Measuring the Quality of Real-time Telephone Survey Interpreters

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Interviewing in the US in Languages Other than English or Spanish

- Despite dramatic growth in the non-English/ non-Spanish speaking US population, most surveys still only conducted in these languages

- Health risks faced by those not speaking English or Spanish may not be adequately described in public health statistics

- Potential for problems increases as the US population grows more diverse
  - Similar issue faced in many other countries

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Possible Method for Reaching "Other-Language" Respondents

- Use third-party interpreters for real-time translation of surveys
  - Allows conduct of interviews in broad range of languages in comparatively cost-effective manner
  - Effective at improving survey response in other-language groups

- Detailed quality assessment conducted as part of the Behavioral Risk Factor Surveillance System (BRFSS)

- KEY QUESTION: What is the quality of real-time survey interpretation conducted "on the fly?"

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Behavioral Risk Factor Surveillance System (BRFSS)

- Largest continuously conducted random-digit dialed telephone health survey in the US
    - Over 300,000 interviews conducted in 2004
    - Approximately 400-500 per state per month

- Conducted monthly by all 50 states, DC, Puerto Rico, U.S. Virgin Islands, and Guam

- Interviews conducted with noninstitutionalized adult population ages 18 years or older

- Focus on health practices and risk behaviors linked to chronic diseases, injuries, and preventable infectious diseases.

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BRFSS Test of Real-Time Interpretation

- Conducted in California

- Data collection September 2005 – May 2006

- Three phases
  – Identifying eligible cases
  – Contacting and interviewing respondents using real-time interpretation
  – Behavior coding of recorded interviews

- Identification of study eligible households by attempting to obtain an answer to one of the following:
  – What language do you speak?
  – What country are you from?

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Interviewing Other-Language Respondents

- Three-way call was established between interviewer, interpreter, and sampled telephone number

- Interviewer asked questions and interpreter translated for respondent

- Respondent answered question and interpreter translated for interviewer

- Interviewer entered responses into CATI system

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Behavior Coding of Completed Interviews

- Audio-taped interviews were sent to outside behavior coding vendor

- Interviews were behavior coded by trained language specialists fluent in the language of interview

- Coding form data were entered into a database for analysis

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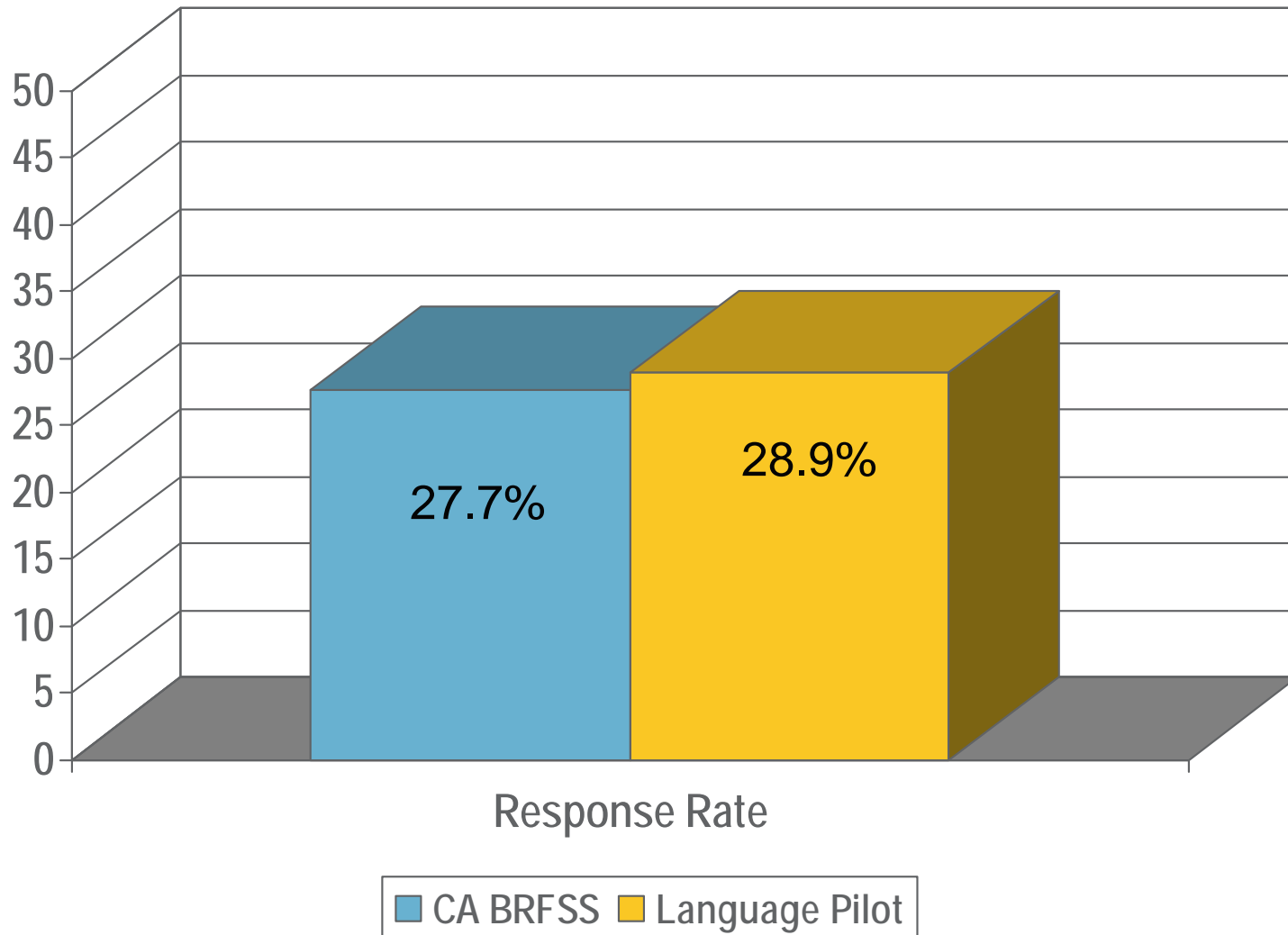# Attributes Assessed During Coding Process

- Was the question interpreted accurately?
  (1=least accurate, 4=most accurate)

- Was the response relayed accurately?
  (1=least accurate, 4=most accurate)

- Were there concepts in the questionnaire that appeared to be difficult to translate accurately? (Yes/No)

- How many times did the question need to be repeated to the respondent? (Number of times)

- Were there side conversations between the interpreter and the respondent which were not translated for the interviewer? (Yes/No)

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Analysis and Results

Key Areas for Analysis

- 988 cases were included in the initial sample for the pilot
  - 201 interviews were completed, of which 195 had error-free tapes which were behavior coded

- Response rates and final case dispositions

- Demographic Characteristics

- Question-level and interview-level assessments of the quality of the interpretation
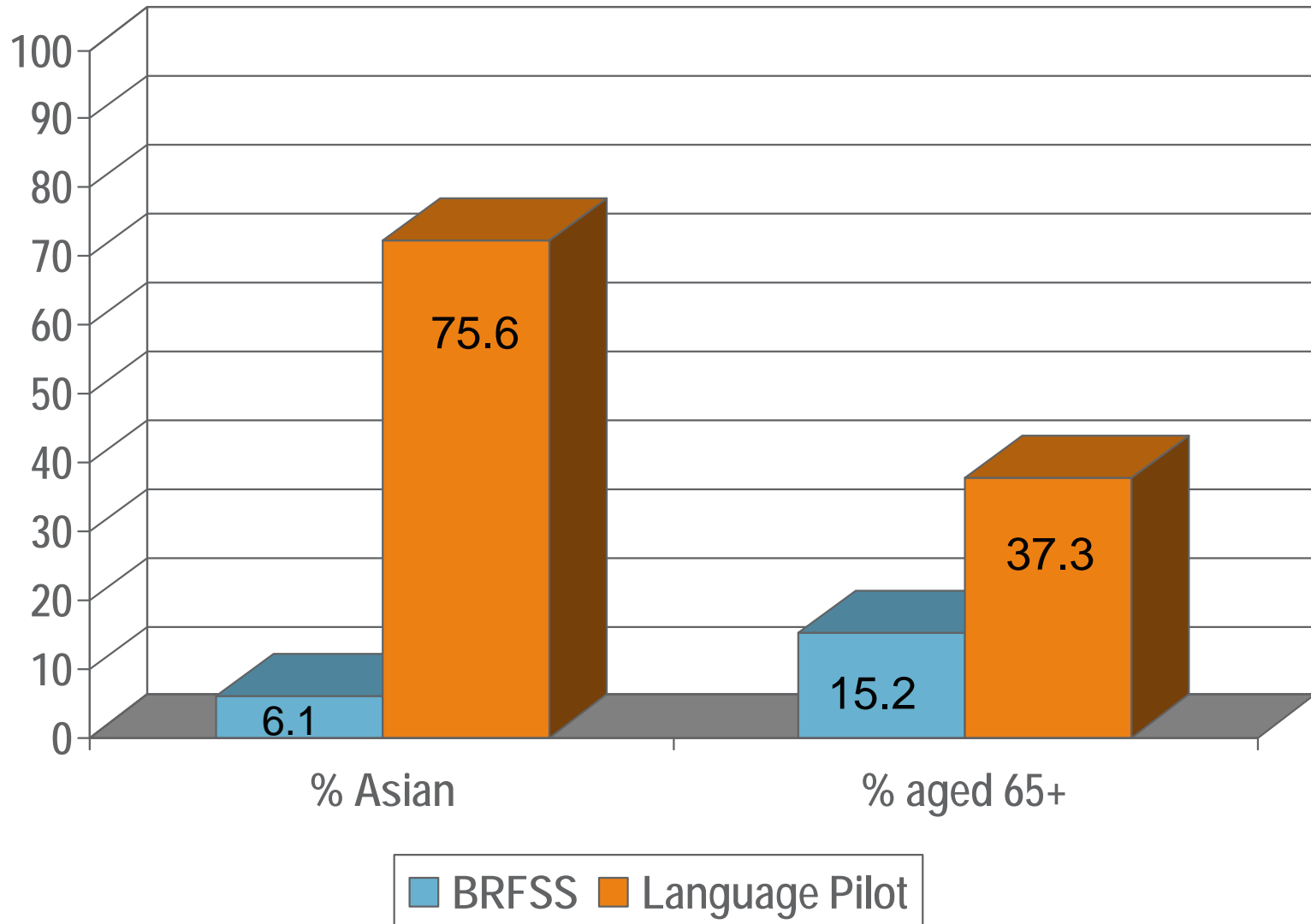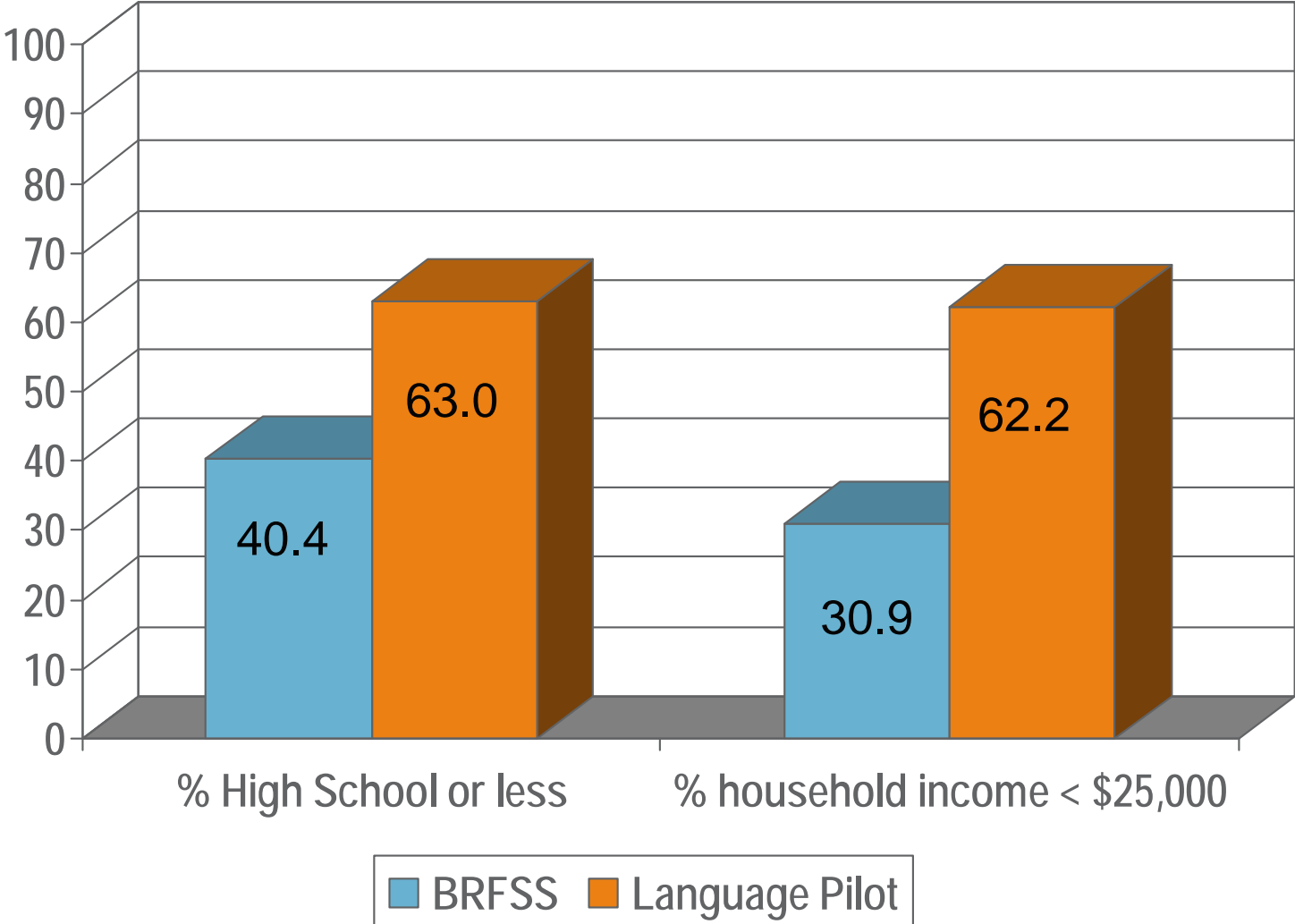
- Survey estimates

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Overall Response Rate

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Language Distribution of Completed Interviews

- Vietnamese   37
- Mandarin   31
- Cantonese   26
- Korean   24
- Russian   20
- Armenian   10
- Japanese   9
- Farsi   5
- Tagalog   5
- Punjabi   5
- Cambodian   3
- Amharic   2
- French   2

- Cambodian   3
- Amharic   2
- French   2
- Bengali   2
- Persian   2
- Turkish   2
- Ukranian   2
- Hindi   1
- Hirudhi   1
- Hmong   1
- Thai   1
- Arabic   1
- Bosnian   1

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Percent Asian / Aged 65+

Chart showing Percent Asian / Aged 65+:
- % Asian: BRFSS 6.1, Language Pilot 75.6
- % aged 65+: BRFSS 15.2, Language Pilot 37.3

Legend: BRFSS, Language Pilot

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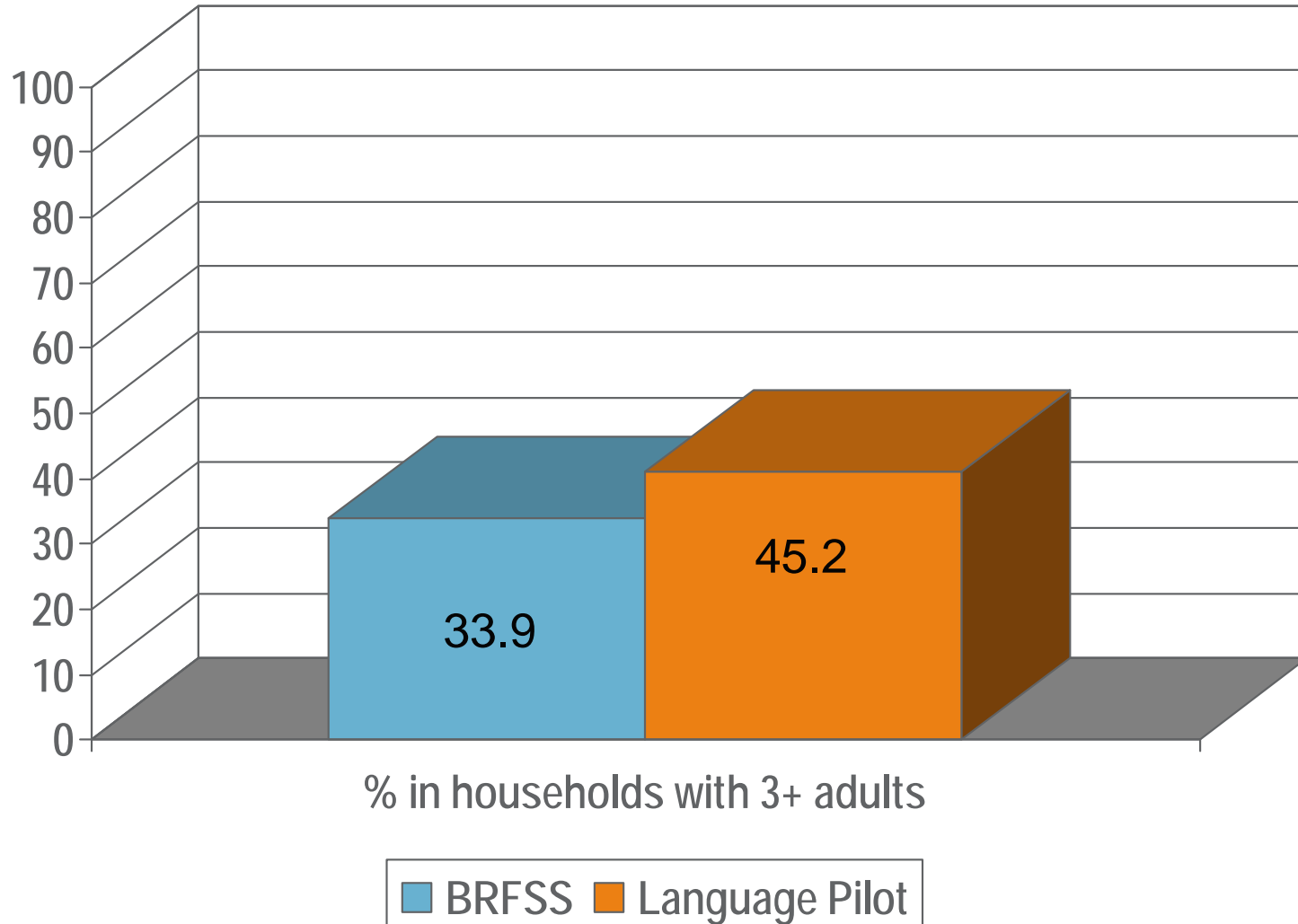
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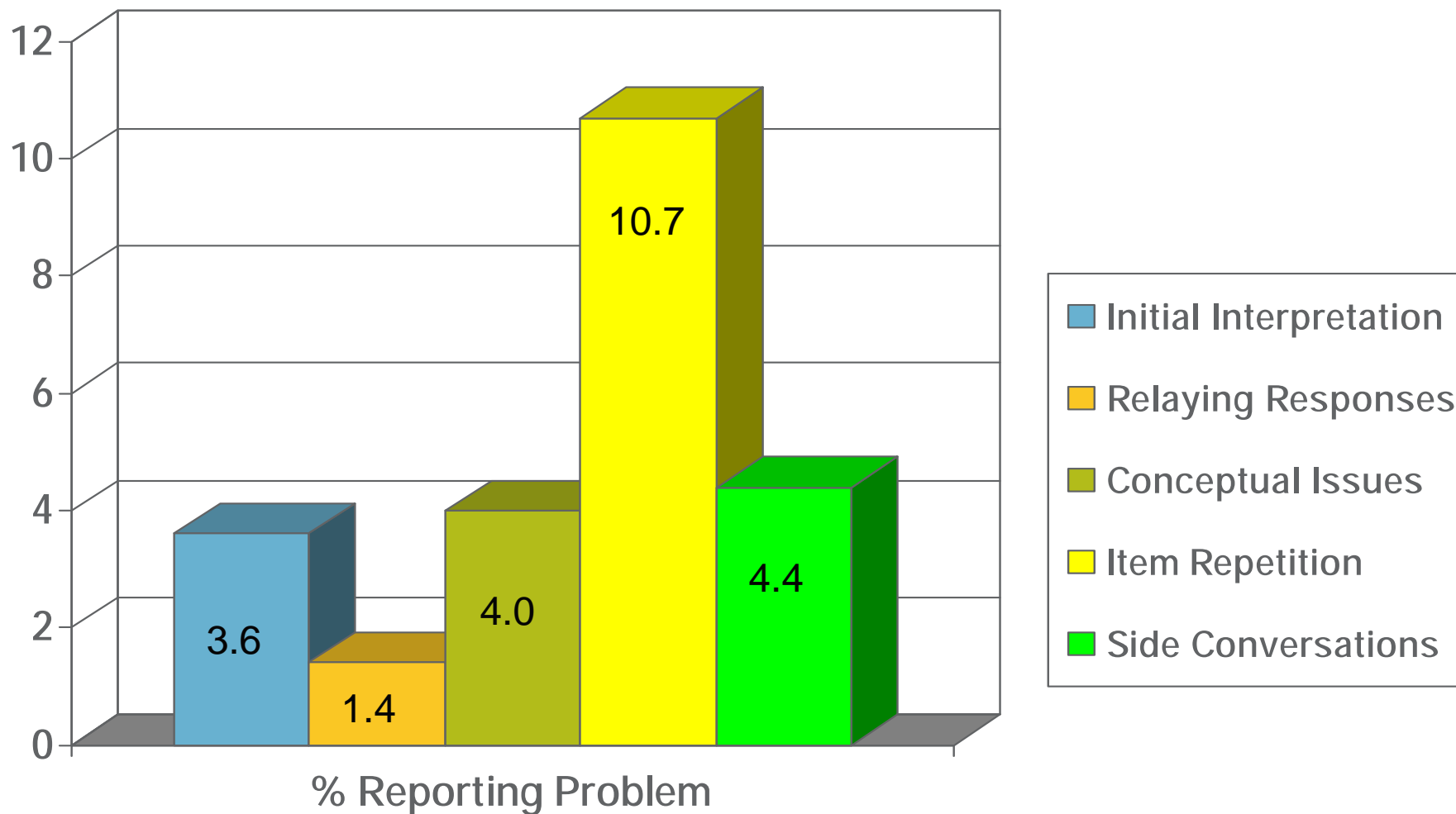# Percent with high school or less education / household income < $25,000

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Percent Living in Households with 3+ Adults

% in households with 3+ adults

- BRFSS: 33.9
- Language Pilot: 45.2

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Question-Level Quality

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Additional Question-Level Analyses

- Question position
  - First third of questionnaire
  - Second third of questionnaire
  - Last third of questionnaire

- Question type, i.e., primary or follow-up question

- Response format
  - Yes/no
  - Categorical
  - Numeric
  - Likert scale

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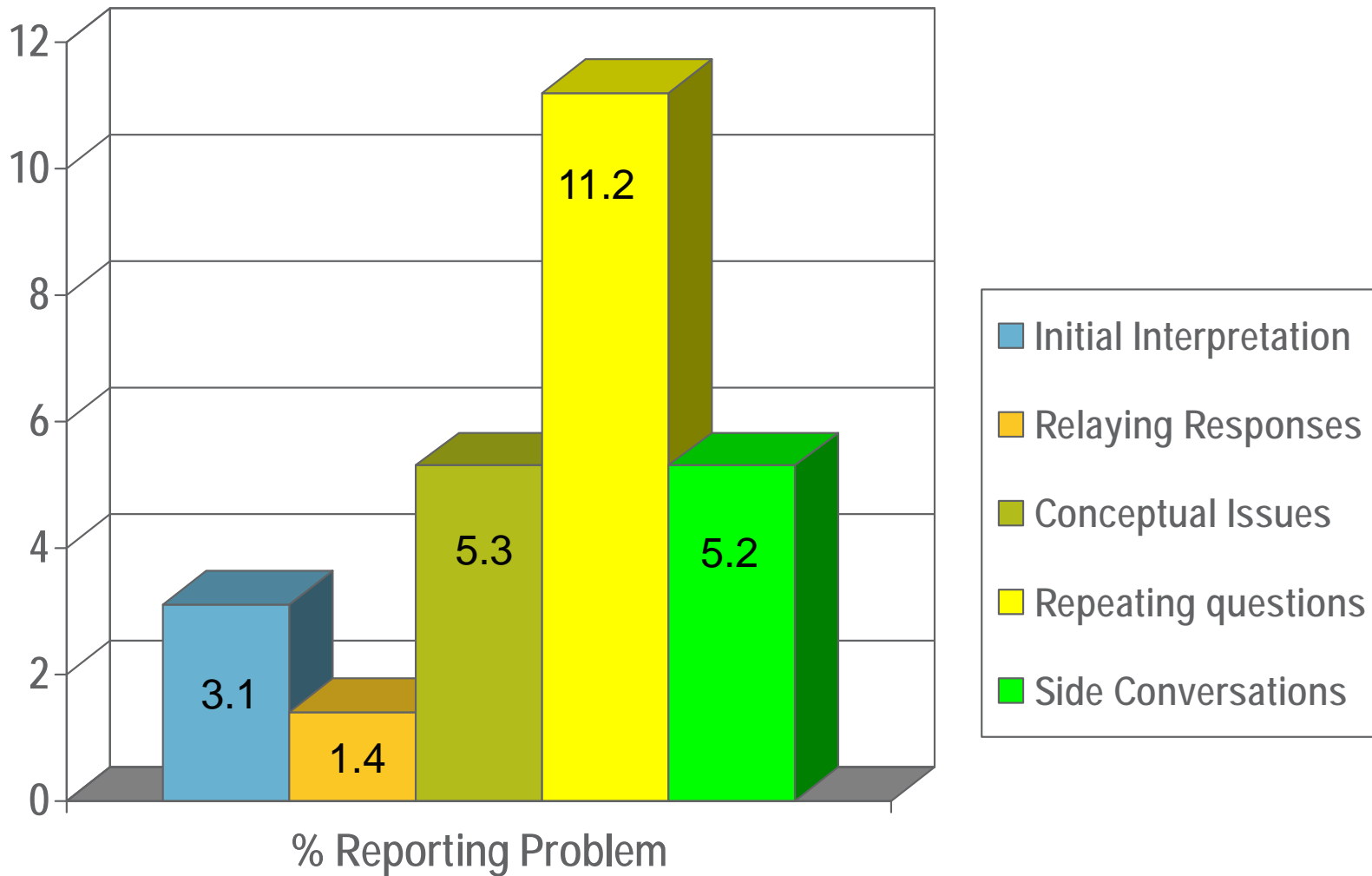
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Results of Additional Analyses

- Errors in interpretation were not significantly related to question placement, question type, or response format

- Errors in relaying responses were higher for questions with categorical responses

- Primary questions were more likely to have concepts that were difficult to translate than were followup questions

- Questions in the first two-thirds of the interview were more likely to have difficult-to-translate concepts

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Results of Additional Analyses

- Questions with a yes/no format were less likely to require that questions be repeated and side conversation

- Primary questions were more likely than follow-up questions to generate side conversation

Interview-Level Quality

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Comparison of Interview-Level Quality Among Demographic Groups

- Compared quality by age, sex, education, income, and language of interview

- Language of interview had greatest impact on interview-level quality, with significant variation on all coding measures
  - Those speaking "less prominent" languages were more likely to have errors in interpretation and relaying of responses

- Women more likely than men to experience interpretation problems and require item repetition

- Respondents aged 70+ were more likely to engage in side conversation with the interpreter

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Comparison of Survey Estimates

Health condition / risk behavior	BRFSS		Language Pilot	
	%	*95% CI*	*%*	*95% CI*
Asthma	13.6	12.6, 14.6	8.2	4.1, 15.7
Diabetes	9.1	8.2, 10.0	15.0	9.6, 22.8
Have a health plan	83.7	82.4, 85.0	80.7	72.5, 86.8
Flu shot past 12 mos	**24.6**	**23.3, 25.9**	**47.0**	**37.7, 56.4**
Obese (BMI > 30)	**19.6**	**18.4, 20.9**	**10.0**	**5.6, 17.1**
Current smoker	14.4	13.3, 15.6	15.5	9.4, 24.5
Binge drinking	11.9	10.9, 13.1	5.1	2.0, 12.2
Tested for HIV	**42.6**	**40.8, 44.3**	**18.5**	**10.8, 29.8**
HIV risk behaviors	5.2	4.5, 6.2	2.9	0.7, 11.5

¹Questions not asked of respondents aged 65 or older

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Conclusions

- Results suggest that real-time interpretation may be effective for reaching other-language respondents

  - Interviews completed with over 25% of other-language BRFSS cases

  - Respondents were demographically different than on the ongoing BRFSS

  - The percentages of error observed in question interpretation and response relay were low

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For Consideration

- Some items required repetition and posed conceptual difficulties in translation

- Cognitive testing and interpreter training could be ways of improving the process for such items

  – Cognitive testing to help determine whether people of varying backgrounds will interpret questions as intended

  – Training to stress the neutral role of the interpreter

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