Congressional Testimony: Advancing Care Through Artificial Intelligence

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Introduction to myself, and the scope of my testimony:

Dear Chairman, Ranking Member, and Members of the Subcommittee, thank you for the opportunity to contribute to the House Committee on Veterans' Affairs, Subcommittee on Health's hearing on *Advancing VA Care Through Artificial Intelligence (AI).* I am a scientist and entrepreneur focused on AI, with a special interest in its applications to healthcare. While the views I share in this testimony are completely my own, they are also informed by the professional experiences I have accumulated over the years. For this reason, I will begin this testimony with a brief introduction to my background to clarify where my expertise allows me to offer guidance, and where I'm less positioned to speak with authority.

I serve as a Professor of Computer Science at Michigan State University, where I direct the Human Augmentation and Artificial Intelligence Lab. My scholarly work over the last decade includes over 70 published scientific articles, a majority of which are related to AI for health. In 2021, I also served as a Data and Technology Advancement National Service Scholar at the National Institutes of Health (NIH), where I collaborated with multi-institution consortia on how AI can accelerate the pace and impact of health research nationally.

I am also the founding partner of Ghamut Corporation, a boutique AI consulting firm I established nearly 10 years ago with the mission of bringing cutting edge AI technologies from "the bench, to the bedside". Through both my research and professional practice, I have partnered with organizations across the public, private, startup, and nonprofit sectors including the NIH, Pfizer, Bayer, the Gates Foundation, Henry Ford Health System, and the Massachusetts General Hospital, to name a few.

It is from this combination of academic and professional practice that I draw the perspective I share with the Subcommittee herein. At the same time, I want to emphasize that I am not a veterans' health specialist. My guidance will therefore focus on the potential of AI to advance core healthcare values (values that are naturally relevant to veterans' care) while leaving veteran-specific operational considerations to those with more direct expertise.

The guiding framework for the suggestions provided herein:

In its invitation, the Subcommittee identified three objectives motivating its interest in AI: (i) transforming healthcare delivery, (ii) streamlining services, and (iii) improving outcomes. My testimony focuses on how AI can help realize these objectives through three complementary mechanisms: Automation (to reduce low-value work), Augmentation (to strengthen clinical decisionmaking), and Insights (to extract evidence from complex data). In the remainder of this testimony, I will take each objective, outline key problems that prevent its realization, and present concrete examples of how AI (through automation, augmentation, and insights) can help address them, supported by evidence from peer-reviewed studies and, where relevant, my own research.

Objective 1 - Transformation of Healthcare Delivery:
AI can improve what *happens in the clinical encounter itself.*

1.1 Automation - Less paperwork, more patient time. Problem: Clinicians spend too much time on administrative tasks (e.g. note taking). AI solution: Ambient AI scribes can passively listen to the visit, draft the notes, and upload them into the medical record. Evidence: A randomized trial found that doctors using AI scribes spent much less time on paperwork and finished notes faster; other studies reported visits felt smoother and doctors could focus more on patients (Mafi et al., 2025; Stults et al., 2025).
1.2 Augmentation - Faster and safer triage. *Problem:* In busy emergency departments, critically ill patients are sometimes missed or delayed because triage decisions must be made quickly with limited information. *AI solution:* Decision-support tools can help clinicians identify high-acuity patients earlier and cut the time from arrival to treatment. *Evidence:* A multi-site study showed AI helped nurses prioritize the sickest patients and cut time to treatment; results were best when nurses and AI worked together (Taylor et al., 2025;).
1.3 Insights - Detecting early deterioration during care. Problem: Patients can decline rapidly (for example, developing sepsis), and traditional monitoring often picks it up too late. AI solution: Early-warning systems trained on real-time clinical data can alert clinicians to subtle signs of decline hours before they become obvious. Evidence: Hospitals using an AI sepsis warning system gave antibiotics faster and saw better survival rates; experts noted benefits depend on strong clinical adoption (Adams et al., 2022; Kennedy & Rudd, 2022).

> ***Why it matters:*** *By reducing paperwork, improving triage, and detecting decline sooner, AI can make bedside care safer, timelier, and more patient-centered.*

Objective 2 - Streamlining healthcare services:
AI can make the "plumbing" of healthcare run more smoothly (everything around the visit itself).

2.1 Automation - Reducing no-shows through reminders. Problem: Missed appointments waste scarce clinical time, and delay care for others. AI solution: Automated text reminders and rescheduling systems can reduce no-shows. Evidence: Adding an extra AI-targeted text message cut missed visits by up to 11%, and reviews showed that text reminders consistently boosted attendance across systems (Simon et al., 2022; Wang et al., 2024).
2.2 Augmentation - Care coordination and referrals. Problem: Patients often face fragmented handoffs between primary care and specialists. AI solution: Augmentation tools can recommend optimal referral targets, flag missing information, and track whether referrals are completed. Evidence: D Digital "eConsult" programs cut specialty wait times and reduced unnecessary in-person visits (; ; Seven et al., 2024; Peeters et al. 2024).
2.3 Insights - Ensuring follow-up on incidental fundings. Problem: Patients sometimes receive unexpected findings on imaging or labs (for example, a lung nodule seen on a CT done for another reason). Too often, these findings are not tracked, leading to delayed or missed treatment. AI solution: AI-driven tracking systems and process-mining tools can monitor incidental findings, flag needed follow-ups, and ensure accountability across teams. Evidence:

Hospitals using AI-linked registries tracked lung nodules more reliably; this led to more patients being diagnosed at an earlier, treatable stage of cancer (Dyer et al., 2021; Carr et al., 2022).

> ***Why it matters**: More reliable scheduling, referrals, and follow-up mean patients spend less time waiting and are less likely to have critical findings overlooked.*

Objective 3 - Improving Patient Outcomes:
AI can enable a level of care personalization beyond the reach of clinicians alone.

3.1 Automation - Keeping chronic care on track. Problem: Patients with chronic diseases (such as diabetes or heart failure) often miss medications, labs, or follow-up visits, which accelerates disease progression. AI solution: Automated systems can track patient data across records and pharmacies, trigger reminders, and escalate when care gaps persist. Evidence: A Systematic review reported that text messaging interventions can reduce cardiovascular disease risk by improving medication adherence and reduce blood pressure (Martinez et al, 2025).
3.2 Insights - Targeted outreach for high-risk patients. Problem: Many patients at high risk for serious events (such as overdose, suicide, or readmission) are not identified in time for preventive action. AI solution: Predictive analytics applied to population-level health data can flag these patients for proactive outreach. Evidence: A clinical trial found that an AI tool spotting patients at risk of opioid misuse cut hospital readmissions nearly in half and saved costs (Afshar et al., 2025).
3.3 Augmentation - Guiding life-or-death decisions at the bedside. Problem: In critical care, prognosis is uncertain, and misjudgments can lead to premature withdrawal of care or misplaced resources. AI solution: Advanced models can provide time-sensitive predictions to support prognosis and guide decision-making. Evidence: My team's work showed AI analysis of brain-wave data more accurately predicts who will recover after cardiac arrest, helping avoid ending treatment too soon and focusing resources where recovery is possible (Ghassemi et al., 2019).

> ***Why it matters:** From everyday chronic disease management to critical care decisions, AI can personalize medicine in ways that extend lives, reduce suffering, and enhance long-term well-being.*

Conclusions:
Artificial intelligence is not a silver bullet, but the evidence shows it can already help with the Subcommittee's three objectives: transforming care delivery by giving clinicians back time at the bedside, streamlining services by reducing waste and missed opportunities, and improving outcomes by personalizing care beyond what any individual can track. The common thread is that AI succeeds when it reduces low-value work, strengthens (not replaces) clinical judgment, and turns complex data into actionable insight. Realizing these benefits requires disciplined pilots, clear success metrics, and strong guardrails for safety, equity, and privacy. If deployed with these principles, AI can return time from paperwork to patients, ensure that critical findings are not missed, and support life-or-death decisions with better evidence: delivering care that is more efficient, more responsive, and more humane for veterans. Thank you for the opportunity to testify.

Disclosures:

An AI tool was used only for minor copy editing tasks within this document, including punctuation, spelling, and small grammar corrections; the substantive content was written entirely by the author.

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