Khoo Teck Puat Hospital
NHG Health

Speak2Care: Reducing Documentation Burden in Hospital@Home Through AI Speech-to Text Function

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1. KPI DASHBOARD

33%
Documentation Time Reduction

30 min per visit → 20 min per visit

From 30 minutes to 20 minutes per visit

80%
Validated Documentation Accuracy

Independent multidisciplinary review

2 BACKGROUND & CURRENT CHALLENGES

Nurses in Hospital@Home spend excessive time on documentation, relying on memory recall and manual data entry after each visit. This contributes to overtime, work-related fatigue, delayed documentation and time away from patients.

We need a smarter, faster and more reliable way to document care.

KEY CHALLENGES

TIME CONSUMING
>30 minutes spent on documentation per home visit

RELIANCE ON MEMORY RECALL
Risk of incomplete or inaccurate information

OVERTIME & PAPERWORK
Documentation contributes to overtime burden

WORK-RELATED FATIGUE
High administrative load leads to fatigue and stress

UNDERUTILISED TRAVEL TIME
Travel time not effectively used for documentation

3 BEFORE SPEAK2CARE WORKFLOW

>30 MINUTES DOCUMENTATION PER HOME VISIT

1. **HOME VISIT**
   Conduct assessment and care for patient at home.
2. **RECALL FROM MEMORY**
   Rely on memory to recall patient details, symptoms and care provided.
3. **MANUAL DOCUMENTATION**
   Manually type notes and enter data into system.
4. **>30 MINUTES**
   Spend >30 minutes on documentation per home visit.
5. **OVERTIME & FATIGUE**
   Documentation contributes to overtime, fatigue and less time for patients.

4 HOW SPEAK2CARE WORKS

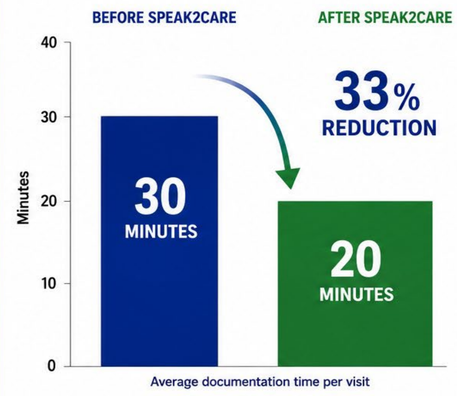
AI-powered voice documentation that is accurate, secure and nurse-validated.

1. **VOICE CAPTURE**
   - Nurse speaks naturally during or after visit
   - Captures patient assessment, vitals, care provided and education given
2. **MULTILINGUAL PROCESSING**
   - AI converts voice to text in multiple languages
   - Filters noise and enhances clarity
   - Ensures accurate transcription
3. **AI NOTE GENERATION**
   - AI organises information into structured nursing notes
   - Generates comprehensive and coherent documentation
   - Follows clinical documentation standards
4. **NURSE VALIDATION**
   - Nurse reviews AI-generated notes for accuracy and completeness
   - Edits or adds information if required
   - Confirms and validates final content
5. **EPIC SUBMISSION**
   - Validated notes submitted directly to EPIC
   - Secure, compliant and audit-ready
   - Reduces time spent on documentation

5 RESULTS & OUTCOMES

Speak2Care delivers measurable improvements in efficiency, accuracy and nurse experience.

DOCUMENTATION TIME PER HOME VISIT



10 MINUTES SAVED per home visit

~72 MINUTES SAVED per shift (8 admissions)

IMPACT DASHBOARD

- **REDUCED OVERTIME** — Significant reduction in overtime documentation burden
- **LOWER WORK-RELATED FATIGUE** — Less administration load, improving nurse well-being and satisfaction
- **IMPROVED WORKFLOW EFFICIENCY** — Faster documentation turnaround and smoother care delivery
- **MORE TIME FOR PATIENTS** — More direct patient care and meaningful interactions
- **TIMELIER DOCUMENTATION** — Notes completed earlier, improving continuity of care
- **BETTER USE OF WORKING TIME** — Travel and waiting time maximised for productive documentation

6 INNOVATION: MAXIMISING EVERY MINUTE OF THE HOME VISIT

Speak2Care transforms non-productive travel and waiting time into documentation time.

1. **TRAVEL TO PATIENT HOME** — Previously unproductive time
   ~20–30 min of travel time per visit
2. **AI VOICE DOCUMENTATION** — Capture & convert on the go
   AI captures, transcribes and structures notes in real-time
3. **IV WAITING TIME** — Previously idle time
   ~15–20 min of IV therapy waiting time
4. **NOTES COMPLETED EARLIER** — More time for what matters
   Documentation done earlier, more time for patient care & education

7 IMPLEMENTATION

Speak2Care is practical, validated and ready to scale for sustainable impact.

IMPLEMENTATION

TARGET USERS	KTPH@Home nurses
PILOT PERIOD	May – July 2025
SCOPE	Home visits involving IV therapy patients
TOOLS	Speak2Care copy text to EPIC.
TRAINING & SUPPORT	Hands-on training and on-site support provided

Seamless integration into existing workflow.

8 VALIDATION METHODOLOGY

VALIDATION PROCESS

20 AI-GENERATED REPORTS → COMPARED WITH MANUAL REPORTS → INDEPENDENT REVIEW
- 2 Nurses
- 1 Medical Social Worker (MSW)

The MSW specifically reviewed social history documentation, ensuring the right expertise was applied to each domain.

SCORING SYSTEM

RATING	SCORE
Present & Accurate	1.0
Partially Accurate	0.5
Missing / Inaccurate	0

Maximum possible score: 20 reports × 4 domains × 1 point = 80
Each item scored as 1, 0.5 or 0 based on the rating.

VALIDATION RESULT

80% VALIDATED DOCUMENTATION ACCURACY ★★★★★

64 / 80 WEIGHTED SCORE

(20 REPORTS × 4 ASSESSMENT DOMAINS = 80 ITEMS)

AI-generated reports were validated against manually prepared reports by three independent nurse reviewers, one of whom was responsible for nursing documentation audits. Each reviewer evaluated the AI-generated reports across three domains: clinical findings, medication accuracy, and social history. Items were rated as accurate and complete, partially accurate, or missing/inaccurate.

9 CONCLUSION & IMPACT

EMPOWERED NURSES
Less administrative burden, lower work-related fatigue and greater job satisfaction.

BETTER PATIENT CARE
More time for direct patient care, education and meaningful interactions.

READY TO SCALE
Proven effective in pilot, seamless with existing workflow and ready for wider adoption.