Volume 13 Issue 6

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Interview with Clinerion: Health Outcomes in Clinical Trials

Q1. Can you start by explaining a little bit about Clinerion and What are Clinerion's ambitions for the future?

Clinerion is a company offering real-world data insights from our global hospital network covering over 36 million patients in almost 20 countries, online and refreshed daily. The Clinerion Patient Network Explorer can be used to query real-time, anonymized EHR data that can be used for study feasibility, as well as to follow patient journey and outcomes. Our network contains significant longitudinal data of between 5 to 7 years, on average. Partner hospitals can use our Patient Finder internally for their own patient care, stratification and outreach for clinical research and trial recruitment.

Our goal is to better enable digital healthcare data, not just for care reimbursement but for actual patient care, and better patient outcomes. Digital data is now at the forefront of better patient engagement, diagnosis and monitoring and Clinerion's technology enables hospitals, care givers and clinical research partners to use the digital resources already within the hospital better.

Q2. What is real-world data (RWD) solutions and How does it enable Pharma to achieve its goals?

Real World Data is entirely about perspective. What health data is needed to answer your question? RWD now encompasses the entire pharmaceutical process from discovery and development into clinical research and commercialization. The specific question requires a specific answer and thereby a specific data capability to answer. EHR data, such as Clinerion´s, help in pre-clinical and clinical understanding of patient journey and outcomes and improving outcomes.

Q3. How does Clinerion use RWD to improve clinical trials and thus health outcomes?

Clinerion is unique in our relationship with our hospitals within our network in that we provide at no charge, a first-ever interface for many member hospitals to see and use their own health information system (HIS) data for their own patient care and stratification. Often this data is used for care reimbursement and not able to be queried by physicians and care givers. However, as part of the digital ecosystem within the hospital, making this data available for actual healthcare is part of Clinerion´s mission of "SMART hospital" enablement and democratization of healthcare data, globally.

To the specific question of how we improve clinical trials, the unique configuration of the Patient Network Explorer, outside the hospital, and Patient Finder, inside the hospital, allows the hospital staff, with appropriate permissions, to re-identify patients from trial criteria, enabling faster patient screening for outreach and potential clinical trial recruitment. This supports better healthcare outcomes, especially in rare diseases, where this framework can be used phenotypically to identify patients that have never yet been correctly diagnosed. By highlighting potential patients with by disease phenotypes, a hospital with study approval can create an outreach program, run diagnostic screening and thereby correct misdiagnoses and medication.

Q4. Patient Network Explorer – how does it work in respect to clinical trials?

In a clinical trial, a query is generated on anonymized patient data in Patient Network Explorer. This query can be accessed by the Patient Finder inside the hospital, allowing the clinical research team to screen patients for potential clinical trial inclusion. They can re-identify and recruit candidates directly from their patient records. This is unique and a singular hybrid technology that allows immediate and real time metrics on patient, patient care and patient feasibility toward clinical trial inclusion.

Q5. How does Patient Network Explorer's hybrid technology benefit Health Outcomes?

Simply put, digital enablement is immediate, real time, and therefore more enabling to patients in need where time is critical and time-to-diagnosis, time-to-treatment, time-to-care is critical to outcome and therefore to better treatment metrics.

Q6. Although mHealth devices and sensors are continuing to evolve, and it is now possible to capture a vast array of physiological data, the operationalization of digital trial is not without challenges. Can you explain the benefits of integrating digital health effectively and efficiently?

Although there is increasing more digital data available, it is also increasingly a question of whether the data is fit-for-purpose and ensuring that the data available is appropriate to the scope and intent of the research. Increasingly, with the Internet of Things and digital metrics,

there are more and more mechanisms to derive behaviour tracking and human physiological metrics. These must, as in any clinical research, have purpose and ethical intent.

Q7. Decision makers in health care are increasingly interested in using high-quality scientific evidence to support clinical and health policy choices; however, the quality of available scientific evidence is often found to be inadequate. How does Clinerion plug the hole in research data analysis?

Electronic health records are high quality clinical data as they are a record of patient care and the patient journey over the course of diagnosis and treatment within the hospital care setting. It is, however, one vector of data within an increasing array of healthcare data resources and metric outputs. Increasingly, the question is having the right tool, or data which is fit-for-purpose for the intent or question intended. Much like carpentry, the type of tools needed are specific to the type of wood you have and to what piece of furniture you want to make with it. So, the first question is: what the research goal is, from which one can then scope the data and resources needed.

Q8. What are Clinerion's plans for the clinical trials sector in 2022?

The need is always in the direction of more data, so Clinerion has strategic plans and efforts ongoing toward natural language processing to begin to incorporate unstructured data from physicians' charts and gather interpreted diagnosis and care. In a further step, Clinerion is also developing the capability to apply artificial intelligence and machine learning models and learning metrics across our federated network in a federated learning model. Our model is always to work with the data in situ within the hospital, and not move care data outside the hospital firewall. This is critical to data privacy and regulatory compliance (e.g., GDPR). We only bring healthcare insights and model outputs outside without compromising primary patient data.

Douglas Drake

Douglas Drake, MS, MBA, is originally a life science researcher with a passion for digital enablement of better patient care. For over 30 years, Douglas has worked in various aspects of diagnostics, therapeutic research, drug discovery and global business development. He has broad experience in transformative technologies, data sciences, digital healthcare and applying these to improving patient engagement and the patient journey.