

REAL-WORLD INSIGHTS

IMS Health & Quintiles are now
IQVIA™

BRINGING A NEW REAL WORLD TO YOU



EVIDENCE NEEDS ARE EVOLVING

Growing demands to **demonstrate product value** and **prove product safety**.



Move to **precision** therapy

requiring evidence for smaller, more diverse patient sub-groups



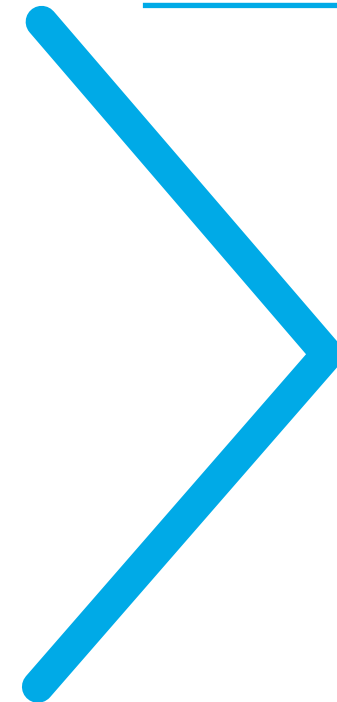
Greater demands on **productivity**

to generate the right evidence for value demonstration, approval and label extensions



Increased **safety** commitments

with longer, more thorough safety studies to detect rare/adverse events - PASS, PAES, REMS, EU-RMP, DUS

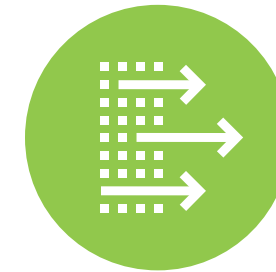


More options available in evidence generation to meet these demands.



Emerging **data sources**

including mobile, digital, patient-reported, clinical notes and omics



Advances in **study design**

with pragmatic randomization, enriched, extended and augmented studies

HUMAN SCIENCE, MEET DATA SCIENCE

Human Data Science is our revolutionary new way to harness advances in technology, analytics and human ingenuity to continue the pursuit of **better health outcomes**.

Human Science



- Natural history of disease
- Genomics, proteomics
- Impact of diagnostics and therapeutic interventions
- Keeping people healthy via disease prevention, disease reversal

Human Data Science

A better way to think about, and solve, our problems

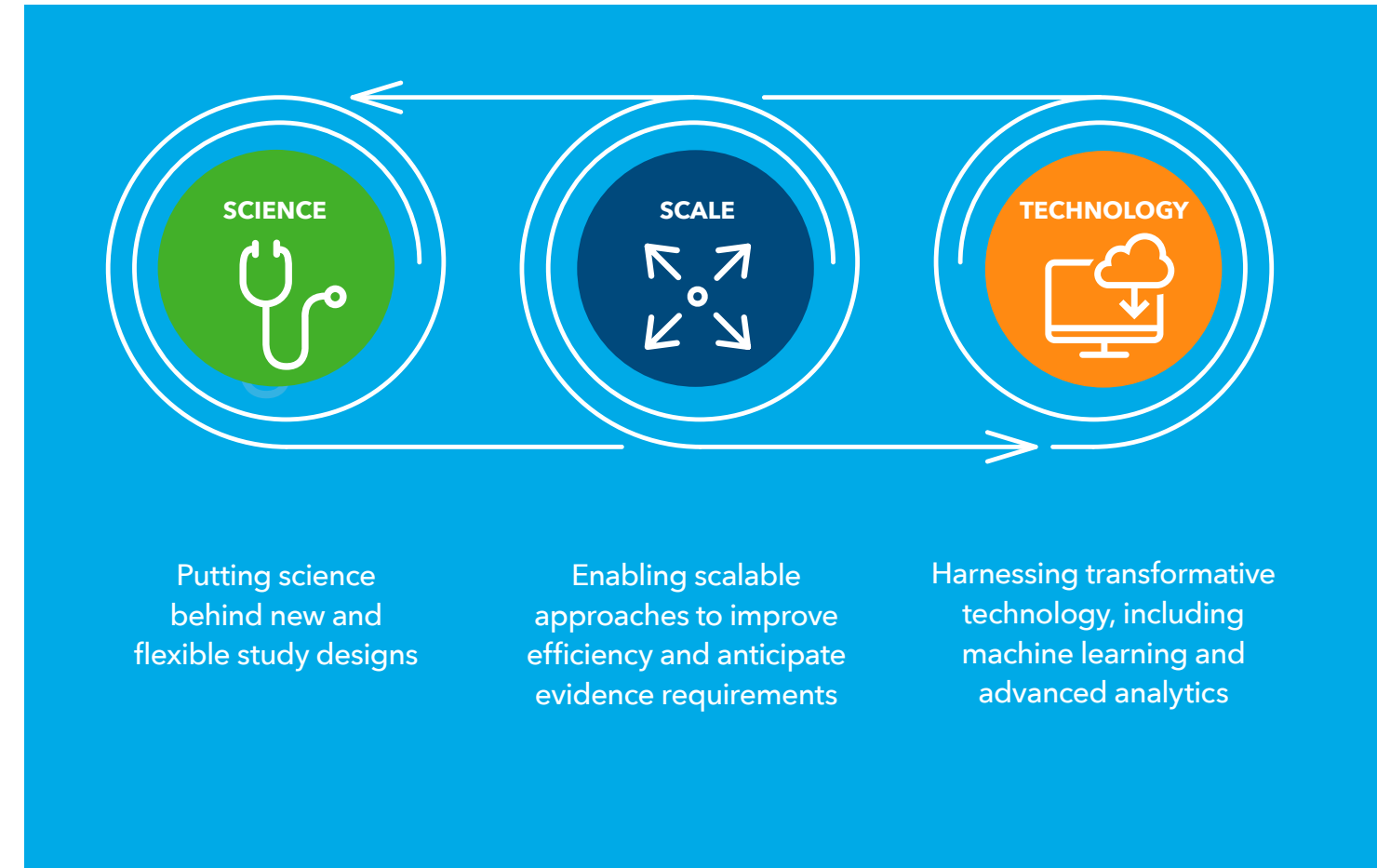
Data Science



- Data access, linkage, and management
- Machine learning, predictive analysis, advanced analytics
- Shared access to data and insights

REIMAGINING EVIDENCE

through **science**, **scale** and **technology** to enable better decisions, every time.



POWERED BY THE IQVIA CORE™

Our power lies in the IQVIA CORE™, a set of capabilities derived by the integration of our foundational data, advanced analytics, new technologies and significant domain expertise.

IQVIA CORE™

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



Unparalleled Data



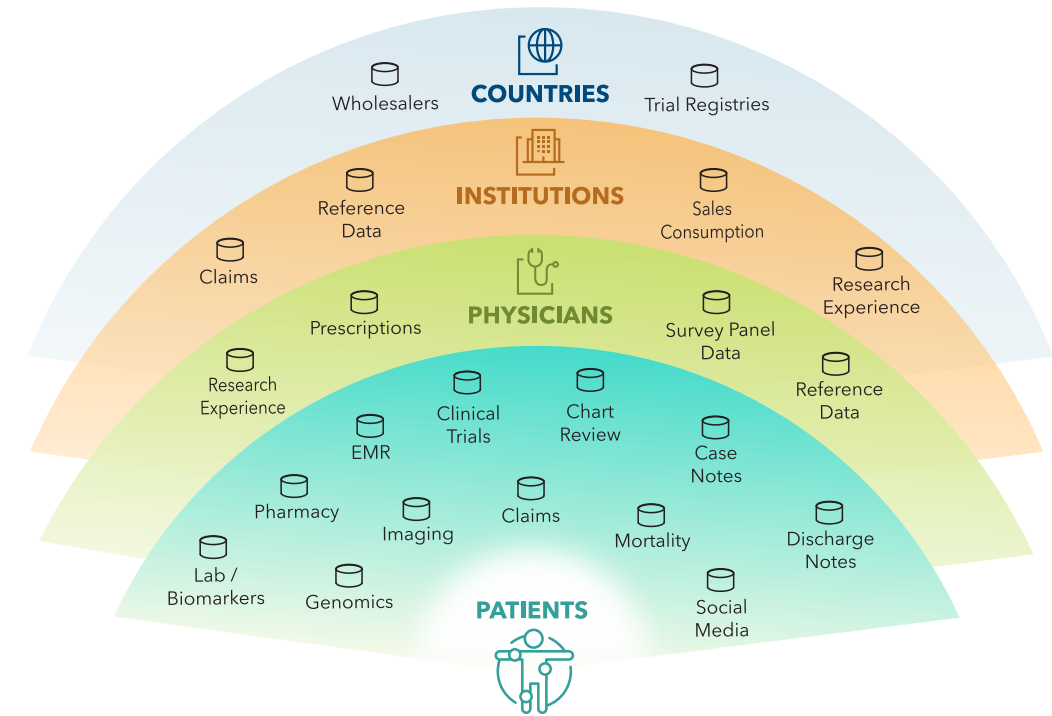
One of the world's largest curated healthcare data sources with innovative privacy protections

Advanced Analytics



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

ACCESS THE REAL-WORLD DATA YOU NEED



530M+

Non-identified patient records

85%+

Global pharma sales tracked

4.9M

Investigators

400K+

Sources of social media

800K+

Data feeds

15M+

Healthcare professionals

100K+

Data suppliers

20+

Petabytes of unique data

TAP INTO THERAPY AREA-SPECIFIC EVIDENCE NETWORKS AND CAPABILITIES



The right depth and breadth of data

Cardiovascular diseases

Metabolic diseases

Multiple sclerosis

Oncology

Ophthalmology

Psoriasis

Rare diseases

Rheumatoid arthritis

CARDIOVASCULAR

- Registry with the American College of Cardiology, supporting practitioners in the post-MACRA¹ era



MULTIPLE SCLEROSIS

- First linkage between MRI and EMR clinical data
- Patient-generated information
- Clinical decision support tools



DIABETES

Commercialized 90% of top 40 diabetes products in 2016

- CORE Diabetes Model which determines the outcomes and economic consequences of interventions in Type 1 or Type 2 diabetes in 25 countries



RHEUMATOID ARTHRITIS

- Data linkage
- Deep, relevant, clinical, disease-specific registry data linked to IQVIA Claims data



LEVERAGE UNPARALLELED THERAPEUTIC DEPTH IN ONCOLOGY



ONCOLOGY



Oncology patient data across Europe and 5 other markets

- Top 5 Europe, China, Japan, Mexico, Saudi Arabia and South Korea
- 200,000+ patient records per year
 - 30 key cancers



15M+ US cancer patients including EMR for 1M+ patients



IQVIA and Cota partnership

Cota's patented patient classification methodology and research-grade real-world data, and IQVIA's unparalleled healthcare data sources, help you get a deeper clinical patient view and a broader understanding of oncology care



Global oncology Center of Excellence

Linking all our key experts, research and scientific networks across the therapy area



660+ oncology publications

¹ Medicare Access and CHIP Reauthorization Act 2015

EVIDENCE DESIGNED FOR STAKEHOLDERS

Today's studies require innovative designs, combined with therapeutic and operational expertise, to **increase speed to insight, reduce costs** and **optimize efficiencies**.

Generate the right evidence through

- Better and more precise execution of traditional studies and trials
- Innovative study designs and technology-enabled protocol designs
- Advanced analytics and health economic modeling capabilities
- Reusable, scalable approaches

- HEALTH ECONOMICS AND VALUE
- EPIDEMIOLOGY AND OUTCOMES
- REGULATORY USE
- SAFETY
- PRICING AND MARKET ACCESS



565+

Prospective real-world and late-phase studies with

647K+ patients

89K+ sites since 2011

100+

markets



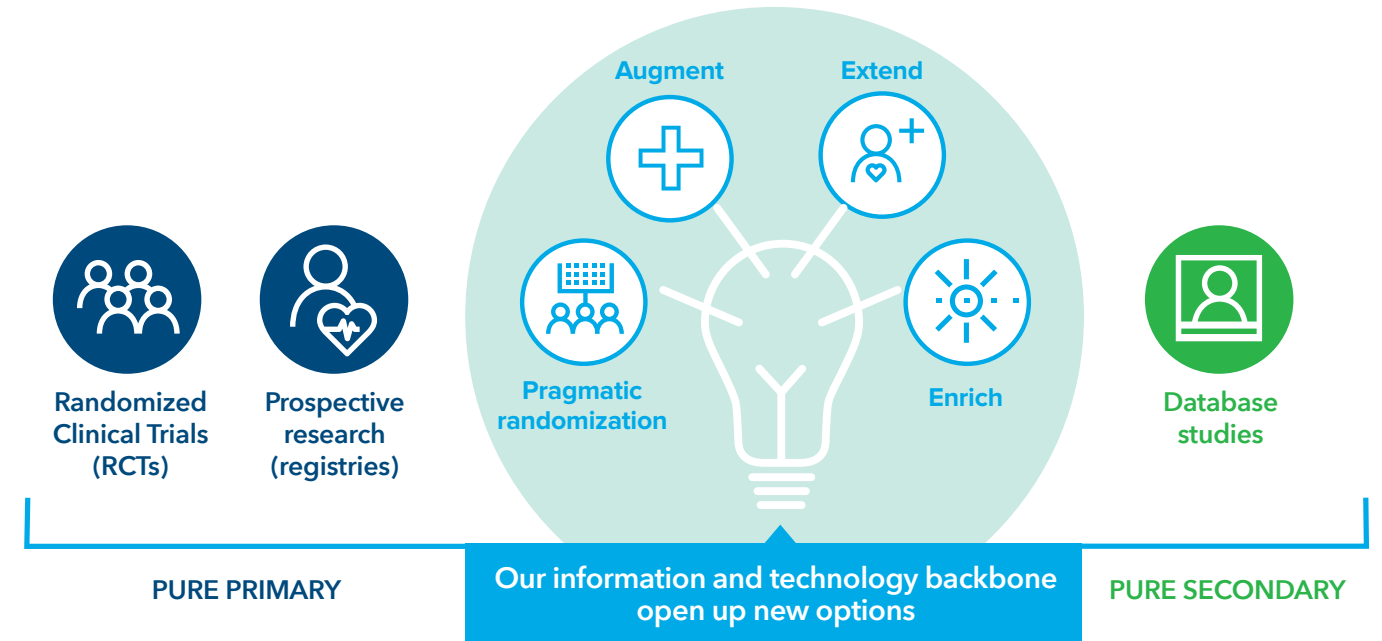
4.9M

investigators



FIND THE RIGHT STUDY DESIGN

Reduce cost and time pressure and increase representativeness by **leveraging primary and secondary data**, including innovative approaches to evidence generation.



- ✓ **MORE** credible evidence
- ✓ **FASTER** generation of evidence
- ✓ **BETTER** decisions using evidence

**EXPLORE NEW, PROVEN INNOVATIONS
IN EVIDENCE GENERATION**



**HEALTH ECONOMICS
AND VALUE**

- Pricing and market access strategy
- HTA Accelerator
- Global dossiers and local adaptations
- CORE Diabetes Model
- Global models and local adaptations
- Meta analyses and indirect comparisons
- Burden of illness studies
- Piggy-back studies



**OUTCOMES
STUDIES**

- Patient-reported outcomes studies (PROs)
- Quality of life studies
- Comparative effectiveness research
- Prevalence and incidence studies
- Observational studies



**SAFETY AND
REGULATORY USE**

- PASS, PAES, REMS and EU-RMP
- Signal detection algorithms
- Drug utilization studies
- Pregnancy registries
- Vaccine registries
- Expanded access programs (EAPs)
- Phase IIIB/IV studies
- Label expansion studies

**GENERATE RWI MORE EFFICIENTLY
WITH AN INNOVATIVE STUDY DESIGN**



How to build evidence in large patient numbers, quickly and cost-effectively?



ENRICHED RWD STUDY

IQVIA's novel study design

- Used relevant EMRs for enrollment and prospective data collection
- Built evidence through integration of multi-sourced RWD
- Increased researchable RWD by removing information gaps



SIGNIFICANT SAVINGS

The study enabled

- 50% lower monitoring costs with minimal recording burden on site physicians
- 67% (8 months) faster recruitment time

**50%
cost savings**



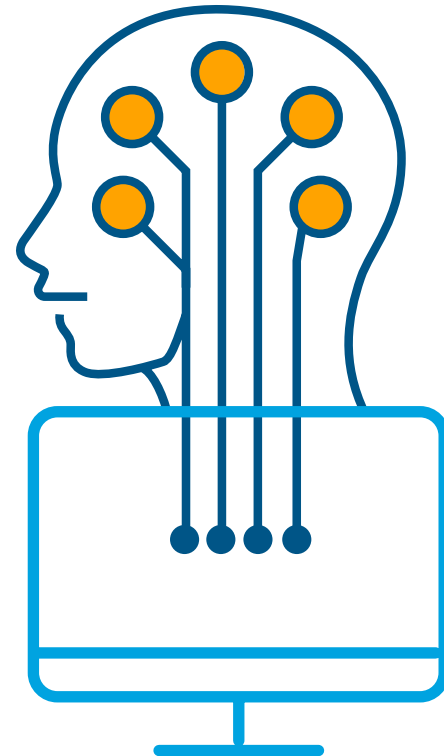
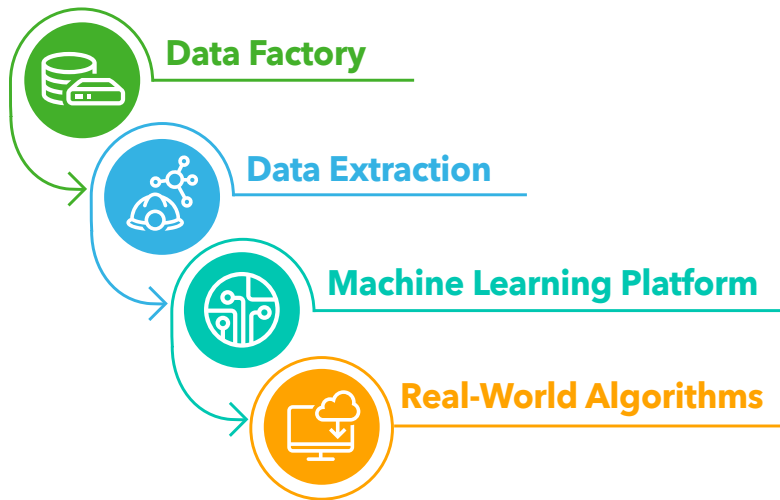
**67% faster
recruitment**



IMPACTFUL ANALYTICS FOR KEY DECISIONS

IQVIA is advancing machine learning and predictive analytics to

- **Improve healthcare delivery** – precision medicine leveraging genomics
- **Accelerate clinical development** – trial outcomes simulation; efficient site selection
- **Optimize drug use and treatment** – disease detection and progression; patient behavior prediction; treatment response profiling



FIND UNDIAGNOSED PATIENTS SOONER USING PREDICTIVE ANALYTICS



How to identify rare disease patients when 40% are diagnosed late?



TAILORED PREDICTIVE ALGORITHM

- IQVIA created a predictive algorithm combining fit-for-purpose data with advanced statistics and machine learning



EARLIER DETECTION

- Identifying a high-risk group, the algorithm enabled
- Earlier identification of patients
 - More effective use of treatment
 - Evidence on burden of disease



Identified a 'high-risk' group
300 times
 more likely to have
 the disease



POWER EVIDENCE FROM WITHIN

Access and understand billions of patient-level data points from across the data universe with a user friendly technology that **helps your entire organization** see and support the **value** you are **bringing to patients**, in near-real time.

- ✓ **Continuous** data access

✓ **Flexibility** to respond quickly

✓ **Harmonized data** across geographies and sources
- ✓ **Fast insights** for shorter timelines

✓ **Reduced costs** compared to one-off studies

✓ **Credible** results using industry-leading standards

Technology-enabled insights



E360™ analyzes global data at scale with a proven SaaS platform, providing solutions for data discovery, clinical development, HEOR and data science, commercial and brand, and the enterprise.



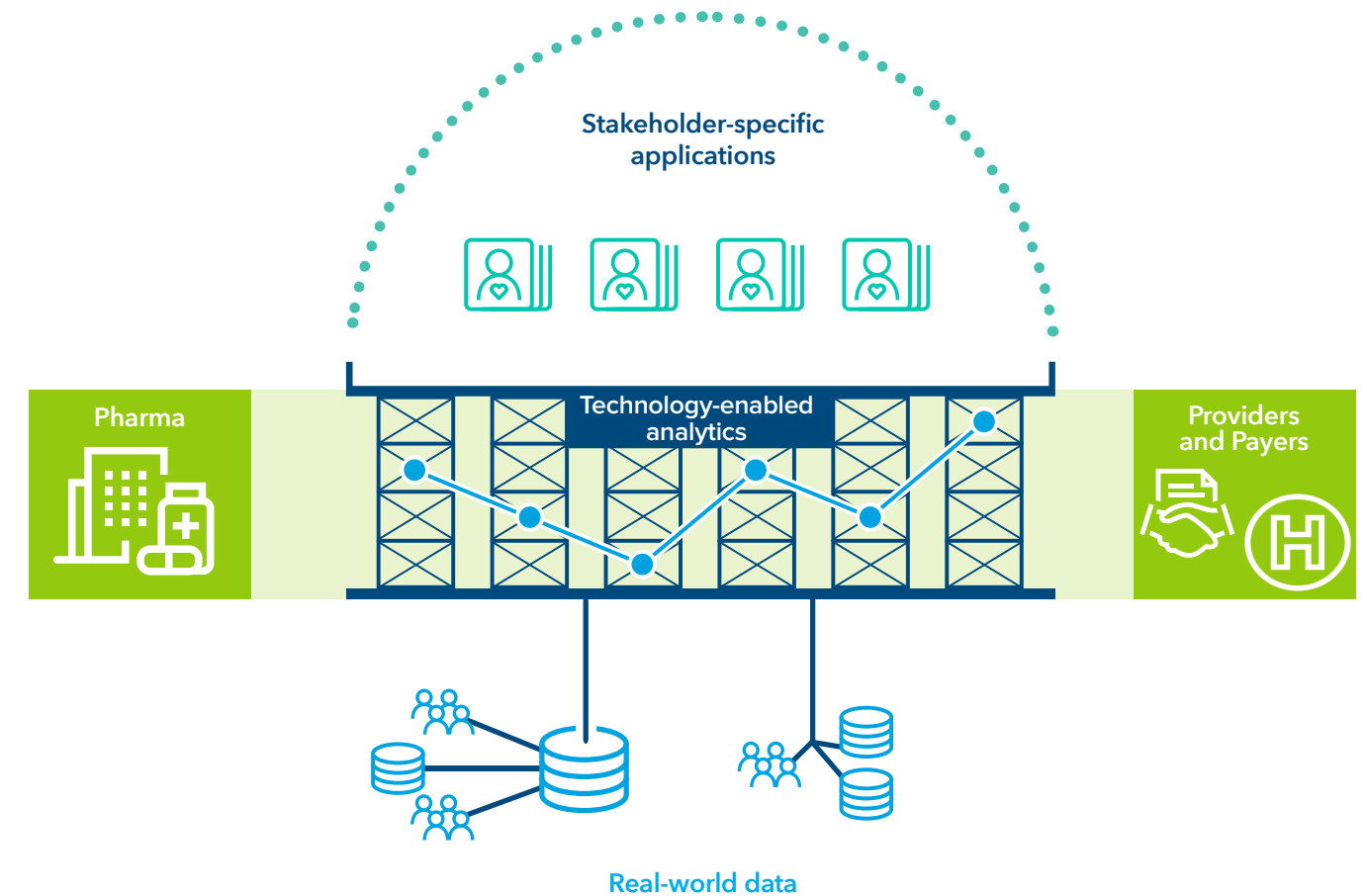
HTA ACCELERATOR leverages 25,000+ HTA records from 100 agencies across 40 countries to help you accelerate a successful launch with key payer insights.



IQVIA REGISTRY PLATFORM integrates electronic health record (EHR) data, and enables multiple registries on a single platform for efficient, high-quality observational research.

SUPPORT YOUR ENTIRE ORGANIZATION WITH AN EVIDENCE PLATFORM

An evidence platform **gives you scalable, on-demand, fit-for-purpose generation of RWE** across your organization, therapeutic areas and geographies.



ACCESS OUR NETWORKS

Activate cross-stakeholder engagement with **payers, providers** and **patients** leveraging



- Advanced EHR and medical device integration capabilities
- Collaborative solutions to help you create and support outcomes-based contracting and innovative pricing agreements
- Integrated evidence networks across therapeutic categories

UNLOCK YOUR DATA

As the value of real-world evidence grows, we need **common standards** in data management and analytics.



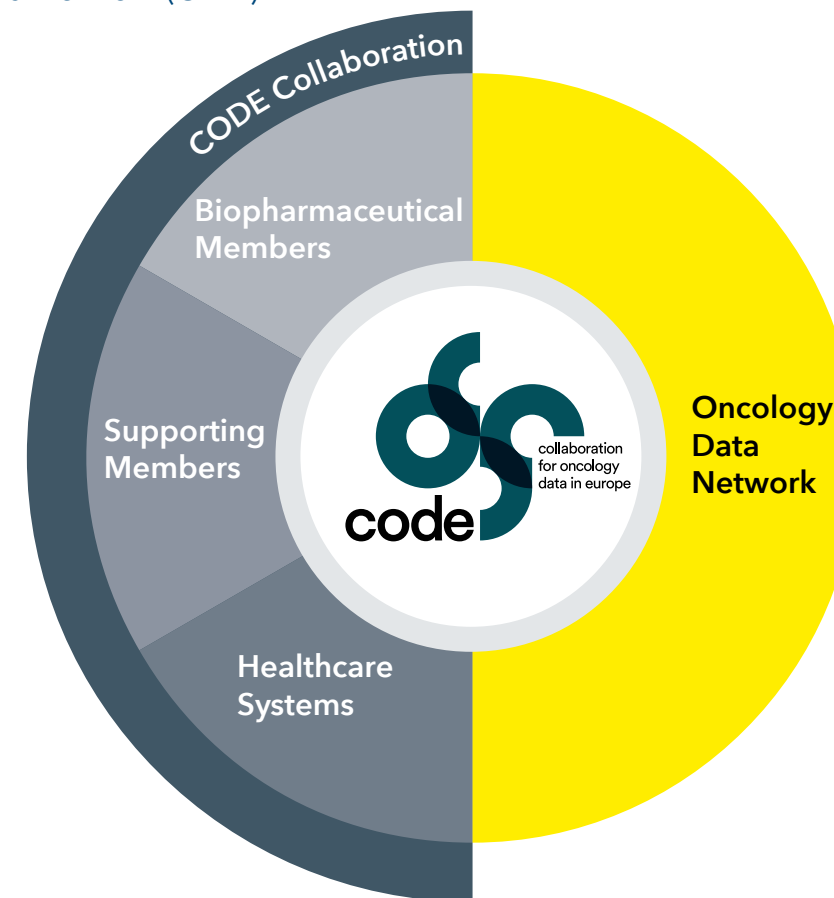
Ensure **individual privacy** and **legal compliance** while leveraging world-class open standards to produce higher quality data with our

- Risk-based de-identification, compliance and certification services
- Expert OMOP¹ team
- Bespoke extraction technology across data sources and data linkage capabilities

¹Observational Medical Outcomes Partnership

COLLABORATION FOR ONCOLOGY DATA IN EUROPE (CODE)


IQVIA's innovative Collaboration for Oncology Data in Europe (CODE) has established the Oncology Data Network (ODN).




The network is collecting real-world data on anti-cancer medicines to inform patient care and support the independent development of flexible treatment payment models by biopharma.

JOIN. CONTRIBUTE. COLLECTIVELY BENEFIT. www.code-cancer.com

CREATE YOUR HARMONIZED, AT-SCALE ONCOLOGY EVIDENCE NETWORK

 How to create outcomes-based value messaging for multiple requirements in oncology?

 **ONCOLOGY EVIDENCE NETWORK**






- IQVIA built a real-world data oncology network for organization-wide use, enabling continuous evidence generation

 **POWERFUL, HIGH-VALUE RESULTS**

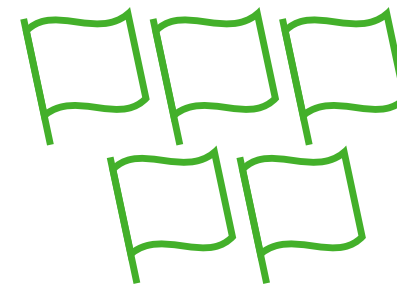
The network supports optimized

- Stakeholder and KOL engagement
- Local reimbursement
- Comparator selection
- Late-phase research



-  Registry/EMR 'off-the-shelf'
-  Registry/EMR + 'enhancement'
-  Claims
-  Panel
-  Non-interventional studies

5 countries



3,000 patients



9  datasets

3  indications

10+ scientific papers annually



HELPING TO SHAPE THE FUTURE OF EVIDENCE



Promoting standards for good study conduct

- AHRQ Patient Registries Guide
- AHRQ Observational CER Guide
- GRACE Initiative
- PCORI Methodology Report
- ISPOR Code of Ethics
- ISPE Good Pharmacoepidemiology Practice (GPP)
- CDISC Study Data Tabulation Model (SDTM)



Pioneering new approaches and collaborations

- ENCePP Research Centre
- EUnetHTA
- ENCePP Guide on Methodological Standards for Pharmacoepidemiology
- Observational Medical Outcomes Partnership
- CODE – Collaboration for Oncology Data in Europe
- Cota partnership



THOUGHT LEADERSHIP

4,800+

published scientific papers

in virtually all therapy areas and projects completed in

50+

countries

with leadership and advisory roles on boards and in major scientific societies

ENSURING QUALITY AND PROTECTING PATIENT PRIVACY



The IQVIA Quality Management System (QMS)

ensures the highest quality and compliance with regulatory and industry standards (ISO¹, ICH²)

- Geographic and methodological breadth
- Systems for quality and operational standards; training and qualification; and investigations and CAPA, with individual quality control plans
- Client audits and benchmarking passed



IQVIA is a global leader in health information stewardship including privacy and data protection

- Unique, proprietary software to de-identify data in accordance with the Expert Determination method
- Pioneering de-identification and anonymization solutions through privacy analytics
- Strong administrative, technical and physical safeguards including advisory board oversight

¹International Organization for Standardization

²International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use

IMS Health & Quintiles are now



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