

L'IA en santé pour l'acteur de première ligne débordé en 10 leçons

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L'IA en santé : splendeurs et misères



Leçon 1 : les domaines de l'IA en santé sont nombreux, avec des niveaux de maturité différents



Surveillance

- Cœur
- Diabète
- Épilepsie



Diagnostic

- Radiologie
- Pathologie
- Laboratoire



Prédiction

- Médecine idiographique
- Basé sur les enregistrements



Prévention

- Changement de mode de vie
- Soi quantifié



Plateformes

- Recrutement des patients
- Essais numériques
- Plateformes de données



Intelligence clinique

- Aide à la décision
- Intelligence ambiante



Augmenter les humains



Réduire le fardeau administratif

- NLP
- Automatisation du DSE

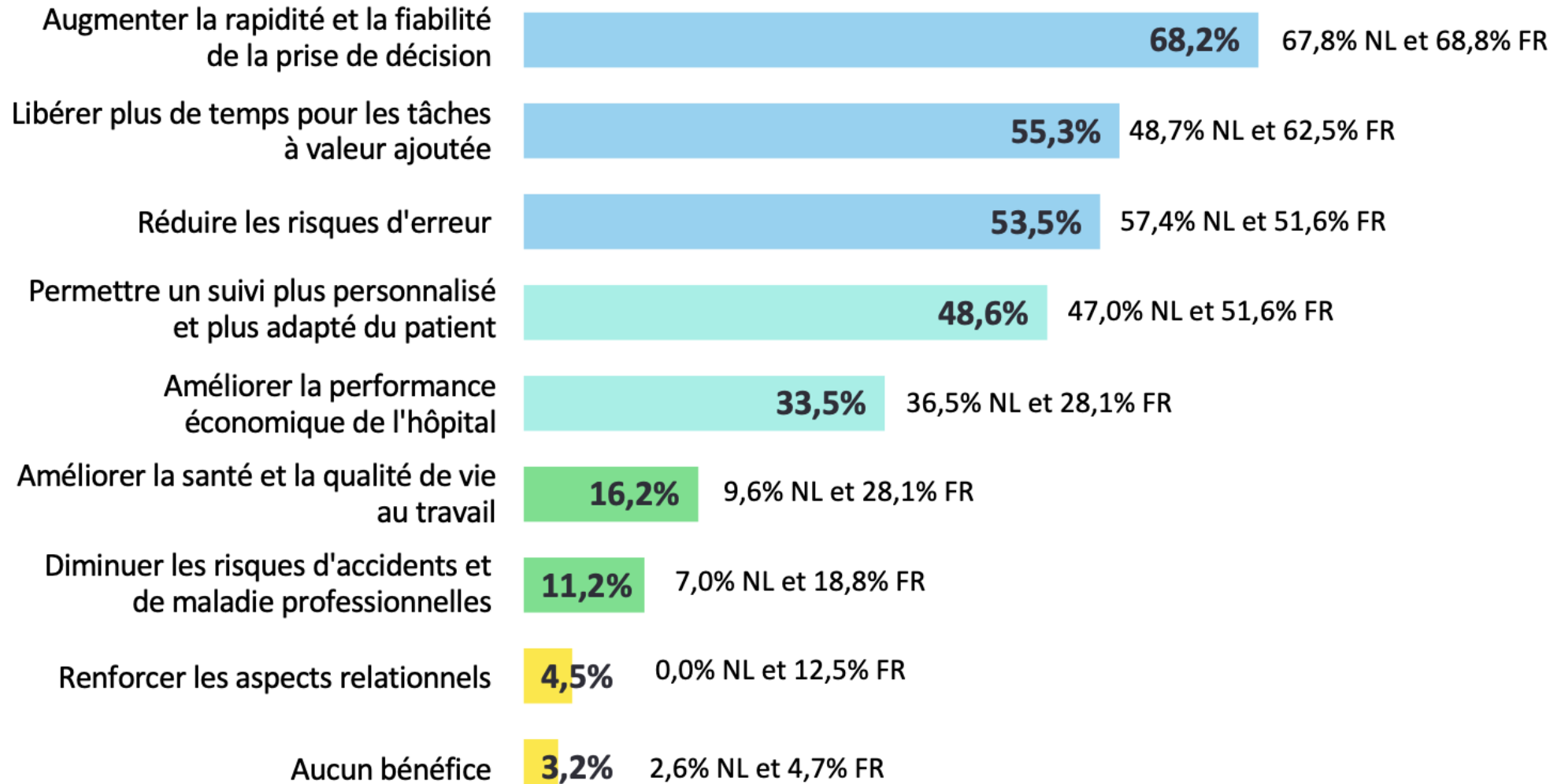
Leçon 2 : la Belgique peut devenir la meilleure au monde en IA en santé grâce à sa quintuple hélice



- Professionnels de santé
- Universités
- Industrie
- Politique
- Citoyens



Leçon 3 : les médecins l'ont compris (en Belgique)



Leçon 4 : le développement des IA n'est pas de qualité suffisante pour l'adoption clinique

NEWS FEATURE | 05 December 2023

Is AI leading to a reproducibility crisis in science?

Scientists worry that ill-informed use of artificial intelligence is driving a deluge of unreliable or useless research.

JAMA Network™

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Viewpoint

January 6, 2020

Challenges to the Reproducibility of Machine Learning Models in Health Care

Andrew L. Beam, PhD^{1,2}; Arjun K. Manrai, PhD^{2,3}; Marzyeh Ghassemi, PhD^{4,5}

» Author Affiliations

JAMA. 2020;323(4):305-306. doi:10.1001/jama.2019.20866

 Machine Learning Website

THE LANCET
Digital Health

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ARTICLES | VOLUME 1, ISSUE 6, E271-E297, OCTOBER 2019

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A comparison of deep learning performance against health-care professionals in detecting diseases from medical imaging: a systematic review and meta-analysis

Xiaoxuan Liu, MBChB[†] • Livia Faes, MD[†] • Aditya U Kale, MBChB • Siegfried K Wagner, BMBCh • Dun Jack Fu, PhD •

Alice Bruynseels, MBChB • Thushika Mahendiran, MBChB • Gabriella Moraes, MD • Mohith Shamdas, MBBS •

Christoph Kern, MD • Joseph R Ledsam, MBChB • Martin K Schmid, MD • Konstantinos Balaskas, MD • Eric J Topol, MD •

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Open Access • Published: September 25, 2019 • DOI: [https://doi.org/10.1016/S2589-7500\(19\)30123-2](https://doi.org/10.1016/S2589-7500(19)30123-2) •

Leçon 5: si on veut adopter l'IA en santé, il faut résoudre le problème de Cassandre



 @fperrywilson



Source: Walker et al. JAMA Network Open, 2023

Leçon 6 : les professionnels de santé ne peuvent pas être remplacés, et nous devons combattre ce fantasme nauséabond

Horiuchi et al. *European Radiology*
<https://doi.org/10.1007/s00330-024-10902-5>



IMAGING INFORMATICS AND ARTIFICIAL INTELLIGENCE Open Access

ChatGPT's diagnostic performance based on textual vs. visual information to radiologists' diagnostic performance in musculoskeletal radiology

The performance of ChatGPT in generating answers to clinical questions in psychiatry: a two-layer assessment



ChatGPT (Chat Generative Pretrained Performer), an artificial intelligence launched in 2022. It is trained on a dataset consisting of text derived from web pages, books, and subtitles of videos. After its release, users can prompt ChatGPT on chatbots to answer any questions.

Levkovich & Elyoseph

Communities are currently signaling opportunities by relying on ChatGPT to write scientific articles about clinical issues¹. Impossible to guide the uptake of ChatGPT concerning its performance in applications that professionals see themselves using in everyday practice. Indeed, many are worried about incorrect content and information generated by AI^{2,3}. On the other hand, digital education opportunities and in-

formation criteria (accuracy, completeness and nuance). Average scores and standard deviations (SDs) were computed.

In the second layer, 85 psychiatrists and psychiatry residents working in institutes in The Netherlands, Germany and the US, not including the raters, were asked to participate in an online survey. Participants were randomized either to ChatGPT or to any other source of information they preferred, except for other chatbots. After randomization, each participant was requested to answer 10 of the same questions as in the first layer, with all questions having the same number of respondents in the two groups. Then, two raters blindly (for group, i.e. ChatGPT vs. other) assessed the accuracy, completeness and nuance of each answer. Squared weighted kappas were computed to assess interrater reliability between the blinded raters. Times recorded to answer the questions were compared between the ChatGPT and the other group.

JMIR MENTAL HEALTH

[Original Paper](#)

Suicide Risk Assessments Through the Eyes of ChatGPT-3.5 Versus ChatGPT-4: Vignette Study

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Leçon 7 : il faut gérer les attentes sur l'IA liées aux limitations de notre système de santé (chez les patients, chez les industriels et chez les hôpitaux)



Leçon 8 : nous devons comprendre en urgence comment les citoyens utilisent l'IA dans leur quotidien, et les risques pour leur santé (et leur enseigner que l'IA a des limites)



The Brussels Times

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Belgian man dies by suicide following exchanges with chatbot

Tuesday, 28 March 2023

Therapy is expensive, costing over \$150/hour.

Luckily, you can turn ChatGPT into a FREE therapist.

Here's how to use ChatGPT to improve your mental health:

[Traduire le post](#)

14:21 · 3/06/23 Depuis Earth · **5,3M** vues

2,1k reposts **1k** citations **10,1k** J'aime **15,9k** signets

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Technology

Italy bans U.S.-based AI chatbot Replika from using personal data

By Elvira Pollina and Martin Coulter

February 3, 2023 10:37 PM GMT+1 · Updated a year ago

Original Investigation

April 28, 2023

Comparing Physician and Artificial Intelligence Chatbot Responses to Patient Questions Posted to a Public Social Media Forum

John W. Ayers, PhD, MA^{1,2}; [Adam Poliak, PhD³](#); Mark Dredze, PhD⁴; [et al](#)

[» Author Affiliations](#)

JAMA Intern Med. 2023;183(6):589-596. doi:10.1001/jamainternmed.2023.1838

**Leçon 9 : nous devons
assister notre
quintuple hélice face
aux défis de l'AI Act**

**Car tous manquent
cruellement d'experts**



Leçon 10 : il faut réfléchir à l'impact sociétal des technologies (et des humains qui les produisent) avant de les déployer



Défendre la santé face à l'inconnu

