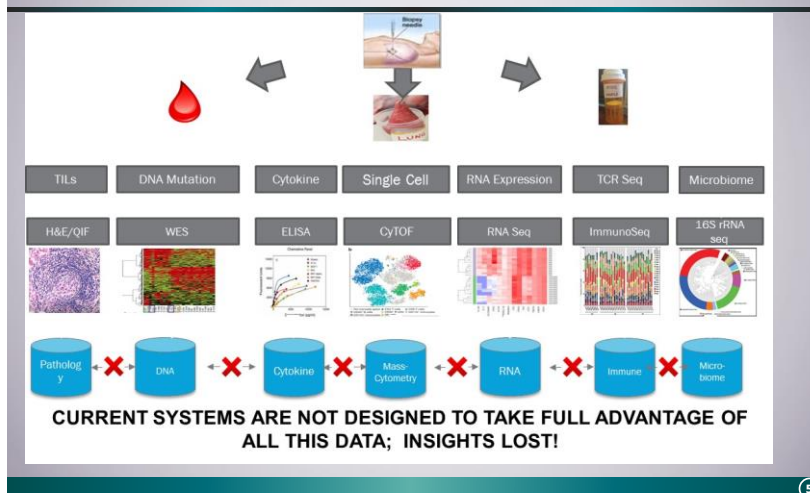


INDx Technologies has developed a new approach to solving problems associated with data integration and analytics as well as sample tracking in data intensive clinical trials. We have devised this approach for the unique needs of Immune-Oncology (I/O) and Precision Medicine trials. Our solutions allow: a) **deep interrogation and integration of data-sets** which is critical in extracting insights on the drug and patient biology, b) **faster and cost-effective trials** by alleviating bottlenecks associated with data and samples c) **near real time access to data** during trials. Our solutions have been developed in close coordination with the **Parker Institute of Cancer Immune Therapies** (PICI) along with their partner institutions such as MDA, MKSCC, UPENN, Duke, UCSF and UCLA.

DEEP DATA BEING GENERATED IN EXPLORATORY IO TRIALS BUT ARE SILO-ED AND LARGELY UNDEREXPLOITED



The Situation/Problem: Clinical trials are becoming increasingly complex. With the advent of I/O and combination therapy trials, we are experiencing an unprecedented amount of deep biological, phenotypic and behavioral data being generated on patients. ***The race is on, for not only the next breakthrough I/O therapy but also novel biomarkers that can predict response, monitor efficacy, detect early signs of resistance and ultimately improve outcomes.*** New molecular technologies such as Next Generation Sequencing, Mass Cytometry and High Dimensional imaging are emerging and rapidly being adopted in clinical trials. Patient samples are being taken with increasing frequency and shipped to specialized labs for molecular profiling. Real world patient data as well as “Internet of things” are becoming increasingly important for these new studies. In such a complex and data-rich environment, however, **existing clinical trial processes, data management and sample tracking systems remain antiquated thereby causing extensive delays and inefficiencies (see side bar 2).** Moreover, **important insights related to patient**

SIDE BAR 1: RECENT FAILURE OF I/O TRIAL IS AN OPPORTUNITY TO LOOK DEEPER INTO BIOMARKER DATA-SETS FOR INSIGHTS

Recent failure of a pivotal trial of I/O therapy (Incyte’s epacadostat with Keytruda) points to a major limitation in current approaches to trials, i.e. lack of predictive biomarkers to pre-select patient population that are likely to be responders. These new biomarkers are likely to be multi-omic and will include analysis of not only the tumor but also the TME¹. However while tremendous amounts of data is being generated during these trials in search of these biomarkers, most institutions lack the ability to ingest and interrogate these biomarker data sets. With current processes, a simple interrogation of these data-sets can take 2-4 weeks with multiple people involved in this task. This is a significant hurdle that causes delays, prevents deep data analytics at scale and can jeopardize the success of the trial. Time has come to embrace the best-of-breed technologies to manage and analyze deep data during trials. We believe that INDx has developed such a novel approach that can allow researchers to scalably perform deep data interrogation across multiple data-sets within hours and this has been pressure-tested at world class institutions. The secret to success we believe, is hidden deep inside these biomarker data-sets and with the right set of tools, researchers will have the flexibility and control to perform deep data interrogation which will increase the odds of success of the clinical studies.

response and biomarkers are missed due to fragmented nature of data sets (see side-bar 1). Time has come for a new approach to conducting clinical trials; an approach that is designed for the unique challenges of data-intensive trials in the field of I/O and beyond. We believe that a more aggressive strategy on biomarkers is needed in the next generation of combination I/O therapy trials in order to increase the odds of their success. We believe that INDx Technologies with its iCore™ platform, has a unique solution to these problems.

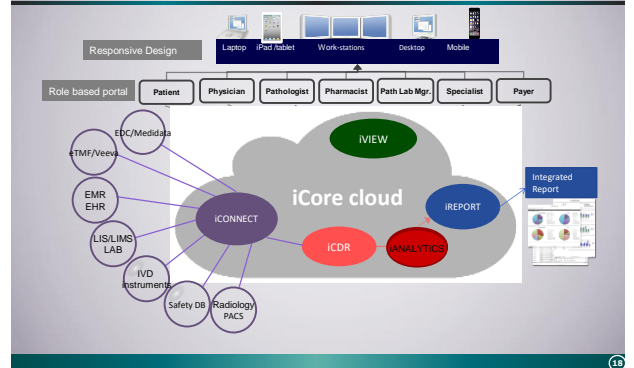
Side Bar 2: From 3 weeks to a few hours for RNA Seq analysis

“WE SEND OUR PATIENT SAMPLES FOR RNA SEQ ANALYSIS TO A 3RD PARTY LAB. IT USED TO TAKE US 2-3 WEEKS TO RUN OUR PIPELINES AS WE WERE DEPENDENT ON THIS LAB FOR THE DATA. NOW WITH THIS NEW APPROACH WITH INDX, RE-RUNNING RNA-SEQ PIPELINE TAKES HOURS AS OPPOSED TO WEEKS AND HAS CONSIDERABLY IMPROVED OUR ABILITY TO ANALYSE RNA DATA” - CSO OF AN EMERGING I/O BIOTECH

The Solution: INDx Technologies has worked closely with PICI to develop a novel clinical trials

system that has been designed for this new era of precision, molecular biomarker driven trials with particular emphasis on I/O. We have developed a secure, HIPPA compliant data management, analysis platform called iCore™ that leverages the latest big data technologies from the Silicon Valley and automates the integration of complex data sets which speeds up access patient data to to near real-time levels. We also have also developed advanced analytics that allows researchers to query data-sets and to perform unsupervised analytics across data sets. What used to take months and months of work now takes hours with a much deeper analytical capability to extract insights that previously were not possible.

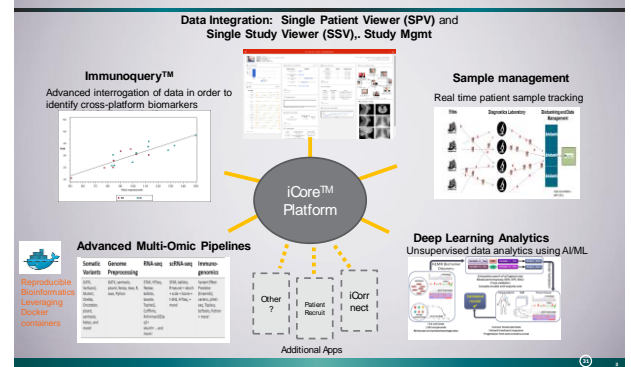
INDx: a novel, secure platform designed for the needs IO clinical studies



We have developed the following apps on our iCore™ platform:

- 1) iDiscover, iConnect and iManage: Study management, Single Patient Viewer, Single Study Viewer with seamless integration
- 2) iTracker: Sample tracking system, define kits and sample workflow, lab testing and accessioning
- 3) iQuery: Immunoquery: allows deep data query data across data-sets seamlessly
- 4) iAnalyze: Automated pipelines that have been “containerized” using docker for easy scale up
- 5) Advanced analytics: ability to integrated advanced 3rd party analytics

WE HAVE DEVELOPED APPS THAT ADDRESS BOTTLENECKS IN TRIALS



For Further Information, please contact: Arshad Ahmed, arshad@indxtechnology.com, +1 617 407 7043

Visit us at: www.indxtechnology.com