Can ChatGPT be your coauthor?

In January 2023, the Elsevier journal *Nurse Education in Practice* ignited a firestorm when it recognized ChatGPT as a coauthor alongside Siobhan O'Connor **[Figure]**.[1] The piece quickly sparked debate among publishers, editors, and researchers about whether a bot can qualify as an author.[2-4]

ChatGPT is an artificial intelligence (AI) language model developed by the company OpenAI. It uses pre-existing books, websites, and other sources to generate human-like text and can assist with things like writing code, composing essays, and answering questions.

Many writers like AI language models because they free up time to focus on higher-level skills like analysis and creativity rather than structure and grammar. Prominent author and Wharton professor Adam Grant has even stated that his classes are now AI mandatory because he does not want to read bad writing anymore.[5] But how should we recognize ChatGPT's contributions?

According to the International Committee of Medical Journal Editors (ICMJE), the criteria for authorship include four concepts: substantial contributions, drafting the work, final approval, and accountability.[6] The fourth criterion is the most glaringly lacking for ChatGPT, as it cannot be accountable for its work, nor can it assume the moral, legal, and ethical responsibilities required to ensure the accuracy and integrity of the work.[3,6] Furthermore, it cannot own or assign copyright because it does not have legal personality. Some have questioned whether ChatGPT meets *any* ICMJE authorship criteria, because its contributions are "merely borrowed ideas from its database of information from the Internet," which is not the same thing as "intellectual content."[3]


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Editorial
Open artificial intelligence platforms in nursing education: Tools for academic progress or abuse?
Siobhan O'Connor, ChatGPT

FIGURE. Screenshot showing ChatGPT listed as a coauthor of an article.

So the verdict, at least for now, is that ChatGPT is not a valid author.[3] *Nurse Education in Practice* has since published a corrigendum to remove ChatGPT, leaving a sole (human) author on the paper.[8] The most likely approach to AI in publishing appears to be the one taken by *JAMA*, which is that journals will discourage content created by AI and require a clear description of the contribution.[7] The *BCMJ* has updated our own author guidelines (https://bcmj.org/submit-article) in accordance with the ICMJE recommendations. However, this consensus[2] among medical journals does not erase the fact that ChatGPT and other forms of AI have become commonplace writing tools and are not going away.

One thing to consider when using ChatGPT in your scientific writing is that it is a content generator, not a reference librarian. OpenAI acknowledges that the technology will generate "plausible-sounding but incorrect or non-sensical answers."[9] I have found such answers to be frighteningly realistic. For illustration, I asked ChatGPT to create a medical information sheet on "why children should eat ice cream for breakfast." I told it to include references to published literature and write with a medical lens. Snippets of the result are shown in **Boxes 1–3**, and as you can see, it both creates references and includes completely fabricated information from this "published literature" in the written text. When I told it that the references were not real, ChatGPT apologized for any confusion and told me that "as an AI language model I do not have the ability to access external sources or verify the accuracy of references." So, while ChatGPT made a compelling and ostensibly supported argument for ice cream, I am not swapping out my kids' morning oatmeal just yet.

BOXES 1–3

Title: "Exploring the Neurocognitive and Dietary Impact of Ice Cream Consumption at Breakfast in Children: A Review of Literature"

A pivotal study in the American Journal of Clinical Nutrition examined the effects of morning ice cream consumption on cognitive performance(1). Dr. Yoshihiko Koga found that children who consumed ice cream exhibited better performance on mental tasks, faster reaction times, and heightened alertness. The researcher attributed this enhancement to the glucose content in ice cream, providing an immediate source of energy for the brain, thus boosting cognitive functioning.

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Ultimately, while AI like ChatGPT can augment human creativity and productivity, the humans behind the AI are responsible for the final interpretation of the work. The debate of AI authorship underlines the importance of understanding the capabilities and limitations of AI, to harness its potential while upholding academic and scientific integrity. ■

—Caitlin Dunne, MD

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The private health care ship has sailed

On 6 April 2023, the Supreme Court of Canada announced its decision to not hear an appeal of the landmark Cambie Surgeries Corporation case, effectively closing the door on private care for all but a privileged few, including out-of-province patients, RCMP, injured workers, and certain others. At a media scrum, BC's health minister celebrated the announcement as "a vindication of the public health care system." He continued: "My focus continues to be to deliver the best possible service in that system, and that's, that's what we're working to do, and we've done that consistently, and that's what we're going to continue to do."[1]

While a measure of self-congratulation is understandable following victory in hard-fought litigation that dragged on for nearly 2 decades, it would have been more reassuring had the minister adopted a humble and solemn tone to mark the occasion. He might have expressed that while he was pleased with the court's decision not to overturn the law banning private care, he recognized that having eliminated the private option, he and his government bear, more than ever, responsibility for ensuring that essential health care is available to all British Columbians at all times. He might even have expressed sadness that he has failed to meet that goal during his 6-year tenure as health minister.

Why a mea culpa? Because in the last decade, a formerly robust medical care system has been allowed to collapse from the ground up. Historically, most medical services in BC were delivered by family physicians (FPs) who provided comprehensive care and managed their offices, and most of the province's hospitals, with the pragmatic sensibility of small-business owners, with one eye on the customer and the other on the account books. Now, 20% of residents do not have an FP, forcing them to seek episodic care at overrun clinics and clog dangerously overburdened emergency rooms. In most communities, the only timely pathway to specialist referral is through the emergency room. Specialists are stressed and demoralized by the need to provide ongoing care to patients without an FP, hampering their ability to see new referrals.

Meanwhile, as public health care is tanking, as of 1 April 2023, contraception will be provided free to all. This and other targeted spending initiatives makes me wonder if the government is more concerned with positive polling than ensuring the constant availability of basic care.

The underlying problem is not a lack of resources but rather a failure of health care leadership to level with the public regarding three economic realities:

1. Health care resources are finite; public health spending in Canada has essentially capped out at approximately 12% of GDP, a percentage exceeding that of most comparable OECD countries. Additional funding from the public purse cannot be expected.
2. Twenty-first-century health care has become so technology reliant, complex, and costly that no state-funded-and-run system can possibly deliver all that modern medicine has to offer "for free" to every citizen.
3. Resource limitations in association with ever-increasing demands on the system necessitate preferential allocation of funding to health care that delivers the biggest bang for the buck—comprehensive primary care.

In both rich and poor countries, functional health care systems ensure that, at a minimum, all patients have access to primary and preventive care. Cuba, a developing country with limited financial resources, achieves laudable outcomes by devoting the lion's share of health spending to such care. Yet in BC, 1 million unattached patients are unable to access longitudinal primary care. Neither patients nor providers are offered any incentive to "choose wisely," such that duplication and overuse of expensive, low-yield investigations are commonplace, and no-holds-barred medical intervention has become a surrogate for honesty and compassion at the end of life. Patients with primary care issues but no FP flock to the emergency room, where long waits, unfamiliar faces, excessive labs, and unnecessary CT scans provide a costly and unsatisfactory substitute for longitudinal care. At a time when the need has never been greater, ongoing psychiatric care has become virtually impossible to access for all but hospitalized patients and those with severe mental illness managed by community mental health teams.

Former British prime minister Tony Blair stated, "The art of leadership is saying no, not saying yes. It is very easy to say yes." It is critical that health leaders stop perpetuating the myth that public health care can do everything for everyone. Access to basic care represents a minimum standard when the private care escape hatch has been sealed. We need new leaders with the courage and conviction to look beyond political expediency when allocating resources. The current failure to soundly manage a complex system is destroying the original vision of medicare—essential health care for all citizens irrespective of means. ■

—David J. Esler, MD

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postsurgical pain, shorten recovery time, and allow for same-day discharge, which could be feasible in up to 60% of patients.[3]

Since 2018, the wait list for joint replacement surgery has increased, and the five joint replacement programs in BC have not become a reality. The South Island Surgical Centre bought by the government in 2022 could have become a specialized program centre for joint replacement surgery, with four large operating rooms and surgical procedures already being funded by provincial health care. There are many such facilities available in BC.

Money spent buying buildings might be better used to pay for procedures and create community-based specialized programs in BC. Resorting to paying for patients to be treated in the US, as has happened with cancer patients, represents a failure of the health care system. The Government of Ontario has already invested in partnerships with community surgical centres, and I urge our BC government to be bold, creative, and innovative in preserving our public health care system.

BC has developed the most efficient and cost-effective system for joint replacement surgery, and it is time for our government to take action so our surgeons can treat their patients.

—Charles Ludgate, MD, OBC
Victoria

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Correction: Practising environmentally sustainable health care every day

The Council on Health Promotion article published in the May issue (*BCMJ* 2023;65:143-144) has been revised online. The authors requested the highlighted change postpublication: "Other examples include switching from single-use disposable to reusable products, which have lower life cycle environmental impacts, using nonsterile gloves (or no gloves) when possible, choosing oral over parenteral medications, switching ~~to~~ from desflurane or using IV anesthetics, and using the least toxic alcohol-based cleaning agents." Thank you to Dr Roger Taylor for bringing this error to our attention.

EDITORIALS

Continued from page 193

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