



Digital Transformation of Healthcare

AmCham Power Breakfast, Dec 1st 2021

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IQVIA CORE™



Domain expertise

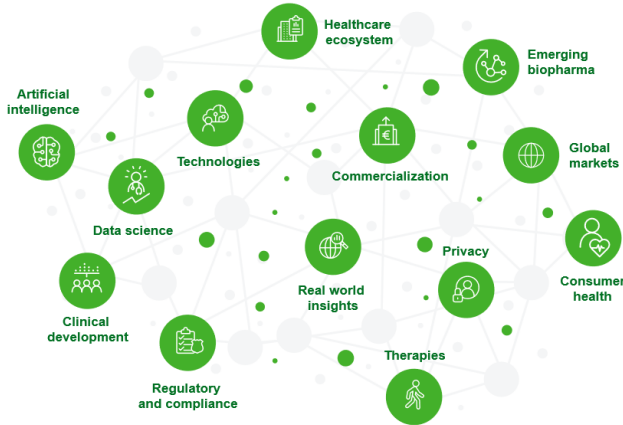
Deep knowledge and expertise across the healthcare ecosystem, geographies, technologies, and scientific approaches

67,000+
Experts serving clients in 100+ countries

8,200+
Technology experts

4,600+
Advanced analytics / data scientists / statisticians

1,900+
Epidemiologists / RWI experts

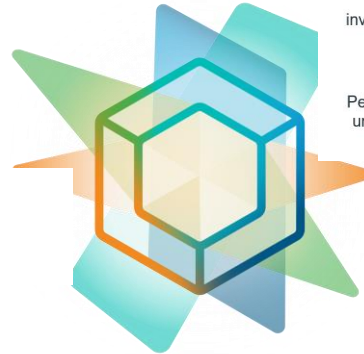


1,800+
PhDs

1,300+
Medical doctors

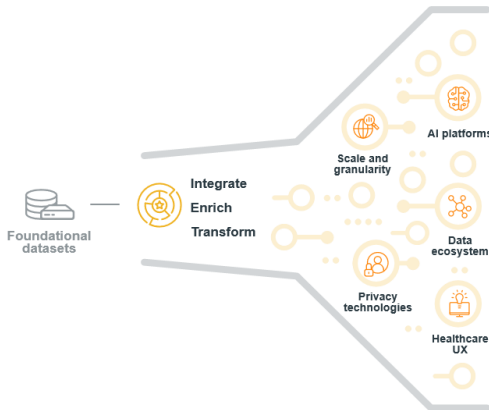
4,800+
Service experts

16,800+
Off-shore delivery resources



Transformative technology

Innovative technologies providing greater connectivity, enhanced performance, and real-time information



Seamless access to intelligence

- + Connects data wherever you need it
- + Workflows enable analytics and interpretation
- + Interoperable across platforms and applications
- + Designed for simplicity and clarity

Enabling a better approach, for better results

- + Deeper scientific value
- + Enhanced productivity and automation
- + Improved decision speed
- + Actionable insights

95+
billion
Records searched in real-time

2+
trillion
Data transactions annually

72x
faster
Processing vs. traditional methods



Unparalleled data

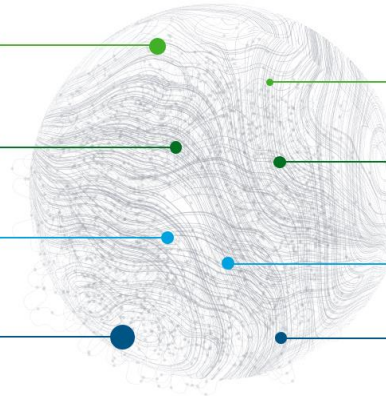
From foundational datasets to healthcare-grade data – with innovative privacy protections

800M+
Non-identified patient records

85%+
Global pharma sales tracked

4.9M
Potential investigators

35+
Petabytes of unique data

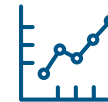
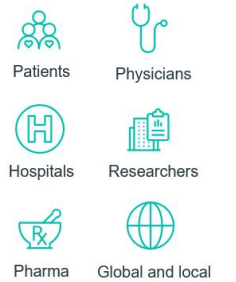


~1M
Data feeds

~16M
Healthcare professionals

400,000+
Sources of social media

150,000+
Data suppliers



Advanced analytics

Analytic capabilities enabling faster, more precise insights for better decision-making



Analytics engine
Analytic capabilities accelerated by AI, grounded in statistical quality

150+
Patent-pending methodologies

Algorithm library
Expanding library enables a custom-tailored approach to answer questions

300+
Life sciences-specific analytic libraries



- + Build and redesign brand strategies
- + Enhance multi-channel management
- + Identify the right healthcare providers and KOLs
- + Gain a deeper understanding of your customers

30+
Predictive disease detection solutions

100+
Analytics publications including Nature, NeurIPS and others

25%+
ROI from precision targeting for oncology brand

Health care medical records and quality measures systems transformation from paper to digital records and KPI

Many health service providers still operate under paper or not structured EMRs data records

The Journey from Paper via EMR to Digital EHR data



Paper records

- Data about patient medical history & registry
- Local solution - designed to be stored & used in individual practice / hospital
- Lack of files integrations
- Lack of standardization
- Treatment support purpose
- Patient access – only at each health care provider site copy version only
- Provides Paper Quality Measures



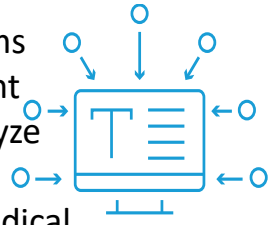
EMR (Electronic Medical Records)

- Digital version of paper patient medical history & registries
- Local solution - designed to be stored & used in individual practice / hospital
- Lack of system integrations
- Lack of standardization
- Treatment support purpose
- Patient access – only at each health care provider site, usually printed version only
- Provides Electronic Clinical Quality Measures (eCOMs)



EHR (Electronic Health Records)

- Digital data base of patient health information
- Interoperability - build to share information with all involved health care providers & clinicians with real-time
- Data integration from all systems
- Standardized data from different systems easy to share and analyze
- Patient total health purpose
- On-line patient access to all medical history from all health care providers
- Provides Digital Quality Measures (dQMs)



Digitalization in healthcare can be an enabler to save costs, improve patients' treatment access and gain system effectiveness

Digital transformation provide a lot of benefits for patients, health care providers and payer



- **Ease of access** due to regional disbalance and/or scarce resources
- Management and **regular check-up** of chronic illness
- **Telemedicine and healthcare access** in the context of a **pandemic**



- **Keeping track of chronic illnesses**
- **Reducing amenable mortality rates**



- **Better accessibility and quality of the full patient history**
- **Clearer patient pathway**



- **Saving costs and time** on both the patient and doctor sides
- **Transparency and data collection**



- **Ease of access to specialists**
- **Better outpatient and reduced inpatient care**



- **Identification of high-risk patients**
- **Prevention of diseases using predictive analytics**
- **Cost-savings and efficiency gains** through patient pooling and analysis

Technology and analytic are key success drivers for digital health

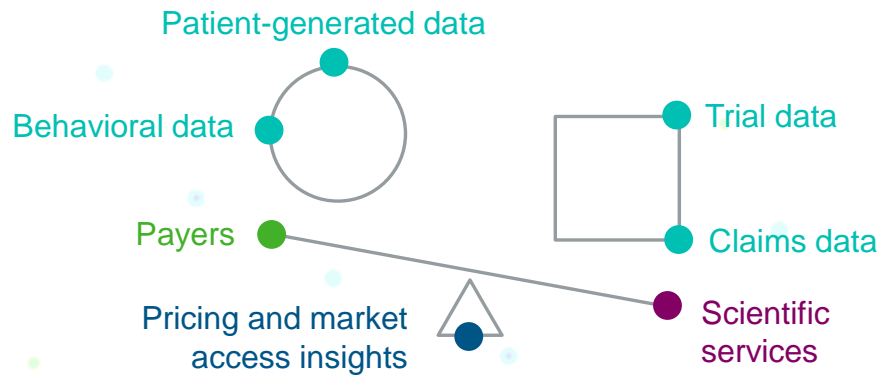
It is getting harder to make the right decisions in healthcare as all existing systems are not connected and data is not standardized ...

More information. More technology. More stakeholders. Less intelligence.

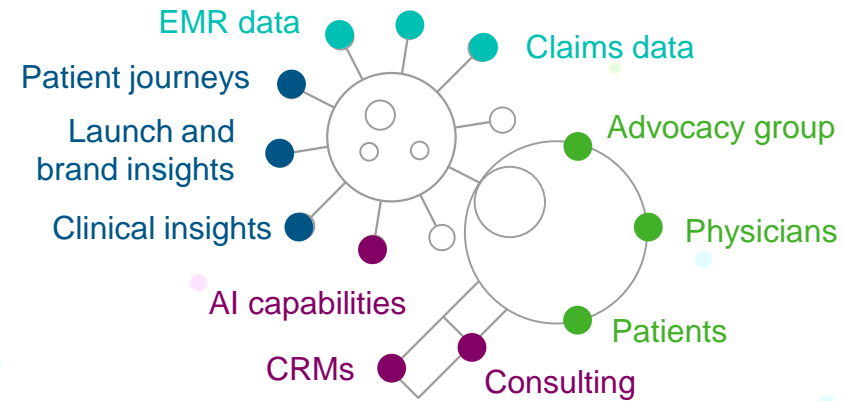


... but when the pieces are aligned in intelligent way we achieve interoperability at it's best

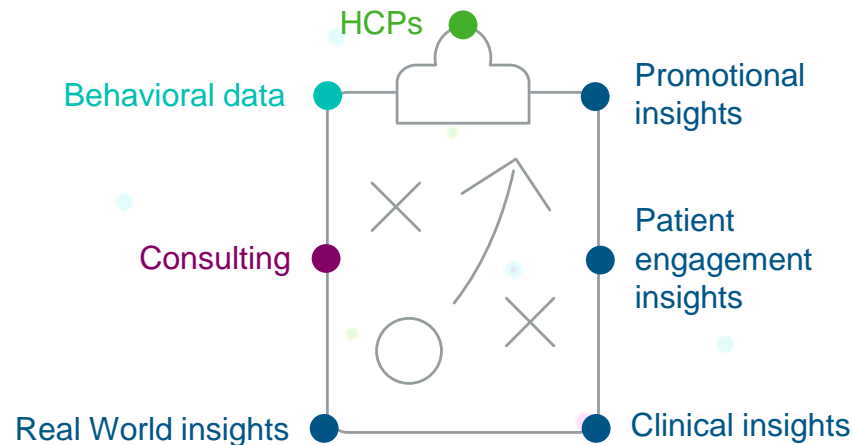
IQVIA Connected Intelligence™ speed up transformation from E-Health to Digital Health



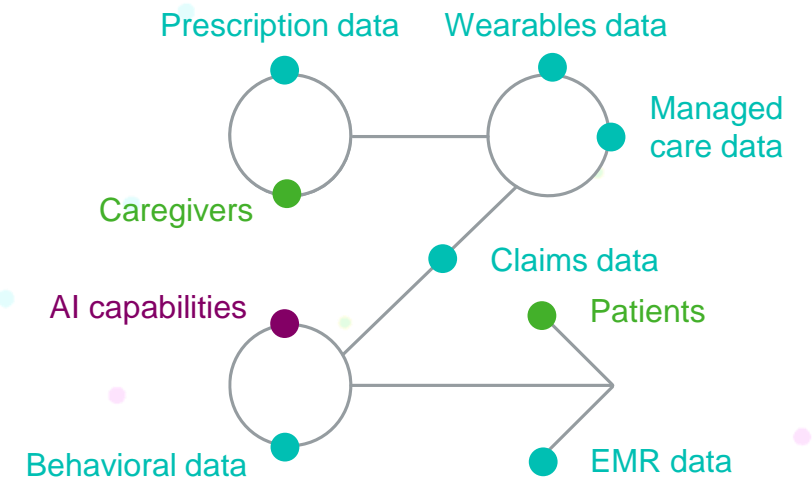
Value demonstration



Disease detection



Therapy area insights



Patient journey

Transformation from non-structured and integrated IT solutions to Digital Healthcare based on 4 key strategic pillars

IQVIA can support governments in end-to-end service & consultancy for successful implementation

Digital healthcare pillars



Digital strategy design

- Identification of healthcare needs & requirements
- Definition of what the full spectrum of digital healthcare should include (short- mid- and long-term)
- Definition of Data sources and outputs and analytics
- Involvement of key strategic stakeholders
- Design of the overall Digital roadmap until 2030



Legislative basis

- Introduction of electronic patient record and its role in healthcare
- Legal changes which describe rights & responsibilities and set the IT framework
- Data protection and data ownership rights
- Revision of existing legal texts to ensure compatibility/ consistency



IT infrastructure

- Overall technical infrastructure
- Data Warehouse and Data Lake
- Software backbone
- Database definitions and standards
- Data encryption and anonymization
- Peripheral tools/hardware (e.g. plastic cards, readers, etc.)



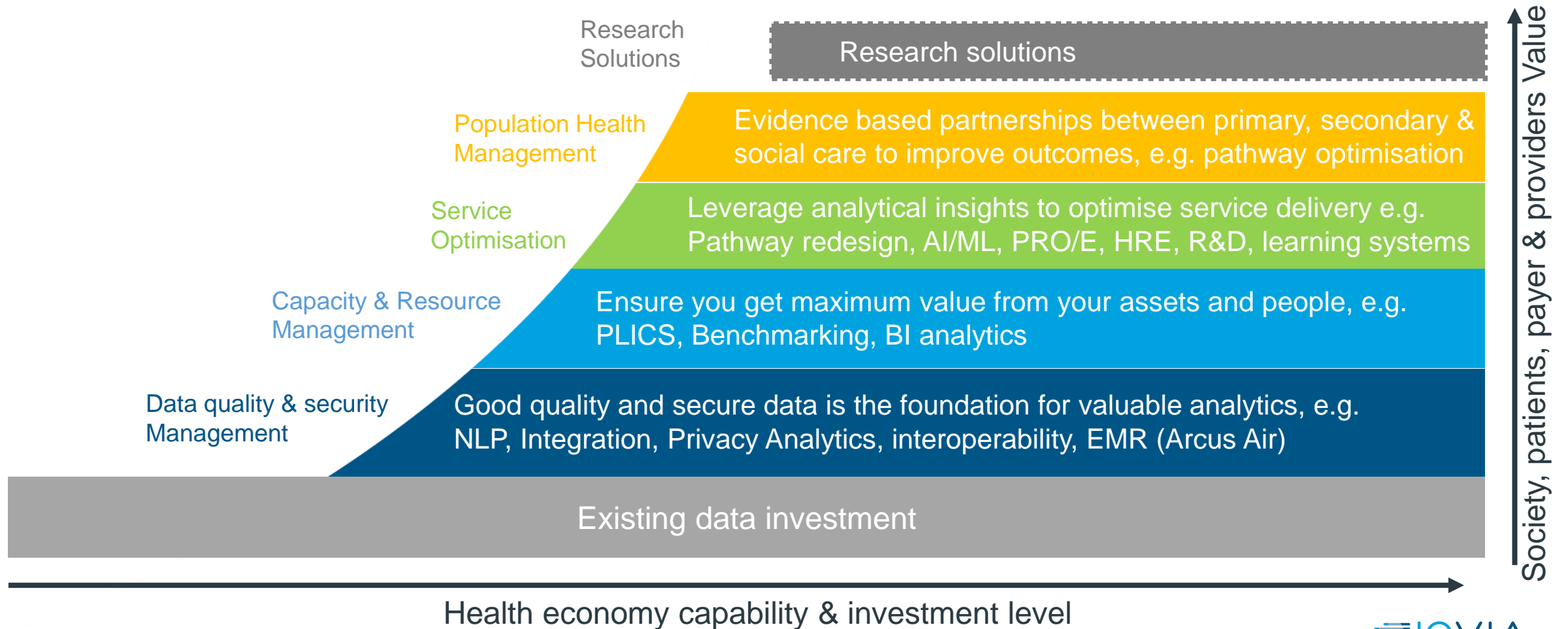
Systems integration & analytic

- Interfaces between various systems & databases
- UIDs to ensure data matching
- Clarification of ownership & responsibilities
- Skills and competencies development
- Training for end users and service providers

While some initiatives are already in place, a successful implementation requires a comprehensive effort as combination of all pillars, **combined with information and educational campaigns to foster effective adaptation**

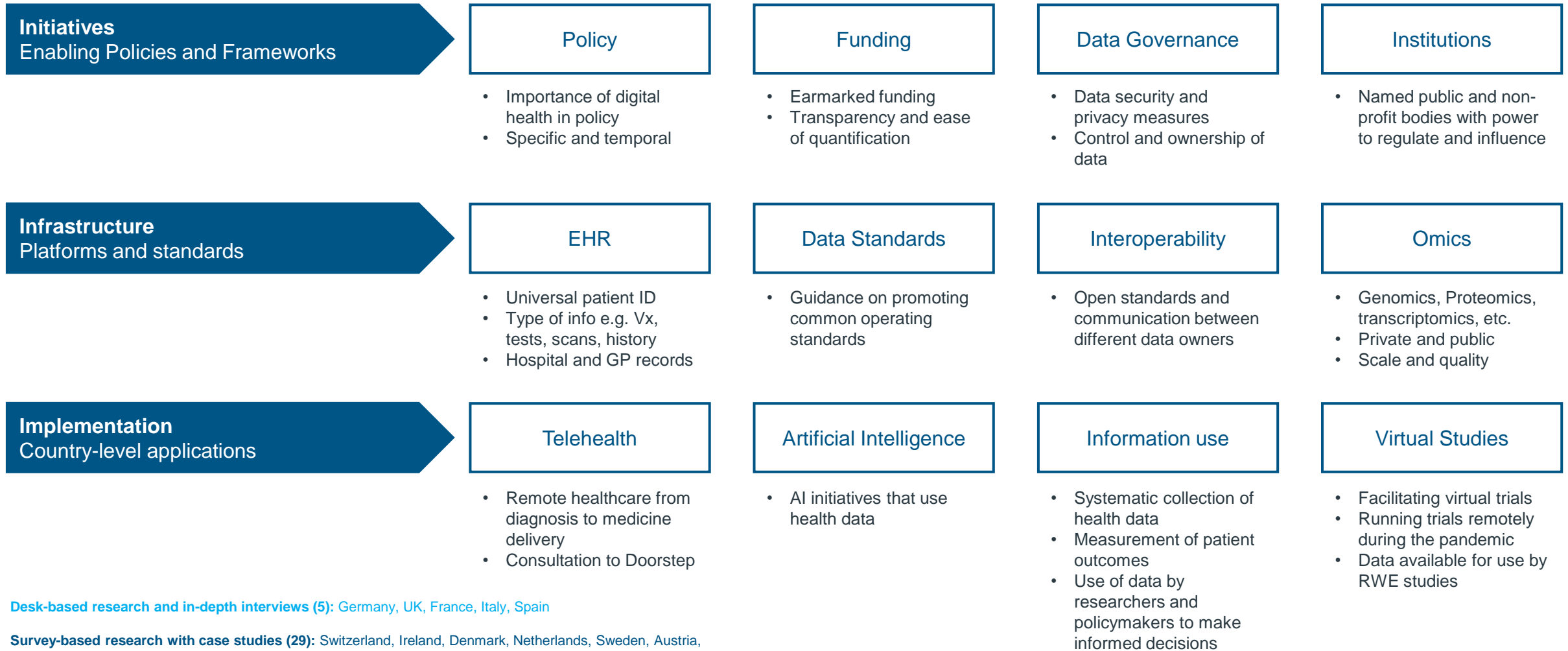
Right digital strategy, integrated systems & new competencies unlocking more effective health solutions for population

Integrated Digital Health provides a lot of benefits, synergies, cost optimization for entire society



Health Care systems in Europe are in different level of digital development and maturity

All countries have different starting point, but challenges and opportunities are similar

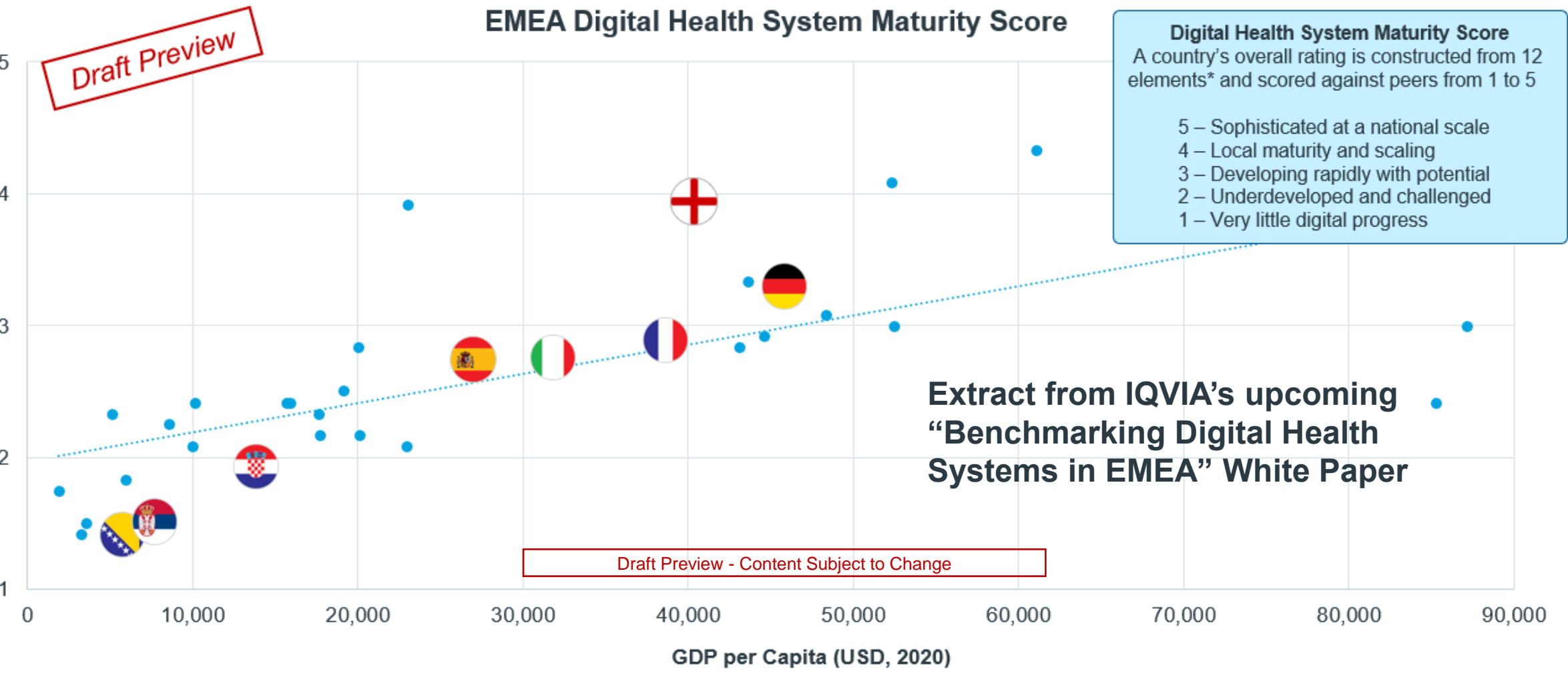


Desk-based research and in-depth interviews (5): Germany, UK, France, Italy, Spain

Survey-based research with case studies (29): Switzerland, Ireland, Denmark, Netherlands, Sweden, Austria, Belgium, Israel, UAE, Estonia, Saudi Arabia, Czechia, Lithuania, Greece, Slovakia, Latvia, Hungary, Poland, Croatia, Russia, Bulgaria, Turkey, Serbia, B&H, North Macedonia, South Africa, North Africa, Egypt, India

Digital maturity scores correlate positively with increased GDP per Capita with clear outliers

Croatia more advanced compared to Adriatic countries but still behind countries with higher GDP



Thank you!

