Use of Artificial Intelligence for Documentation in Orthopaedic Hand Surgery

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INTRODUCTION:
Despite improving access to patient information, the Electronic Health Record (EHR) inadvertently increased the clerical burden faced by physicians. Artificial intelligence (AI)-based virtual scribe services can theoretically improve physician efficiency, but the quality of AI-generated documentation has not been analyzed. This study compares the quality of documentation of common orthopaedic encounters in hand surgery utilizing an AI-based virtual scribe service versus a transcription service and voice recognition mobile application.
METHODS:
In this prospective study, 3 fellowship-trained orthopaedic hand surgeons evaluated 10 standardized patients with prewritten clinical vignettes. Clinical documentation was performed during the encounter using the AI-based virtual scribe service and then afterwards using a transcription service and voice recognition mobile application. Clinical notes were deemed as acceptable or unacceptable and assigned a letter grade (A, B, C, or F) using an 8-point scoring system.
RESULTS:
Clinical encounters were documented using the AI-based virtual scribe service and the other two modalities. The mean 8-point score for the AI-based virtual scribe service for all 3 orthopaedic hand surgeons was between 4 and 6. The 8-point score for the AI-based virtual scribe service was significantly lower for one hand surgeon. Otherwise, there were no other significant differences in note quality for each hand surgeon or as a cohort.
DISCUSSION AND CONCLUSION:
Documenting clinical encounters through transcription services and voice recognition mobile applications requires substantial time compared to auto-populated AI-based notes. The AI-based virtual scribe service is a promising tool to help decrease documentation burden without significantly lowering the quality of documentation compared to transcription and voice recognition software services.