MSR56

Pilot Evaluation of AI-Enabled Ambient Speech Capture in Home-Based Care: Reducing Administrative Burden and Enhancing Real-World Evidence Generation for Complex Therapies

The CareTranscribe Pilot — Validating AI-Enabled Ambient Speech Capture for Home Healthcare Delivery of Complex Therapies

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BACKGROUND

The Documentation Burden in Nursing

Nurses spend 25–35% of their working time on clinical documentation, consistently identified as a major driver of cognitive overload, burnout and workforce attrition.[1,2] For complex-therapy patients receiving care in the home, documentation typically takes place before, during and after the visit, fragmenting attention and limiting opportunity to capture contextual real-world insight.

Ambient AI in Clinical Settings

Ambient artificial intelligence (AI) scribes: context-aware systems that passively listen to clinician–patient encounters and generate structured notes in real time have become one of the fastest-adopted technologies in healthcare history.[3] Recent multi-site studies report:

- **30 min/day** reduction in documentation time per clinician[4]
- **13.1 pp** absolute reduction in burnout (51.9% → 38.8%)[5]
- **30%** reduction in after-hours 'pyjama -time' charting[6]
- **Improved** patient focus, satisfaction and note comprehensiveness[7]

The Home-Care Evidence Gap

To date, the published ambient-AI evidence base derives almost exclusively from hospital and ambulatory clinic settings, with physicians as the dominant user group.[8] Home-based delivery of complex therapies characterised by long visit durations, variable connectivity and patient-led environments remains effectively unstudied.

Sciensus delivers more than 200,000 home visits each year across complex specialty therapies in the UK and Europe and is uniquely positioned to evaluate ambient AI in this setting. This pilot aligns with the NHS 10-Year Plan and NHS England April 2025 guidance on AI scribes, building on national precedent (e.g. Microsoft DAX previously deployed at Manchester University NHS Foundation Trust and six other UK healthcare organisations) while extending evaluation into the under-studied homecare environment.

Why this study?

To generate the first feasibility evidence for ambient AI in home-based complex-therapy delivery, and to define the tool-selection criteria that this distinct setting requires.

Pilot at a Glance

100	Dec '25	UK	10
Patient Visits	Launch	England + Scotland	Nurse users

OBJECTIVES

To evaluate the feasibility of integrating an AI-enabled ambient speech capture tool for ambient speech capture in home-based clinical workflows, with the following specific aims:

Long Term Objectives:

- **Reduce administrative burden** for visiting nurses while preserving full clinical control of documentation
- **Enhance patient interaction** by allowing nurses to remain attentive to the patient during home visits
- **Capture structured RWE** from anonymised real-world conversations on adherence, safety signals, device use and daily-life factors

Pilot Phase I Objectives:

- **Validate ambient AI technology** across patient consent, nurse usability, and transcription accuracy thresholds prior to scale
- **Define tool-selection criteria** specific to home delivery of complex therapies (offline mode, long-duration capture, timestamping) to inform tool evaluation and Phase 2 deployment

METHODS

Study Design

In December 2025, Sciensus, a life sciences organisation specialising in patient access, engagement and insight solutions, launched 'CareTranscribe' (n = 100), a 16-week single-arm feasibility pilot integrating an AI-enabled ambient speech capture tool into routine homecare visits. System already piloted in other UK healthcare contexts.

Ten nurses across NW England, Scotland, SW & SE England used the tool during routine home visits with consenting patients receiving a biologic treatment for inflammatory bowel diseases (IBD): a representative complex-therapy cohort.

CareTranscribe Workflow

1 — Two-Stage Consent
Nurse obtains separate written consent for (i) use of the application and (ii) use of insights for research and analysis.

2 — In-Visit Recording
Recording starts inside the patient's home via AI-enabled ambient speech capture tool; the device captures the full visit unobtrusively.

3 — AI Transcription & Summary
AI-enabled ambient speech capture tool generates an AI summary of the visit and a draft Clinical Evaluation Form (CEF).

4 — Nurse Review & Validation
Nurse reviews and edits the AI-drafted CEF, retaining full clinical control to validate accuracy.

5 — Audit & Insight Capture
Outputs are clinically audited via comparison to submitted CEF; consented insights are stored to support adherence, safety and service-design analysis.

Outcomes Assessed

- **Patient consent rate** (Target ≥90%): proportion of invited patients agreeing to participate
- **Nurse usability** (Target ≥8/10): weekly Likert-scale survey of nurse users
- **Transcription accuracy** (Target ≥90%): clinical-method audit - clinical review and comparison of AI-based summary vs. clinical manual output of CEF fields
- **Workflow integration** qualitative feedback on fit with home-visit routines
- **RWE capture potential** ability to surface adherence, safety, device-use and daily-life insights

Governance Framework

The pilot operated under a robust governance framework aligned with NHS Information Governance, patient-informed consent, strict anonymisation and Class I medical-device requirements.

RESULTS

Pilot Cohort

N = 100 home visits, NW England, Scotland, SW & SE England (Dec 2025 – Apr 2026); 10 nurses delivering a biologic treatment for inflammatory bowl diseases as a representative complex-therapy cohort.

95%	8.5/10	≈90%
Patient consent	Nurse usability	Accuracy
Target ≥90%	*Target ≥8/10*	*Target ≥90%*

Interim values (n = 100); accuracy verified by clinical-method audit. Additional metrics: 86% nurse willingness to continue (target ≥80%); 4 tech issues / 50 visits (target <2).

Quantitative Findings

Metric	Target	Observed
Patient consent rate	≥90%	95%
Nurse usability (Likert)	≥8/10	8.5/10
Transcription accuracy	≥90%	≈90%
Perceived care impact	≥80%	83% nurse agreement

Qualitative Findings

- High nurse acceptance: documentation time reduced, enabling greater attention to the patient during the visit
- Recorded interactions surfaced treatment realities (adherence patterns, daily-life factors) rarely captured in clinic-based settings or trials
- Patients reported the recording was unobtrusive and did not change the dynamic of the visit
- Identification of additional paper-based nurse tasks beyond the CEF, plus nurse-training knowledge gaps surfaced from transcript review — both unanticipated value pools for AI augmentation

Operational Limitations Identified

- Connectivity loss in rural settings, plus device variability (iPhone-to-Android transitions, audio quality on older handsets and phone cases) - offline-first, device-agnostic tooling required
- Maximum supported visit duration insufficient for long therapy sessions (e.g. 8-hour chemotherapy infusions)
- Lack of inline transcription timestamps and absence of automated CEF population (tool ran in parallel to manual entry) limited clinical traceability and prevented documentation-time savings in this phase.

Real-World Insight Categories Captured

Adherence
Real-world barriers to taking therapy as prescribed, missed-dose patterns, refrigeration and storage challenges that rarely surface in clinic visits

Safety Signals
Spontaneous reports of side-effects, injection-site reactions and unexpected symptoms experienced in the home setting

Device & Self-Administration
Practical difficulties with pens, pumps and infusion devices captured at the actual point of use, with carer involvement context

Daily-Life Factors
Carer involvement, work and travel impact, mental-health context, education and literacy needs that shape adherence

Note: As a secondary, exploratory objective, an initial review of transcribed content identified four categories of real-world insight with potential value for outcomes research. Structured analysis of these insights is planned in the next phase of the pilot.

Planned Next-Phase Priorities

Phase 2 will build on this feasibility foundation across three workstreams: (1) Deepen RWE insight analysis - move from initial categorisation to structured analysis of adherence patterns, safety signals and daily-life factors, with a view to developing an outcomes evidence asset for HEOR and biopharma partnership; (2) Expand the cohort - extend ambient capture to a broader patient population across additional complex-therapy disease areas beyond IBD, validating generalisability of consent, usability and accuracy findings; (3) Automate the nurse workflow - evaluate tools capable of direct CEF population and real-time documentation, removing the parallel-entry burden identified in Phase 1 and generating measurable nurse time savings versus baseline.

BENEFITS

- **Validated feasibility** of ambient AI in the home-care setting - a previously unstudied environment for ambient documentation
- **Patient appetite confirmed** high consent (≥95%) with minimal disruption to the visit dynamic; recording perceived as unobtrusive
- **Workforce support** high nurse satisfaction (≥8.5/10) and a clear pathway for documentation-time recovery and burnout reduction
- **Real-world evidence** initial structured insight on adherence, safety signals and daily-life factors not captured in trials or clinics
- **Service-design intelligence** identifies adjacent nurse tasks (beyond the CEF) where AI augmentation could deliver further ROI
- **Biopharma collaboration** suggests a defensible data asset to support outcomes measurement and evidence development for complex therapies
- **Scalable foundation** Class I medical-device-aligned governance allows rapid extension across therapy areas and geographies

RECOMMENDATIONS

- **Choose offline-capable tooling** with native sync - connectivity cannot be assumed in the patient's home
- **Match recording capacity to therapy** as long-duration visits (e.g. chemotherapy) require multi-hour capture and inline timestamps
- **Treat consent as two-stage** to ensure patient transparency on the use-of-tool consent vs. research-use consent
- **Pilot before scaling** as feasibility evaluation surfaces additional opportunities and tool-fit issues that can shape vendor selection
- **Plan governance up-front** to align with information-governance, medical-device and consent requirements before first visit
- **Validate before you integrate** to confirm accuracy, validity and usability thresholds before committing to deep workflow integration. Embedding a tool into core clinical processes before it has been stress-tested creates significant rework risk - and the cost of unwinding a failed integration far exceeds the cost of a structured feasibility phase. A pilot that surfaces a tool's limitations early is not a failure; it is the system working as intended.

CONCLUSIONS

The CareTranscribe pilot demonstrates that AI-enabled ambient speech capture is feasible, acceptable and useful in home-based delivery of complex therapies.

- Ambient AI has the potential to alleviate nurse documentation burden without disrupting the nurse–patient relationship
- Home-based ambient capture shows early promise in surfacing real-world insights unavailable from clinic settings, with structured analysis planned to strengthen patient support service design
- Essential tool-selection criteria for home care (offline mode, long-duration capture, timestamping) are now defined and can guide industry-wide adoption

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