UNIVERSITY of WASHINGTON

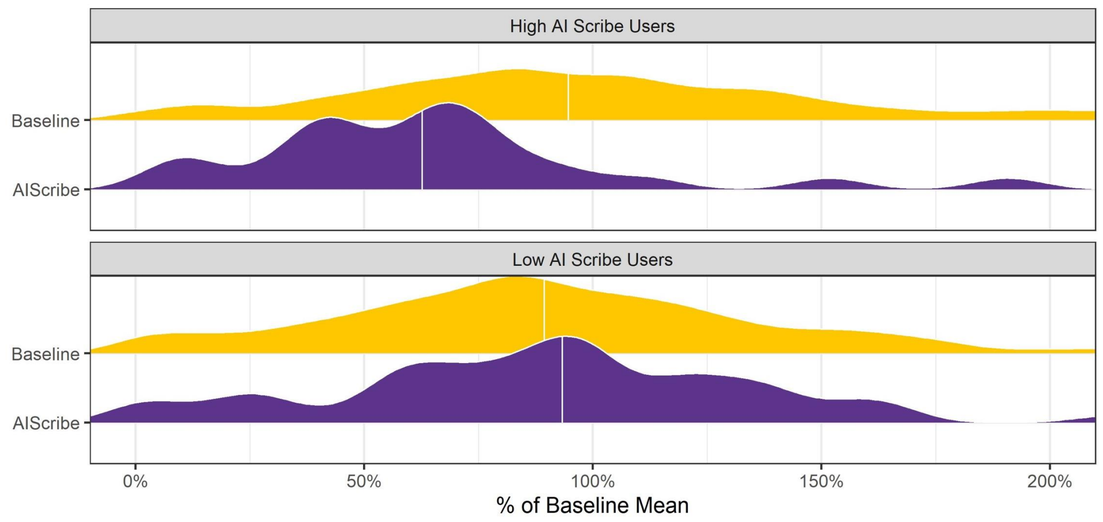
Ambient AI Scribes in Otolaryngology: Reducing Documentation Burden and Cognitive Load

Jennifer Ren, MD; John Paul Giliberto, MD

Department of Otolaryngology – Head & Neck Surgery

There is a paucity of data on how ambient AI scribes affect otolaryngology providers' documentation burden, burnout, and mental load.

Epic Signal and survey data were collected to analyze the effect of ambient AI scribes at a single site on electronic health record (EHR) usage, cognitive load, and burnout. Validated surveys such as NASA Task Load (NTL) and Maslach Burnout Index (MBI) were used. Participants were also asked to compare their experience using AI scribes to conventional note writing.



Distribution of work after work hours (WAWH) before and after AI scribes. Effects are separated by participants who were high versus low users of the ambient AI scribe. High users had a greater reduction in WAWH compared to low users.

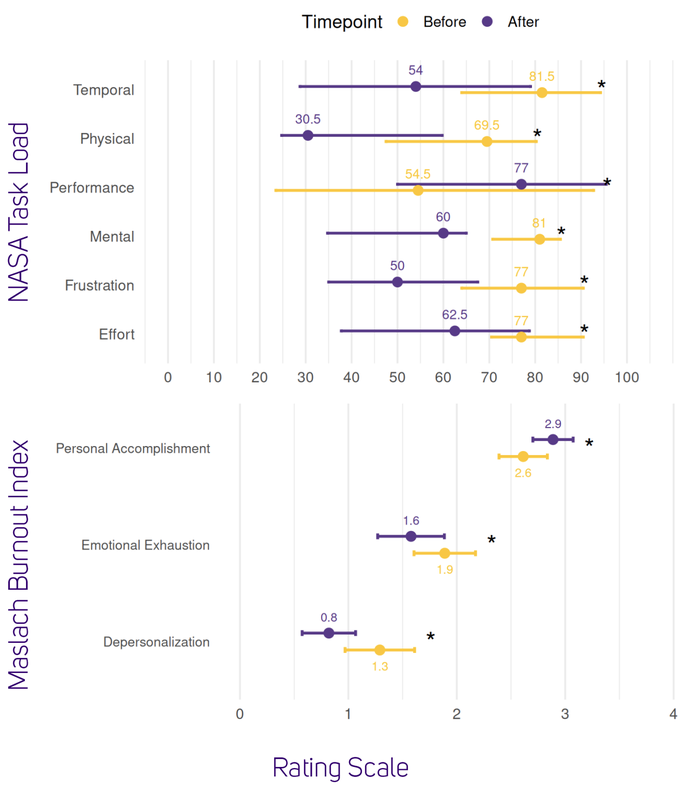
INTRODUCTION

- Otolaryngologists spend 2.3 - 4.3 hours in the electronic health record (EHR) and 1-2 hours writing notes in a full day of clinic.
- Ambient AI scribes have shown promise to reduce documentation burden, and work outside of work hours (WOWH) in primary care or multispecialty studies.
- No studies to date has investigated its effects among otolaryngologists.

METHODS

- In August of 2025, otolaryngology providers started using ambient AI scribes at an academic tertiary medical center. 3 years of baseline data and 4 study months (Sep 1, 2025 – Jan 31, 2026) were collected from the EHR.
- Data measured included time in notes per day, WOWH, and work on unscheduled days (WOUD), and others.
- Surveys including Maslach Burnout Inventory (MBI) and Nasa Task Load (NTLx) were obtained before and after the study period.
- Subjective measures relating to satisfaction and barriers to AI scribe usage were surveyed at completion of the study.

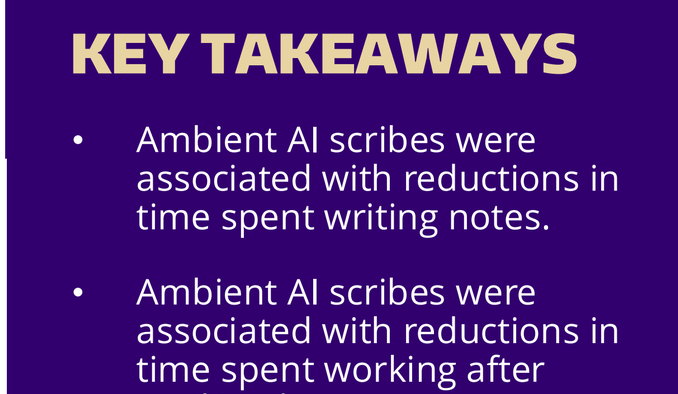
Cognitive load and burnout scores improved



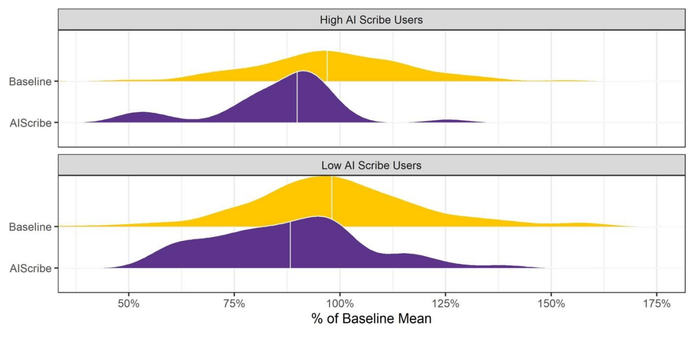
KEY TAKEAWAYS

- Ambient AI scribes were associated with reductions in time spent writing notes.
- Ambient AI scribes were associated with reductions in time spent working after working hours.
- Ambient AI scribes were associated with significant improvements in cognitive load and burnout scores.
- Participants strongly preferred AI scribes over conventional notewriting for HPI sections, but not the physical exam nor assessment/plan.

Time in notes decreased, but not other activities



Both high and low users of AI scribe experienced a decrease in time in notes

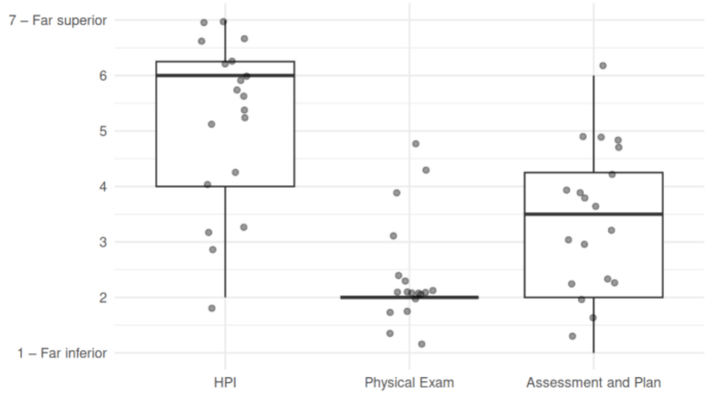


RESULTS

Eighteen otolaryngologists and 3 APPs participated. One participant did not complete the post-study surveys so was excluded.

- Ambient AI scribe usage was associated with:
  - A decrease of 0.46 hours (~30 minutes) in notes per typical day (95% CI -0.73, -0.19; $p<0.05$),
  - A mild increase time of 0.16 hours (~10 minutes) in InBasket per typical day (95% CI 0.02, 0.19; $p<0.05$),
  - A decrease in WAWH among high users by 0.49 hours (~30 minutes) per typical day (95% CI -0.79, -0.19; $p=0.001$), and
  - No change to WOUD among both high and low users ($p>0.1$).
- Ambient AI scribes improved NTLx along all domains and MBI along all domains ($p<0.05$).
- Participants preferred AI scribes for the HPI and conventional methods for Physical Exam. Preferences were equivocal for Assessment/Plan.

Subjective ratings of AI scribe quality compared to conventional notewriting



CONCLUSIONS

Ambient AI scribes have a positive impact on otolaryngology providers' outpatient workload across multiple objective and subjective metrics.

- Ambient AI scribes reduced the cognitive load of note writing and burnout.
- They also reduced time writing notes and work after work hours (WAWH).
- Future research is needed to characterize which types of clinicians, tasks, and visits ambient AI scribes would most benefit.