Assessment of Patient Perceptions of Technology and the Use of Machine-Based Learning in a Clinical Encounter

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METHODS

Using REDCap, random video vignettes (Table 1) were shown to approximately 500 OhioHealth Physician Group patients and to ResearchMatch volunteers during a 15-month period following IRB approval. Data includes a baseline survey to gather demographic and familiarity with different technologies, followed by a perceptual survey where patients rated the physician in the video on 5 facets using a 1 to 5 Likert scale.

RESULTS

The vignette depicting the least interaction with the EMR received the most positive overall perception score. However, the vignette depicting the physician utilizing the EMR during the interaction received the least positive overall perception score. Given the vignette with the most distraction from personal interaction, the patient scored the lowest, it appears patients most value having the full attention of the physician and have less strong sentiments differentiating the logistics of data transcription and medical decision-making, provided they engaged by the interaction. Therefore, we suggest maximizing face-to-face time in the integration of technology into the clinical encounter. We feel this will allow for increased perceptions of personal attention within the encounter.

DISCUSSION

Another significant finding identified the greatest overall acceptance of the vignettes by the group with the lowest education. Extrapolating to our general U.S. population, in which 2/3 of adults have a high school education or less, the overwhelming majority of adults appear to be accepting of implementing assistive technology in the exam room.

FUTURE RESEARCH

Based on these results, we can consider an interaction with no in-room documentation the “gold standard”, which increases patient perceptions of physician familiarity, care, attention, trustworthiness, and diagnostic explanation.

Future research should aim to compare the “gold standard” to current practice and iterations of our other clinical scenarios with the aim of identifying strategies to improve and integrate in-room technology to equal and exceed the “gold standard”.

First steps may include comparison of the “gold standard” scenario to multiple versions of a particular technology with potential to decrease documentation time and/or enhancement of medical decision-making.

ACKNOWLEDGEMENTS

Michelle Persing, PhD, OhioHealth Research Institute Michelle Sicie, MS, Secie Statistical Consulting, Inc.

REFERENCES