Caregivers' Perceptions of AI in 2018

F. JAULIN [1,2], M. THY [5], E. BOUCHEREAU [5], R. PIRRACCHIO [2,3], J-P VERT [1,4]

[1] ENS Paris [2] Intensive Care & Anesthesiology, HEGP, Paris Descartes; [3] Groupe ACTERREA, INSERM UMR-1153, ECSTRA Team, Hôpital Saint Louis, Paris, [4] MinesParis ; [5] AJAR Paris

Problem position and objectives of the study:
AI and Big Data management have begun to revolutionize some sectors including health (1,2). Many, including the press and the media, come to speculate on the future of future physicians (3-6), so the important thing would be to anticipate the integration of AI into medicine (7). Nevertheless, the training of caregivers in this field is almost non-existent and their knowledge of the subject is related to the lack of training.

Materials and methods
An online self-questionnaire was sent to young physicians through the network of various specialities residents associations and Scholarly societies. Individuals were surveyed on their characteristics, knowledge and perception on scales from 0 to 10 with respect to AI and its application in medicine. The data collected was anonymous.

Results & Discussion
In total, from March 18, 2018 to April 25, 2018, 1266 people responded to the questionnaire. Most (n=844, 66.4%) rated AI positively but 11.4% (n=145) rated it negatively and expressed apprehension about it.
373 (29.5%) thought that physicians should be trained in AI while 860 (67.8%) thought that AI was already used in Medicine. Respondents average rate of their knowledge in AI was around 2.8/10. 1025 (80.9%) of respondents did not know any programming language but 550 (43.4%) would like to learn one. Respondents rated their interest in an AI-related event or training averagely around 8/10.

Conclusion
This study identified a mixed perception of AI among caregivers, which was mostly positive, associated with a willingness to learn. Better information on Artificial Intelligence and the possibilities it offers, as well as training seem essential to better master this new tool and anticipate its integration into clinical practice.
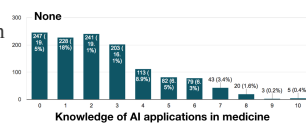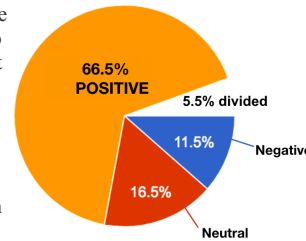
1. service BG/ C de. Ce que les Français attendent de l'intelligence artificielle [Internet]. lesechos.fr. 2017 [cited 2018 Mar 25]. Available from: https://www.lesechos.fr/idees-debats/sciences-prospective/0301005768002-ce-que-les-francais-attendent-de-lia-2137679.php#Xtor=AD-6000
2. En médecine, les impacts réels de l'intelligence artificielle [Internet]. Ouest-France.fr. 2017 [cited 2018 Mar 25]. Available from: https://www.ouest-france.fr/sante/en-medecine-les-impacts-reels-de-l-intelligence-artificielle-5449707
3. Goya C. Il y a des spécialités que les étudiants en médecine devraient éviter selon le neurobiologiste qui a cofondé Doctissimo [Internet]. Business Insider France. 2017 [cited 2018 Mar 25]. Available from: http://www.businessinsider.fr/laurent-alexandre-medecins-intelligence-artificielle
4. Miller DD, Brown EW. Artificial Intelligence in Medical Practice: The Question to the Answer? Am J Med. 2018 Feb;131(2):129–33.
5. Jha S, Topol EJ. Adapting to Artificial Intelligence: Radiologists and Pathologists as Information Specialists. JAMA. 2016 Dec 13;316(22):2353.
6. Verghese A, Shah NH, Harrington RA. What This Computer Needs Is a Physician: Humanism and Artificial Intelligence. JAMA. 2018 Jan 2;319(1):19.
7. Johnston SC. Anticipating and Training the Physician of the Future: The Importance of Caring in an Age of Artificial Intelligence. Acad Med. 2018 Feb;1.

66.5% POSITIVE — 5.5% divided — 11.5% Negative — 16.5% Neutral

929 positive arguments among respondents

Most frequent :
1 - improve diagnostic performance
2 - guide in management
3 - save time

A fear that emerges: the fear of excluding the human in tomorrow's medicine.

Knowledge of AI applications in medicine

96.2% never participated to a datathon
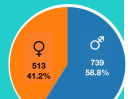**47.9% of whom don't know what a hackathon or datathon is**

1266 answers
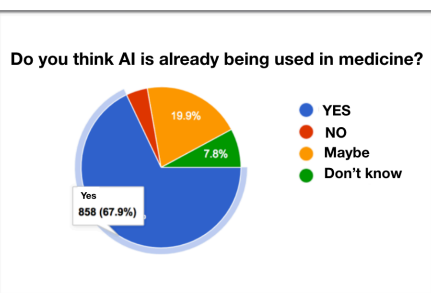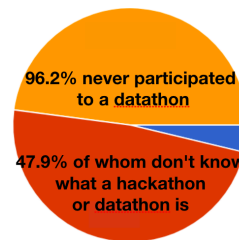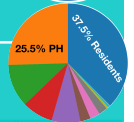1264 answers to a questionnaire to assess caregivers' perception of AI and their interest in a possible event.

2 women for 3 men
A much higher ratio than in digital in general

♀ 513 41.2% — ♂ 739 58.8% — 37.5% Residents — 25.5% PH

Caregivers for the next 30 years
An average age of 33 years old

AGE

Multidisciplinary
Several Scholarly societies and partner associations (Anesthesia-Intensive Care, Emergency, Radiology, Public Health, etc.)

Willingness to train for AI
30% positive
35% think about it

The AI at the service of the doctor and the patient
To train starting with the basics, always with the idea of practical applications.

Do you think AI is already being used in medicine?

- YES
- NO
- Maybe
- Don't know
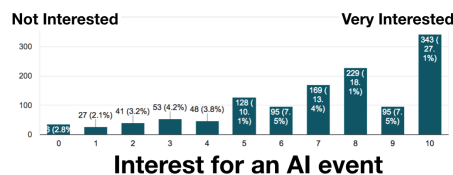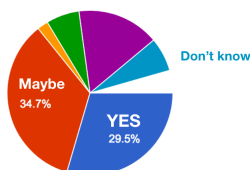
19.9% — 7.8% — Yes 858 (67.9%)

AI, unkown from physician in 2018

More than a majority feel they **know little or nothing about AI** in general, and medicine in particular.
However, nearly **70% believe that AI is already used in medicine today.**

A strong will to learn

Almost 30% think that caregivers should be trained in AI and about 35% think that they should perhaps be trained.

Don't know — Maybe 34.7% — YES 29.5%

Not Interested — Very Interested
Interest for an AI event
0 (2.8%) — 27 (2.1%) — 41 (3.2%) — 53 (4.2%) — 48 (3.8%) — 128 (10.1%) — 95 (7.5%) — 169 (13.4%) — 229 (18.1%) — 95 (7.5%) — 343 (27.1%)

Themes of interest:
1 - the AI at patient's bed
2 - Place of the AI in emergencies
3 - Tomorrow's doctor with AI
4 - Ethics around AI and care

SOME INDIVIDUAL COMMENTS IN THE SURVEY :

"At last we're hearing about it! »

"It was time... impact of AI on existing jobs: jobs to come and jobs to disappear."

"We must push ourselves towards this (r)evolution, especially our young people and decision-makers".

Survey's link : https://goo.gl/forms/Za15lXbQhDJUI9x82