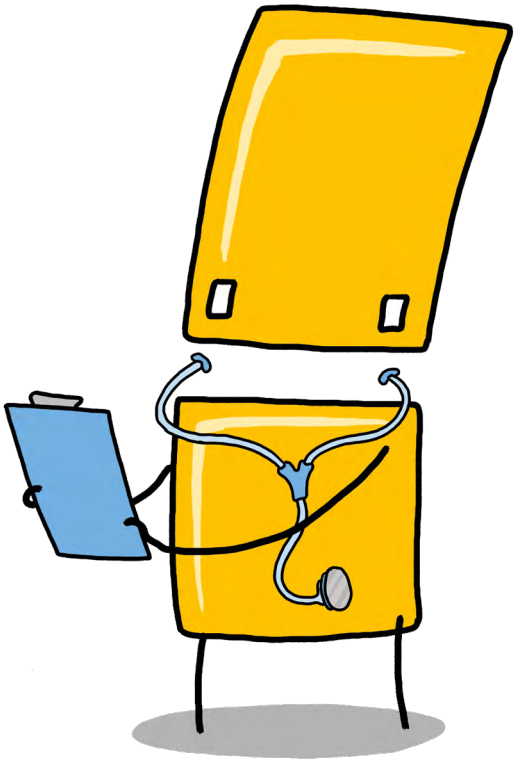
UNPLUGGED.

DISCONNECT THE NOISE. RECONNECT WITH SCIENCE.

ARTIFICIAL INTELLIGENCE IN HEALTHCARE

Scientific content by
Hugues Berry

Illustrations by
Chaz Hutton



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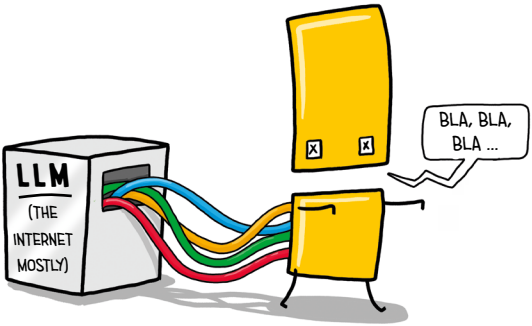
WHAT EXACTLY ARE WE TALKING ABOUT?

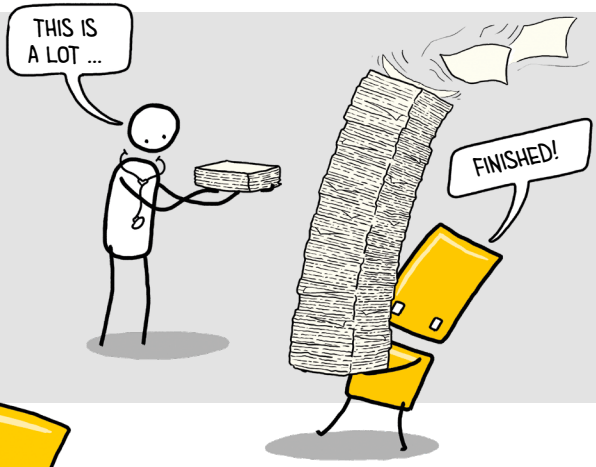


WHAT IS AI IN HEALTHCARE?

AI is when computers or machines are designed to **act in ways that seem intelligent** by learning, recognizing patterns, or solving problems. In healthcare, AI is used in medical research, diagnostics, and daily clinical work to **help professionals** understand diseases, make decisions, and improve care.

HOW DOES IT WORK?

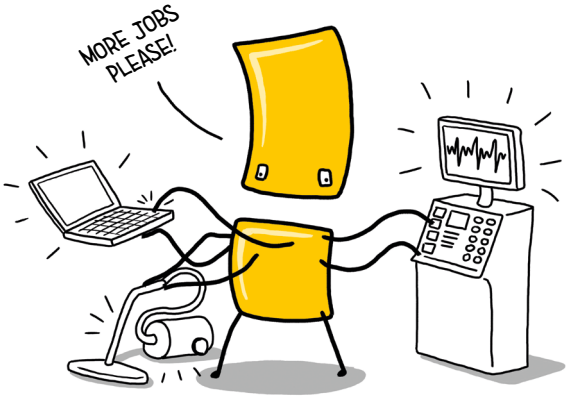
AI in healthcare runs on **massive amounts of data**. But, unlike other industries, **this data is personal and highly sensitive**. It comes from patients, doctors, and researchers, through medical records, clinical practice, and studies. **Managing and protecting this data responsibly is essential**.



WHERE IS IT USED?

AI now **touches almost every field in medicine**, from research and prevention to diagnosis, prognosis, and treatment selection.

3 MISCONCEPTIONS ABOUT AI IN HEALTHCARE



AI CAN DO EVERYTHING

AI isn't a magic wand. It **can automate** some technical tasks but **still requires skilled people** to design, guide, and check it.

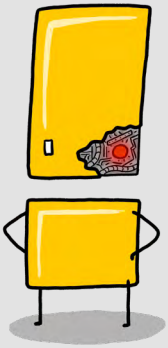
AI WILL REPLACE HEALTH PROFESSIONALS

AI doesn't replace people, it **relies on them. Human judgment, empathy, and experience are essential** to ensure AI works safely and meaningfully.

AI IS NOT SAFE

AI is as safe as the way it's built and used. Like any technology, **it depends on how data is handled** and how algorithms are tested. With the right rules and transparency, it **can be as reliable as any medical tool**.

3 REASONS WHY PUBLIC OPINION IS DIVIDED

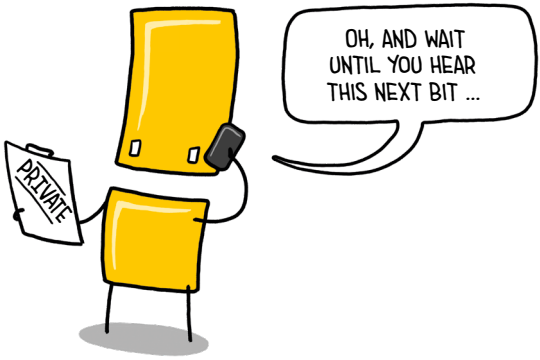


FEAR OF SELF-AWARENESS

Some people fear AI could one day "wake up" and think for itself. But consciousness comes from real interactions with the world, something AI cannot do. **Machines can learn patterns, but they cannot *feel* or *understand*.**

SENSITIVE DATA

AI depends on large amounts of personal health data, which raises legitimate privacy concerns. Fortunately, **secure systems like modern data centers and cloud** infrastructures are making data protection stronger and more accessible.



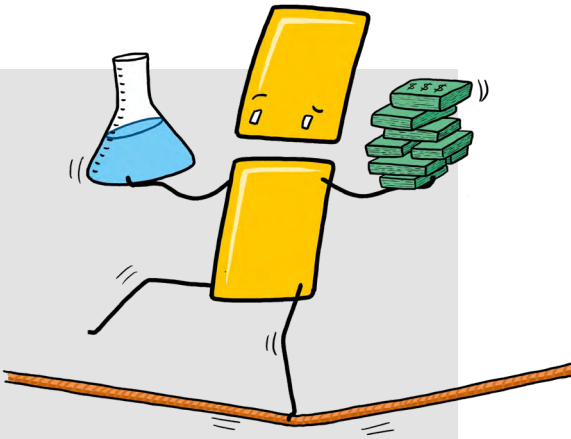
MISUSE AND ETHICS

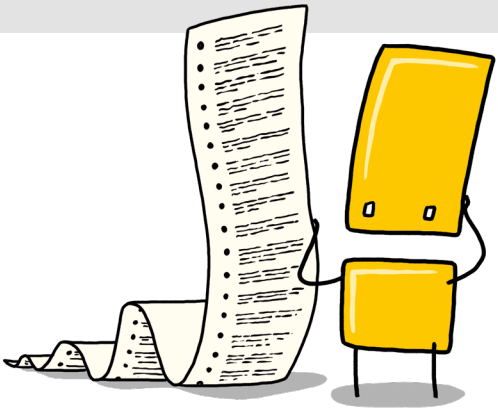
Like any technology, AI can be misused for unethical or even illegal purposes. But that risk isn't unique to AI; **it's something society faces whenever it manages powerful tools.**

3 BENEFITS FOR SOCIETY

DE-RISKING DRUG DEVELOPMENT

AI helps **reduce both scientific and financial risks** in drug discovery. It speeds up research, improves safety, and and helps identify treatments that remain effective longer by predicting drug resistance, for example.





SELECTING THERAPIES

By analyzing huge datasets, AI helps doctors **choose the most effective therapies for each situation**, improving public health and making better use of resources.

OPTIMIZING HEALTHCARE ORGANIZATION

AI can also improve how hospitals and clinics are run by streamlining workflows, coordinating care, and addressing staff shortages. The result will be **a faster, more efficient, and more accessible healthcare system for everyone.**

3 BENEFITS FOR INDIVIDUALS

IMPROVING DIAGNOSIS

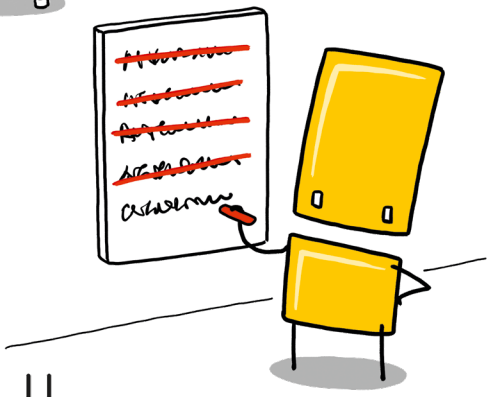
AI **helps detect diseases earlier and with greater accuracy**, improving patient outcomes. By improving the reliability of diagnostic decisions, AI also helps reduce the risk of legal disputes arising from misdiagnosis, **protecting healthcare professionals** and **strengthening patient trust**.

PERSONALIZING TREATMENTS

AI allows treatments to be **better adapted to each person**'s genetics, lifestyle, and medical history, offering truly personalized care.

LIMITING SIDE EFFECTS

By improving timing and precision, AI **reduces treatment side effects and enhances patient comfort**, leading to safer, more positive care experiences.



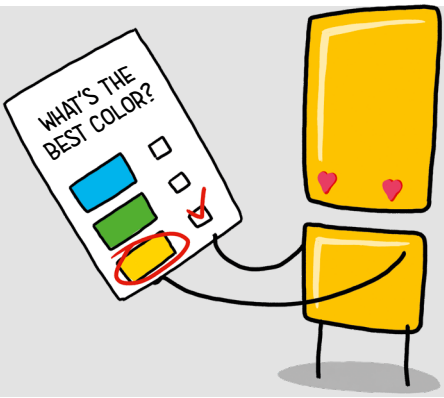
3 CHALLENGES TO OVERCOME

ECOLOGICAL IMPACT

AI **consumes a lot of energy and resources**, which is a serious concern for the environment. **Choosing simpler, more efficient tools** can **help limit its environmental footprint**.

TENDENCY FOR BIASES

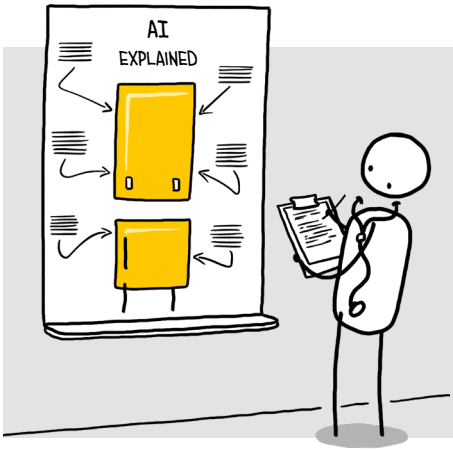
AI systems can **reflect human and social biases**, often favoring data from wealthy countries. **Detecting and correcting** these imbalances is key to making AI fair and inclusive.



EVALUATION

AI **evolves faster than the rules** that regulate it. The challenge is to **make approval and testing processes fast enough** to keep up with new innovations, **without compromising safety**.

3 NEXT STEPS TO MOVE FORWARD

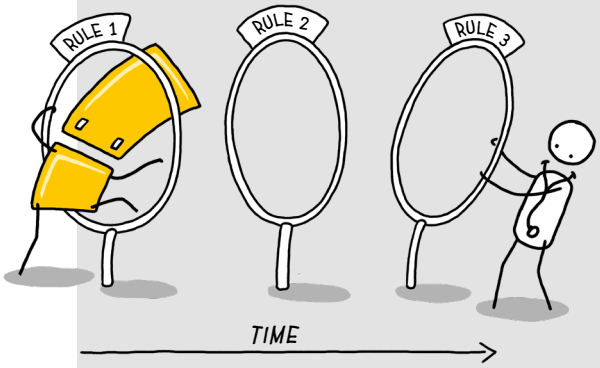


EDUCATE

Training healthcare professionals **to use AI wisely** is essential, not only to interpret results correctly, but also **to choose the right tool** for each task. **Understanding the ecological impact** of AI and using it efficiently supports **more sustainable innovation in healthcare**.

INTEGRATE

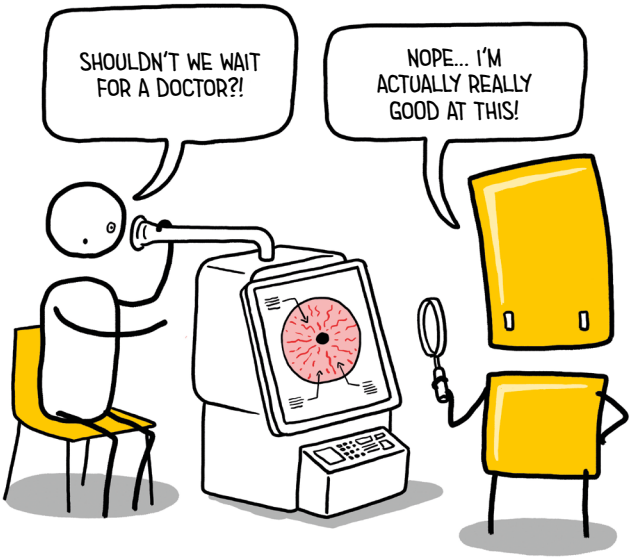
AI should increasingly **work alongside with other health technologies**, such as MRI scanners, CT scans, and smart medical devices, to create **more precise and effective tools**.



REGULATE

Rules need to evolve along with innovation. **Smart and flexible regulation** can keep AI **safe and ethical** while **allowing medical progress** to move forward.

1 REAL-WORLD EXAMPLE OF AI IN HEALTHCARE



LUMINETICSCORE™

LumineticsCore™ is an AI-powered medical device that detects diabetic eye disease from scans, **without requiring an eye doctor**. Approved by the FDA (U.S. Food and Drug Administration, the agency responsible for regulating medical devices and treatments) for **autonomous use**, it makes **early screening faster, easier, and more accessible**, helping prevent vision loss and blindness.

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About Hugues Berry

Hugues Berry is the head of Inserm's new AI & Digital Health division, a position which he has held since early 2025. His background is rooted in computational modeling and artificial intelligence, with a strong focus on cell biology and neuroscience. He began his career as a lecturer in cell biology before joining Inria (France's National Institute for Research in Digital Science and Technology), where he worked on biologically inspired microprocessors before specializing in computational neuroscience. Before joining Inserm, he served as Deputy Scientific Director for Digital Biology and Digital Health at Inria. At Inserm, Hugues Berry is responsible for three main areas of work:

- Central contact point and strategy development
- Training and ethical best practices
- Deployment of practical solutions

Hugues Berry emphasizes the importance of clearly defining the scientific question before gathering large datasets and highlights the critical role of technical support units in successfully integrating AI into research.

About Chaz Hutton

Chaz Hutton is an Australian illustrator and cartoonist known for his funny and insightful illustrations. His cartoons about everyday life gained a large following on Instagram, which in turn led to the publication of books in multiple countries. He has also regularly collaborated with a variety of brands such as Disney, Uber & Uber Eats, and Zopa, in addition to providing illustrations for various books, films and magazines, including *The New Yorker*. Chaz's work has also appeared in multiple exhibitions, both in Europe and Australia.

Chaz's work often aims to be both humorous and informative, and he's spoken about this approach to illustration at both Google and TEDx in the past. His style and approach predominantly focus on how best to utilise fun, simple, and informative drawings to engage, entertain, and educate.

Visit him at www.chazhutton.com

About Fondation Ipsen BookLab

Dedicated to the greater good and committed to fostering a more equitable society, Fondation Ipsen BookLab publishes and distributes books free of charge primarily to schools and associations. Through collaborations between experts, artists, authors and children, our publications span all age groups and are available in multiple languages. Our work is centered on education and awareness of topics pertaining to health, disability and rare diseases.

Visit us at www.fondation-ipsen.org

About Fondation Inserm

Fondation Inserm is a partnership-based foundation of general interest that works to support the research missions of Inserm, the French National Institute of Health and Medical Research, by mobilizing private resources from individual donors or sponsors (companies and corporate foundations). Its role is to promote health and biomedical research, as well as to encourage the dissemination of scientific knowledge, in the interest of everyone's health. The Fondation Inserm is working to strengthen existing research momentum and promote interdisciplinary collaboration—in areas such as public health, therapeutics, diagnostics, and basic research—with the aim of contributing through research to meeting new societal challenges.

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About the collaboration

In today's climate of mistrust toward science, some scientific advances remain poorly understood and often controversial, even though they stand at the heart of contemporary biomedical research.

To address this, Fondation Ipsen, Fondation Inserm, and artist Chaz Hutton are launching an original, eye-catching, and engaging collection of books. The aim of this collection is to give everyone the tools to better understand today's scientific challenges, particularly in the field of rare diseases, where misinformation can have direct human consequences.

The books in the collection "Unplugged. Disconnect the noise. Reconnect with Science" are designed to:

- Challenge misconceptions and fight scientific misinformation.
- Explain major health advances, including those that are controversial or anxiety-inducing, clearly, simply, and without bias, using validated facts and expert insight.
- Spark curiosity and strengthen understanding among general public, young people, and families.

Book# 15.2
Have your say!

ISBN:
978-2-38427-326-3 (printed book_French version)
978-2-38427-327-0 (ePub_French version)
978-2-38427-343-0 (printed book_English version)
978-2-38427-328-7 (ePub_English version)

Fondation Ipsen is under the aegis of Fondation de France
www.fondation-ipsen.org

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Proofreading: Natasha Barr – **www.caretently.com**
Editorial direction: Céline Colombier-Maffre

French Act No 49-956 of 16 July 1949 on publications for young people,
amended by Act No. 2011-525 of 17 May 2011.
Legal deposit: January 2026

Printed in Europe, by TypoLibris, in January 2026
ePub Conversion: www.flexedo.com

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Will AI help cure diseases, or put our health at risk? Is it a revolution, or just another overpromise?

In this illustrated book, artist Chaz Hutton and expert Hugues Berry cut through the myths to explain what AI in healthcare really is, what it can (and cannot) do, and why it matters for all of us.

Clear, concise, and accessible, this book shows how AI could transform medicine, while also highlighting the challenges we must overcome to use it wisely.

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