Improved Patient-Provider Interactions in Telehealth Encounters Assisted by an AI-based Scribe

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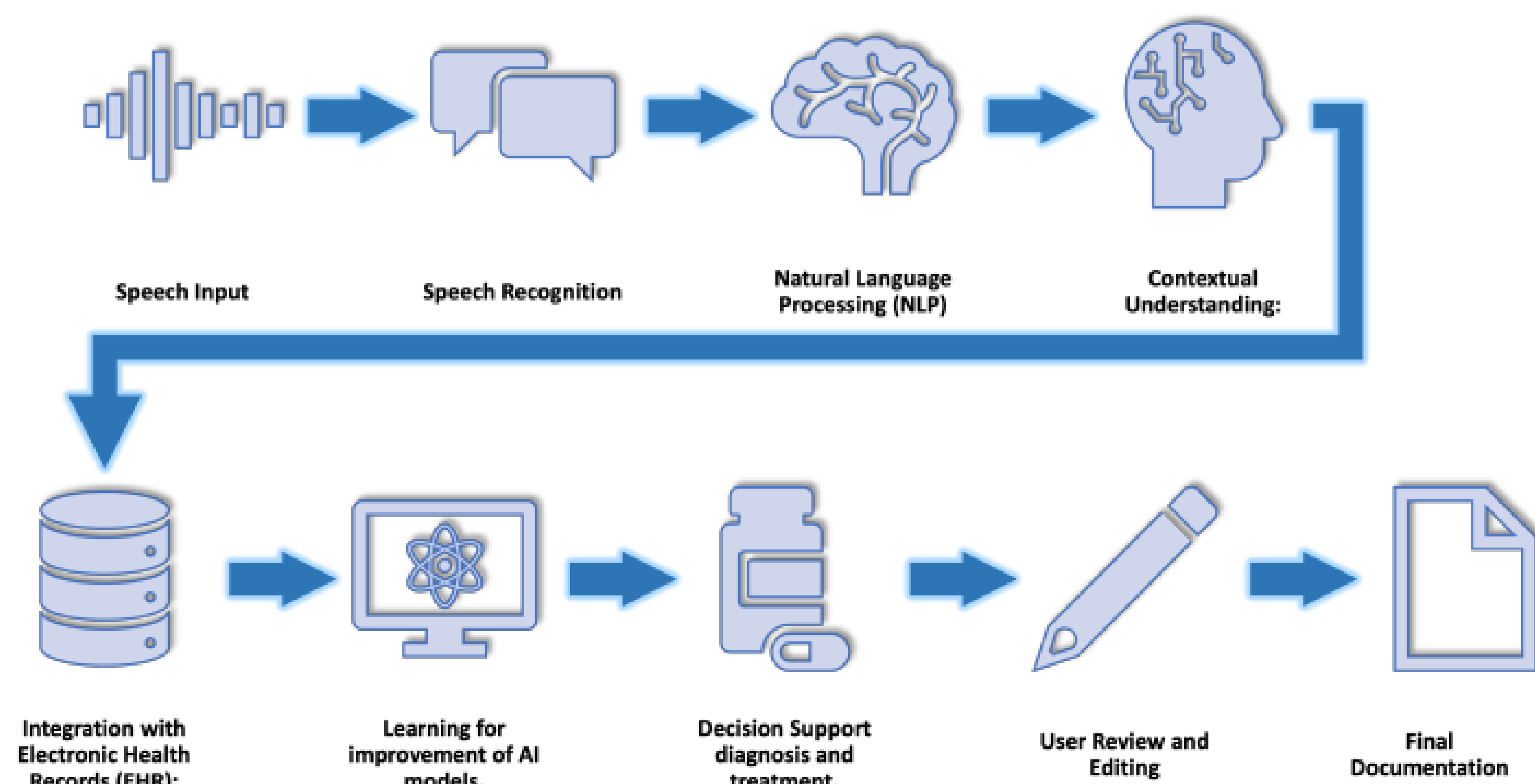
UMMC Center for Telehealth

INTRODUCTION

- Strong patient engagement can enhance Telehealth, making it a vital part of patient-centered care.
- Barriers to engagement include lack of personal connection and administrative tasks that hinder meaningful interactions.
- AI scribing helps by transcribing interactions, allowing providers to focus more on patient care.

This study explores the impact of AI scribing on provider experiences with technology and patient engagement.

HOW AN AI-BASED SCRIBE WORKS

Speech Input → Speech Recognition → Natural Language Processing (NLP) → Contextual Understanding:

Integration with Electronic Health Records (EHR): → Learning for improvement of AI models. → Decision Support diagnosis and treatment. → User Review and Editing → Final Documentation

https://www.linkedin.com/pulse/transforming-healthcare-glimpse-ai-revolution-satish-swarnkar-3a8vc

Example Note Generated by AI-based Scribe

Subjective:

Chief Complaint:
Brendan is a 75 year old male presenting today for medication refills and ongoing back pain.

HPI:
Patient reports needing refills for multiple medications including a a heart medication (R pressure medication (L-opril). Patient is unsure of the specific names and dosages for t have their wife send in a list.
Patient has been experiencing back pain for approximately three months, which began boxes. The pain is located over the left part of their buttocks and is described as a dull, and goes, lasting for a long time before subsiding and then returning. Patient denies an sensations. They report some leg weakness, which they attribute to a previous knee su

ROS:
ROS is otherwise negative, see HPI.

Current Medications:

Medication	Dose	Route	Frequency
R-statins (Rosuvastatin)	20 mg	Oral	Once daily
L-opril (Lisinopril)	10 mg	Oral	Once Daily

Allergies:

Allergen	Reaction
Ibuprofen	Asthma, hives
Penicillin	Hives

Objective:

Vitals:

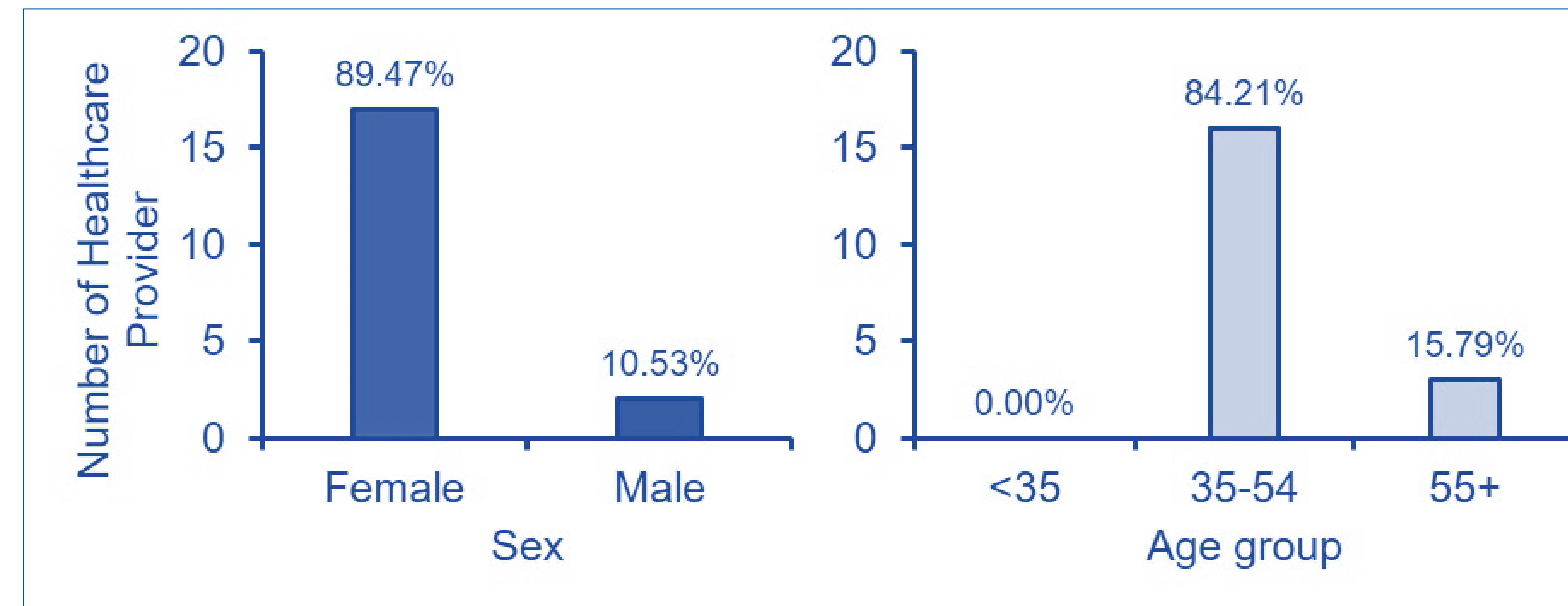|	
BP:	118/76
BP Location:	Right arm
Patient Position:	Sitting
Pulse:	72
Temp	97.8 F (36.6 C)

METHODS: Longitudinal Survey of Provider-Users

Group of Pilot Users
(n=19)
Specialties: Behavioral health (Psychiatry, social work, and counseling), geriatrics, and urgent care
Care setting: Virtual

Number of Healthcare Provider — Sex: Female 89.47%, Male 10.53%

Age group: <35 0.00%, 35-54 84.21%, 55+ 15.79%

AI Scribe Product
AutoScribe, (Ambience Healthcare, San Francisco CA)

RESULTS

Legend: Disagree / Neither agree nor disagree / Agree

BASELINE

My experience using EPIC (including documenting, reviewing, submitting, and revising the medical scribe) is associated with my feelings toward burnout.
57.89% | 21.05% | 21.05%

I am satisfied with the time I spend on EPIC (including documenting, reviewing, submitting, and revising the medical scribe).
15.79% | 21.05% | 63.16%

I have control over the workload related to EPIC (including documenting, reviewing, submitting, and revising the medical scribe).
21.05% | 31.58% | 47.37%

An AI-based digital scribe will improve my efficiency in documentation (including documenting, reviewing, submitting, and revising the medical scribe).
5.26% | 42.11% | 52.63%

I anticipate being comfortable using an AI-based digital scribe while providing Telehealth services.
10.53% | 31.58% | 57.89%

I anticipate using an AI-based digital scribe will increase the time I spend on patient engagement.
10.53% | 36.84% | 52.63%

1-month

Compared to the previous scribing method, my experience using the AI-based digital scribe (including documenting, reviewing, submitting, and revising the medical scribe) decreased my feelings toward burnout.
8.33% | 41.67% | 50.00%

Compared to the previous scribing method, I am more satisfied with the time I spent on documentation with the AI-based digital scribe.
8.33% | 25.00% | 66.67%

Compared to the previous scribing method, using an AI-based digital scribe increases the time I spend on patient engagement.
16.67% | 16.67% | 66.67%

I am satisfied with the quality of the AI-based digital scribe for Telehealth services.
33.33% | 66.67%

Legend: Disagree / Neither agree nor disagree / Agree

3-month

Compared to the previous scribing method, my experience using the AI-based digital scribe (including documenting, reviewing, submitting, and revising the medical scribe) decreased my feelings toward burnout.
7.69% | 30.77% | 61.54%

Compared to the previous scribing method, I am more satisfied with the time I spent on documentation with the AI-based digital scribe.
7.69% | 15.38% | 76.92%

Compared to the previous scribing method, using an AI-based digital scribe increases the time I spend on patient engagement.
23.08% | 76.92%

I am satisfied with the quality of the AI-based digital scribe for Telehealth services.
7.69% | 7.69% | 84.62%

61.5% of providers agreed that the AI-based scribe decreased feelings of **burnout**.

76.9% satisfaction with time spent on **documentation**.

76.9% of providers agreed that the AI-based scribe increased **patient engagement**.

84.6% satisfaction with the **quality** of the digital scribe.

CONCLUSION

- An AI-based scribe improves patient-provider interactions.
- Automating documentation tasks allows providers to focus more on patient care.
- Future work will focus on addressing cost-effectiveness of the AI-scribing tool.