

Managing Production and Data Quality in the U.S. PIAAC

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Introduction to PIAAC

- The Programme for the International Assessment of Adult Competencies (PIAAC) is a household study sponsored by the OECD
- Adults 16-65 surveyed in 38 countries
 - Round 1 – 2011/12, 24 countries
 - Round 2 – 2013/14, 9 countries
 - Round 3 – 2017/18, 5 countries
- Complex assessment, focusing on the cognitive and workplace skills needed to participate in a 21st century society
- Conducted in multiple languages, and diverse populations with all countries adhering to standards set by the OECD consortium

U.S. PIAAC Survey Overview

The PIAAC survey includes the following instruments

- **Screenener:** collects age information on household members to select eligible participants
- **Background Questionnaire:** collects respondent information on education, work history, skills used at work and home, demographics, etc.
- **Assessment:** computer-based or paper-based, self-administered by the respondent

Overview of U.S. PIAAC Data Collection

The U.S. has participated in three rounds of data collection (PIAAC Cycle 1) under the aegis of the National Center for Education Statistics.

- Round 1: (2011/2012) Household sample (n=5 010, age 16-65)
- Round 2: (2013/2014) Household sample (n=3 660)
 - Oversampled young adults (16-34), unemployed adults (16-65) and older adults (16-74)
 - Prison sample (n=1 315, age 16-74)
- Round 3: (2017) Household sample (n=3 660 age 16-74)

Reporting U.S. PIAAC Results

- In the U.S., 8 760 household adults participated in Rounds 1 and 2
 - PIAAC results reported at the national level
- Sample of 3 660 respondents added in Round 3
 - PIAAC results will be reported at the national level
 - PIAAC results will be reported at the state and county level using indirect small area estimates

Challenges in Round 3

Based on our experience in Rounds 1 and 2, we were prepared for some challenges ahead of us. These included:

- increasing non-response
- anti-government political climate
- policy changes by new administration impacting subgroup participation

Other unanticipated challenges faced:

- two major hurricanes hitting the East coast and southern U.S.
- forest fires on the West coast

Round 3 Innovation - Dashboards

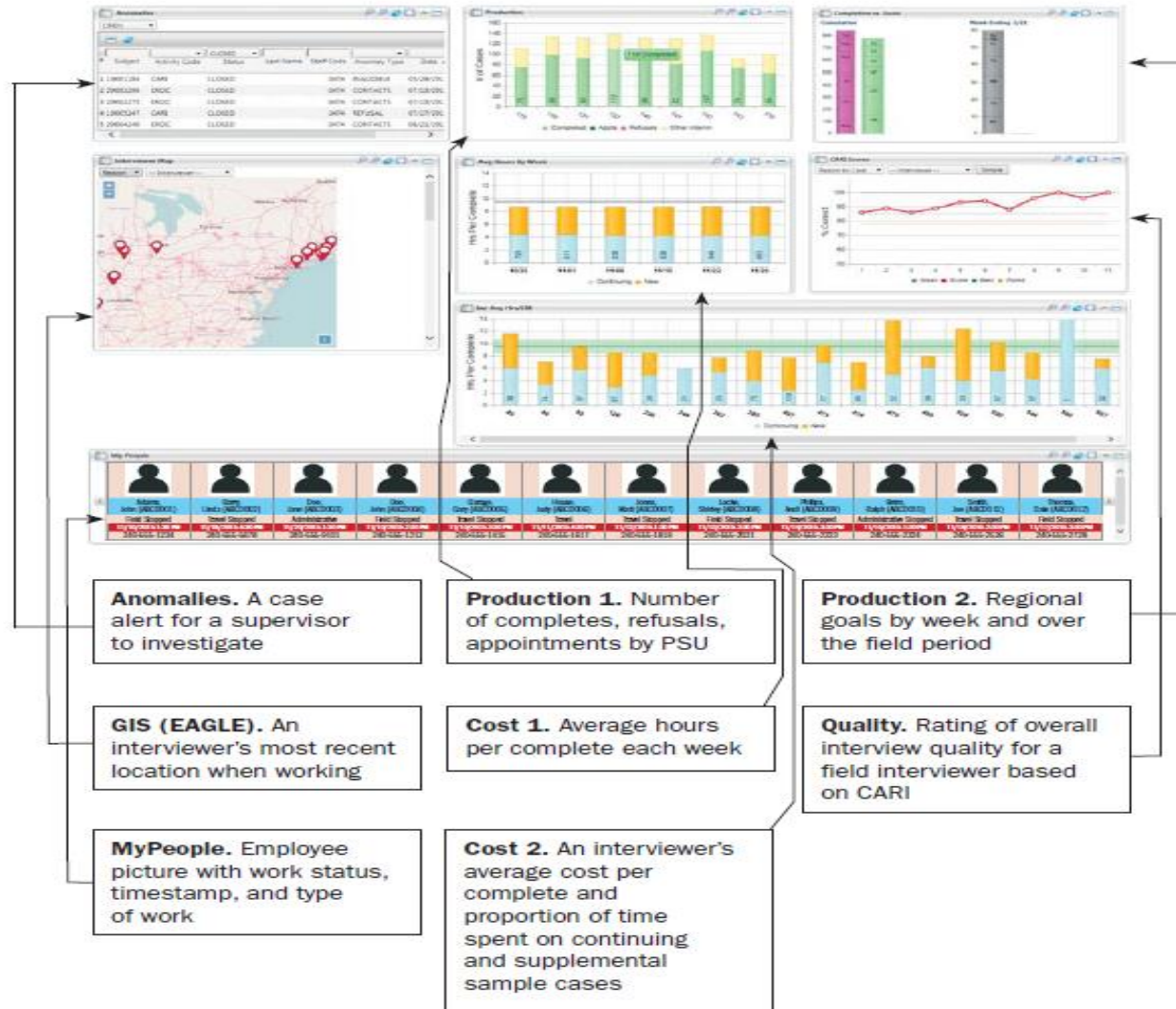
- Introduced dashboards to offset decreasing response rates and increasing costs, while maintaining standards for high quality data
- Survey dashboards provided real-time information on:
 - production (by region, by interviewer)
 - interviewer performance (e.g., hours per complete)
 - interviewer activity (e.g., route taken to sampled DU)
 - system alerts (to detect anomalies; early detection of falsified cases)

Round 3 Innovation – Dashboards (continued)

Dashboards tap into the wealth of paradata available and effectively:

- present information from key performance indicators, including field data (e.g., data from iPhone)
- present metrics in an easy to understand format
- present critical information on one screen
- provide ability to track goals and interviewer activity
- provide ability to set up alerts
- provide ability to drill down and investigate problems as needed

Example Survey Performance Dashboard



Round 3 Innovation - Use of Smart Phones

Introduced smart phones to enhance field work efficiency

Supervisors could monitor and/or manage:

- contacts with field staff
- interviewer contacts with sampled households/persons
- nonresponse details
- real-time recording of labor hours
- efficiency of travel routes during field work
- validation efforts

Round 3 Innovation – Use of Smart Phones (continued)

Interviewers used smart phones to manage:

- access to maps and directions
- appointment tracking
- entering contact results in real time
- communication dedicated to project work (field staff and respondent communication)
- tracking of mileage/time

Incentives Used in Round 3

➤ Interviewer Incentives:

- As in Round 1 and 2, we offered interviewers a bonus for completed interviews
- In Round 3 interviewers who were refusal cases received additional incentive

➤ Respondent Incentives:

- As in Round 1 and 2, sampled persons who completed an interview received a monetary incentive
- In Round 3, token non-monetary incentives were added

Implementation of Adaptive Design Experiment

- Goal: to have a balanced sample and reduce nonresponse bias
- Step 1: Sample divided into control and treatment groups

In the treatment sample:

- Step 2: Use projection models to determine shortfalls in sample yield by
 - comparing actual sample yield compared to targeted sample size goals and the pace of production
 - considering interviewer attrition rate and the profile of unworked cases (e.g., hard to contact cases)
- Step 3: Set up case prioritization, while keeping costs fixed, by rating the 'influence' of each case in:
 - reducing bias
 - achieving response rate goals
 - achieving sample yield

Case Prioritization Strategy

- Review all open cases to evaluate:
 - contact protocols (number of attempts, interim disposition codes)
 - the influence on the survey statistics based on predictions of response propensity and literacy skills for open cases, and,
 - assign cases to the interviewer as “high priority” that are 1) unlike other cases that have been closed, and 2) more likely to respond
 - classify open cases as high, medium, or low priority

Case Prioritization Strategy (continued)

- Assign priorities to open cases on a weekly basis
- Deselect one-third of 'low influence' cases at random (one-time) to focus efforts to higher priority cases
- Make special efforts to complete high priority cases by:
 - using targeted mailings (postcard mailing to the high priority cases prior to interviewer contact)
 - traveling skilled interviewers
 - using interviewer incentives

Postcard Mailing

Understanding Adult Skills in the 21st Century



1-855-286-9240

<http://nces.ed.gov/surveys/isas>

U.S. Department of Education ■ National Center for Education Statistics

ISAS

International Survey of Adult Skills
United States Survey

Lessons Learned

- Use of dashboards facilitated strategic management of field work
- Equipping interviewers with smart phones
 - allowed rapid response to emergent needs
 - facilitated timely monitoring of interviewer travel activity and contact results
- Results from the adaptive design experiment are being analyzed for cost effectiveness and reduction in nonresponse bias

Results of Round 3 Data Collection

- Achieved an overall weighted response rate of 55.9% in Round 3 (the combined weighted response rate for the household sample in Rounds 1 and 2 was 67.8%)
- 3 660 completed cases which, when combined with the 8 670 cases from Rounds 1 and 2, will provide a more complete picture of adult skills in the U.S. at both the national and state/county levels

References

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THANK YOU