Peter MacCallum Cancer Centre publishes results from study using IBM Watson for Clinical Trial Matching

Retrospective study shows high accuracy for matching lung cancer patients to potential clinical trials using artificial intelligence technology

Australia - 27 Nov 2019: A Peter MacCallum Cancer Centre study has demonstrated the potential for artificial intelligence to help reduce the time for clinicians to match lung cancer patients to relevant clinical trials.

The clinical trial participation rate among Australian adults is estimated to be around only 2-3 percent[1], yet with more than 1000 new trials registered in Australia every year[2] and increasing complexity around the recruitment of patients, new ways for patient trial matching need to be adopted in order to continue to advance and improve clinical treatment.

IBM Watson for Clinical Trial Matching – an artificial intelligence technology that helps optimise trial recruitment at the point of care – took available patient data and matched each patient to 10 potential trials, achieving 92 percent accuracy as compared with manual clinician matching.

The study, published at the recent American Medical Informatics Symposium, used past records of 102 lung cancer patients who had recently attended clinics at Peter Mac and consented to their data being used for research.

“Cancer patients want to access new and experimental therapies and the best way to do this is through clinical trials,” said Dr Dishan Herath, oncologist and Co-Chief Medical Information Officer at Peter MacCallum Cancer Centre. “However, trial criteria are becoming increasingly complex, making it difficult for clinicians to navigate these criteria quickly and this can lead to patients missing out.”

“As confirmed by this study, AI has great potential to automate this process and help reduce the time needed to match patients with trials for which they may be eligible,” said Dr Herath.

IBM Watson for Clinical Trial Matching is being used in practice around the world achieving 78 percent reduction in patient-trial match screening time[3] and 84 percent increase in average monthly trial enrolment4.

Primod Govender, IBM Watson Health Leader for Australia and New Zealand said, where previously clinicians would spend hours manually searching through charts to match patients with the best clinical trial for their specific condition, this study reinforces the impact that AI can have in optimising this process.

“We are excited to work with Peter Mac in bringing more innovation to the research and clinical trial process and look forward to extending this work further,” said Govender.

The research was led by Dr Herath and fellow clinician researcher, Marliese Alexander, in collaboration with IBM Watson Health.

-ends-

About Peter Mac

Peter MacCallum Cancer Centre is one of the world’s leading cancer research, education and treatment centres

globally and is Australia's only public hospital solely dedicated to caring for people affected by cancer. We have over 2,500 staff, including more than 580 laboratory and clinical researchers, all focused on providing better treatments, better care and potential cures for cancer.

---

[1] Cancer Council Australia, Understanding Clinical Trials and Research A guide for people affected by cancer.

[2] https://www.anzctr.org.au/docs/ClinicalTrialsInAustralia2006-2015.pdf

[3] Beck J, Vinegra M, Dankwa-Mullan I, Torres A, Simmons C, Holtzen H, Urman A, Roper N, Norden A, Rammage M, Hancock S, Lim K, Rao P, Coverdill S, Roberts L, Williamson P, Howell M, Chau Q, Culver K, Sweetman R. Cognitive technology addressing optimal cancer clinical trial matching and protocol feasibility in a community cancer practice. J Clin Oncol. 2017;35 (suppl; abstr 6501). doi: 10.1200/JCO.2017.35.15_suppl.6501. https://ascopubs.org/doi/abs/10.1200/JCO.2017.35.15_suppl.6501

4. T. Haddad, J. Helgeson, *et.al.*, "Impact of a cognitive computing clinical trial matching system in an ambulatory oncology practice," Presentation at ASCO 2018.

Contact(s) information

Andrea Acton

IBM External Relations ANZ anacto@au1.ibm.com