

TABLE RONDE

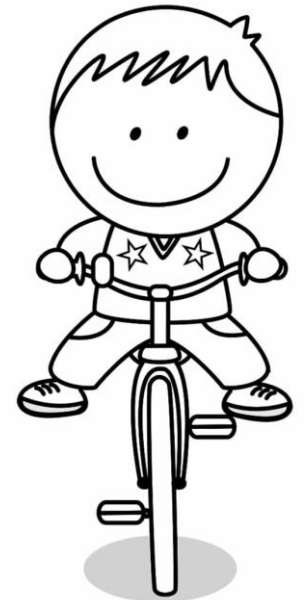
Omics et Big Data : comment l'Intelligence Artificielle impacte la recherche clinique et les phases précoces en cancérologie ?

Débat animé par : Marco Fiorini et Christophe Le Tourneau

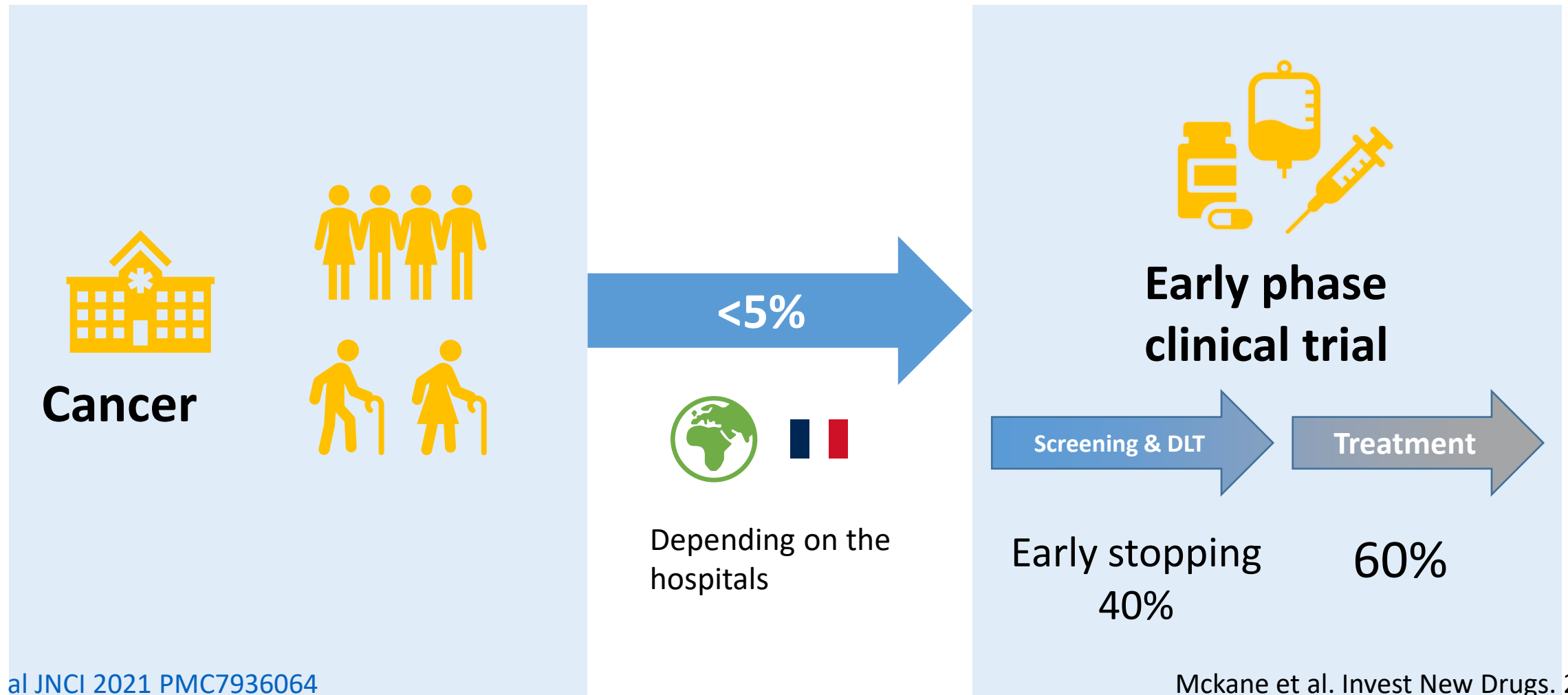
Avec la participation de : Mohamed Amine Bani,
Lionel Cordesses, Loïc Verlingue, Sarah Watson

Artificial Intelligence for clinical cancer research

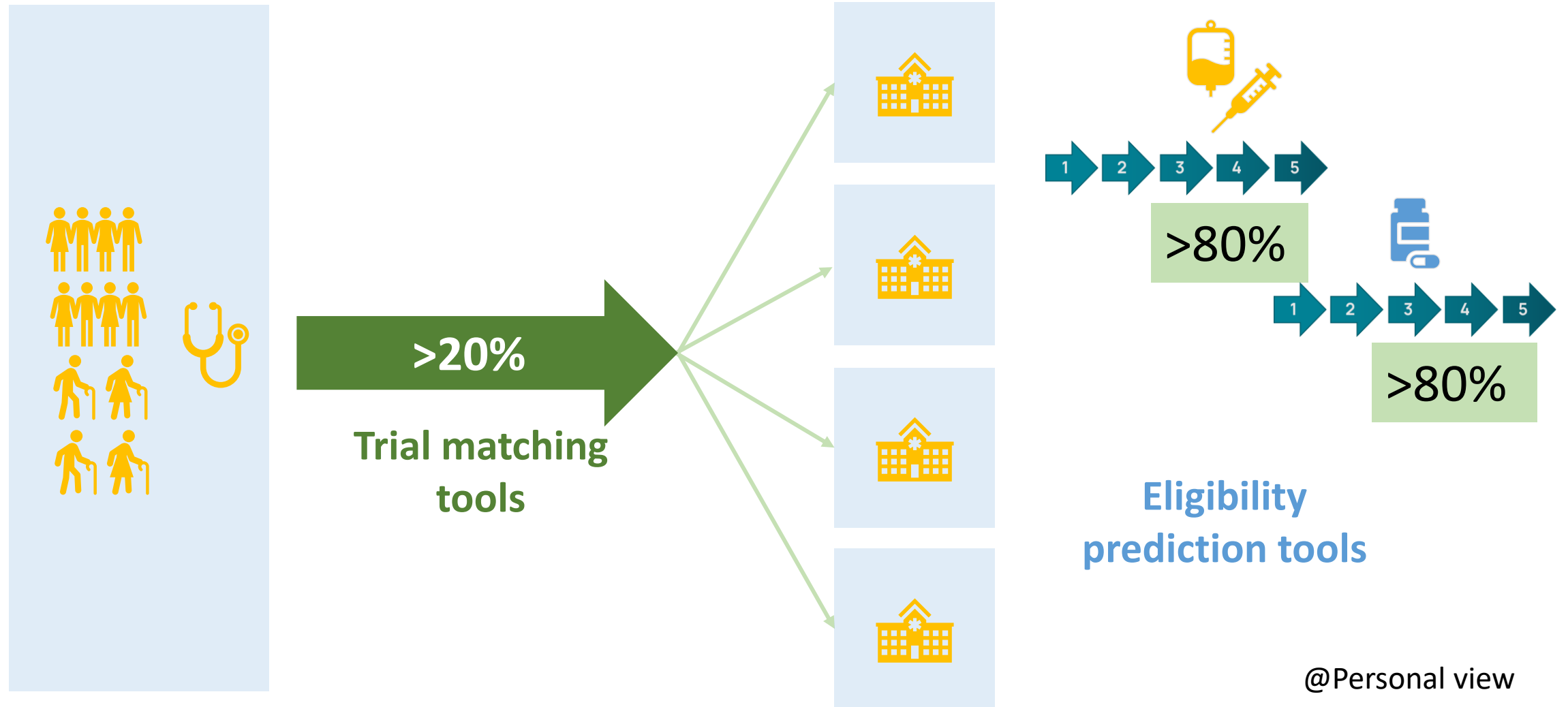
Loic Verlingue
MD, PhD,
Nov 30 2023



The attrition rate of patients in early phase trials





Natural Language Processing for early phase trial




Semi automatic trial matching

* Cancer * Histologie ⓘ

 Ex: Sein ▼  Ex: Carcinome médullaire ▼


Autres mutations génétiques ⓘ

 Ex: BRCA, HRD, PDL1, PIK3CA...

* Quelle est la situation actuelle de votre cancer ? ⓘ

Localisée Localement avancée Métastatique

* Adresse ⓘ

 28 Prom. Léa et Napoléon Bullukian, 69008 Lyon, France

Suivant

* Champs obligatoires

@Klineo

Klineo <https://www.klineo.fr/login>

OncoClic <https://www.oncoclic.fr/>

ScreenAct <https://screenact.fr/>

AccessTrial <https://accesstrial.care/>

Clip2 https://e-cancer.shinyapps.io/DATAVIZ_SCREEN/

ECMT <https://trialmatch.digitalecmt.com/>

MatchMiner <https://matchminer.org/>

MatchTrial www.matchtrial.health/fr/

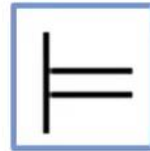
...

New generation automatic trial matching

SemEval-2023 Task 7: Multi-Evidence Natural Language Inference for Clinical Trial Data

Jullien et al. (Semeval 2023)

Patients living in the San Francisco area with ErbB2+ breast cancer, a body weight > 60 kg, and a history of treatment with Cyclophosphamide in the last year, are eligible for this clinical trial.



Jullien M. arXiv 2023

<http://arxiv.org/abs/2305.03598>

Clinical Trial Report - Eligibility Criteria

Inclusion criteria

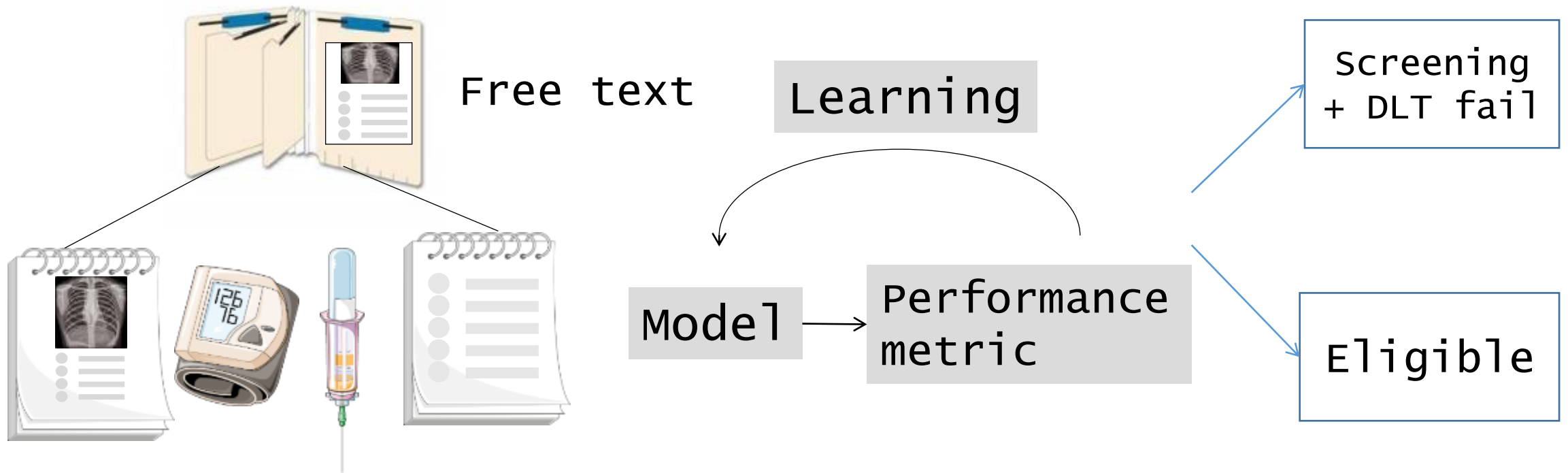
- Patients with a history of chemotherapy treatment within the last 24 months.
- Age \geq 60 years
- HER2-positive T1 histologically confirmed invasive carcinoma of the breast.
- Body weight > 110 lbs
- Patients be California residents

Exclusion criteria

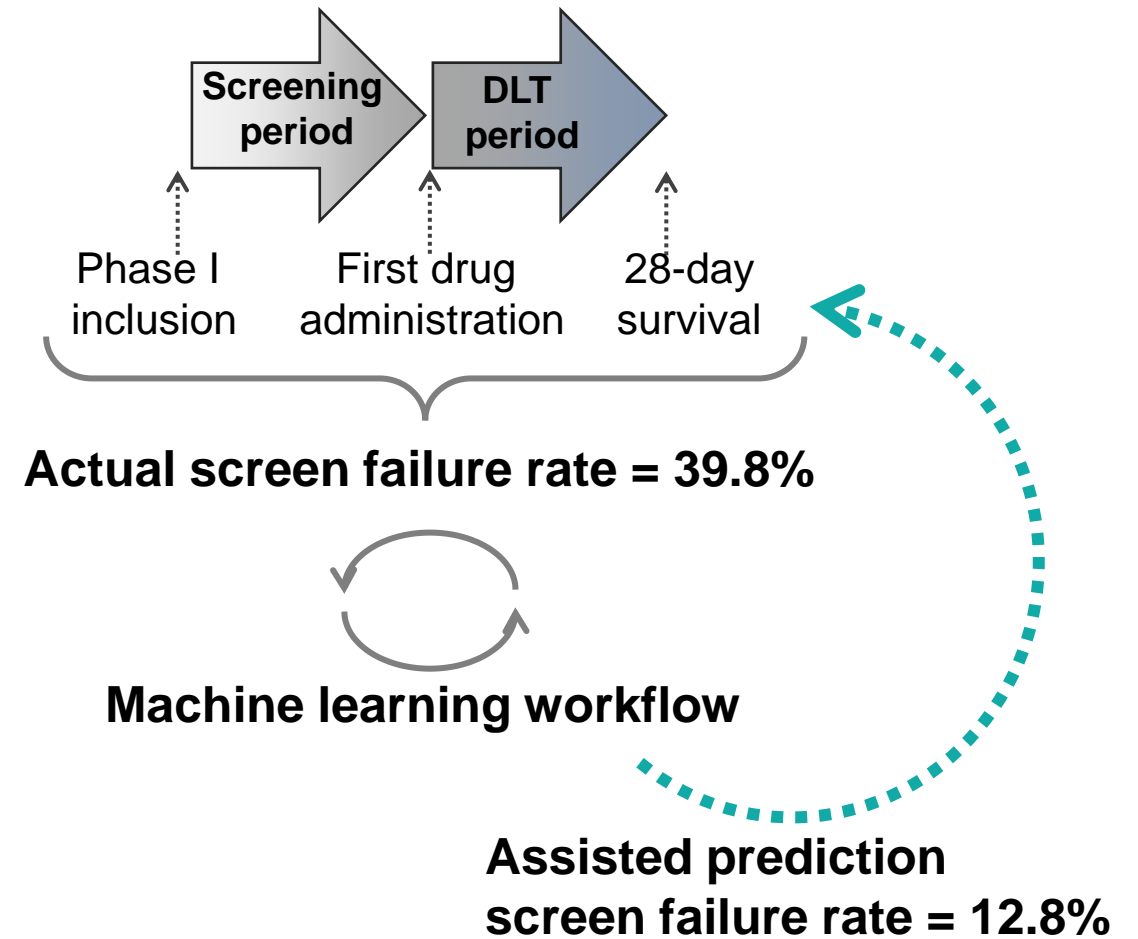
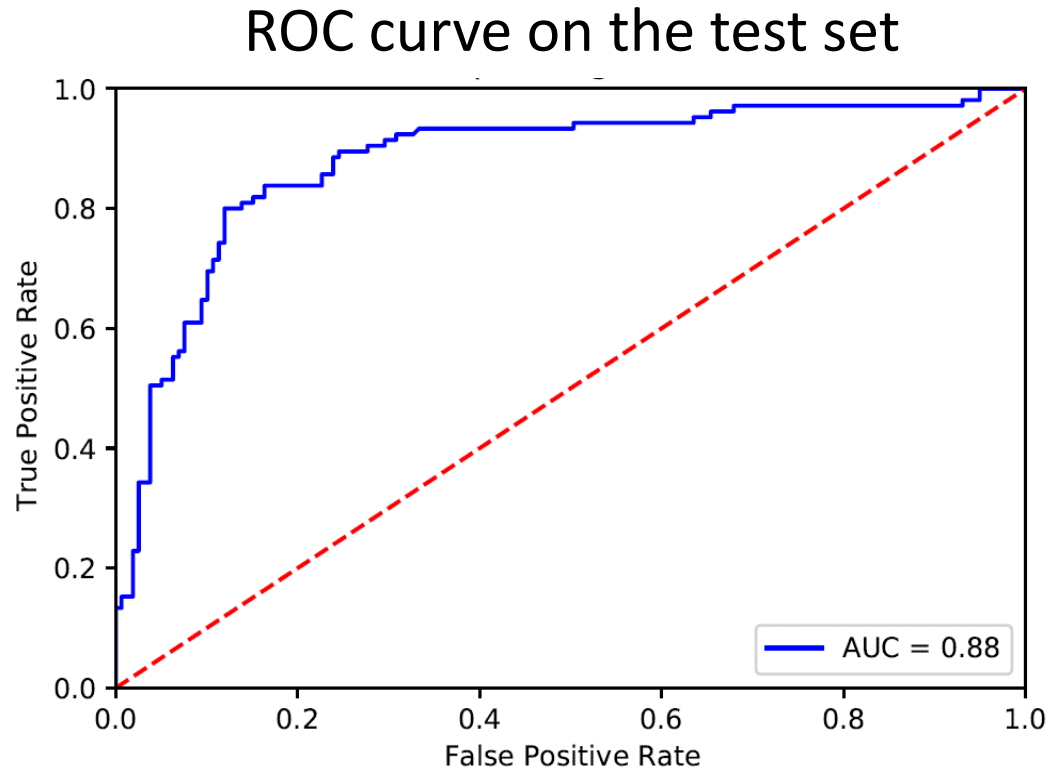
- Pregnant women



NLP-powered patient eligibility prediction



Performance of patient eligibility prediction

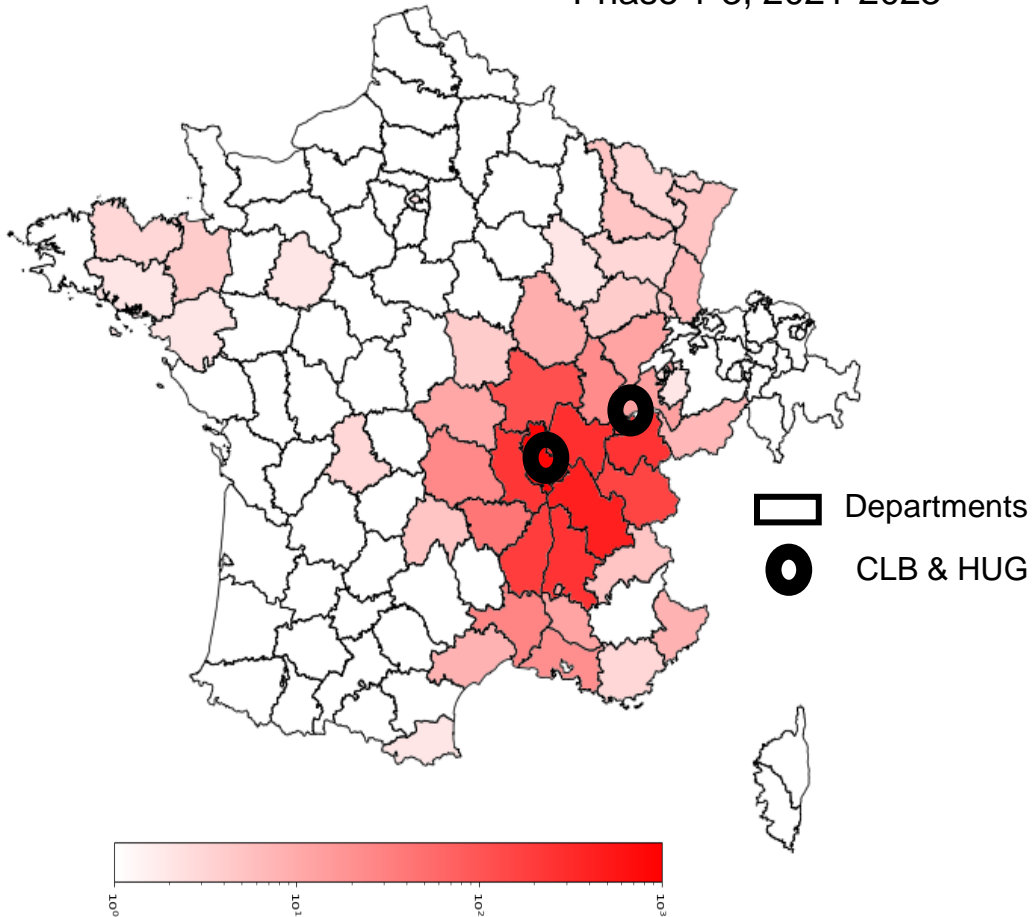


Cross border access to clinical trials



PCM4EU

Number of patients
included in a clinical trial
Phase 1-3, 2021-2023



Crossborder access

PCM4EU - 1/5



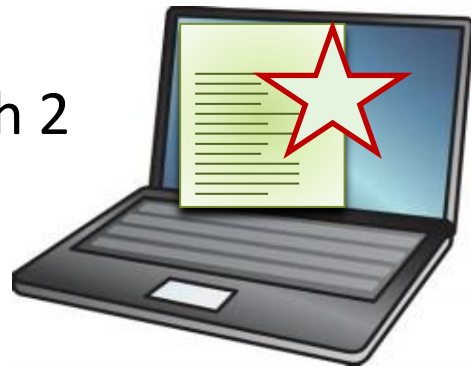
-  #episode34 - The EU Cross-Border Trials Initiative (EU-X-...
PCM4EU
-  #episode35 - EU perspectives on the organisation of cross-...
PCM4EU
-  #episode36 - Access to clinical trials and molecular screenin...
PCM4EU
-  #episode33 - The importance of patient advocacy
PCM4EU

Initiatives to improve access to trials

Bring patients to trials

Local & cross borders

Project : Trial Match 2



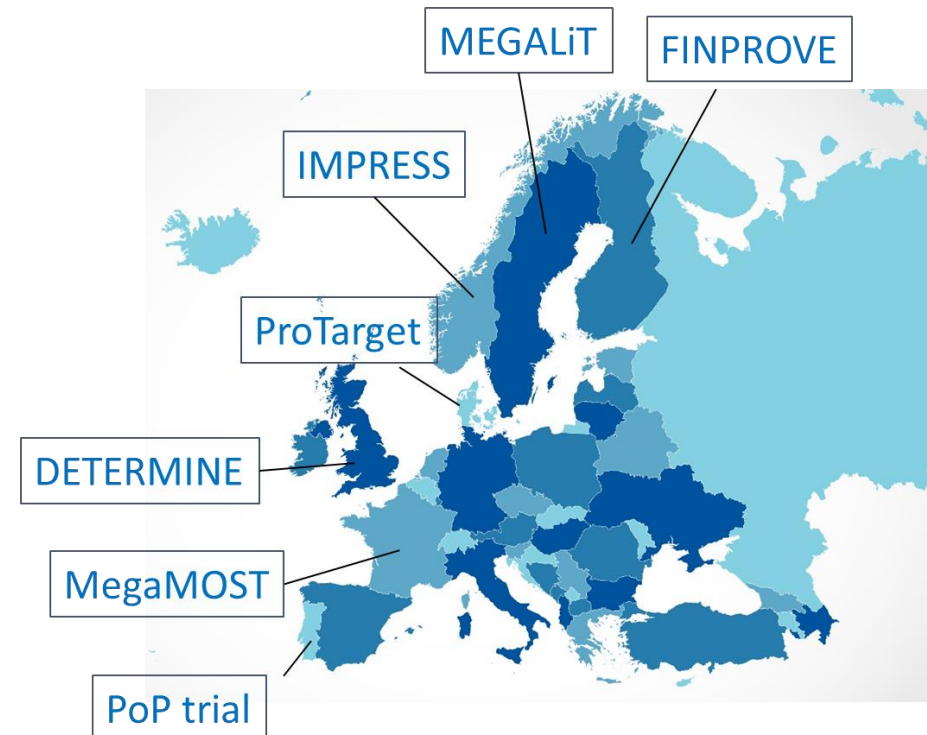
EU-X-CT Initiative

<https://efgcp.eu/project?initiative=EU-X-CT>

+

Bring trials to patients

International DLCT cohorts



PCM4EU, PRIME-ROSE

Conclusion

- NLP can help proposing more clinical trials to more patients
- NLP can improve quality recruitment of patients and accelerate study timelines
- Technologies should be carefully evaluated before they come to routine care

Artificial Intelligence for clinical cancer research



Rechercher



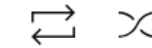
Artificial intelligence
for cancer research
(Part 1)

Centre Léon Bérard
June 2023

Loic Verlingue

Artificial intelligence for digital heal...

PCM4EU - 1/4



▶ #episode14 - Artificial intelligence for clinical cance...
PCM4EU
22:07

2 #episode14 - Artificial intelligence for clinical cance...
PCM4EU
23:34

3 #episode3 - Application of artificial intelligence,...
PCM4EU
10:37

4 #episode2 - Applications de l'intelligence artificielle en...
PCM4EU
7:46

#episode14 - Artificial intelligence for clinical cancer research (Part 1/2)

<https://www.youtube.com/watch?v=vbN3XOdQvuA>

<https://www.youtube.com/watch?v=B2Xj7hcWRZs>

CLB Phase 1 team



CRCL Saintigny team



Thanks

Data Science team



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Info <https://github.com/DITEP>