From the Editor

The D's of robotics: Are we ready to delegate?

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When Shiri Diskin and Daniela Kamir suggested in 2021 to have a *Medical Writing* issue on automation in medical writing, little did I imagine how imperative this topic would be in 2023. I sincerely thank them for their avant-garde mindset and for producing this AI-some issue.

The dirty, the dangerous, and the dull

Robots were supposedly created to perform the **3D** tasks – the **d**irty (e.g., **d**eclogging sewage systems), the **d**angerous (e.g., **d**efusing bombs), and the **d**ull (e.g., **d**rudgery of repetitive assembly work). At least that's how it was for many years. More recently, robotics has been coupled with artificial intelligence (AI), and taking alliteration even further, more D's have been added to their tasks, including the **d**ear (i.e., expensive) and the **d**ifficult.[1] These last two are **d**istressing to many – will we soon be **d**emoted, and eventually **d**isplaced? Then there's an even **d**arker side of AI featured in many a **d**ystopic film, a **d**igital **d**emon we can't see that **d**eceives, **d**isrupts, and **d**estroys.

It's not all **d**ebacles and **d**oomsday. Present day robots have proven to be useful in other D's – think about **d**omestic bots, **d**rones used in **d**isaster management, **d**elivering relief goods to remote places. **D**evices help overcome **d**isabilities and expedite **d**iagnoses. **D**eep machine learning supposedly gives medicine ("Deep Medicine") a more human touch.[2]

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What about medical writing? Are we ready to **d**elegate our **d**eliverable **d**ocuments to a **d**igital **d**o-it-all?

Without actually realising it, I have been using **d**igital tools over the years, with or without AI.

The dreary and the detection of errors

Early in my career, I manually created in-text tables and drafted hundreds of patient narratives. Let's face it, such tasks are **d**ull and **d**epressing. Nowadays, there are computer programmes that do these for us.

Manual data entry is not only **d**ull and **d**reary, it is also prone to error. Quality control of our documents – from data checks to readability metrics – is crucial. **D**etection of errors and mistakes is a very useful AI capability we should take advantage of.

These are just a few examples. Many articles in this issue tell us more about the uses of AI in medical writing, from systematic literature reviews to detecting plagiarism, to pharmacometrics and structured content authoring.

The dear and the difficult

So back to the question – if AI can do all that is **d**ull, **d**ear, and **d**ifficult, where does that leave us? Will robots finally overcome the triple constraints[3] of "Cheap, Fast, and Good – Pick Any Two" and companies can have all three?

In medical writing, it should never be a pick of any two. "Good" has always been, and will always be, the standard; there is no trade-off on quality. But leveraging AI, we can pair quality with speed. Think about it – we can develop good regulatory documents quicker and get treatments to patients faster. The first COVID-19 vaccines that got approved in record time surely had a little AI help. And they weren't cheap.

Delegation and direction

Clinical research requires skill sets that AI can never fully provide. In the standard project RACI (Responsible, Accountable, Consulted, Informed) matrix,[4] the "responsibility" and "accountability" remain in our hands. Because AI, like human intelligence, has limitations. We have heard about AI hallucinations, ethical considerations, and the lack of context and creativity. I still can't see an artificial system fully understanding the principles of Good Clinical Practice anytime soon.

Let's look beyond the document and focus on the goal. I never thought I'd be ready for a self-driving car, but there seems to be no stopping it. In the same way, we cannot do without AI in medical writing. We can **d**elegate the **d**riving, the autopiloting, but we **d**etermine the **d**irection and the **d**estination.

In fact, we are finding ways to co-exist with this new generation of AI-driven virtual robots. The articles in this edition attest to this. And, by the way, congratulations to the newly formed EMWA AI Working Group (p. 70).

Disclosure

No alliteration generator was used in writing this piece.

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So back to the question – if AI can do all that is dull, dear, and difficult, where does that leave us?

Resources on AI regulations for health products

Regulatory resources:

- EMA. Reflection paper on the use of artificial intelligence in the lifecycle of medicines. July 2023. Available from: https://www.ema.europa.eu/en/documents/scientific-guideline/draft-reflection-paper-use-artificial-intelligence-ai-medicinal-product-lifecycle_en.pdf
- US FDA Draft Guidance for Industry and Staff. Marketing submission recommendations for a predetermined change control plan for artificial intelligence/machine learning (AI/ML)-enabled device software functions. April 2023.
- MHRA Guidance. Software and artificial intelligence (AI) as a medical device. Updated July 26, 2023. Available from: https://www.gov.uk/government/publications/software-and-artificial-intelligence-ai-as-a-medical-device/software-and-artificial-intelligence-ai-as-a-medical-device

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- Hines PA, Herold R, Pinheiro L, et al. Artificial intelligence in European medicines regulation. Nat Rev Drug Discov. 2023;22(2):81–2. doi:10.1038/d41573-022-00190-3
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Marušić A. JoGH policy on the use of artificial intelligence in scholarly manuscripts. J Glob Health 2023;13:01002. doi: 10.7189/jogh.13.01002

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The Lancet: Information for Authors. The use of AI and AI-assisted technologies in scientific writing. Available from: https://www.thelancet.com/pb/assets/raw/Lancet/authors/tln-info-for-authors-1686637133557.pdf

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