

**CHILDREN AND FAMILY RESEARCH CENTER**

**Illinois Child Endangerment  
Risk Assessment Protocol:  
Impact on Short-term  
Recurrence Rates (FY04)**

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## Executive Summary

In 1994, the Illinois Senate passed PA 88-614, which required the Department of Children and Family Services (DCFS) to develop a standardized child endangerment risk assessment protocol and to implement its use by training staff and certifying their proficiency. This act also required DCFS to provide an annual evaluation report to the General Assembly regarding the reliability and validity of the protocol, known as the **CERAP (Child Endangerment Risk Assessment Protocol)**.

The CERAP is a safety assessment instrument and was designed to evaluate the likelihood of immediate harm (to a child) of a moderate to severe nature. This report analyzes the impact of CERAP implementation on the safety of children investigated by the Illinois Department of Children and Family Services (DCFS) for abuse and neglect. For this purpose, safety is defined in terms of the occurrence/non-occurrence of an indicated allegation of maltreatment within 60 days of an initial investigation (also referred to in the report as *maltreatment recurrence*). The evaluation utilizes a research design called a *secular trend analysis* that examines the child safety outcome (e.g., maltreatment recurrence rates) before and after CERAP implementation. Two sets of analyses were completed to examine CERAP effectiveness: 1) an extended trend analysis of recurrence rates several years prior to CERAP implementation through the eighth year post-implementation and 2) several sub-group analyses that rule out alternative explanations and clarify the impact of CERAP on recurrence rates.

### Summary of Major Findings

- 60-day recurrence rates continued to decline during 2003, falling from 1.03% in 2002 to .81% in 2003 (a 21% decrease). This represents an overall reduction in recurrence of 75.9% from 1986 to 2003.

- The pattern of findings holds true if children taken out of the household and into DCFS protective custody are excluded from the analysis.
- Analyses confirmed that the reductions in recurrence rates seen following CERAP implementation were *not* caused by contemporaneous changes in DCFS policies related to allegations involving lack of supervision and substance-exposed infants.
- 60-day recurrence rates for children with multiple maltreatment reports follow the same extended secular trend as those following first reports. Recurrence rates increase as the number of maltreatment reports increase; for example, children with four previous maltreatment reports are much more likely to experience an additional indicated report of maltreatment within 60 days than those with one, two, or three previous reports.

## **Conclusions and Recommendations**

The results of the current evaluation of the impact of the Child Endangerment Risk Assessment Protocol confirm that short-term recurrence rates continue to decline in the eighth year following CERAP implementation. Analyses that examined the pattern of recurrence rates prior to CERAP implementation support the hypothesis that CERAP implementation had a positive impact on child safety. Additional tests ruled out alternative policy changes as the cause of the observed changes in recurrence, further strengthening the evidence for the impact of the CERAP. Thus, the totality of the empirical evidence that has been collected since the CERAP was implemented in 1995 suggests that this policy intervention has had a positive and enduring effect on the safety of children known to the Department.

## **Illinois Child Endangerment Risk Assessment Protocol Evaluation: Impact on Short-term Recurrence Rates**

Increased attention to incidents of severe child maltreatment in Illinois during 1993 and 1994 led to the passage of Senate Bill 1357, which became effective as PA 88-614 on September 7, 1994. In part, this bill required that the Illinois Department of Children and Family Services (DCFS/the Department):

- develop a standardized child endangerment risk assessment protocol, training procedures, and a method of demonstrating proficiency in the application of the protocol by July 1, 1996;
- train and certify all DCFS and private agency workers and supervisors in protocol use by July 1, 1996; and
- submit an annual evaluation report to the Illinois General Assembly, which includes an examination of the reliability and validity of the protocol.

In addition, the legislation specified the establishment of a multidisciplinary advisory committee, appointed by the Director of DCFS, which included representation from experts in child development, domestic violence, family systems, juvenile justice, law enforcement, health care, mental health, substance abuse, and social services. DCFS was also required to contract with an outside expert to provide services related to the development, implementation, and evaluation of the protocol.

In response to these mandates, a multidisciplinary Child Endangerment Risk Assessment Protocol (CERAP) Advisory Committee began meeting one week after the legislative mandate became law, and the American Humane Association (AHA) was hired to provide services related to the development, implementation, and evaluation of the protocol. Over the following 15 months, the CERAP was developed and piloted, a training curriculum and certification criteria were developed, and over 6000 workers and supervisors were trained and tested for proficiency.

CERAP implementation “officially” occurred on December 1, 1995, which is the date that all DCFS workers and private providers had been trained in the use of the protocol and over 99 percent had been successfully certified.

## **Evaluation Strategy**

Although service and policy interventions are most reliably evaluated using an experimental research design with random assignment of subjects to treatment versus control groups, such designs are rarely feasible in natural settings. In such instances, observational research methods, which rely on naturally occurring groups of people who were and were not exposed to the intervention, are often used. The two most common sources of comparison are historical groups (groups that temporally preceded the introduction of an intervention) and geographical groups (groups that are at a spatial distance from the intervention, e.g. other counties or states). Because naturally occurring groups by history or geography will seldom be statistically equivalent to the group exposed to the intervention, relevant characteristics that might influence the outcome will be distributed non-randomly between the two groups. Therefore, the influence of these factors should be controlled or assessed through research design and statistical analysis in order to draw valid inferences.

The evaluation of the impact of CERAP implementation on child safety in Illinois is an example of a program of research that must rely on observational research methods rather than on experimental ones. Since it is unethical to purposefully withhold safety assessment and planning from a random “control” sample of children, researchers from the American Humane Association (AHA) and the Children and Family Research Center (CFRC) at the University of Illinois have sought to assess the consequences of CERAP for child safety through a program of studies that compare outcome measures for groups of children before and after the introduction of CERAP (historical group comparisons).

The CERAP assesses child **safety**, defined as the likelihood of immediate harm of a moderate to severe nature. For the purpose of evaluation, safety has been defined using data from the DCFS Child Abuse and Neglect Tracking System (CANTS) database as the occurrence (i.e., recurrence) of an indicated report of maltreatment within 60 days of an initial report. To evaluate the effectiveness of the CERAP intervention, previous and current evaluations have employed a design called a *secular trend analysis* that examines the child safety outcome (e.g., recurrence rates) before and after the point in time when the implementation of CERAP occurred (December 1, 1995).

### **Extended Secular Trend Analyses**

Previous evaluations of the CERAP analyzed short-term recurrence rates from the year prior to CERAP implementation (December 1, 1994 – November 30, 1995) through the sixth year post-implementation (December 1, 2000 – November 30, 2001) and found that recurrence rates consistently declined over this period (see Garnier & Nieto, 2002). To further strengthen the validity of the inference regarding CERAP effectiveness, the FY03 evaluation extended the trend analysis several years *prior to* CERAP implementation to assess whether the documented decline in recurrence rates was a reversal of an earlier pattern or a continuation of past trends. The results of the FY03 extended analysis indicated that recurrence rates were at their highest level in 1986, after which they declined consistently until 1991, remain relatively level until 1994, at which time they show a large, unexpected *increase*. The next year (1995), recurrence rates dropped significantly and returned to previous levels. Recurrence rates continued to decline in the first year post-CERAP implementation (1996) and each year thereafter (with the exception of 1998 in which they remained level) through 2002. Thus, if the anomalous increase in 1994 is overlooked, it appears that recurrence rates begin to decline the year following CERAP implementation and continue this decline during the next six years (1997-2002).

The FY04 CERAP evaluation examines short-term maltreatment recurrence rates for the eighth year post-CERAP implementation (December 1, 2002 – November 30, 2003). Table 1 presents the updated data for this time period and Figure 1 presents this data graphically. Recurrence rates continued their decline in 2003, falling an additional 21% from the previous year. Overall, 60-day recurrence rates have fallen 76% from 1986 to 2003 – from 3.36% to .81%.

**Table 1. 60-Day Recurrence for First Reports in Time Period (1986 – 2003)**

	Total	Number Recurrent <sup>a</sup>	Crude Rate (%)	% Change From Prior Year <sup>b</sup>
1986	89,656	3,012	3.36	
1987	87,954	2,476	2.82	-16.1
1988	89,267	2,342	2.62	-7.1
1989	91,147	2,090	2.29	-12.6
1990	90,058	1,935	2.15	-6.1
1991	99,468	1,975	1.99	-7.4
1992	107,328	2,213	2.06	3.5
1993	105,009	2,102	2.00	-2.9
1994	112,415	2,730	2.43	21.5
1995	108,732	2,239	2.06	-15.2
<b>1996<sup>c</sup></b>	<b>98,139</b>	<b>1,717</b>	<b>1.75</b>	<b>-15.0</b>
1997	92,101	1,428	1.55	-11.4
1998	88,873	1,403	1.58	1.9
1999	85,436	1,228	1.44	-8.9
2000	86,833	1,083	1.25	-13.2
2001	84,982	1,013	1.19	-4.8
2002	85,828	884	1.03	-13.4
2003 <sup>d</sup>	87,542	710	.81	-21.4

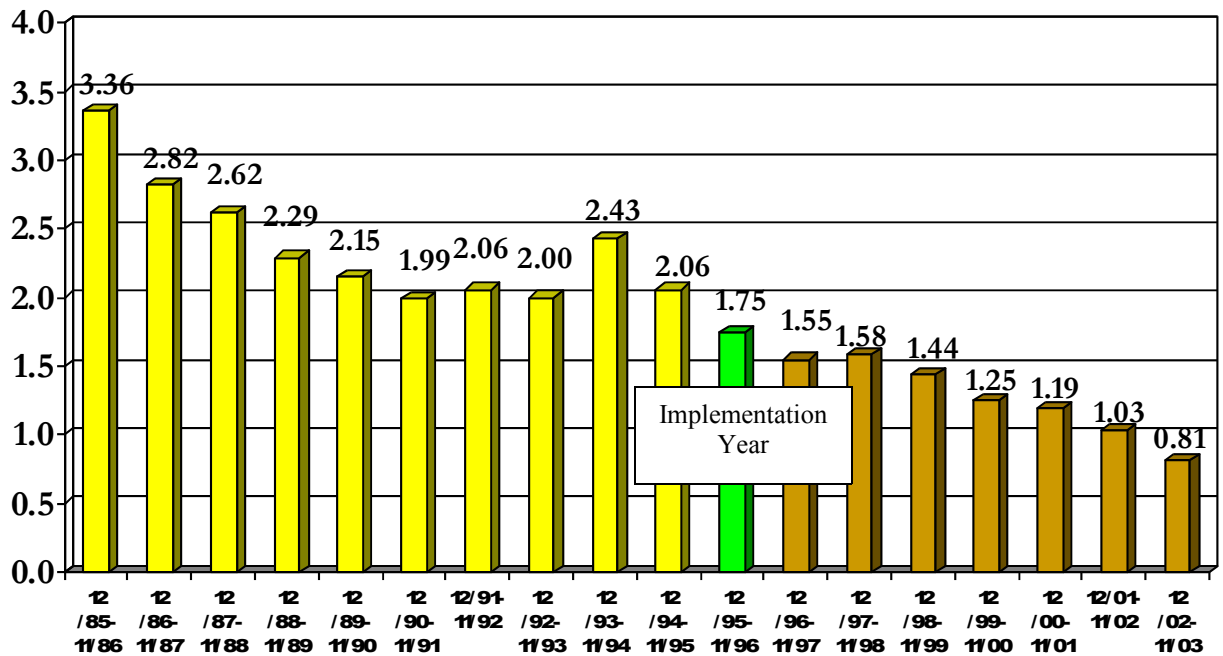
<sup>a</sup>The number of children with an indicated report occurring within 60 days of their first report in the time period observed.

<sup>b</sup>Percentage changes represent the percentage change in percentages, not the raw difference from one percentage to another.

<sup>c</sup>CERAP implementation year

<sup>d</sup>Recurrence rates for 2003 are incomplete; data for January 1, 2003 through January 29, 2003 were not available at the time of analysis.

**Figure 1. 60-Day Recurrence for First Reports in Time Period (1986 – 2003)**



The data representing first reports were further refined by selecting only the Sequence A reports and only cases in which protective custody (PC) was not taken. Since the CERAP is targeted at the prevention of future maltreatment and children with multiple investigations have higher rates of indication than those in their first investigation, controlling for previous investigations by selecting only Sequence A reports provides a clearer picture of the impact of CERAP implementation<sup>1</sup>. Eliminating children taken into protective custody theoretically excludes from analysis those children who spent a portion of time out of the investigated (and CERAP evaluated) household. The 60-day recurrence rates for children with Sequence A reports (PCs excluded) for the extended trend analysis are presented in Table and Figure 2. Although the total

<sup>1</sup> Sequence A is the designation given to the first report on a given *household*, as opposed to the “first reports” on a particular *child*. To select this group, the first report for each child in a given time period is obtained, and then all Sequence A reports are selected. Thus, “Sequence A reports” are a subset of all first reports during a given time period.



number of reports each year is smaller, the pattern or trend of recurrence rates is nearly identical to that which included protective custody cases and children with previous reports.

**Table 2. 60-Day Recurrence for Sequence A Reports, PCs Excluded (1986 – 2003)**

	<b>Total</b>	<b>Number Recurrent<sup>a</sup></b>	<b>Crude Rate (%)</b>	<b>% Change From Prior Year<sup>b</sup></b>
1986	66,778	1,630	2.44	
1987	73,957	1,891	2.56	4.5
1988	78,290	1,839	2.35	-7.8
1989	82,062	1,722	2.10	-10.6
1990	81,975	1,576	1.92	-8.6
1991	87,954	1,560	1.77	-7.8
1992	94,721	1,756	1.85	4.5
1993	91,901	1,641	1.79	-3.2
1994	98,180	2,198	2.24	25.1
1995	95,388	1,847	1.94	-13.4
1996 <sup>c</sup>	86,026	1,380	1.60	-17.5
1997	81,340	1,178	1.45	-9.4
1998	78,029	1,124	1.44	0
1999	75,773	1,003	1.32	-8.3
2000	77,674	893	1.15	-12.9
2001	76,026	792	1.04	-9.6
2002	76,381	704	.92	-11.5
2003	76,894	572	.74	-19.6

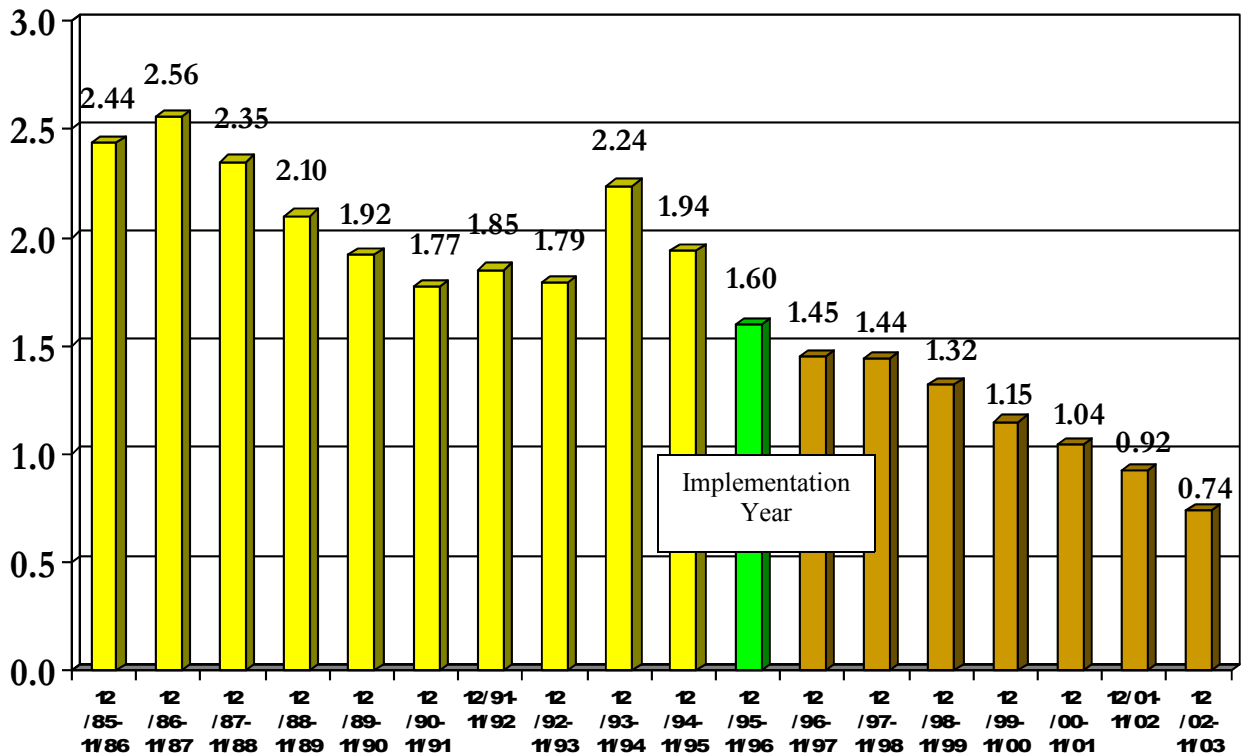
<sup>a</sup>The number of children with an indicated report occurring within 60 days of their first report in the time period observed.

<sup>b</sup>Percentage changes represent the percentage change in percentages, not the raw difference from one percentage to another.

<sup>c</sup>CERAP implementation year

<sup>d</sup>Recurrence rates for 2003 are incomplete; data for January 1, 2003 through January 29, 2003 were not available at the time of analysis.

**Figure 2. 60-Day Recurrence for Sequence A Reports, PCs Excluded (1986 – 2003)**



### Sub-Group Secular Trend Analyses

Secular trend studies are a satisfactory method for provisionally assessing the factual consequences of an intervention for an outcome of interest. However, the greatest threat to drawing valid inferences from such studies is the inability to control for simultaneous historical events. The experimental assumption of statistical equivalence is inapplicable to historical groups for the simple reason that history itself is different for the before and after groups. In reference to the current evaluation, the rival hypothesis exists that not CERAP but some more or less simultaneous event produced the reduction in recurrence rates. To deal with possible historical threats to valid inference, additional comparative secular trend analyses were conducted to examine the effects of two policy changes that occurred around the same time as CERAP and also might account for the reduction in recurrence rates.

The first competing historical explanation is the Home of Relative (HMR) Reform implemented by DCFS in July 1995. HMR Reform ended the practice of taking into state custody children who were living with extended kin. Prior to the change, children who were living apart from their parents with kin were frequently indicated as neglected for “lack of (parental) supervision.” After the change, the rate of indicated child neglect for lack of supervision dropped dramatically. Since relatives would phone the hotline repeatedly to obtain services, the decline in recurrence rates after 1995 could simply be a by-product of DCFS no longer indicating children who were living safely with relatives for lack of (parental) supervision. To examine the potentially confounding influence of HMR Reform on recurrence rates, the secular trend analysis was repeated on a subset of sequence A allegations that excluded children with allegations of lack of supervision (Table and Figure 3).

A comparison of the 60-day recurrence rates for all Sequence A reports (Figure 2) and those with lack of supervision allegations excluded (Figure 3) reveals almost identical patterns of change from 1986 to 2003. Thus, the hypothesis that the decline in recurrence rates subsequent to 1995 was due to HMR Reform and changes in lack of supervision allegations can be abandoned.

**Table 3. 60-Day Recurrence for Sequence A Reports, Excluding Lack of Supervision Allegations, PCs Excluded (1986 – 2003)**

	Total	Number Recurrent <sup>a</sup>	Crude Rate (%)	% Change From Prior Year <sup>b</sup>
1986	30,340	789	2.60	
1987	33,167	904	2.73	5.0
1988	35,492	833	2.35	-13.9
1989	37,212	758	2.04	-13.2
1990	37,048	749	2.02	-1.0
1991	40,349	762	1.89	-6.4
1992	44,764	797	1.78	-5.8
1993	42,957	767	1.79	0
1994	46,436	1,078	2.32	29.6
1995	45,870	960	2.09	-9.9
1996 <sup>c</sup>	41,967	710	1.69	-17.7
1997	39,016	644	1.65	-2.4
1998	36,436	554	1.52	-7.9
1999	35,204	483	1.37	-9.9
2000	35,984	460	1.28	-6.6
2001	35,643	386	1.08	-15.6
2002	37,700	348	.92	-14.8
2003	39,867	330	.83	-9.8

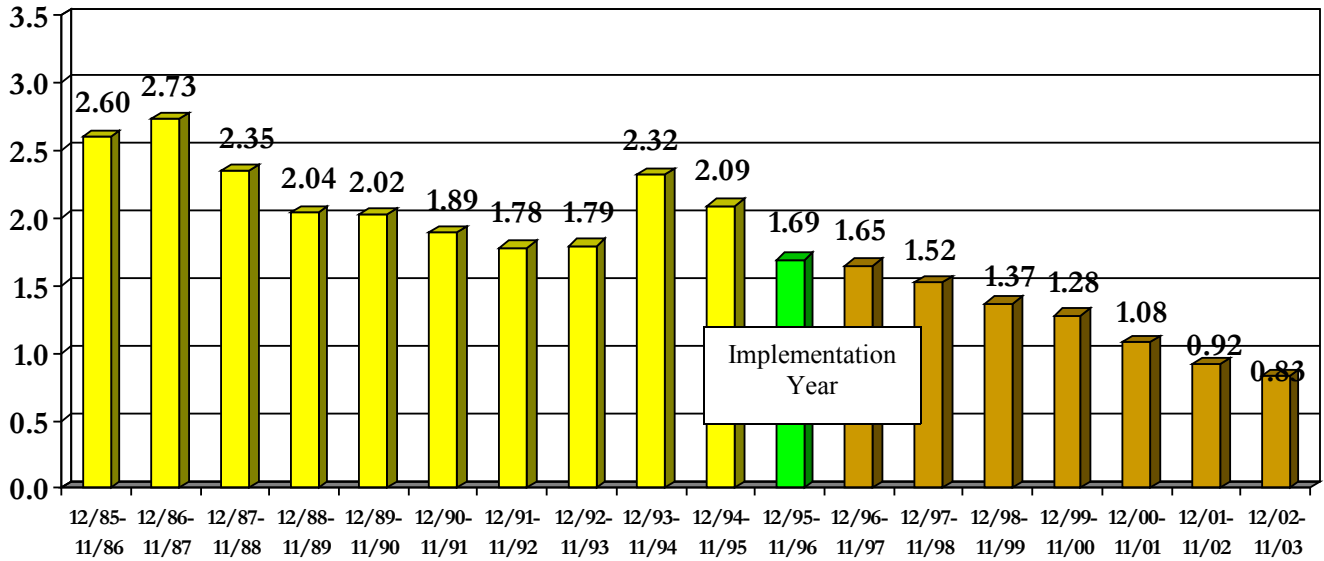
<sup>a</sup>The number of children with an indicated report occurring within 60 days of their first report in the time period observed.

<sup>b</sup>Percentage changes represent the percentage change in percentages, not the raw difference from one percentage to another.

<sup>c</sup>CERAP implementation year

<sup>d</sup>Recurrence rates for 2003 are incomplete; data for January 1, 2003 through January 29, 2003 were not available at the time of analysis.

**Figure 3. 60-Day Recurrence for Sequence A Reports, Excluding Lack of Supervision Allegations, PCs Excluded (1986 – 2003)**



A second competing historical explanation is the increased rate of removal of substance-exposed infants (SEI) from parental custody after 1995. Because the risk of recurrence is diminished for children taken from parental custody, the observed decline in recurrence after 1995 may have been an artifact of this change in removal practices. By excluding SEI allegations from the secular trend analysis, the effects of this policy change can be statistically “controlled” (see Table and Figure 4).

**Table 4. 60-Day Recurrence for Sequence A Reports, Excluding SEI Allegations, PCs Excluded (1986 – 2003)**

	Total	Number Recurrent <sup>a</sup>	Crude Rate (%)	% Change From Prior Year <sup>b</sup>
1986	46,309	1,341	2.90	
1987	51,339	1,564	3.05	5.2
1988	52,871	1,537	2.91	-4.6
1989	55,215	1,338	2.42	-16.8
1990	54,866	1,275	2.32	-4.1
1991	58,532	1,265	2.16	-6.9
1992	64,839	1,376	2.12	-1.9
1993	61,629	1,329	2.16	1.9
1994	66,832	1,761	2.63	21.8
1995	64,926	1,468	2.26	-14.1
1996 <sup>c</sup>	57,978	1,073	1.85	-18.1
1997	54,433	938	1.72	-7.0
1998	51,917	895	1.72	0
1999	50,468	802	1.59	-7.6
2000	51,273	716	1.40	-11.9
2001	50,099	609	1.22	-12.9
2002	51,023	575	1.13	-7.4
2003	53,610	481	.90	-20.4

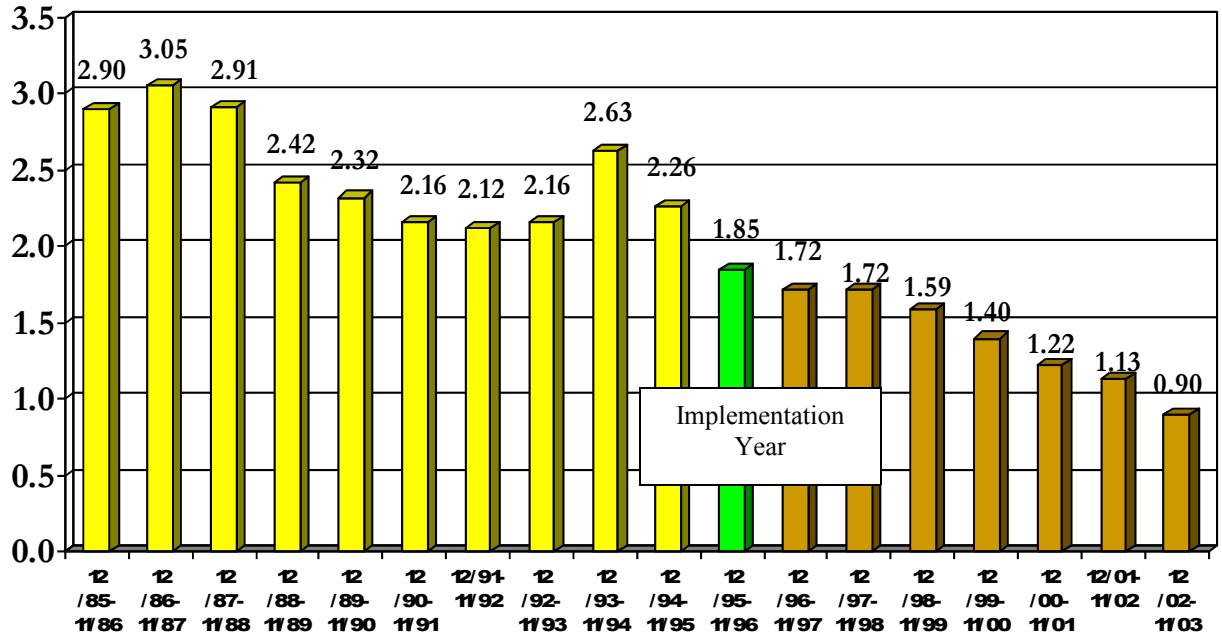
<sup>a</sup>The number of children with an indicated report occurring within 60 days of their first report in the time period observed.

<sup>b</sup>Percentage changes represent the percentage change in percentages, not the raw difference from one percentage to another.

<sup>c</sup>CERAP implementation year

<sup>d</sup>Recurrence rates for 2003 are incomplete; data for January 1, 2003 through January 29, 2003 were not available at the time of analysis.

**Figure 4. 60-Day Recurrence for Sequence A Reports, Excluding SEI Allegations, PCs Excluded (1986 – 2003)**



A comparison of the trend analysis with SEI allegations excluded (Figure 4) to that with all Sequence A reports (Figure 2) reveals a nearly identical pattern of recurrence rates from 1986 to 2003. This bolsters the hypothesis that the changes in recurrence rates that occurred after 1995 were related to CERAP implementation rather than changes in policy or practice regarding substance-exposed infants.

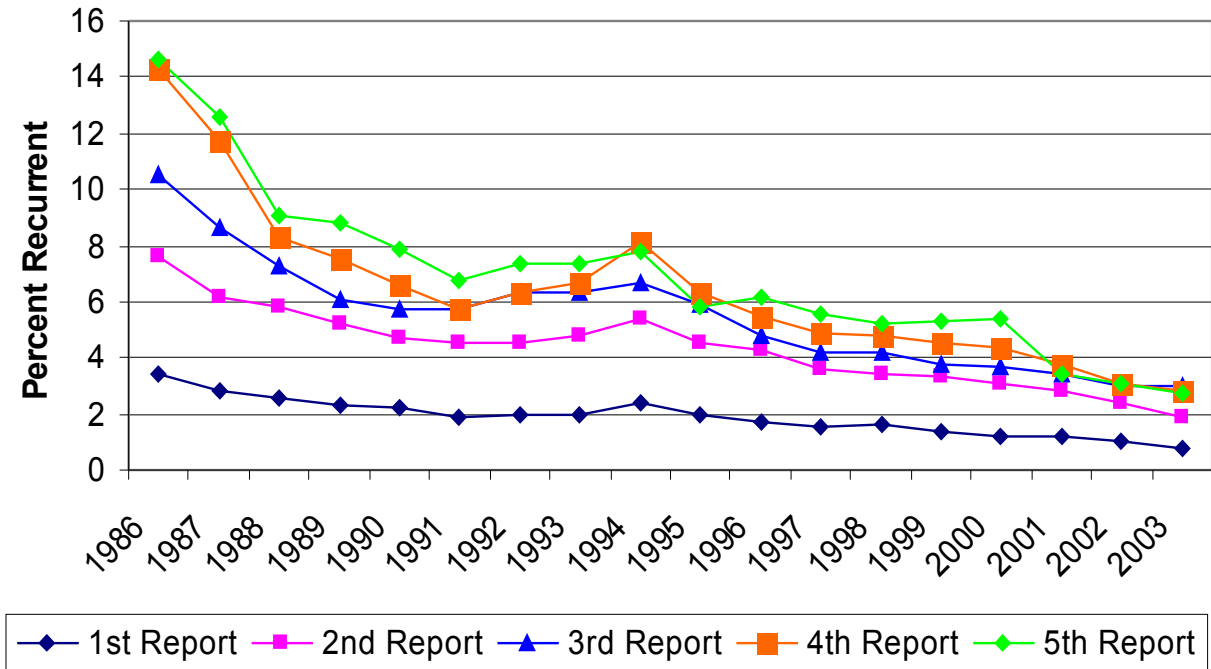
### **Secular Trend Analysis in Cases with Multiple Recurrences**

To provide a clearer picture of CERAP efficacy, past evaluations have limited the trend analyses to either first reports or Sequence A cases. Children with more than one report have higher rates of indication than those in their first report, which influences the overall recurrence rate during any given time period. To “control” for this influence, cases with multiple reports were left out of past analyses. However, the effect of CERAP on child safety (i.e., recurrence) should be equivalent no matter how many times a family has been previously investigated. To



examine this issue, trend analyses were conducted for 60-day recurrence rates following a child's second, third, fourth, and fifth maltreatment reports (PCs were excluded).

**Figure 5. 60-Day Recurrence Rates Following a Second, Third, Fourth, or Fifth Maltreatment Report, PCs Excluded (1986-2002)**



Examination of Figure 5 confirms that the trends for short-term recurrence rates following multiple reports are very similar to that following a first report, which is included in the figure for comparison. The analysis also corroborates the assumption that recurrence rates increase as the number of maltreatment reports increase.

## **Conclusions and Recommendations**

The results of the current evaluation of the impact of the Child Endangerment Risk Assessment Protocol confirm that short-term recurrence rates continue to decline in the seventh year following CERAP implementation. Analyses that examined the pattern of recurrence rates prior to CERAP implementation support the hypothesis that CERAP implementation had a positive impact on child safety. Additional tests ruled out alternative policy changes as the cause of the observed changes in recurrence, further strengthening the evidence for the impact of the CERAP. Thus, the totality of the empirical evidence that has been collected since the CERAP was implemented in 1995 suggests that this policy intervention has had a positive and enduring effect on the safety of children known to the Department.