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Use of Medical Informatics to Improve Patient Safety, Quality of Care and Training: Innovative Software for Resident Hand Off Communication and Training.

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Abstract:

Missed hand-offs and breakdowns in verbal and written communications are key sources of medical injury and thus major concerns in the delivery of safe patient care. The Joint Commission on Accreditation of Healthcare Organizations [JCAHO] has recognized these pitfalls and added this as a new requirement in the National Patient Safety Goals. We designed an electronic application called eHand-offs to standardize and supervise communications among medical residents about patient information during admissions, transfers, and discharges. eHand-offs also functions as a surveillance tool for administrators to track patient hand-offs, ensuring added patient safety and enhancing resident supervision and training. With this background, a national survey of program directors of internal medicine residencies was conducted to get a national consensus about hand-off communication. It was concluded from the survey that standardization and tracking of hand-off data using an electronic, secure, and standardized software application, will help improve continuity of care, reduce medical errors and improve resident supervision and training. A secure software application with face-to-face communication is preferred as the hand-off method of choice by our respondents.

Keywords:

handoffs, healthcare communication, patient safety, electronic sign out

Methods

The objective of this study was to assess the current opinions held and strategies used within residency programs with respect to the hand-off communication during shift changes. The contemporary strategies for hand-offs and program directors' opinions on the future of these hand-offs were two important issues investigated. An online survey link was posted utilizing the Association of Program Directors of Internal Medicine [APDIM] list serve. This survey consisted of ten questions, some of which are single answer type others with multiple answers. Responses were analyzed and are presented in the form of graphs.

Results

A total of 107 respondents completed the survey. Of these, 26% were unaware of the standardization of hand-offs as a JCAHO patient safety goal. The most commonly used methods at present are paper-based (44%) and face-to-face sign-out (44%). More than 95% of respondents agreed that hand-offs should be standardized and that standardization will prevent medical errors. 92% of respondents believe that sign-out communication is important in liability issues and 69% agree that standardization of sign-outs will help in reducing liability lawsuits. However, when the question of whether hand-off data should be made a part of the permanent medical record, 71% said it should not. 77.5% respondents were agreeable to using a secure server along with a Face to Face sign-out. Excel/Word sign-out along with a telephone sign-out was unpopular at 17.6%, but Excel/Word in conjunction with Face-to-Face sign-out was satisfactory to 55.9%. Face-to-Face sign-out by itself was given a 47.1 % approval rating. Lack of resources, resident non-compliance, and administrative issues were the top three problems selected as reasons why implementing a secure computerized hand-off system might fail.

Conclusion

It may be extrapolated that standardization of hand-off communication and tracking of hand-off data using an electronic, secure, and standardized software application like eHand-offs, will help improve continuity of care, reduce medical errors and improve resident supervision and training. A secure software application with face-to-face communication is preferred as the hand-off method of choice by our respondents. Facilitating resident cooperation via educating them to develop the culture of patient safety, persistent will power from administrators and appropriate resources are all needed to implement this choice.