

Humanizing healthcare

Deliver patient-centric
healthcare using
digital solutions





Transformation in healthcare

Global healthcare is at an important turning point. The combination of several major trends, including powerful macro forces and the impact of digital transformation, is bringing both opportunities and renewed pressures to increase the value patients and customers receive from their health services. As a backdrop to the present challenges, we live in a markedly different society today than that of pre-COVID-19.

These forces are driving the healthcare sector to transform at speed and achieve greater efficiency, while also putting the patient front and center. By making the patient a true partner in their treatment plans, combined with advances in personalized medicine, health service providers can achieve better outcomes for individuals.

- The political forces that push governments to guarantee and improve healthcare services. As the costs of healthcare rise, citizens expect leaders to take decisive action to maximize the efficiency of health services and optimize the use of available resources
- Social forces regarding an aging population, the shortage of health professionals, changing consumer expectations and the emergence of a digitally native generation
- Economic forces relating to budget containment across government and health services, the rise of the private health sector and the need for greater efficiency across care services
- Technological forces that facilitate management of enormous volumes of data and offer ever-more accurate insights.



The patient in the driving seat

An era of patient-centric health is emerging. Individuals aspire to make the changes necessary to help lead longer, healthier lives and are placing greater emphasis on preventative methods of self-care, as well as taking greater ownership of the decisions that affect their health and wellbeing.

Harnessing the power of data and technology enables health care service providers to develop care that is specially tailored to the individual and personalize services based on their unique needs. This includes measures to improve support and convenience for the individual, while removing conventional frictions through seamless integration of digital touchpoints.

Furthermore, healthcare organizations understand the attraction of patient-centricity and are seeking to reinvent their business models to better differentiate themselves in the market. A focus on more streamlined services and low-friction digital touchpoints will create new revenue streams and reduce the waste of resources in the pursuit of greater cost effectiveness.

These forces will bring huge disruption to the way healthcare is managed and delivered in the immediate future – meaning service providers must be prepared for this change today.

The digitally empowered customer

Across sectors, there's been a notable shift in the role of the individual, from a passive consumer to one where they feel empowered and unconstrained in the choices they make. Easily accessible digital channels, instantly available information and low switching barriers, supported by ongoing advances in web and mobile technology, have been key drivers of this change.

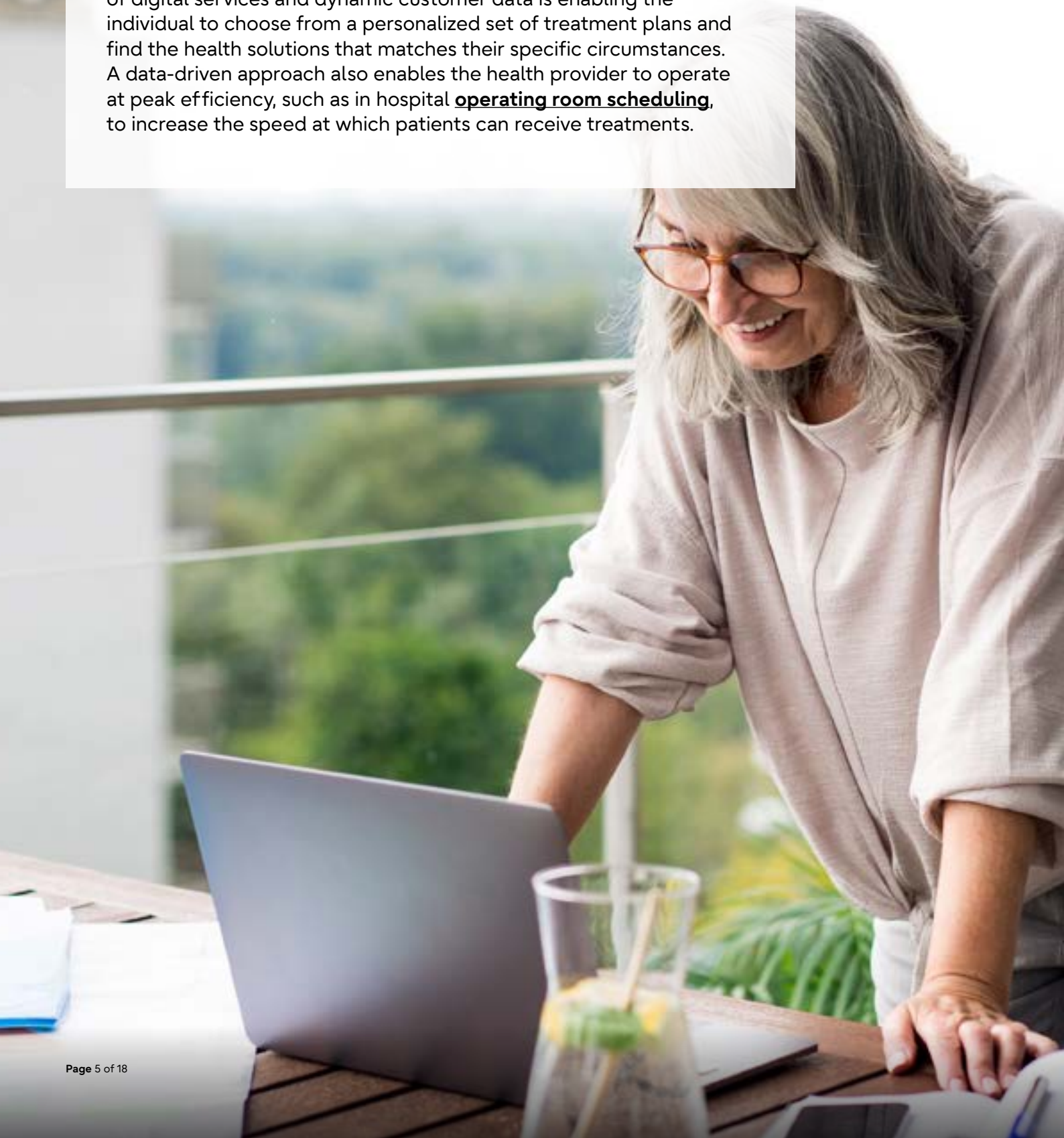
These same forces of transformation are now impacting health services, driving a shift towards more preventative and patient-empowered means of addressing individual health care. The responsibility now lies with healthcare systems and service providers to cater for the individual. As a result, they're re-engineering services towards the following goals:


Provide encouragement for individuals to proactively pursue healthy lifestyle changes.

Providers are designing services to support individuals and create incentives to adopt healthier habits and improve one's own health in order to reduce reliance on health services. For example, it's now more common for health and care centers to offer complementary online services such as health education and awareness, or patient support programs for those in vulnerable or high-risk groups. Other service providers, such as health insurance companies, are also differentiating themselves by offering lower premiums for those demonstrating healthy lifestyles and supplementary health and wellness products such as gym or spa memberships.

Offer flexibility in how health services are accessed.

Choice is the critical component of the modern consumer journey. Busy lifestyles and changing post-lockdown routines mean people want to fit health services around their new priorities. The growth of digital services and dynamic customer data is enabling the individual to choose from a personalized set of treatment plans and find the health solutions that matches their specific circumstances. A data-driven approach also enables the health provider to operate at peak efficiency, such as in hospital **operating room scheduling**, to increase the speed at which patients can receive treatments.



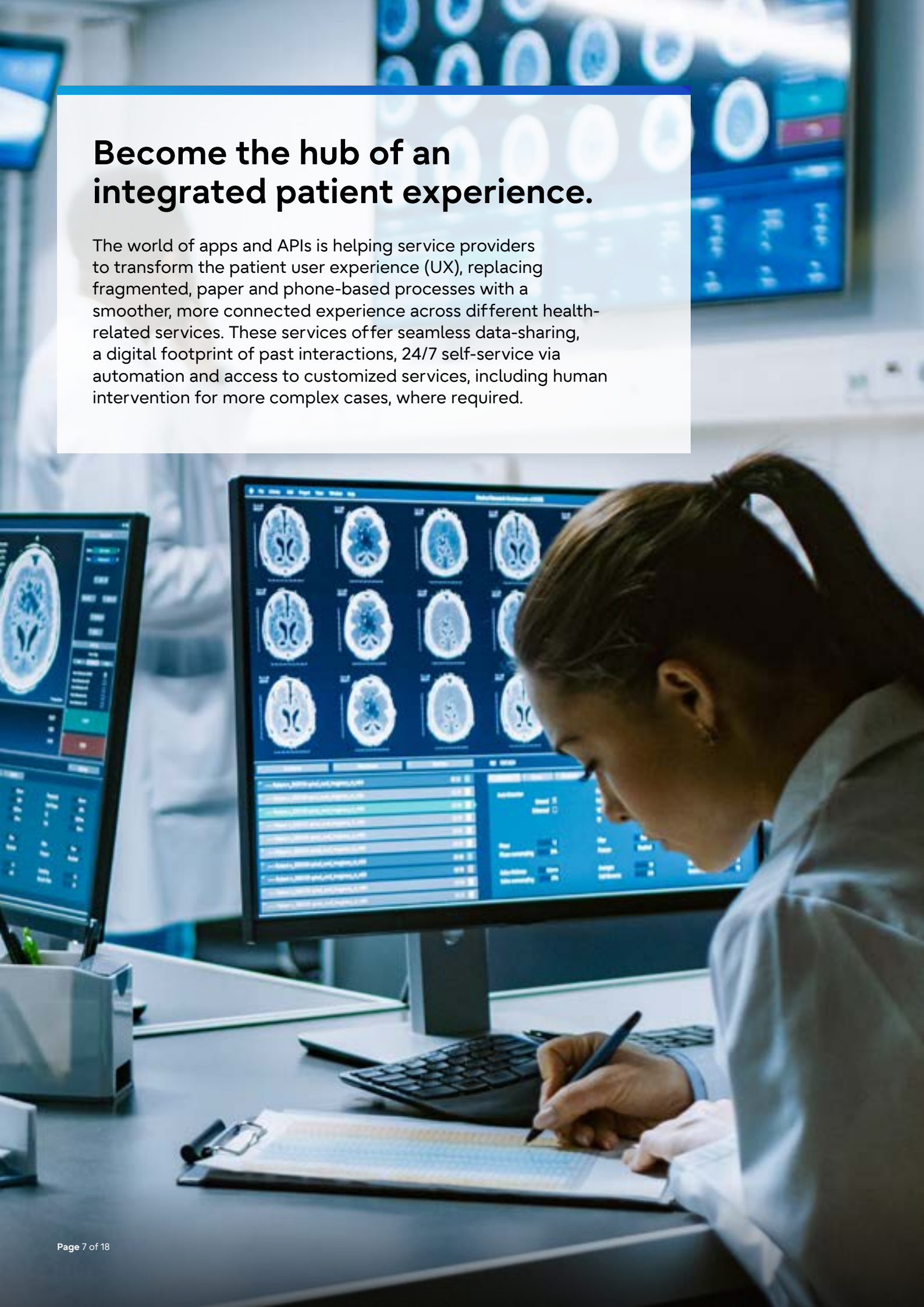


Enable proactive detection of disease and access to pre-emptive care services.

Advances in treatments have helped counteract or slow the inevitability of many common health conditions. Individuals want to resolve or manage illness at the earliest opportunity, while health services want to reduce the pressure on their services by avoiding routine complaints becoming more serious cases. This has encouraged health providers to offer individuals access to services that get to the root of health issues early and offer the most effective treatments based on user data. This approach is also supported by the increasing visibility into the patient's genomic data, such as using DNA sequencing to identify genetic variants that have known impacts on health and disease, to tackle issues before they've even manifested as health complaints.

Become the hub of an integrated patient experience.

The world of apps and APIs is helping service providers to transform the patient user experience (UX), replacing fragmented, paper and phone-based processes with a smoother, more connected experience across different health-related services. These services offer seamless data-sharing, a digital footprint of past interactions, 24/7 self-service via automation and access to customized services, including human intervention for more complex cases, where required.





Create a 'reboot' in consumer trust.

All companies that hold customer data are finding themselves under closer scrutiny, due to both tighter data regulations and greater consumer awareness of the impact of data loss or theft. **In 2021**, there were 277 security incidents involving the healthcare and health sciences sector, accounting for 297 million breached records globally. Given the sensitive nature of health information, the evident risks are bringing renewed pressures to offer the patient greater visibility over collected information and protections in place to satisfy individual expectations around how data is used, shared and stored.

Allow a shift to patient self-monitoring.

Not all healthcare needs to be provided at a hospital or health center. At-home healthcare, enabled through connected medical devices, is becoming a more practical means for giving an individual greater autonomy. Such devices offer individuals the tools they need to manage treatments such as vital signs and medicines adherence, reducing the need for constant physical interaction with health services. This allows the patient to participate in their health problem more actively by offering them collaborative monitoring tools and providing the motivation to stay in contact with their treatment plan.





A personalized, predictive, preventive and participatory health service.

Advancements in medical technologies are allowing for the development of new models based on more personalized and preventive care. This replaces the one-size-fits-all approaches of the past with digitally enabled approaches that give individuals a more active role to play in maintaining their all-round health and wellbeing. By integrating modern digital solutions into the individual's life and routines, they can be more judicious in how and when they access conventional health services.

The rise of the digital patient

The key innovations that are driving the transition towards individual health care and enablement include the following:

- **Wearables and behavioral data**

Consumers are becoming more familiar with wearable technology as a way of tracking vital stats and motivating day-to-day activity. These wearables, supported by smartphone and tablet apps, are extending beyond obvious use cases like walking and running, to incorporate other wellness aspects such as eating habits, alcohol consumption and sleep data. Not only do these devices contribute to the individual's sense of accomplishment and wellbeing, but they can also be used to evidence their healthy lifestyle, such as to allow continuous underwriting in insurance cover or to provide real-time information on their health and quality of life to their care provider.

- **Digital therapeutics**

While medical experts still play an essential role in directing patients towards the best care, much of the everyday treatment involves buy-in from the patient themselves. Digital therapeutics offer software-based therapies that can be accessed by the patient through health and wellness apps, helping the individual to track progress in real-time as well as control alerts and reminders. Examples include the use of insulin pumps, blood glucose meters and IoT devices to track progress in a variety of physical, mental and behavioral conditions.



- **Telemedicine**

The lockdown period threatened to disrupt treatment for conditions outside of the urgent support for COVID-19 symptoms. Thankfully, the increased availability of telemedicine helped to close the gap and keep regular health services running in difficult circumstances. The use of purpose-built video conferencing apps has allowed health services to reimagine care interactions through remote doctor-patient contacts. This helps the individual to fit treatments around other priorities and support marginalized groups (such as the vulnerable and infirm) to get treatment when needed. As a viable alternative to in-person treatment ongoing, telemedicine provides the customer with light-touch means of getting quick assessments and peace of mind on health issues, along with automated follow-up to keep the patient engaged.

- **Precision medicine**

Precision medicine uses information about an individual's own genes or proteins to help prevent, diagnose, or treat diseases. Using this genomic information, healthcare providers can give their patients a better understanding of their genetic makeup. This includes information on their predisposition to diseases and allergies, and gives the clinician the ability to offer preventative strategies, such as customized drugs and segmented treatment paths, based on the presence of these conditions.

- **Remote monitoring**

Endemic shortages in staffing and newer measures on social distancing are putting significant pressures on care models that involve frequent visits and checkups on patients with acute or chronic conditions. The use of diagnostic aids such as medical devices that collect relevant data can help patients to stay in contact with treatment providers without the need for continually visiting medical and health facilities. Advances in remote monitoring and control systems is bringing about a transition towards hospital-at-home as the primary care route, enabling the provider to make proactive clinical decisions without face-to-face patient contact.





Power to the patient

In the years to come, we may look back at the current health landscape as a convergence point. One where various political, social, economic and technological forces came together to bring a fundamental change in how society approaches individual healthcare.

For decision makers in the health sector, the focus now is on controlling the factors that can be controlled. The political, social and economic forces are deeply embedded trends that will influence decisions at all levels going forward. The technology factors, however, are a malleable force on which individual providers can make decisions today that will impact the quality, efficiency and effectiveness of the service they can offer to individuals for years and decades to come.

To grasp the potential of these technological forces and capitalize on the transition towards patient-centricity, these are some key recommendations for healthcare decision makers.

1. Develop a digital, patient-centric ecosystem.

- Become a true partner to patients by putting them at the front of all decisions. Collect data to understand the customer's journey and meet them where they are
- Make user experience a key priority, allowing simple navigation of services and keeping the individual informed at every step
- Integrate technologies and services that facilitate transformation towards a model that is more focused on the patient and oriented towards preventive medicine
- Develop an interoperability strategy to help remove process frictions and drive new revenue streams.

2. Put data at the center of your patient strategy.

- Understand the shifting value of data and protect it at all costs
- Embrace AI/intelligent process automation to turn data into exceptional customer service and experiences
- Focus on the implementation of precision medicine, facilitating a level of patient understanding previously not possible and allowing treatments to be prescribed that are optimized for the individual.

3. Transform your care delivery model.

- Use models based on increased productivity and operational efficiency, along with the need to enhance the quality and sustainability of the system
- Enable different health stakeholders to work collaboratively, regardless of conventional boundaries such as location, and with access to the information they need to make better decisions
- Create a sustainable investment roadmap for change. Achieving the goal of a digitally transformed health organization implies betting decisively on technology and digitization, significantly increasing investments in information and communications technology (ICT) in a sustained manner.

4. Genomic and monitoring solutions.

- Implement solutions that use genomic data to practice proactive (AI) and personalized medicine, with tools for monitoring health problems remotely (IoT), in an automated way and with the collaboration of the patient in their self-care.

Fujitsu's offering

Working with Fujitsu can help your organization take the lead in patient-centric care and services. We support health organizations across the whole digital transformation process, including key areas such as connecting various data sources that are currently located separately and in working with other health providers to exchange medical and health data in a trusted way.

We're increasingly working with partners to use AI in new ways to progress R&D, treatment and prevention, offering our expert understanding of the analytics, ethics and security surrounding health data.

Together we can create a platform for acquiring, linking, and analyzing health data to support greater personalization, as well as modernizing professional services to enable efficient onboarding and speedy scaling up of your user base.

Case study – personalizing cancer treatment with AI

Cancer remains one of the leading causes of death worldwide. Fujitsu has been working with the Aichi Cancer Center, one of the largest and oldest comprehensive cancer centers in Japan, on the development of an AI solution able to select effective medical treatment from a wide range of drugs based on patients' individual cancer types and various genomic variants.

The AI solution supports physicians in efficiently choosing medical treatment expected to achieve best results, contributing to a significant reduction in the time required to plan individualized medical treatment for cancer patients.

The effectiveness of this new solution has been verified in clinical trials with 450 participants by physicians at the Aichi Cancer Center.

Aichi Cancer Center and Fujitsu will continue collaboration with the goal of integrating data from multiple databases and setting a path to the full-scale introduction of an easy-to-use system in clinical practice of cancer genomics.



If you'd like more advice on the topic of digital healthcare solutions, then please get in touch with our team at askfujitsu@uk.fujitsu.com or visit [Healthy Living – Fujitsu Uvance: Fujitsu Global](#)

If you found this paper interesting, you may also like our paper on *Building better-connected healthcare: Enable the journey towards a digital healthcare ecosystem* in which we share our perspective on the fundamental shifts in data-enabled health services and how they can be harnessed to improve outcomes for both patient-customers and for healthcare staff.

