

The Brightest Physician in the Room: AI, Professional Recognition, and the Experience of Knowing

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Research Article

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Abstract

Generative AI can make sophisticated clinical performance available faster than the professional formation such performance ordinarily suggests. In medicine, a brief answer in a case conference can stand in for years of study, error, correction, and experience: colleagues read performance backward and infer the professional history behind it. Generative AI changes that temporal relation. A physician may interrogate a system, verify evidence, revise an initial view, and genuinely improve her understanding within hours, then enter the clinical room with a contribution that is accurate, useful, and worthy of trust. She also remembers exactly how recently that understanding became possible. This essay examines the resulting separation between visible performance, professional recognition, integration, and professional self-understanding. Research on professional identity, AI-assisted work, peer attribution, and metacognitive calibration helps show why neither colleagues nor the physician can determine the depth of a newly acquired capability from a single successful episode. Its significance becomes clearer as later cases require adaptation, revision, and resistance to plausible outputs that no longer fit. As generative AI enters professional formation itself, physicians and their communities may increasingly have to judge expertise through what understanding does over time, especially when later cases alter the conditions in which that understanding first formed.

Full Text

"Become the brightest physician in the room." The phrase appeared in an advertisement for an artificial-intelligence tool built for physicians. The product promised faster access to medical knowledge and attached that promise to the person using it. The physician was invited to imagine becoming brighter somewhere other people could see it. A tool for finding and organizing knowledge was being presented as a way of becoming a certain kind of colleague. Medicine makes that promise immediately legible because much of its knowledge is exercised in company: at the bedside, during handover, in the brief exchange before a difficult procedure begins. What a physician knows becomes visible through what she notices, how she frames uncertainty, and what others decide to do with her judgment. The advertisement begins with access to information and places its promise in a social setting where capability is visible to others.

Physicians know this room. A difficult question comes up on rounds and someone remembers the relevant study. At a case conference, one person notices the detail that changes the discussion. Formal qualifications establish who is entitled to participate; daily work gradually establishes whose judgment carries weight when the case becomes difficult. Colleagues remember how someone reasons under uncertainty, which opinions survive contact with the patient, and who is worth asking again. Much of that recognition is quiet. It is carried in who gets called before a difficult referral is accepted and in whose hesitation is enough to make a team look again. A colleague who brings the next difficult case to the same person has already said a great deal. Clinical teams need these working judgments because decisions are made before every uncertainty has been resolved. Repeated performances become part of a department's memory, and that memory helps allocate trust when the next difficult case arrives.

The physician receiving that trust learns from it as well. Training changes what can be seen and done so gradually that progress is often easiest to notice when another person begins to rely on it. A pattern that once required deliberate reconstruction becomes familiar. A question that once produced silence now has an answer, and eventually somebody asks for that answer. Quaintance and colleagues described a related process among fifty-two graduating medical students across four schools: signals of competence, mattering, and belonging helped shape how students understood their emerging professional identities(Quaintance et al. 2025). Their findings belong to the period of training, when these signals are especially visible. Later clinical life supplies different forms of feedback through the judgments that are sought, deferred to, or passed over. A senior physician may have long outgrown the formal signals of training. The reactions of respected colleagues can still tell her something about how her work is being received and about the place she has come to occupy within a professional community.

Those signals retain force because medicine gives its practitioners few opportunities to regard competence as complete. The literature expands, recommendations are revised, techniques evolve, and experience keeps exposing exceptions to what once seemed settled. A physician can be trusted with today's difficult case and meet tomorrow's with genuine uncertainty. Completion cannot serve as a measure of progress because completion never arrives. The physician has to judge development while still inside the process, using partial signs: problems that now become intelligible more quickly, decisions that hold up under scrutiny, questions that colleagues increasingly bring to her. These signs give direction without certifying an entire career. An attending stops correcting every step. A colleague returns because the last discussion was useful. Success witnessed by people whose judgment she respects becomes one of the ways an unfinished professional self acquires evidence that its development is going somewhere.

Byung-Chul Han's achievement-subject gives a wider vocabulary to this condition. In his account, the self becomes an ongoing project, continually open to further development and increasingly responsible for producing its own improvement (Han 2020). Medicine intensifies that experience because the object of mastery keeps moving. One can know more than five years earlier and, through the same growth, become more aware of everything still outside one's grasp. Recognition offers provisional evidence within that incompleteness: something the physician has learned to do has become apparent in practice to colleagues capable of judging it. The evidence remains revisable. The colleague who seeks an opinion today may disagree tomorrow, and the difficult case that confirms one strength may expose another limit. Medicine also retains examinations, credentialing, audit, and recertification, disciplinary structures that Han's broader periodization tends to understate (Alphin and Debrix 2023). Institutional measurement and the quieter judgments of practice accompany the same unfinished career. The latter arrive in moments, even though the capability they appear to recognize has usually been formed across a much longer span of time.

The capability being recognized usually has a long chronology. Reading accumulates, cases recur, and errors alter the way later cases are seen. A treatment that worked repeatedly may fail in one patient for

reasons that become unforgettable. A diagnosis first encountered as a list of criteria acquires a different texture after being missed once and recognized later in a less typical form. Some lessons take shape only after consequences have had time to return. Years of practice change which details attract attention, which uncertainties remain bothersome, and how quickly a familiar-looking case is recognized as a different problem. They change the threshold for confidence as well. The inexperienced physician may know the rule and still lack a feel for the conditions under which it should be distrusted. With experience, those conditions are often noticed earlier. This kind of learning is difficult to date. It has no single moment of acquisition and may become visible only when a new case unexpectedly calls it forward. Its history is dispersed across encounters that no colleague present today has witnessed.

When that history is called upon, colleagues usually encounter only its visible result: an answer, an interpretation, a recommendation offered at the right moment. From that brief event they infer something much longer. Listeners read the performance backward and imagine the formation that produced it. A sophisticated answer suggests previous study, exposure to related cases, correction after earlier mistakes, and some likelihood that the speaker will recognize the next relevant variation when it appears. The inference has always been imperfect. Fluency can exaggerate depth, uncertainty can hide it, and a junior physician can know one narrow problem better than the most experienced person in the room. Clinical life still depends on these estimates because the full biography behind another person's judgment is rarely available when a decision has to be made. A brief performance serves as a practical proxy for a formation that remains mostly out of sight.

Generative AI changes the temporal relationship between that visible performance and the history normally inferred from it. Physicians have always used knowledge outside their own memory: textbooks, journal searches, guidelines, colleagues. A generative system brings several of those acts into one conversational space and makes them available at very low friction. It can retrieve evidence, explain a mechanism, compare interpretations, expose a disagreement in the literature, and refine an answer while the physician continues to question it. Consultation can sit unusually close to public performance. The interval between realizing that one does not know and being able to speak coherently about the problem can shrink to an evening, sometimes to minutes. The room can then encounter a performance whose fluency resembles longstanding familiarity even though part of the understanding that supports it emerged only hours earlier.

Consider a physician preparing for a multidisciplinary meeting. She knows the patient well, though one narrow technical question lies in a field she understands only superficially. The evening before, she asks an AI system to reconstruct the issue. She follows the evidence it suggests, checks the cited studies, and pushes back on its first recommendation until she understands why one approach may fit this particular anatomy better than the alternative she had assumed. The exchange reorganizes how she sees the problem. Before closing the system, she tries to explain the distinction in the few sentences she expects to need the next morning and removes one detail that would distract from the decision in front of the group.

The question arises the next morning. Her answer holds up. A specialist adds a small qualification, the group weighs the option more carefully, and someone asks afterward for the study she mentioned. The patient benefits from a better discussion. The physician has contributed real work by recognizing the limit of her knowledge, testing the system's output, checking what mattered, and integrating what she learned into a decision about this patient. The episode gives everyone present good reasons to regard the contribution as useful. For a few minutes, there is little more to say about it.

She remembers where her understanding ended the evening before: the study she had never read, the connection that became clear only partway through the exchange, the point at which the anatomy began to make sense differently. Her colleagues have seen the answer; she has seen its provenance. What remains private is the sequence by which uncertainty became understanding and the speed with which that sequence unfolded. That memory matters because successful performance ordinarily teaches a physician something about what she can do. A procedure that grows easier, a diagnosis recognized earlier, an explanation that survives challenge: such experiences gradually alter the range of situations in which a physician expects herself to be capable. This success enters the same process of self-assessment with one unusual feature: the physician can remember almost minute by minute how quickly her understanding changed.

She can now give the answer and explain why it matters. That is already a change in capability. What the change will do in another situation is less clear. A later case may preserve the same anatomy and change the comorbidity; another may alter the trade-off that made yesterday's recommendation sensible. The first encounter may have added facts, clarified relations among them, and begun to change how the problem is seen. What these changes amount to becomes clearer only when the understanding meets conditions that differ from those in which it first formed. Their depth begins to show when a changed balance of reasons is noticed, an earlier explanation requires revision, or a plausible suggestion no longer fits. Her knowledge of provenance informs a larger act of self-interpretation: deciding what this success now permits her to expect from herself when the next case does not cooperate with the first one.

Professional capacities become legible through this history of use. They are exercised, challenged, corrected, and brought back to cases that only partly resemble the first one. A differential diagnosis encountered in a textbook may be perfectly understood; years later, after having missed it once and recognized it in several different forms, the physician responds to it differently because experience has changed what she notices and when she feels uneasy. AI can make a useful understanding available before much of this later history exists. The first successful use may already constitute learning, and subsequent cases may deepen it quickly. Integration becomes progressively visible in the way understanding responds when conditions shift: whether an earlier explanation can be revised, whether a convincing system output is rejected when it no longer fits, whether the information can be contextualized for the patient whose situation now differs. No feature of the first interaction can settle that question in advance. Its answer accumulates through what happens when later cases require the understanding to change.

The manner of participation may shape how this process begins. Lee and colleagues found, in a preregistered experiment and follow-up survey involving non-medical occupational tasks, that passive reliance on AI was associated with lower self-efficacy and psychological ownership, whereas a more active form of collaboration preserved more of both (Lee et al. 2026). Their operationalization of active collaboration differed from the clinical exchange described here. How people participate in AI-assisted work can affect the agency and ownership they experience in relation to the resulting performance. For the physician in the meeting, the manner of participation is already part of what she has to interpret when deciding what the successful episode tells her about her developing capability.

That private interpretation is already running alongside a public one. The room has heard the answer and has used it to update its judgment of the physician. If the room also learns how the answer was produced, the inference can change. Yang and colleagues tested this in a randomized experiment in which 276 practicing clinicians evaluated hypothetical clinical vignettes describing a physician who decided independently, used GenAI as the primary basis for a decision, or used GenAI to verify a decision. Physicians described as relying primarily on GenAI received lower ratings of clinical skill and competence; verification produced a smaller penalty (Yang et al. 2025). Undisclosed use was outside the experiment's design. Within the conditions tested, provenance changed how clinicians rated the physician associated with an otherwise identical recommendation.

That social meaning is already audible in ordinary language. "I looked this up last night" describes preparation that medicine has long absorbed into ordinary professional practice. "I worked through this with an AI system last night" can carry a different implication even when the activity included checking primary sources, testing an initial view, and revising it. The wording gives listeners a compressed story of how the answer became available, and that story influences the professional history they infer from the performance. The physician possesses a much richer account than any brief disclosure could provide: she remembers the sequence by which confusion became understanding and which parts of that sequence still feel new. Her privileged access to that history gives her more material for self-interpretation, though it cannot reveal in advance how the understanding will behave in situations she has not yet encountered.

Remembering how an answer became possible still does not tell the physician exactly what the success says about her present capability. Fernandes and colleagues found in two studies of non-medical reasoning that AI-assisted participants improved their task performance while self-assessment remained imperfectly calibrated (Fernandes et al. 2026). Because the tasks were non-medical, the study bears on this argument only at the level of calibration: assisted performance can improve faster than a person can determine exactly what that success says about underlying capability. The physician's richer knowledge of provenance gives her a better basis for interpretation without completing the interpretation for her.

The room and the physician are reading the same event from different positions, and neither position contains the whole longitudinal story. Colleagues may infer more domain depth than she feels able to

claim after one evening of preparation. They may also rate an AI-assisted contribution differently once its provenance is known, even when the physician has learned substantially from the interaction. The physician remembers more of the process, and future variation remains unavailable to her as well. Generative AI makes a longstanding ambiguity easier to see by shortening the path to the performances on which both social and personal judgments rely. Recognition and self-recognition can develop at different speeds, each revisable as new cases add evidence.

Professional recognition matters because it converts a history that remains largely private into a public judgment about what that history has produced. Another physician listens, relies on the recommendation, or returns with the next difficult case. AI-assisted success can accelerate the arrival of such judgments before the person receiving them has accumulated enough later experience to interpret the same performance with equal confidence. The physician may welcome the recognition and still experience a lag between what colleagues appear ready to attribute to her and what she is ready to infer about her own developing capability. The discomfort comes from wanting professional recognition to correspond, in some reasonably direct way, to the physician she understands herself to have become.

One meeting can leave that tension relatively contained. Ordinary practice extends the sequence. The colleague returns with another difficult case. Something learned in the first exchange becomes relevant again, then requires modification because the patient differs in a way that changes the problem. The room updates its judgment; the physician updates her expectations of herself. Being asked once may mean little. Being asked repeatedly changes one's place in a professional community and also changes what one comes to expect from one's own attention and judgment. The effect is rarely experienced as a deliberate revision of identity. Months later the physician may notice, without having planned to, that a problem which once required an evening of reconstruction now attracts her attention differently from the start. The earlier interaction has become part of the way she sees.

As such episodes recur, AI-mediated work is part of the history through which the physician learns what she can reliably notice, interpret, and do. Lavercombe has argued that generative AI may relocate some of the uncertainty involved in workplace learning and professional identity formation (Lavercombe 2026). Terlinden and colleagues, interviewing nineteen Belgian medical specialists using AI clinically, found physicians already negotiating, case by case, how much weight to give an AI contribution, when it should be overridden, and how professional authority and responsibility are maintained around its use (Terlinden et al. 2026). Each encounter leaves behind clinical learning and modifies the physician's sense of how she works when a system participates in the reasoning, sometimes only slightly. These episodes can alter what she regards as a normal route to understanding, which uncertainties prompt additional help, and how she interprets success when that success has been produced through a changing combination of prior experience, new evidence, and AI-mediated inquiry.

A capacity developed through repeated AI-mediated practice can become part of genuine expertise as it is tested against variation and consequence. An explanation that was convincing in one patient may need to be reworked when anatomy or comorbidity changes the balance of reasons. A fluent

recommendation may lose its force when one detail makes the evidence less applicable. Depth becomes visible in the physician's response to these changes: she notices the mismatch, revises the interpretation, gives a plausible system output less weight when the case requires it, and accepts responsibility for the decision that follows. New AI-assisted performances can arrive before earlier ones have finished being integrated, which keeps self-calibration open-ended. Professional formation in this setting includes repeated recalibration as new AI-assisted performances enter a history that is still being interpreted.

Those moments of variation also give colleagues richer evidence about the capability they are trying to recognize. As fluent answers become easier to produce, a first polished response may reveal less about the history behind it. The more informative episode may come later, when the earlier answer no longer fits cleanly and the physician has to reopen the problem, detect the exception, or carry an insight into a case that requires a different conclusion. What the room observes then is another performance, one that places greater demands on whatever has been learned since the first. These later responses give colleagues another basis for the practical judgment they have been making all along: how much trust to place in this physician when the next case proves difficult.

I recognize the attraction of the advertisement because being useful in a difficult discussion and earning the trust of colleagues one respects are ordinary satisfactions of medical work. Such moments can carry years of training within them, which is part of why they matter. AI adds a private layer to some of them. A physician can receive intellectual credit for an answer and know, more intimately than anyone hearing it, how recently parts of that understanding became available and how much the system contributed to making them intelligible. The credit may be appropriate. Its place within the physician's own sense of development remains something that subsequent practice continues to revise.

At the end of the meeting, the patient has a better plan and the physician has made a sound contribution. She remembers where her understanding stood the previous evening and how the conversation with the system changed it. The meeting is already part of her professional experience. A later case will resemble this one closely enough to call that understanding forward and differ enough to unsettle it. What she notices then, and how her judgment changes with the case, will become part of the same professional history that is still taking shape.

Declarations

Author Contribution

A.M. wrote the main manuscript

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References

1. Alphin, Caroline, and François Debrix. 2023. Biopolitics in the 'Psychic Realm': Han, Foucault and neoliberal psychopolitics. *Philosophy & Social Criticism* 49: 477–491. <https://doi.org/10.1177/01914537211033011>.
2. Fernandes, Daniela, Steeven Villa, Salla Nicholls, Otso Haavisto, Daniel Buschek, Albrecht Schmidt, Thomas Kosch, Chenxinran Shen, and Robin Welsch. 2026. AI makes you smarter but none the wiser: The disconnect between performance and metacognition. *Computers in Human Behavior* 175: 108779. <https://doi.org/10.1016/j.chb.2025.108779>.
3. Han, Byung-Chul. 2020. *The Burnout Society*. Stanford University Press. <https://doi.org/10.1515/9780804797504>.
4. Lavercombe, Mark. 2026. From doing to being: Generative AI, workplace affordances, and professional identity. *Medical Teacher*: 1–3. <https://doi.org/10.1080/0142159X.2026.2710213>.
5. Lee, Elena Hayoung, Yidan Yin, Nan Jia, and Cheryl J. Waksalak. 2026. Relying on AI at work reduces self-efficacy, ownership, and meaning while active collaboration mitigates the effects. *Scientific Reports* 16: 13583. <https://doi.org/10.1038/s41598-026-42312-6>.
6. Quaintance, Jennifer L., Thuy L. Ngo, Marjorie D. Wenrich, David Hatem, Meg G. Keeley, Jessica M. Lewis, Brian E. Mavis, Silvia L. Olivares, Robert B. Shochet, and Maya G. Sardesai. 2025. Competence, mattering and belonging: An evidence-based and practical approach to understanding and fostering medical student professional identity formation. *Medical Teacher* 47: 2033–2044. <https://doi.org/10.1080/0142159X.2025.2500568>.
7. Terlinden, Laurianne, Aurélie Verachtert, and Jellis Bollens. 2026. AI in Healthcare: Identity Threat or Opportunity? Insights From Medical Specialists. *Qualitative Health Research* 36: 289–303. <https://doi.org/10.1177/10497323251387568>.
8. Yang, Haiyang, Tinglong Dai, Nestoras Mathioudakis, Amy M. Knight, Yuna Nakayasu, and Risa M. Wolf. 2025. Peer perceptions of clinicians using generative AI in medical decision-making. *npj Digital Medicine* 8: 530. <https://doi.org/10.1038/s41746-025-01901-x>.