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CLINICAL DATA SCIENTIST
BUSINESS SERVICES

THE CURRENT PICTURE

The pharma industry historically has generated large amounts of data, driven by record keeping, compliance & regulatory requirements, and patient care [1]. In addition, the Digital 'new data' Age has given industry access to Big Data that is constantly growing not only in terms of volume, variety, velocity but also in terms of complexity.

The industry is seeking ways to effectively utilize this data-outburst to their advantage to overcome the typical business hurdles like – increasing R&D costs, very short window to earn ROI, patent cliff, shrinking R&D pipeline coupled with extremely long drug development cycle etc.

Some examples of factors contributing to business challenges include:

Identification and enrolment of eligible patients. Statistics show that despite pharma/CROs efforts, reaching enrolment goals per timelines seem elusive in many studies [2]. The majority (nearly 85%) of clinical trials conducted in the United States fail to enrol subjects within the contract period [3].

Monitoring, a significant cost driver with greater opportunity to optimize. A comprehensive risk based monitoring (RBM) approach could bring in cost benefits of up to 40-45%.

There is awash of data but lacks actionable insights. Hence there is a need to look at newer methods adopting analytics driven approach in transforming clinical paradigm digitally to solve some of the business challenges.

To take-up this challenge of data-driven transformation, a new role of Data Scientist has emerged. Industry demands creating a regulatory compliant ecosystem with necessary skills-sets to unleash the hidden pointers by deriving meaningful information to support cross-functional teams in clinical research.

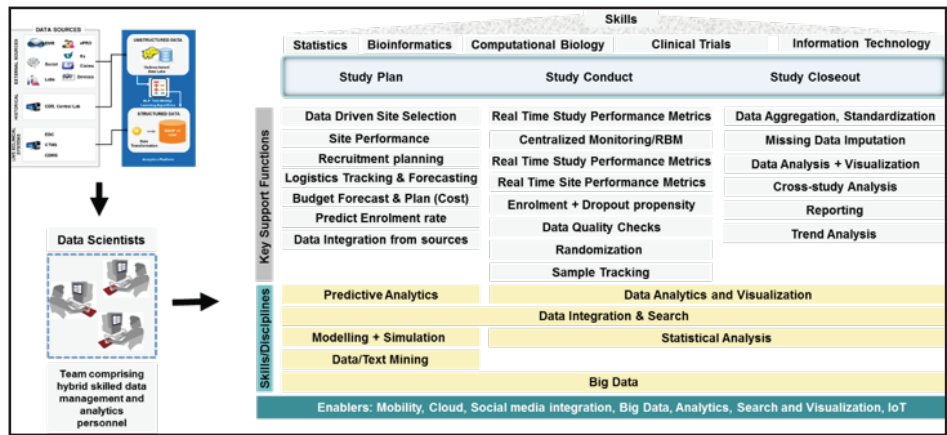| Future of Data Science [4]	
expected to grow from USD 28.65 Billion in 2016 to USD 66.79 Billion by 2021	expected to grow at a Compound Annual Growth Rate (CAGR) of 18.45%during the forecasted period

WE NEED

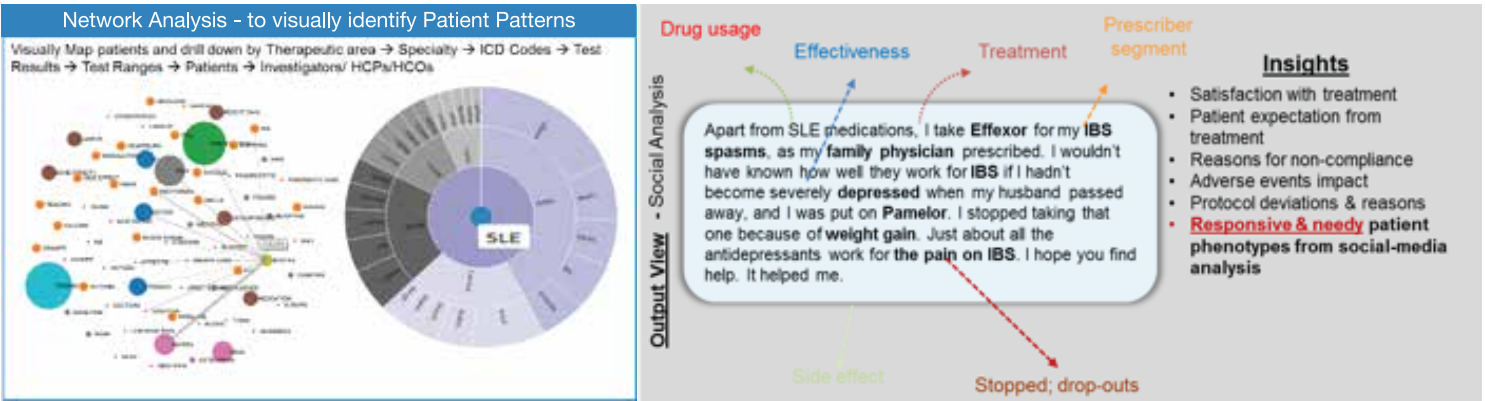| Advanced analytics skills (for visual, predictive, patterns/ trends analysis etc.) for evidence driven, real time approach	Advanced analytics tools, functional platform and modernization / externalization of existing assets addressing data complexity, integration challenges, security issues, and privacy restrictions	Correct strategy to overcome data accessibility by collaborating with internal teams (access to historical trials data) as well as external stakeholders (e.g. EHR, Lab, data providers)

OPPORTUNITY

Study budget forecast & planning	Site selection & patient enrolment	trend analysis (historical/live data) across studies/sites	qualitative assessment of SAEs, and	Risk Based Monitoring etc.

HCL DATA SCIENTIST BUSINESS SERVICES

Our Data Scientist talent pool is a well-balanced mix of domain and technical resources with combined knowledge of clinical data management, biostatistics, clinical operations, data mining, integration, informatics/programming languages. HCL can fast-track client's pursuit by driving richer data-driven decisions through appropriate analytics to derive meaningful insights.

Our team of data scientists are supported by proven analytics platform to derive rich predictive and operational insights. Following provides illustrative of various analytics activities performed by data scientists, e.g. in supporting patient identification & recruitment effort.

BENEFITS

Predictable study budget forecast & planning	Improved effectiveness with greater understanding of requirement of 'investigator, site & patient' profile by therapeutic area, geography, adverse event and indication
Real time access to information to support decision making for patient recruitment, risk based monitoring etc.	Standards driven integration; supports CCD, FHIR, HL7, CDISC CDASH, ODM
Integrated Dataflow, with up & downstream systems	Overall, increased leverage of internal and external data sources to transform clinical paradigm digitally for greater work productivity and profitability of trials while benefitting the patient in bringing much needed new drugs to market faster

HCL DATA SCIENTIST BUSINESS SERVICES

Regulatory, HIPAA, 21CFR Part 11 compliance	Data de-identification	Patient Data Safety & Privacy	Security, Audit & Archival Policies

WHY HCL FOR DATA SCIENTIST BUSINESS SERVICES

HCL is a "Full Services Provider" that is uniquely positioned to deliver truly Integrated Clinical Data Scientist Business Services. Some of the reasons for HCL's strong position are as below.

LEADER IN CLINICAL TECHNOLOGY IMPLEMENTATION & SUPPORT

- Strong expertise in clinical technology architecture and process excellence
- Leader in implementation and support for 400+ Global Clinical Development applications
- Proven clinical solutions for digital transformation with demo-ready Innovation Lab environment for pilots/PoCs

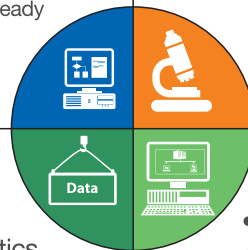### STRONG CLINICAL DOMAIN EXPERTISE

- Strong consulting team for business process assessment, roadmap and blueprint
- End to end business services in clinical safety and regulatory
- Leader in CDISC Standards Implementation and transformation services

INDUSTRY LEADING ANALYTICS TRANSFORMATION UNIT

- Implemented several Large Scale Complex Analytics Programs in Life Sciences & Healthcare
- Highest rated service provider in Big data consulting and system implementation by IDC
- Industry leading Application Modernization Services for Digital Transformation

LEADER IN INFRASTRUCTURE MANAGEMENT

- Global Leader Infrastructure Services - 250+ Customers Across 9 Verticals
- HCL works with 8 out of top 10 ISVs in their Cloud initiatives
- Device Automation and Orchestration Platform

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HCL LIFE SCIENCES & HEALTHCARE

HCL is a leading provider of Life Sciences and Healthcare Business and Technology services. We are the chosen service provider for enabling new growth drivers for our clients, providing them with industry leading best practices, taking care of their compliance needs and ensuring gold standard process cycle times. Our clientele includes eight of the top ten global pharmaceutical companies, nine of the top ten medical devices companies, six of the top ten health plans, three of the top five CRO's and two of the top three data providers. Equipped with certified technology experts and domain specialists, HCL offers services in critical areas of the life sciences and healthcare eco system such as drug discovery, clinical development, drug safety, regulatory compliance, manufacturing and plant automation, commercial, Healthcare analytics, Population Health Management [PHM], mHealth, member experience management [MEM], fraud, waste and abuse management [FWA].

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Let's connect:

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ABOUT HCL

ABOUT HCL TECHNOLOGIES

HCL Technologies is a leading global IT services company working with clients in the areas that impact and redefine the core of their businesses. Since its emergence on the global landscape, and after its IPO in 1999, HCL has focused on 'transformational outsourcing', underlined by innovation and value creation, offering an integrated portfolio of services including software-led IT solutions, remote infrastructure management, engineering and R&D services and business services. HCL leverages its extensive global offshore infrastructure and network of offices in 31 countries to provide holistic, multi-service delivery in key industry verticals including Financial Services, Manufacturing, Consumer Services, Public Services and Life Sciences & Healthcare. HCL takes pride in its philosophy of 'Employees First, Customers Second' which empowers its 104,000+ employees to create real value for customers. HCL Technologies, along with its subsidiaries, had consolidated revenues of $6.2 billion in FY 15 as on 31st March, 2016.

For more information, please visit www.hcltech.com

ABOUT HCL ENTERPRISE

HCL is a $7 billion leading global technology and IT enterprise comprising two companies listed in India – HCL Technologies and HCL Infosystems. Founded in 1976, HCL is one of India's original IT garage start-ups. A pioneer of modern computing, HCL is a global transformational enterprise today. Its range of offerings includes product engineering, custom & package applications, BPO, IT infrastructure services, IT hardware, systems integration, and distribution of information and communications technology (ICT) products across a wide range of focused industry verticals. The HCL team consists of over 110,000 professionals of diverse nationalities, who operate from 31 countries including over 500 points of presence in India. HCL has partnerships with several leading global 1000 firms, including leading IT and technology firms.

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