

Analysis of RDD Interviews by the Number of Call Attempts: The National Immunization Survey

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**Sponsored by
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Conducted by Abt Associates Inc.

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Research Questions

- **General call attempt statistical properties**
- **Understanding call attempt variation**
- **Relationship between call attempts and--**
 - reduction in non-response bias
 - data quality
 - response rates
 - accuracy and precision of vaccination coverage estimates



Design of the NIS

- 78 Geographic Areas (50 States, 28 Metropolitan Areas)
- 1.9 Million Fielded RDD Phone Lines Per Year
- Over 9 million call attempts per year
- Over 900,000 screens and 35,000 RDD Interviews per Year
- About 1,000 High-Attempt Interviews a Year (More than 24 dial attempts)
- Provider Record Check Study

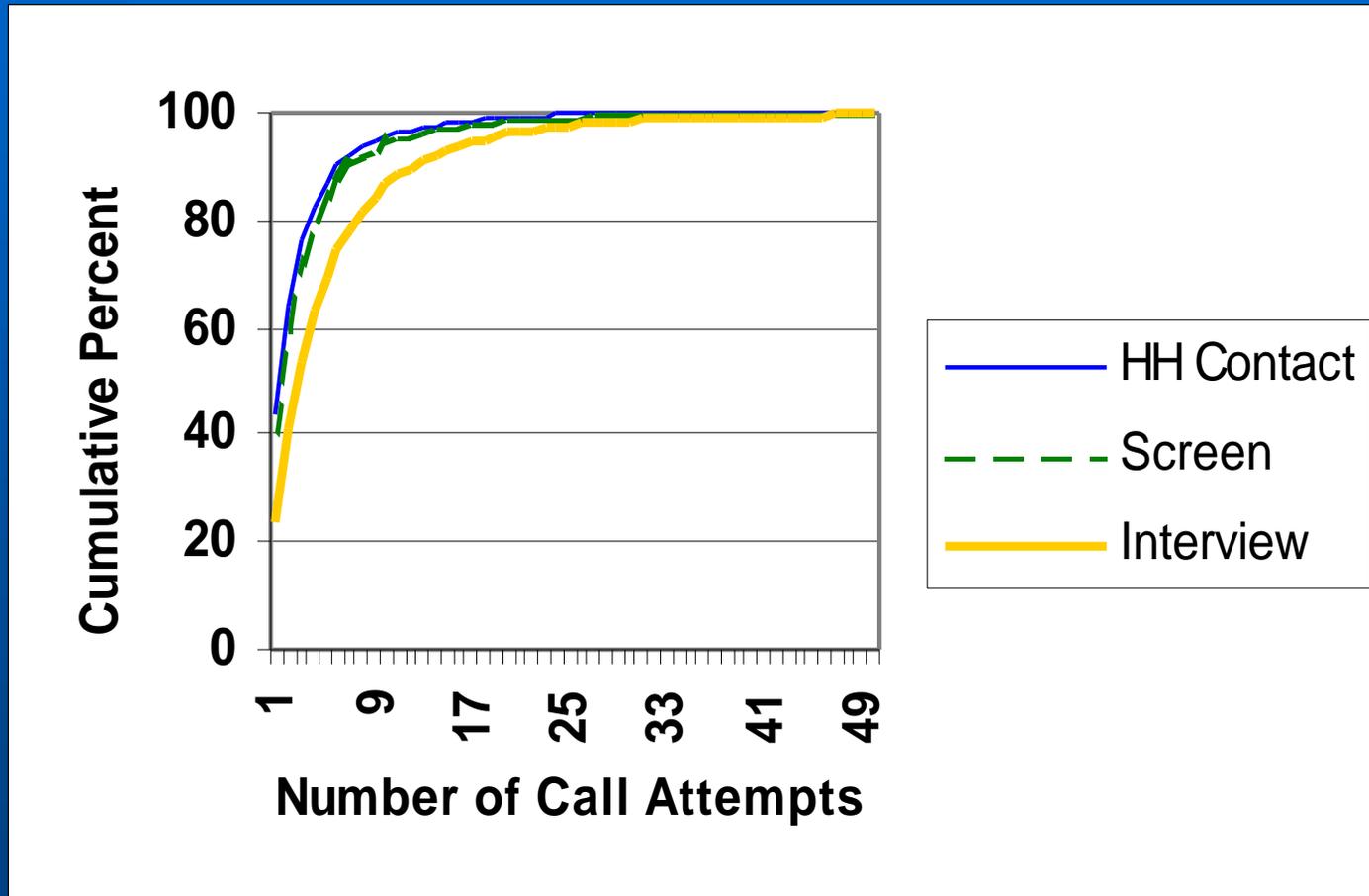


Note on Distribution of Calls

- Means: 4.95 calls per fielded case; 3.1 calls to contact a household; 3.4 calls to complete a screen; 5.6 calls to obtain an interview
- By the 5th dial attempt, 69% of interviews are completed; by 10th dial, 86%; by 25th, 97.6%.



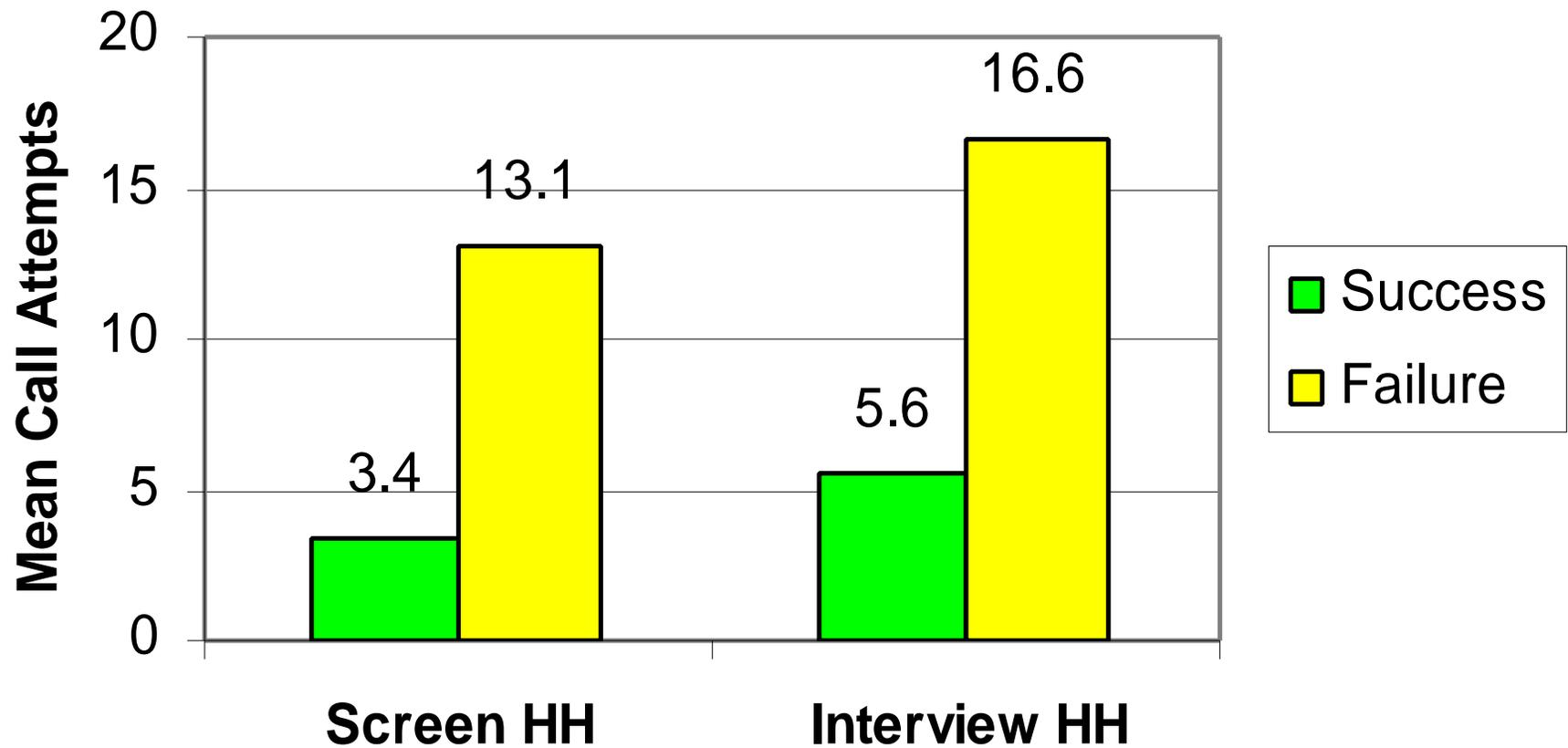
Cumulative Percent of Obtained Household Contacts, Completed Screens and Interviews



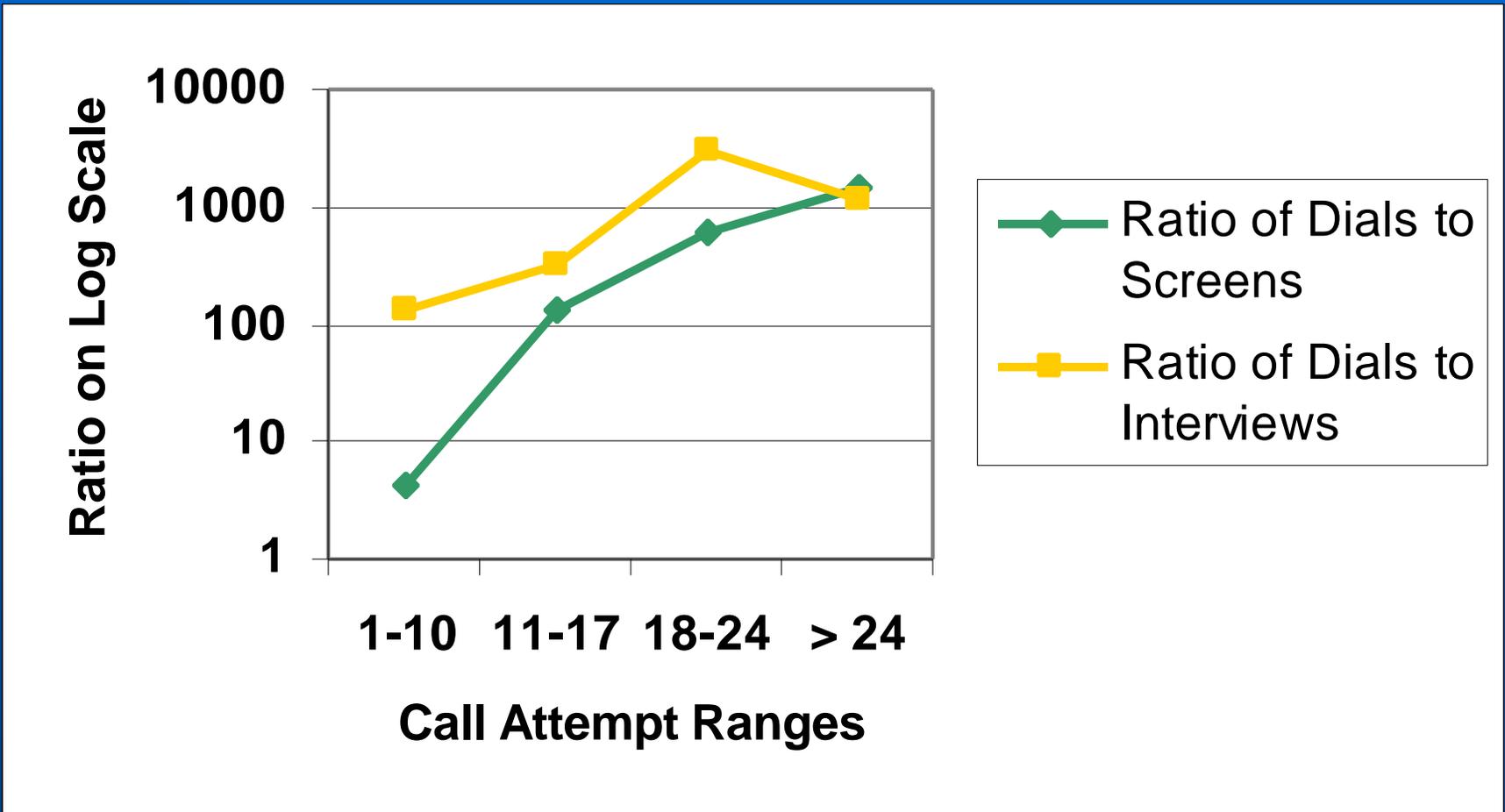
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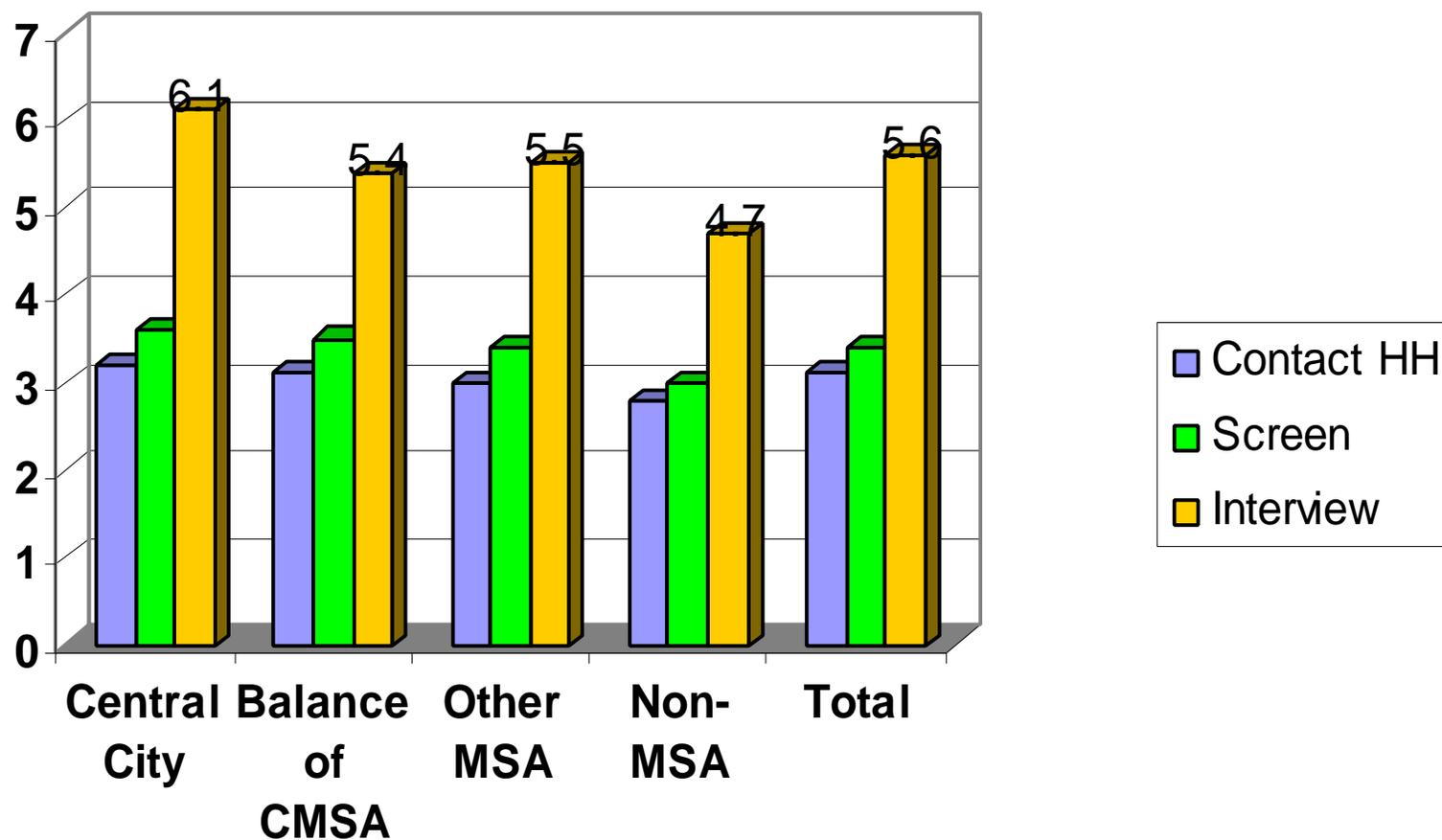
Comparison of Mean Call Attempts for Failures and Successes: Screen and Interview



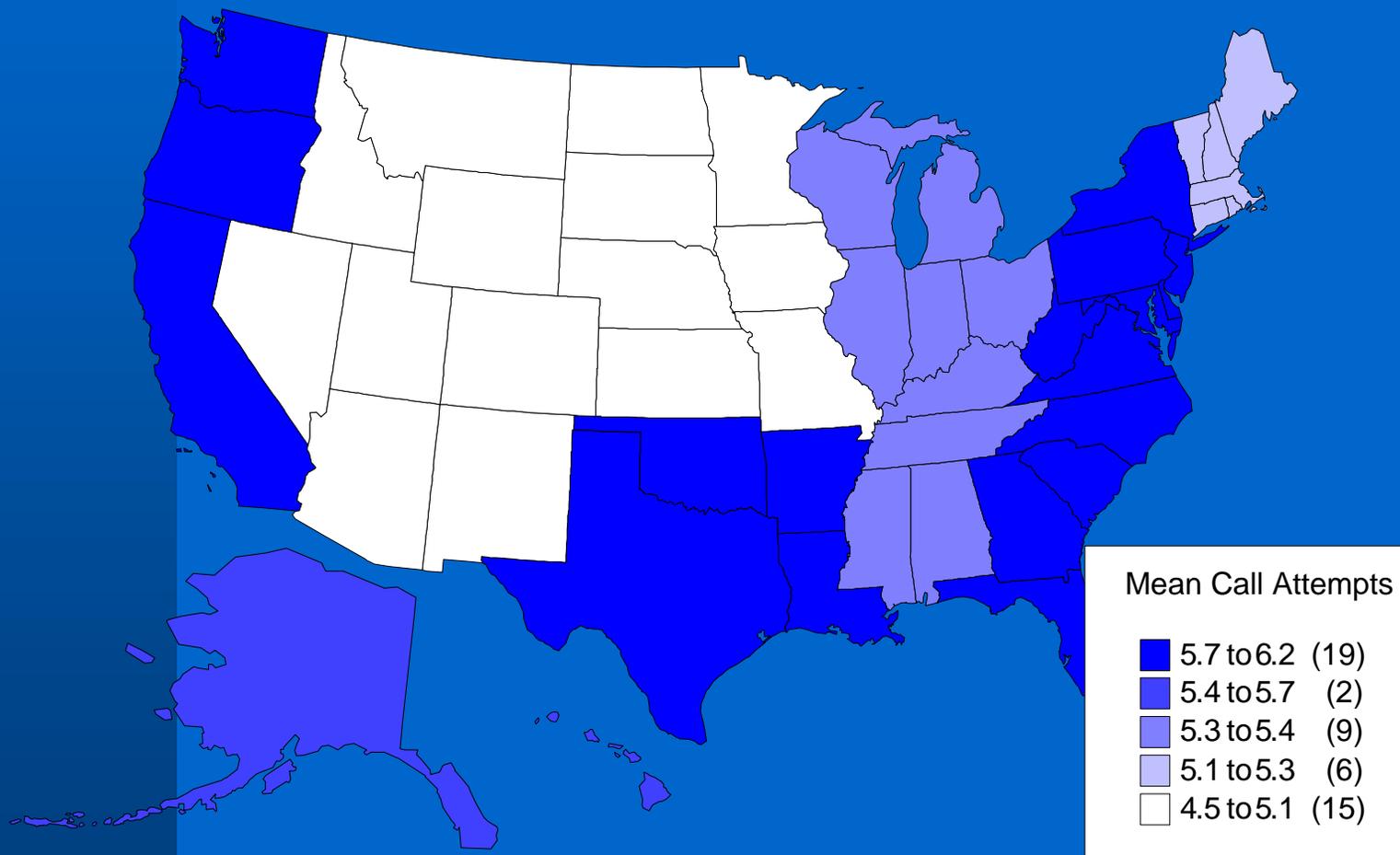
Ratio of All Dial Attempts to Completed Screens and Interviews (Includes Dials Made on All Other Cases)



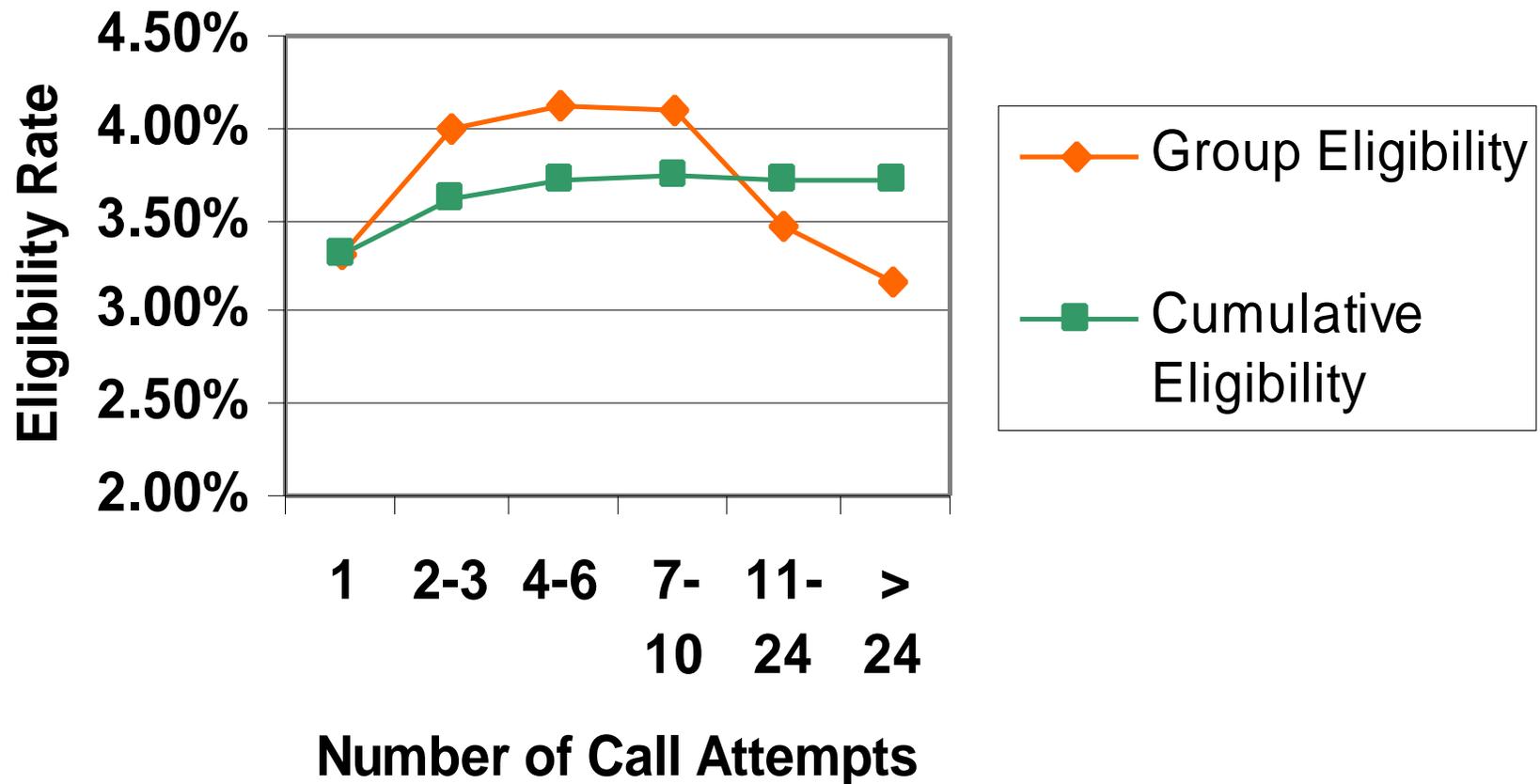
Mean Number of Call Attempts by Metropolitan Statistical Area (MSA) Type



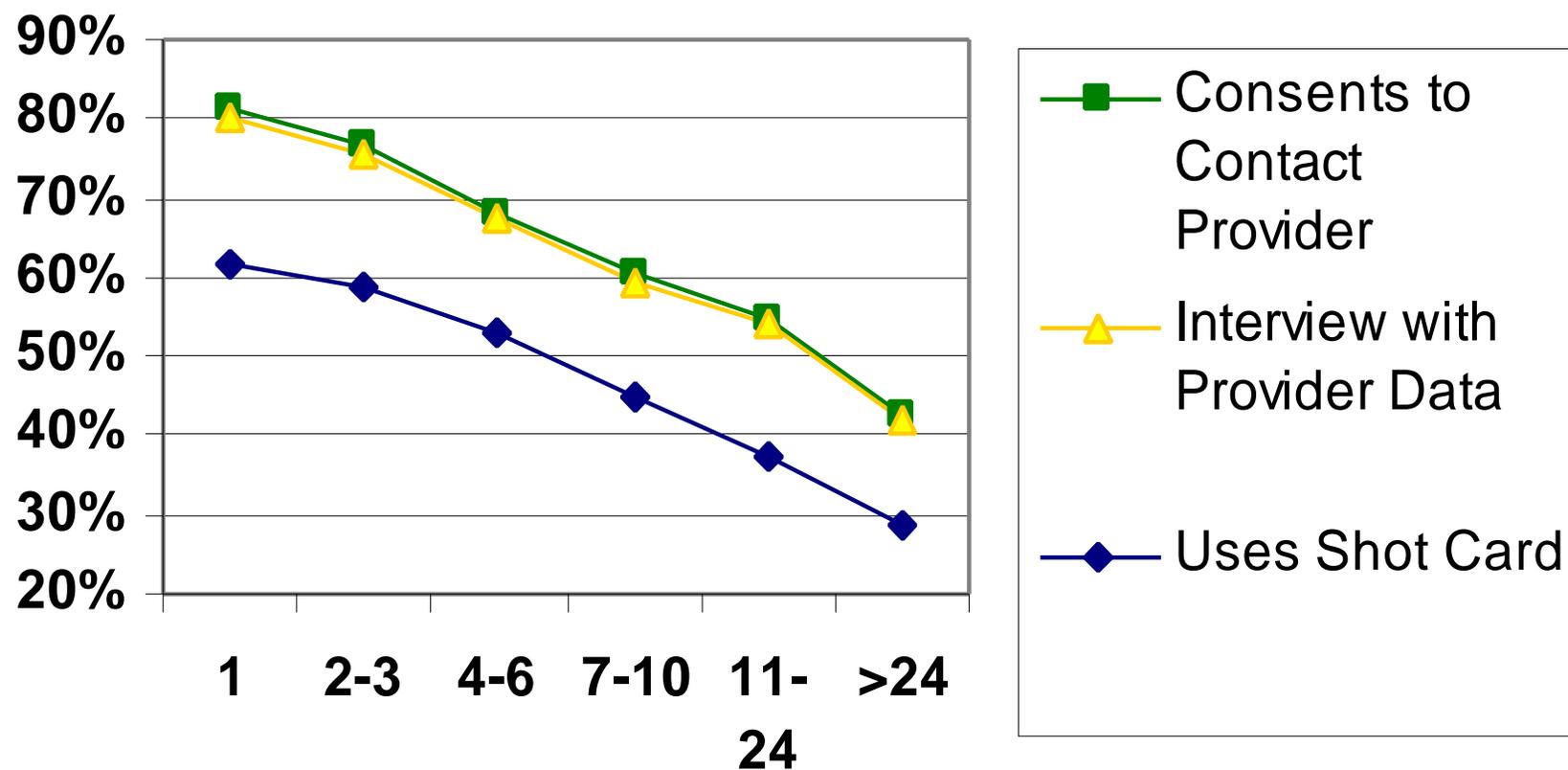
Mean Number of Call Attempts for Completed Interviews in 9 Census Regions



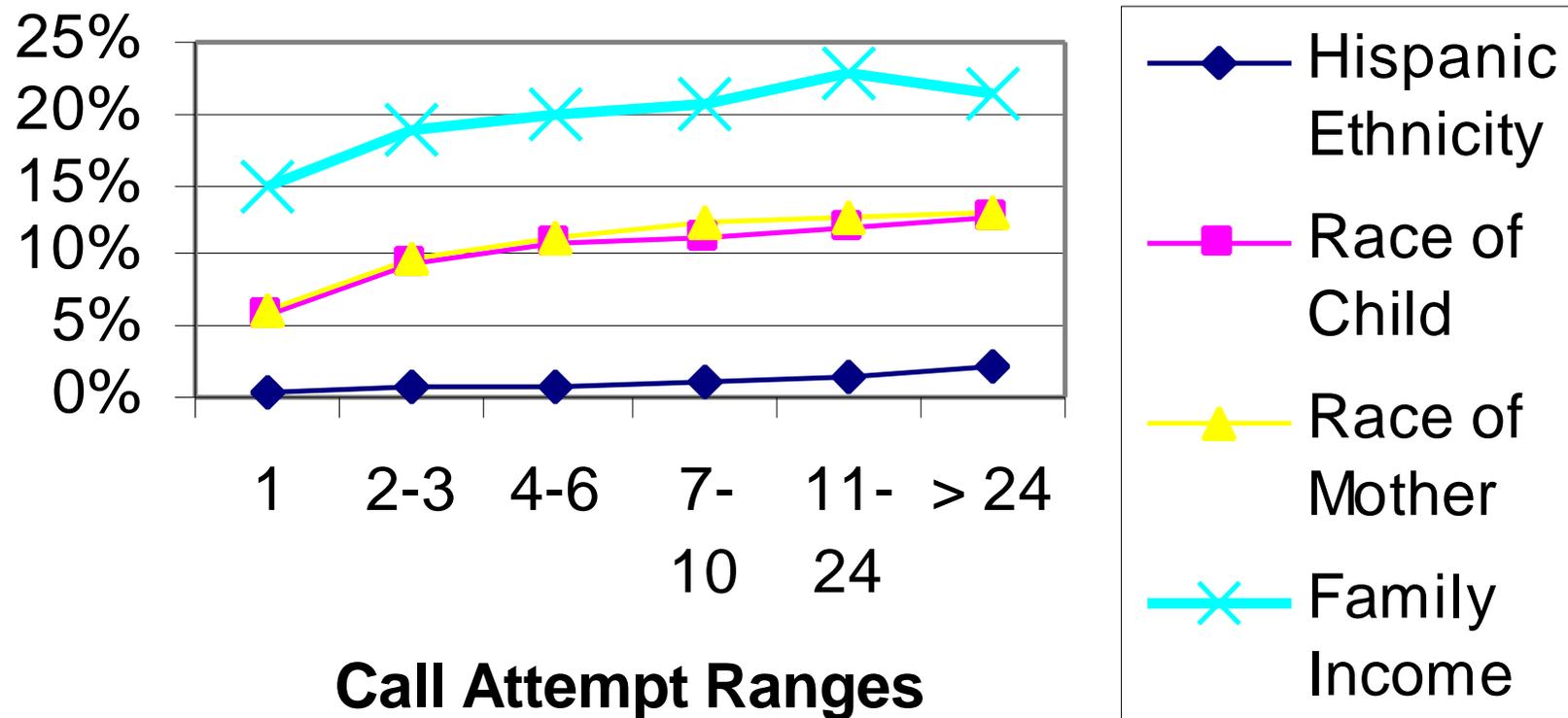
Eligibility Rate by Number of Call Attempt: By Group and Cumulative



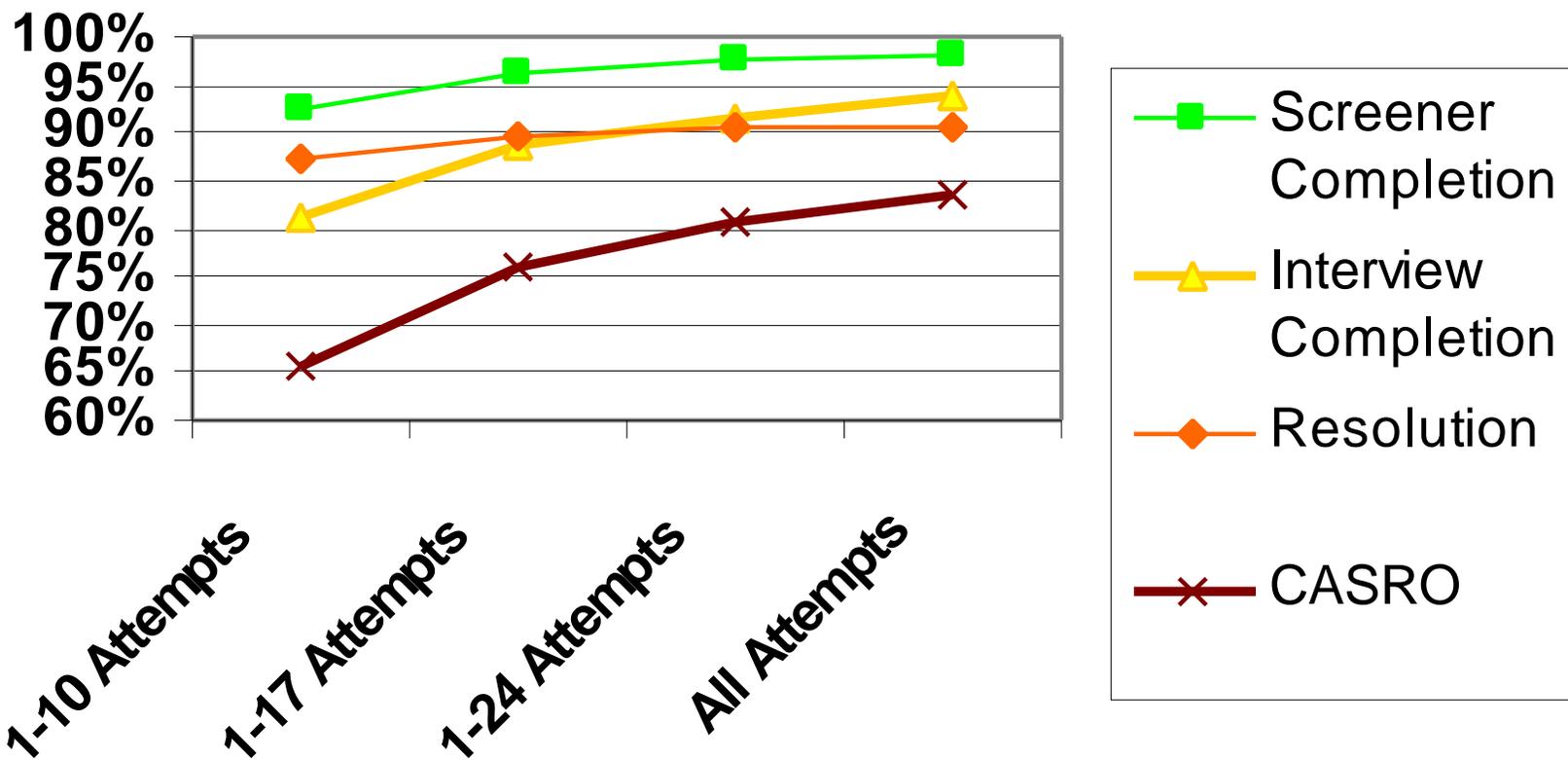
Data Quality Indicators by Number of Call Attempt for Completing Interview



Selected Item Non-Response Rates by Call Attempt Number



Response Rates by Ranges of Call Attempts: Resolution, Screener Completion, Interview Completion, and CASRO Rates



Demographics by Call Attempt Number

	ALL CASES	NUMBER OF CALL ATTEMPTS TO COMPLETE THE IMMUNIZATION INTERVIEW					
		1	2-3	4-6	7-10	11-24	> 24
N Cases	32,795	7,646	10,021	6,779	3,912	3,582	855
Hispanic Status of Child (%)*	14.8%	9.4%	15.0%	16.8%	17.7%	18.0%	18.0%
Race of Child - Black (%)*	18.7%	14.45	16.68	18.91	22.19	25.91	33.33
No. of People Living in HH (Mean)**	4.3	4.28	4.29	4.32	4.30	4.28	4.15
Age of Mother (Mean Years)**	29.8	29.71	29.85	29.94	29.84	29.46	29.00
Marital Status of Mother (% Married)*	72.1%	75.7%	74.3%	71.4%	70.9%	64.9%	55.1%
Education Level of Mother (% High School Graduate or Higher)*	87.2%	90.3%	86.7%	85.8%	86.0%	85.8%	86.3%
Family Income (% less than 15K)*	18.7%	16.3%	18.4%	19.0%	19.9%	22.0%	24.0%
Presence of Two Telephone Numbers (%)*	11.0%	9.9%	10.3%	10.6%	12.0%	13.9%	15.2%



Demographics When Excluding Interviews Completed After the 10th Dial Attempt

Study Question	Percent Change By Excluding Interviews Completed after 10 Dial Attempts
Presence of Second Phone Line	-2.3%
Race of Child -- Black	-1.5%
Hispanic Ethnicity of Child	0.33%
Marital Status of Mother - Married	1.2%

Note: 86% of interviews were completed on one of the first 10 dial attempts.



National Immunization Estimates: Using All Cases and Excluding High-Attempt Cases

	ALL CASES (ROW %)	EXCLUDING CASES COMPLETED ON 18TH OR LATER CALL ATTEMPT (ROW %)
N (Percent of Cases)	32,795 (100%)	30,951 (94.4%)
Total Children with Provider Data (Percent of Cases)	22,075 (100%)	21,079 (95.5%)
National Estimate of Up-to-Date Status on Major Immunizations (4:3:1:3)	76.4%	76.8%
Standard Error of the Estimate	0.4%	0.4%



Subjective Assessments: The Value of High-Attempt Completes

- **High Attempt Cases Are Expensive: Over 10 times as many dials to get a complete**
- **Don't Change National Estimates or Demographics Much, But Do Change Local Estimates**
- **Improve CASRO Rates by 3 Percentage Points**
- **Further Study Required on Cost--Error Tradeoff**



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