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Impact of Ambient AI scribe tools on patient experience in outpatient clinical encounters

Submission date
11/12/2025

Recruitment status
No longer recruiting

Registration date
30/01/2026

Overall study status
Completed

Last Edited
30/01/2026

Condition category
Other

[_] Prospectively registered
[X] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[X] Record updated in last year

Plain English summary of protocol
Background and study aims
Ambient AI scribe technologies are designed to improve physician workflow by automating documentation tasks during clinical encounters to reduce cognitive burden and reflect the fastest growing application of generative AI technologies in health care. Our previous study of a 2-month randomized controlled trial focused on the effect of ambient scribes on physician efficiency and burnout. However, there remains a critical evidence gap on the impacts on these technologies on patient-oriented outcomes. Our goal is to use standardized post-encounter patient surveys after the randomized implementation of AI scribes to understand how these technologies shape patients' perspective of their physician.

Who can participate?
This study includes patients who had outpatient visits with physicians who took part in the parent randomized trial. Only encounters conducted in English are included due to the operational limitations of the initial pilot study.

What does the study involve?
The study builds on a previous pilot RCT that evaluated two vendor AI scribes against a control from 11/04/2024 to 01/03/2025. This study is a secondary analysis using completed CG-CAHPS surveys that patients completed after their visits. These surveys are linked to the provider and date of encounter. No new surveys, clinic visits, or procedures are required. We compare communication scores between visits with physicians who were assigned an AI scribe tool and visits with physicians who were assigned standard documentation without a scribe. All scores are adjusted for each provider's baseline CG-CAHPS scores 6 months before the study period.

What are the possible benefits and risks of participating?
There are no direct benefits or risks to individual patients as all data come from routinely collected surveys. No patient-level intervention is performed.

Where is the study run from?
The study is conducted at UCLA Health ambulatory clinics in the United States.

When is the study starting and how long is it expected to run for?
The parent randomized trial ran from 04/11/2024 to 03/01/2025, and patient surveys were collected for up to 6 months after each eligible encounter. The end date of survey collection is 03/07/2025.

Who is funding the study?
The study is funded by the UCLA Department of Medicine, with additional support from NIH/NIA grants (R01AG070017-01, K76AG064392-01A1, and K24AG047899) and the NIH/NCATS UCLA CTSI (UL1TR001881).

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Study information

Scientific Title
Evaluation of patient experience in Ambient AI scribe encounters: a retrospective secondary analysis of a randomized controlled trial (AIScribe RCT)

Study objectives
Primary objective:
To evaluate the impact of ambient AI scribe use on patient-reported communication quality, measured using the CG-CAHPS communication composite score.

Secondary objective:
To assess heterogeneity of patient experience across clinical and demographic subgroups (e.g., baseline communication performers, new vs established visits, provider sex, specialty).

Ethics approval required
Ethics approval not required

Ethics approval(s)

Primary study design
Interventional

Allocation
Randomized controlled trial

Masking
Open (masking not used)

Control
Active

Assignment
Parallel

Purpose
Health services research

Study type(s)

Health condition(s) or problem(s) studied
Quality of care/patient satisfaction

Interventions
This study is a retrospective secondary analysis of a completed randomized controlled trial in which physicians were randomized to one of two ambient AI scribe tools or usual documentation. Providers were randomized using covariate-constrained randomization based on baseline time-in-notes, burnout, and clinic volume. For this secondary analysis, the two scribe arms are combined to evaluate the effect of any ambient scribe use on patient experience.

Intervention arms:
1. Nabla AI Scribe: A transcription-based ambient AI scribe capturing physician–patient dialogue and generating draft clinical notes integrated into the EHR.

2. Microsoft DAX Copilot: A transcription-based ambient AI scribe generating encounter summaries for EHR documentation.
3. Control: Usual physician documentation without an AI scribe.

Methodology:
Patient CG-CAHPS surveys completed within 6 months of eligible encounters were linked to providers and analyzed using provider-level intent-to-treat assignment. The primary outcome is the CG-CAHPS communication composite (0–100). Analyses use adjusted linear regression with provider-clustered robust standard errors. Only English-language encounters were included for survey linkage due to vendor limitations; this restriction applies at the data level and does not affect participant eligibility.

Intervention Type
Other

Primary outcome(s)
1. Mean CG-CAHPS Communication Composite Score (0–100) measured using derived mean score from four CG-CAHPS communication items assessing whether the physician: (1) explained things in an easy-to-understand way, (2) listened carefully, (3) showed respect for what the patient had to say, and (4) spent enough time with the patient. Surveys linked to eligible encounters and analyzed at the provider level using intent-to-treat assignment. at Surveys completed within 6 months after encounters occurring during the intervention period (11/04 /2024–01/03/2025). Baseline comparison uses surveys from 6 months prior to enrollment (5/4 /2024–11/3/2024).

Key secondary outcome(s))
1. Exploratory subgroup analyses measured using the adjusted Mean CG-CAHPS Communication Composite Score, exploratory subgroup analyses will include: baseline communication performance (bottom third), new vs established visit, patient-reported usual provider, physician sex, generalist vs specialist, and high-adopting physicians (top 50th percentile of tool usage). at Surveys completed within 6 months after eligible encounters during the intervention period (11 /04/2024–01/03/2025).

2. Three-arm comparison of communication composite scores measured using the adjusted Mean CG-CAHPS Communication Composite Score, exploratory analyses of control vs Nabla vs Microsoft DAX Copilot group. at Surveys completed within 6 months after eligible encounters during the intervention period (11/04/2024–01/03/2025).

3. Top-box CG-CAHPS Communication Composite Score measured using the adjusted Mean CG-CAHPS Communication Composite Score, exploratory analyses of binary outcome (maximal score vs non-maximal) at Surveys completed within 6 months after eligible encounters during the intervention period (11/04/2024–01/03/2025).

4. CG-CAHPS, Overall Provider Rating measured using the overall provider rating (0–10) as part of the CG-CAHPS survey; continuous and binary (top-box) measures at Surveys completed within 6 months after eligible encounters during the intervention period (11/04/2024–01/03/2025).

5. Single-item communication domain scores measured using subset analysis of the four items of the CG-CAHPS communication score: (1) explained things in an easy-to-understand way, (2)

listened carefully, (3) showed respect for what the patient had to say, and (4) spent enough time with the patient. at Surveys completed within 6 months after eligible encounters during the intervention period (11/04/2024–01/03/2025).

Completion date
03/07/2025

Eligibility

Key inclusion criteria
Ambulatory care physicians within the UCLA Health system who held at least one half-day of clinic per week who participated in the parent randomized trial of ambient AI scribes (NCT06792890)

Healthy volunteers allowed
Yes

Age group
Mixed

Lower age limit
18 years

Upper age limit
120 years

Sex
All

Total final enrolment
238

Key exclusion criteria
1. Trainee providers (residents, fellows, medical students)
2. Allied health professionals (RNs, NPs, PAs)
3. Attendings who work exclusively with trainees
4. Providers who used a human scribe during the study period

Date of first enrolment
04/11/2024

Date of final enrolment
03/01/2025

Locations

Countries of recruitment
United States of America

Study participating centre
UCLA Health Ambulatory Clinics (multiple outpatient sites)
United States of America

Sponsor information

Organisation
UCLA Health

ROR
https://ror.org/01d88se56

Funder(s)

Funder type

Funder Name
University of California, Los Angeles

Alternative Name(s)
University of California-Los Angeles, University of California Los Angeles, Los Angeles branch of the California State Normal School, Los Angeles State Normal School, Southern Branch of the University of California, University of California at Los Angeles, UCLA

Funding Body Type
Government organisation

Funding Body Subtype
Universities (academic only)

Location
United States of America

Funder Name
National Center for Advancing Translational Sciences

Alternative Name(s)
NIH's National Center for Advancing Translational Sciences, NCATS, NCATS NIH, NIH NCATS

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United States of America

Funder Name
National Institute on Aging

Alternative Name(s)
U.S. National Institute on Aging, The National Institute on Aging, NIH NATIONAL INSTITUTE ON AGING, NIA

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United States of America

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary
Not expected to be made available

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Protocol file			15/12/2025	No	No