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IBM,New York Genome Center to create cancer data repository

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At White House Precision Medicine Initiative Summit, the New York Genome Center and IBM announced that they are collaborating to create a comprehensive and open repository of genetic data to accelerate cancer research and scale access to precision medicine using cognitive insights from IBM Watson. Analyzing this data alongside the medical community's growing knowledge about cancer could help accelerate the ability of doctors to deliver personalized treatment to individual patients.

IBM and New York Genome Center are working together to build the capacity to house the contributed data, train Watson's cognitive computing capabilities for genomic analysis and enable the Center's member institutions and other research collaborators to sequence and analyze DNA and RNA from patients' tumors.

In the first phase of the project, the two organizations will examine genetic information from 200 cancer patients to compare how different types of sequencing might impact possible treatment options - examining whole genome and whole exome sequencing as well as clinical panels currently in wide use. Sequencing and clinical data will be fed into Watson to accelerate and focus reviews of massive amounts of medical evidence to help identify existing drugs that may be candidates to target patients' cancer-causing mutations. Clinically relevant insights will be returned to each individual patient's physician to potentially support the physician's treatment decisions.

The organizations seek to expand this collaboration with funding from additional partners to further the data repository's growth and adoption.

Dr Robert B. Darnell, New York Genome Center's founding director and CEO, said, "Our vision is to create a comprehensive cancer data repository that combines whole genome, exome, targeted panel and phenotypic data in an open platform that will empower researchers and clinicians. We believe that iterative analysis of the data and integration with our growing knowledge of cancer will allow doctors to provide better, personalized treatment."

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Whole genome sequencing can play an important role in informing cancer research and treatment. Access to and interpretation of this type of genomic data, however, is currently limited. By combining genetic and clinical information from patients, IBM and New York Genome Center plan to pool resources and talent while also collaborating with a variety of IBM partners and New York Genome Center members, philanthropic partners, and New York State supporters.

"Data is quickly becoming one of the most valuable resources in the fight against cancer," said Dr John Kelly III, senior vice president, Cognitive Solutions and IBM Research. "By amassing this contributed data and applying cognitive insights to the challenge of analyzing cancer data, we believe we can soon scale access to precision medicine worldwide."

All contributed data will be maintained in a HIPAA enabled repository, in de-identified form.

The effort was announced as part of President Obama's Precision Medicine Initiative on 25 Feb 2016 at a White House Summit.

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