

News and Perspectives

When the Algorithm Starts Seeing the Patient First: China and the Changing Role of Physicians

Ruby Wang, JMIR Correspondent

Abstract

As new technologies (especially AI) are integrated into health care systems, the role of physicians is evolving. In this *News and Perspectives* article, JMIR Correspondent Ruby Wang reports on the lessons that can be learned from China's rapid adoption of AI-enabled health care and what it might reveal about the future role of physicians.

Key Takeaways:

- China's rapid digital health progress is showing the rest of the world what integrated, innovative health care can look like across the patient journey, extending clinical capacity while creating new forms of work and risk.
- As AI inevitably transforms the field of medicine, doctors and health professionals around the world must keep pace: interpreting machine-generated outputs, recognizing when they are wrong, and retaining the authority to intervene safely.

*Ruby Wang is a UK-trained practicing physician, health strategist at [LINTRIS Health](#), and writer who has worked in the clinical medicine, government and policy, and health technology and life sciences industries across the East and West. She founded the [China Health Pulse](#) Substack and newsletter, and authored *China Cure: The Rise of a Bio-tech, AI Medicine and Global Health Superpower*. In this op-ed, she reflects on the changing role of the physician and the differences she's observed between Europe and North America on the one hand, and China on the other.*

Across many health systems, debate about AI in medicine still leans toward an uncertain future. Which tasks should be automated? How much autonomy should an algorithm have? Will AI reduce pressure on doctors or create new forms of risk? Who remains responsible when machines influence medical decisions?

These are difficult questions, with ethics, safety, and the very core of medicine up for debate, yet China is already confronting them in practice. [Chinese AI doctors](#) are actively interacting with millions of patients, while algorithms are being used across the full spectrum of care. Their deployment at scale is beginning to show how AI can expand clinical capacity while also redistributing work, authority, and responsibility away from the individual physician.

China's digitally advanced health system is integrating AI into an environment already defined by mobile platforms, internet hospitals, electronic payment, insurance linkage, and large-scale logistics. Their use at scale across a vast nation and population is already showing the rest of the world the benefits, burdens, and unresolved responsibilities that we may need to reflect on and learn from.

From Individual Tools to Connected Systems

In both [Europe](#) and [North America](#), digital tools are [advancing rapidly in health care](#), with investor funding and billions in valuation hitting headlines. But while products can advance rapidly, routine [implementation](#) moves much more slowly. AI still mostly enters health care through a defined clinical or administrative task. Pilots of ambient scribes may generate consultation notes, imaging algorithms may be used in certain circumstances to identify abnormalities, and decision support systems are being carefully trialed to audit risk.

These experimental applications may be starting to improve efficiency or diagnostic performance, but they are most often still applied in health systems that remain technically and institutionally fragmented. In the United Kingdom, electronic patient records are now widespread, though digital maturity varies and some hospitals still depend on paper-based processes, duplicated systems, and aging infrastructure. In the United States and Canada, advanced medical technologies coexist with separate systems for providers, insurers, diagnostics, prescribing, and reimbursement. Western health systems are still largely testing how AI can support individual parts of medicine and grappling with [interoperability](#). China is beginning to show what happens when those parts are connected.

In [many urban settings](#) in China today, almost every physical health service provider has an online twin. Patients can already move through health care by phone: mobile mini-programs, internet hospitals, and consumer super apps may connect registration, appointment booking, test results, payment, insurance settlement, prescriptions, and follow-up within the same broad pathway. Here, AI is entering an

environment where many of the surrounding functions have already been digitized—allowing different forms of technology to connect more readily across care. AI-enabled diagnostic tools can support imaging and pathology. Large language models can assist with triage, record summarization, and select clinical workflows. Documentation tools can reduce clerical work, while hospital systems apply AI to staffing, scheduling, bed management, inventory, and patient flow. Beyond the hospital, AI-powered digital platforms can connect prescribing, pharmacy fulfillment, home monitoring, and follow-up.

Consumer-facing “AI doctors” sit within this wider architecture. Large Chinese digital health platforms, including [Ant Afu](#) and [WeDoctor](#), are now combining AI-supported health guidance with access to hospitals, licensed physicians, insurance, and payment. Thousands of senior doctors and department directors have partnered to contribute clinical materials to train specialized digital agents across these platforms. Their AI avatars, linked to their name, reputation, and professional institutions, can answer routine questions, organize histories, and escalate complex cases for human review. Even as they raise questions about how much clinical work can (or should be) carried in a physician’s name without their direct involvement, they are already helping to extend health system capacity.

Why China Is Moving Faster

China’s [rapid adoption of health AI](#) reflects the convergence of this pre-existing digital infrastructure, along with consumer behavior, commercial competition, and policy direction. Consumer expectation created demand for digital convenience. Commercial platforms competed to meet this demand. Existing infrastructure made integration possible, while national and local policy gave institutions the authority, funding, and direction to proceed.

In China, the population has long become accustomed to using mobile platforms to pay bills, order food, book transport, communicate, shop, and arrange near-instant delivery. QR codes, e-wallets, and super apps became ordinary parts of daily life before many health services had fully digitized. Convenience came to shape expectations across sectors, including health care. Patients increasingly expected services to be immediate, visible, and accessible through their phones. These habits also lowered the threshold for adoption: patients did not have to learn an entirely unfamiliar way of accessing care. AI-supported triage, report interpretation, and online consultation could, therefore, feel like extensions of established digital behavior, rather than entirely new clinical propositions.

The existing digital infrastructure needed to meet these expectations was given direction and permission to scale through favorable, supportive, and long-term [policymaking](#). Senior officials and agency leaders come from technical, scientific, engineering, or administrative backgrounds, while many public institutions retain substantial in-house digital capacity. Agencies can define use cases, coordinate public

and private infrastructure, direct procurement, and revise regulation as implementation develops.

Successive national programs supported health care digitization and AI-enabled care. The “[2018 Internet Plus](#)” health framework brought online consultations, telemedicine, and digital prescriptions into clearer administrative recognition, while more [recent guidance](#) has identified specific AI applications across patient services, clinical support, hospital management, and public health.

Commercial competition has added another source of speed. China’s [digital health market has developed through intense, capital-heavy rivalry](#) between technology platforms, insurers, hospital groups, and local start-ups, each competing for traffic, data, institutional partnerships, and control over more of the patient pathway. Products are copied quickly, business models are tested aggressively, and services can be expanded, subsidized, or abandoned at pace. This has produced waste, duplication, and uneven quality, but it has also created strong incentives to move promising tools from pilot to routine use.

Some results remain uneven, and fragmentation persists across provinces, hospitals, and platforms, especially in [rural regions](#) where capacity and enforcement may still be considerably lacking. Even so, China’s technocratic and operational style of governance has made it easier in many ways to drive policy ambition and translate it into procurement, pilots, standards, and routine use, effectively connecting consumer demand, digital infrastructure, commercial incentives, and policy authority more effectively than many other health systems.

These conditions are beginning to change the consultation itself: patients are arriving after using an AI assistant, uploading reports, or reviewing possible diagnoses. Physicians are entering later in the health care pathway, shifting focus toward interpreting complexity, resolving contradiction, and taking responsibility when digital routes reach their limits.

The Evolving Role of the Physician

China’s experience suggests that AI is changing the physician’s role through a new exchange. It can extend clinical reach, reduce repetitive work, and preserve attention for complex cases. It can also leave doctors validating more outputs and carrying responsibility for pathways designed partly by platforms, hospitals, and model developers.

The [benefits](#) are clear. Around the world, health systems are faced with increasing demand, aging populations, and rising chronic health burdens. Even modest gains in triage, documentation, prescribing, and follow-up matter a lot. AI may allow physicians working under intense pressure and unevenly distributed specialist capacity to extend scarce expertise, reduce repetitive work, and devote more time to severe illness, diagnostic uncertainty, and complex decision-making.

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But the [burdens](#) are equally important to recognize. Digital systems may remove one form of paperwork while creating new prompts, dashboards, verification tasks, and [other additional labor](#). Easier access can generate more questions, alerts, and requests for review, and automated summaries and recommendations still need to be checked. As these systems become embedded across health care, knowing where they are useful, where they can fail, and when to question their outputs will increasingly become part of clinical competence itself.

This matters because responsibility and control may not sit in the same place. A patient referred through an AI-supported platform may arrive with their history already summarized, urgency already ranked, and route through care partly determined. Yet the doctor must still decide whether to accept, correct, or override those earlier judgments, carrying responsibility for the final decision even if the platform controls the interface, the model developer determines how the system was built, and the hospital decides how it enters the clinical workflow.

Human oversight, therefore, depends on more than keeping a doctor somewhere in the loop. Physicians need enough time, information, and authority to question what the system produces. These are already difficult conditions in health systems facing workforce shortages, rising demand, and administrative burden: the very pressures that AI is intended

to help relieve. The challenge is to use technology in ways that genuinely reduce those pressures while preserving the clinical judgment and accountability needed to keep patients safe.

What Other Health Systems Should Learn

China's experiences are making current debates over AI in medicine more concrete. It is showing us how AI can extend expertise, improve efficiency, and make care easier to reach. It is also showing us just how quickly new forms of digital labor, exclusion, and blurred responsibility can emerge when platforms, hospitals, algorithms, and physicians share influence over the same patient journey.

Yet, what seems to be impossible convenience in many other parts of the world already exists in China, though still unevenly distributed throughout the country. Older adults, rural residents, and people with lower digital literacy may find the same systems harder to enter, creating new dependence on relatives or staff. Rapid adoption among digitally confident users may widen the gap between those who move easily through the new system and those who cannot.

But while China does not show us a universal model, we should study and seek to understand it as an early implementation environment—a testing lab for both the promise and cost of AI in medicine. Many of our health systems have the opportunity to design for these tensions before integration deepens. This means looking beyond the performance of individual tools and examining the systems around them: how AI enters clinical workflows, whether physicians can challenge its outputs, when patients are informed, and who remains responsible when care fails.

As innovative technologies become more deeply embedded across medicine, China is already showing us that the future role of the physician will be defined less by exclusive control over medical information and more by the ability to interpret machine-generated outputs, recognize exceptions, and take the reins back when standard pathways may no longer fit.

Keywords: artificial intelligence; delivery of health care; physicians; clinical decision support systems; digital health; health personnel; professional role; China; AI

Please cite as:

Wang R

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J Med Internet Res 2026;28:e108939

URL: <https://www.jmir.org/2026/1/e108939>

doi: [10.2196/108939](https://doi.org/10.2196/108939)