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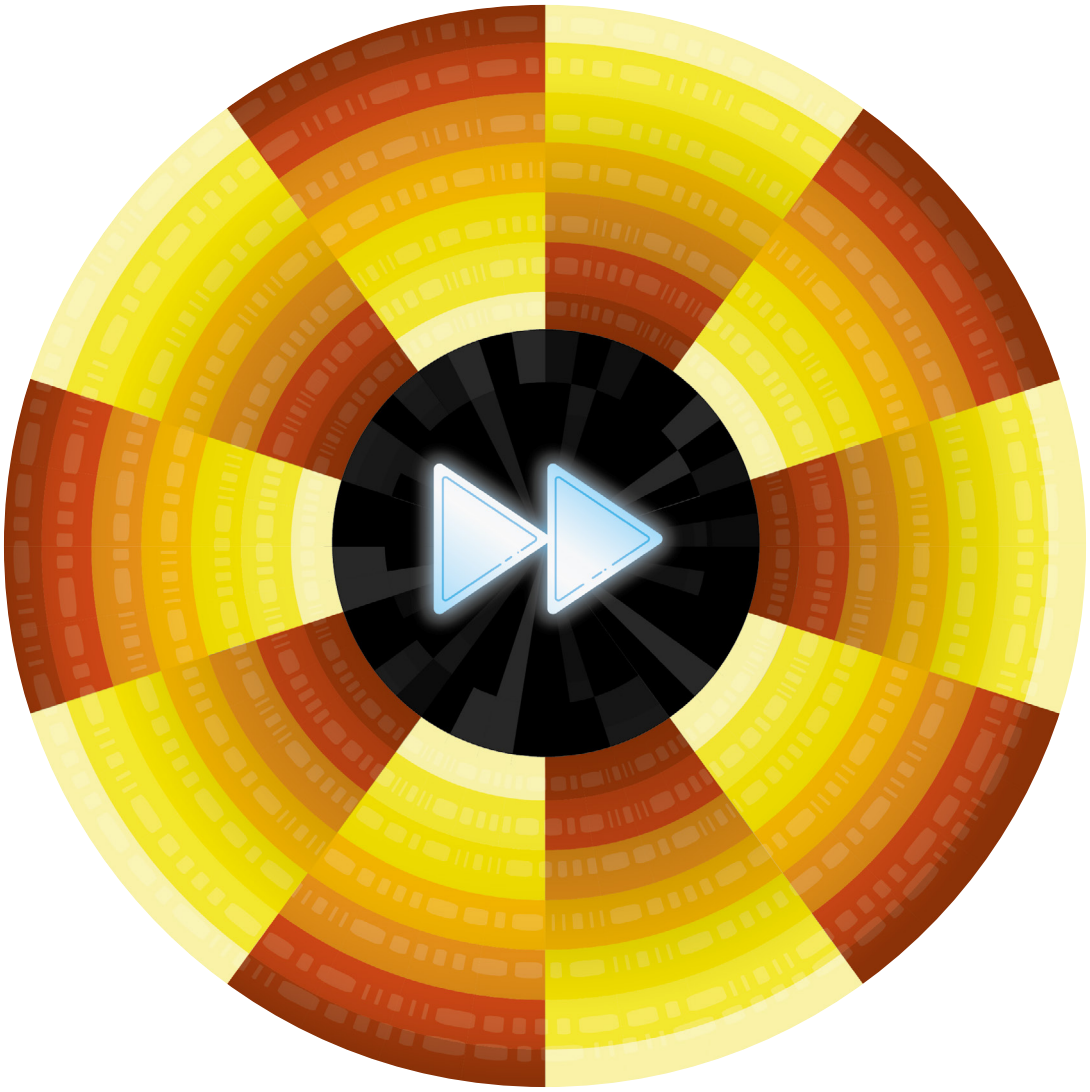

The future unmasked

Predicting the future of healthcare and life sciences in 2025

Prediction Ten
Clusters of trusted partnerships have accelerated innovation

Deloitte Centre *for* Health Solutions

Foreword

Welcome to our tenth prediction *Clusters of trusted partnerships have accelerated innovation* from our report, *The future unmasked: life sciences and healthcare predictions 2025*. This is the final prediction in our series, all of which have been informed by emerging evidence of the impact of the COVID-19 pandemic on society and the health ecosystem. The predictions have also been shaped by our research insights, including our global 2040 Future of Health campaign.

The COVID-19 pandemic has increased the level of national and international collaboration in ways that exceed all previous expectations and precedents. While many types of partnerships were already established pre-COVID-19, the pandemic has galvanised the development of a raft of new and more pervasive public-private partnerships between governments, regulators, healthcare providers, the life science industry, tech and consumer health businesses. These collaborations take many forms, from R&D clusters, to healthcare delivery models, bringing stakeholders together like never before to tackle the pandemic, improve population health, and help economies to survive and ultimately thrive.

In 2025 the industry is defined by multiple types of trusted partnerships between industry, academia and provider organisations. Shared views on business ethics, data and risk sharing and value exchange is a central feature of the large number of successful health clusters that have emerged over the past five years. By working collaboratively, these clusters have accelerated innovation and driven a speedier adoption of revolutionary new medicines and technology at scale. There has also been a shift to prevention, including vaccines, genetic testing and digital therapeutics. This shift has been enabled by radically interoperable data, advanced technology and analytics, and secure open platforms; alongside the development of new value-based business models that deliver savings to the broader health system.

This prediction, like all our predictions, is brought to life through a series of portraits imagining what the experience of individuals might be like in 2025, with reference to the evidence today to predict what the future might look like tomorrow.

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Clusters of trusted partnerships have accelerated innovation

Collaborative working has redefined traditional operating models for a more cost-effective health ecosystem

Prediction: In 2025, multiple types of trusted partnerships between industry, academia and providers, with shared views on value exchange, are a central feature of the successful health clusters that have emerged over the past five years. These clusters are backed by a creative and reputable financial services sector, supported by governments and a new regulatory paradigm, creating optimal conditions for the development of new VBHC business models, with savings delivered to the broader health system. By working collaboratively clusters have also accelerated the pace of innovation and driven the adoption of revolutionary new medicines and technology, faster than ever before. Digital transformation, enabled by new standards and radically interoperable data, advanced technology and analytics, and secure, open platforms, have driven much of this change. New standards for data sharing, analysis and transparency have emerged improving trust, driving efficiencies, expanding access and reducing costs. Clusters are also uniquely placed to draw on technological advances and play a major role in the move towards sustainable models of care.

The world in 2025

- Government support and incentives have helped concentrate innovation in clusters across health ecosystems based on a shared commitment to improve the health and wealth of local communities.
- Enhanced and new standards have encouraged life science companies of all sizes congregate in clusters of excellence, supporting faster, easier and more enduring ways of working between stakeholders.
- All stakeholders recognise the importance of investing in and nurturing a high degree of trust within and between clusters and across different types of partnerships, including with patients and the public.
- Stakeholders are focused on forming values-based, high-performance/ high-trust partnerships and have signed up to a code of ethical business practices.
- These trust-based, VBHC partnerships deliver clinical and economic value through product and service innovation, including subscription services.
- Healthcare providers work with industry to take well thought through risks and willingly accept revolutionary change.
- Academic institutions, comprising both research academics and specialisms in key areas of science, have established enduring industry collaborations.
- Product developers have formed strong R&D partnerships with leading universities and tap into patient and HCP groups to inform research, evaluate outcomes and provide continuous customer feedback on the effectiveness of products and services.
- Healthcare providers have partnered with MedTech and telecom companies to apply low latency of 5G, edge computing and IoMT in areas such as critical care on-demand and remote robotic surgery.

Conquered constraints

- **Skills and talent:** Sustainable trusted partnerships are based on shared mind-sets and ability to listen, learn and act on feedback from all stakeholders. Partner organisations have clear strategies to manage conflicts of interest between partners and leaders have the digital and technical skills needed to enable them to understand business needs and 'speak data science' to experts. Patient groups have a pivotal educational role across the health ecosystem.
- **Funding:** National and local governments have established favourable economic environments to drive investment in life sciences R&D such as 'enterprise zones' or direct investment. This includes IP, trade and tax credits, grants and other incentives that support the commercialisation of innovation. There is a systematic approach to funding based on public-private partnerships, cross-industry collaborations and venture funding, encouraging innovation at scale. New innovative contracts allow reimbursement over longer timeframes, not just budget cycles.
- **Regulations:** The use of RWD and aligned objectives have helped industry comply with regulatory legislation and respond in a coordinated and timely manner. Greater alignment of regulators at a national and international level has provided a framework to optimise commercial objectives and patient outcomes.
- **Data and interoperability:** Data provides the currency on which VBHC partnerships are designed and executed with patients willingly sharing health data as part of a value exchange. There is a consensus among partners on the use of HL7 interoperability standards and a framework to enable shared access to high-quality RWE. Open data sharing is the common 'truth' on which partnerships have been formed, and healthcare transactions are undertaken.

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Imagine the world in 2025

Medscan and IVDiagnostics driving clinical insights in oncology

Medscan and IVDiagnostics entered into a strategic ten-year partnership in January 2020 to develop and co-market digital clinical decision support solutions, with an initial focus on products that improve personalised treatment options for cancer and critical care patients. By 2025 their dashboards are bringing together data generated by IVDiagnostics tissue pathology biomarkers and next generation AI-enabled endoscopes and genomics data to aid decision-making by oncology and critical care teams. Oncology team specialists have a comprehensive data dashboard for reviewing and collaborating on precision treatment decisions for individual cancer patients at each stage of the disease. Technology-enabled support systems have increased the productivity of the multi-disciplinary teams. Additionally, within critical care, the integration of data from a patient's hospital monitoring equipment with biomarker, tissue pathology, genomic and sequencing data enables clinicians to identify complications, and even predict them before they arise.

Building trust by putting patient centricity at the heart of everything we do

In 2020, NWPharma appointed Jordan James as its Chief Patient Officer to champion patient centricity and engage with more diverse representative groups. His first action was to implement an engagement strategy with global patient advocacy groups across the company's therapy area to help improve patient involvement, trust and adherence to existing therapies and recruit more diverse clinical trial candidates. In 2021 Jordan launched a new patient-centric online platform for all patient-related information and activities across the company. He also commissioned a regular online survey of each advocacy group to collect regular feedback on the perceived culture of the company and trust in its products. Every quarter patients attend a virtual 'Town Hall' meeting to discuss how the company is responding to feedback and hear about the latest innovations including launches and progress in trials. In 2022, an innovative partnership between the advocacy groups and NWPharma with AGBT24 technologies to roll out clinical trials in patients' homes. Patients also helped design and implement new value-based contracting and pricing models, aligning payments to differentiated improvements in patient outcomes. An AI-enabled adherence tracking tool was also introduced to provide differentiated support and motivate patient adherence to medication regimens.

An innovative alliance between two life sciences and healthcare clusters building a secure cloud research platform to advance R&D into rare diseases

In the search for treatments for rare diseases, a leading healthcare cluster in Western Europe formed an 'Alliance' with another cluster in the Nordic countries, to combine their research and innovation capabilities and drive progress in the search for treatments for rare diseases. Each cluster comprises a leading university, several teaching hospitals, a Research Biobank, and National Disease Registries. The Nordic cluster received funding from a non-departmental government innovation agency, and the Western Europe cluster received government funding and additional investment from a private research consortium. The IT and digital infrastructure for the project, based on open interoperability standards, is provided by a large tech company and a leading AI for drug discovery company. The alliance has been transparent about its use of patient data and the role of each partner organisation, helping to build and maintain public trust in it. Using a secure cloud-based research platform to combine datasets, within 12 months the Alliance had achieved its first objective of moving drug candidates for two potential treatments into a Phase I trial.

Note: All elements on this page are from a perspective of 2025 and are fictional

Evidence in 2020

Medtronic and Lehigh Valley Health Network (LVHN) building an infrastructure for new VBHC programmes

Medtronic and LVHN are transforming healthcare using a VBHC model, with shared financial accountability for outcomes. Since 2018 they have pursued value-focused business models to achieve outcomes that matter to patients and lower the overall cost of care. They built a new VBHC model requiring everyone to shift their mind-set and an 'Advantaged Ecosystem™' designed to enable both organisations to: establish trust in the technology; apply well-defined rules and governance; design and deploy the programme to scale adoption and avoid staff burnout; and build a data-rich IT infrastructure to measure value and inform objective decision making. LVHN and Medtronic agreed initially to focus on reducing respiratory compromise in patients receiving opioids for pain management using a new, data-driven Enhanced Respiratory Monitoring programme. The aim is to create efficiencies and reduce healthcare costs to patients, payers, and the health system.[113]

Innovative partnerships involving Genomics England

As part of the UK's Genomics Healthcare Strategy, Genome UK was launched in September 2020, setting out plans to use genomics to drive improvements in diagnosis and personalised medicine; disease prevention; and research. Genome UK builds on existing major institutions, funding streams and infrastructure such as: the NHS Genomics Medicine Service, the Accelerating Detection of Diseases challenge and research resource provided by the UKBiobank and NIHR BioResource. Its aim is to offer a predictive, preventative and personalised health and care service for the whole population and 'make the UK the global leader in genomic healthcare'.[114]

During the COVID-19 pandemic, Genomics England has partnered with the GenOMICC consortium (Illumina, the University of Edinburgh and several NHS hospitals) to derive insights into the role of genomics in the spread of the disease and severity of symptoms. Illumina's technology is being used to sequence the genomes of 35,000 people with either mild or severe symptoms to develop an understanding of the different responses and identify treatments that have the best chance of success, and people at extreme risk if they develop COVID-19.[115,116,117]

Big tech partnerships

Google's Verily teamed up with Novartis, Otsuka, Pfizer and Sanofi to improve patient recruitment and retention, and speed-up clinical trials. Using Verily's AI-powered research tools, including wearable devices and sensors, EHRs, biometrics and patient-reported data, they plan to launch studies across multiple therapeutic areas, including cardiovascular disease, dermatology, diabetes, mental health and oncology.[118]

Comprehend Medical is an AWS Cloud NLP service that decodes and mines structured and unstructured data to extract information about medical conditions and medication regimens from clinical trial reports, doctors' notes and EHRs. It is being used by Roche Diagnostics to enable its NAVIFY Clinical Trial Match platform to extract and structure information from medical documents to match patients to independent clinical trials.[119,120]

Microsoft has entered a five-year collaboration with Novartis to explore how to combine Microsoft's advanced AI technology with Novartis' deep life sciences expertise.[121]

Vodafone is investing in new technologies and partnering with health systems

Technologies like 5G, Mobile Private Network (MPN) and Multi-access Edge Computing (MEC) are part of Vodafone's strategy to revolutionise healthcare. It has established a novel 5G clinic, providing the foundation to test new, more efficient approaches to healthcare services such as surgery rehearsal, remote access to expertise and enabling rural clinics to provide access to expert treatment without patients or clinicians needing to travel. The University Hospital Düsseldorf is the first German hospital to create a 5G campus to enable new medical procedures that have proved extremely challenging previously. Examples include 3D visualisation of brain tumours so experts from other parts of the country can work together on surgery in real time.[122,123,124]

The Corona Accelerated R&D in Europe (CARE) public-private partnership

CARE, supported by Europe's Innovative Medicines Initiative (IMI), is dedicated to discovering and developing treatment options for COVID-19 and future coronavirus threats. The CARE consortium brings together leading expertise and projects from 37 academic and non-profit research institutions and pharma companies in a comprehensive drug discovery engine. With a grant totalling €77.7 million, CARE is funded by cash contributions from the EU, 11 EFPIA companies and three IMI-Associated Partners. The consortium builds on: drug repositioning, small-molecule drug discovery and virus neutralising antibody discovery. Exscientia, an AI for drug discovery company, is leading the small molecule drug design activities and Boehringer Ingelheim the work on virus neutralizing antibodies. CARE also aims to maximise synergies and complementarities with other initiatives such as the Gates Foundation.[125, 126, 127]

The COVID-19 impact

Deloitte view on the impact of COVID-19

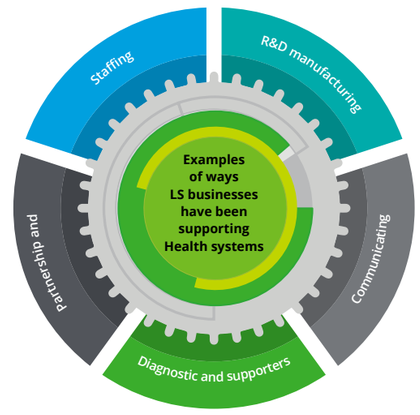
The level of national and international collaboration triggered by COVID-19 has surpassed all expectations and historical precedents. A raft of public-private partnerships between regulators governments, healthcare providers, the life science industry and tech and consumer health businesses have brought stakeholders together to tackle the pandemic, improve population health, and help economies to survive and ultimately thrive. During this extraordinary time, cross-industry collaborations quickly refocused efforts and resources to support clinical trials, test new equipment and develop new test, track and trace systems. They also developed innovative digital and virtual care solutions to enable HCPs to work differently in providing patient access to virtual healthcare services. These collaborations are also tackling challenges in the medical equipment supply chain, including the manufacture, transportation and distribution of testing kits, PPE and ventilators. There has been a previously unseen level of partnering that has led to a wave of innovations and the sharing of knowledge and IP across value chains. The unparalleled speed of development of the leading vaccine candidates and potential treatments is due largely to the level of collaboration between stakeholders, including regulators. Funding and support from government and NGOs have also been a key to this success. Importantly, established life sciences clusters were well positioned to face up to the challenge and drive global excellence.

How COVAX is building and upscaling vaccine manufacturing and supply capabilities to provide equitable access

At the start of November 2020, ten candidates had reached the last phase of clinical development prior to seeking regulatory approval. These candidates have been developed by international collaborations, some of which involve existing life science clusters such as Cambridge and Oxford in the UK. One of the most challenging tasks now facing the industry is how to get the life-saving COVID-19 vaccines to people around the world, in record time, to halt the spread of this virus. In anticipation of this challenge, in the summer of 2020, the WHO, together with Gavi, and the Coalition for Epidemic Preparedness Innovations (CEPI), launched the COVAX initiative to help build and upscale vaccine manufacturing and supply capabilities and provide countries worldwide with equitable access to two billion doses by the end of 2021. COVAX is one of three pillars of the Access to COVID-19 Tools (ACT) Accelerator, bringing together governments, global health organisations, manufacturers, scientists, private sector, civil society and philanthropy, with the aim of providing innovative and equitable access to COVID-19 diagnostics, treatments and vaccines. Importantly, the power of procurement now lies with countries that make vaccines and drugs, not just those that can afford them.[128]

How health ecosystems responded to the COVID-19 pandemic highlights the power of collaboration in healthcare

- **Provided staff** to backfill programmes where health staff have been moved
- New partnerships between **pharma and academia**, including social enterprises, to help vaccine and treatment development
- Helped the **supply chain** to manage the disruption and high demand for services and products
- Leveraged telephone lines or support programmes to support patients, or clinicians



- **Open sourced IP** to increase production, including resource diverting to make equipment and consumables
- **Pivoted their R&D capabilities** to accelerate the development of vaccines and treatments for COVID
- **Leveraged their marketing and communication** skills to support the dissemination of public health messages
- Supported **seroprevalence studies** and provided antibody screening

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