Pupil Prose Appraisal: Four Practical Solutions to Medical Student Documentation and Feedback in the Emergency Department

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ABSTRACT

Documentation is part of a critical foundation of skills in the undergraduate medical education curriculum. New compliance rules from the Centers for Medicare and Medicaid Services will impact student documentation practices. Common barriers to student documentation include limited access to the electronic medical record, variable clerkship documentation expectations, variable advice regarding utilizing the electronic medical record, and limited time for feedback delivery. Potential solutions to these barriers are suggested to foster documentation skill development. Recommendations are also given to mitigate compliance and legal risk.

Documentation in the patient chart is a critical foundational skill that must be developed in undergraduate medical education. However, despite encouragement from the Association of American Medical Colleges (AAMC), the Liaison Committee for Medical Education, and other specialty groups,[1-6] a significant proportion of medical students do not receive adequate instruction and feedback to develop written communication skills.[7,8] This important skill development is highlighted by recent Centers for Medicare and Medicaid Services (CMS) standards, which allow teaching physicians to use student documentation for billable services. Emergency department directors and AAMC representatives agree that student documentation trains students to be concise and efficient, helps students learn detailed patient evaluation, improves decision-making skills, and helps students feel involved in patient care. The AAMC and ED directors endorse use of the EMR by students to enter and retrieve information.[1,9]

Several barriers limit the development of documentation skills. Institutional barriers include medical legal liability and limiting student access to the EMR.[10,11] Student challenges include variable instruction in navigating the EMR and lack of feedback specific to documentation.[5,11] Preceptors have limited time to review lengthy student notes and may not fully understand the expectations for student documentation to give effective feedback.[9-11]

PRACTICAL SOLUTIONS TO CHALLENGES

Challenge 1: Institutional Barriers to Student Access

Institutional policy limiting student access to the EMR is the greatest barrier to student documentation.[12] The AAMC advocates for the ability of students to fully interact with the EMR[1] including updating problems lists, documenting patient care into the note, and the appropriate use of templates.[4] Advocates for change

have offered specific steps to assist institutions in integrating the EMR into education.[12] In a study of medical school deans, over ninety percent believed student notes belong in medical records and indicated that without student notes, student education would be negatively affected. Most of the deans indicated that limiting students' notes would negatively affect several other issues, including preparation for internship and students' sense of involvement.[13] Additional barriers included concern for medical liability, an inability for student notes to support medical billing, lack of computer workspace, and inability for the clerkship to review notes.[11]

Legal liability is cited as a barrier to student note writing,[11] although Gliatto et al.[14] noted a paucity of information in the available literature, including no report of a medical student note being used in, or leading to, a legal case. In addition, medical students are trainees and are therefore not considered experts in the legal arena and their notes should not routinely be admissible or impactful in court.[12,15] With the new CMS allowance of student documentation for billable services,[8] the legal liability of student notes becomes less clear and may necessitate a novel approach to mitigating this new frontier.

Challenge 2: Documentation Goals and Objectives for Clerkships

Emerging data seem to show that EMR use is a valuable learning tool and exercise.[16] Student note writing and feedback are associated with students' perceptions of high-quality teaching[17] and having students participate in the documentation of the patient care that they witness and engage in is a sound educational activity.[18–20] Students value the use of the EMR, which seems to generate reflection and insight into history taking and data synthesis development.[21] Examples of insight include enhanced understanding of recommended preventive practices and anticipatory guidance.[22] In some respects, EMR use may be viewed to inhibit education, but steps can be taken to mitigate these effects.[23]

Given the educational benefits, clearly defined documentation expectations should be set and should include components of quality, accuracy and completeness.[5] These goals and objectives should be based on the assessment of the development of documentation competency[24] and be guided by the medical student milestones in emergency medicine[24] and the Emergency Medicine Milestones.[25] Expectations will differ

for learners in different levels of training with consistent attention to appropriate content and communication components and variable emphasis on efficiency and billing compliance.[5]

The specific objectives for note writing should be particular, but allow for some interpretation.[5,9,24] A reasonable checklist for the evaluation of notes may include assessment of:[5,9,24]

1. Appropriate note components.
2. Documentation of pertinent positives and negatives and sufficient context.
3. Clarity of communication, including treatment rationale.
4. Appropriate use of automated EMR functions, including avoiding inappropriate abbreviations, copy-and-paste functions, and incorrect or inappropriate fields.

The Reporter–Interpreter–Manager–Educator (RIME) model has been proposed as a tool to contextualize, teach, and evaluate EMR documentation and may assist preceptors in evaluating learners.[5,9,24,26,27]

Challenge 3: Managing the Pitfalls of Electronic Support

Students are at risk of using the EMR inappropriately and benefit from a graduated use of the EMR.[5] While note templates ease the burden of documentation on the experienced clinician, they can become a crutch for students who are not familiar with documentation practices. Even so, students may reap patient care skills improvement from use of EMR templates[28] including improvements in medical student objective structured clinical examination scores with template use.[29] Without the use of an EMR, most medical student notes lack complete or appropriate details with regard to a clinical encounter of a patient with chest pain[30] and would be down-coded with respect to reimbursement guidelines.[31] Experience with EMRs is necessary to develop appropriate efficiency and skills,[32] and limiting students' ability to document has been shown to have consequences on medical training.[33] Students should be allowed to use a template to develop familiarity, but not be confined by it, and should be encouraged to provide thoughtful, detailed, contextualized information, regardless of the template prompts.[5,9] Students should attempt to navigate the template and correct those areas of the note which are inappropriately populated by the EMR.[5,34,35] An evaluation of the student's ability to interact with the

EMR, including avoidance of inappropriate EMR uses (like copy and paste functions), are necessary for students to learn to overcome the pitfalls of EMR use.[9,24]

Challenge 4: Expectations for Assessment and Feedback Delivery

The clerkship director should develop an appropriate mechanism for evaluation and feedback that suits students' needs.[5] Verbal, written. or electronic delivery of the feedback are all viable mechanisms.[9]

To facilitate feedback, a reasonable and manageable number of notes should be written during the clerkship.[5] In one study, half or fewer of student notes were reviewed in 70% of cases,[11] which is concerning if poor behaviors go unaddressed. Another study showed improved quality of feedback and note quality when an electronic medical record was used to as a means to evaluate notes every three to four shifts.[36]

Competencies for each objective should be developed, with appropriate anchors so that an evaluator may maintain consistency.[4,9] The RIME model can thus become the basis of the rubric to assess a student note and can be useful in developing anchors for the rubric.[5,33] Electronic documentation can demonstrate insight into medical student clinical skills and may even augment clinical reasoning, leading to more robust feedback.[5,20,24] Feedback should be delivered in an iterative manner that allows the preceptor to assess a student's improvement over the course of time.[37] The audit and feedback methodology[38] and a Web-based tool to perform self and peer evaluation of notes have both been efficacious.[39]

Medical Student Scribing and Compliance: Words of Caution

The AAMC importantly acknowledges that a scribe may be a medical student, but a student may not be both a learner and a scribe at the same time.[1] Medical students are primarily learners and are not granted independent licenses and therefore their notes should not be routine parts of the billable medical record, although this may change with evolving insurance regulations. Each individual health care system must assess the capabilities of the EMR, the role of the student, and the associated compliance risks, especially in light of new billing regulations. Appropriate attention to these components will help to reduce and mitigate risks.[1]

CONCLUSIONS

Student documentation is recognized as a critical clinical skill to teach and develop. Recommendations may help encourage systems and preceptors to allow students opportunities document and receive feedback. Aligning clear expectations with evaluation processes will help the student and the preceptor to efficiently and effectively develop this crucial skill.

References

1. AAMC Compliance Advisory: Electronic Health Records (EHRs) in Academic Health Centers. 2014. Available at: https://www.aamc.org/download/316610/data/advisory3ac hallengefortheelectronichealthrecordsofacademicinsti.pdf. Accessed June 27, 2019.

2. Functions and Structure of a Medical School: Standards for Accreditation of Medical Education Programs Leading to the MD Degree. Publication of the Liaison Committee for Medical Education. Available at: http://lcme.org/publi cations/. Accessed June 27, 2019.

3. Association of American Medical Colleges. Learning objectives for medical student education—guidelines for medical schools: Report I of the Medical School Objectives Project. Acad Med 1999;74:461–2.

4. Carter TJ, Drusin R, Moeller J, Obeso V, Brown D, Phillipi C, editors, for Core EPAs for Entering Residency Pilot Program. Adapted from the Association of American Medical Colleges (AAMC). Core entrustable professional activities for entering residency. 2014. Available at: https://www.aamc.org/download/484778/data/epa13toolkit.pdf. Accessed on June 27, 2017.

5. Hammound MM, Dalymple JL, Christner JG, et al. Medical student documentation in electronic health records: a collaborative statement from the Alliance for Clinical Education. Teach Learn Med 2012;24:257–66.

6. Manthey DE, Ander DS, Gordon DC, et al. Emergency medicine clerkship curriculum: an update and revision. Acad Emerg Med 2010;17:638–43.

7. United States 111th Congress. Health Information Technology for Economic and Clinical Health Act, an Act within the American Recovery and Reinvestment Act of 2009. Public Law 111-5. Page 123 STAT. 115. Available at: https://www.govinfo.gov/content/pkg/PLAW-111publ5/pdf/PLAW-111publ5.pdf. Accessed June 27, 2019.

8. The American Hospital Association. E/M Service Documentation Provided by Students (Manual Update). CR 10412, MM Article # 10412. Transmittal #R4068CP. Available at: https://www.cms.gov/Outreach-and-Educa tion/Medicare-Learning-Network-MLN/MLNMattersArticle s/Downloads/MM10412.pdf. Accessed June 27, 2019.

9. Hammound MM, Margo K, Christner JG, Fisher J, Fischer SH, Pangaro LN. Opportunities and challenges in integrating electronic health records into undergraduate medical education: a national survey of clerkship directors. Teach Learn Med 2012;24:19–224.

10. Wittels K, Wallenstein J, Patwari R, Patel S. Medical student documentation in the electronic medical record: patterns of use and barriers. West J Emerg Med 2016;18:133–6.

11. Virden RA, Sonnett FM, Khan AN. Medical student documentation in the emergency department in the electronic health record era: a national survey. Pediatr Emerg Care 2019;35:220–5.

12. Pageler NM, Friedman CP, Longhurst CA. Refocusing medical education in the EMR era. JAMA 2013;310:2249–50.

13. Friedman E, Sainte M, Fallar R. Taking note of the perceived value and impact of medical student chart documentation on education and patient care. Acad Med 2010;85:1440–4.

14. Gliatto P, Masters P, Karani R. Medical student documentation in the medical record: a liability? Mt Sinai J Med 2009;76:357–64.

15. Committee on the Development of the Third Edition of the Reference Manual on Scientific Evidence. Committee on Science, Technology, and Law Policy and Global Affairs. Federal Judicial Center. Reference Manual on Scientific Evidence, Third Edition. National Research Council of the National Academies. Washington, DC: The National Academies Press, 2011.

16. Tierney MJ1, Pageler NM, Kahana M, Pantaleoni JL, Longhurst CA. Medical education in the electronic medical record (EMR) era: benefits, challenges, and future directions. Acad Med 2013;88:748–52.

17. Torre DM, Simpson D, Sebastian JL, Elnicki DM. Learning/feedback activities and high-quality teaching perceptions of third-year medical students during an inpatient rotation. Acad Med 2005;80:950–4.

18. Mann KV. The role of educational theory in continuing medical education: has it helped us? J Contin Educ Health Prof 2004;24 Suppl 1:S22–30.

19. Chi J, Kugler J, Chu IM, et al. Medical students and the electronic health record: 'an epic use of time'. Am J Med 2014;127:891–5.

20. Keenan CR, Nguyen HH, Srinivasan M. Electronic medical records and their impact on resident and medical student education. Acad Psychiatry 2006;30:522–7.

21. Rouf E, Chumley HS, Dobbie AE. Electronic health records in outpatient clinics: perspectives of third year medical students. BMC Med Educ 2008;8:1–7.

22. O'Connell RT, Cho C, Shah N. Take note(s): differential EHR satisfaction with two implementations under one roof. J Am Med Inform 2004;11:43–9.

23. Schenarts P, Schenarts K. Educational impact of the electronic medical record. J Surg Educ 2012;69:105–12.

24. Santen S, Peterson W, Khandelwal S, House J, Manthey D, Sozener C. Medical student milestones in emergency medicine. Acad Emerg Med 2014;21:905–11.

25. Beeson MS, Carter WA, Christopher TA, et al. Emergency medicine milestones. J Grad Med Educ 2013;5(1 Suppl 1):5–13.

26. Pangaro L. A new vocabulary and other innovations for improving descriptive in-training evaluations. Acad Med 1999;74:1203–7.

27. Stephens M, Gimbel R, Pangaro L. The RIME/EHR scheme: an education approach to clinical documentation in electronic medical records. Acad Med 2011;86:11–4.

28. Frenzel J. Using electronic medical records to teach patient-centered care. Am J Pharm Educ 2010;74:71.

29. Gaeta T, Pyle M. Documentation templates for clinical encounters improves medical student performance of USMLE Step 2 CS essential actions on an objective structured clinical exam. Ann Emerg Med 2013;62:S120.

30. Wald D. Written documentation of the chest pain history by fourth-year medical students using a simulated emergency department patient encounter. Acad Emerg Med 2018;11:500.

31. Hoonpongsimanont W, Velarde I, Gilani C, Louthan M, Lotfipour S. Assessing medical student documentation using simulated charts in emergency medicine. BMC Med Educ 2018;18:203.

32. Crawford S, Kushner I, Wells R, Monks S. Electronic health record documentation times among emergency medicine trainees. Perspect Health Inf Manag 2019;16:1f.

33. Hammound MM, Margo K, Christner JG, Fisher J, Fischer SH, Pangaro LN. Opportunities and challenges in integrating electronic health records into undergraduate medical education: a national survey of clerkship directors. Teach Learn Med 2012;24:19–224.

34. Dye D. Enhancing critical reflection of students during a clinical internship using the self-S.O.A.P. note. Internet J Allied Health Sci Pract 2005;3:4.

35. Mintz M, Narvarte HJ, O'Brien KE, Papp KK, Thomas M, Durning SJ. Use of electronic medical records by physicians and students in academic internal medicine settings. Acad Med 2009;84:1698–704.

36. Spickard A, Gigante J, Stein G, Denny JC. Automatic capture of student notes to augment mentor feedback and student performance on patient write-ups. J Gen Intern Med 2008;23:979–84.

37. DeLeo S, Mothner B, Middleman A. Improving student documentation using a feedback tool. Clin Teach 2018;15:48–51.

38. Jamtvedt G, Young JM, Kristoffersen DT, O'Brien MA, Oxman AD. Audit and feedback: effects on professional practice and health care outcomes. Cochrane Database Syst Rev 2006;(2):CD000259.

39. McCarty R, Parkes MV, Anderson TT, Mines J, Skipper BJ, Grebosky J. Improved patient notes from medical students during web-based teaching using faculty-calibrated peer review and self-assessment. Acad Med 2005;80:567–70.