Beating Burnout: Children's Hospital Los Angeles AI (Artificial Intelligence) Based Solution to Supporting Physician Wellbeing

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EXECUTIVE SUMMARY

In the current healthcare landscape, physicians face the persistent challenge of clinical documentation, often leading to feelings of burnout and mental fatigue. An ambient AI (Artificial Intelligence) Scribe offers a transformative solution by efficiently processing and documenting data shared verbally during clinic appointments. Leveraging AI as an administrative tool presents a promising avenue to reduce physician burnout, reduce task load, enhance productivity, and improve patient care. Children's Hospital Los Angeles (CHLA) addresses this pressing issue by implementing an AI scribe solution called Nabla Copilot.

In January 2024, CHLA launched a 4-week pilot, with a group of 31 physicians to investigate the role of an ambient AI Scribe in relieving physician burnout. The CHLA implementation team observed reductions in burnout scores, average task load, and mental fatigue amongst physicians. Preceding the pilot, physicians reported mild burnout and post-implementation, the average burnout score decreased by 47%; this finding along with an improvement in other wellness metrics, demonstrates the positive impact of an AI scribe integration on physician wellbeing. CHLA's initiative showcases the potential of AI technology to mitigate physician burnout, reduce mental fatigue, and ultimately enhance work efficiency when new technology is thoughtfully introduced to a hospital's ecosystem. As healthcare advances, adopting AI-powered tools can transform clinical practices, creating healthier and more satisfying workplaces for physicians.

INTRODUCTION

According to the National Library of Medicine (NLM)'s Center for Biotechnology Information, clinical documentation continues to be an arduous and exacting task that physicians are inevitably bogged down by. A study conducted by NLM showed that physicians on average are using a minimum of 35% of their workday to document patient notes. It should be noted that documentation of patient notes is just a portion of a physician's task load. Physicians are inundated with the competing demands of patient care and the corresponding clerical tasks such as documentation. The single task of documentation consuming over a third of a physician's workday on average proves to be a major concern regarding task load, efficiency, and physician well-being. Due to the large amount of time documentation takes up in a physician's workday, many physicians are not signing their patient notes the same day as the appointment and are routinely submitting notes late. NLM's finding also correlated with a direct decrease in time spent on patient care, specifically during patient consultations. This leads to physicians feeling burned out, unhappy in their day to day work, dissatisfied with how they spend their time at work, and ultimately feeling less connected to their patients. Physician burnout is a long standing and pervasive issue that negatively impacts the physician's overall wellbeing and threatens the quality of care that patients receive. Physical manifestations of burnout include lack of sleep, fatigue, and feelings of anxiousness. Additionally, burnout can cause a lack of enthusiasm for work, lack of connectedness with others, forgetfulness, and depersonalization in interactions; all of which are adversarial to delivering high quality patient care.

AI technology harnesses an incredible capability to quickly process and analyze a vast array of data from multiple sources with an impressive level of accuracy. By investing in AI scribe technology, CHLA is providing a sustainable solution to a major problem faced by physicians. CHLA's strategy, process, and implementation of an AI scribe demonstrates a clear system of steps, carefully chosen metrics, and thoughtfully curated trainings to successfully and sustainably introduce a much-needed solution to tackle the burden of time spent on clinical documentation.

PILOT STRATEGY & TRAINING

In January 2024, Children's Hospital Los Angeles piloted an ambient AI scribe, Nabla Copilot, with a group of 31 physicians as test users. CHLA's pilot strategy was developed with the Nabla team. The user test group of physicians consisted of physicians working in the inpatient setting, ambulatory setting, and the emergency department, and a male to female ratio that is representative of the physician population at CHLA; for this reason, the pilot group consisted of 19 female physicians and 12 male physicians across an array of medical specialties. According to a wellness study conducted by Stanford Medicine under their Well MD Center, it is reported that on average, female physicians score lower on wellness and higher on burnout compared to male physicians. Preceding the pilot, the physicians were sent a survey comprised of two parts. The first part of the survey was a series of questions derived from the Professional Fulfillment Index (PFI) and the second component of the survey utilized the

Maslach Burnout Inventory (MBI), a series of questions regarding task load, interpersonal disengagement, and work exhaustion to assess physician burnout.

For the pilot group of physicians, the CHLA implementation team and Nabla team created a support infrastructure of 5 main resources:

- Nabla Copilot was demonstrated to the pilot group of physicians by the CHLA implementation team and Nabla team. During this demonstration, pilot physicians got to see firsthand how the AI scribe technology works during a mock patient encounter.
- The implementation team at CHLA created a SharePoint for all participating physicians to access educational information and helpful utilization tips for Nabla Copilot.
- A Microsoft Teams channel was developed to support the pilot physicians, where the Nabla team provided on-demand support from 7am to 7pm.
- Office hours were offered in 1 hour time blocks, twice a day Monday through Friday hosted by the Nabla team.
- Physicians received in-person one-on-one support from the Nabla Team while they were seeing patients to help troubleshoot any issues in real time.

IMPACT
Ambient AI Scribe Reduces Physician Burnout and Average Task Load

The average burnout score, before and after the pilot was measured using the Burnout evaluation scale from Stanford University. It should be noted that a score below 1 indicates that there is likely no burnout, a score of 1 to 1.33 indicates mild burnout, a score of 1.33 to 2 indicates moderate burnout, and a score of 2 or higher indicates true burnout. Due to the use of the ambient AI scribe, physicians went from experiencing burnout to no longer experiencing burnout; supported by a 47% reduction in average burnout score (see Table 1). Additionally, an average task load on a scale from 1 to 10 was reported by the pilot group of physicians to be a score of 7 pre-pilot. Post pilot, the group reported an average score of 6.7 for average task load; this equates to a 4.2% reduction in average task load report by physicians after using Nabla Copilot.

Table 1

	Pre-Pilot	Post-Pilot	Percent Reduction
Physician Burnout Score	**1.21**	**0.64**	**47.1%**
I feel physically exhausted at work	46%	26%	**43.5%**

I am lacking enthusiasm at work	39%	6%	**84.6%**
Feeling Less connected with my patients	24%	13%	**45.8%**
I Feel less connected with my colleagues	33%	20%	**39.4%**
I experience a sense of dread when thinking about work that I have to do	55%	34%	**38.1%**

Ambient AI Scribe Increases Number of Notes Signed Same Day

The AI scribe allows for the physician to focus directly on the patient rather than switching their focus to documenting notes. The use of ambient AI scribe technology has also increased CHLA physicians' efficiency of signing notes. Before piloting Nabla Copilot the average percentage of notes signed by physicians the same day as the appointment was 82%; with the implementation of Nabla Copilot, the average percentage of notes signed the same day increased to 89%.

Post Pilot Physician Interviews

To further explore the impact of the ambient AI scribe on documentation and physician wellbeing, we conducted interviews with 14 pilot physicians at CHLA. The interviews were 20 minutes long and facilitated by a product manager using a structured interview guide. All participants provided verbal consent to record the interviews for analysis. During the interviews, three key themes emerged as the biggest advantages of using ambient AI scribe technology.

Improved Patient Focus: Prior to using the ambient AI scribe technology, 70% of the pilot physicians reported taking notes during visits, either electronically or on paper. According to the pilot physicians, Nabla reduced the need for notetaking during consultations, allowing physicians to fully focus on their patients. This enhanced focus facilitates better understanding of nonverbal cues, improved communication, and a smoother flow of interaction. One physician stated, "In my ideal world, I wouldn't need to touch the computer at all. I would simply interact and engage with families throughout the visit. Nabla allows me to do that, and it's made a significant difference." Additionally, 60% of physicians reported feeling more connected to their patients.

Reduced Mental Fatigue: Physicians often struggle to remember details of their patient encounters from busy clinic days with numerous visits. One of the physicians noted, "the most tiring part of notes is at the end of the day, when you can't recall a specific detail." AI Scribe Technology eliminates the mental burden of remembering by capturing key details and allowing for easy review of the transcript if needed.

Decreased Documentation Time: Many pilot physicians previously spent hours finalizing documentation after clinic hours and on weekends. While the Nabla generated note still requires review and editing, many physicians reported at least a 50% reduction in documentation time.

One physician stated, "It's made a world of difference with time spent documenting. It probably cuts about half the time, to be conservative."

The improvement in efficiency in signing notes the same day as a result of physicians using Nabla Copilot is exemplary of how the adoption of an AI scribe technology can lift the burden of clinical documentation by reducing time spent to sign notes. Increasing from 82% to 89%, the 8.2% improvement in notes signed the same day has a positive downstream impact on efficiency of the hospital and achievement of patient-centric goals as well as contributes to the alleviation of the mental fatigue experienced by so many physicians.

POST PILOT EXPANSION & ONBOARDING

Due to the positive impact of the ambient AI Scribe Technology, CHLA expanded Nabla Copilot utilization to a larger group of physicians in a variety of specialties. The training infrastructure developed by CHLA allowed onboarding physicians to accommodate not only their work schedules but also their learning style; making learning how to use the AI Scribe simple and easily integrated into their already existing workday. When the provider receives access to Nabla Copilot, they are given access to a training module as well as demo sessions.

CHALLENGES

The CHLA implementation team was faced with a few challenges as they introduced Nabla Copilot to the physicians at CHLA.

- **Use of Non-Integrated Technology:** Due to the fact that Nabla Copilot is not currently integrated with CHLA's EMR, physicians must utilize a copy/paste functionality to ensure Nabla – generated content is included in the chart. Some physicians reported that the steps of copying and pasting the note into the EMR, was disruptive to the workflow for some physicians and limited their utilization of Nabla.
- **Note Does Not Reflect Physician's Tone/Style:** Adoption of Nabla Copilot proved to be a challenge for physicians who expressed their needs for a highly personal tone to be reflected in the note generated by Nabla Copilot. A small group of physicians were very specific in the way the generated notes read, and they expressed feeling as though the note style is not how they would write the note as it relates to tonality and their written voice.
- **Limitations of Translation Capabilities:** While the AI scribe is accurate when the visits are held entirely in English or in Spanish, the AI scribe struggles to capture portions of patient encounters when a patient's family speaks a mixture of English and Spanish during the appointment. It is reported that 70% of CHLA's patient population speaks Spanish. For visits in a single language or with an in person or virtual interpreter, Nabla Copilot does translate patient instructions in the language the family prefers. This allows real time distribution of the instructions at the time of discharge which previously was delayed for translation.

Moving forward, addressing these challenges will be crucial in optimizing the long-term effectiveness of the AI scribe. Fully integrating Nabla Copilot with the hospital's existing EMR and improved language processing capabilities to allow multiple languages in a single encounter are areas that require further attention to enhance user experience and ensure the technology meets the diverse needs of the physicians and patient population.

CONCLUSION

Nabla Copilot demonstrated a reduction in average physician burnout score and average task load across the pilot group. Furthermore, physicians reported feeling more connected to their patients, as the AI scribe allowed them to focus on patient interaction without the distraction of documentation tasks. The pilot strategy and training program developed by CHLA and Nabla ensured that physicians were well-equipped to utilize the AI scribe effectively. By providing comprehensive support resources and tailored training sessions, CHLA facilitated a smooth onboarding process for physicians, resulting in increased efficiency and alleviation of burnout. The introduction of AI-powered medical scribe technology at CHLA represents an advancement in healthcare innovation and showcases the true impact AI can have on physician wellbeing.