

PRIMARY CARE INVESTMENT: EVIDENCE SNAPSHOT

Medical Scribes

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Background

Recent efforts to increase the use of electronic health records (EHRs) have led to more time spent on documentation, lower satisfaction, and higher levels of stress among clinicians. In 2009, the Health Information Technology for Economic and Clinical Health (HITECH) Act encouraged widespread “meaningful” adoption of EHRs to improve population health by preventing medical errors, reducing costs, and increasing data for clinical research.¹ As of 2017, around 86 percent of physicians in the United States reported using EHRs.² A study of 471 primary care physicians found that physicians spent 3.17 hours per day updating EHRs and communicating via patient portals, more than the 3.08 hours per day spent on in-office patient visits.³ Use of EHRs is consistently linked to reduced physician satisfaction, higher levels of stress, and burnout.^{4,5} In addition, the current multi-payer, third party, fee-for-service reimbursement system contributes to these documentation requirements.⁶

Medical scribes are one strategy for alleviating clinician stress and time burdens associated with EHR documentation.⁷ Scribes typically have at least a high school education or GED and are trained to assist physicians with documentation and electronic record keeping.⁷ In some cases, practices repurpose medical assistants for this role.⁸ Typically, scribes are present in the exam room with physicians, though the work can be outsourced and managed remotely. Some suggest that the rise of medical scribes represents an inefficient workaround in response to the problems experienced by clinicians with managing EHRs, and instead we should address the root cause of the problem: the poor functioning of EHRs.^{7,9} Evidence on the impact of medical scribes on quality and cost is limited by small sample sizes, and mostly focuses on physician and patient satisfaction and return on investment to the practice.

Quality Implications

Medical scribes are associated with increased physician satisfaction, and equivalent or slightly positive levels of patient satisfaction.

- A randomized controlled trial at an academic family medicine clinic found improvement in multiple dimensions of physician satisfaction, including time spent with patients, charting quality and accuracy, and time spent charting. There was no change in patient satisfaction.¹⁰
- In a prospective pre-post pilot study, the six participating primary care physicians reported higher workplace satisfaction and less time on documentation as a result of working with a medical scribe. Of the 325 patients surveyed, attitudes toward scribes were described as neutral or satisfied.¹¹
- A study of three family medicine physician-scribe pairs and 34 patients in an academic medical center found no difference in perceptions of physician-patient communication

between scribed and non-scribed encounters, with both groups reporting high levels of patient satisfaction, suggesting the presence of the scribe does not disrupt the physician-patient relationship.¹²

- A 12-month crossover study of 18 physicians in two medical centers alternated scribe use and no scribe use every three months. Physicians reported less EHR documentation time after hours and more patient interaction during the visit when a scribe was present. In addition, 17 of 18 physicians reported greater job satisfaction, 16 of 18 felt their clinical interactions were improved by scribe assistance, and 11 of 18 reported they would be willing to accept additional patients with the assistance of a full-time scribe. Of the 735 patients surveyed, 61 percent reported a positive impact of the scribe, 36 percent reported no difference, and 2 percent reported a negative impact.¹³
- A pre-post analysis of 1,000 EHRs at a family practice found college student scribes improved documentation of four out of eight pay-for-performance quality measures. In a survey of 150 patients, 76 percent reported their provider focused on them more, and 61 percent reported being more satisfied with the presence of the scribe.¹⁴
- A study of 18 primary care physicians compared the quality of physician notes to scribed notes prepared by medical assistants. The scribed notes were higher quality, rated by the nine-item Physician Documentation Quality Instrument (PDQI-9), which measures accuracy, utility, organization, internal consistency, and timeliness. However, it is unclear whether these findings would apply to professional scribes who are not members of clinical care team.¹⁵
- A qualitative study across six health systems, including interviews with 18 physicians, 17 scribes, and 36 patients, noted that while the completeness, accuracy, and timeliness of the note may be improved through the use of scribes, the complexity and narrative clinical insights that go beyond a standardized template may be diminished. Patients commented on the added value of the patient-scribe relationship, while physicians felt they spent more time interacting directly with the patient and working at the top of their license. Both scribes and physicians noted the importance of trust, communication, and feedback in the physician-scribe relationship.⁸

Cost Implications

The use of medical scribes consistently correlates to increased revenue and productivity among primary care providers and other specialists, even accounting for the cost of the scribe. However, implications for overall health care systems costs are less clear.

- A mixed methods quality improvement study documented the annual cost of two full-time equivalent scribes in a family medicine practice equal to \$79,500. The study reported increased physician productivity from 9.2 percent to 28.8 percent, corresponding to the equivalent of \$168,000 more in revenue per year.¹⁶
- A quasi-experimental study of a hospital-based internal medicine department at an academic medical center found that physicians with scribes generated an increase in work relative value units (wRVUs)¹⁷ as well as more patient visits. Scribes were paid \$30/hour plus an additional \$6,000 for travel and housing (costs specific to this study).



Over the 806-hour study period, the cost of scribes equaled \$30,000, while increased revenues totaled \$46,000, resulting in a total return on investment of \$16,000.¹⁸

- Scribes have shown to be financially advantageous to providers among a variety of specialties outside of family medicine, including increased reimbursement per patient in maternal-fetal medicine due to greater Level 4 and Level 5 billing;¹⁹ increased number of patients seen per clinic session in urology resulting in an increase in wRVUs, physician charges, and hospital charges per clinic session;²⁰ and more patients seen per hour and a greater proportion of visits coded at a higher billing level in cardiology.²¹
- There are debates about the implications of scribes for broader health care system costs. While increased productivity and higher reimbursements offer clear value to individual practices, the coding procedures that generate that higher revenue are a function of fee-for-service billing rather than a clear indicator of high value care.⁹

References

1. Menachemi N, Collum TH. Benefits and drawbacks of electronic health record systems. *Risk Manag Healthc Policy*. 2011;4:47-55.
2. Office of the National Coordinator for Health Information Technology. Health IT data summaries. <https://dashboard.healthit.gov/apps/health-information-technology-data-summaries.php?state=National&cat9=all+data&cat1=ehr+adoption#summary-data>. Accessed October 4, 2020.
3. Tai-Seale M, Olson CW, Li J, et al. Electronic health record logs indicate that physicians split time evenly between seeing patients and desktop medicine. *Health Aff (Millwood)*. 2017;36(4):655-662.
4. Gregory ME, Russo E, Singh H. Electronic health record alert-related workload as a predictor of burnout in primary care providers. *Appl Clin Inform*. 2017;8(3):686-697.
5. Collier R. Electronic health records contributing to physician burnout. *Cmaj*. 2017;189(45):E1405-e1406.
6. Blanchfield BV, Heffernan JL, Osgood B, Sheehan RR, Meyer GS. Saving Billions of dollars—and physicians' time—by streamlining billing practices. *Health Affairs*. 2010;29(6):1248-1254.
7. Gellert GA, Ramirez R, Webster SL. The rise of the medical scribe industry: Implications for the advancement of electronic health records. *JAMA*. 2015;313(13):1315-1316.
8. Yan C, Rose S, Rothberg MB, Mercer MB, Goodman K, Misra-Hebert AD. Physician, scribe, and patient perspectives on clinical scribes in primary care. *J Gen Intern Med*. 2016;31(9):990-995.
9. Schiff GD, Zucker L. Medical scribes: Salvation for primary care or workaround for poor EMR usability? *J Gen Intern Med*. 2016;31(9):979-981.
10. Gidwani R, Nguyen C, Kofoed A, et al. Impact of scribes on physician satisfaction, patient satisfaction, and charting efficiency: A randomized controlled trial. *Ann Fam Med*. 2017;15(5):427-433.
11. Pozdnyakova A, Laiteerapong N, Volerman A, et al. Impact of medical scribes on physician and patient satisfaction in primary care. *J Gen Intern Med*. 2018;33(7):1109-1115.
12. Danak SU, Gutterman TC, Plegue MA, et al. Influence of scribes on patient-physician communication in primary care encounters: Mixed methods study. *JMIR Med Inform*. 2019;7(3):e14797.
13. Mishra P, Kiang JC, Grant RW. Association of medical scribes in primary care with physician workflow and patient experience. *JAMA Intern Med*. 2018;178(11):1467-1472.
14. Platt J, Altman W. Can medical scribes improve quality measure documentation? *J Fam Pract*. 2019;68(5):E1-e7.
15. Misra-Hebert AD, Amah L, Rabovsky A, et al. Medical scribes: How do their notes stack up? *J Fam Pract*. 2016;65(3):155-159.
16. Earls ST, Savageau JA, Begley S, Saver BG, Sullivan K, Chuman A. Can scribes boost FPs' efficiency and job satisfaction? *J Fam Pract*. 2017;66(4):206-214.
17. Physicians Thrive. The definitive guide to wRVU physician compensation. <https://physiciansthrive.com/wrvu-physician-compensation/#:~:text=RVUs%20determine%20physician%20payments%20based,is%20assigned%20a%20specific%20wRVU>. Accessed October 4, 2020.
18. Heckman J, Mukamal KJ, Christensen A, Reynolds EE. Medical scribes, provider and patient experience, and patient throughput: A trial in an academic general internal medicine practice. *J Gen Intern Med*. 2020;35(3):770-774.
19. Hegstrom L, Leslie J, Hutchinson E, Pereira L, Tran S, Caughey A. 560: Medical scribes: are scribe programs cost effective in an outpatient MFM setting? *American Journal of Obstetrics & Gynecology*. 2013;208(1):S240.
20. McCormick BJ, Deal A, Borawski KM, et al. Implementation of medical scribes in an academic urology practice: An analysis of productivity, revenue, and satisfaction. *World J Urol*. 2018;36(10):1691-1697.
21. Bank AJ, Gage RM. Annual impact of scribes on physician productivity and revenue in a cardiology clinic. *Clinicoecon Outcomes Res*. 2015;7:489-495.