



Article Appraisal

Article: An ED scribe program is able to improve throughput time and patient satisfaction. American Journal of Emergency Medicine 32 (2014) 399-402.

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Background and Study Objective(s)	Handwritten notes and manual order entry are sources of preventable medication error. Academic and pediatric hospitals have had attempted to attenuate this error by transitioning to electronic medical records (EMR) and computerized physician order entry (CPOE). A previous abstract by the same group showed that CPOE implementation increased throughput time and decreased patient satisfaction at a single suburban community hospital. The primary endpoint of this study was to quantify the effect of ED scribes on ED throughput (door-room, room-doc, door-doc, doc-disposition, length of stay for admitted/discharged); the secondary endpoint was the effect of ED scribes on patient satisfaction for the institution and the EPs.
Study Design	The study setting was a suburban community hospital serving adult and pediatric populations with an annual ED census of 78000 from August 2009-July 2010. The EMR / CPOE was EPIC / PhysAssist, and the scribe duties included completing all aspects of the EMR, but did not include CPOE; thus, scribes recorded history, physical exam, procedures, and organized discharge documents. The study period was defined as follows: 1. Pre-CPOE for 60 days, 10578 patients. 2. Washout for 30 days where adjustments were made to EMR and CPOE. 3. Post-CPOE and pre-scribe for 60 days, 11729 patients. 4. Washout for ~100 days where scribe program is phased in. 5. Post-CPOE and post-scribe for 60 days, 12609 patients. Patient satisfaction was assessed by a single survey, which was not provided in the study.
Results	All throughput metrics showed statistically significant improvement post-scribe despite a 7.5% increase in volume between pre-scribe and post-scribe cohorts. A normal data distribution was assumed for all time-based outcomes. In general, overall metrics returned to pre-CPOE levels. The door-doc time went from 60 to 74 to 61 minutes and the patient satisfaction of the ED went from 75 to 58 to 72% and of the EP went from 91 to 62 to 86% in the pre-CPOE, post-CPOE and post-scribe cohorts respectively.
Validity of Results	Unfortunately, this study has many methodological problems that compromise internal validity. The before and after design is inherently flawed in that it cannot conclude a causal link between scribe implementation and the effect on throughput results patient satisfaction. There are many potential factors that could have contributed to the results: age or acuity of illness, mention of seasonal trends or historical influences. The time allotted for CPOE implementation may not have been adequate to reach full potential, as physicians may become more comfortable with EMR / CPOE over time and the "scribe effect" may lessen over time. There is no detailed explanation about how data was analyzed or what patient satisfaction was based upon.
Generalizability of Results	External validity is an issue since the EPIC program, scribe duties, and patient satisfaction may be difficult to extrapolate to other settings. This study contrasts with other manuscripts that have shown benefits in ED throughput post-CPOE implementation in academic and pediatric hospital settings.
The Bottom Line	The study limitations preclude proving the effect of ED scribes on CPOE inefficiencies or patient satisfaction. CPOE implementation requires adaptation to each institution's unique needs, and subsequently solutions to CPOE inefficiencies should also be individualized.