

Impact of Kinship Care on Behavioral Well-being for Children in Out-of-Home Care

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Objective: To examine the influence of kinship care on behavioral problems after 18 and 36 months in out-of-home care. Growth in placement of children with kin has occurred despite conflicting evidence regarding its benefits compared with foster care.

Design: Prospective cohort study.

Setting: National Survey of Child and Adolescent Well-Being, October 1999 to March 2004.

Participants: One thousand three hundred nine children entering out-of-home care following a maltreatment report.

Main Exposure: Kinship vs general foster care.

Main Outcome Measures: Predicted probabilities of behavioral problems derived from Child Behavior Checklist scores.

Results: Fifty percent of children started in kinship care and 17% of children who started in foster care later moved

to kinship care. Children in kinship care were at lower risk at baseline and less likely to have unstable placements than children in foster care. Controlling for a child's baseline risk, placement stability, and attempted reunification to birth family, the estimate of behavioral problems at 36 months was 32% (95% confidence interval, 25%-38%) if children in the cohort were assigned to early kinship care and 46% (95% confidence interval, 41%-52%) if children were assigned to foster care only ($P=.003$). Children who moved to kinship care after a significant time in foster care were more likely to have behavioral problems than children in kinship care from the outset.

Conclusions: Children placed into kinship care had fewer behavioral problems 3 years after placement than children who were placed into foster care. This finding supports efforts to maximize placement of children with willing and available kin when they enter out-of-home care.

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THE LAST 2 DECADES HAVE brought significant growth in the number of children being raised by relatives in kinship care across the United States. According to the 2005 census, more than 2.5 million children were living with a relative caregiver other than a birth parent, representing a 55% increase from census reports in 1990.¹ Although there are many circumstances in which a child may come to reside with kin, substantiated reports of child abuse or neglect might be the most common reason. In 2002, an estimated 542 000 children were living with kin following the involvement of a child welfare agency, exceeding the number of children living in non-relative foster care arrangements.² The growth in kinship care is the result of a sustained effort to improve permanency for children since the Adoption and Safe

Families Act of 1997.³ Since then, child welfare agencies have increased efforts to place children with kin despite scant and conflicting evidence of improved outcomes for children in kinship care compared with children in general foster care.

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A review of the literature delineates conflicting evidence regarding the benefits and trade-offs of raising children with kin. A large body of research acknowledges the evidence that children in kinship care are less likely to change placements, benefiting from increased placement stability, compared with children in general foster care.⁴⁻⁷ Placement stability is a common goal of child welfare systems and has consistently been shown to result in better outcomes for all

children living in out-of-home care.⁸⁻¹⁰ Children in kinship care are also more likely to remain in their same neighborhood, be placed with siblings, and have consistent contact with their birth parents than children in foster care, all of which might contribute to less disruptive transitions into out-of-home care.^{8,11-15}

Other evidence raises concerns of safety for children in kinship arrangements given the greater risk of continued and often unsupervised access to abusive parents and a greater likelihood that the child's new relative caregivers share similar problems as offending parents.^{15,16} Children in kinship care also have higher rates of behavioral and educational problems than other children living in poverty who are not involved with the child welfare system.^{11,17,18} Long-term outcome studies have also failed to demonstrate a significant difference between children raised by kin and foster parents.¹⁸⁻²⁰ And finally, children in kinship care are known to face additional hardships because their caregivers tend to be single, older, of poorer health, and of lower economic status; have more mental health problems; receive less assistance and services from child welfare agencies; and have fewer supportive resources than foster parents.^{2,18,21-24}

Given this conflicting evidence, there is a need to better understand the experiences and outcomes of children in kinship care compared with general foster care. The recent National Survey of Child and Adolescent Well-Being (NSCAW), mandated by Congress in 1996 and conducted for the Department of Health and Human Services, has provided a unique opportunity to capture the experiences and early outcomes of a nationally representative cohort of children placed in out-of-home care.²⁵ We therefore sought to estimate the association between placement into kinship care and the likelihood of behavioral problems after 18 and 36 months in out-of-home care.

METHODS

NSCAW was a complex survey that sought to recruit a nationally representative sample of American children following substantiated maltreatment reports to child protective services from October 1999 to December 2000. Interviews were conducted with children, caregivers, birth parents, child welfare workers, and teachers at baseline, 18 months, and 36 months after enrollment, with the completion of the 36-month follow-up occurring by March 2004. Of the original 5501 children enrolled in NSCAW, we restricted our sample to those children residing at home at the time of the initial investigation for maltreatment and who entered out-of-home care between the date of investigation and baseline data collection. We excluded subjects who spent more than 9 of the first 18 months in restrictive settings like group homes or residential treatment facilities because we were principally interested in the movement of children across the less restrictive settings of kinship and foster care.²⁶ The response rate at baseline for the NSCAW sample was 61% (5501 of 8961; weighted, 64%). However, our target population of children in out-of-home care was easier to recruit and therefore had a response rate approaching 88%.²⁷

The main exposures of interest were the placement setting, placement stability, and reunification status of the children. For placement setting, we divided children into 3 categories: (1)

early kinship care, if they had a placement in a kin home within 1 month of entry into out-of-home care; (2) if their placement with kin occurred beyond the first month of out-of-home care; and (3) general foster care, if they had no subsequent placements into kinship care. For placement stability over the first 18 and 36 months in out-of-home care, we followed previous work^{28,29} and divided children into 3 distinct categories of stability: (1) early stable, in which a sustained placement or reunification was achieved within 45 days of entry into out-of-home care and lasted through the end of the study period (18 or 36 months); (2) late stable, in which a sustained placement or reunification was achieved after 45 days, with a duration of at least half the study period; and (3) unstable, in which no long-lasting placement or reunification was achieved during the study period. A separate reunification variable was created to identify those children for whom a reunification to the birth family was attempted.

The primary outcome for this study was the child's behavioral well-being at 18 and 36 months, as measured by the Child Behavior Checklist (CBCL).³⁰ Scores for each item from this caregiver-reported survey are summed into a total behavioral problems scale, which is normalized by age to identify categories of normal, borderline (>83rd percentile), and clinical (>90th percentile) range behaviors. For the purposes of our study, we dichotomized the outcome variable at the 83rd percentile to denote normal vs abnormal behavior scores, a practice which has been used commonly in prior studies with this instrument.^{21,28,31-35}

To encode a child's baseline risk, the major source of confounding in this study, we built on prior work using ordinal regression models to estimate the future risk of placement stability using baseline attributes of the children and their families.²⁹ Child-level factors for these models included sex, age (<2 years, 2-10 years, >10 years), race (white, black, or other), history of chronic health problems (yes/no), caregiver-reported mental health service use (yes/no), use of prescription medications (yes/no), and the child's behavioral well-being at baseline. The behavioral well-being variable was a composite variable using standardized CBCL scores for children 2 years and older and standardized temperament scores for younger children that were used in the National Longitudinal Survey of Youth.^{29,36} Birth parent characteristics included histories of drug or alcohol abuse (yes/no), mental health problems (yes/no), and domestic violence or arrests (yes/no). Child maltreatment variables included the type of maltreatment (physical abuse, sexual abuse, neglect/abandonment, other) and prior reporting/foster care history (yes/no).

Postestimation probabilities of placement stability from the ordinal logistic regression models were reduced into 3 tertiles to represent low-, medium-, or high-risk groups. These tertiles were then added to logistic regression models for the outcome of any behavioral problem at 18 and 36 months. The other variables in these analyses were the child's placement setting, placement stability, and reunification status over the interval (either 18 or 36 months).

For the 18-month model, 392 children were younger than 2 years and just missed the cutoff for the CBCL. We used multiple imputation, with 5 imputed values per missing observation, to estimate the missing 18-month CBCL data³⁷ using 36-month CBCL scores, the caregiver's report of mental health service use by children between baseline and 18 months, and all other independent variables that were ultimately included in the final models. A similar approach permitted the imputation of CBCL scores for 159 children at 36 months whose CBCL scores were unmeasured.³⁸

After fitting the final models, we estimated predictive margins for the probability of behavior problems had all children been assigned to kinship or general foster care.³⁹ These post-

Table 1. Characteristics of Children Entering Out-of-Home Care Within NSCAW^{25, a}

Characteristic	Initial Placement Setting, No. (%)		P Value
	Foster Care (50.3%) (n=710)	Kinship Care (49.7%) (n=599)	
Demographics			
Child's age, y			
<2	29.8 (304)	26.0 (230)	.12
2-10	45.7 (260)	54.6 (269)	
>10	24.5 (145)	19.4 (100)	
Child's sex			
F	52.0 (354)	55.9 (333)	.42
M	48.0 (356)	44.2 (266)	
Child's race			
White	52.1 (318)	47.9 (259)	.37
Black	35.0 (285)	41.2 (268)	
Other	12.8 (107)	10.9 (72)	
Hispanic ethnicity	13.7 (103)	12.9 (108)	.76
Below poverty level ^b	23.0 (129)	44.0 (228)	<.001
Child baseline health			
Abnormal behavior ^c	42.1 (249)	32.8 (179)	.04
Health problems	46.5 (354)	42.1 (262)	.34
Prescription medication use	3.2 (19)	0.6 (7)	.005
Mental health service use	35.4 (228)	24.3 (137)	.003
Maltreatment history			
Type of abuse reported			
Neglect/abandonment	56.0 (392)	58.6 (314)	.90
Physical abuse	18.6 (112)	18.6 (106)	
Sexual abuse	9.5 (73)	8.8 (50)	
Other	15.8 (72)	13.9 (76)	
Prior child protective services involvement	69.2 (478)	61.9 (358)	.06
Birth parent characteristics			
Mental health problems	58.4 (414)	46.6 (290)	.006
Domestic violence or incarceration	50.7 (354)	52.6 (306)	.59
Substance abuse	45.3 (365)	47.9 (311)	.54
Behavioral outcomes			
Abnormal 18-mo CBCL ³⁰ scores ^d	47.1 (214)	31.4 (169)	.001
Abnormal 36-mo CBCL scores ^d	48.0 (250)	29.1 (173)	<.001

Abbreviations: CBCL, Child Behavior Checklist; NSCAW, National Survey of Child and Adolescent Well-being.

^a Percentages are based on survey weights (n=sample size, unweighted).

^b For child's initial placement setting in out-of-home care. The poverty level is defined as household income less than \$20 000/y for a family of 5 (median household size in NSCAW out-of-home sample=5) and the weighted average poverty threshold for a household of 5 in 1999 was \$20 127.⁴³

^c Defined as more than 1 SD from the mean using standardized infant temperament score if child is younger than 2 years or the CBCL score if the child is 2 years or older.

^d Numbers and percentages presented in the table are based on nonimputed data. Estimates based on imputed data are as follows: abnormal 18-month CBCL scores: foster care (44.7%) and kinship care (29.8%); abnormal 36-month CBCL scores: foster care (46.4%) and kinship care (29.0%).

estimation methods allowed for standardized comparisons of outcomes across different classifications of children. Estimates report the probability of behavioral problems if all children in the sample shared the same experience while averaging over other covariates in the model. Reporting adjusted probabilities of behavioral outcomes was preferred to reporting risk ratios because the prevalence of behavioral problems was high in the population.

All variance estimates accounted for the stratification, clustering, and sampling weights in NSCAW. The extreme variability in weights (range, 1-6908) led us to mirror prior analyses and trim the design weights higher than the 95th percentile.^{29,40} Separate analyses revealed that trimming weights in this manner reduced the variance of estimates without significantly affecting point estimates. In addition, variance estimates reflect the variability of using imputed data. Variances for the predictive margins within the imputed data set were estimated using bootstrap resampling at the primary sampling unit level (999 samples). Within- and among-imputation components of variance were then combined to form the final confidence intervals (CIs) for these marginally standardized probabilities.⁴¹ Sensitivity analyses (not shown) comparing multiple imputation vs excluding the younger children did not appreciably change our results nor did constructing a model with adjustment for all covariates simultaneously or adding back into the model the covariates that were used initially to estimate the predicted probability of placement stability.

Analyses were conducted using Stata.⁴² Permission to use the NSCAW data was granted by the National Data Archive for Child Abuse and Neglect. Approval for the study was obtained from the institutional review board at the Children's Hospital of Philadelphia.

RESULTS

Among the NSCAW cohort, 1404 children entered out-of-home care between their maltreatment report and the subsequent baseline data collection. Of these children, 1309 met the inclusion and exclusion criteria of our study (93% of potential eligible children). At baseline, 28% of the children were younger than 2 years, 50% were 2 to 10 years, and 22% were older than 10 years old. Most children (57%) were reported because of neglect or abandonment (**Table 1**).

Our sample was evenly divided between children who entered kinship care at their initial placement (50%) and those who entered general foster care (50%). Among children who initially entered general foster care, 17% later moved to kinship care (late kinship care) after having spent at least 1 month in foster care. Thirty-five percent of children had an attempted reunification with birth families, with a greater proportion of attempts made for children in general foster care than kinship care (43% vs 28%). Children initially placed into general foster care were also more likely to have had an abnormal baseline behavior score, taken medications in the 12 months prior to the start of the study, used mental health services at the time of baseline data collection, and had a caregiver with serious mental health problems as compared with children who initially entered kinship care (**Table 1**).

After further delineating the onset of kinship care as early or late, children in early kinship care were more likely to be at lower risk for placement instability than both children in late kinship care and general foster care only (**Table 2**). Children in early kinship care were also more likely to achieve early stability; by 36 months, 58% of children in early kinship care were classified as early stable, compared with only 32% of children in general foster care. Although by definition unable to achieve early stability, 58% of late kinship care children still achieved

Table 2. Baseline Risk for Placement Instability and Observed Placement Stability Over the First 36 Months of Out-of-Home Placement by Placement Setting^a

Characteristic	Placement Setting, No. (%)			P Value
	General Foster Care Only (n=584)	Late Kinship Care (n=126)	Early Kinship Care (n=599)	
Risk for instability ^b				
Low	31.5 (155)	34.0 (39)	45.7 (240)	.01
Medium	32.7 (230)	34.9 (51)	31.8 (210)	
High	35.8 (190)	31.1 (36)	22.6 (147)	
Actual placement stability				
Early stable	32.1 (171)	3.9 (4)	57.5 (299)	<.001
Late stable	39.5 (236)	57.7 (76)	24.9 (174)	
Unstable	28.4 (137)	38.4 (46)	17.6 (126)	

Abbreviations: See Table 1.

^aPercentages are based on survey weights (n = sample size, unweighted).

^bRisk groups derived from a multivariate ordinal logistic regression model predicting log odds of placement instability using baseline attributes. Variables included in the model were baseline behavior score (temperament score if <2 years, CBCL³⁰ if 2 years or older), child's age, reported mental health service use, prescription medication use within 1 year prior to entry into NSCAW,²⁵ history of prior child protective services involvement, and birth parent with behavioral health problems.

Table 3. Adjusted Probabilities of Behavior Problems at 18 and 36 Months of Children Entering Out-of-Home Care in NSCAW^a

Variable	18 Months		36 Months	
	Probability (95% Confidence Interval)	P Value	Probability (95% Confidence Interval)	P Value
Placement setting				
General foster care only	0.44 (0.37-0.50)		0.46 (0.41-0.52)	
Late kinship care	0.30 (0.19-0.41)	.13	0.39 (0.34-0.43)	.003
Early kinship care	0.32 (0.25-0.39)	.02	0.32 (0.25-0.38)	.003
Actual placement stability				
Early stable	0.33 (0.26-0.40)		0.32 (0.25-0.39)	
Late stable	0.35 (0.23-0.46)	.95	0.38 (0.27-0.48)	.52
Unstable	0.43 (0.35-0.51)	.14	0.49 (0.39-0.60)	.007
Risk for instability ^b				
Low	0.25 (0.19-0.31)		0.33 (0.27-0.40)	
Medium	0.37 (0.32-0.42)	<.001	0.39 (0.35-0.43)	.04
High	0.51 (0.43-0.60)	<.001	0.45 (0.38-0.52)	.04
Reunification status				
No	0.31 (0.25-0.37)		0.37 (0.28-0.45)	
Yes	0.56 (0.36-0.76)	.11	0.43 (0.25-0.62)	.62

Abbreviations: See Table 1.

^aStandardized estimates of predictive margins derived from survey-weighted logistic regression. Each probability was derived under the assumption that all children in the cohort were assigned to that category, adjusting for all other factors in the model.

^bRisk groups derived from a multivariate ordinal logistic regression model predicting the likelihood of placement instability using baseline attributes. Variables included in the model were baseline behavior score (temperament score if <2 years, CBCL³⁰ if 2 years or older), child's age, reported mental health service use, prescription medication use within 1 year prior to entry into NSCAW,²⁵ history of prior child protective services involvement, and birth parent with behavioral health problems.

later stability, compared with 40% of children in general foster care only.

Controlling for placement stability, baseline risk, and reunification status at 18 and 36 months, children in early kinship care had a lower marginal probability of behavioral problems by 36 months (**Table 3**). The estimate of behavioral problems was 46% (95% CI, 41%-52%) if all children had been assigned to general foster care only, compared with 32% (95% CI, 25%-38%) if the children had been assigned to early kinship care. If kinship care had occurred late, by contrast, the estimated risk of behavioral problems was 39% (95% CI, 34%-43%). With regard to placement stability, the probability of behavioral problems was 49% (95% CI, 39%-60%) if children had an unstable placement his-

tory, compared with 32% (95% CI, 25%-39%) if children were conferred early stability. Finally, in a 2-dimensional analysis across all categories of placement stability, there was a lower expected probability of behavior problems if children had entered early kinship care vs general foster care (**Figure**); the risk of behavioral problems if children had entered late kinship care fell between these 2 groups.

COMMENT

Our study demonstrated a protective effect of kinship care on the early behavioral outcomes of a nationally representative cohort of children entering out-of-home care.

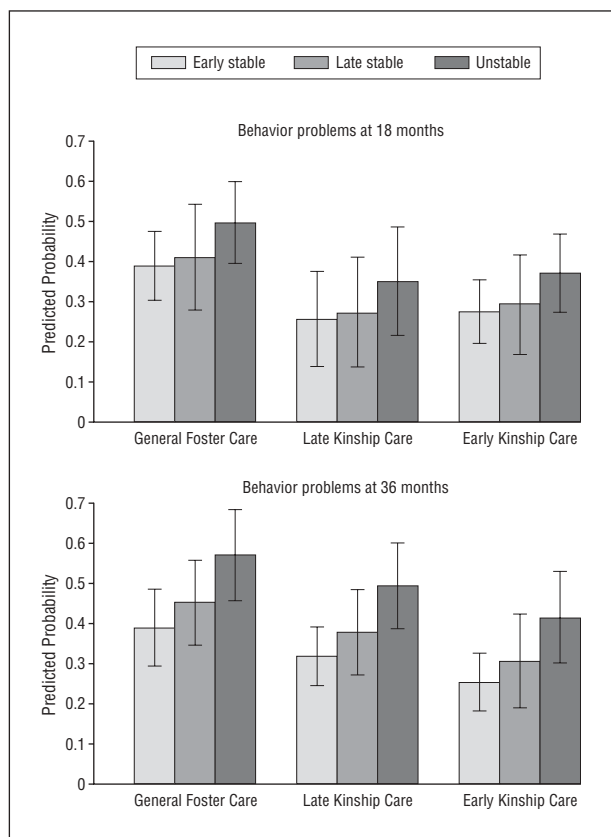


Figure. Standardized estimates of behavior problems at 18 and 36 months in out-of-home care stratified by a child's placement setting and placement stability. These data are marginally standardized using survey-weighted logistic regression, adjusting for the risk for instability and reunification status of the child. Probabilities presented with 95% confidence intervals.

Compared with children entering foster care, children entering kinship care had a lower estimated risk of behavioral problems, even after accounting for their lower baseline risk and increased placement stability. Even children who moved to kinship care after sustained periods of foster care showed some benefit. The magnitude of this association between placement setting and later behavioral problems should reassure a child welfare community that has increasingly moved children toward kinship placements in recent years.

While this study provides evidence to encourage the placement of children with willing and available kin, we urge caution in interpreting the findings for 3 reasons. First, NSCAW did not collect sufficient information about extended families to clarify whether children placed into foster care had acceptable and safe alternatives within their own families. While the late kinship care group demonstrated that at least some of these children had available kin, for others kinship care will likely remain an unrealistic option. For these children, our secondary finding that placement stability improves behavioral outcomes for all children affirms prior findings²⁹ and provides an appealing option for intervention to improve outcomes over time, regardless of placement into kinship care or general foster care. Second, reporter bias might have contributed to some of our findings. Prior studies have demonstrated that kin caregivers might be less likely to report behavioral problems among children in their care

than foster parents or teachers.^{44,45} Our analyses did, however, adjust for baseline behavioral assessments, and many of these assessments were provided by the same kin caregivers who later reported outcome data. Finally, the results are not the product of a randomized study and it remains possible that unobserved confounding might explain both the assignment of placement setting and differences in behavioral outcomes.

Beyond these limitations and the need for further research to confirm and elaborate on these findings are further concerns about generalizability because these data, although broad, cannot incorporate local variations and may not reach the entire universe of children in kinship care. The decision to place a child in kinship care often involves appraising the trade-offs of granting prompt access to kin, delaying access to permit time for certification, or, increasingly in recent years, moving children away from the system to temporary legal custody arrangements. Many of these latter circumstances, in which an open case to child welfare is quickly closed after the child is placed with a kin caregiver, involve caregivers who would have a difficult time achieving certification as a foster parent within the child welfare system, whether because of specific income or health criteria or simply scheduling compliance with the training necessary for certification. For these families, temporary legal custody arrangements have become an expedient alternative that might also shield them from continued scrutiny. Unfortunately, children in these more informal kinship arrangements would not have been easily identified within the NSCAW cohort. As such, their outcomes were likely unmeasured in this analysis and will require further study.

These generalizability concerns aside, it is still hard to overlook the magnitude of the protective effect observed for children in kinship care. At the same time, family members who provide kinship care (often to several siblings) are not without needs themselves, given health problems and poverty stemming from intergenerational cycles of maltreatment. Although children in kinship care fared better than children in foster care in this study, overall rates of behavioral problems in both groups exceed rates observed in other children who are raised in-home without involvement of the child welfare system.²⁵ Furthermore, even in comparison with a foster care population whose needs are systematically unaddressed,^{21,46-48} the literature suggests that the unmet needs for kinship families are even greater, given the barriers to accessing public programs, which are magnified when families lack the support of the child welfare system. Although the longitudinal impact of poverty could not be measured accurately among children in out-of-home care with the NSCAW data, at baseline we estimated that 44% of children entering kinship care resided with families whose income was lower than the federal poverty level, as compared with 23% of their peers who entered foster care. In addition, an Urban Institute report in 2002 found that only one-third of informal kinship families even obtained the cash assistance benefits from Temporary Assistance to Needy Families for which their children were eligible.⁴⁹ Access to education, Medicaid, mental health services, and

other benefits also poses barriers difficult for kin to overcome.^{2,49,50}

These concerns about the support provided to kinship families have risen to the federal level of policy. Legislation has been introduced in the 110th Congress that would provide funding for states to provide guardianship benefits to kinship caregivers and to develop navigator programs that would link these caregivers to appropriate services and funding streams for children under their care.^{51,52} This legislation would also require notification to kin on the placement of a relative child in protective custody to facilitate early placement with relatives, potentially increasing the number of children who will enter kinship care early. Our findings suggest that more timely entry into kinship care will be beneficial. When kinship care is a realistic option and appropriate safeguards have been met, children in kinship care might have an advantage over children in foster care in achieving permanency and improved well-being, albeit with the recognition that their needs will remain great, exceeding those of children who have not experienced child maltreatment.

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Author Contributions: Dr Rubin had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis. *Study concept and design:* Rubin, Downes, O'Reilly, Luan, and Localio. *Acquisition of data:* Rubin and Luan. *Analysis and interpretation of data:* Rubin, Downes, O'Reilly, Mekonnen, Luan, and Localio. *Drafting of the manuscript:* Rubin, Downes, O'Reilly, Mekonnen, and Localio. *Critical revision of the manuscript for important intellectual content:* Rubin, Downes, O'Reilly, Mekonnen, Luan, and Localio. *Statistical analysis:* Rubin, Downes, O'Reilly, Luan, and Localio. *Obtained funding:* Rubin. *Administrative, technical, and material support:* Rubin, O'Reilly, Mekonnen, and Luan. *Study supervision:* Rubin, O'Reilly, and Localio.

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52. The Kinship Caregiver Support Act, HR 2188, 110th Congress, 1st Sess (2007).

Announcement

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