

IMPROVING HEALTHCARE FOR OLDER ADULTS

Special Report—February 2014



Use of PAM-13® to Test Interactive Voice Response (IVR) as a Data Collection Tool in a Medicare Population

Objectives:

- Primarily, we sought to test the feasibility of using interactive voice response (IVR) technology to collect patient data for purposes such as quality improvement to enhance patient care.
- Secondly, we wanted to determine the activation level of Medicare patients using the Patient Activation Measure (PAM-13®) as the survey tool.

Sample Population:

We drew a 1,000-patient random sample of HealthCare Partners Affiliates Medical Group (HCP) Medicare patients in Southern California. HealthCare Partners Affiliates Medical Group is an integrated care delivery organization consisting of a group model and IPA system. This hybrid model generally represents the national healthcare landscape. The sample was stratified as follows:

- 500 HCP Group patients: 400 received a 5-item response, 100 got 3-item response surveys
- 500 HCP IPA patients: 400 received a 5-item response, 100 got 3-item response surveys

The survey was administered by TeleVox. TeleVox drew the 100 sub-samples from the HCP-provided data file.

Key Findings—Use of IVR as a Data Collection Tool:

The survey's primary purpose was to determine the feasibility of using IVR to collect data. Our findings were:

- Responses obtained using IVR were within a reasonable distribution range, suggesting that IVR is a viable survey data collection method, and specifically in a Medicare population.
- The use of IVR for surveying and data collection is attractive in that it can offer a lower cost alternative to more traditional mail and phone survey methods.
- We achieved a respectable adjusted response rate of 21.3% “cold calling” the sample population. Advance notification would likely to improve the response rate. This may include an informational letter only, or an informational letter and a copy of the survey questions to assist older adults to follow along with the IVR survey when called.
- To use IVR, the survey script must be developed with care and awareness of the sample population. For example:
 - A short survey introduction sets context and assures the respondent regarding confidentiality.
 - A “known” caller ID can serve to legitimize the call and reduce hang ups.
 - Script customization with respondent's name may encourage participation.
 - Lower barriers to participation with an easy opt in (e.g., press 1 to proceed).
 - The script should be paced slowly enough and be of sufficient volume to enable older adults who may have hearing deficiencies to follow. In addition, the voice talent should be mature.
- Anticipate the possibility of variations in total response time based on ethnicity or literacy (response time affects pricing and total costs).
- Shorter/fewer response options are preferable to reduce confusion and/or drop-off.
- Timing of the survey can affect response rate. In our case, response was higher in the noon calling cycles than in the evening cycles.
- IVR can be useful for short, simple surveys, but may present limitations for detailed information collection requiring multiple rating scales or complex responses.

METHODS

Survey Tool:

The test survey tool was Insignia Health's validated 13-statement Patient Activation Model (PAM-13®) developed by the University of Oregon and Judith H. Hibbard. The tool is designed to assess an individual's knowledge, skills and confidence—essential self-management competencies that underlie health behaviors. The survey was provided in English and Spanish. Spanish-speakers opted into the Spanish version at the call introduction.

The PAM-13® was developed and validated based on a five-item response (1-strongly disagree, 2-disagree, 3-strongly agree, 4-agree, 5-don't know) scale. While recognizing the inherent limitations created by truncated response options, a three-item response (1-disagree, 2-agree, 3-don't know) scale was fielded to test whether five options was too many for older adult respondents to process. Responses were provided by pressing the telephone keypad with the number corresponding to the patient's answer; oral response was not an option.

Survey Administration:

The survey was fielded to the 1,000 Medicare patients sample with no prior notification (i.e., no information letter or other communications). HealthCare Partner's 800# for Health Enhancement services (including IVR) was displayed on the caller ID. Appearance of the HCP name was dependent on the patient's phone system.

The call schedule was as follows:

1. Wednesday, Dec. 4, 2013 at 7:00 PM
2. Friday, Dec. 6, 2013 at Noon
3. Friday, Dec. 6, 2013 at 7:00 PM
4. Friday, Dec. 13, 2013 at Noon
5. Friday, Dec. 13, 2013 at 7:00 PM

Calls were scheduled to avoid potential overlap with HCP's COPD IVR patients. For calling time variation, calls originally were scheduled for Wednesday, December 4 at Noon and 7:00 PM and Friday, December 6 at Noon and 7:00 PM. However, the schedule was modified and rescheduled to Friday, December 13 due to unanticipated call fielding issues.

RESULTS

Overall Results:

- 205 patients took the survey (20.5% unadjusted response rate).*
- 38 patients' phones were invalid, out of order, or too busy on all tries, for an adjusted sample population of 962 and an adjusted response rate of 21.3%.
- Depending on the date and time, 18% (85/473 on 12/6 at 7 PM) to 28% (249/884 on 12/6 at Noon and 255/897 on 12/13 at Noon) answered the phone and listened to the message but did not respond to the survey.
- Noontime calls were clearly preferred to evening calls by those who completed the survey.
- Regardless of the date or time, the majority of calls went to an answering machine.

*Survey Results Export- 12-1-2013 to 1-15-2014 csv file from TeleVox/Kris Graham, Jan. 15 and IVR_PAM.log file from Htay Wah Saw, Jan. 26.

Selected Results:

Table 1. Response Rate by Survey Type, Completed All Questions

| Sample Size | Survey Response Type | Response Rate | | |
|-----------------------------------|----------------------|---------------|----------------------|---------------------|
| | | Total (N=205) | English (N=160, 78%) | Spanish (N=45, 22%) |
| 200 patients (100 Group; 100 IPA) | 3-response | 23% (N=48) | 71% (N=34) | 29% (N=14) |
| 800 patients (400 Group; 400 IPA) | 5-response | 77% (N=157) | 80% (N=126) | 20% (N=31) |

Observations:

- As anticipated, the response rate was slightly higher (24%) for those who took the 3-item survey versus the 5-item survey (19.6%), although the 3-item sample was significantly smaller.
- 45 of 205 (22%) responded in Spanish.

Table 2. Survey Response by Model Type

| Model | Frequency (N=205) | % | Frequency (N=172*) | % |
|-------|-------------------|------|--------------------|------|
| Group | 124 | 60.5 | 105 | 61.0 |
| IPA | 81 | 39.5 | 67 | 39.0 |

*those who completed all 13 Q

Observations:

- Overall, 84% (172) completed all 13 survey questions.
- Respondents were split roughly 60% Group members and 40% IPA patients.

Table 3. Completion Rate and Choice of Response by Survey Type

| Survey Response Type | Percent of Patients Completing All 13 Questions (Overall = 84%) | |
|----------------------|---|----------------|
| | English | Spanish |
| 3-response | 82% (N=28/34) | 86% (N=12/14) |
| | English* | Spanish |
| 5-response | 86% (N=108/126) | 77% (N=24/31) |

* 1 of the 108 respondents answered “strongly agree” to all 13 questions. Insignia (2011) indicates that such a response pattern may be inaccurate or untruthful.

Observations:

- English speakers were somewhat more likely than Spanish speakers to complete the entire 5-item survey (88% v. 77%).

Table 4. Average Length of Time to Complete Survey

| Survey Response Type | Average Length of Time (Minutes) to Complete Survey for Patients Who Answered All 13 Questions | |
|----------------------|--|----------------|
| | English (N=28) | Spanish (N=12) |
| 3-response | 2.9 min | 4.4 min |
| 5-response | English (N=108) | Spanish (N=24) |
| | 3.7 min | 4.8 min |

Observations:

- The average length of time from survey introduction through survey completion ranged from 3-5 minutes.
- Spanish speakers took considerably longer to complete the survey, whether the 3- or 5-item version in Spanish, than English speakers.

Table 5. PAM-13® Results (5-item response only) For Patients Who Responded to All 13 Questions: Raw Score, Activation and Level

| Survey Language | Raw PAM Score (mean, range) | Activation Score (mean, range) | Activation Level (1 to 4) |
|-----------------|-----------------------------|--------------------------------|---------------------------|
| English (N=107) | 40.1 (21 to 52) | 61.5 (25.7 to 100) | 3: Taking action |
| Spanish (N=24) | 40.4 (17 to 52) | 61.5 (18.9 to 100) | 3: Taking action |

Possible raw score range is 13 to 52. 13 if someone responds “strongly disagree” to all questions and 52 if someone responds “strongly agree” to all questions. Insignia (2011) notes such scores may be unreliable (person likely not responding in a truthful or accurate way).

Observations:

- Overall, survey respondents were self-assessed at Activation Level 3, out of 4 levels of patient activation based on the following levels and ranges :
 - Level 1: May not yet believe that the patient role is important/Disengaged, overwhelmed (<=47.0)
 - Level 2: Lacks confidence and knowledge to take action/Becoming aware but still struggling (47.1 to 55.1)
 - Level 3: Taking action (55.2 to 67.0)
 - Level 4: Maintaining behaviors and pushing further (>=67.1)

Table 6. Activation Level for English and Spanish PAM-13® Surveys (5-item response only; responded to all 13 questions)

| Level | English (Frequency/%) | Spanish (Frequency/%) | Total (Frequency/%) |
|---|-----------------------|-----------------------|---------------------|
| 1. May not yet believe that the patient role is important | 22 (20.4%) | 3 (12.5%) | 25 (18.9%) |
| 2. Lacks confidence and knowledge to take action | 17 (15.7%) | 6 (25.0%) | 23 (17.4%) |
| 3. Taking action | 29 (26.9%) | 8 (33.3%) | 37 (28.0%) |
| 4. Maintaining behaviors and pushing further | 40 (37.0%) | 7 (29.2%) | 47 (35.6%) |
| Total | 108 | 24 | 132 |

Observations:

- Activation Levels 1-4 varied widely among respondents, although nearly two-thirds (63.6%) assessed themselves at Levels 3 and 4.

Table 7. Frequency of Patients who Selected the Same Response for Every PAM-13® Question and Completed All 13 Questions.

| Same Response | 3-Item Response, English | 3-Item Response, Spanish | 5-item Response, English | 5-item Response, Spanish | Total |
|---------------|--------------------------|--------------------------|--------------------------|--------------------------|----------|
| No | 18 | 9 | 91 | 23 | 141 |
| Yes | 10 (36%) | 3 (25%) | 17 (16%) | 1 (4%) | 31 (18%) |
| Total | 28 | 12 | 108 | 24 | 172 |

Observations:

- About 18% of respondents pressed the same numbered response for all 13 questions. This was more likely for those with more limited choice in the 3-item response survey.

Table 8 (1-13): PAM-13® Questions: Responses by English and Spanish Speakers and Overall.

The following set of tables show responses to each question in the PAM-13® using the 5-item scale. The completion column on the right indicates the percentage of total respondents who completed the question.

Respondents were asked to indicate how much they “agree or disagree with the following statements as they relate to your health” by pressing the number corresponding to their response:

- 1: Disagree strongly
- 2: Disagree
- 3: Agree
- 4: Agree strongly
- 5: Do not know

1. When all is said and done, I am the person who is responsible for taking care of my health.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | <u>Completion</u> |
|----------|----------------|-------|----------------|-------|--------------|-------|-------------------|
| | # | % | # | % | # | % | |
| 1 | 17 | 13.3% | 8 | 23.5% | 25 | 15.4% | |
| 2 | 5 | 3.9% | 4 | 11.8% | 9 | 5.6% | |
| 3 | 52 | 40.6% | 13 | 38.2% | 65 | 40.1% | |
| 4 | 37 | 28.9% | 7 | 20.6% | 44 | 27.2% | |
| 5 | 17 | 13.3% | 2 | 5.9% | 19 | 11.7% | |
| Total: | 128 | | 34 | | 162 | | 100.0% |

2. Taking an active role in my own health care is the most important thing that affects my health.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | <u>Completion</u> |
|----------|----------------|-------|----------------|-------|--------------|-------|-------------------|
| | # | % | # | % | # | % | |
| 1 | 9 | 7.3% | 5 | 14.7% | 14 | 8.9% | |
| 2 | 2 | 1.6% | 3 | 8.8% | 5 | 3.2% | |
| 3 | 53 | 43.1% | 19 | 55.9% | 72 | 45.9% | |
| 4 | 42 | 34.2% | 6 | 17.7% | 48 | 30.6% | |
| 5 | 17 | 13.8% | 1 | 2.9% | 18 | 11.5% | |
| Total: | 127 | | 34 | | 157 | | 96.9% |

3. I am confident I can help prevent or reduce problems associated with my health.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|--------------|----------------|-------------|--------------|--------------|------------|
| | # | % | # | % | # | % | |
| 1 | 3 | 2.6% | 2 | 6.3% | 5 | 3.4% | |
| 2 | 8 | 6.8% | 3 | 9.4% | 11 | 7.4% | |
| 3 | 53 | 45.3% | 14 | 43.8% | 67 | 45.0% | |
| 4 | 33 | 28.2% | 12 | 37.5% | 45 | 30.2% | |
| 5 | <u>20</u> | <u>17.1%</u> | <u>1</u> | <u>3.1%</u> | <u>21</u> | <u>14.1%</u> | |
| Total: | 117 | | 32 | | 149 | | 92.0% |

4. I know what each of my prescribed medications do.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|--------------|----------------|-------------|--------------|--------------|------------|
| | # | % | # | % | # | % | |
| 1 | 4 | 3.5% | 3 | 9.4% | 7 | 4.7% | |
| 2 | 5 | 4.3% | 4 | 12.5% | 9 | 6.1% | |
| 3 | 57 | 49.1% | 12 | 37.5% | 69 | 46.6% | |
| 4 | 37 | 31.9% | 11 | 34.4% | 48 | 32.4% | |
| 5 | <u>13</u> | <u>11.2%</u> | <u>2</u> | <u>6.3%</u> | <u>15</u> | <u>10.1%</u> | |
| Total: | 116 | | 32 | | 148 | | 91.4% |

5. I am confident that I can tell whether I need to go to the doctor or whether I can take care of a health problem myself.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|-------------|----------------|-------------|--------------|-------------|------------|
| | # | % | # | % | # | % | |
| 1 | 9 | 7.8% | 2 | 6.9% | 11 | 7.6% | |
| 2 | 9 | 7.8% | 3 | 10.3% | 12 | 8.3% | |
| 3 | 63 | 54.8% | 15 | 51.7% | 78 | 54.2% | |
| 4 | 23 | 20.0% | 8 | 27.6% | 31 | 21.5% | |
| 5 | <u>11</u> | <u>9.6%</u> | <u>1</u> | <u>3.5%</u> | <u>12</u> | <u>8.3%</u> | |
| Total: | 115 | | 29 | | 144 | | 88.9% |

6. I am confident that I can tell a doctor concerns I have, even when he or she does not ask.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|--------------|----------------|-------------|--------------|--------------|------------|
| | # | % | # | % | # | % | |
| 1 | 5 | 4.4% | 2 | 7.4% | 7 | 4.9% | |
| 2 | 7 | 6.1% | 2 | 7.4% | 9 | 6.3% | |
| 3 | 55 | 47.8% | 11 | 40.7% | 66 | 46.5% | |
| 4 | 33 | 28.7% | 11 | 40.7% | 44 | 31.0% | |
| 5 | <u>15</u> | <u>13.0%</u> | <u>1</u> | <u>3.7%</u> | <u>16</u> | <u>11.3%</u> | |
| Total: | 115 | | 27 | | 142 | | 87.7% |

7. I am confident that I can follow through on medical treatments I may need to do at home.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|-------------|----------------|-------------|--------------|-------------|------------|
| | # | % | # | % | # | % | |
| 1 | 4 | 3.5% | 2 | 7.4% | 6 | 4.2% | |
| 2 | 10 | 8.7% | 2 | 7.4% | 12 | 8.5% | |
| 3 | 60 | 52.2% | 13 | 48.2% | 73 | 51.4% | |
| 4 | 32 | 27.8% | 9 | 33.3% | 41 | 28.9% | |
| 5 | <u>9</u> | <u>7.8%</u> | <u>1</u> | <u>3.7%</u> | <u>10</u> | <u>7.0%</u> | |
| Total: | 115 | | 27 | | 142 | | 87.7% |

8. I understand my health problems and what causes them.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|--------------|----------------|-------------|--------------|--------------|------------|
| | # | % | # | % | # | % | |
| 1 | 7 | 6.1% | 3 | 11.1% | 10 | 7.0% | 87.7% |
| 2 | 8 | 7.0% | 3 | 11.1% | 11 | 7.7% | |
| 3 | 61 | 53.0% | 13 | 48.2% | 74 | 52.1% | |
| 4 | 25 | 21.7% | 6 | 22.2% | 31 | 21.8% | |
| 5 | <u>14</u> | <u>12.2%</u> | <u>2</u> | <u>7.4%</u> | <u>16</u> | <u>11.3%</u> | |
| Total: | 115 | | 27 | | 142 | | |

9. I know what treatment options are available for my health problems.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|--------------|----------------|-------------|--------------|--------------|------------|
| | # | % | # | % | # | % | |
| 1 | 7 | 6.2% | 2 | 7.4% | 9 | 6.4% | 86.4% |
| 2 | 9 | 8.0% | 3 | 11.1% | 12 | 8.6% | |
| 3 | 54 | 47.8% | 13 | 48.2% | 67 | 47.9% | |
| 4 | 26 | 23.0% | 7 | 25.9% | 33 | 23.6% | |
| 5 | <u>17</u> | <u>15.0%</u> | <u>2</u> | <u>7.4%</u> | <u>19</u> | <u>13.6%</u> | |
| Total: | 113 | | 27 | | 140 | | |

10. I have been able to maintain and (keep up with) lifestyle changes, like eating right or exercising.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|-------------|----------------|-------------|--------------|-------------|------------|
| | # | % | # | % | # | % | |
| 1 | 3 | 2.7% | 1 | 3.9% | 4 | 2.9% | 85.8% |
| 2 | 9 | 8.0% | 3 | 11.5% | 12 | 8.6% | |
| 3 | 66 | 58.4% | 16 | 61.5% | 82 | 59.0% | |
| 4 | 26 | 23.0% | 6 | 23.1% | 32 | 23.0% | |
| 5 | <u>9</u> | <u>8.0%</u> | <u>0</u> | <u>0.0%</u> | <u>9</u> | <u>6.5%</u> | |
| Total: | 113 | | 26 | | 139 | | |

11. I know how to prevent problems with my health.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|--------------|----------------|-------------|--------------|--------------|------------|
| | # | % | # | % | # | % | |
| 1 | 2 | 1.8% | 1 | 4.0% | 3 | 2.2% | 84.0% |
| 2 | 10 | 9.0% | 1 | 4.0% | 11 | 8.1% | |
| 3 | 63 | 56.8% | 17 | 68.0% | 80 | 58.8% | |
| 4 | 22 | 19.8% | 4 | 16.0% | 26 | 19.1% | |
| 5 | <u>14</u> | <u>12.6%</u> | <u>2</u> | <u>8.0%</u> | <u>16</u> | <u>11.8%</u> | |
| Total: | 111 | | 25 | | 136 | | |

12. I am confident I can figure out solutions when new problems arise with my health.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|--------------|----------------|-------------|--------------|--------------|------------|
| | # | % | # | % | # | % | |
| 1 | 7 | 6.4% | 1 | 4.0% | 8 | 6.0% | 82.7% |
| 2 | 18 | 16.5% | 6 | 24.0% | 24 | 17.9% | |
| 3 | 54 | 49.5% | 13 | 52.0% | 67 | 50.0% | |
| 4 | 17 | 15.6% | 4 | 16.0% | 21 | 15.7% | |
| 5 | <u>13</u> | <u>11.9%</u> | <u>1</u> | <u>4.0%</u> | <u>14</u> | <u>10.4%</u> | |
| Total: | 109 | | 25 | | 134 | | |

13. I am confident that I can maintain lifestyle changes, like eating right and exercise, even during times of stress.

| Response | <u>English</u> | | <u>Spanish</u> | | <u>Total</u> | | Completion |
|----------|----------------|-------|----------------|-------|--------------|-------|------------|
| | # | % | # | % | # | % | |
| 1 | 4 | 3.7% | 2 | 8.0% | 6 | 4.5% | |
| 2 | 11 | 10.1% | 1 | 4.0% | 12 | 9.0% | |
| 3 | 67 | 61.5% | 16 | 64.0% | 83 | 61.9% | |
| 4 | 23 | 21.1% | 4 | 16.0% | 27 | 20.1% | |
| 5 | 4 | 3.7% | 2 | 8.0% | 6 | 4.5% | |
| Total: | 109 | | 25 | | 134 | | 82.7% |

©Insignia Health, LLC 2011. Patient Activation Measure (PAM) 13®, License Materials.

Observations:

- Responses to individual questions may offer health educators insight into specific areas in which a population or sub-population is more/less activated, enabling them to design and target education and interventions to address areas of lower confidence and awareness. For example, Q5 and Q12 were the only questions for which Spanish speakers “strongly disagreed” at a rate higher than English speakers.
- Used as a repeated survey, the PAM-13® may also suggest measures to tailor care for individuals or groups.



We gratefully acknowledge the generous support of the **SCAN Health Plan® Community Giving Program** in funding the “Improving Healthcare for Older Adults” project. Special thanks to our project collaborator, the **HealthCare Partners Institute for Applied Research and Education**.