For AI in Primary Care, Start With the Problem

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We know that primary care physicians continue to struggle. Burnout rates remain high, with many clinicians resorting to cutting back hours as a bid to regain work-life balance.[1] For years, we've hoped that new technology might bring desperately needed relief, only for solutions to remain frustratingly out of reach. Now, the spotlight has shifted to generative artificial intelligence (AI)—tools like ChatGPT that promise to transform how we work, think, and deliver primary care. While their potential is great, we also risk spending the next 5 years waiting for AI to deliver a revolution, only to find ourselves even further behind.

The key will be to start with the right problem before jumping to solutions.

Remember the Segway? When it debuted in 2001, it was hailed as a groundbreaking innovation that would revolutionize transportation. Sleek, self-balancing, and undeniably futuristic, it was a new personal vehicle that came with grand promises of tackling gridlock, reducing emissions, and even eliminating the majority of our need to walk every day.

The Segway, of course, failed to deliver. The public quickly realized that it wasn't reliably faster than walking for short trips, and for longer ones, it just wasn't practical. Its sky-high price tag only reinforced the fact that it wasn't solving any problems that people actually faced. Almost nobody needed it, and ultimately few people wanted it. Today, it's considered a textbook example of a "solution looking for a problem."

Oddly enough, there's a modern-day counterpart to the Segway that shows how innovation can succeed when it focuses on a narrow, specific need. Rentable scooters—similarly sleek, two-wheeled, electric vehicles—are now fixtures on the streets of many US cities. Unlike the Segway, scooters took off by solving a specific problem: the "last mile" of urban commutes. Some distances feel too long to walk but too short to justify driving or taking public transit. Scooters, at least for some commuters, help fill that gap.

This isn't an endorsement of scooters—they come with their own issues. But like scooters, AI tools will need to be nimble, precise, and tailored to specific challenges in primary care to avoid ending up like another Segway.

Primary care's own "last-mile" problem isn't about transportation, of course—it's about time. Clinicians are simply spending too much of it working.

One study in *Annals of Family Medicine* found that full-time primary care physicians work over 11 hours per day, over half of which is spent on tasks in electronic health record (EHR).[2] Unsurprisingly, research at multiple institutions has also now shown a consistent link between extended time spent in the EHR and higher rates of burnout.[3,4]

Those hoping to deploy AI in primary care to help clinicians should consider the list of most time-consuming tasks in the EHR like a roadmap for success. The total time clinicians spend working, while not a perfect stand-in for burnout, is inescapably linked to work-life balance. It is also a simple metric that can help keep AI tools accountable. If we see clinicians gaining time back in their day, it will be a clear sign that a tool is helping us move in the right direction.

Fortunately, research is already shedding light on some of the most promising targets. One excellent report in *Annals* offered a detailed breakdown of how exactly physicians are spending time in the EHR.[2] Despite being published several years ago, its findings managed to foreshadow some of the most promising "scooter-like" AI tools today.

Documentation, the report showed, is the biggest EHR time sink for primary care. Given the link between burnout and time spent working in the EHR, it should be no surprise that AI-powered documentation is emerging as an exciting prospect in primary care. They promise to save clinicians time and, in turn, reduce burnout too.

While documentation topped the list of time-consuming tasks, others were close behind. Chart review takes nearly as much time as note-writing, and tasks like triaging laboratory results, managing medication refills, addressing patient messages, and order entry each take up substantial portions of the day.

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Medication management might be one of the most promising areas for time-saving solutions. One recent study found that clinicians working alongside an in-clinic pharmacy technician—someone to help with medication refills, fill issues, and prior authorizations—spent 8 fewer minutes in the EHR per visit.[5] Over a modest 15-visit day, this could add up to a stunning 2 hours of time saved. While not every clinic can afford to staff a dedicated pharmacy technician, this is precisely where AI can step in and transform the workflow. Modern AI tools, equipped with advanced reasoning and natural language capabilities, can automate many routine tasks and streamline workflows. When a human touch is still needed, AI can dramatically reduce the time clinicians spend addressing issues. At their best, these tools could even empower team members to resolve more issues independently, reducing the need for clinician input.

Identifying the right targets for AI is only the first step. At the recent Artificial Intelligence in Medicine (AIME) conference, feedback from clinicians about AI-powered documentation tools was decidedly mixed. Although these tools showed promise in some situations, a common frustration was they did not consistently reduce the time spent writing notes. For some, AI-generated notes felt more like rough drafts, often requiring as much time to edit as to write them from scratch.

These critiques are not unique to AI—they echo long-standing frustrations with traditional clinical tools that have fallen short of their promise. A recent systematic review in *Annals* underscored this point, highlighting how clinical decision support tools have often increased, rather than decreased, clinician workload.[6] Modern AI tools have great potential to overcome these pitfalls, but their success will depend on an unwavering commitment to saving clinicians' time.

It will be easy to feel disheartened by early missteps as AI solutions descend on primary care. We should remember that imperfect beginnings are a natural part of innovation, perhaps even best viewed as an open call for deeper collaborations. At AIME, entrepreneurs and developers made it clear they are eager to tackle the challenges of primary care, but often struggle to find the right clinical partners. For these innovators, clinician feedback isn't just valuable, it is indispensable for making tools that work in the real world.

Academic medicine has an essential role in bridging this divide. Progress will not come from simply diagnosing where clinicians lose time to the EHR. It will require a deeper investigation into why current solutions—AI-driven or not—have failed to deliver. For those shaping the direction of AI research funding, this means a shift in focus. We should require that at least as much effort goes into diagnosing the root causes of inefficiency as designing new tools to address them.

Equally important is rethinking how we use our national primary care conferences—not just AI-focused ones like AIME—but the broader ones that draw the full spectrum of primary care professionals. These venues can serve as vital hubs for connecting clinicians, researchers, and technology innovators. Meaningful partnerships between academic institutions, industry, and frontline care teams are more likely to flourish when there is space for exchanging ideas and feedback.

A final theme that emerged at AIME was the concern that any time saved by AI might just get replaced with additional work—more patients, more administrative responsibilities, or new responsibilities altogether. Similar sentiments have been shared by clinicians elsewhere, too.[7]

No matter how advanced, technology alone cannot fix the deeper issues rooted in how we organize and deliver primary care. AI will not shrink ballooning patient panels or outmaneuver overloaded schedules. Technology can only be as effective as the system in which it operates, and primary care clinicians will only reap the benefits of AI if it is implemented in organizations that sincerely prioritize clinician well-being and patient care.

After all, AI is just one tool—a means to an end, not the end itself. Whether powered by AI or by pen and paper, meaningful solutions for primary care clinicians will need to help where they need it most: lightening the workload. And in that mission, AI has the potential to be a part of a healthier, more sustainable future for primary care.

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