Using Administrative Records to Evaluate the Accuracy of Child Abuse Reports in a National Survey of Child Abuse and Neglect

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Abstract

This paper summarizes the results of an evaluation of caseworker-provided data about additional reports of child abuse and neglect (called "re-reports") for the National Survey of Child and Adolescent Well-being (NSCAW). NSCAW is the first nationally representative longitudinal study of children and families involved in the child welfare system and the first to collect data directly from children and caregivers.

The paper compares re-report data collected from caseworkers with administrative re-report data provided by state child protective services agencies. Using official administrative data provided by child protective services agencies across the country, our preliminary analysis found that reports provided by caseworkers in an interview format are substantially under-represented. Based on our comparison of caseworker data and agency administrative files, we estimate that approximately 60% of all reports are missing from caseworker interview data.

KEY WORDS: Matching, Data Quality, Abuse Reports

The National Survey of Child and Adolescent Well-Being (NSCAW) is a national probability study of children investigated for child abuse and neglect. The survey is conducted in 92 counties of the U.S. where a sample of 5400 children ages 0-14 are selected from child welfare agency records on child abuse or neglect investigations. A panel survey, the NSCAW is currently in its fifth round of data collection. Parents or other permanent caregivers, foster parents for children removed from the home, and the children themselves are interviewed. For children in out-of-home placement, the caregiver from whom the child was taken is also recruited for interviews. Investigative child welfare workers (CWWs) at the baseline, and service workers in subsequent rounds if the family is receiving services, are also interviewed about the case. In addition, an annual teacher survey is conducted for children in grades K-12. (See NSCAW Research Group. (2002) for a complete description of the study.)

Key in the analysis of the NSCAW data, especially related to analyses of child safety, is the measurement of re-reports. In the child well-being literature, a "re-report" has been defined in several ways. For example, re-reports can be defined as any report after the child's *first* exposure to the child welfare system. However, since NSCAW is not a study of first-time entrants into the system and, hence, does not capture information on reports prior to a child's selection into the NSCAW sample, it is not possible to determine with certainty the child's first exposure to the system. A re-report might also be defined relative to a particular caregiver arrangement or setting rather than a child's entire lifetime. However, for most analytic purposes, a broader definition of a re-report is often required. For the present study, we will define a re-report

as any report to the CPS involving the NSCAW child after the "index" investigation; i.e., the investigation which made the child eligible for inclusion in the sampling frame.

Re-report data have been used extensively and in varying ways in data analysis. For example, some researchers define an indicator variable to denote the presence or absence of a re-report for each child. This variable has been used primarily as an indication of CPS system functioning or dysfunction. Since one of the fundamental goals of CPS is to ensure children's safety, the presence of a re-report may be an indication that the previous investigation(s) did not wholly achieve this goal, and that the child's safety was still at risk at the time of the re-report. In addition, this indicator variable may be included in a model of child well-being to test whether the presence or absence of re-reports relates to lower functioning/developmental status, or higher levels of risky behavior among older children. Another area of research explores whether children with one or more re-reports have higher levels of service receipt, including out-of-home placement, than children with no re-reports.
In addition to a dichotomous indicator, the *number* of reports involving a child is also of interest in analysis. As an example, for permanence, it may be hypothesized that children in in-home care and who experience higher numbers of re-reports are at lower levels of permanence due to the increased risk of placement out-of-home.

Given the criticality of the re-report data for a range of research interests, a high degree of accuracy is required for these data. However, we may anticipate that this is not the case in the NSCAW for several reasons. First, since information on re-reports in the NSCAW comes from caseworker interviews, children in the sample who did not have a caseworker (i.e., children who were not receiving child welfare services) since the last completed caregiver interview will have no associated caseworker interview. Thus, no re-report data were collected for these children even though they may have had a re-report since the last interview. Second, the re-report data for children for whom a caseworker interview was conducted is also subject to error. During the interview, caseworkers typically rely on information that is available in their case files. These files may be incomplete, out-dated or may contain information that is erroneous leading to missed or false re-reports. In addition, information about the re-reports such as dates, circumstances, etc. may be erroneous. Finally, there is nonresponse at both the caseworker and caregiver levels. Caseworkers may refuse to be interviewed and children and families move away from the NSCAW PSUs and be lost to follow up at subsequent data collection waves.

The net effect of these errors is to underestimate the number of re-reports captured for the sample children.

Although we anticipate there could be a substantial negative bias in the number of re-reports, to date there has been no attempt to quantify the magnitude of the under-reporting. This report seeks to investigate the extent of the errors in the re-report data, their causes and the implications of the errors on the most common types of analyses that may be conducted using the re-report data.

To conduct this evaluation, RTI collected administrative data from child welfare agencies participating in the study representing approximately 60% of the NSCAW target population. Our efforts continue to increase this proportion by pursuing agencies which have not yet responded to our request for administrative data. In our analysis, we considered these administrative data to be the gold standard for evaluating the accuracy of the caseworker supplied data on re-reports, since those data are considered the "official" record and provide the most complete source of information on re-reports. Note that administrative data were not sought from agencies not sampled for NSCAW due to restrictions placed on the effort by the RTI IRB.

The next section describes the administrative data that were collected from state and local child welfare agencies. Section 3 describes the process that was used to match the caseworker and administrative data records on re-reports. Section 4 provides the results of an analysis of re-report error and biases. Finally, in Section 5, we summarize our findings and discuss implications for analysis employing re-report data.

1. The NSCAW Re-report Data

This paper uses two types of data – information from services caseworkers collected at Waves 2, 3 and 4 and information gathered from state and county systems. Caregivers were not asked about reports since the index report and investigation. The following section describes how each of these types of data was collected.

2.1 Caseworker Re-report Data

At Wave 2 a caseworker interview was triggered in two situations – if the child or family was designated in a Services Received (or Open Case) domain at the time of sampling or if the caregiver interview at Wave 2 indicated that CPS services had been received since the baseline interview. The services caseworker who had spent the most time with the family was identified through the agency liaison. Interviews were sought whether or not the child remained in the jurisdiction of the agency sampled for and participating in NSCAW. The questionnaire administered to services caseworkers included a module that sought information about reports since the baseline interview. Specific items are included in Appendix A. In Waves 3 and 4 the same procedures were implemented, with the exception that service caseworker interviews were sought only if the caregiver indicated that services had been received since the last completed caregiver interview.

At Waves 2 and 4 checks of this approach – seeking interviews when the caregiver indicated service receipt – were made in a small number (20-40 cases) of randomly selected cases in which the caregiver did not indicate service receipt. In order to verify that no services had been received, calls were made to the agency liaison who was asked to confirm that services had not been provided. Only one case in Wave 4 indicated that service receipt might have been omitted in caregiver provided information. Note that only service receipt was asked; re-reports were not checked.

We hypothesize that there are several reasons that re-reports were not provided during the caseworker interview. While caseworkers were asked to consult the case file during the interview and field representatives anecdotally indicated that they did so about 70 percent of the time, some caseworkers did not have the file readily available and did not use the case file to complete the interview. In those situations, caseworkers would be more likely to forget and exclude one or more re-reports in their interview responses. Caseworkers with a large caseload, in very urban settings, and in agencies where case folders are warehoused offsite or expurgated after a certain amount of time would be less likely to have case folder information to consult during the interview. Lack of case folder or personal organization, in addition to individual personality traits and disengagement in the interview process, would also reduce the likelihood that historical documents would have been consulted during the interview. Additionally, given the burden of the interview and their work overload, some caseworkers may have not provided complete information.

For example, some caseworkers may have collapsed two separate reports that were temporally proximate into one re-report response. For example, if reports were received from a neighbor and a teacher about the same bruises on a child, the caseworker may have only provided information about the teacher's report. Finally, caseworkers could not provide information about reports outside the agency's jurisdiction (e.g., a report made in a state the child had lived in previously.)

In some agencies the system that collects report information and conducts investigations is quite separate from service provision. In these highly specialized agencies, it is possible that the case folder consulted during the caseworker interview did not contain information about unsubstantiated reports. This might also occur in states that are centralized and have one system (e.g., a state hotline) for reports and investigation decision-making.

2.2 Agency Report Data

In order to assess the quality of re-report data gathered from caseworkers we sought administrative data from state and county agencies sampled for NSCAW. In Appendix B we provide the specifications that were attached to our request which described our data requirements to the agencies. Due to IRB concerns about blinding agencies to participation status, agencies were asked to provide report data for all children sampled. The reference period was from October 1999 to the data of the request (generally, summer 2005.) However, some agencies expunge reports (especially prevalent for unsubstantiated reports) after a certain amount of time or

do not allow information about unsubstantiated reports to be released to researchers (as was experienced during sampling.)

As we can all attest from personal experience, recordkeeping in various levels of government is not error-free. Jurisdictions vary widely in the resources and priority they put to CPS recordkeeping, although requirements (e.g., state laws regarding timeliness of investigation start after report, AFCARS, CFSR) and resource provision for system construction (SAQWIS) have generally improved the situation.

2.3 Administrative Data as the "Gold Standard"

Among different types of CPS data, reports of abuse and neglect are one of the highest priorities for accurate recordkeeping because of state law or practice requirements that mandate the amount of time between report and investigation start, and systems that monitor those response times.

2. Matching the Two Files: Agency to Caseworker File Match

Re-reports from the caseworker interview data were matched against the re-reports obtained from the administrative files to determine the degree to which a match between the two exists. With the agency data considered "truth," re-reports on the agency file but are missing from the caseworker file may be deemed "false negatives." Likewise, re-reports on the caseworker file not on the agency file may be deemed "false positives." The focus of present analysis is on false negative error (i.e., missing re-reports) in the caseworker data, since it is likely the most prevalent and most damaging error for data analysis. However, we will consider false positives and their implications in future examinations.

The first step of the matching process was to remove duplicate records from both files. Duplicate records were defined as records with the same report date for a child. Following the unduplication process, the agency report records that were outside the caseworker reference period (i.e., the time period for which the caseworker was asked about re-reports) were also deleted from the data file. The final analysis file then consisted of all unique re-report events that were within the time period and scope of the NSCAW interviews for all survey waves (i.e., Waves 1 through 4.)

To determine whether a re-report on the agency file appears on the caseworker file and vice versus, a number of criteria for determining a match were considered. All the criteria used some combination of the following four attributes of the report:

- Report date
- Abuse type
- Perpetrator relationship to child
- Substantiation

Of these four attributes, the most important is the date of the report since, for any child, it can uniquely identify a re-report. However, some allowance must be made for error in the report date since it is subject to human error at various points in the process. We consider criteria that allow the dates to be within five days of each other to determine a match. In addition, when dates differ by more than five days, we can use other attributes to help us determine whether two reports match. Although many different criteria can be created using the above four report attributes, we selected five criteria that span the range of possible criteria. These are:

1. Exact match on date
2. Dates within five days of each other
3. Dates not within five days of each other, but match on abuse type, perpetrator relationship to child and substantiation
4. Dates not within five days of each other, but match on any two of abuse type, perpetrator relationship to child and substantiation
5. Dates not within five days of each other, but match on any one of abuse type, perpetrator relationship to child and substantiation

Criterion 1 is the strictest criterion since it requires that the dates on two reports match exactly to be declared a match. Criterion 2 slightly relaxes this by allowing reports that have dates that are within five days to be declared a match. Criteria 3, 4 and 5 essentially ignore date and for that reason are not feasible for defining a match. They are included here merely to gauge the effect on the match rates of relaxing the criteria by degrees to extreme levels of match tolerance. Criterion 3 declares reports that share the same abuse type, perpetrator relationship and substantiation status to be a match regardless of date. Criterion 4 declares a match for reports that share any two of these three attributes in Criterion 3 and Criterion 5 declares a match for reports that share any one of the three attributes in Criterion 3.

Table 1 provides results on applying these matching criteria. For Table 1, each agency report was assigned to one of seven match categories corresponding to the match criteria described above. The first row of percentages in the table corresponds to the proportion of reports in the agency file that could be matched to reports in the caseworker data using Criterion 1. This is shown for six key states, Other (i.e., all other states) and All (i.e., all states). The next row shows the results of applying Criteria 2. The second half of the table shows the results of applying criteria 3, 4 and 5 for re-reports not satisfying Criterion 2. The last two categories in the table are no match on any of the attributes and no reports for the child in the caseworker data. The first of these two categories contains all reports in the agency file that could not be matched to any report in the caseworker file for children that had at least one re-report listed in the caseworker file. The second category contains all reports in the agency file for children that had no re-reports at all in the caseworker file.

Match Criteria	TX	OH	PA	IL	FL	Other*	All
Table 1. Re-report Match and Non-match Rates Based Upon Alternative Criteria (%)							
Matches							
Exact date matches	33.0	34.1	29.8	7.0	41.7	32.5	31.1
Matches within 5 days including exact matches	39.3	42.9	42.1	10.5	45.4	40.1	37.8
Non-matches							
Date > 5 days difference and							
Match on 3 of 3 attributes	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Match on 2 of 3 attributes	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Match on 1 of 3 attributes	4.9	4.6	0.0	2.9	0.9	3.3	3.3
no match on any attributes	5.3	6.5	21.1	5.8	5.1	5.3	6.1
No re-reports in CW file for child	50.5	46.1	36.8	80.8	48.6	51.3	52.8

*Other states include: AR, AZ, DC, GA, IN, MD, MN, NM, NV, NC, OK, OR, SC, UT, VA, WV, WI

In discussing this table, we use results for Criterion 2 as our best estimate of the match rate for these data since it is probably the most liberal matching criterion that is still acceptable. Table 1 indicates considerable variability across states in the match rates. Illinois' match rate is only about 11% while Florida's is 45%. Overall, only about 38% of the agency reports can be found in the caseworker file. Note that, even when the most liberal match criteria are used, this rate only increases slightly to 41%. If we are willing to use the agency file as the gold standard, it can be concluded that between 59% and 62% of the re-reports are missing from the caseworker data.

Next we examined the reasons for missing re-reports in the caseworker file. Three possible reasons for missing caseworker re-reports were identified:

- *Ineligibility*: to be eligible for a caseworker interview, the child or child's family had to receive agency services since the last caregiver interview; thus, a caseworker interview was not conducted if the caregiver reported that no CPS services were received by child or the child's family.
- *Caseworker error*: the caseworker interview was completed; however the report that appears on the agency file was not obtained during the caseworker interview.
- *Caseworker non-response*: the caseworker was eligible for an interview (i.e., the child or child's family received services); however, an interview with the caseworker was not completed.

As Table 2 indicates, the two main reasons for the missing re-reports in the caseworker file are ineligibility (44.8%) and caseworker error (54.5%). Very few missing re-reports were due to caseworker non-response (0.7%).

Table 2. Reasons for Missing Re-reports in the Caseworker File		
Reason	*n*	*%*
Ineligibility	456	44.8
Caseworker error	553	54.5
Caseworker non-response	6	0.7
Total	1015	100

3. Analysis of Matching Error

In the previous section, we estimated that the NSCAW caseworker interview missed about 60% of the re-reports that administrative records indicate occurred for NSCAW children. Such a high rate of missing data raises questions as to whether analysis based on re-reports can ever be valid. In this section, we attempt to provide at least a partial answer to that question.

Whether and the extent to which analysis based upon caseworker re-report is valid depends in large measure on the type of analysis that is conducted with these data. We consider the potential bias in using the caseworker re-report data for three types of analysis in which researchers might engage. First, as discussed in Section 1, researchers may wish to define an indicator variable which takes the value 1 if the child has ever been re-reported and 0 if there is no re-report. This indicator may be used as either a dependent variable in a model of system functioning or an explanatory variable in a model attempting to explain variations in child outcomes. For such analyses, it would be very important to have a highly accurate indicator of the presence or absence of a re-report.

Another type of analysis of interest is similar, but instead of defining an indicator variable for re-reported children, the researcher may wish to use the number of re-reports either as a dependent or independent variable in analysis. Here again, a large number of missing re-reports would have substantial biasing effects on the results of these analyses.

A third type of analysis seeks to characterize children who have been re-reported at least once and compare their characteristics with children who have not been re-reported. In rare cases, an analyst may wish to use the re-report itself as the unit of analysis. In particular, they may be interested in whether re-reports are associated with certain ages, settings or substantiation statuses – in other words, are re-reports that are missing associated with children having very different characteristics than those with re-reports that are not missing.

To address these three types of analyses, we begin by defining *Y* to denote the caseworker re-report status for a

child where $Y=1$ denotes that the child has at least one re-report and 0 denotes that the child has no re-reports. Likewise, let X denote the corresponding agency classification which is taken to be the gold standard in this analysis. In other words, we assume X is the truth. Let G denote a grouping variable such as age, gender, race or other variable. Finally, let P denote the average Y in the population; i.e., P is the proportion of children who have at least one re-report based upon the caseworker data. Corresponding to P, let π denote the average of X; i.e., the true proportion in the population.

Now consider the first type of analysis described above where we wish to use Y either as a dependent or independent variable in an analysis. To evaluate the bias in this type of analysis, we consider the bias in the estimator of the proportion π for some domain or subgroup defined by G. It can be shown that the testing for a significant bias in our estimate of π from the caseworker data, which may be written as $P-\pi$, is equivalent to testing for symmetry in the 2×2 YX table for group G.

To see this, let $P(Y=1,X=0|G)$ denote the proportion of the population in group G who have a re-report in the caseworker file ($Y=1$), but no re-report in the agency file ($X=0$). We call all such cases false positives since X is assumed to be the truth. Likewise, let $P(Y=0,X=1|G)$ denote the proportion of false negatives in group G. It be shown that $P-\pi = P(Y=1,X=2|G) - P(Y=2,X=1|G)$ which is 0 if $P(Y=1,X=2|G) = P(Y=2,X=1|G)$, i.e., the table is symmetrical.

Therefore, we wish to test the hypothesis

$$H_0: P(Y=1,X=2|G) = P(Y=2,X=1|G)$$

If H_0 is rejected, then the bias in P is statistically significant and we can conclude that using caseworker data would be biasing for this type of analysis.
The results of testing this hypothesis for a number of child characteristics (G) are shown in Table 3. These results suggest that, for every subgroup in the table, the symmetry hypothesis is rejected. Therefore, estimates of the proportion of children having at least one re-report with be significantly and, in most cases, substantially biased.

Table 3. Test for Symmetry (Bias) by Characteristic					
Variable	Group (G)	$P(Y=1,X=2|G)$	$P(Y=2,X=1|G)$	Diff	S.E. of Diff
Age	0-2	0.080	0.558	-.478	0.059
	3-10	0.102	0.373	-.271	0.068
	>=11	0.052	0.592	-.541	0.098
Race	Black/Non-Hispanic	0.065	0.422	-.357	0.066
	Other	0.093	0.477	-.384	0.051
Hispanicity	Hispanic	0.131	0.491	-.360	0.112
	Other	0.078	0.453	-.375	0.047
Setting	In Home	0.084	0.462	-.378	0.050
	Other	0.087	0.446	-.359	0.053
Maltreatment	Sexual Maltreatment	0.087	0.630	-.543	0.136
	Oth Maltreatment/Exploitation	0.079	0.494	-.415	0.073
	Other	0.091	0.393	-.302	0.057
Gender	Male	0.080	0.405	-.325	0.058
	Female	0.088	0.514	-.426	0.062
Substantiation	Yes	0.106	0.514	-.408	0.049
	No	0.073	0.429	-.356	0.063

Now consider a similar type of analysis where instead of using the indicator variable Y we wish to use the number of re-reports for a child. This type of analysis would be biased if the number of re-reports based upon the caseworker data is significantly less than the number of re-reports based upon the agency data. Table 4 shows the weighted mean number of re-reports based upon caseworker data and agency data for various child characteristics. The last column in this table is the

relative difference expressed as a percentage and defined as the ratio of the difference between the caseworker and

agency. It is clear from this table that the number of re-reports using the caseworker file is substantially biased for every group shown in column 1 of the table. On average, the relative bias in the number of re-reports using caseworker data is about −37%.

A third type of analysis we considered aims to characterize children who are re-reported and compare them with other children. For this research objective, there are two possibilities. Researchers may be interested either using children or the re-reports themselves as the units of analysis. To assess the potential bias for analysis which uses the re-report as the

unit of analysis, Table 5 compares child characteristics for re-reports that are missing with re-reports that are not missing from the caseworker file. Note that, across all the child characteristics in the table, there are no significant differences between caseworkers provided and missing re-reports.

As an example, the distribution of child age for matched re-reports is very similar to that of non-matched reports. The chi-square test of homogeneity between the two distributions in not significant ($\chi^2 = 5.14$, p=0.18). The biggest difference occurs in the oldest category. As shown in the Table 2, 25% of the non-matched re-reports are associated with children in the 11-15 age range but only 16.2% of the matched re-reports falls in this category, a difference of 8.9 percentage points. In fact, despite the finding that some of the differences between the two distributions are quite large, none of the distributions differ significantly at the alpha = 0.05 level. This suggests that characterizations of re-reports using the child characteristics in the table will not be significantly biased by missing caseworker-provided re-report data.

Table 4. Comparison of Mean Number of Re-reports from Caseworker and Agency Files		Caseworker File	Agency File	Relative Difference
Age	0-2	0.37	0.62	-40.3
	3-5	0.53	0.84	-36.9
	6-10	0.43	0.55	-21.8
	11-15	0.28	0.64	-56.3
Gender	Male	0.43	0.64	-32.8
	Female	0.38	0.67	-43.3
Race/Hisp	Black/Non-Hisp	0.42	0.77	-45.5
	White/Non-Hisp	0.41	0.60	-31.7
	Hispanic	0.36	0.64	-43.8
	Other	0.33	0.53	-37.7
Baseline Setting/Services	In-Home, No Svcs	0.32	0.54	-40.7
	In-Home, Services	0.61	0.93	-34.4
	Out-of-Home	0.37	0.65	-43.1
Abuse Type	Physical Abuse	0.34	0.60	-43.3
	Sexual Abuse	0.27	0.45	-40.0
	Failure to Provide	0.43	0.59	-27.1
	Failure to Supervise	0.45	0.80	-43.8
	Other	0.51	0.66	-22.7
Substantiation	Yes	0.44	0.66	-33.3
	No	0.39	0.66	-40.9

Next we consider the bias when the child is the unit of analysis and we wish to characterize children who are re-reported at least once according to the caseworker data. Recall this was denoted by $Y=1$. As before, let X denote the corresponding agency classification which is again taken to be the gold standard in this analysis and let G denote a grouping variable. Then we wish to fit the model

$$\text{logit}[P(Y = 1)] = w + w_x^X + w_g^G + w_{gx}^{GX}$$

where w is the intercept, w_x^X is the main effect for X, w_g^G is the main effect for G and w_{gx}^{GX} is the interaction term. Of primary importance is the test of hypothesis H_0: $GX=0$. The GX interaction term essentially determines whether either false positive or false negative error rates differ by the grouping variable, G. If we reject this hypothesis then we can conclude that error rates differ by the levels of the grouping variable.

Otherwise, we say there is no evidence that one group has higher error rates than the other. Also, using this model, we can obtain the predictive marginal

probabilities $P(Y=2|X=1,G)$, the false negative probability for group G and $P(Y=1|X=2,G)$ the false positive probability for group G. Table 3 shows these results for a number of child characteristics.

Again, there is no evidence that any of the child characteristics examined in this table have any effect on the error rates of the caseworker interview. For example, consider the results for the last variable in the table, Substantiation. For this variable, the false negative rate for substantiated children is 51% compared with 43% for unsubstantiated children. Likewise, the false positive rate is 11% and 7%, respectively. However, the p-value associated with H_0 is 0.11 suggesting that the hypothesis cannot be rejected at the

5% alpha-level. Thus, the false positive and false negative rates cannot be declared statistically different. However, this does provide some weak evidence that substantiated children have a higher false negative and higher false positive probabilities than unsubstantiated children.

Table 5. Comparison Child Characteristics for Matched and Non-Matched Re-reports				
Characteristic	**Matched (%)**	**Nonmatched (%)**	**Difference**	**Chi-square and p-value**
Age at sampling				5.14
0-2	18.5	20.1	-1.7	0.18
3-5	32.3	27.6	4.7	
6-10	33.1	27.3	5.9	
11-15	16.2	25.0	-8.9	
Gender				1.15
Male	51.7	45.4	6.3	0.29
Female	48.3	54.6	-6.3	
Race				1.17
Black/Non-Hisp	36.4	41.1	-4.8	0.76
White/Non-Hisp	44.2	38.6	5.6	
Hispanic	14.6	14.8	-0.3	
Other	4.9	5.4	-0.5	
Baseline Setting/Services				2.08
In-Home, No Svcs	46.8	46.1	0.7	0.36
In-Home, Services	42.6	36.4	6.2	
Out-of-Home	10.6	17.5	-6.9	
Abuse Type				5.48
Physical Abuse	23.1	21.9	1.2	0.26
Sexual Abuse	6.0	10.7	-4.8	
Failure to Provide	17.8	18.2	-0.4	
Failure to Supervise	32.7	38.1	-5.5	
Other	20.5	11.0	9.4	
Substantiation				1.61
Yes	35.6	41.6	-6.1	0.21
No	64.4	58.4	6.1	

4. Analysis Summary

Although this is a somewhat limited investigation of the quality of the NSCAW re-report data, we believe we can conclude that re-reports are substantially under-represented in released NSCAW data. Based on our comparison of caseworker data and agency administrative files of re-reports, we estimate that between 59% to 62% of all re-reports are missing from caseworker interview data. There are two sources of missing data: approximately 45% of the missing re-reports can be attributed to the NSCAW method for identifying the need for a caseworker interview. The other 55% is primarily due to a failure of the caseworker interview to capture the re-report due to interviewer error, respondent (caseworker) error, errors in the case files consulted during the interview, or other interview related reasons.

For analysis which seeks to produce estimates of the proportion of children re-reported at least once, the missing data will have severely biasing effects. There are considerable negative biases for virtually every

subgroup we considered including estimates at the state level. This bias is due to the lack of symmetry in the errors; i.e., the number of false negative errors in the data file far outweighs the number of false positive errors, which means a net underestimation of the proportion of children who had at least one re-report. In addition, analysis which uses the number of re-reports as either a dependent or independent variable will be severely biased.

Table 6. False Positive And False Negative Probabilities For Child Characteristics				
Characteristic	False Positive Probability	S.E.	False Negative Probability	S.E.
Age (p=0.61)				
0-2	0.080	0.020	0.558	0.056
3-10	0.102	0.027	0.373	0.062
>=11	0.052	0.015	0.592	0.097
Race (p = 0.17)				
Black/Non-Hispanic	0.065	0.018	0.422	0.064
Other/Non-Hispanic	0.093	0.021	0.477	0.047
Hispancity (p=0.36)				
Hispanic	0.131	0.067	0.491	0.090
Other	0.078	0.015	0.453	0.045
Setting (p=0.94)				
In Home	0.084	0.018	0.462	0.047
Other	0.087	0.020	0.446	0.049
Maltreatment (p=0.54)				
Sexual Maltreatment	0.087	0.038	0.630	0.131
Other Maltreatment &	0.079	0.029	0.494	0.067
Other	0.091	0.017	0.393	0.055
Gender (p=0.28)				
Male	0.080	0.018	0.405	0.055
Female	0.088	0.021	0.514	0.058
Substantiation (p=0.11)				
Yes	0.106	0.025	0.514	0.042
No	0.073	0.018	0.429	0.060

However, for analysis that seeks to characterize children based upon a dichotomization -- whether or not the child has been re-reported -- the results are more positive. For the child characteristics considered in our preliminary assessment, we found no significant differences between children who were correctly classified as having been re-reported based on caseworker interview data and those who were incorrectly classified. These findings suggest that using the caseworker-provided re-report data in current NSCAW releases as a basis for characterizing children who were re-reported should not lead to important biases or false inferences.

Our investigation is limited for several reasons. First, the administrative data that we acquired from the agencies and that we consider the gold standard for much of our error analyses, may themselves be subject to error. If re-reports are also missing from the agency files, than our estimates of the caseworker false negative error rates are understated. However, this would not change our conclusions that the NSCAW data are not appropriate for estimating the proportion of children who were re-reported or the average number of re-reports per child. Secondly, several important agencies have not yet responded to our request for administrative data and, consequently, were not included in this preliminary analysis. Data used only represent 60% of the NSCAW population.

Reference

NSCAW Research Group. (2002). Methodological lessons from the National Survey of Child and Adolescent Well-being: the first three years of the USA's first national probability study of children and families investigated for abuse and neglect. Children and Youth Services Review, 24(6/7), 513–541.