emedley

AI in the Classroom and the Clinic

A Practical Guide for Health Science Program Administrators

Navigating the AI Integration Challenge

AllofE Solutions

Executive Summary

Artificial intelligence is arriving in health science education faster than most programs have prepared for. Generative AI tools are already being used by students to draft clinical notes, prepare for exams, and research diagnoses — with or without institutional guidance. At the same time, AI-driven platforms are beginning to reshape how programs design assessments, identify at-risk students, and deliver personalized learning experiences. The global AI in healthcare market is projected to grow to approximately $67.4 billion by 2029, and the educational sector is not exempt from this transformation. For health science program administrators, the question is no longer whether to engage with AI, but how to do so in a way that upholds academic integrity, prepares students for AI-augmented clinical practice, and preserves the accreditation-defensible documentation that programs depend on. This paper examines where AI is having the most immediate impact in health science education and offers a framework for institutional engagement.

The Challenge: AI Is Already in the Room

Health science programs are encountering AI on two fronts simultaneously. The first is student use of generative AI tools — large language models capable of generating clinical reasoning narratives, answering board-style questions, and producing written assignments of publishable quality. A 2025 systematic review published in PMC found that health science students and faculty have divergent perspectives on AI integration: students generally view AI tools as useful learning aids, while faculty express concern about the erosion of foundational reasoning skills and the difficulty of distinguishing AI-generated work from genuine student effort. Both perspectives are grounded in legitimate evidence.

The second front is institutional adoption of AI-powered educational tools. Adaptive learning platforms, AI-driven question generation, and predictive analytics systems that identify students at risk of underperformance are moving from pilot programs to mainstream products. A 2025 randomized controlled trial published in Frontiers in Medicine found that medical students using an AI-driven personalized learning platform demonstrated significantly better academic performance and self-directed learning outcomes than a control group using traditional instruction — a finding consistent with a broader body of research on adaptive learning in health science contexts.

The challenge for administrators is that these two realities — unmanaged student AI use and emerging institutional AI tools — are arriving simultaneously, without clear regulatory

guidance from most accreditation bodies and without consensus on how to define appropriate AI use across different types of assessments. Programs that attempt to ban AI entirely face a credibility problem: they are training students for a profession where AI-assisted clinical decision-making is already standard. Programs that adopt AI tools without thoughtful implementation risk undermining the assessment validity their accreditation depends on.

Why This Matters Now

Accreditation bodies are beginning to weigh in. The AAMC's 2025 framework for integrating AI into medical education emphasizes a human-centered approach, ethical use, equitable access, and continuous evaluation of AI tools — but stops short of prescribing specific implementation models. The AAMC's 2023 initiative on competency-based education in telehealth included AI-augmented clinical encounters as a modality for achieving educational competencies, signaling that AI is now part of the legitimate clinical education toolkit. Programs that have developed no institutional position on AI are increasingly out of step with their accreditor's direction of travel.

Harvard Medical School leaders, writing in 2025, described AI and generative tools as a "game changer" for medical education while cautioning that the benefits depend entirely on how AI is integrated into learning environments. Their view — shared by a growing body of health education researchers — is that programs must actively prepare faculty to engage with AI tools rather than simply prohibiting them, and that the curricula of the future will include explicit AI competencies alongside traditional clinical skills. A 2025 research roadmap published in BMC Medical Education identified AI's application to formative assessment, adaptive testing, and predictive analytics as the three highest-priority areas for near-term development, noting that machine learning systems can now identify students at risk of underperformance with up to 88% accuracy.

Current Approaches and Their Limitations

Most health science programs have responded to the AI challenge with policy rather than infrastructure. An honor code update that prohibits unauthorized AI use on graded assignments is a reasonable starting point, but it addresses only one dimension of a multi-dimensional problem. It does nothing to prepare students for AI-augmented clinical environments, nothing to help faculty develop AI literacy, and nothing to position the institution to take advantage of AI tools that could meaningfully improve learning outcomes.

Programs that have moved beyond policy to actual AI tool integration frequently encounter the same structural limitation: AI-generated insights live outside the systems that programs rely on for accreditation documentation. A predictive analytics dashboard might flag a student as high-risk based on early assessment performance, but if that flag does not flow into the advising and evaluation records maintained in the program's primary platform, it will not inform the faculty response or appear in the accreditation evidence. The insight exists, but it cannot be acted on within the existing data infrastructure.

For assessment specifically, the arrival of AI creates a meaningful challenge for programs that rely on written assignments, case analyses, or open-ended exam questions as their primary evidence of student competency. A 2025 review noted that AI-driven grading tools offer consistency and elimination of human subjectivity, but also that the assessment methods most vulnerable to AI substitution are often the ones programs have not redesigned since they were originally introduced. Programs that have invested in building structured, observation-based assessment systems — grounded in direct clinical observation rather than written artifact — are better positioned to maintain assessment validity in an AI-rich environment.

A Better Path Forward: Structured Engagement over Blanket Policy

The programs making the most progress on AI integration share a common approach: they are treating AI as a curriculum and assessment design challenge, not primarily a policy enforcement challenge. This means explicitly mapping AI competencies into the curriculum — deciding which skills students should have with AI-assisted clinical reasoning, AI-generated patient communications, and AI-augmented diagnosis — and then designing assessments that evaluate those competencies directly rather than treating AI use as a binary violation.

On the assessment side, the programs best positioned for an AI-augmented future are those that have invested in direct observation, structured clinical evaluations, and formative feedback systems that produce accreditation-valid documentation by design. When a student's clinical competency is evaluated through a structured preceptor observation tied to a specific milestone — rather than through a written case analysis that could be AI-generated — the program's assessment evidence is inherently more robust. Platforms that support high-volume, low-friction clinical observation and evaluation make this shift operationally feasible for faculty.

For program administrators, the immediate priority is developing an institutional position on AI that is honest about the clinical reality students are training for, specific about which assessment contexts require demonstration of unassisted reasoning, and connected to a curriculum map that shows where AI competencies are being developed. eMedley's eCurriculum module supports exactly this kind of mapping — allowing programs to explicitly tag sessions, experiences, and assessments against AI-related competencies as they are added to the framework, producing a curricular evidence trail that satisfies accreditor requests for documentation of emerging competency areas.

Key Takeaways

- AI use by health science students is already widespread and will not be reversed by policy alone — programs must develop institutional positions that engage with AI as a clinical reality rather than treating it exclusively as an academic integrity threat.
- The global AI in healthcare market is projected to reach $67.4 billion by 2029; health science programs that do not explicitly prepare students for AI-augmented clinical environments are creating a competency gap at graduation.
- Machine learning-powered predictive analytics can identify students at risk of underperformance with up to 88% accuracy — but these insights only improve outcomes when they are connected to advising and evaluation systems that faculty actually use.
- Assessment methods most vulnerable to AI substitution (written case analyses, open-ended responses) are also those most in need of redesign; programs should prioritize structured, observation-based evaluation that produces valid competency evidence regardless of AI availability.
- Accreditation bodies including the AAMC are now publishing AI integration frameworks — programs without an institutional position on AI are increasingly misaligned with the direction their accreditors are traveling.

About eMedley

eMedley, by AllofE Solutions, is the most comprehensive platform for health science education programs, serving medical, nursing, PA, dental, pharmacy, physical therapy, and other programs across the United States. eMedley's integrated suite — including eCurriculum for competency mapping, eValuate for structured clinical evaluations, examN for secure and flexible assessment administration, and eduCATE for learning management — provides the

assessment infrastructure health science programs need to maintain accreditation as AI transforms the educational landscape. To learn more, visit https://www.emedley.com/ .

References

1. PMC. "Artificial Intelligence in Health Education and Practice: A Systematic Review of Health Students' and Academics' Knowledge, Perceptions and Experiences." 2025. https://pmc.ncbi.nlm.nih.gov/articles/PMC12183008/
2. Frontiers in Medicine. "Evaluation of the impact of AI-driven personalized learning platform on medical students' learning performance." 2025. https://www.frontiersin.org/journals/medicine/articles/10.3389/fmed.2025.1610012/full
3. AAMC. "Competency-Based Medical Education (CBME)" and AI in telehealth integration. https://www.aamc.org/about-us/mission-areas/medical-education/cbme
4. Harvard Medical School Professional Education. "Exploring Current Trends in Medical Education." 2025. https://learn.hms.harvard.edu/insights/all-insights/exploring-current-trends-medical-education
5. BMC Medical Education / PubMed. "A research roadmap for AI opportunities in student assessment for medical education." November 2025. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC12659470/
6. PMC / Cureus. "Artificial Intelligence in Medical Education: Transforming Learning and Practice." March 2025. https://pmc.ncbi.nlm.nih.gov/articles/PMC12007958/
7. Stanford Lane Medical Library. "AI in MedEd: Curated Papers." https://laneguides.stanford.edu/medical-education/AI-in-MedEd-Papers