.2 (4.2-12.3)	6.7 (3.0-14.3)	11.5 (5.5-22.3)	5.7 (3.2-10.2)	4.1 (1.7-9.4)
Trauma Symptoms Checklist for Children, Post-Traumatic Stress Subscale	8-15	5.8 (2.9-11.1)	5.1 (2.6-9.9)	11.0 (6.2-18.8)	7.2 (3.2-15.0)	9.4 (5.4-15.9)	15.9 (8.4-27.9)

Table 4
Use of Mental Health Services in Illinois and National Samples

	A IL-CWB Round 2 (N ≤ 256)	B IL-CWB Round 3 (N ≤ 318)	C NSCAW Wave 3, One Year in Foster Care Sample, Children in Out- of-Home Care (N ≤ 354)	D NSCAW Wave 4, One Year in Foster Care Sample, Children in Out- of-Home Care (N ≤ 262)	E NSCAW Wave 3, CPS Sample, Children in Out- of-Home Care (N ≤ 903)	F NSCAW Wave 4, CPS Sample, Children in Out- of-Home Care (N ≤ 805)	Columns That Are Significantly Different
Psychiatric hospital	10.8 (7.7–15.0)	16.0 (12.3–20.6)	13.4 (9.0–19.4)	15.3 (10.8–21.2)	9.9 (6.6–14.6)	13.8 (9.6–19.6)	
Hospital medical inpatient unit	4.2 (2.4–7.2)	9.5 (6.7–13.3)	5.5 (2.8–10.5)	6.1 (3.0–12.0)	5.0 (2.5–9.7)	14.5 (7.5–26.2)	B > A
Residential treatment center	6.6 (4.3–10.2)	12.1 (8.9–16.3)	35.6 (24.7–48.2)	36.9 (25.4–50.2)	23.1 (16.3–31.8)	33.8 (23.6–45.6)	C, D, E, F > A C, D, F > B B > A
Day treatment	3.9 (1.9–7.6)	5.9 (3.4–10.0)	21.4 (14.0–31.3)	15.5 (9.9–23.3)	9.6 (5.8–15.3)	13.6 (8.6–20.5)	C, D, F > A C > B
Mental health or community mental health center	6.2 (3.9–9.7)	9.2 (6.4–13.1)	24.7 (18.3–32.3)	31.3 (23.9–39.8)	19.2 (14.6–25.0)	23.8 (17.9–30.9)	C, D, E, F > A, B
In-home counseling or crisis services	17.4 (13.3–22.3)	22.2 (17.9–27.3)	30.0 (23.5–37.4)	33.0 (24.3–43.2)	21.0 (15.8–27.4)	30.2 (22.3–39.4)	C, D > A
Hospital emergency room	3.1 (1.6–5.8)	5.2 (3.2–8.3)	6.7 (3.3–13.2)	8.4 (4.4–15.3)	6.2 (3.6–10.4)	9.4 (5.6–15.2)	
Emergency shelter	4.5 (2.4–8.5)	3.3 (1.6–6.9)	8.3 (5.4–12.5)	8.8 (5.3–14.2)	11.1 (6.6–18.1)	12.5 (7.3–20.4)	
Seen a family doctor or other medical doctor	9.9 (6.9–14.1)	11.6 (8.5–15.7)	26.4 (20.6–33.2)	30.4 (23.1–33.8)	29.1 (22.2–37.1)	33.6 (26.0–42.2)	C, D, E, F > A, B
Seen a school guidance counselor, school psychologist, or school social worker	35.4 (29.1–42.3)	39.7 (33.4–46.5)	49.0 (39.7–58.4)	49.3 (42.9–55.8)	52.7 (43.9–61.2)	55.0 (45.9–63.8)	D, E, F > A E, F > B
Any specialty mental health service	18.6 (14.5–23.5)	23.7 (19.4–28.8)	38.4 (31.9–45.4)	44.1 (35.2–53.5)	25.5 (20.5–31.3)	38.4 (30.6–46.9)	C, D, F > A, B
Any mental health service	38.9 (33.2–44.8)	45.6 (40.2–51.1)	59.3 (53.3–65.0)	65.3 (56.1–73.4)	57.8 (51.4–63.9)	65.5 (57.7–72.6)	C, D, E, F > A, B

outpatient drug or alcohol clinic were used by less than 5% of children in every sample and so were not listed. Table 4 also presents the rates for receiving any specialty mental health service and for receiving any of the specific mental health services we measured (including inpatient detoxification unit and outpatient drug or alcohol clinic). Across samples, sizable proportions of children in foster care used mental health services. The proportions using specialty mental health services were smaller but still substantial. By far the most frequent specific service, used by more than 35% of children across samples, was a school-based service, which includes visits with a school guidance counselor, psychologist, or social worker. Use of in-home counseling or crisis services was relatively common in all samples, ranging from 17.4% to 33.0% across samples.

Perhaps what is most striking are the differences between the mental health services for Illinois children in foster care (represented by the IL-CWB samples) and children nationally in foster care (represented by NSCAW). There was a consistent pattern in which children in the NSCAW samples were significantly more likely to receive a mental health service than children in the Illinois samples. To be exact, two or more NSCAW samples had significantly higher percentages than one or both Illinois samples on seven service variables (residential treatment, mental health or community mental health center, in-home counseling or crisis services, seeing a family or medical doctor, receiving school-based services, any specialty mental health services, and any mental health services). In no comparison did children in an Illinois sample receive a mental health service at a higher rate than children in the NSCAW sample. The differences on specific services were highest for residential treatment (the difference between NSCAW and Illinois rates ranging from +11% to +30%), mental health or community mental health services (difference ranging from +10% to +25%), and seeing a family or other doctor for mental health care (difference ranging from +15% to +24%).

The Illinois–national differences were also sizable when we considered whether children received any specialty mental health services we measured or any mental health service we measured. Illinois children in foster care received a specialty mental health service in 18.6% and 23.7% of cases, compared to 25.5% to 44.1% in the NSCAW samples. In Rounds 2 and 3 of the Illinois Child Well-Being study, 38.9% and 45.6% of children in foster care reportedly received a mental health service in their lifetime, compared to 57.8% to 65.5% in the NSCAW samples. Three of the four Illinois–national differences on any specialty mental health service and all of the Illinois–national differences on any mental health service were statistically significant at the Bonferroni-adjusted α .

To examine whether differences between IL-CWB and NSCAW on demographic and out-of-home characteristics might be driving differences in service receipt, we conducted analyses for key subgroups (results available from the authors). Parallel differences in mental health services receipt remained when we looked separately at Black and White children, at children in three different age groups (0–5, 6–13, and 14 and older), and at children with three different lengths of care (less than 2 years, 2–5 years, more than 5 years). Thus, it appears that differences in mental health service receipt between the IL-CWB and NSCAW samples are not just a function of differences in demographic or foster care characteristics. Note that we did not break the analysis down by type of placement, because this variable was confounded with the service variables (residential care is a type of treatment service).

As noted earlier, the question about whether children received private professional help from a psychiatrist, psychologist, social worker, or psychiatric nurse was omitted from IL-CWB, but results are available on it for the four NSCAW samples. In the NSCAW One Year in Foster Care samples, 56.2% in Wave 3 and 60.5% in Wave 4 received private professional

help. Among those in the NSCAW CPS sample who were in foster care in Wave 3, 44.3% received private professional help; for those in this sample who were in foster care in Wave 4, 52.3% received such help. The NSCAW CPS sample included 77 Illinois children in foster care in Wave 3 and 61 Illinois children in foster care in Wave 4. Interestingly, the Illinois children in NSCAW had comparable rates of private professional help compared to children in the entire NSCAW sample, though the 95% confidence intervals are wide and the estimates therefore inexact because of the small numbers of Illinois children in NSCAW. Of Illinois children in foster care in NSCAW Wave 3, 56.0% received private professional help (CI = 32.6% to 77.1%), as did 43.6% of Illinois children in foster care in NSCAW Wave 4 (CI = 25.0% to 64.2%).

Service delivery in relation to need

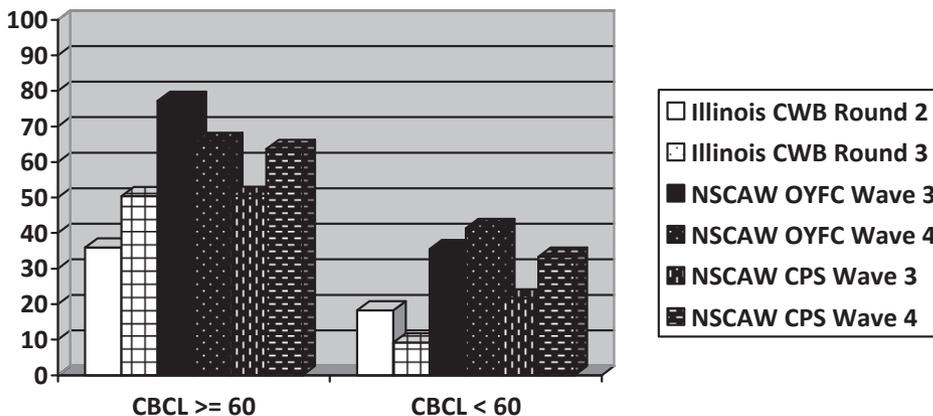
Further analysis was conducted across the six samples to examine mental health service delivery in relation to need. Specifically, we calculated the proportion of those children identified in the borderline clinical to clinical range on the Child Behavior Checklist who received a specialty mental health service. For comparison, we also examined the proportions of children not scoring in this range on the CBCL who nevertheless received a specialty mental health service. The results of this analysis

are presented in Figure 1. Once again we see that the Illinois children lag far behind the children in the national sample as to participation in mental health care: The percentage of Illinois children in this range on the CBCL who received specialty mental health services was 35.9% in 2003 and 50.4% in 2005, while in the national samples the percentages ranged from 50.5% to 77.2%. A sizable difference between children in foster care nationally and in Illinois on delivery of specialty mental health services remained when we considered both children in the borderline clinical to clinical range and children not in this range (though we did not test this for statistical significance because of the diminished sample sizes with this disaggregation). Interestingly, meaningful proportions of children who did not score in the borderline clinical to clinical range on the CBCL received specialty mental health services: 41.4% in the NSCAW OYFC Wave 3 sample, for example.

Discussion

Overall, these results suggest that many children in foster care in Illinois and nationally need mental health services, and although many receive them in mental health and other service settings, there are still very large percentages who do not. Moreover, in comparison with the national sample, Illinois has an poor record in ensuring that its children

Figure 1
Percentage of Children Receiving a Specialized Mental Health Service by Caregiver Identification of a Child's Mental Health Problem



under care receive needed mental health services, in comparison with the national sample. The percentages of children in the borderline clinical to clinical range on the CBCL who received services were generally substantially higher than in Burns et al.'s (2004) NSCAW study, which examined a general CPS sample in which few children were in foster care, suggesting that the odds of receiving mental health services for children in foster care are much greater than for children with more limited child protective services involvement. However, meaningful proportions of children in need, as measured by the CBCL, did not receive the mental health services measured here (though the exclusion of private professional services from our analysis limits us from estimating unmet need overall).

Probably the most meaningful finding here is that a higher percentage of children in foster care nationally than children in Illinois received mental health services in mental health and other service settings. The Illinois–national difference persisted when we considered specialty mental health services for those in need as measured by the CBCL and for those not in need on this measure. An unanswered question that will be addressed in future Illinois research (see following sections) is whether there is a similar gap between Illinois and the rest of the country in providing private professional help to children in foster care.

Findings on mental health need

In this study, the percentages of children in foster care with borderline clinical to clinical mental health problems on the CBCL, both in Illinois (46.5% and 55.9%) and nationally (45.3% to 56.4%), were similar to rates in other studies of children in foster care that used the CBCL (see Heflinger et al., 2000). We found three studies that reported rates between 30% and 40% (Dubowitz, Zuravin, Starr, Feigelman, & Harrington, 1993; Heflinger et al., 2000; Urquiza, Wirtz, Peterson, & Singer, 1994), three with rates between 40% and 50% (Garland et al., 1996; Hellinckx & Grietens, 1994; McIntyre & Keesler, 1986), and two with rates exceeding 50% (Clausen et al., 1998;

Tarren-Sweeney & Hazell, 2006). The rates found here thus add to the already substantial evidence that a large proportion of children in foster care need mental health services.

The present study is the only one we know of that reports the percentage of foster youth currently in foster care who scored in the borderline clinical to clinical range on a self-report mental health measure. Pilowsky and Wu (2006) found that adolescents with a history of foster care reported a significantly wider range of psychiatric symptoms than adolescents without a history of foster care. The proportion of youth who self-reported mental health problems in the borderline clinical or clinical range was substantial: 28% or more in every sample. It is not surprising that the youth self-reported rates do not match caregiver-reported rates; Achenbach, McConaughy, and Howell (1987) found a mean correlation of only 0.25 between child and adult ratings in a meta-analysis of 119 studies (see also Sternberg, Lamb, Guterman, & Abbott, 2006). As in Sternberg et al.'s (2006) study of victimized children in family service agencies, caregivers were more likely to report child problems than children themselves. Perhaps this is because youth may perceive risks in admitting to themselves and/or others problems that are evident to their caregivers.

Difference in service delivery between the Illinois and other samples

More than one-third of Illinois children in foster care had received a mental health service in the settings measured, which is substantially higher than the estimated 6% to 7.5% percentage of children in the general population receiving mental health services annually (Kataoka, Zhang, & Wells, 2002). However, what is most striking in the results was the shortfall in mental health services in these settings for children in foster care in Illinois compared to children nationally. The biggest gaps were in community mental health and other mental health center services, residential treatment, and receipt of mental health services from a family or other doctor. The reduced percentage in residential treatment in Illinois compared to the nation

might be expected given the several Illinois initiatives to return wards from residential treatment and provide alternatives obviating the need for residential treatment (see the companion paper), but one would then have expected this to be offset by increased services in the community, which we did not find. The gap in overall service delivery lessened somewhat by 2005, although increases between Illinois Round 2 to Round 3 were statistically significant only for hospital medical inpatient unit and residential treatment center. The gap remained when we controlled for differences in the samples by analyzing the results separately by race, by age group, and by length of foster care. Perhaps the modest increases from 2003 to 2005 represented the early stage of a trend toward increased delivery of mental health services, but there are too few time points to tell.

Notably, the gap found here for children in foster care parallels a gap between Illinois and the rest of the country for public mental health services in general. In a report requested by the Illinois General Assembly, Powers, Powers, and Merriman (2006) found that Illinois ranked 35th in spending on mental health services when funding is considered relative to personal income, and that Illinois residents received mental health services at almost half the rate of the rest of the country.

NSCAW is a good comparison to IL-CWB because the same questions were asked and the methods were very similar. It is difficult, however, to compare the Illinois results to those from other previous studies, because studies differ in (a) child characteristics of the sample (e.g., age range); (b) time period of potential service delivery; (c) how service questions were phrased; (d) which mental health services were counted; and (e) whether the sample consisted of children in foster care at a given time point, children entering foster care over a certain time period, or children with a history of foster care. Results are quite variable across studies, but suggest that regional differences exist, which is pertinent to our findings in this paper. Zima et al. (Zima, Bussing, Yang, & Belin, 2000) found fairly low 12-month rates of use of several mental health

services among children in foster care in Los Angeles between 1996 and 1998. Zima et al. found that 28% of these children had a private office therapist, 21% a school counselor, 10% an in-home therapist/family preservation intervention, and 7% a community mental health center. Only 4% received residential treatment, and even smaller percentages received psychiatric hospitalization and day treatment. Farmer et al.'s (2001) study of a sample of children who had been in foster care in the Great Smoky Mountain region of North Carolina showed much higher rates of service use. Measuring service over a child's life, 80.85% of children who had been in foster care received mental health services in an educational setting and 47.64% received such services from a medical professional.

Limitations

This study has limitations that should temper interpretation of the results. The biggest limitation is the omission of a question in the Illinois interviews regarding the delivery of mental health services by private practitioners. The fact that 44.3% to 60.5% of children in the NSCAW samples received private professional help suggests that this was a major omission. For this reason, we cannot produce a reliable estimate of overall mental health service delivery for Illinois children in foster care nor fully estimate unmet need. Such gaps in research are inevitable when one uses a data set developed for other purposes. Nevertheless, there is an abundance of information on mental health services in public mental health and other service settings, settings which every state must provide to complete a continuum of care and supplement private professional services, and thus there is still much to learn here to benefit children (see "Implications" section following). Research on a new NSCAW cohort began in 2008, and this new cohort includes a supplemental set of Illinois cases that will allow comparisons between Illinois and the rest of the country within NSCAW. The new cohort will allow assessment of all children's mental health services for children involved with DCFS in Illinois, including private professional services.

There are limitations associated with the use of foster caregivers as informants. First, foster caregivers may not necessarily know the child well enough to provide accurate reports of children's mental health problem, particularly if the child's time in their care has been limited. This might in part explain the finding that some children received mental health services despite having CBCL scores below the borderline clinical range. It seems likely that many of these children may have been diagnosed accurately by mental health professionals even when foster caregivers were not fully aware of their problems; some of these children may have had problems to which the CBCL was not sensitive. Foster caregivers may lack information about the mental health services children received before they arrived at the foster home. In addition, though the validity and reliability of the Child and Adolescent Services Assessment overall was good in previous research (e.g., in Ascher et al., 1996), it may to some degree underestimate service delivery, given Ascher et al.'s finding that 26% of outpatient service use recorded in a clinic's management information system was not reported on the CASA by parents using that clinic. Ascher et al. also found that test-retest reliability on the CASA was reasonably good on lifetime use of psychiatric hospitalization but moderate for outpatient and school-based services. Note, however, that any limitations of the services measure should apply about equally to the Illinois and NSCAW samples and thus would not explain the disparity in service delivery between the two.

The exclusion of certain children and youth from analyses is also a limitation. Children and youth in detention and pregnant girls were excluded from the IL-CWB because of ethical concerns, yet both of these groups are likely to have significant mental health needs, and the IL-CWB results may therefore slightly underestimate mental health need. The exclusion of children aged 0–5 from the analysis of mental health need also skews the findings toward older children, yet children at this younger age, who make up 23.3% to 41.0% of the samples here, are also at significant

risk for mental health problems (American Academy of Pediatrics, 2002; U.S. Department of Health and Human Services, 2005).

Figure 1 shows that fairly large percentages of children in the borderline clinical to clinical range on the CBCL were not receiving the services measured here, but it is difficult to estimate the degree of unmet need in Illinois because the IL-CWB lacks data on private professional help. However, given that this paper shows a gap between Illinois and the rest of the nation on mental health services for foster children in public and other service settings, Illinois would need to have a substantially higher rate of private mental health service provision not to exceed the national level of unmet need. This seems unlikely, given the fragmentary data on Illinois from NSCAW and the overall shortage of children's mental health services in Illinois documented by the Illinois Children's Mental Health Task Force (2003) and the MidAmerica Institute on Poverty of the Heartland Alliance (2007) (see the companion paper). Even if the rate of private services in Illinois exceeded that of the nation and the level of unmet need matched the rest of the country, it would still leave many children in Illinois unserved, as the NSCAW samples show notable percentages of children with need who are not receiving services.

This study only measured whether or not a service was delivered. It could not measure whether the service was appropriate; delivered in an adequate dose; used empirically based, effective interventions; or was coordinated with other interventions taking place in children's lives. It should also be noted that, according to Rosenfeld et al. (1997), not all children in foster care with significant mental health problems are ready for a mental health service. Having a stable, safe, and nurturing home is more important than mental health services and may be a necessary precondition for effective treatment. Rosenfeld suggest that mental health services are sometimes unwisely provided to children in foster care with the idea that they will compensate for an inadequate caretaking environment.

Despite this limitation, the gap between Illinois and the rest of the country and the degree of apparent unmet need calls for further investigation and reconsideration of current practice.

Implications

The percentages of children in foster care in Illinois and nationally with mental health problems underscore the importance of increasing access to mental health services for these youths. Both in Illinois and nationally, the percentage of children in need in foster care who receive services exceeds the percentage of children in need generally who receive them, estimated at 20% (Kataoka, Zhang, & Wells, 2002), confirming previous NSCAW research suggesting that child protection agencies act as a gateway to services (Leslie et al., 2005). But the degree of unmet need suggests that even more should be done to provide services, both in Illinois and nationally. Maltreatment can have long-lasting effects (see, e.g., Gillespie & Nemeroff, 2005; Turner, Finkelhor, & Ormrod, 2006), but those effects can also respond to treatment (see, e.g., Cohen, Mannarino, & Knudsen, 2005; James & Mennen, 2001; Kolko, 1996). Society owes services to these children all the more because it is acting in loco parentis.

The shortfall in Illinois compared to the rest of the nation suggests even greater urgency for action in the state. A full understanding of the difference between Illinois and the rest of the country would require an analysis comparing Illinois to other states on such variables as adequacy of assessment and referral, availability of service providers, and provision of funds to support treatment. Nevertheless, the companion paper in this issue by Cross discusses many of the obstacles to providing mental health services to children in Illinois. Historically, Illinois children in foster care have not received adequate assessments, and sometimes assessments that have identified mental health problems have not influenced service planning. The Illinois DCFS is able to fund mental health treatment for many children in need in foster care but not all, and programming has thus tended to focus on the youth at highest risk. All Illinois children in foster care are eligible for Medicaid, but Medicaid money is limited, the process

for filing Medicaid claims is cumbersome and uncertain, and Medicaid payments are meager compared with those of other insurers and are often delayed. A restricted range of mental health professionals is currently being certified for Medicaid in the state, which contributes to an overall shortage of children's mental health providers, particularly those who will serve children. None of these obstacles is unique to Illinois, but the size and number of such obstacles may contribute to a shortfall in the state.

However, the information on Illinois presented in this paper represents a snapshot of a moving picture. The companion paper documents several initiatives taken by the Illinois DCFS and other state organizations and agencies since 2005 to improve mental health services for children in foster care. DCFS innovations since 2005 include (a) a new Integrated Assessment Program that pairs clinicians with caseworkers to augment mental health assessment of children entering foster care; (b) a new Child and Youth Investment Team (CAYIT) program designed to assess children's mental health and other service needs when there are multiple placement or an effort to move children into more restrictive care; and (c) a statewide searchable database to facilitate matching children in need in foster care with the best available mental health clinicians. Some initial steps have been taken to increase the availability of Medicaid funds for children's mental health care and broaden the range of available Medicaid providers, although accessing mental health services for foster children through Medicaid and finding Medicaid-certified mental health providers remain very challenging. Illinois will need to look at data from 2006 and beyond to see if mental health service delivery for children in foster care has improved. The harm that emotional and behavioral problems do to these children's well-being and the opportunity to promote their development by taking care of their mental health justifies unwavering commitment and a sustained effort to improve mental health services.

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