

ASPE RESEARCH BRIEF

OFFICE OF THE ASSISTANT SECRETARY FOR PLANNING AND EVALUATION
OFFICE OF HUMAN SERVICES POLICY - U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

INTERSTATE PERPETRATORS OF CHILD MALTREATMENT: NATIONAL PREVALENCE ESTIMATES AND SELECTED CHARACTERISTICS

Introduction

A 2009 interim report to Congress on the feasibility of a national child abuse registry pointed out that there were no reliable national estimates of the number of individuals substantiated for child maltreatment in multiple States.¹ In addition, little is known about the characteristics of such interstate perpetrators, including the severity of their maltreatment in comparison to other perpetrators and their geographic distribution. The lack of such information was identified as an important gap in the knowledge base needed to assess the potential utility of a national registry of child maltreatment perpetrators, and to inform future decisions regarding the establishment of such a registry. An exploration of the feasibility issues with respect to a national registry of child maltreatment perpetrators was mandated by the Adam Walsh Child Protection and Safety Act of 2006 (P.L. 109-248).

In response, this research brief presents model-based national estimates of interstate child maltreatment perpetrators for 2009, several measures of the severity of the substantiated maltreatment, and estimates of the percent of interstate perpetrators coming from geographically adjacent and non-adjacent States. The brief addresses the following questions:

- How many interstate perpetrators would be identified by a national registry of child maltreatment perpetrators?
- Do interstate perpetrators commit more serious forms of maltreatment than other perpetrators?
- Do most interstate perpetrators come from neighboring States, where data sharing arrangements are likely to be well-established already?

ABOUT THIS RESEARCH BRIEF

This research brief summarizes a study that estimates how many individuals have been the subject of substantiated child maltreatment investigations in more than one State. This research has been conducted in conjunction with a forthcoming Report to the Congress on the Feasibility of Creating and Maintaining a National Registry of Child Maltreatment Perpetrators. The brief was prepared by Brett Brown, PhD., Malcolm Hale, and Ying-Ying Yuan, Ph.D., of Walter R. McDonald & Associates, Inc. Laura Radel served as ASPE's Project Officer on the study.

Office of the Assistant Secretary
for Planning and Evaluation

Office of Human
Services Policy

U.S. Department of Health
and Human Services

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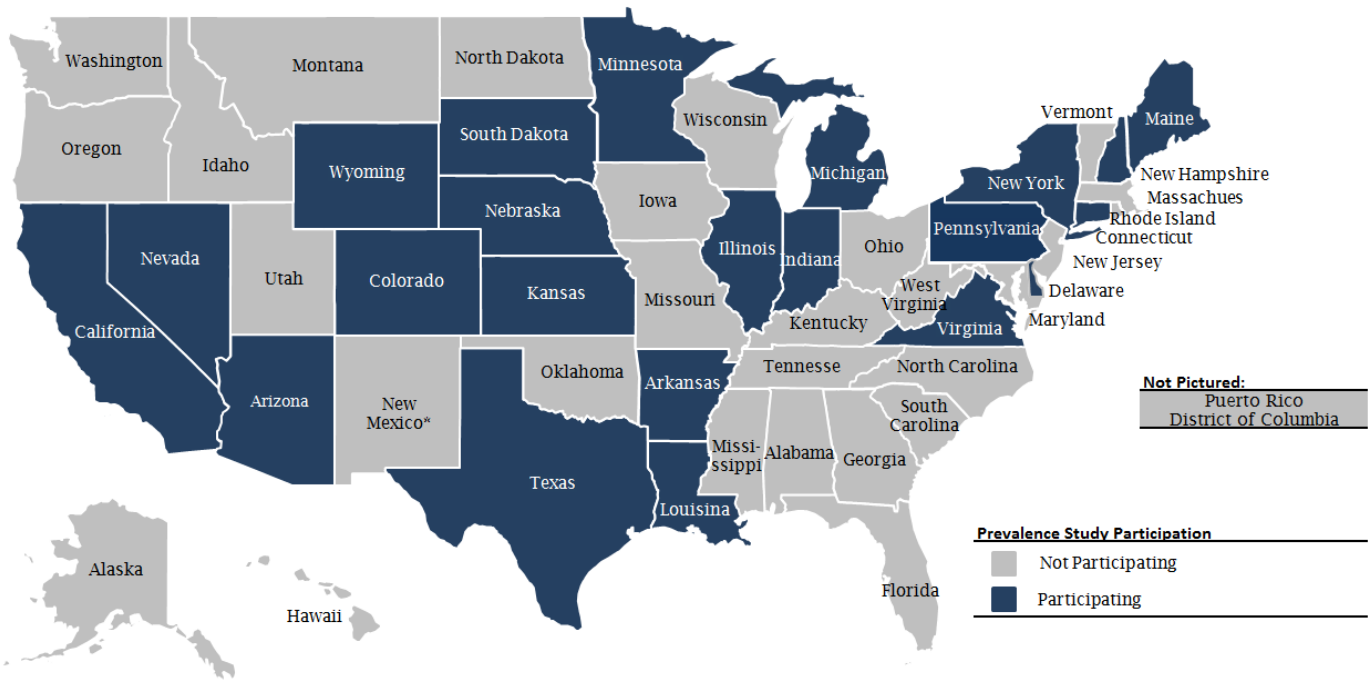


The brief concludes with implications of the findings for the establishment and design of a national registry.

Methodology Summary

To support the production of national estimates a database of perpetrators was created based on case-level records from the National Child Abuse and Neglect Data System (NCANDS) files for 2005-2009. NCANDS is a child-level data system through which the Federal Government collects from States child-level records on child abuse and neglect investigations. These records contain much of the demographic and maltreatment data needed to support the matching process to identify perpetrators in multiple states, and to support the other analyses. By design, however, NCANDS records do not provide sufficient information to uniquely identify individuals. States were approached to provide the last name, first initial, and date of birth for all substantiated perpetrators age 18 and older for that time period, along with their NCANDS identifiers. In all, 22 States representing 54 percent of the U.S. population supplied the requested information. (See figure 1.) The last names were encoded by the States to protect confidentiality using a common algorithm. This identifying information was added to the appropriate NCANDS case-level records.

Figure 1: Prevalence Study Participation by State



The resulting data file was sufficient to support a matching process to identify interstate perpetrators moving among the 22 participating States. To create national estimates, a model was developed using these data combined with 5-year interstate migration data from the 2000 U.S. Decennial Census.² This model was used to upwardly adjust estimates for the 22 participating States to account for interstate perpetrators coming into those States from non-participating States, and to create estimates for the non-participating States.

The Matching Process

Using these data for the 22 participating States, data were compared from the 2009 records of each State to records for all other participating States from 2005-2009.³ The goal was to estimate the number of interstate perpetrators that would be identified by States in a given year through a national registry. The 5-year time period was assumed to be adequate for identifying most interstate perpetrators that would be found through a national registry, since research using individual state records has shown that revictimization is most likely to occur in the months immediately following an initial substantiated investigation and additional revictimization declines over time.⁴ However, many State registries maintain records for longer than 5 years. A number of potential matching algorithms were explored.

The Adam Walsh Act limits the contents of a national registry to the name of the perpetrator and the type of maltreatments for which he/she was responsible. To test the adequacy of identifying perpetrators accurately with such limited information, we first matched records using encoded last name and first initial only. This resulted in an unreasonably high match rate, yielding 237,158 interstate matches or 88.6 percent of all perpetrators in 2009 among participating States. (See table 1.) This algorithm was clearly inadequate for the purpose of producing national estimates. And, though complete and unencoded names would result in much lower match rates, it also indicates that a national registry that limits individual identifying information to name only will not be able to support the accurate identification of interstate perpetrators.

Table 1. Interstate Record Matches

STATE	Total Number of Records 2009	Matching Algorithm			
		Last Name (encoded) and First Initial		Date of birth, Sex, Last Name (encoded) and First Initial	
		Number	Match Rate	Number	Match Rate
Arizona	3,159	2,808	88.90%	46	1.50%
Arkansas	7,191	6,636	92.30%	70	1.00%
California	50,894	45,426	89.30%	307	0.60%
Colorado	7,868	6,983	88.80%	94	1.20%
Connecticut	7,033	6,117	87.00%	61	0.90%
Delaware	1,446	1,295	89.60%	13	0.90%
Illinois	18,027	16,020	88.90%	137	0.80%
Indiana	16,050	14,348	89.40%	135	0.80%
Kansas	883	793	89.80%	6	0.70%
Louisiana	6,171	5,553	90.00%	80	1.30%
Maine	3,304	2,885	87.30%	29	0.90%
Michigan	21,989	19,376	88.10%	159	0.70%
Minnesota	3,214	2,714	84.40%	42	1.30%
Nebraska	3,245	2,812	86.70%	26	0.80%
Nevada	3,336	2,966	88.90%	66	2.00%
New Hampshire	730	640	87.70%	6	0.80%
New York	57,389	49,014	85.40%	291	0.50%
Pennsylvania	3,111	2,726	87.60%	22	0.70%
South Dakota	934	709	75.90%	18	1.90%
Texas	46,964	43,075	91.70%	372	0.80%
Virginia	4,305	3,865	89.80%	33	0.80%
Wyoming	459	397	86.50%	9	2.00%
Total	267,702	237,158	88.6	2,022	0.8

Note: All 2009 perpetrator records for persons ages 18 years and older matched to 2005-2009 records of other participating States.

By adding sex and date of birth to the matching algorithm, the number of perpetrators with one or more matches was reduced dramatically to 2,022 across the 22 participating states, representing 0.8 percent of all substantiated perpetrators in 2009 for those States. (See table 1.) Of those 2,022 matches, only 44 included matches in more than one State and only 345 matched two or more records regardless of State. (See table 2.) Across the 22 States, matching rates were fairly consistent, ranging from 0.6 percent in California to 2.0 percent in Nevada and Wyoming. When the 0.8 percent match rate among participating States is inflated to account for data from nonparticipating States, the estimated rate rises to roughly 1.5 percent.^{5,6}

The algorithm using encoded last name, first initial, sex, and date of birth produced a reasonable match rate that eliminated nearly all matches to more than one State.⁷ Further, it is based on very complete data, with 97.9 percent of all perpetrator records containing valid data for all three characteristics. In addition, if one assumes that about 16.7 percent of all substantiated perpetrators will reoffend within 5 years (as has been estimated through research on individual States' records)⁸, and that they move between States at a rate similar to the general population in 2000 (8.9 percent),⁹ then one might expect an interstate match rate of about 1.5 percent.

**Table 2. Number of Interstate Matches
by Number of States Where Matches Occurred, by State**

State	Number of Records with Interstate Matches	Number of States where Matches Occurred		
		2009	1 State	2 States
Arizona	46	46		
Arkansas	70	67	3	
California	307	306	1	
Colorado	94	92	2	
Connecticut	61	61		
Delaware	13	13		
Illinois	137	136	1	
Indiana	135	112	23	
Kansas	6	6		
Louisiana	80	79	1	
Maine	29	28	1	
Michigan	159	158	1	
Minnesota	42	42		
Nebraska	26	26		
Nevada	66	65	1	
New Hampshire	6	6		
New York	291	287	4	
Pennsylvania	22	22		
South Dakota	18	17	1	
Texas	372	368	4	
Virginia	33	33		
Wyoming	9	8	1	
Total	2,022	1,978	44	0

One additional check on the final algorithm was performed, adding the criteria that the birth date of one or more of the children in the 2009 report must match the birth date of a child in the matching report from the other State. About one-quarter (27 percent) of the 1.5 percent of records that matched using the perpetrator's name, sex, and date of birth alone continued to match when the victim birth date criterion was added. There are a number of reasons why one might not find a match on children's dates of birth, even when it is, in fact, the same perpetrator. Fewer than one-half the States regularly include all children in the household in a maltreatment report. In addition, children in the 2009 report may not have been in the household during the earlier report because they were not born or were living elsewhere. So, while the true match rate is probably substantially higher than 27 percent, this nevertheless indicates that the algorithm using only the perpetrator's name, sex, and date of birth included a significant proportion of false positives, and should be treated as an upper-end estimate.

National Estimates of Interstate Child Maltreatment Perpetrators

Using this algorithm to match records, State and national estimates for interstate child maltreatment perpetrators were produced based on a model that uses Census interstate migration data.

The modeling exercise to produce the estimates is complex, and is different for the 22 participating and the 29 non-participating States.¹⁰ For participating States, NCANDS case-level records (including name and date of birth information collected from the States) were used to identify matching records in other States using the algorithm described above. These numbers were adjusted upwards using Census-based immigration rates from the non-participating States. So, for example, say that the matching process identifies 450 interstate perpetrators in State X. Examining the census migration data reveals that 60 percent of all migrants into State X in 2000 came from one of the participating States. By taking the inverse of that 60 percent ($1.0/0.60 = 1.66$) one can estimate the total number of interstate perpetrators for State X to be $450 * 1.66 = 747$.

Estimates of interstate perpetrators for the 29 non-participating States (including the District of Columbia) were produced as follows. For each of these States, the aggregate number of unique substantiated child maltreatment perpetrators for 2009¹¹ as reported by NCANDS was multiplied by an estimated interstate perpetrator immigration rate, producing an overall estimate of interstate perpetrators for each of those States. The immigration rate is based on the average interstate perpetration rate calculated for the 22 participating States, and adjusted using state-specific immigration rates from 2000 Census data.¹²

Adding all of the State-specific estimates together yields a national estimate of 7,852 interstate perpetrators for 2009. (See table 3.) Based on a total of 512,790 unique perpetrators in the U.S. in 2009, interstate perpetrators represent 1.5 percent of all substantiated perpetrators.¹³

Table 3. Estimated Number of 2009 Interstate Child Abuse and Neglect Perpetrators in Participating and Non-Participating States

STATE	Estimated Number of Interstate Perpetrators	Study Participation Status
Alabama	89	
Alaska	68	
Arizona	73	✓
Arkansas	147	✓
California	572	✓
Colorado	157	✓
Connecticut	138	✓
Delaware	30	✓
District of Columbia	98	
Florida	486	
Georgia	227	
Hawaii	47	
Idaho	27	
Illinois	276	✓
Indiana	294	✓
Iowa	147	
Kansas	13	✓
Kentucky	144	
Louisiana	153	✓
Maine	63	✓
Maryland	220	
Massachusetts	446	
Michigan	349	✓
Minnesota	91	✓
Mississippi	83	
Missouri	65	
Montana	25	
Nebraska	45	✓
Nevada	108	✓
New Hampshire	16	✓
New Jersey	118	
New Mexico	93	
New York	785	✓
North Carolina	69	
North Dakota	19	
Ohio	297	
Oklahoma	105	
Oregon	123	
Pennsylvania	55	✓
Rhode Island	41	
South Carolina	120	
South Dakota	29	✓
Tennessee	109	
Texas	712	✓
Utah	153	
Vermont	13	
Virginia	95	✓
Washington	82	
West Virginia	76	
Wisconsin	46	
Wyoming	15	✓
Total	7,852	

The Severity of Maltreatment: Instate and Interstate Perpetrator Comparisons

If interstate perpetrators engage in more serious forms of abuse and neglect, this would support the utility of a national registry. To examine this issue, the study compared instate and interstate perpetrators on four outcomes—type of child maltreatment, whether one or more children was removed from the home, whether there were any court petitions involving the perpetrator, and whether the perpetrator was associated with any child fatalities—all for 2009. Analyses used the same data file that was used to create interstate perpetrator estimates for the 22 participating States.

Maltreatment type. The typology used for establishing severity of maltreatment presumed the following order from least serious to most serious: neglect, medical neglect, emotional maltreatment, physical abuse, and sexual abuse. Each perpetrator was assigned a single value representing the most serious form of abuse or neglect for which he or she was substantiated. The results show very similar distributions for instate and interstate perpetrators, with neglect classified as the most serious form of maltreatment in two-thirds both groups. (See table 4.) Chi square analyses indicate no significant difference in type of maltreatment across the two groups.

Table 4. Percentage Distribution of Maltreatment Type, by Perpetrator Status

Most Serious Type of Abuse	Interstate Perpetrator	Instate Perpetrator	Statistical Significance (X ²)
Neglect	64.70%	64.70%	3.242 p = .518
Medical Neglect	4.10%	3.50%	
Emotional maltreatment	5.40%	5.40%	
Physical abuse	18.50%	18.50%	
Sexual abuse	7.30%	8.00%	

Removal. Examining whether a child was removed from the home for 24 hours or more produces a different result. Thirty percent of interstate perpetrators had a child removed from the home in 2009 compared to just more than 20 percent among instate perpetrators. (See table 5.) This difference is statistically significant at the .001 level.

Table 5. Removal of Child(ren) from Household, and Court Involvement, by Perpetrator Status

Category	Perpetrator Status		Statistical Significance
	Instate Perpetrator	Interstate Perpetrator	
Removal			
Yes	53,608	607	120.359 p< .001
No	212,072	1,415	
Rate per 1,000	201.78	300.2	
Court Involvement			
Yes	49,514	573	124.183 p< .001
No	216,166	1,449	
Rate per 1,000	186.37	283.38	

Court Involvement. Rates of court involvement show a similar pattern of 19 percent for instate perpetrators and 29 percent for interstate perpetrators, a statistically significant difference at the .001 level. (See table 5.)

Child Fatalities. Very few interstate perpetrators were linked with child fatalities – a total of 4 in the 22 states that participated in the prevalence study, compared with 921 fatalities among instate perpetrators in these States. The number of fatalities among interstate perpetrators was too small to conduct statistical significance testing, but represented less than ½ of 1 percent of maltreatment fatalities in the participating States.

As described above, results are mixed as to whether or not child maltreatment by interstate perpetrators is more severe than that committed by perpetrators known to a single state. Maltreatment by interstate perpetrators is more serious in that children are more likely to be removed from the home, and courts are more likely to be involved. To some extent this is expected, since interstate perpetrators have by definition been substantiated as perpetrators at least two times, while instate perpetrators may or may not have had prior substantiations. While interstate perpetrators may represent more serious cases with respect to court involvement and child removals, they do not appear to be more likely to be sexual predators or to commit different types of maltreatment than do instate perpetrators. In addition, very few child fatalities are the result of maltreatment by perpetrators known to multiple states.

Adjacency

Most States already have working relationships with the child welfare agencies in their neighboring States. If a large proportion of matches come from only a few neighboring States the burden on States to make inquiries of individual States' child abuse registries may not be very great, and the benefits of a national registry less clear. To explore this issue, the small number of participating States that had most or all adjacent States also participating in the study was examined.¹⁴ These included Arizona, California, Louisiana, Maine, and Texas.

For these States, the percentage of all interstate perpetrators from neighboring States was estimated as follows: Louisiana (40%), Arizona (35.8%), Texas (15.4%), California (12.4%), and Maine (9.5%). To the extent that the interstate perpetrators identified include false positive matches, these percentages may be underestimates since false matches are likely to be spread more evenly across the country. Even taking this into account, however, it seems likely that, for most States, a substantial proportion of interstate perpetrators do not come from adjacent States, though clearly there are important differences across States.

Summary and Discussion

The central result of the analyses presented in this brief is the national estimate that 7,852 child maltreatment perpetrators in 2009, or 1.5 percent of all substantiated perpetrators, had been substantiated as a perpetrator in another State within the past 5 years. In comparison to other maltreatment perpetrators, interstate perpetrators are associated with similar types of maltreatment, though they are more likely to have had children removed from the home, and the courts are more

likely to become involved. Very few involved child fatalities. Finally, a substantial proportion of interstate perpetrators appear to come from beyond neighboring States.

What do the findings indicate for the feasibility and utility of a national registry of child maltreatment perpetrators? Identifying approximately 7,850 matches based on over 500,000 hypothetical queries, most of them single instances of neglect, suggests a fairly limited safety benefit. However, the number of positive matches from States' use of a fully functioning national registry would be larger since the most common use is likely to be during maltreatment investigations before substantiation has been made, which would also identify those who were substantiated in other States but not in the current State (at least not for the current case). The use of a registry early in investigations would likely yield several times the number of matches that were found for interstate perpetrators in this study. If the national registry were allowed to be used for foster care applications and certain employment background checks, the number of positive results from a national registry would be even larger. As the potential uses of a registry are expanded, however, other issues of privacy and due process are raised that are not addressed in this brief. More information on the full range of issues raised by the prospect of a national registry of child maltreatment perpetrators may be found in the report to the Congress prepared in conjunction with this Issue Brief.

Of equal and possibly greater importance for determining the utility of a national registry is its potential to save staff time and resources resulting from the speed and efficiency of making all interstate inquiries, the vast majority of which will not find a match. If the registry data and its matching procedures are seen as reliable, so that States can accept a negative finding without further inquiry, substantial time savings may result and child safety may be enhanced. Most States would need to participate in a national registry before such benefits could be realized, however.

Each of these potential utilities will be very dependent on the reliability and accuracy of the matches that can be attained from such a system. Clearly, the identifying information that is allowed by the current law, the perpetrator's name, is insufficient to support an accurate matching process. The analyses presented indicate that the addition of sex and date of birth information is much more promising, but results would still need to be confirmed by following up with individual States to weed out false positives. The addition of social security number would further increase the accuracy of the matches, though States may be more reluctant to supply such information and social security numbers could only be included with specific statutory authority. In addition, a national registry would need to include data from all or most States to be functional, which may be difficult to achieve in what is currently authorized in statute as a voluntary system.

Endnotes

¹ U.S. Department of Health and Human Services, Office of the Administrative Secretary for Planning and Evaluation. (2009). *Interim Report to the Congress on the Feasibility of a National Child Abuse Registry*. Washington, D.C.

² The 2000 Census was used because 5-year migration data were not collected in 2010.

³ In cases in which matches were made in the same year (2009), interstate matches were counted only when the date of report preceded that of the record from the inquiring State.

⁴ Fluke, J.D., Shusterman, G.R., Hollinshead, D., & Yuan, Y.T. (2005). *Rereporting and Recurrence of Child Maltreatment: Findings from NCANDS*. Washington, DC: U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation.

⁵ This is based on a finding that 16.7 percent of child victims of maltreatment had been revictimized within 5 years. Cited in U.S. Department of Health and Human Services, Office of the Administrative Secretary for Planning and Evaluation. (2009). *Interim Report to the Congress on the Feasibility of a National Child Abuse Registry*. Washington, D.C. p. 16.

⁶ Molloy, R., Smith, C., Wozniak, A. (2011). *Internal Migration in the United States*. Table 1. Finance and Economic Discussion Series, Divisions of Research and Statistics and Monetary Affairs, Federal Reserve Board, Washington, D.C. paper 2011–30.

⁷ Many matches to records in more than one other State would be one indication that the algorithm was picking up a significant number of false matches.

⁸ This is based on a finding that 16.7 percent of child victims of maltreatment had been revictimized within 5 years. Cited in U.S. Department of Health and Human Services, Office of the Administrative Secretary for Planning and Evaluation. (2009). *Interim Report to the Congress on the Feasibility of a National Child Abuse Registry*. Washington, D.C. p. 16.

⁹ Molloy, R., Smith, C., Wozniak, A. (2011). *Internal Migration in the United States*. Table 1. Finance and Economic Discussion Series, Divisions of Research and Statistics and Monetary Affairs, Federal Reserve Board, Washington, D.C. paper 2011–30.

¹⁰ Puerto Rico was not included in these estimates because 5-year Census migration rates between it and each of the States were not available.

¹¹ It must be noted that unique child maltreatment perpetrator counts were not available from any source for North Dakota, Oregon, and Georgia. NCANDS aggregate duplicated counts of substantiated maltreatment victims were available for these States. To develop an estimate of unique perpetrators for these States, the ratio of unique perpetrators to duplicate victims for all reporting States within NCANDS was calculated and multiplied by the duplicated victim count for each of the three States (North Dakota, Oregon, and Georgia) to estimate the number of unique perpetrators in each State.

¹² One begins by calculating the average interstate perpetration rate among the 22 participating States (IAPR). This is accomplished by summing the total number of interstate child maltreatment perpetrators calculated in the matching process, and dividing it by the total number of substantiated child maltreatment perpetrators for the most recent year. Individual State's immigration rates can differ substantially. Using the 2000 Census 5-year interstate migration data, a Census interstate migration rate was calculated for each nonparticipating State (SCIMR) and divided that by the overall national census immigration rate (NCIMR), which is just the percentage of all persons in the U.S. ages 5 to 64 who lived in a different State 5 years before. The $SCIMR/NCIMR = SMA$, or the State migration adjustment. For example, if a State's immigration rate is 5 percent and the national rate is 4 percent, the $SMA = 5/4 = 1.25$. The SMA is applied to the IAPR in order produce an adjusted interstate perpetration (AIP) rate for each nonparticipating State: $SMA * IAPR = AIP$. The total number of unique substantiated child maltreatment perpetrators in each nonparticipating State (taken from the most recent year of NCANDS data) was multiplied by the AIP to produce the estimated number of interstate child maltreatment perpetrators for each nonparticipating State.

¹³ Estimate from U.S. Department of Health and Human Services, Administration for Children and Families, Administration on Children, Youth, and Families, Children's Bureau. (2010). *Child Maltreatment 2009*, page 69.

¹⁴ More precisely, States were included if adjacent States in the study represented 75+ percent of the total immigration from all adjacent States as measured by the 2000 Census.