

Internal Medicine Intern Preparedness to Document Clinical Encounters in the Era of Open Notes: a Needs Assessment Survey



KEY WORDS: Open notes; Clinical documentation; Undergraduate medical education; Graduate medical education

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INTRODUCTION

By November 2020, the 21st Century Cures Act mandated patients have electronic access to most clinical documentation, leading to “open notes” [1]. Even before this mandate, many residents felt unprepared to write notes and worried open notes would have negative consequences for both patient care and physician quality of life [2], despite work showing open notes are generally beneficial to both patients and providers [3]. However, potential pitfalls do exist [4], and even though the Association for American Medical Colleges (AAMC) lists clinical documentation as a core entrustable professional activity (EPA) [5]; little has been done to assess whether medical training has kept pace in developing physicians competent in writing open notes. This study was developed as a needs assessment of the preparedness of early internal medicine (IM) interns to effectively document a clinical encounter in the era of open notes.

METHODS

We developed an anonymous, unincentivized survey (survey available by request) based on previous work with existing validity evidence [6]. Questions were adapted for early IM interns, with new questions developed to test knowledge of Cures Act requirements [1]. To support construct validity, we utilized serialized expert review until reaching consensus. Questions were pilot tested with a subsection of the surveyed population, incorporating their feedback. Survey questions addressed knowledge of Cures Act requirements, comfort writing notes, and attitudes toward open notes.

After institutional review board approval from each site, the survey was distributed to all IM interns at the

University of Chicago, University of North Carolina, University of Vermont, and University of Washington in the first quarter of the 2021 academic year. We used descriptive statistics to characterize comfort and knowledge, then applied Kruskal–Wallis one-way analysis of variance and logistic regression odds ratios, both with the significance cutoff of $\alpha=0.05$, to compare comfort and knowledge across domains. Calculations were performed using R and graphs created using Microsoft Excel.

RESULTS

A total of 130 of 148 possible participants (88%) completed the survey. Eighty-three percent of respondents had no prior training in open notes and 25% were unaware of the open note mandate (Table 1). Seventy-one percent were unable to identify indications not to share a note, and 59% incorrectly stated their current institution did not participate in open notes. Prior education did not predict the ability to identify indications to keep a note hidden (OR 2.6, 95% CI 0.85–8.0, $p=0.09$).

Respondents averaged 3.43 on a 5-point Likert scale assessing comfort writing effective notes and 2.86 in comfort writing open notes (Table 1). Interns were less comfortable writing an open note than writing an effective note ($H(1)=23.8$, $p<0.001$). Prior education predicted at least moderate comfort writing open notes (OR 8.91, 95% CI 1.69–164, $p=0.03$).

Respondent predictions of the consequences of open notes are shown in Fig. 1.

DISCUSSION

Together, these results demonstrate that IM interns begin residency unprepared to document clinical encounters in the era of open notes. Few had received dedicated training, and most were relatively uncomfortable writing open notes as well as unfamiliar with indications to keep notes hidden. Most interns continued to fear increased time spent writing notes and worsened physician burnout despite evidence showing neither is typically the case [3].

Fortunately, we also found that dedicated training was positively correlated with comfort writing open notes. Existing documentation curricula in undergraduate medical education can incorporate prior work on open notes [2–5],

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Table 1 Training in, knowledge of, and comfort writing open notes among internal medicine interns at the start of residency. New internal medicine interns indicated whether they had received training in open notes prior to residency, were tested on knowledge-based domains of open note writing, and were asked to rate their comfort in writing both effective notes and open notes using the following Likert scale: 1 = not at all comfortable, 2 = slightly comfortable, 3 = moderately comfortable, 4 = quite comfortable, and 5 = extremely comfortable. For these descriptive purposes, we approached responses as a continuous scale allowing for more informative analysis than categorical comparisons, as variations in subjective comfort lack discrete cutoffs and are theoretically continuous. Comfort writing open notes was significantly less than comfort writing effective notes ($H(1) = 23.8, p < 0.001$). Prior education was correlated with at least moderate comfort writing open notes (OR 8.91, 95% CI 1.69–164, $p = 0.03$), but not with correct identification of when a provider may choose not to share a note (OR 2.6, 95% CI 0.85–8.0, $p = 0.09$)

Training	Percent (%) of respondents
Prior education in open notes	17
Knowledge	Percent (%) of respondents
Aware of the Cures Act mandate for open notes	75
Correct identification of when a provider may choose not to share a note	29
Comfort	Mean (SD)
Writing effective notes	3.43 (0.73)
Writing open notes	2.86 (0.88)

including incorporation into workflow, patient-centered wording, and leveraging of benefits. This can be reiterated during undergraduate-to-graduate medical education transitions curricula as well as early graduate medical education, as interns were not familiar with open note policies at their current institution.

Limitations of this study include use of academic institutions as the sampling frame—although multi-site, it may limit generalizability. As a study of knowledge, attitudes, and comfort, we did not directly assess documentation quality and allowed residents to interpret the term “effective note”

without defining it explicitly, possibly limiting broader conclusions.

However, this study identifies a need to improve documentation education in the era of open notes. Relatively high comfort in writing notes not visible to patients suggests medical schools had achieved the AAMC’s EPA of clinical documentation prior to the Cures Act, but this study shows they have not yet adapted to the modern documentation landscape. Additional research into the best ways to teach, write, and incorporate open notes into practice may empower trainees to use documentation to further improve patient care.

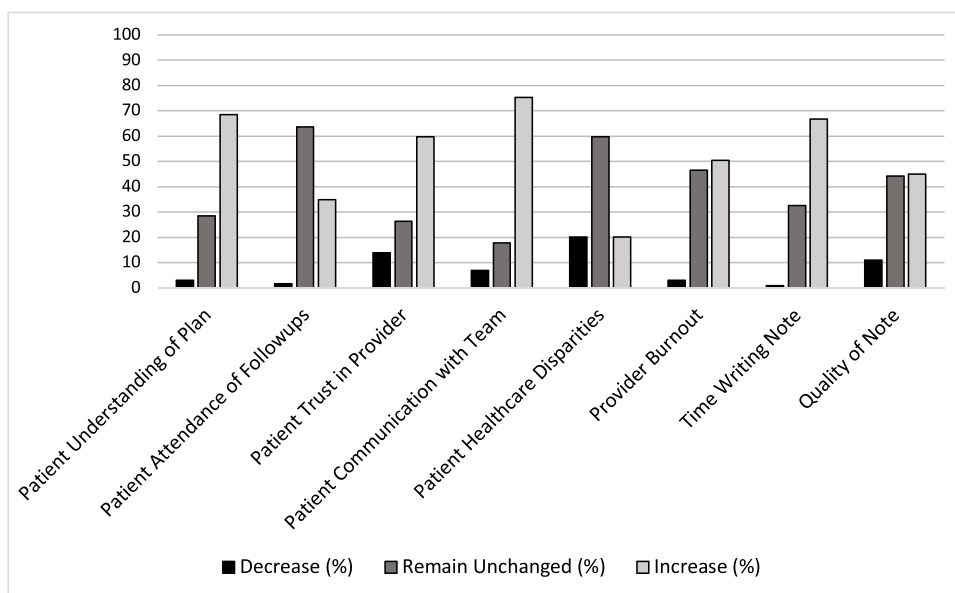


Fig. 1 Predictions of the consequences of open notes among internal medicine interns at the start of residency. New internal medicine interns were asked to predict whether various factors would decrease (black), remain unchanged (medium grey), or increase (light grey) in response to transitioning to electronic patient access to medical documentation, creating “open notes.” The factors are listed along the x-axis, with the percent of respondents indicating the predicted direction of change along the y-axis

Declarations

Conflict of Interest All authors declare that they have no conflicts of interest.

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