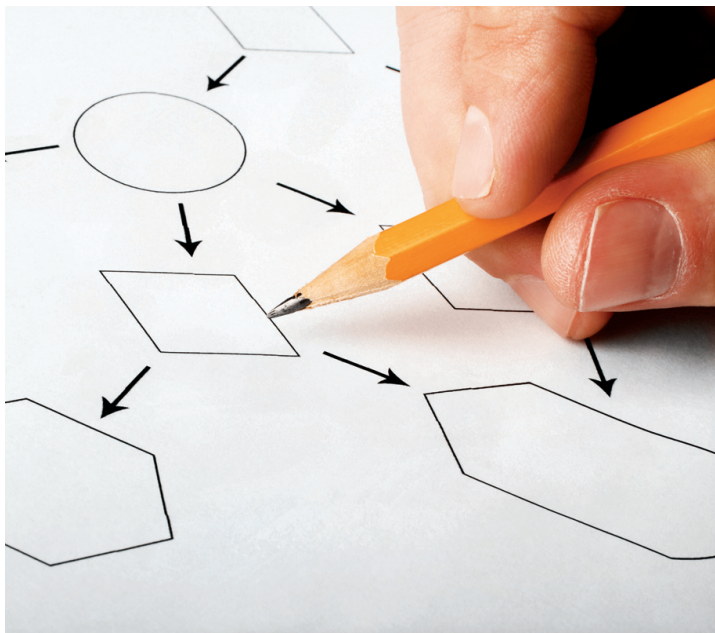


# Statistics and Methodology



# Statistics and Methodology

## CONTACT

**Kennon R. Copeland**  
Senior Vice President and Director  
(301) 634-9432  
copeland-kennon@norc.org

**Jeffrey Hackett**  
Director of Business Development  
(312) 759-4266  
hackett-jeffrey@norc.org

Decision makers need reliable, objective data and analysis to inform policy and allocate resources. In a time when modes of communications continue to evolve at rapid rates and reaching and engaging respondents remains challenging, the NORC Statistics and Methodology department plays a critical role in designing and implementing successful surveys, and analyzing the resulting data.

The Statistics and Methodology department pioneers innovations in all aspects of survey research. NORC statisticians and methodologists help understand the cognitive processes underlying respondents' reactions to survey questions; design and implement rigorous, efficient methods for sampling from populations and weighting resultant survey data; and employ advanced techniques for analyzing and interpreting survey and secondary data. The department collaborates with all NORC research departments and the Academic Research Centers. It also conducts primary research in survey statistics and methodology.

## Major Capabilities:

Statistical sampling methodology

Sample frame creation and maintenance

National frame sample design

Address-based sampling (ABS)

Random digit dial (RDD) sampling

Data imputation

Survey weighting methods

Variance estimation

Small area estimation

Total survey error estimation

## SURVEY DATA COLLECTION METHODOLOGY

Questionnaire design

Cognitive interviewing

Focus groups

Psychometrics

Response error mechanisms

Nonresponse mechanisms

## DATA DISSEMINATION

Disclosure analysis

Data suppression

## DATA ANALYSIS

Generalized linear models

Logistic regression

Factor analysis

Survival analysis

Categorical data analysis

Item response theory

Structural equation models

Program evaluation

Economic analysis

Variance Analysis

Integrated data systems

## Special Capabilities:

In addition to its core capabilities, the Statistics and Methodology department also has advanced skills in geographical information systems, statistical computing, and administrative records research.



## Sample Projects

**Census PVS Assessment.** As part of the Person Identification Validation System (PVS) Assessment engagement with the Census Bureau, NORC conducted a review of the Census Bureau's record linkage methods associated with the PVS, as well as an environmental scan of record linkage methods used by other government agencies—both within and outside of the U.S.—and private enterprises. Work continues in this area as NORC will conduct assessments of the PVS, including an evaluation of current cutting and blocking strategies, incoming and reference data file quality, and sensitivity analyses.

**Bureau of Labor Statistics Consumer Expenditure (CE) Records Information and Feasibility of Use Study.** The Statistics and Methodology department is carrying out qualitative interviewing and analysis to determine how a primarily records-based method of data collection for a revised CE would work and whether information on financial records meets the often highly detailed needs of the CE surveys.

**National Immunization Survey (NIS).** National Immunization Survey (NIS). As part of the NIS, the Statistics and Methodology team has led innovations in research and implementation of dual-frame (landline and cell phone) survey sample design, interviewing, and weighting. In addition, the department has carried out total survey error assessments for the NIS and developed analytic approaches resulting in more stable trend estimates and increased ability to assess state rankings.

**National Sampling Frame.** The National Sampling Frame is the basis for the address-based surveys conducted by NORC. The team recently completed updates to incorporate information from the 2010 Decennial Census and the most recent United States Postal Service Delivery Sequence File (DSF). A field listing effort was required in areas where the DSF is inadequate. For this update, mobile computing solutions were used in the process of listing addresses to incorporate automation and Geographic Information Systems approaches for improved efficiency, accuracy, and specificity. The first survey to utilize the updated National Sampling Frame will be the 2012 General Social Survey.

**Measuring Voice in the Workplace.** NORC is collaborating with Eastern Research Group in developing data collection strategies and measures of voice in the workplace, defined by the U.S. Department of Labor as a “workers’ ability to access information on their rights in the workplace, their understanding of those rights, and their ability to exercise these rights without fear of discrimination or retaliation.”

**Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW).** NORC developed a disclosure limitation methodology that will allow the QCEW program at the Bureau of Labor Statistics to release significantly more detailed information to the public while meeting confidentiality and data-quality requirements.

**Census Nonresponse Follow-up Simulation.** NORC is supporting Census Bureau efforts in researching the value and potential role of administrative records to support Decennial Census operations by examining a potential use of administrative records in Decennial Census non-response follow-up.



### Other Projects

Census Match Study

Consumer Expenditure Conditioning Effects

Immigrant Parents

National Blood Centers Utilization Survey

National Study of Physician Organizations III

Statistical Efforts in Support of the Office of Historical Trust Accounting

## SENIOR STAFF

**Kennon R. Copeland, Ph.D.**  
Senior Vice President and Director

Sample design, weighting methods, nonresponse adjustment methods, error measurement methods, dual-frame estimation

### Al Crego

Senior Survey Methodologist

Advanced statistical programming, Medicare data, beneficiary-summary files, masking data, National Sampling Frame, administrative data

### Bernard L. Dugoni, Ph.D.

Senior Survey Methodologist

Multivariate analysis, power analysis, disclosure analysis, regression analysis, cognitive pretesting, questionnaire design, focus groups

### Ned English, M.S.

Senior Survey Methodologist

Geographic information systems (GIS) applications to sample design, sampling frame construction, survey operations; address-based sampling (ABS) methodology research, ABS survey design and management

### Angela Fontes, Ph.D.

Senior Survey Economist

Econometric analysis, statistical modeling, financial analysis, policy analysis, analyses using large national surveys, cost-effectiveness and cost-benefit analysis, measurement development, program assessment, questionnaire design and testing, cognitive testing, focus group facilitation

### N. Ganesh, Ph.D.

Senior Statistician

Weighting methods, nonresponse adjustment methods, small area estimation, statistical modeling

### Susan Hinkins, Ph.D.

Senior Statistician

Sample design; complex, non-traditional sample frames; weighting methods; nonresponse adjustment and imputation; resampling techniques

### Parvati Krishnamurty, Ph.D.

Senior Survey Economist

Labor economics, econometric analysis, questionnaire design, memory recall, mode effects

### Laura K. Lancheros, M.P.P.

Senior Survey Director

Quality assurance, data delivery, process improvement in survey operations, training

### Lisa Lee, Ph.D.

Senior Survey Methodologist

Questionnaire design, cognitive testing, recall error and methods of improving recall

### Robert Montgomery, M.A.

Senior Statistician

Sample design, telephone survey design and management, cell phone surveys, statistical modeling, advanced statistical programming

### Edward Mulrow, Ph.D., P.Stat

Senior Statistician

Record linkage, administrative data, administrative system sampling, performance measure comparisons for detecting discriminatory behavior, statistical computing and graphics, database design and development

### Whitney E. Murphy, M.S.

Senior Statistician

Government health surveys, education surveys, sample design, telephone sampling methodology, address-based sampling (ABS) methodology.

### A. Elizabeth Ormson, M.S.

Senior Statistician

Sample design, weighting methods, nonresponse adjustment methods, dual-frame estimation

### Steven Pedlow, M.S.

Senior Statistician

Hot-deck imputation and multiple imputation, weighting methods, area probability and other sample designs, variance estimation, logistic and other regression, power analysis

### Vicki Pineau, M.S.

Senior Statistician

Sample design, weighting methods, multimode survey design, survey methods research for large-scale household surveys, internet surveys

### Benjamin Skalland, M.S.

Senior Statistician

Sample design, nonresponse and noncoverage bias, weighting methods, nonresponse analysis, survey operations for large-scale household surveys

### Erin Tanenbaum, M.A.

Senior Statistician

Quality control, Lean Six Sigma, statistical analysis, survey research, outcome analysis, record linkage, geographic information systems (GIS)

### Vincent E. Welch, Jr., Ph.D.

Senior Survey Methodologist

Analysis of complex survey data, study design and survey methodology, qualitative analysis, cognitive issues in mobile phone surveys, measurement and reporting of race and ethnicity, statistical disclosure avoidance, psychometrics

### Rebecca Wang, M.A.

Senior Statistician

Sample design, hot-deck imputation, weighting methods, generalized variance functions (GVF), data quality, survey data analysis

### Y. Michael Yang, Ph.D.

Senior Statistician

Sample design, weighting methods, variance estimation, disclosure limitation, survey data analysis, general linear models, non-parametric models

### Michele Zimowski, Ph.D.

Senior Survey Methodologist

Design and analysis of large-scale surveys; development and application of item-response-theoretic methods to educational, vocational, and behavioral data; education and minorities; psychometrics



at the UNIVERSITY of CHICAGO

#### DOWNTOWN CHICAGO

55 East Monroe Street  
30th Floor  
Chicago IL 60603  
(312) 759-4000

#### UNIVERSITY OF CHICAGO

1155 East 60th Street  
3rd Floor  
Chicago IL 60637  
(773) 256-6000

#### DC METRO

4350 East-West Highway  
8th Floor  
Bethesda MD 20814  
(301) 634-9300

#### ATLANTA

3520 Piedmont Road, N.E.  
Suite 225  
Atlanta GA 30305  
(404) 240-8400

#### BOSTON

225 Friend Street  
Suite 204  
Boston MA 02114  
(617) 316-3700

#### SAN FRANCISCO

225 Bush Street  
16th Floor  
San Francisco CA 94104  
(415) 439-8824

1 North State Street  
16th Floor  
Chicago IL 60602  
(312) 759-5200

1730 Pennsylvania Avenue  
2nd Floor  
Washington DC 20006