# Will Al replace physicians? Al reallocates roles, risks and liabilities

# 8th IBA Annual World Life Sciences Conference, Paris 3 & 4 June 2022

Panel of 3 June 15:50 - 16:50





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# Will AI replace physicians? AI reallocats roles, risks and liabilities

We have come a long way from the invention of the stethoscope until the detection of breast cancers and pulmonary emboli by computers with better success rates than when done by radiologists.

Al is progressively revolutionizing healthcare on a global basis with some tasks that are now more securely performed by Al than healthcare professionals, for instance in diagnostics imaging.

The doctor-patient relationship needs to adapt itself to this new paradigm.

Healthcare professionals are led to acquire new competences.

To what extent will their roles evolve?

How do we anticipate, minimize and master liability risks linked to AI?

We will discuss these issues with experts from the medical, industry, insurance and legal sectors.





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# Speakers



Agnès Malgouyres – Head of Al Program, Siemens Heathineers, Paris, France



David Gruson – Health Programme Director – Luminess and Founder – Ethik-IA, Paris, France



Keren Kanir - Partner, Horn & Co, Tel Aviv, Israël



Jennifer Geetter – Partner, McDermott Will & Emery, Washington DC, USA

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### Moderators



Elysangela de Oliveira Rabelo Maurer Partner, Rabelo Maurer Advocacia Sao Paulo - Brazil



Cécile Théard-Jallu Partner, De Gaulle Fleurance & Associés – France Vice Chair, IBA Healthcare and Life Sciences Law Committee





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# The radiologists' workload is steadily increasing

In many countries, the number of radiology examinations is skyrocketing, while the number of radiologists and imaging specialists is not keeping up with the trend.

The result is a dramatically increased workload for radiologists.<sup>1</sup>



1 The Royal College of Radiologists. Clinical radiology, UK workforce census 2018 report. London: The Royal College of Radiologists, 2019.

#### Less interpretation time means higher error rates

SIEMENS Healthineers

With shorter turnaround time, the error rate rises.

The retrospective error rate among radiological exams is 30%.<sup>1</sup> Studies show that cognitive factors significantly contribute to diagnostic errors.<sup>2</sup>

Cutting in half the interpretation time of radiologists increases the interpretation error rate percentage by 16.6%.<sup>3</sup> O
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**1** Berlin L (2007): Radiologic Errors and Malpractice: A Blurry Distinction. **2** Lee C, Nagy PG, Weaver SJ and Newman-Toker DE: Cognitive and System Factors Contributing to Diagnostic Errors in Radiology. **3** Berlin L: Faster Reporting Speed and Interpretation Errors: Conjecture, Evidence, and Malpractice Implications.

## Introduction: Some facts & figures

 $\triangleright$ 

#### Boom in Al use in the healthcare sector:

#### **Global statistics**

- How AI helps according to healthcare industry players:
  - improve quality control  $\rightarrow$  60%
  - monitoring and diagnosis → 42% Source : Statista, <u>https://bit.ly/3wg8U30</u>

- COVID19 impact on AI use in healthcare market:
  - 55% AI market growth between 2020 and 2021
  - 167,1% AI market growth from 2019 to 2021
  - Market is estimated to witness a yearon-year growth of ranged between 34,9% to 48% in the next 5 years

Source : Grand View Research, <u>https://bit.ly/3JqVmFC</u>

#### **European statistics**

- Expected socio-economic impact of AI on European health systems:
  - 400,000 lives saved yearly
    - €200 billion in annual savings (including opportunity costs)
    - 1,8 billion hours freed up every year Source: Deloitte, https://bit.ly/3ielLuk

- Al systems in healthcare forecast revenue:
  - \$6,7 billion in 2021
  - \$6,16 billion in 2022 Source :

Statista, <u>https://bit.ly/3w6XPBk</u>, <u>https://bit.ly/3CKtQjV</u>

# What is Al? An encyclopic & scientific view

Set of theories & techniques meant to design machines able to simulate human intelligence (source : Larousse encyclopedia)

Behind the concept: « very varied technologies, constantly evolving, giving rise to specific applications for very specialised tasks » (OPECST)

#### Strong AI / Weak AI





# Old concept (birth: 1943–1956), after two « hibernations », a new surge permitted by availability of massive data (big data) and accelaration in processors calcultation capacity & speed

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#### What is AI? Samples of legal conceptss

**EU**: « software developed with one or more of the techniques and approaches listed in Annex I and can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with » (*Draft Al Act, April 2021*)

**Brazil**: « system based on a computational process that can, for a certain set of human-defined objectives, make predictions and recommendations or make decisions that influence real or virtual environments ». (Legislative bill 21/2020, approved by the Brazilian House of Representatives in September 2021, currently awaiting the Senate's consolidation)

**US**: ?

Israel: ?

### Will Al replace physicians?



Head of Al Program, Siemens Healthineers Paris - France

> SIEMENS .... Healthineers

### **Agnès Malgouyres**

### Will Al replace physicians?



# **David Gruson**

Health Programme Director, Luminess Founder, Ethik-IA Paris - France



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## « Artificial Intelligence Act » proposed Regulation of 21 April 2021



## « Artificial Intelligence Act » proposed Regulation of 21 April 2021 "Human oversight" – Article 14



Al design & development enabling human control

Capacity of human controller to intervene on or stop operation of Al

Capacity of human controller not to use, to disregaard, override or reverse the Al output

> Awareness of automation bias in decision making process / capacity to correctly the output

Control tools implemented before placement on the market (by manufacturer o user)

Full understanding of operation & limits Full monitoring to detect anomalies

By human controller

## EU Artificial Intelligence Act » proposed Regulation of 21 April 2021

#### New rules for providers of high-risk Al systems



Step 2

Step 3



A high-risk Al system is developed It needs to undergo the conformity assessment and comply with AI requirements For some systems a notified body is involved

A declaration of conformity needs to be signed and the AI system should bear the CE marking. The system can be placed on the

market

If substantial changes happen in the AI system's lifecycle, go back to Step 2

Source : https://lestempselectriques.net/index.php/2021/04/22/proposition-de-reglement-de-lia-de-la-commission-europeenne-entre-le-trop-et-le-trop-peu/

#### Focus on Al in healthcare

Human oversight for MD integrating AI: France

Article L4001-3 of the Public Health Code (in force)

- I.- The health professional who decides to use, for an act of prevention, diagnosis or care, a medical device involving algorithmic data processing learned from massive data shall ensure that the person concerned has been informed and that he or she is, where appropriate, informed of the resulting interpretation.
- II. -The health professionals concerned are **informed of the use of this data processing**. The patient's data used in this processing and the results obtained are accessible to them.

III.- The designers of an algorithmic processing mentioned in I shall ensure that its operation is explicable for the users.

IV.- An order of the minister in charge of health establishes, after consultation with the Haute Autorité de santé and the Commission nationale de l'informatique et des libertés, the nature of the medical devices mentioned in I and their terms of use.



## Speakers Al in the legal practice



**Jennifer Geetter** 

**Keren Kanir** 

Partner, McDermott Will & Emery, Washington DC - USA





Partner, Horn & Co Tel Aviv - Israël

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# **Q&A** session

## **Any questions?**









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# OUR CONTACTS

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#### THANK YOU!









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