



Editorial

The Final Step in Delivering Precision Medicine at the Point of Care

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Precision Medicine represents a paradigm shift from classic Western medicine. Its foundation lies in the comprehensive evaluation of an individual patient's genetics, environment, medical and surgical history, social determinants, and biomarkers to understand their unique disease susceptibility, progression rates, and complication risks—factors that distinguish them from others in their family or community.

Building and delivering Precision Medicine systems faces significant challenges. One of the earliest and most persistent barriers is extracting actionable insights from electronic health records (EHRs). Medical coding in EHRs is driven by billing requirements rather than precise disease descriptions. Diagnoses are often syndromic—defined by clusters of clinical and pathologic features—rather than mechanistic. Moreover, formal disease labels typically emerge late in the clinical course and fail to capture the underlying stressors, dysfunctional responses, disease trajectory, complications, or optimal management strategies.

Excitement around artificial intelligence (AI) is understandable and justified. AI has achieved remarkable early successes in medicine, particularly in domains with highly structured data and clear mathematical, physical, or pattern-recognition solutions, such as radiology, pathology, dermatology, ophthalmology, and endoscopy.

However, major limitations persist when addressing complex, multifactorial disorders. These conditions involve varying degrees and mechanisms of cellular dysfunction, compounded by individual differences in defense mechanisms, physiologic reserve, environmental exposures, and other variables. In such cases, AI can assist by sorting differential diagnoses and summarizing societal guidelines or systematic reviews. While valuable, this remains a backward-looking tool that does not fully “crack the code” for true personalized care.

Recognizing these limitations, researchers are valiantly integrating mechanistic modeling with machine learning and other AI approaches to improve diagnosis and management of complex chronic diseases. Yet, all such efforts must ultimately converge at the point of care—where real-time decisions are made by clinicians caring for individual patients.

The *SMART-MD Journal of Precision Medicine* was created to fill this critical gap. When facing a complex clinical decision, healthcare providers want to know: What would a true expert do when confronted with a similar patient and similar set of challenges?

To achieve this, the Journal is systematically assembling an outstanding editorial board of recognized leaders in key fields—beginning with digestive diseases, metabolic disease, pain, and pharmacogenetics. These experts are commissioned to leverage their clinical and scientific networks to recruit authors who can clarify ambiguous situations and offer practical, evidence-informed recommendations. In areas where multicenter trials and consensus guidelines are absent or insufficient, these contributions provide forward-looking, mechanistically grounded clinical decision support.

In this way, the Journal bridges the gap between AI's strength in rapidly synthesizing established knowledge and the real-world needs of clinicians treating patients with unusual or complicated conditions. We believe readers of the SMART-MD Journal of Precision Medicine will embrace this vision. We invite experts to share their insights and clinicians to actively engage with the high-quality, peer-reviewed manuscripts developed by true authorities in their field.

Abbreviations: AI, artificial intelligence, EHR, electronic health records

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