



Data Capture Failures in a Card-Based System of Resident Procedure Documentation



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INTRODUCTION

- As increasingly explicit competency criteria are demanded in resident education, the need for accuracy in the data informing such judgments also increases. This study assesses the accuracy of data used in determining resident procedural competence.
- For purposes of educational and clinical credentialing, log books, index cards, and direct computer entry have been used to document residents' completion of patient care procedures.
- The academic emergency department subject to the present study utilized a system wherein procedure cards [Figure 1] signed by a supervising physician were submitted by trainees to the hospital medical staff office for entry into a central credentialing data registry.



EMERGENCY MEDICINE
RESIDENT CREDENTIALING SYSTEM
SUNY UPSTATE MEDICAL UNIVERSITY

PLEASE PRINT
Dr. John Doe 123456
Resident Number
Dr. John Hancock 078910
Supervisor Number
11/11/07 33
Date Age of Patient

ER ED ICU

Subj. Procedure

790 Adult Medical and Nonoperative Surgical Resuscitation
 820 Adult Trauma Resuscitation
 821 Pediatric Medical Resuscitation
 822 Pediatric Trauma Resuscitation

Other

830 Cardiac pacing (rhythmic or nonrhythmic)
 840 Central Venous Catheterization (Central Jugular)
 841 Central Venous Catheterization (Central Subclavian)
 842 Chest Tube Insertion
 843 Craniotomy
 844 Craniotomy Medication
 845 Emergency Endotracheal Intubation
 846 Endotracheal Intubation
 847 Laryngeal Mask Airway
 848 Midline Suction
 849 Percutaneous
 850 Percutaneous Suture
 851 Spinal
 852 Thoracotomy
 853 Vaginal Delivery

John Hancock
Supervisor's Signature

Figure 1: Example resident procedure and generated card

OBJECTIVES

- Determine the completeness of resident procedure credentialing data in a hospital-maintained electronic registry.
- Characterize the traits of missed data.

METHODS

- DESIGN: Prospective observational
- SETTING: Urban teaching emergency department with 50,000 patient visits per year
- PARTICIPANTS: PGY 1-3 emergency medicine and rotating residents
- During a one year period, an Emergency Medicine senior faculty member photocopied and logged each resident procedure card he signed before returning it to the performing resident. The hospital's house staff credentialing registry was queried one year later as to the presence of these certified procedures. Those failing to be included in the data base were tabulated, and descriptive and comparative (Fisher Exact Test) statistics generated as to their characteristics. Residents were unaware of the study's implementation.

RESULTS

Procedures Certified	170		
22 distinct procedures; 33 trainees			
Procedures Captured by Registry	155		
Failed Captures TOTAL	15/170	9%	
Failed Captures RESUS LEADER	10/32	31%	p < .01
Failed Captures OTHER	5/138	4%	
Failed Captures PGY 3	10/36	28%	p < .01
Failed Captures PGY<3	5/134	4%	

- There were no procedures found in the registry that were uncorroborated by the attending's prospective log. (There were no procedures registered by way of mistake or fraud.)
- Resuscitation Leadership failed capture more often than remaining procedures.
- PGY-3 performed procedures failed capture more often than those of residents more junior.

CONCLUSION

- A respectable minority of attending-certified procedures never reached the registry.
- In particular, a sizable fraction of resuscitations were not registered.
- PGY-3 residents, possibly having already attained numerical criteria for certain procedures, were less likely to have their procedures find their way into the registry.
- In addition to resident motivational issues, inadvertent card loss by medical staff clerical personnel, the intramural mail system, or the resident him/herself potentially contribute to an undercounting of procedures. Residents already meeting numerical competency criteria for a given procedure might not perceive subsequent non-counting to be of consequence. GME programs, however, require accuracy and completeness in the data describing the total educational experience provided to trainees.
- Data loss resulting from loss of physical cards should be partially mitigated by a system of direct computer data entry.