Children's Hospital of Philadelphia
PolicyLab

Feasibility of an Interactive Voice Response Tool for Adolescent Assault Victims

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BACKGROUND: Assault-injured adolescents who are seen in the emergency department (ED) are difficult to follow prospectively using standard research techniques such as telephone calls or mailed questionnaires. Interactive voice response (IVR) is a novel technology that promotes active participation of subjects and allows automated data collection for prospective studies.

OBJECTIVES: The objective was to determine the feasibility of IVR technology for collecting prospective information from adolescents who were enrolled in an ED-based study of interpersonal violence.

METHODS: A convenience sample of assault-injured 12- to 19-year-olds presenting to an urban, tertiary care ED was enrolled prospectively. Each subject completed a brief questionnaire in the ED and then was randomly assigned to use the IVR system in differently timed schedules over a period of 8 weeks: weekly, biweekly, or monthly calls. Upon discharge, each subject received a gift card incentive and a magnetic calendar with his or her prospective call-in dates circled on it. Each time a subject contacted the toll-free number, he or she used the telephone's keypad to respond to computer-voice questions about retaliation and violence subsequent to the ED visit. Using Internet access, we added $5 to the gift card for each call and $10 if all scheduled calls were completed. The primary outcome was the rate of the first utilization of the IVR system. The numbers of completed calls made for each of the three call-in schedules were also compared.

RESULTS: Of the 95 subjects who consented to the follow-up portion of the study, 44.2% (95% confidence interval [CI] = 34.0% to 54.8%) completed at least one IVR call, and 13.7% (95% CI = 7.5% to 22.3%) made all of their scheduled calls. There were no significant differences among groups in the percentage of subjects calling at least once into the system or in the percentage of requested calls made. The enrolled subjects had a high level of exposure to violence. At baseline, 85.3% (95% CI = 76.5% to 91.7%) had heard gunshots fired, and 84.2% (95% CI = 75.3% to 90.9%) had seen someone being assaulted. Twenty-eight adolescents (29.5%, 95% CI = 20.6% to 39.7%) were reached for satisfaction interviews. All of those contacted found the IVR system easy to use and all but one would use it again.

CONCLUSIONS: Interactive voice response technology is a feasible means of follow-up among high-risk violently injured adolescents, and this relatively anonymous process allows for the collection of sensitive information. Further research is needed to determine the optimal timing of calls and cost-effectiveness in this population.

Authors:

Blackstone MM, Wiebe DJ, Mollen CJ, Kalra A, Fein JA