

June/July 2019 Report

IQVIA Holdings Inc.

IQVIA is a global provider of information, innovative technology solutions, and contract research services focused on using data and science to help healthcare clients find better solutions for their patients

- IQVIA helps companies rethink approaches to clinical development and commercialization, and innovate with confidence
- Approximately 61,000 employees in more than 100 countries
- IQVIA's approach to human data science is powered by the IQVIA CORE – seeks out actionable insights use big data, transformative technology and analytics, and extensive domain expertise

HARNESS IQVIA'S FULL POWER

Domain Expertise



Institutional knowledge and domain expertise across diseases, geographies and scientific methods

Transformative Technology



Leading technologies to provide real-time access to operations-critical information



IQVIA CORE™



Unparalleled Data

One of the world's largest curated healthcare data sources with innovative privacy protections



Advanced Analytics

Faster, more precise decision-making generated by advanced analytics designed for healthcare

Vision/goal: to drive healthcare forward and advance human health

- Exploring a path to better health outcomes via Human Data Science (big data in health)
- Providing solutions that help life sciences companies to innovate, maximize opportunities, and drive human health outcomes forward
- Use the power of Human Data Science to identify, understand, and address unmet public health needs
 - Work in partnership with life science companies, medical researchers, government agencies, payers, nonprofit organizations, and other healthcare stakeholders → deliver insights and solutions
- Use human science expertise and data science together to provide unbiased, fact-based insights to the healthcare industry



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Human Data Science and IQVIA

- To contribute to the advancement of human health globally, IQVIA created the IQVIA Institute for Human Data Science to deliver timely research, insightful analysis, and scientific expertise applied to non-identified patient-level data
 - The Institute delivers objective, relevant insights, and research that support understanding and innovation that lead to sound decision making and improved human outcomes
 - Through collaboration with the Institute, researchers and students have access to a broad range of proprietary databases and tools to support independent research and discovery
 - Partner with academic research organizations to provide data resources and analysis to further their research
- The integration of the study of human science + breakthroughs in data science and technology to advance our understanding of human health
- We need bigger data and smarter analytics to help us solve specific questions about health
- IQVIA is a leader in human data science – they collect, study, de-identify and protect data that helps us answer questions about human health
- IQVIA then helps to link this data to their advanced analytics to answer questions and solve problems
- Human data science can help to diagnose patients, treat their conditions (develop treatments that truly provide the best outcomes) and look for patients earlier and with minimal errors

Leadership

Chairman and CEO – Ari Bousbib



Japan President – Norihiko Minato





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Partnerships and Projects

- Drug Safety – IQVIA formed an alliance with the FDA Center for Biologics Evaluation and Research to assist in the evaluation of safety and effectiveness of various vaccines, blood products and other biologics
 - To do this, worked with the Observational Health Data Science and Informatics initiative
- Fighting the Opioid Epidemic – IQVIA partnered with the *American Medical Association's Task Force to reduce Opioid Abuse* → IQVIA's data and analyses helped illustrate the effects of legislation on opioids
- Bridging Oncology Gaps – IQVIA created the *Collaboration for Oncology Data in Europe (CODE)* with life science partners → CODE is developing an Oncology Data Network to harness valuable information about anti-cancer medicines
- Addressing Antibiotics Resistance – IQVIA collaborated with the U.S. Centers for Disease Control and Prevention to combat the overuse and misuse of antibiotics
 - Information and analysis identified significant regional and local variability in antibiotics use across the U.S.
 - Findings shed light on the factors begin the rising number of drug-resistant bacteria strains
- As part of the Bill and Melinda Gates Foundation funded effort, IQVIA provided crucial information about tuberculosis to gain understanding of the true disease burden around the world → worked revealed higher rates of tuberculosis than had been previously recognized as well as prospective causes
- Malaria Access in Action – Collaborated with the *Medicines for Malaria Venture* to consolidate data flow and help the Uganda National Drug Authority to develop a system for monitoring pharmaceutical use at a national level
- Enabling Alzheimer's Insights – IQVIA was selected by the *European Prevention of Alzheimer's Dementia (EPAD)* to oversee a longitudinal study of 6000 people that allow researchers to track the development of Alzheimer's' symptoms

IQVIA and Research & Development

- With IQVIA CORE, IQVIA helps clients...
 - Predict which sites can deliver the right patients → increase enrollment speed up to 30%
 - Reduce trial timelines → faster start-up of the right sites
 - Use real-world data to assess protocol and reduce the risk of protocol changes and delays
 - Use commercial forecasting to evaluate new options to maximize asset value
 - Ensure patient safety and data quality through automated, real-time detection of risk trends for patients and sites



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IQVIA and Real-World Value and Outcomes

- IQVIA helps clients...
 - Gather insight and evidence by using real-world data
 - Enhance collaboration with payers and providers to ensure patients benefit from the treatment's potential
 - Use machine learning to drive commercial effectiveness by defining and supporting differentiation (creating something unique) in a specific therapy area using machine learning, AI, and clinically rich data
 - Drive launch excellence and increase sales force effectiveness with advanced analytics
 - Plan ahead and reduce risk using AI

IQVIA and Commercialization

- IQVIA helps clients...
 - Use Human Data Science to seek insights about a market and match it with proven launch excellence strategies, market access plans, and market development
 - Streamline operations to reduce long-term costs and increase efficiency
 - Assess the market in real time to allow for fast reactions to market forces and changes in the market
 - Connect with global and local healthcare and functional experts to provide them with actionable insights and resources to help with product success
 - Use promotional analysis to help them understand the trajectory of their brand and measure its progress along the way

IQVIA Technologies

- IQVIA Technologies goal is to ensure that clients have the right information at the right time and in the right place so that every decision they make is the right one
- Helps encouraged greater connectivity and collaboration across the enterprise
- DrugDev Spark clinical operations suite by IQVIA – allows clients to select ideal sites based on evidence, implement site feasibility surveys, work with a multilingual team,

IQVIA and Therapeutics

- IQVIA is at the forefront of integrating human science expertise with advances in analytics and technology to help customers ask better questions and extract more meaningful insights

IQVIA Introduces Patient Centered Endpoints Solution with Transformative eCOA Technology Platform – June 25, 2019



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<https://www.iqvia.com/en/newsroom/2019/06/iqvia-introduces-patient-centered-endpoints-solution-with-transformative-ecoa-technology-platform>

- On June 25, 2019 IQVIA announced the launch of the Patient Centered Endpoints (PCE) solution – an innovative science and technology-enabled approach that captures evidence of patients’ experiences during clinical trials and real-world studies
 - This helps trial sponsors to better understand the patients’ experiences on various therapies, reduce study implementation timelines, and enhance data transparency
- PCE allows life science companies to use real-time direct-from-patient data collections solutions in their research → by integrating IQVIA’s scientific services with a secure, electronic clinical outcome assessment (eCOA) on a cloud-based technology platform
 - eCOA was developed to improve trial experiences for patients and study teams
- PCE is powered by the IQVIA CORE
- PCE solution reflects deep knowledge and understanding of what matters to patients about their disease and treatment + protects privacy by delivering insights on a non-identified basis

Chiesi Group Selects IQVIA’s Orchestrated Customer Engagement (OCE) Technology Platform to Develop a Customer Centric Ecosystem across the Organization – June 17, 2019

<https://www.iqvia.com/en/newsroom/2019/06/chiesi-group-selects-iqvias-oc-technology-platform-to-develop-a-customer-centric-ecosystem-across-t>

- Chiesi Group is now using IQVIA’s OCE technology platform to enhance customer proximity and teamwork effectiveness in more than 20 markets
 - They say the OCE platform has the ability to meet the needs of their different commercial teams and unique customers
- IQVIA’s OCE platform is a new category of cloud-based life sciences technology built on the latest best-in-class platforms like Salesforce and Amazon.
 - It has capabilities such as predictive analytics and machine learning, AI-enabled recommendations, integration with other data and applications to drive better decision-making
 - It allows companies to move from multiple point applications to a unified commercial solution that evolves
 - Can connect sales, marketing, medical, and other customer-facing functions
- Chiesi will create a globally connected commercial ecosystem using OCE Sales, OCE Marketing, and IQVIA’s OneKey healthcare professionals’ database

IQVIA’s Real World Analytics Capabilities Support Approval of IBRANCE – May 30, 2019

<https://www.iqvia.com/en/newsroom/2019/05/iqvia-real-world-capabilities-and-expertise-support-path-to-label-expansion>



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- IQVIA's real world analytics helped Pfizer Oncology to offer IBRANCE (palbociclib – treatment of adult patients with HR+ and HER2 – advanced or metastatic breast cancer) for this underserved patient population due to rarity of the disease

IQVIA Launches IQVIA MedTech Dedicated to Medical Device and Diagnostics Industry – May 13, 2019

<https://www.iqvia.com/en/newsroom/2019/05/iqvia-launches-iqvia-medtech-dedicated-to-medical-device-and-diagnostics-industry>

- IQVIA MedTech helps companies with operations of their product from concept-to-market providing quality control, regulatory safety, and compliance solutions
- At this point they had served 800 MedTech clients in more than 70 countries
- They help clients develop and execute clinical trials, entering new markets, managing regulatory processes, addressing global implications of client compliance programs, and developing strategies → support a company's individual needs
- IQVIA MedTech provides information at a geographic scale to drive expansion into global markets
- IQVIA MedTech offers a unique single-course option that integrates well with existing systems and processes

IQVIA Releases 2019 Medicines Report on U.S. Drug Consumption – May 9, 2019

<https://www.iqvia.com/en/newsroom/2019/05/iqvia-institute-for-human-data-science-releases-2019-medicines-report-on-us-drug-consumption-us-rx-o>

- IQVIA released a report that found that prescription opioid dosage volume decline 17% in 2018 – May 9, 2019
- Other highlights from the report:
 - There were 5.8 billions prescriptions dispensed in 2018 → up 2.7% from 2017
 - More then 2/3 of total prescriptions were for chronic conditions
 - Largest increase in medicine use was seen in anti-hypertensives → mostly driven by an aging population and expanded guidelines to lower blood pressure
 - Greater use of 90-day prescriptions and higher adherence rates among patients
 - Total patient out-of-pockets costs for retail prescription drugs were estimated to be \$61 billion in 2018, \$2 billion increased compared with 2017
 - Total net spending growth on pharmaceuticals is forecast to increase at a compound annual growth rate of 3-6 percent on net price basis → largest driver of this growth will be the launch of new brands