

# Monitoring on the Cheap without Losing Sleep

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## BACKGROUND

The collection of accurate and complete data is vital to the integrity of survey research and critical for analyses that help shape public policy. With advances in computer technology and the development of easy-to-use assessment tools and biomarker collection methods, surveys have become vastly more complex as areas of inquiry are added to field-based data collection. Simultaneously, federal budget cuts and increased competition for research dollars mean that research organizations must conduct increasingly more complex data collection while ensuring high quality, but at lower cost.

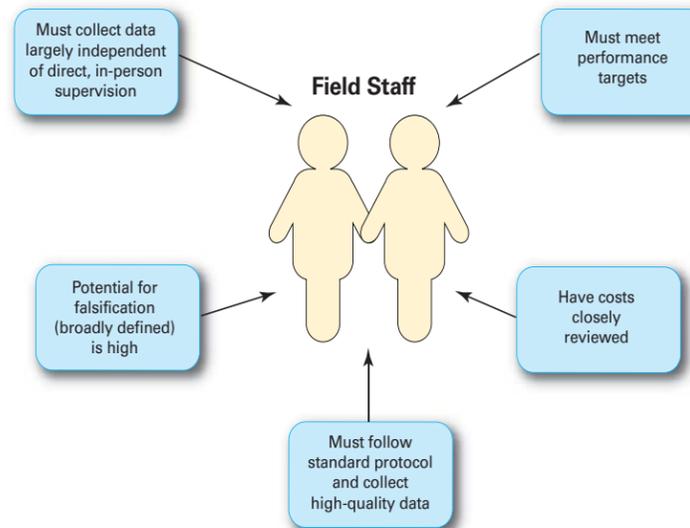
We describe challenges faced and solutions developed to effectively monitor data quality in a large study that entails in-person computer-assisted person interviews and collection of biomarkers under tight resource constraints.

Information comes from the Los Angeles Family and Neighborhood Survey (L.A. FANS), a longitudinal study. The first wave of data collection was conducted in 1999-2001, with respondents selected from 65 Census tracts in Los Angeles County. The second wave of data collection began in 2006 and is expected to last about 20 months. In-person interviews are conducted with adults and children—both panel members and new entrants. Interviews average 146 minutes per adult and 51 minutes per child. Respondents are invited to provide biomarkers (anthropometry, saliva, drops of blood, and a measure of lung function). Adult panel members who have moved out of Los Angeles County will be interviewed by telephone. Study plans anticipate in-person interviews with about 4,100 adults and 2,100 children.

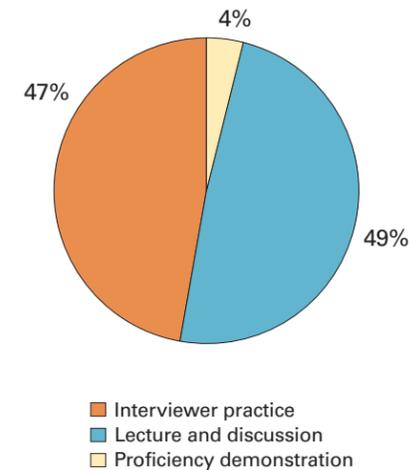
## DEFINITIONS

- **Verification calls:** Trained telephone interviewers contact respondents and administer a brief questionnaire. Results are determined to be within range or suspect.
- **In-person monitoring:** A supervisor accompanies field staff during in-home visits to assess performance and compliance with study protocols.
- **Timing reports:** The start and end times of interview modules are computed to determine cases with excessively low and high duration.
- **Time of data transmission:** The time at which field staff transmit completed interviews is compared against the time at which the interview was completed. Cases transmitted too close to the interview are reviewed.
- **Case folder review:** Supervisors use a checklist to examine case folders for completeness, looking at consent forms, incentive receipts, signatures, and paper copies of documents.
- **Timesheet:** A supervisor compares the dates and hours reported on an interviewer's timesheet against information regarding that staff member's interviews completed, by date of completion.
- **Respondent compliance:** Project staff review participant cooperation rates for field staff, noting outliers.
- **Locator information:** Project staff review data output by field interviewer for extent of missing information particular to a given respondent.
- **Daily completes:** Project managers review the number of interviews each staff member completes each day, noting instances where multiple households are completed in a single day (which is unlikely). The same data are used to aggregate completed interviews to detect unusually high production in given week.
- **Incentives:** Project managers compare amount of incentives paid against number of interviews completed.
- **Biomarker results:** Project sends letters to all participants with findings from health measures.
- **Expert review:** Technical experts assess health measure outcomes (e.g., spirometry curves, cortisol levels).
- **Lab results:** Reports enable project managers to assess adequacy of biomedical sample.
- **FedEx:** Project staff review electronic records to determine compliance with request to collect biospecimens.

## THE PROBLEM: NEED TO MONITOR VALIDITY AND QUALITY



## RELATIVE COSTS OF TRAINING FOR FIELD QUALITY AND ACCURACY



## ASSESSMENT OF COST PER CASE

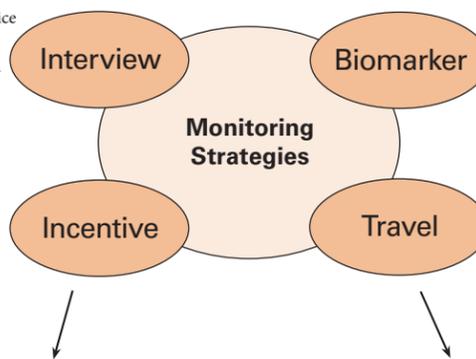
Monitoring Activity	Average Cost per Case			
	Less than \$5	\$5-\$10	\$11-\$20	Greater than \$250
Assess item missingness	✓			
Review case folder			✓	
Expert review (spirometry)	✓			
In-person observations				✓
Prepare/mail results letters		✓		
Review reports	✓			
Review biomarker data		✓		
Review compliance rates	✓			
Review level of locator data	✓			
Review interview date/time vs. timesheet	✓			
Review lab data		✓		
Call to verify			✓	

### Validity

- Review compliance rates by interviewer
- Review level of locator data
- Comparing time sheet entries with production data/dates
- Review of interview completion date and time
- Report review
- Case folder review
- Verification calls
- In-person monitoring

### Quality

- Training and practice
- Proficiency testing
- Assessment of item missingness
- Verification calls



### Validity

- Review compliance rates by interviewer
- Comparing time sheet entries with production data/dates
- Report review
- Reported incentives by case type
- Review data by interviewer

### Quality

- Letter including health measure results
- Case folder review
- Verification calls
- In-person monitoring
- Expert review (spirometry curves)
- Lab reports of specimen quality/readings
- Full saturation of dried blood spot cards
- Interview completion date/time
- Review data by interviewer (outliers)
- Training and practice
- Proficiency testing
- Verification calls

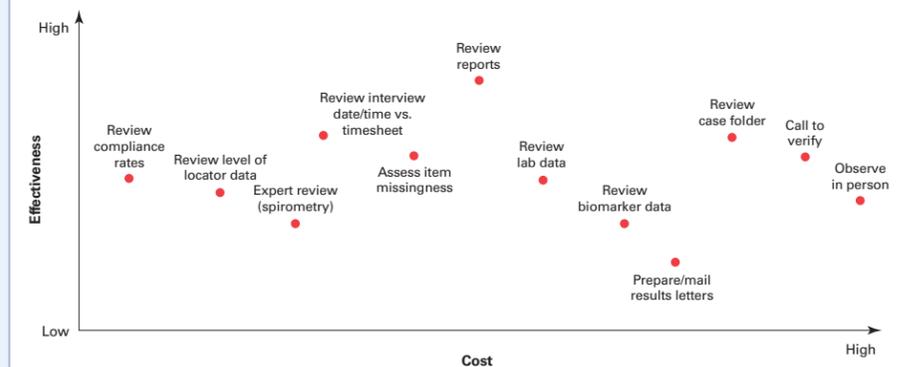
### Validity

- Comparison of payments with data completes report
- Reported incentives by case type
- Case folder review
- Verification calls

### Validity

- Comparing time sheet entries with production data/dates
- Review of interview completion date and time
- Report review
- Case folder review

## MONITORING STRATEGIES: ANALYSIS OF COST AND EFFECTIVENESS



## CONTACT INFORMATION

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