How Training Affects Interviewer Performance Over time: A Field Experiment with A Large-scale National Representative Survey

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Disclaimer

The statements in this presentation are those of the presenter and do not necessarily represent the views of the Agency for Healthcare Research and Quality (AHRQ) or the Department of Health and Human Services (DHHS).

Background

- Interviewer contributes to all types of error arising from the survey process (e.g. West and Blom 2017).
- Interviewer training is often conducted with the intent of reducing the interviewer related error in standardized interviews.
- Findings from previous research on how training affect interviewer performance are mixed:
  - Gaining cooperation (e.g., Groves and McGonagle 2001, O'Brien, Mayer, Groves and O'Neill 2002, Schnell and Trappman 2006).
  - Collecting high quality data from respondents (e.g., Cannell, Miller and Oksenberg 1981, Billiet and Loosveldt 1988, Fowler and Mangione 1990).

Medical Expenditure Panel Survey (MEPS)

- MEPS is the nation's primary source of nationally-representative information on medical expenditures, health care utilization, and health insurance coverage, conducted since 1996.
- Design:
  - Longitudinal overlapping panel survey that interviews US civilian, noninstitutionalized population approximately every 6 months for 5 rounds.
  - Subsample of 15,000 households each year participating in the previous year's National Health Interview Survey:
    - Most interviews are done in-person, with some small proportion by telephone (in non-Pandemic years).
  - One person reports on personal characteristics and health care use for all other family members and receives $50 for completing each round.

Field Interviewer Training Experiment

- Conducted a field interviewer training experiment in fall 2019:
  - 250 experienced MEPS-HC field interviewers.
  - The purpose of the training was to refresh experienced interviewers on two skill sets:
    - Gaining cooperation
    - Collecting high quality data
  - Three training modes:
    - In-person training
    - Videoconferencing training
    - Self-administered and self-paced training

Interviewer Assignment

Table 1. Interviewer Assignment by Pre-identified Performance Groups

Training Mode		Data Quality		
	Gaining Cooperation	High	Mid	Low
In-person Training (n=105)	High	10	13	5
	Mid	13	25	14
	Low	4	14	7
WebEx Training (n=58)	High	6	7	2
	Mid	7	14	8
	Low	2	10	2
LMS Training (n=79)	High	9	11	1
	Mid	8	20	13
	Low	1	11	5
	Total	60	125	57

- For each interviewer, computed two baseline performance measures using data from the preceding round of data collection:
  - A composite score on gaining cooperation
  - A composite score on data quality

Training Mode: In-person

- In-person training:
  - A two-and-a-half day training including 24 modules.
  - A combination of long and short lectures, large group discussion, small group exercise, and Computer-Assisted Personal Interviewing (CAPI) hands-on practice.
  - Assigned interviewers into small groups to complete exercises:
    - Each group was a mixture of pre-identified high-, mid-, and low-performers to prompt peer learning.
  - After training, collected feedback from interviewers via a web survey.

Training mode: Videoconferencing

- Videoconferencing training:
  - A single two-hour WebEx session that covered 2 modules:
    - Provider Search (data quality)
    - Hard Copy Collection (gaining cooperation)
  - Each session had about 10 interviewers with varied pre-identified performance.
  - Training staff kept interviewers engaged during the session.
  - After training, collected feedback from interviewers via a web survey.

Training Mode: Self-administered LMS

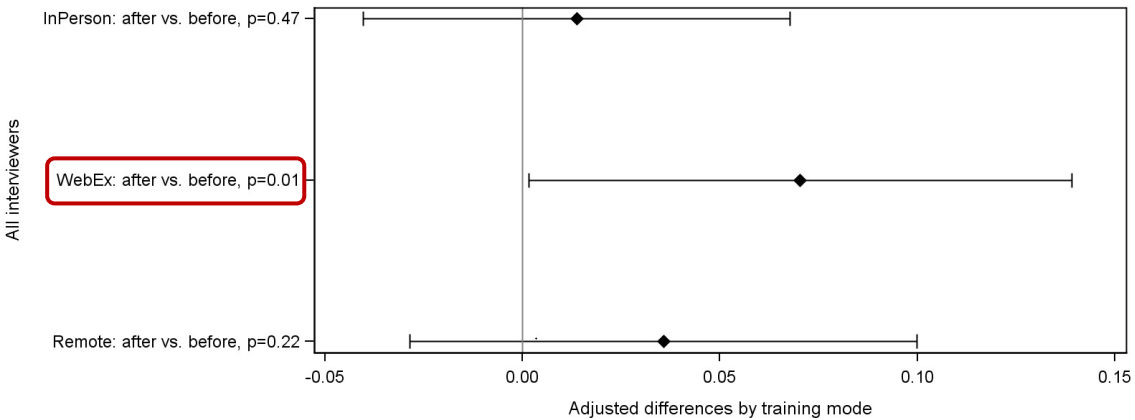
- Learning Management System (LMS) training:
  - The LMS manages and delivers assigned electronic training and documentation in a browser environment.
  - Self-administered and self-paced training that covered 2 modules:
    - Provider Search (data quality)
    - Hard Copy Collection (gaining cooperation)
  - No interaction with training staff.
  - After training, collected feedback from interviewers via a web survey.

Statistical Approach

- Outcome measure:
  - Provider match rate = the number of matched providers / the number of eligible providers
- For the same interviewer, the provider match rate was computed both before the training and after the training (i.e. at the end of the filed period).
- Fit marginal linear models to examine how provider match rates change over time.

Results: All interviewers

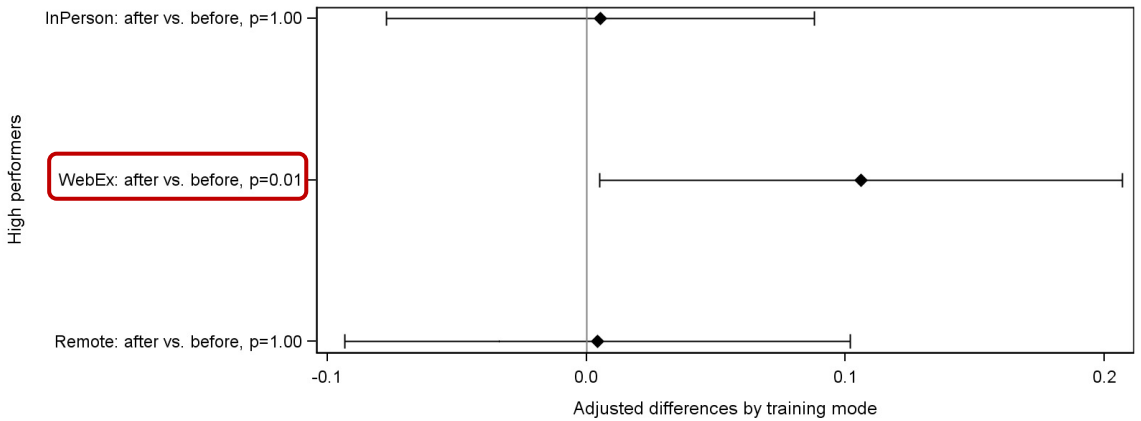
Figure 1. The LS Means and 95% confidence intervals for the adjusted differences before and after training by training mode



- Fit a marginal linear model to predict the provider match rate by time (after vs. before training), training modes, and the two-way interactions between time and training modes for all interviewers.
- Significant improvement on the provider match rate before and after for interviewers trained in WebEx.

Results: High-performers

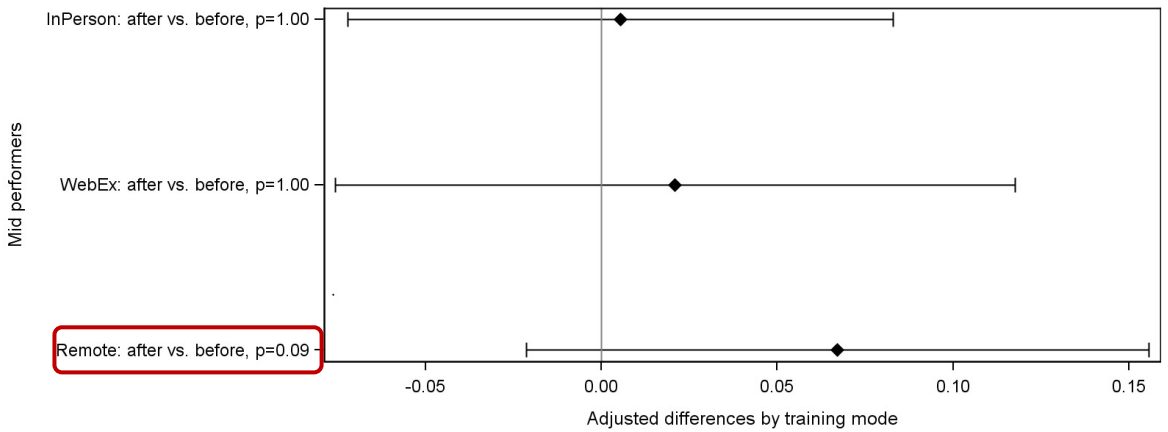
Figure 2a. The LS Means and 95% confidence intervals for the adjusted differences before and after training for high-performers



- Fit a marginal linear model for high-performers only.
- For pre-identified high-performers, there was significant improvement on the provider match rate before and after the training if they were trained in WebEx.
- No significant improvement before and after training for high performers trained either in person or in LMS.

Results: Mid-performers

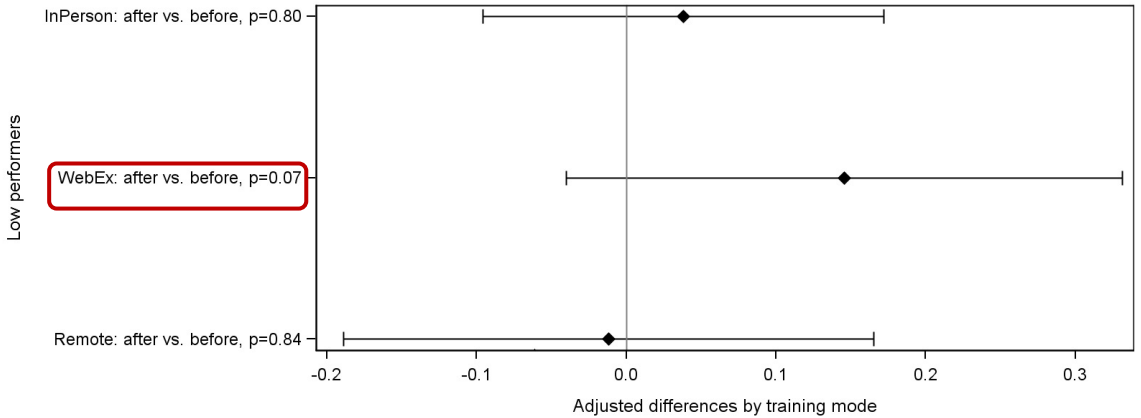
Figure 2b. The LS Means and 95% confidence intervals for the adjusted differences before and after training for mid-performers



- Fit a marginal linear model for mid-performers only.
- Marginally significant improvement before and after the LMS training.
- Neither in-person nor WebEx training had significant effects on performance for mid-performers.

Results: Low-performers

Figure 2c. The LS Means and 95% confidence intervals for the adjusted differences before and after training for low-performers



- Fit a marginal linear model for low-performers only.
- Marginally significant improvement on provider match rate before and after the training for those trained in WebEx.
- No significant improvement on the provide match rate for low-performers trained either in person or in LMS.

Results: Interviewer Feedback

Table 2. Interviewer's responses to the debriefing items by training mode.

	Training Mode		
Debriefing Questions	**In-person**	**WebEx**	**LMS**
Overall experience as excellent, very good or good (%)	100	95.6	97.6
Learned a lot of new information on collecting high quality data (%)	48.9	33.3	36.6
A lot of the materials can be applied to cases to get better data quality from the respondents (%)	55.6	60.0	68.3
Very confident in collecting high quality data in more challenging situations after training (%)	48.9	55.6	41.5
n	*90*	*45*	*41*

- Regardless of training mode, the vast majority of interviewers rated their overall experience as excellent, very good or good.
- No significant differences on responses to debriefing items between training modes.

Summary and Discussion

- Improvement on the provider match rate for interviewers trained in WebEx:
  - Significant improvement for interviewers pre-identified as high performers, and marginally significant improvement for interviewers pre-identified as low performers.
- Interviewers trained in the three modes provided similar feedback about their training experiences.
- Training interviewers via videoconferencing is a promising method that deserves further consideration.
  - Maintains the interaction between the training staff and interviewers
  - Requires extensive preparation

Thank you!

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