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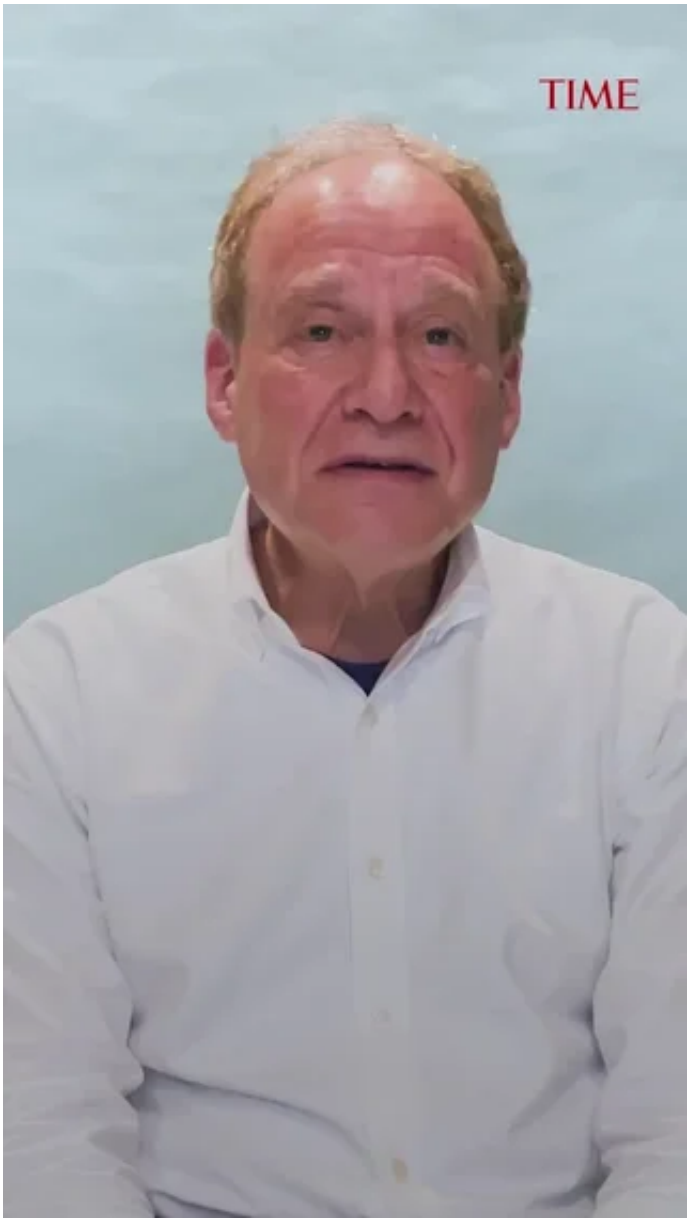
ICE faces obstacles in hiring new agents, Trump's takeover of the police in D.C., and more

Health practitioners, companies, and others have for years hailed the potential benefits of AI in medicine, from improving medical imaging to outperforming doctors at diagnostic assessments. The transformative technology has even been predicted by AI enthusiasts to one day help find a "cure to cancer."



But a new study has found that doctors who regularly used AI actually became less skilled within months.

The study, which was published on Wednesday in the *Lancet Gastroenterology and Hepatology* journal, found that over the course of six months, clinicians became over-reliant on AI recommendations and became themselves "less motivated, less focused, and less responsible when making cognitive decisions without AI assistance."

It's the latest study to demonstrate potential adverse outcomes on AI users. An earlier study by the Massachusetts Institute of Technology found that ChatGPT eroded critical thinking skills.

How the study was conducted

Researchers across various European institutions conducted an observational study surveying four endoscopy centers in Poland that participated in the Artificial Intelligence in Colonoscopy for Cancer Prevention (ACCEPT) trial. The study was funded by the European Commission and Japan Society for the Promotion of Science.

As part of the trial, the centers had introduced AI tools for the detection of polyps—growths that can be benign or cancerous—in late 2021. The study looked at 1,443 non-AI-assisted colonoscopies out of a total 2,177 colonoscopies conducted between September 2021 and March 2022. The colonoscopies were performed by 19 experienced endoscopists.

Researchers compared the quality of colonoscopy conducted three months before and three months after AI was implemented. Colonoscopies were conducted either with or without AI assistance, at random. Of those conducted without AI assistance, 795 were conducted before regular AI use was implemented and 648 were conducted after the AI tools were introduced.

What the study found

Three months before AI was introduced, the adenoma detection rate (ADR) was around 28%. Three months after AI was introduced, the rate dropped to 22% when clinicians were unassisted by AI. ADR is a commonly used quality indicator for colonoscopies and represents "the proportion of screening colonoscopies performed by a physician that detect at least one histologically confirmed colorectal adenoma or adenocarcinoma." Adenomas are precancerous growths, and a higher ADR is associated with a lower risk of colorectal cancer.

The study found that AI did help endoscopists with detection when used, but once the assistance was removed, clinicians were worse at detection.

Researchers attributed it to "the natural human tendency to over-rely" on the recommendations of decision support systems like AI.

"Imagine that you want to travel anywhere, and you're unable to use Google Maps," Marcin Romańczyk, co-author of the study and an assistant professor at the Medical University of Silesia, told MedPage Today. "We call it the Google Maps effect. We try to get somewhere, and it's impossible to use a regular map. It works very similarly."

Implications of the study

Omer Ahmad, a consultant gastroenterologist at University College Hospital London who wrote an editorial alongside the study but was not involved in its research, tells TIME that it's likely that exposure to AI weakened doctors' visual search habits and alerting gaze patterns, which are critical for detecting polyps.

"In essence, dependence on AI detection could dull human pattern recognition," Ahmad says. He adds that regular use of AI could also "reduce diagnostic confidence" when AI assistance is withdrawn, or that the endoscopists' skill of manoeuvring the colonoscope could be reduced.

In comments to the Science Media Center (SMC), Catherine Menon, principal lecturer at the University of Hertfordshire's Department of Computer Science, said: "Although de-skilling resulting from AI use has been raised as a theoretical risk in previous studies, this study is the first to present real-world data that might potentially indicate de-skilling arising from the use of AI in diagnostic colonoscopies." Menon raised concerns that overreliance on AI could leave health

practitioners at risk to technological compromise.

Other experts are more cautious about drawing conclusions from a single study.

Venet Osmani, a professor of clinical AI and machine learning at Queen Mary University of London, noted to SMC that the total number of colonoscopies—including both AI-assisted and non-AI-assisted ones—increased over the course of the study. The increased workload, Osmani suggested, could have led to clinician fatigue and poorer detection rates.

Allan Tucker, a professor of artificial intelligence at Brunel University of London, also noted that with AI assistance, clinician performance improved overall. Concerns about deskilling due to automation bias, added Tucker to SMC, "is not unique to AI systems and is a risk with the introduction of any new technology."

"The ethical question then is whether we trust AI over humans," said Tucker. "Often, we expect there to be a human overseeing all AI decision-making but if the human experts are putting less effort into their own decisions as a result of introducing AI systems this could be problematic."

"This is not simply about monitoring technology," says Ahmad. "It's about navigating the complexities of a new human-AI clinical ecosystem." Establishing safeguards is critical, he adds, suggesting that beyond this study, people may need to focus on "preserving essential skills in a world where AI becomes ubiquitous."