

Using Multiple Methods to Evaluate New York State's CPS Differential Response Initiative

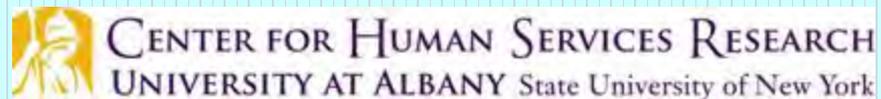
New York State Office of Children and Family Services

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Workshop Learning Objectives

- **Research Design**
 - Program and site characteristics conducive to conducting an impact evaluation in a CPS agency
- **RCT or Other Comparison Group**
 - When Nearest Neighbor Propensity Score Matching (PSM) can be used to create an unbiased comparison group
- **Issues in surveying a very hard-to-reach population**
 - Client satisfaction survey of parents reported for child neglect
- **Impact Study Results**
 - Family satisfaction, engagement, child welfare outcomes

Differential Response

Allows Child Protective Services (CPS) to use an alternative method to respond to CPS reports instead of the traditional investigation

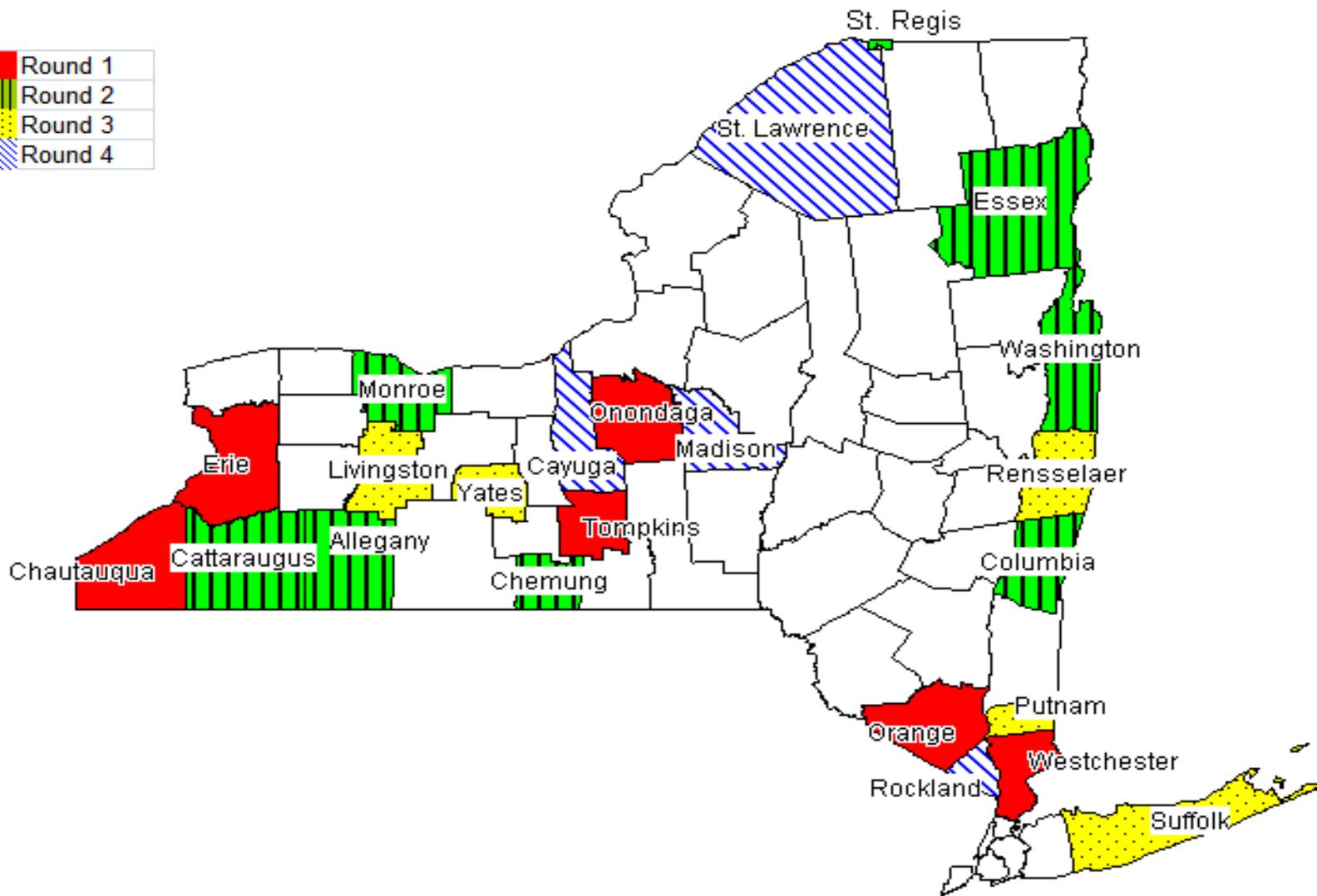
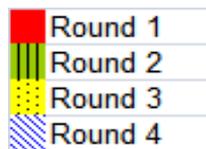
In NYS, the alternative pathway is called the
Family Assessment Response

Evaluation Goals

- Legislation required an assessment of the effectiveness of the new program in:
 - Promoting broader community involvement in meeting family service needs
 - Expanding and expediting access to appropriate services
 - Improving cooperation of families
 - Reducing subsequent abuse and neglect reports
 - Promoting child safety

What were the important considerations in choosing sites for the impact study?

1. Program eligibility criteria
2. Program Size - sufficient sample size
3. Program Maturity and Strength
4. Local capacity to implement stringent RCT protocol
5. Local capacity to help identify historical comparison group



How did the 6 original pilot sites match up with the impact evaluation requirements?

2 sites had a combination of programmatic and organizational capacity making them suitable for an impact evaluation

Study Design

Process Study

- 6 pilot counties / 5 pilot counties

Impact Study

- 1 randomized control trial (Onondaga)
- 1 historical comparison group (Tompkins)

Impact Study Questions

Does the FAR approach:

- Increase the satisfaction of families with the county's response to hotline reports?
- Increase the percentage of families provided or referred to services that address their needs?
- Reduce the prevalence of subsequent CA/N reports?
- Reduce the number of children for whom petitions are filed in family court?
- Reduce the use of formal child welfare services while increasing the use of natural and community resources to meet family needs?

Data Sources

Centralized Administrative Databases

(CPS reports, service cases, foster care, legal)

Evaluation Only Sources

FAR Closing Report

Family Satisfaction Survey

CPS Caseworker Survey

Sample Sizes

Process Study

6 counties

2,036 FAR families

Impact Study

	RCT Onondaga	Historical Tompkins
FAR Families	946	299
Control Families	546	299

Onondaga RCT Samples

	FAR Group	INV Control
Prior CPS history*	77.6%	71.4%
* significant difference at .01 level		
Single-adult household	46.5%	46.3%
Mother is Primary Caregiver (PC)	85.2%	84.6%
PC is White	59.9%	55.9%
PC is African American	25.3%	24.4%
PC is Hispanic	4.1%	5.1%
Age of PC (mean/median)	33.7 / 32.0	34.3 / 33.0
# of children (mean/median)	2.4 / 2.0	2.4 / 2.0
Age of youngest child (mean/median)	5.2 / 4.0	5.6 / 4.0
No significant differences on allegation types		

Evaluation Details



1) Assessment of pilot counties' capacities to participate in the impact evaluation (RCT or historical) – reasons why a uniform research protocol was not feasible



2) RCT design in 1 site

Yufan

3) How propensity score matching (PSM) was used in the process of establishing a historical control group

Lara

4) Lessons learned from using multiple methods to contact parents to participate in mail, telephone, or internet satisfaction surveys;

Joanne
/ Yufan

5) Impact Study Findings

Historical Control Group

**PROPENSITY SCORE MATCHING
(PSM)**

RCT was not feasible in Tompkins County

- A rural county with small population (101,136)
- Intent to treat all eligible
 - 69% of CPS reports assigned to FAR in study period
- No FAR-eligible cases left to form a control group

Steps before PSM

1. Started with all child abuse and neglect reports in 2007 (n=760)
2. Excluded reports with any child alleged to be abused, and reports with serious safety issues—legislative requirement (n=706)
3. County applied the screening tool to determine FAR eligibility (n=483)

Why these steps are not sufficient?

	FAR Intervention Group		Historical Control Group	
	#	%	#	%
	Total	299	100.0%	483
Single-adult household***	148	49.5%	300	62.1%
CPS history—family with prior report*	233	79.9%	351	72.7%
Family with prior open CWS at intake*	19	6.4%	54	11.2%

* significant at .05 level; *** significant at .001 level.

What is propensity score?

- Conditional probability that a person will be in one condition rather than in another (i.e., treatment vs. control)
- The conditional probability is predicted by a set of observed covariates / conditions
- In our study, propensity score is the probability that a family would be assigned to FAR given the family and case characteristics

Why propensity score ? (1)

- Selection bias or omitted variable bias exists when RCT is not feasible or researchers have no control over treatment assignment
- Result: inaccurate estimate of treatment effect

Why propensity score ? (2)

- Remove selection bias based on observed family and case characteristics
- Propensity score combines numerous family and case characteristics into a single scaled variable

Fundamental Assumption

- Propensity score analysis assumes that all variables related to both outcomes and treatment assignment are included in the observed covariates
- This is called “selection on observables”, assuming that conditioning on the observed covariates eliminates selection bias

Propensity score can be used in several possible ways to eliminate selection bias:

1. Regression (covariance) adjustment
 2. Weighting
 3. Stratification
 4. Matching: 1 to 1 (including nearest neighbor matching); 1 to n; Mahalanobis Metric matching, etc.
- One-to-one nearest neighbor propensity score matching (PSM) chosen for the study

General procedure of one-to-one nearest neighbor PSM

1. Obtain propensity score through logistic regression
2. Use the propensity score for matching
3. Estimate treatment effects using the new sample

Logistic regression to estimate propensity score (1)

- A database with families in FAR ($n=299$) historical control group ($n=483$)
- Dependent variable: $Y=1$ if FAR, $Y=0$ if historical control group
- Independent (conditioning) variables
- The propensity score is the predicted probability of being assigned to FAR

Logistic regression to estimate propensity score (2)

Variables in the model	B	S.E.	Wald	Sig.	Exp(B)
Single-adult household (1 = yes; 0 = no)	-.562	.156	12.922	.000	.570
Prior CPS report (1 = yes; 0 = no)	.611	.194	9.966	.002	1.843
Mother as primary caregiver (PC) (1 = yes; 0 = no)	.150	.359	.175	.676	1.162
Father as PC (1 = yes; 0 = no)	-.331	.414	.641	.423	.718
PC's race: White (1 = yes; 0 = no)	.033	.252	.017	.896	1.033
PC's race: African-American (1 = yes; 0 = no)	.056	.340	.027	.870	1.057
Age of PC	.022	.012	3.658	.056	1.023
Number of children in the family	.120	.113	1.119	.290	1.127
Age of youngest child	-.043	.029	2.148	.143	.958
Age of oldest child	.035	.030	1.389	.239	1.036
Prior open child welfare services case (1 = yes; 0 = no)	-.746	.291	6.582	.010	.474
Physical abuse allegation (1 = yes; 0 = no)	-.248	.199	1.551	.213	.780
Educational neglect allegation (1 = yes; 0 = no)	-.672	.411	2.673	.102	.511
Inadequate guardianship allegation (1 = yes; 0 = no)	-.155	.227	.464	.496	.856
Physical neglect allegation (1 = yes; 0 = no)	-.166	.170	.957	.328	.847
Child drug/alcohol use allegation (1 = yes; 0 = no)	.390	.420	.862	.353	1.478
Parent drug/alcohol misuse allegation (1=yes;0=no)	-.183	.186	.974	.324	.833
Reported by mandated reporter (1 = yes; 0 = no)	.037	.162	.052	.820	1.038
Constant	-1.218	.659	3.417	.065	.296

SPSS macro to perform the one-to-one nearest PSM

- The best available pair is formed and removed by minimizing the propensity score difference
- Best pairs are formed from the remaining data until 299 paired families are formed
- SPSS macro from Raynald's SPSS Tools

<http://www.spsstools.net/Syntax/RandomSampling/MatchCasesOnBasisOfPropensityScores.txt>

PSM results

	FAR Intervention Group		Control Group (after matching)	
	#	%	#	%
Total	299	100.0%	299	100.0%
Single-adult household	148	49.5%	156	52.2%
CPS history—family with prior report	233	79.9%	229	76.6%
Family with prior open CWS at intake	19	6.4%	17	5.7%

Hidden bias may still exist in PSM

- If the covariates are measured imperfectly.
- If many of the key control variables are unmeasured or simply unknown.

How to minimize potential hidden bias?

- The “selection on observables” assumption is most plausible when researchers have extensive knowledge of the process determining treatment status
- We used multiple steps to identify our historical control group was the best effort to meet this fundamental assumption in PSM

Caution in one-to-one nearest neighbor PSM

- The algorithm does not have a mechanism to control for the overall propensity score differences among all pairs.
- Pairs that were formed toward the end of the process might have much larger difference in their propensity scores than those formed earlier.

- Overall, the mean difference of the propensity scores between the control and intervention families was relatively small (mean=0.009, SD=0.03, 95% matched pairs with difference ≤ 0.06).
- The empirical literature also suggests that one should select subjects from a larger sample pool, which we did by selecting the 299 families in the finalized historical control group from a preliminary sample of 483 families.

Conducting a Satisfaction Survey with Hard to Reach Families

Family Satisfaction Survey



Overview

- Goals
- Planning
- Survey administration procedures
 - Additional steps to refine process
- Results
 - Response rate
 - Representation
- Lessons learned

Goals

- Representative sample
- High response rate
- Quality survey administration plan, achieved by exploring
 - This population
 - The role of technology
 - Survey response rate

Considerations Related to Population, Contract & Literature

- Anecdotal information indicating
 - Increased use of technology & preference in use
- Limits with funding source & requirements
 - Decision to use lottery
- Literature
 - Hard to reach pop
 - Multiple methods
 - Digital divide

The Initial Plan

- Multi-method outreach using
 - Text
 - Email
 - Home and cell telephone
 - Mail (Mailing complete package and post card reminders)
- Multi-method option to complete survey
 - Online
 - Telephone
 - Mail in
- Preferences would be considered

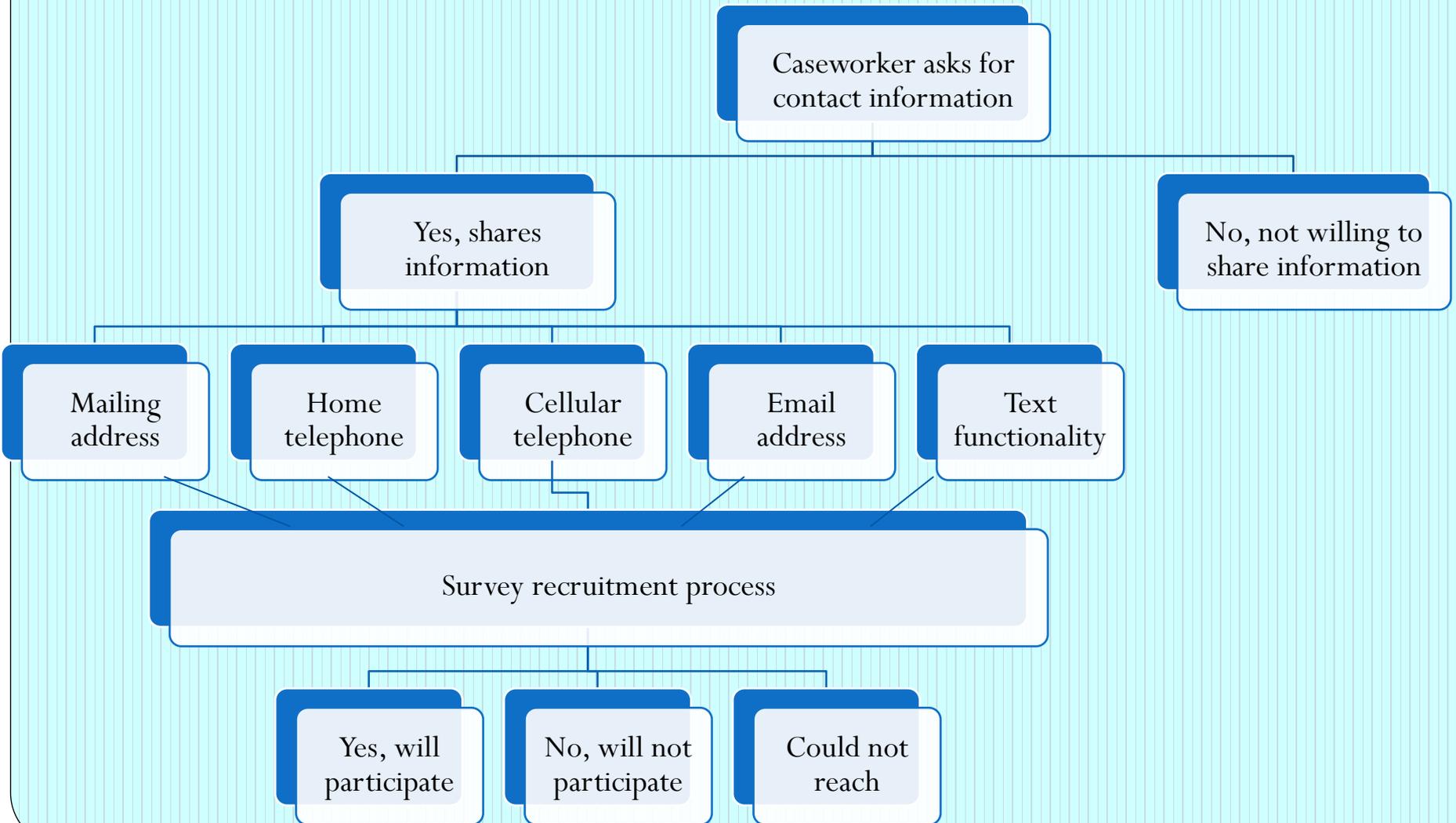
Considerations Related to Research & Technology

- Staffing
 - Language needs
 - Hours to accommodate schedule
- Survey development support
- Protocols
 - Type of contact info and order of preference
- Data transfer
- Database needs
- Text and online services

Additional Steps to Reduce Burden

- Clear instructions
- Prepaid postage for mail in survey
- Informed consent process (varied for each survey completion method)
- Keeping the survey brief
- Work around population's schedule

Overview of Survey Administration



Survey Administration

- Initial outreach = 6 different protocols
- Adjustments based on over a month's outreach
 - Preferences didn't matter
 - Texting appeared unsuccessful
 - Few emails were being provided
- Final Plan

If person has an email address an automated email will go out

ORDER	METHODS	ACTION	DAY
1	1 st mail in	Send a mail in survey request return within a week	0
2	Reminder	Send postcard	5-6
3	1 st call	Call to see if they received mailing, had a chance to complete and return. If not, offer to do interview or schedule an interview	8-10
4	2 nd call	Call	12-14
5	2 nd mail in	Send a 2 nd mail in survey	15
6	3 rd call	Call	20-21
TOTAL	2 mail, 3 calls		

TOTAL 2 mail, 3 calls, 1 postcard (possibly 1 email) and if no phone contact then a second postcard.

Refining the Caseworker Process

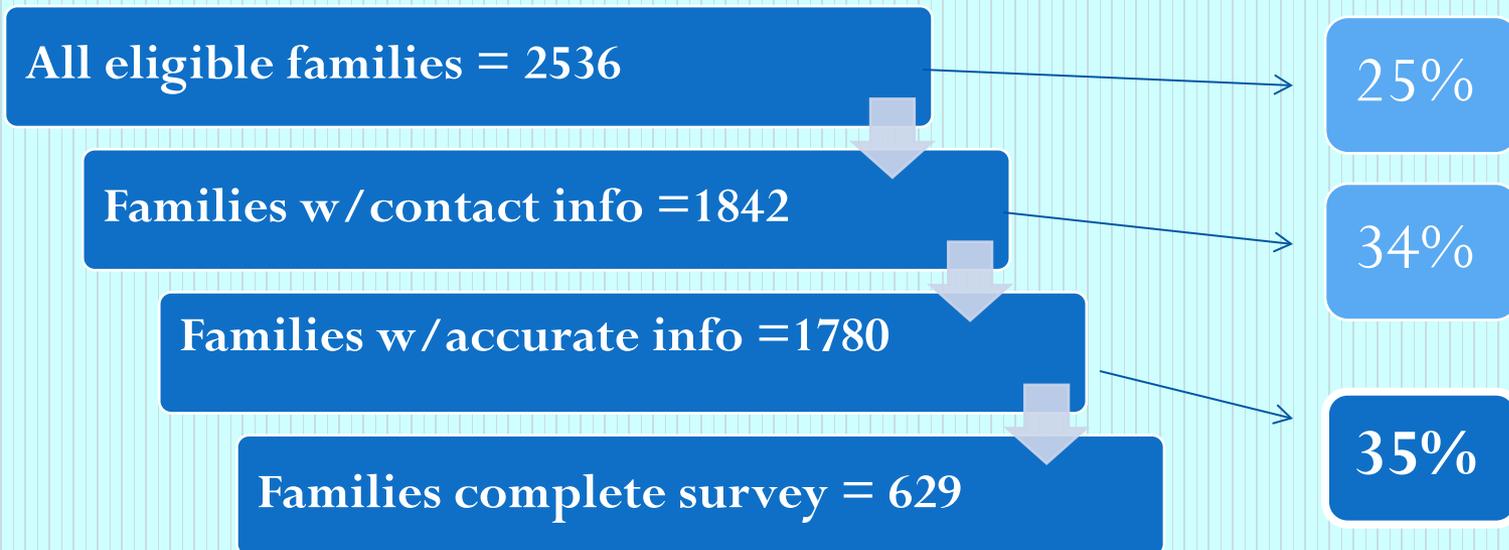
- Caseworker role needed clarification
 - IRB feedback
 - Trainings for caseworkers and supervisors
 - Documentation of instructions and scripts
 - Reminder of role expectations after a few months

Sample & Response Rate

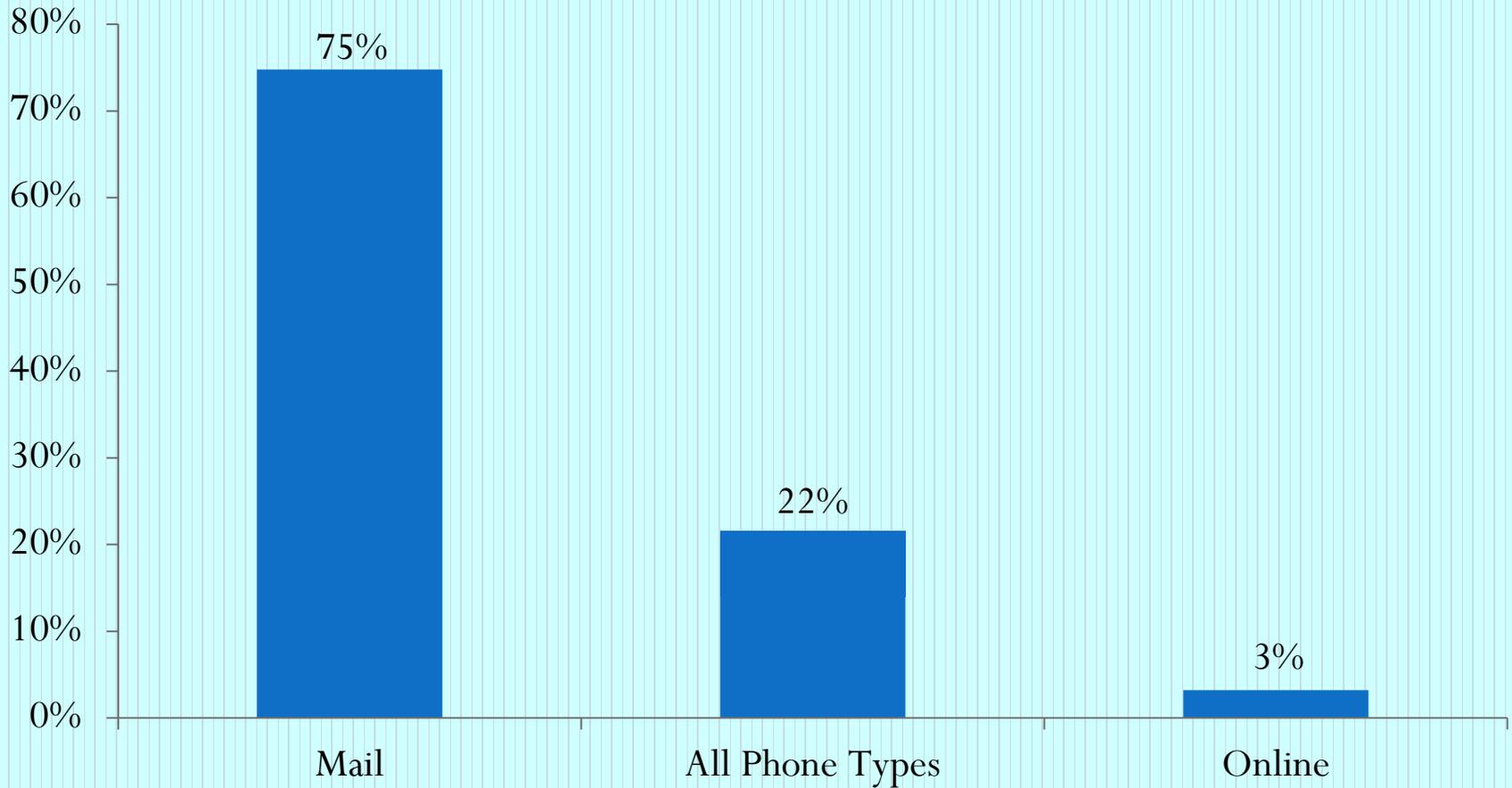
- Data collection took place over 10 months

- Sample

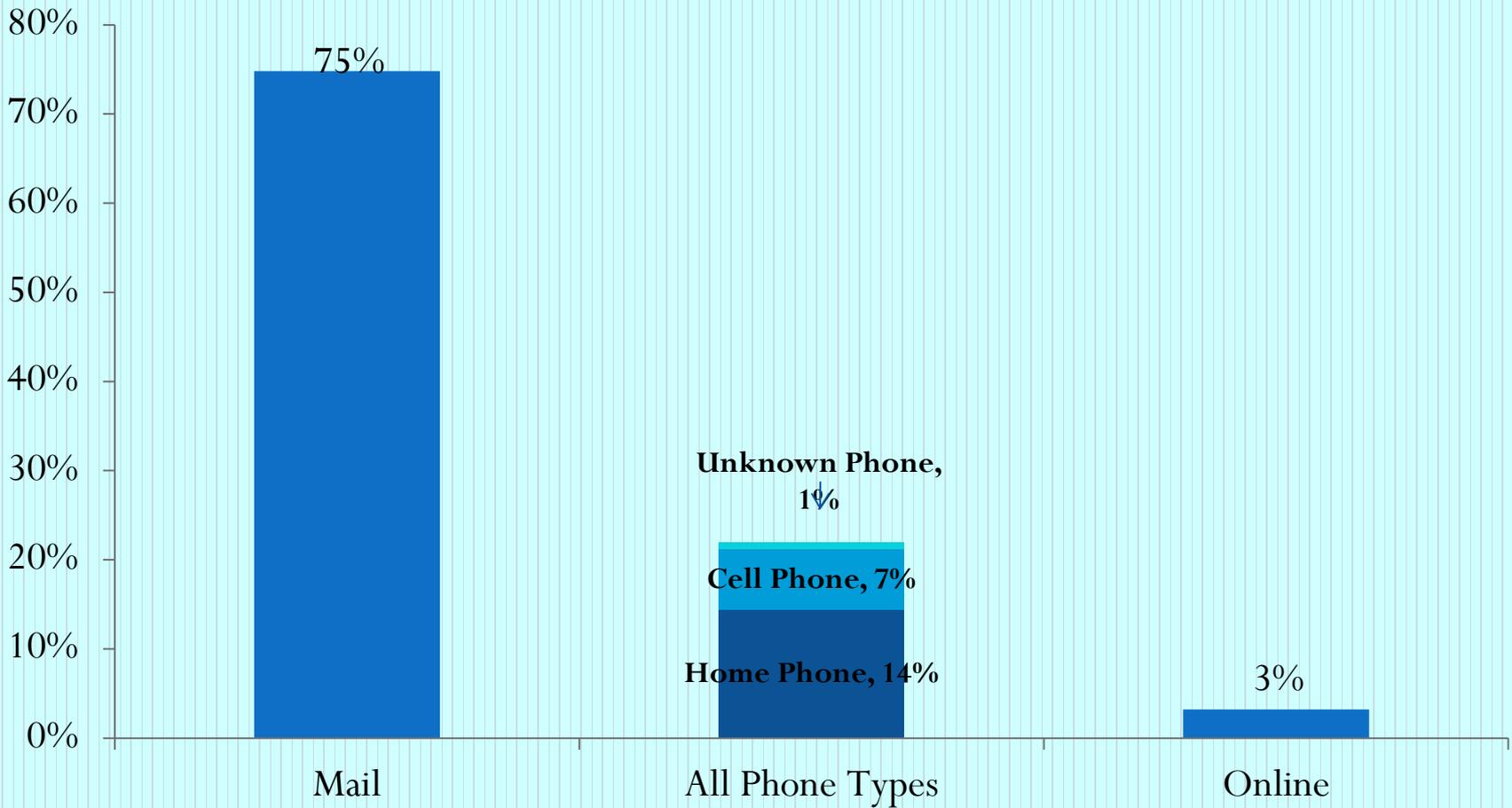
- Response Rate



Response Type (n=629)



Response Type (n=629)



Representativeness

		All Eligible Families N=2536	Shared Contact Info. N=1842 (73%)	Completed Survey N=629 (25%)
Gender (%)	Female	91	90.3	93.2
Race (%)	White	58.6	60.9	64.5**
	African American	21.8	21.0	18.4**
	Hispanic	9.3	7.8	9.2
	Other*	10.3	10.3	7.8***
Age (Mean)		35 yrs	35 yrs	37 yrs***
Age (%)	≤ 27	25.5	26.1	19.4***
	28 through 33	23.1	23.1	24.5
	34 through 40	24.4	23.7	22.7
	≥41	27	27.1	33.4***
CPS Prior Report (Mean)		3.4	3.3	3.5

*Other includes not reported, Asian, and Native American

** Significantly different from All Eligible Families

***Significantly different from both other groups

Caseworker as Gatekeeper

- Recognition of the impact that this role can have
- Data that suggested bias in collecting contact info
 - One cohort with 50% email addresses
 - Respondents offering email contact during outreach process

Concerns When Using Technology

- General apprehension about privacy and technology
- Concerns with providing email and cell #
 - Inappropriate language/music
 - Personal versus professional
 - Spam- email only
 - Cost of minutes - cell phone only

Lessons Learned

- Change based on application
 - Few text and no text communication
 - Few email addresses
- Additional planning steps
 - Explore feasibility of email/online
 - Targeting subsets of population
- Role of gatekeeper
- Concerns using technology- email and cell

Study Results

Family Engagement and Satisfaction

Access to Community Services

Child Welfare System Outcomes

Subsequent CA/N reports

Family Court Petitions

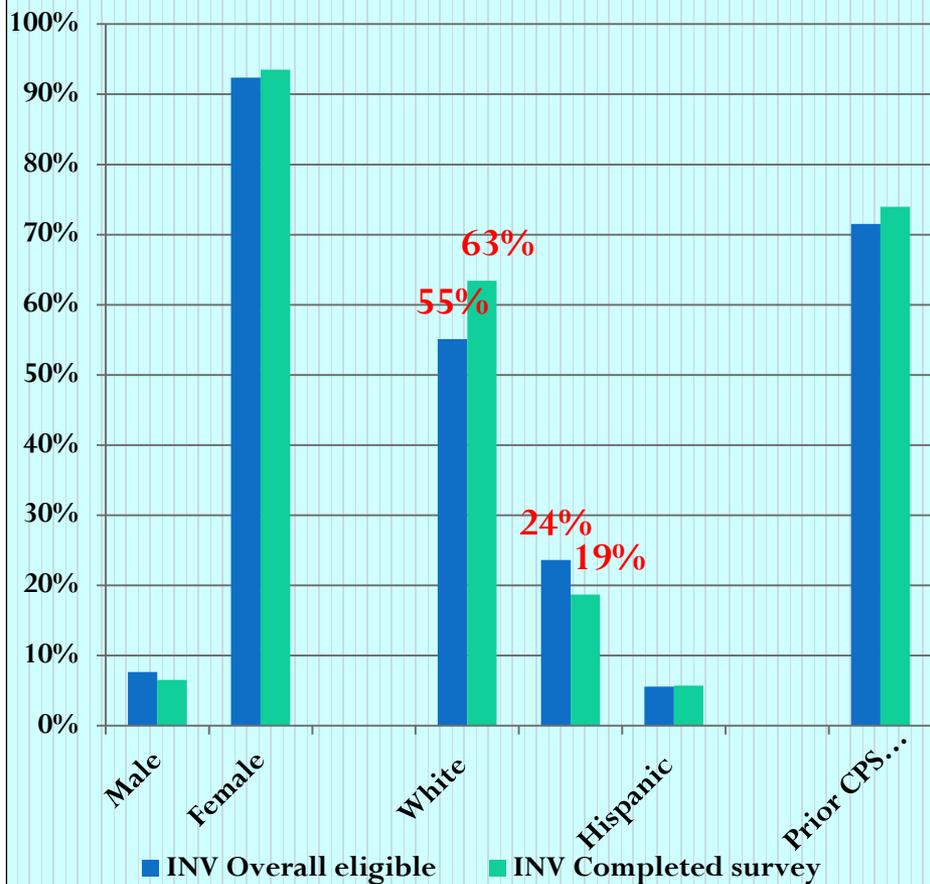
Child Welfare Service Cases

Full evaluation report at:

www.ocfs.state.ny.us/main/reports/CPS%20Differential%20Response%20Evaluation%20Final%20Report_%20Jan%202011.pdf

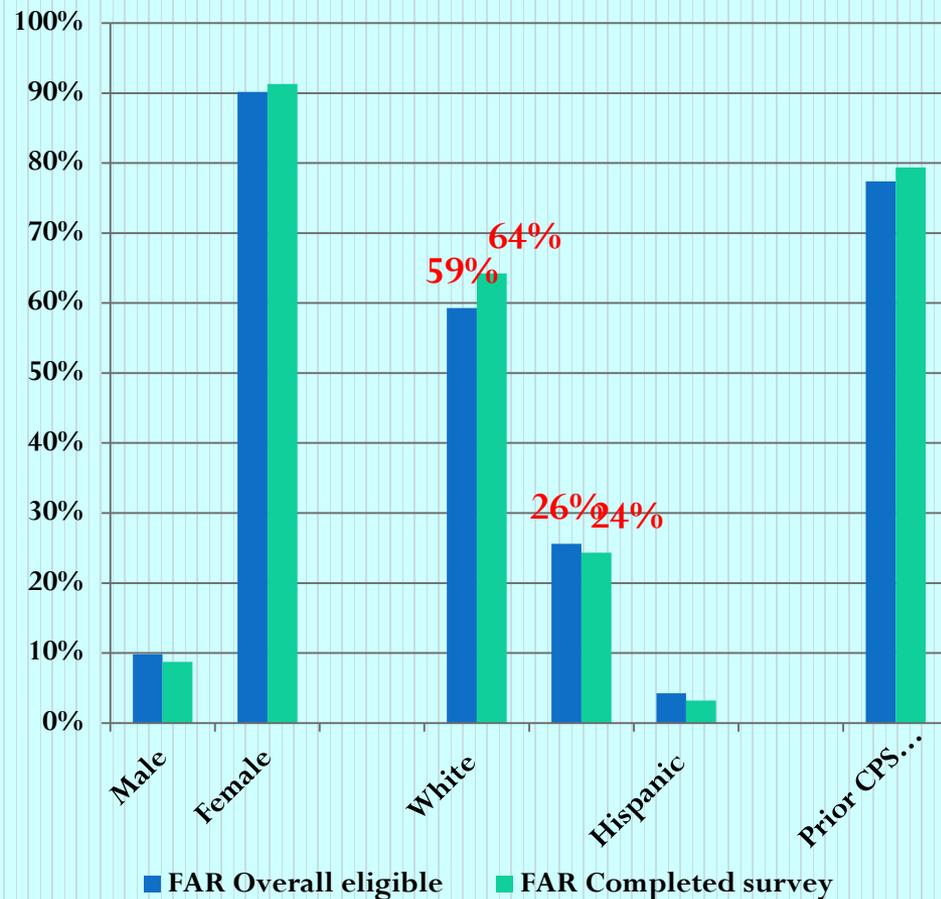
Were families who completed surveys similar to the overall FAR and INV control groups?

INV Control



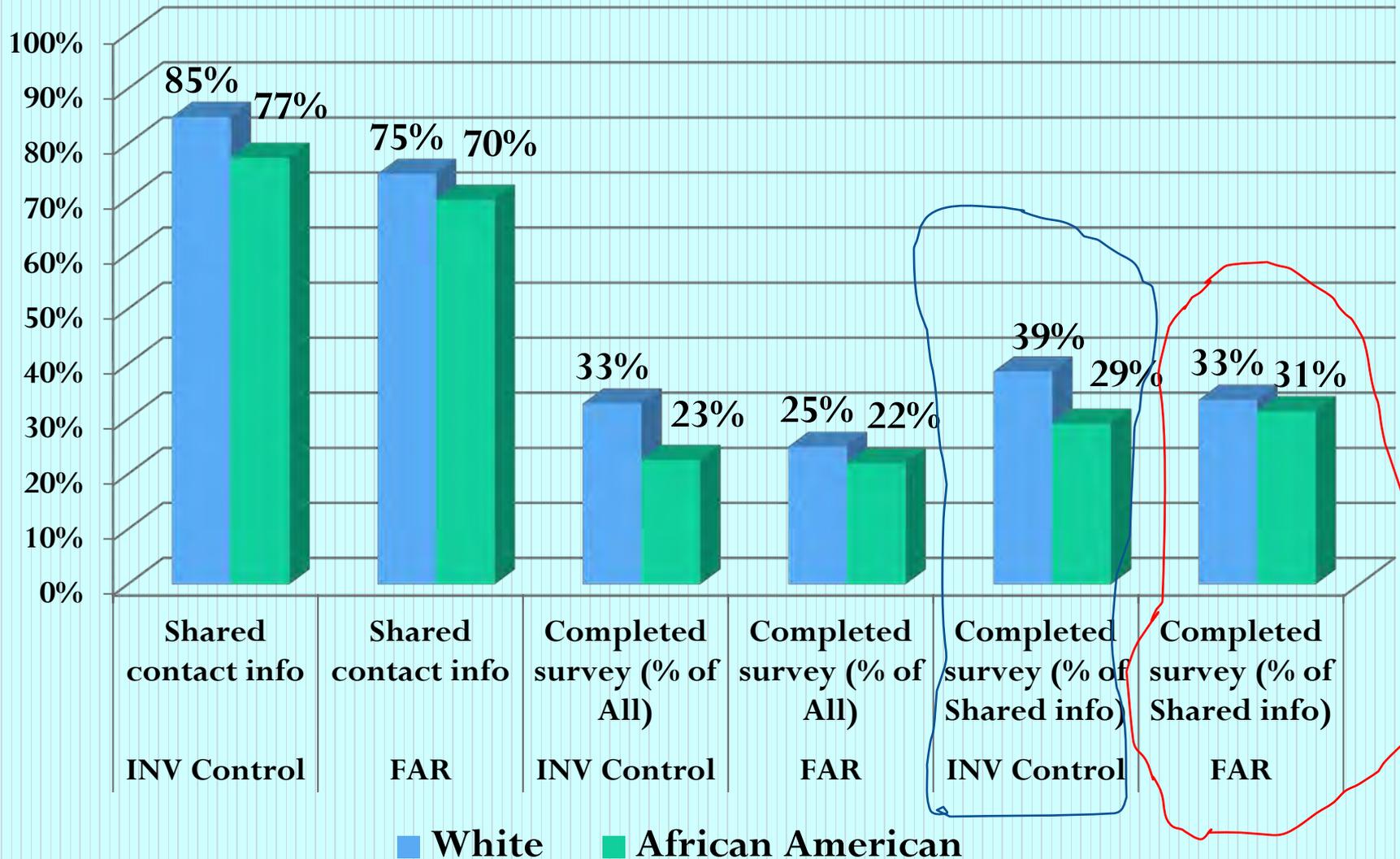
Age (mean) 34.0; 35.3

FAR



Age (mean) 33.6; 35.3

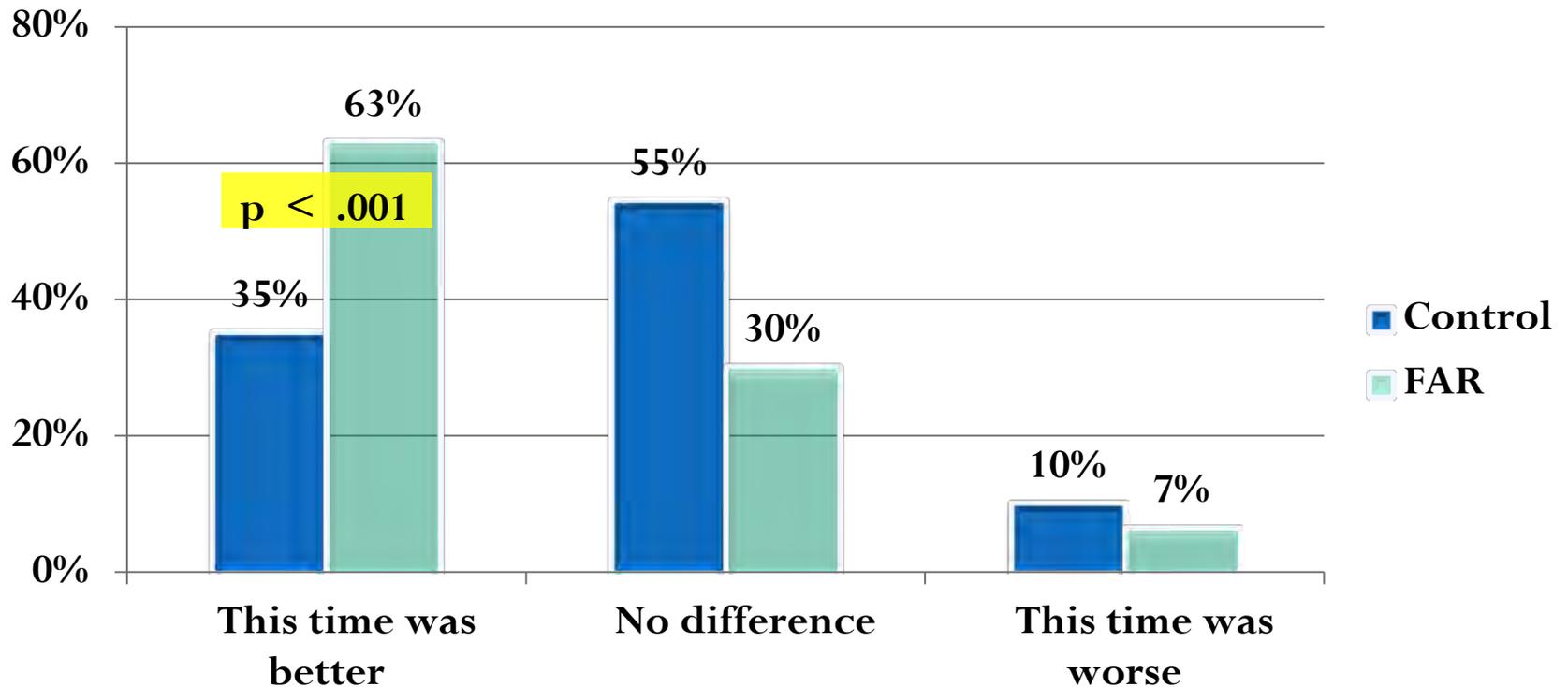
Were some families less likely than other families to share contact info and/or complete the satisfaction survey?



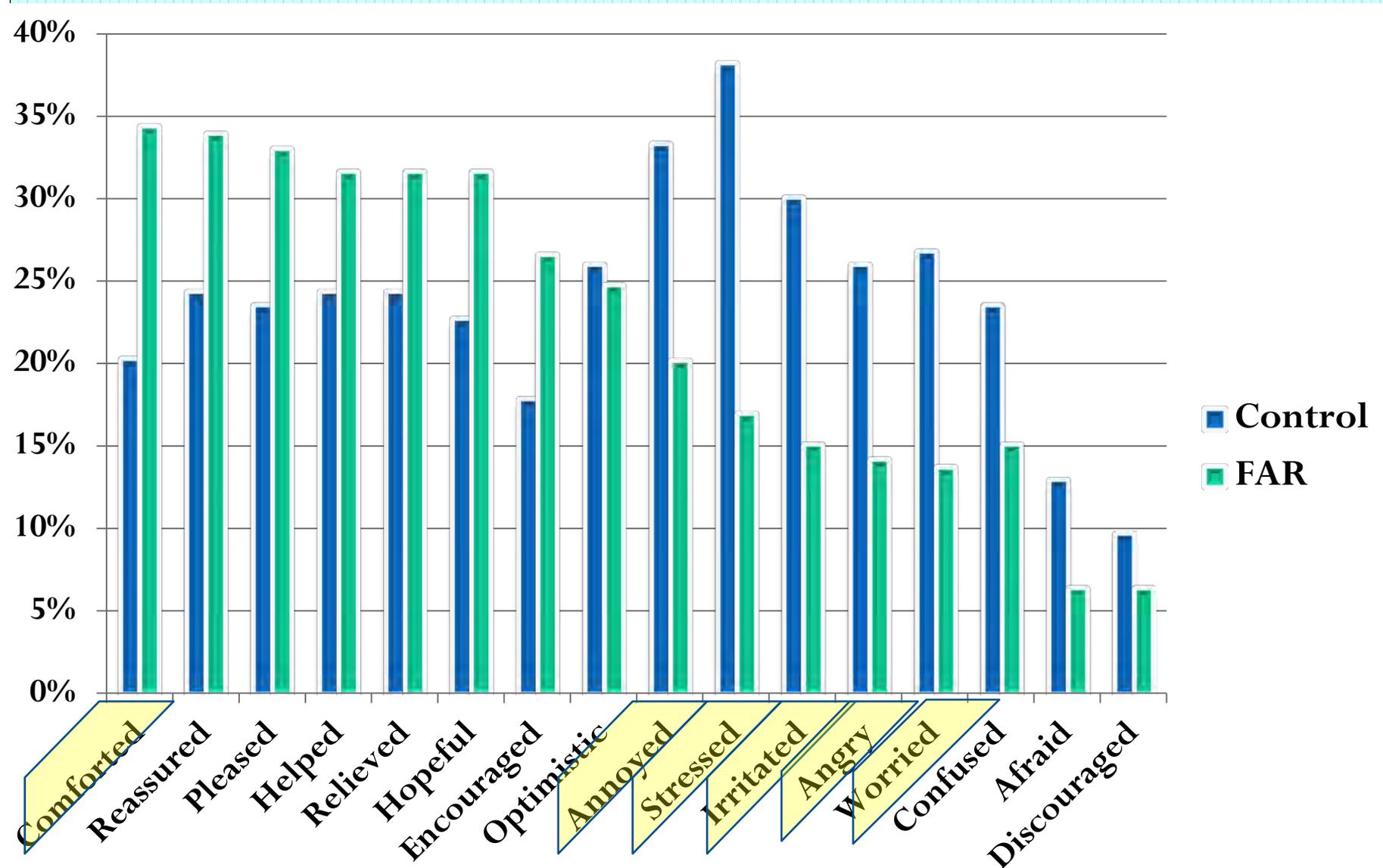
Engagement and Satisfaction

Families were more positive about the FAR approach than they were about the investigative response

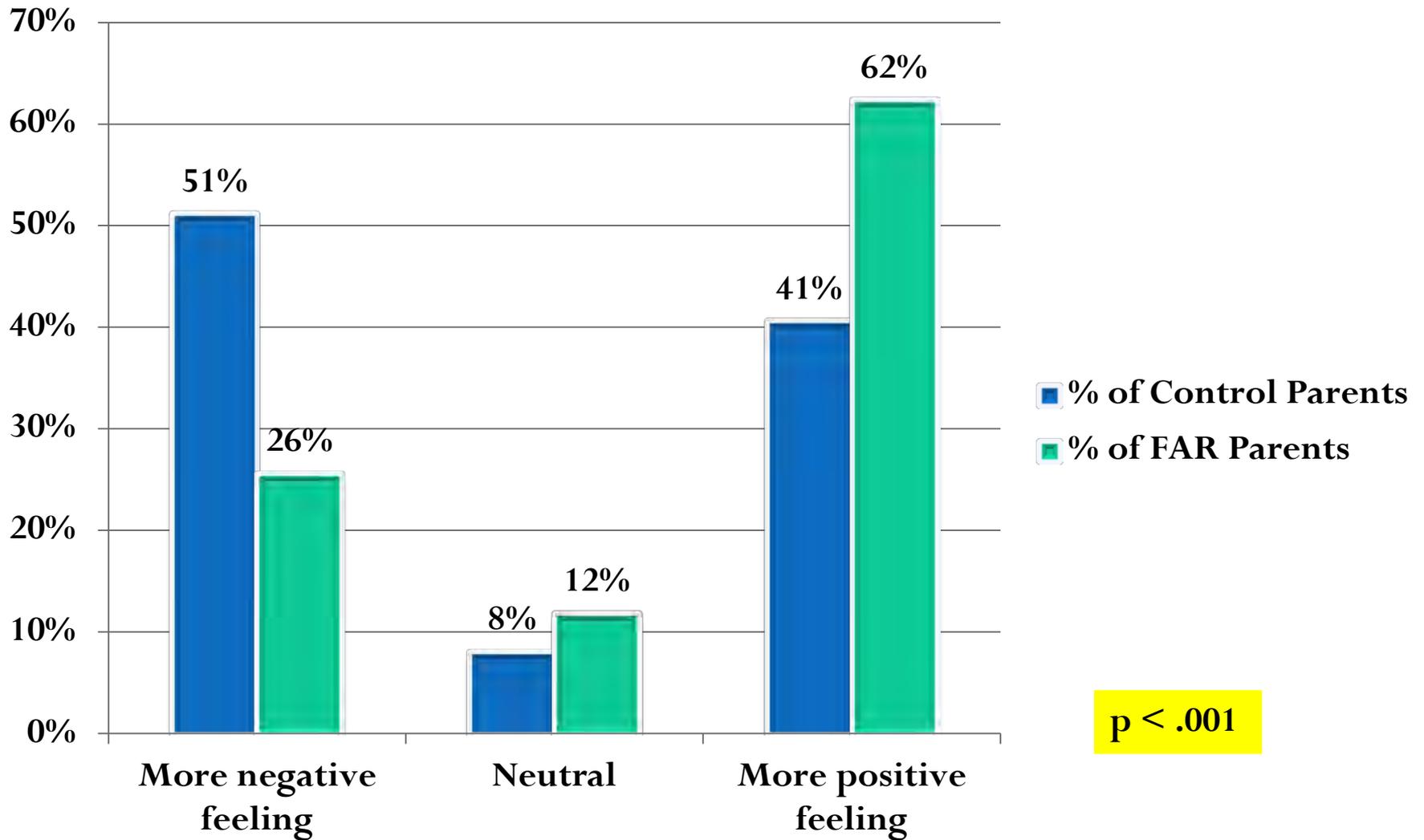
Compared to your prior CPS experience, was this experience better or worse?



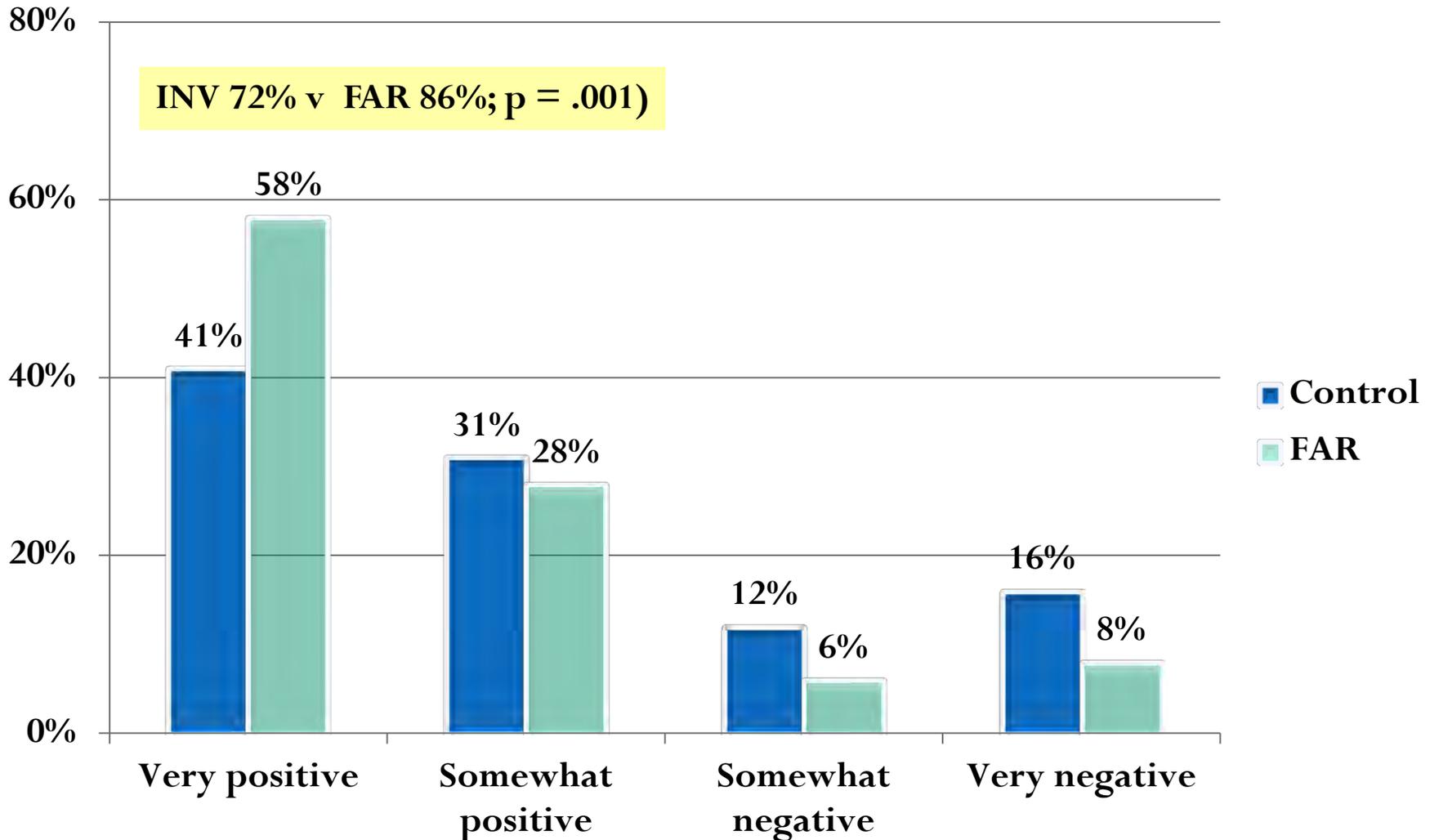
Parent Emotions at End of First Home Visit



% of Parents - Emotion Ratio



How positive or negative do you feel about this experience?



Access to Services

3 data sources:

Family survey, FAR closing document, and FAR/INV caseworker survey

Services provided by:

FAR workers, other LDSS, community agencies

The FAR approach increased, expanded, and expedited families' access to appropriate services, especially services to meet basic family needs, such as food, housing, and utilities.

Access to Services

FAR families were more likely to report receiving help from their workers than similar FAR-eligible families who received an investigation (70% v. 56%; $p=.013$)

FAR families were significantly more likely ($p < .05$) than investigated families to report receiving:

- help to get basic things needed for children, such as diapers, formula, food, or clothes (17.9% v. 6.5%)
- help obtaining public assistance services, such as TANF, food stamps, or Medicaid (9.6% v. 3.3%)
- help with a difficult relationship with a partner or ex-partner (11.0% v. 4.9%)

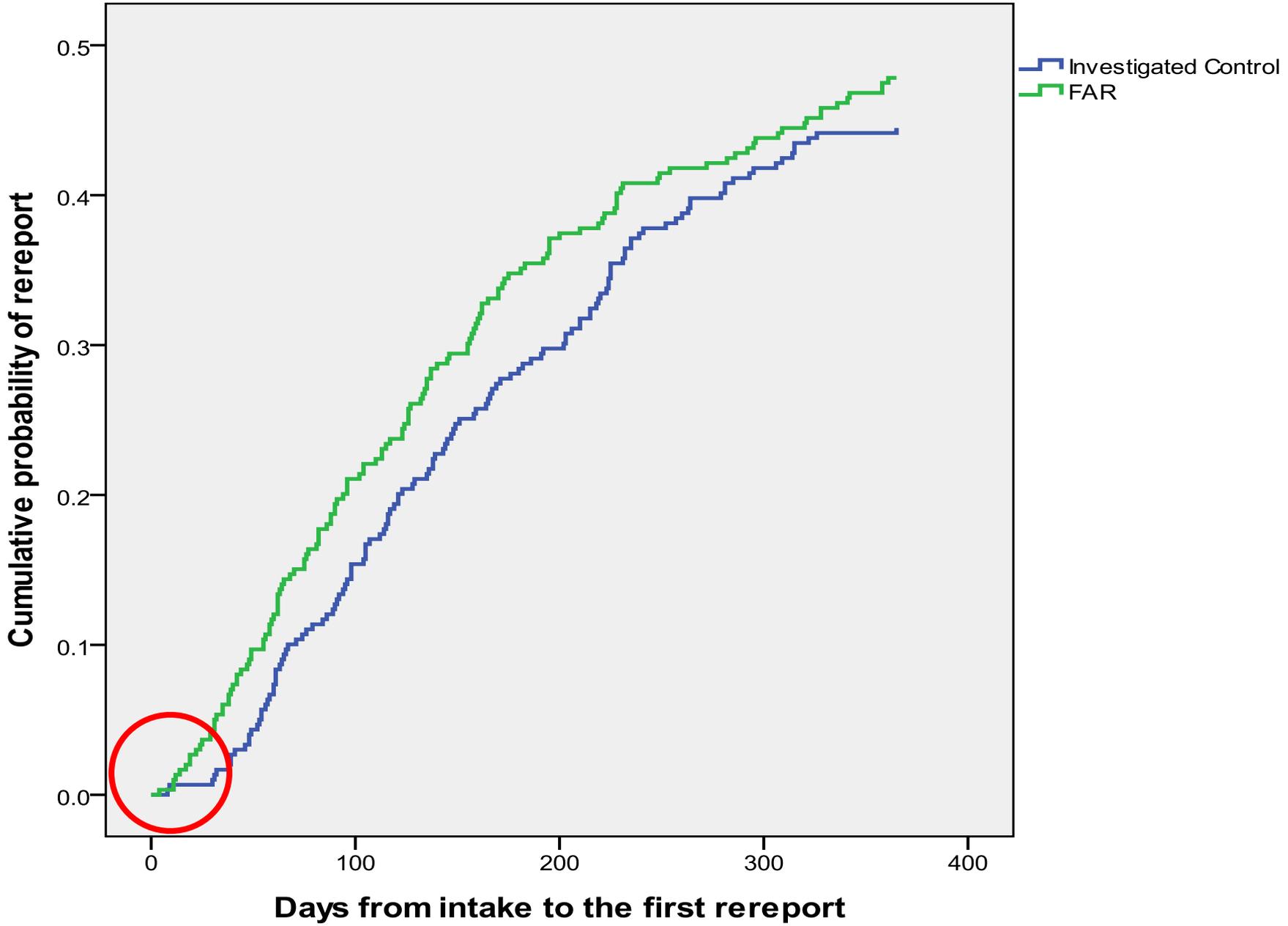
Child Welfare System Outcomes

- ***Petitions Filed in Family Court*** The FAR approach led to a decrease in the need for family court involvement.
- ***Child Welfare Services Cases*** FAR resulted in a reduction in the need for traditional public child welfare services (CWS).
- ***Subsequent Child Abuse / Neglect Reports*** No significant differences were found between the FAR and investigated control groups in the likelihood of the family having a subsequent report.

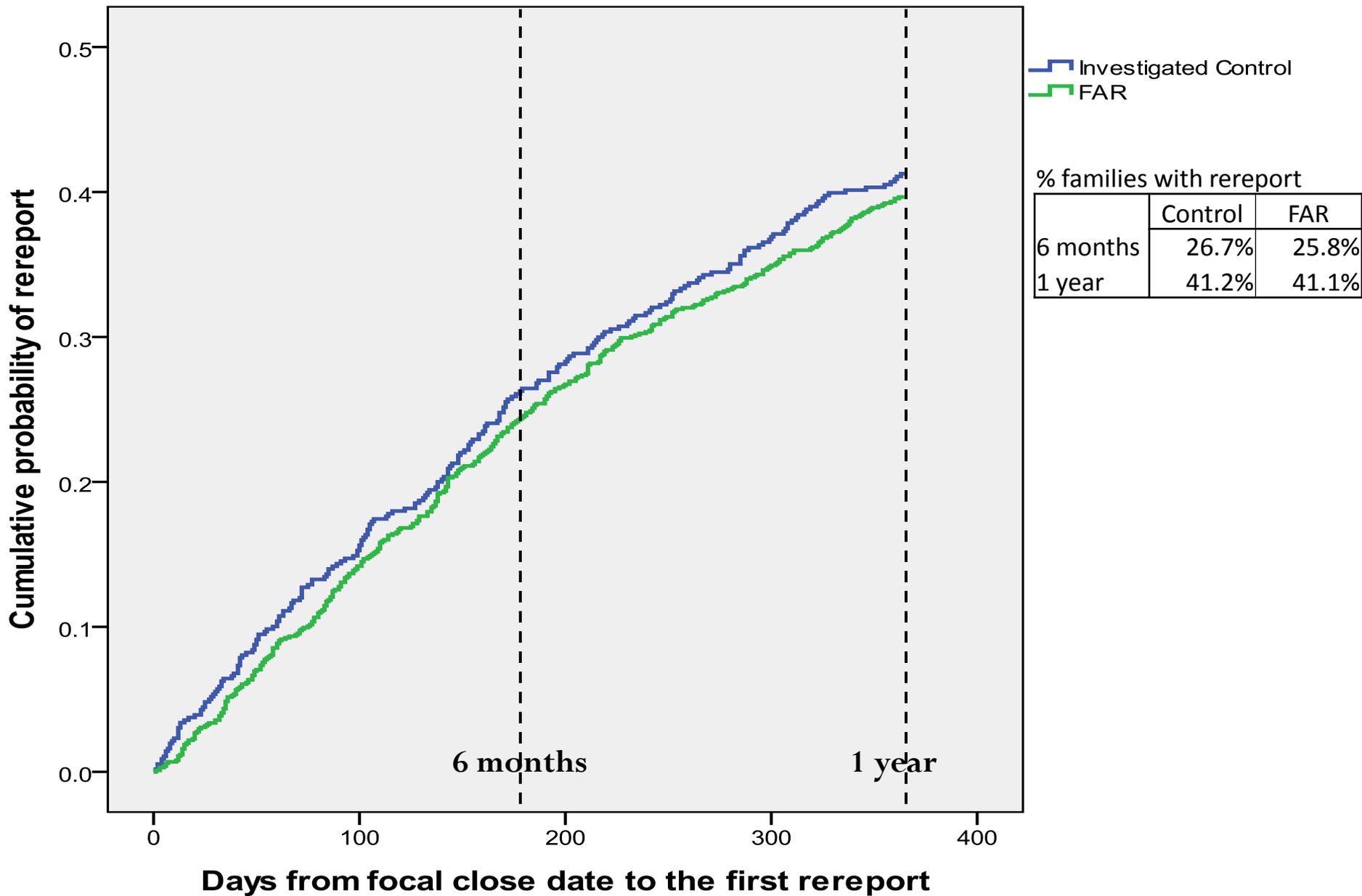
Used a Family measure of Any Subsequent Report, not the federal Child measure of repeat maltreatment

- Method: Cox regression survival analysis
- Follow-up period
 - start at intake date or closing date
- Policy / practice / system effects on subsequent report rates
 - report consolidation
 - FAR-INV track switching

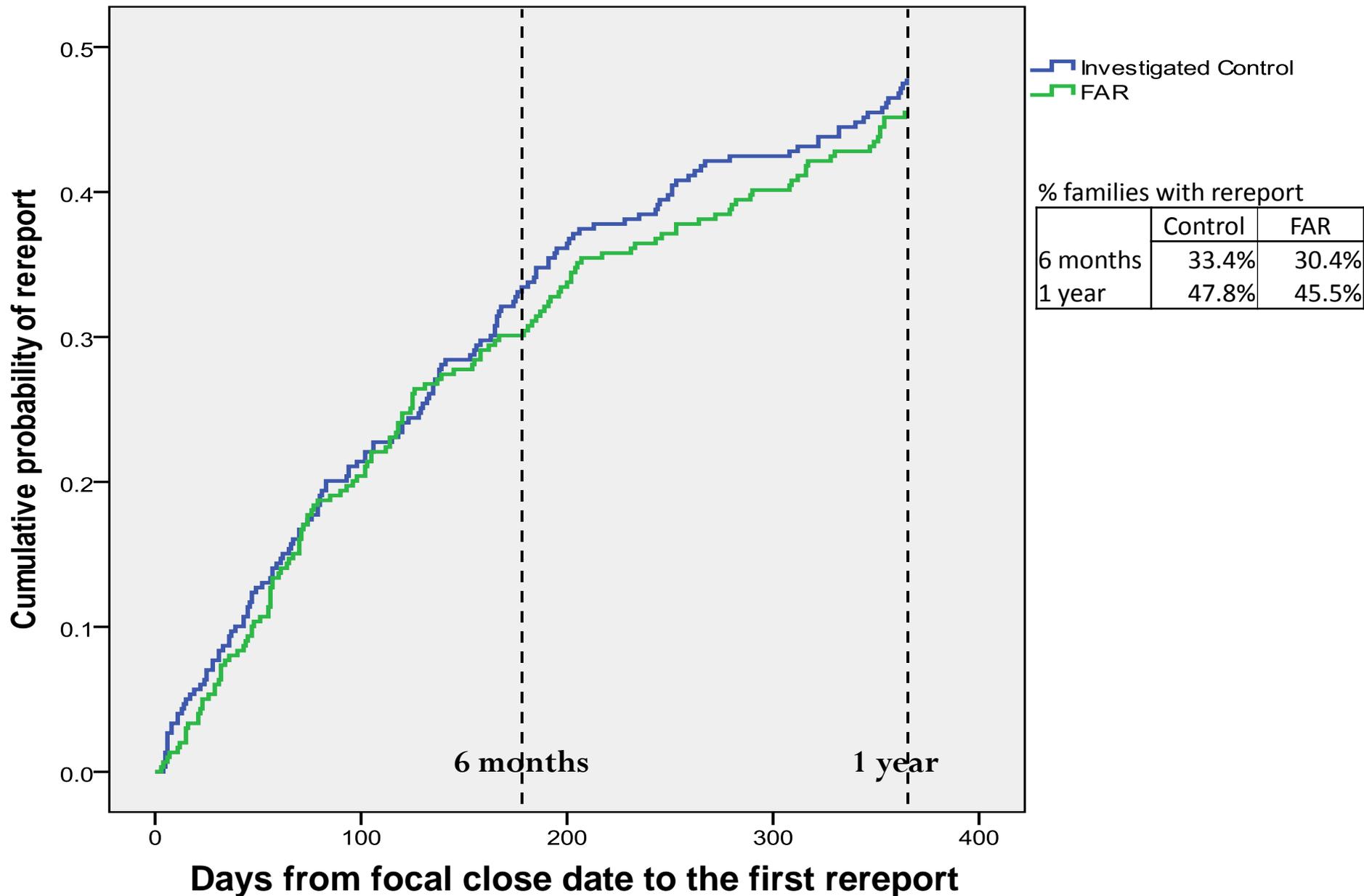
Cumulative probability of rereport within 12 months of intake in Tompkins County



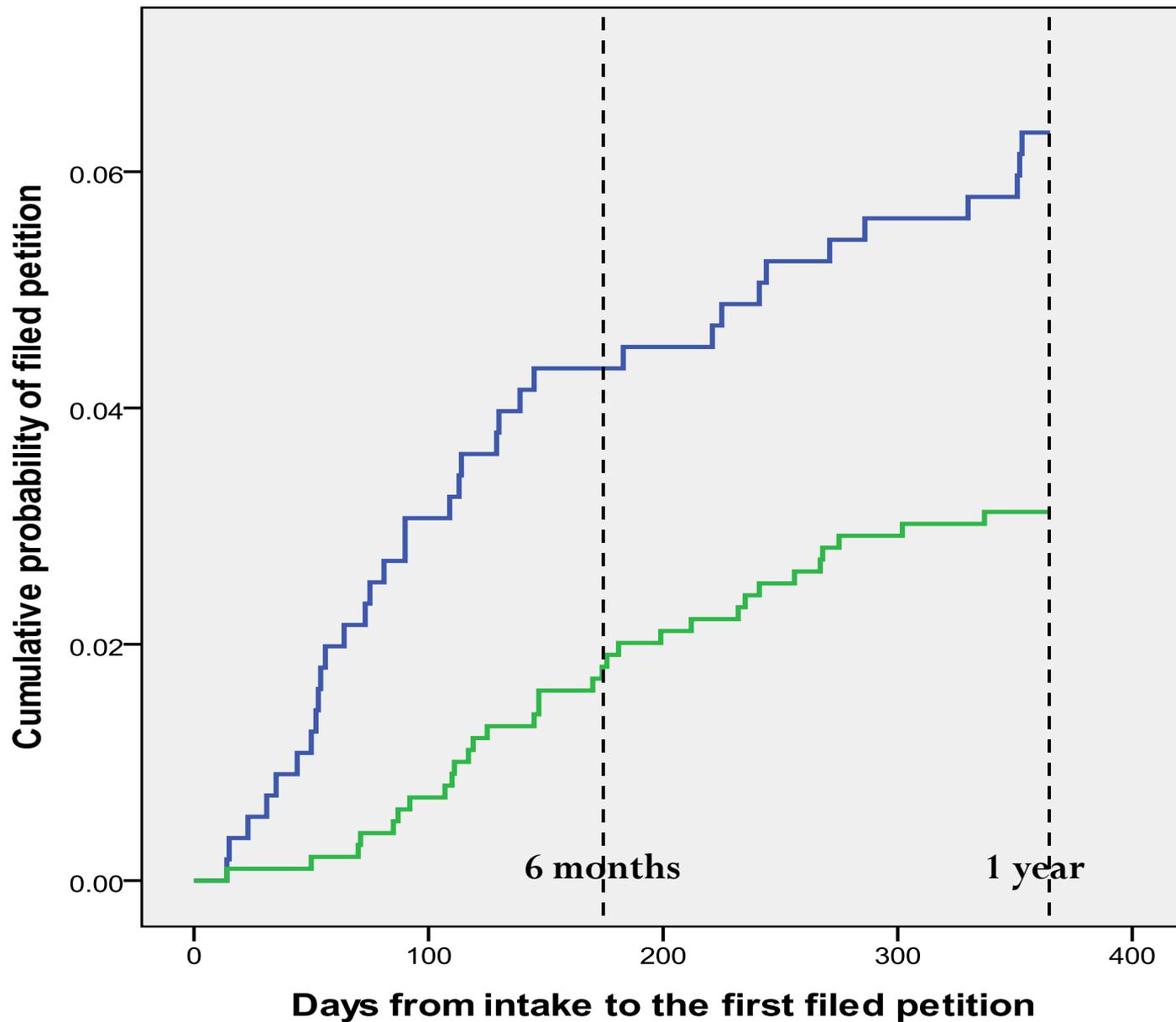
Cumulative probability of rereport within 12 months of close date in Onondaga County (controlling prior CPS reports)



Cumulative probability of rereport within 12 months of close date in Tompkins County



Cumulative probability of petition filed within 12 months of intake in Onondaga County (controlling prior CPS reports, group difference is significant, $p=.003$).



Investigated Control
FAR

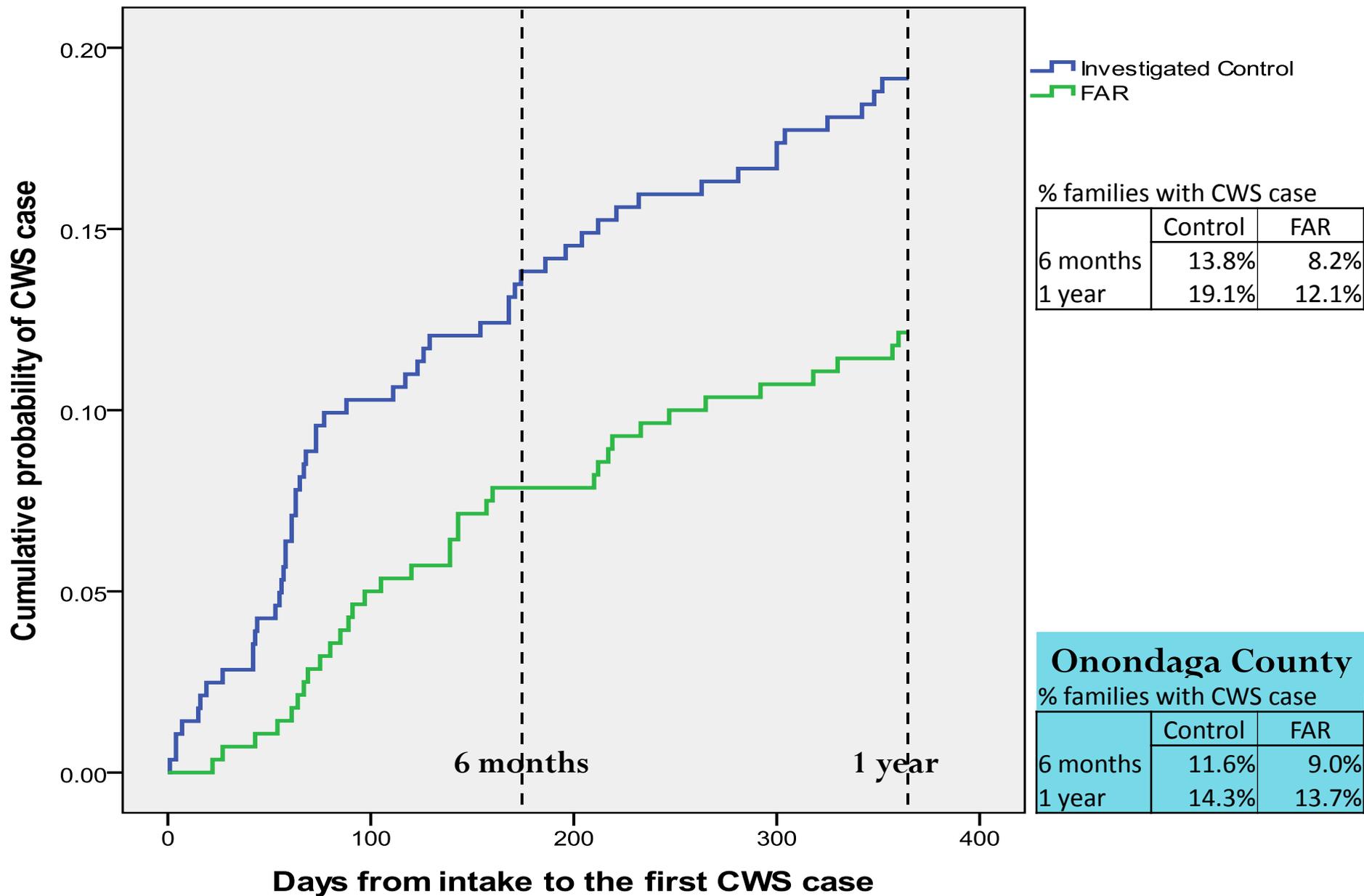
% families with petition filed

	Control	FAR
6 months	4.4%	1.9%
1 year	6.4%	3.3%

Tompkins County
% families with petition filed

	Control	FAR
6 months	4.0%	2.7%
1 year	8.4%	5.4%

Cumulative probability of CWS case within 12 months of intake in Tompkins County (group difference is significant, $p=.019$)



Recommendations

- January 2011
Evaluation Report and Recommendations
provided to Governor and Legislature
- June 2011
Permanent Legislation Signed

Future Research

- Track CW outcomes at least 2 years after close
- Analyze differences in # of subsequent reports
- Subgroup analysis
 - educational neglect allegations
 - needs and strengths
- New sample from a mature program?
- Practice of solution-focused casework?

Comments from the FAR Family Survey

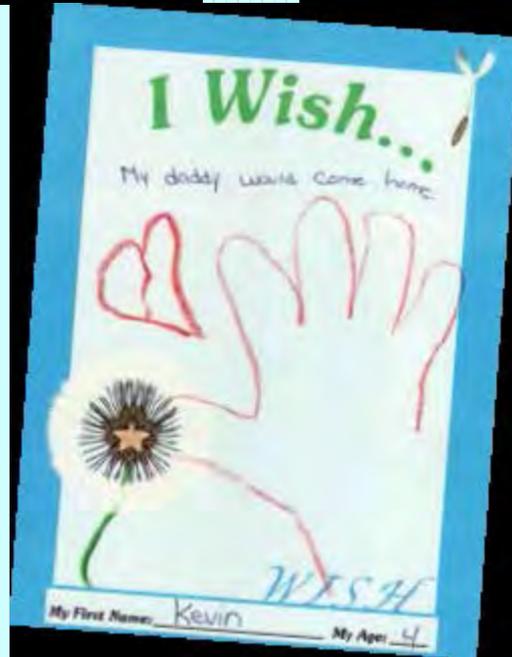
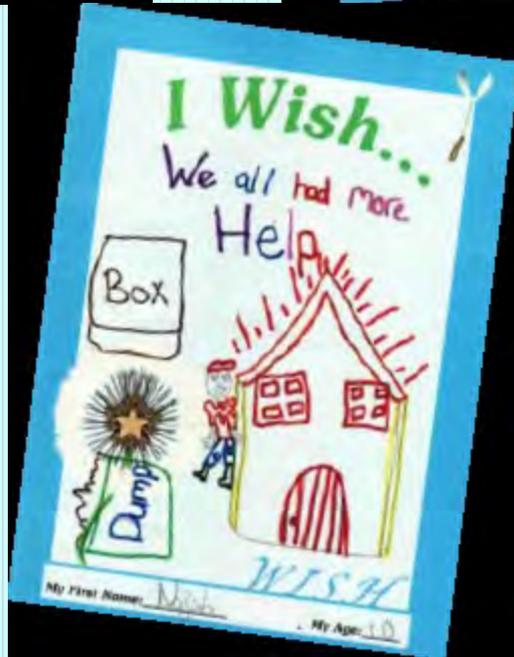
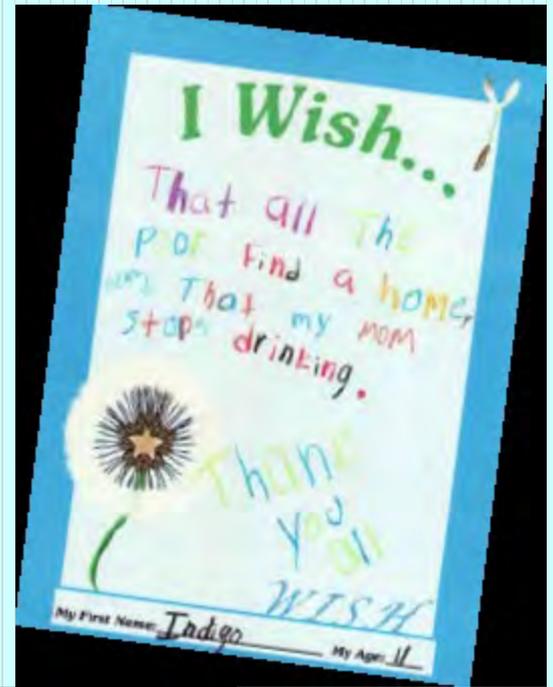
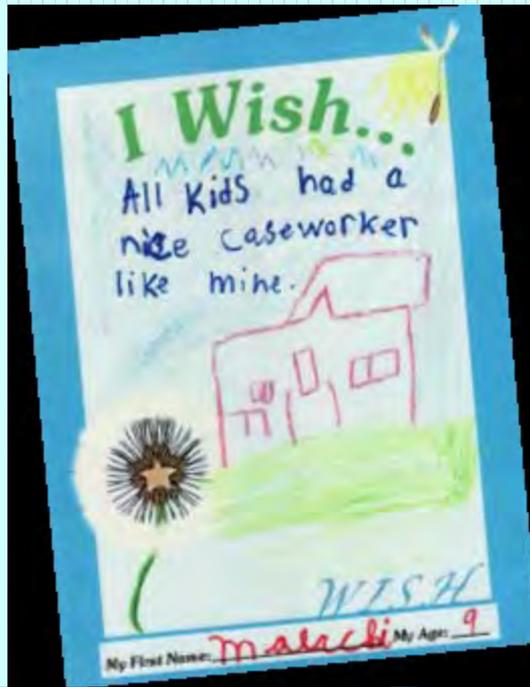
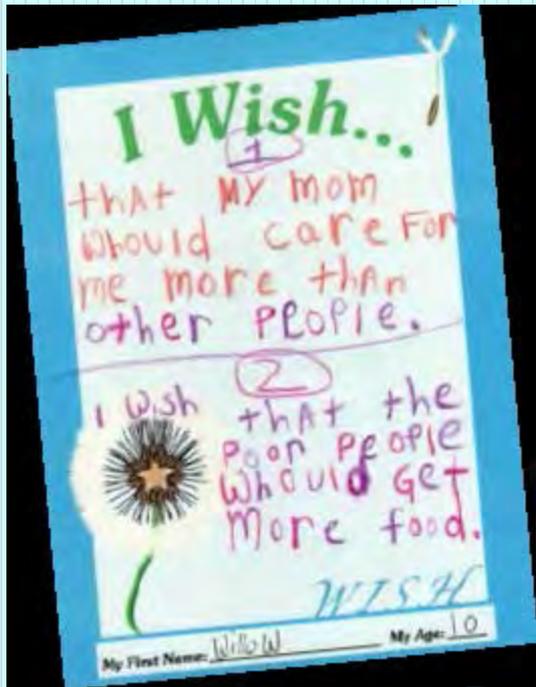
“The worker was very helpful, prompt and concerned about the case and he did everything he could to help.... If everyone that works in that program is that helpful as the person we had, I can see it working and being effective, I hope that others receive the quality of services I did.”

“Thanks to the Children’s Services Worker I was able to obtain the funds needed to renew my nursing license and I have found employment. I just wish something could’ve been done to save our house but things began to look up the day she came to visit and I never thought I’d ever feel that way about a Children’s Division worker.”

“[Our worker] was very nice and made me and my kids feel like she really cared about our situation. She was very understanding and encouraging as well. She was a joy to work with.”

“I think that they need more workers like the lady that helped me out, she was very kind and sweet and very understanding and she actually listened to me instead of judging me, others treated me badly and she actually treated me like a human being and I really appreciated that from her. She helped me out in every way she could, she was nice and sweet. She would be the person I call if I ever had any problems.”

“Our worker was very timely in finding & referring me to the right place for more info. I am very glad we had this experience — it all is for the best in getting the care my son needs.”



Contact Information



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