Supplementary Online Content


eAppendix. Survey Questions for Communication and Interpretation Quality

eTable. Association of Study Outcomes With Assigned Interpreter Modality, Before and After Adjusting for Parent-Reported English Proficiency, Based on Linear or Logistic Regression

This supplementary material has been provided by the authors to give readers additional information about their work.
eAppendix: Survey questions for Communication and Interpretation Quality

CAHPS Communication composite:

For the first group of questions, please think about the care your child received from the doctors and nurses during this visit to the Emergency Department. “Providers” refers to all of the doctors and nurses who cared for your child during the visit.

1. During this visit, did the providers explain things about your child’s health in a way that was easy to understand?
   - Yes, definitely / Yes, somewhat / No

2. During this visit, did the providers listen carefully to you?
   - Yes, definitely / Yes, somewhat / No

3. During this visit, did you talk with the providers about any questions or concerns you had about your child’s health?
   - Yes → continue to Q4
   - No → skip to Q5

4. During this visit, did the providers give you easy to understand information about these health questions or concerns?
   - Yes, definitely / Yes, somewhat / No

5. During this visit, did the providers show respect for what you had to say?
   - Yes, definitely / Yes, somewhat / No

6. During this visit, did the providers spend enough time with your child?
   - Yes, definitely / Yes, somewhat / No

Interpretation Composite:

For the next group of questions, please think about the interpretation you received by ___________ (assigned modality auto-populated) during this visit to the Emergency Department.

The next 4 questions ask you to choose an answer from the following options: excellent, good, fair and poor. “Excellent” is the best possible answer and means that the service was the best you can imagine. “Poor” is the worst answer and means the service was the worst you can imagine.

7. How would you rate your interpreter(s) in treating you with respect?
Excellent / Good / Fair / Poor

8. How well do you think your interpreter(s) understood you?
   Excellent / Good / Fair / Poor

9. How well do you think your interpreter(s) interpreted your visit with the doctor?
   Excellent / Good / Fair / Poor

10. How well do you think this method of interpretation protected your privacy?
    Excellent / Good / Fair / Poor

Additional interpretation questions:

11. Did your interpreter(s) listen to you carefully?
    Yes / No

12. Would you recommend the interpreter(s) to a friend?
    Yes / No

13. Would you recommend this method of interpretation to a friend?
    Yes / No
### eTable. Association of Study Outcomes With Assigned Interpreter Modality, Before and After Adjusting for Parent-Reported English Proficiency, Based on Linear or Logistic Regression

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Unadjusted</th>
<th>Adjusted a</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Estimate (95% Confidence Interval)</td>
<td>P</td>
</tr>
<tr>
<td>Diagnosis comprehension</td>
<td>1.97 (1.08, 3.60)</td>
<td>.03</td>
</tr>
<tr>
<td>Frequent lapses in professional interpreter useb</td>
<td>0.21 (0.04, 1.03)</td>
<td>.05</td>
</tr>
<tr>
<td>High quality communicationc</td>
<td>1.36 (0.63, 2.97)</td>
<td>.43</td>
</tr>
<tr>
<td>High quality interpretationc</td>
<td>1.12 (0.64, 1.95)</td>
<td>.69</td>
</tr>
<tr>
<td>ED LOS for discharged patients, minutes (n=171)</td>
<td>-6.4 (-30.9, 18.1)</td>
<td>.61</td>
</tr>
<tr>
<td>ED LOS for admitted patients, minutes (n=33)</td>
<td>19.6 (-54.0, 93.1)</td>
<td>.59</td>
</tr>
<tr>
<td>ED medical charges, US dollarsd</td>
<td>-45.2 (-290.7, 200.3)</td>
<td>.72</td>
</tr>
</tbody>
</table>

a Adjusting for parent-reported degree of English proficiency, the only baseline characteristic found to have any appearance of unbalance between groups after randomization.

b Communication without professional interpretation is a composite of parent responses regarding frequency of provider use of the following: ad hoc interpretation, English without an interpreter, and Spanish without an interpreter (unless a patient's provider was certified proficient in Spanish).

c Scored using top-box scoring, in which encounters receiving the most positive response for all questions within the composite (see Appendix for text of questions) are scored as high quality, and all others are scored as not high quality.

d Interpretation charges are not billed to families and are not included in the ED medical charges.

In all cases, the point estimate is for assignment to video interpretation, compared to assignment to telephone interpretation (N=208)