Opportunity for a Digital Generation Leap
Technology is set to drive better healthcare using a low-touch ecosystem replacing the existing models

Healthcare
PURPOSE-DRIVEN, RESILIENT & ADAPTABLE

with Business 4.0™

EMBRACE RISK
MASS PERSONALIZE
CLOUD
INTELLIGENT
LEVERAGE ECOSYSTEMS
CREATE EXPONENTIAL VALUE
AUTOMATED
AGILE
The COVID-19 pandemic has caught the world by surprise triggering a scale of global uncertainty that has no parallel in recent history. The response in trying to address the crisis has been varied across regions. Healthcare sector, being at the forefront of crisis response, is faced with the enormous responsibility of not only ensuring emergency action but also collaborating across countries, states, and public and private enterprises.

While the loss of lives to the pandemic is truly unfortunate, the crisis has also significantly reinforced the importance of health and wellness, globally. Over the past several years, the healthcare industry has witnessed a gradual shift from volume-based models to value-based care. We have also seen a bundle of events unfold triggering the emergence of new ecosystems driven by the identification of social determinants of health, focus of big-tech firms in healthcare, increased focus on patient experience, and a closer look at democratization of data. All these changes have aligned with the fundamentals of quality, access, cost, and experience of care while increasing transparency and trust in the healthcare system.

Going forward, technology will be key to enabling better care and will guide us to a low touch healthcare ecosystem from the current high touch model. The changes will be seen across the board and will include progressive compliance, acceptance of data democratization, widespread use of anytime/anywhere-connected health, heightened patient experience unified across all digital and physical touchpoints, and reduced fixed costs to make way for simplified cost-efficient health system operations. These transformations will be enabled by the accelerated adoption of Business 4.0 technologies.
Continuous Innovation, Transformation: Moving to low-touch healthcare

We feel the healthcare industry is likely to adopt the mindset of continuous innovation and continuous transformation in the face of the COVID-19 crisis with quality of care being top priority. We will also see accelerated adoption of digital tools and technologies that facilitate the remote workforce, social networking, real-time communication and collaboration, telehealth and telemedicine, remote clinical care and disease management, self-service diagnostics, predictive analytics and knowledge management, artificial intelligence and cross-industry collaborations, and innovative care models.

We are already witnessing the exchange of data at local, regional, national, and global levels as well as sharing of best practices. All these elements combined will help us make a dramatic shift from currently diagnosing and treating the disease to predicting and preventing the disease, going forward.
Healthcare in the Post-COVID-19 World

As the industry evolves through the crisis to plan and deliver a collective response, three key trends (Figure 1) have emerged:

Digital generation leap | Bringing down barriers | Ecosystems driving extensive collaboration

Three Key Emerging Trends

- Digital Generation Leap
- Bringing down barriers
- Ecosystems driving extensive collaboration

Critical for Success

Interoperability | Cyber Security
Digital Generation Leap: Adapting Quickly to Offer Resilient Care Options

The pandemic has set in motion the evolution of care delivery from high-touch to low-touch environment. A related area of growth will be remote patient monitoring (RPM) and home monitoring. The current social distancing restrictions across the world have highlighted the need to monitor patients with chronic conditions at home.

Additionally, telehealth has emerged as an effective tool for prevention and treatment, and keeping potentially infected individuals and symptomatic patients isolated at home. We foresee primary care and annual physical check-ups aided by IoT and cloud to measure vitals such as temperature, blood pressure, pulse-rate and blood oxygen level. Additionally, at-home lab tests such as blood glucose strips, HbA1C test kits and drop-in bloodwork will make remote physical examination more comprehensive.

Technologies such as AR/VR, voice first solutions, IoT, analytics, AI and robotics will also significantly enhance the outcomes for remote care. Timely interventions can be enabled for a wide range of chronic illnesses and pregnancy using IoT measurements, analytics and AI-enabled alerts. This will help reduce the risk of complications and re-admissions besides enhancing adherence to medication.

A related area of importance is security. Tele-consultations will have tamper-proof bio-metric login for enhanced security and ease-of-use. Adoption of technologies such as blockchain will guard against intrusion, hacking, as well as ensure adherence to privacy regulations.

Low Touch Care

Revenue Resilience

The scale of COVID-19 crisis has stressed the healthcare systems and pushed individuals seeking elective surgeries, physical and occupational therapy to defer treatment. This has impacted revenue for healthcare providers while the heavy fixed costs remain unchanged. Additionally, the hospitals have seen increased emergency room activity, a prime category for bad debt. Further, several health plans are seeing membership losses due to increasing unemployment that will hurt the bottom-line.

Health plans and providers will need to switch to technology-enabled options to ease the pressure as we transition past the crisis. Providers will need to leverage IoT and digital tools including at-home lab tests, anytime-anywhere physical therapy etc. to continue to treat and support the non-COVID-19 patients. Digital tools with 5G technology will help improve effectiveness of emergency care and increase throughput by providing emergency care at home and uninterrupted care during the ambulance journey.

Providers will be able to enhance medical coding, claim submissions, claim reconciliation, and denial management to reduce the burden on the back-office by using AI to handle complex claims. Health plans will need to be tweaked to incentivize providers who use technology to extend low-touch care beyond primary care. Health plans will enhance the use of AI and mobile technologies for continued engagement with members and promote wellness to reduce medical costs.
For many patients, the primary access to care is through either their doctor or an emergency room. However, over the past several years, the advent of walk-in clinics, ambulatory centers, urgent care clinics, and other care settings have provided a wider choice to the patients. However, easy access to an individual’s health information across care settings is one of the biggest hurdles to offering quality care. With the adoption of telehealth and individuals opting to receive care anywhere across the globe, highly secure - interoperable - access to data is of paramount importance.

Global health record/care models backed by data democratization will lead to new business models such as the Uberization of health. Patients will be able to shop for better health providers globally, and physicians will be able to obtain instant access to global health records, subject to patient consent. We believe appropriate technology fabrics will emerge to help create this global healthcare model. Cloud-based open emergency medical record hubs backed by blockchain technology, API ecosystem to cascade health encounters across the ecosystem whenever, wherever they take place, will also enable anytime-anywhere-connected care. Data democratization will be powered by FHIR standards, consent management secured with fine grain authorizations that are time bound, persona bound, and location bound, etc.

**Uberization of Healthcare**
Lowering Barriers for Purpose-Driven Care

The healthcare industry has been heavily regulated to ensure patients receive safe and high-quality care. In the US, the lawmakers, the US Food and Drug Administration (FDA), Centers of Medicare and Medicaid Services (CMS), Health and Human Services (HHS) along with the states have implemented rules that commercial payers, health systems, and providers must comply with as part of their business processes.

However, over the past month, many state and federal regulations have been relaxed to provide timely care. While the assumption is that these policies will revert at some point, this is also an opportunity to evaluate changes to healthcare delivery. Following are some examples of these policy changes in the US:

**Telehealth**

In order to promote telehealth as a public health and safety solution, the regulators are allowing for electronic and telephonic case management, service planning, evaluations, and monitoring, as well as electronic signatures or verbal approval.

**Privacy** – Privacy and security regulations have been under the scanner prior to the COVID-19 crisis. HIPAA and privacy standards have been temporarily relaxed to allow the use of Facetime, Zoom, Skype and certain real-time two-way telecommunications with patients for office visits. Given the current crisis, several states and business are trying to track and monitor the health of individuals as movements between home, business, and stores are relaxed.

**Family Care Giving**

**Family Care Giver Support** – Knowing that hired aids may not be able to visit the homes, some US states have amended their Medicaid services and are now allowing family members to administer services. In some cases, the family members may also receive reimbursement from the state for providing the health and community services.

**Meals and Other Services** – Providing meals during COVID-19 has been a challenge. States are now allowing for home delivery of meals from both traditional and non-traditional services.

**Regulatory Changes**

**State Provider Licensure** – All states have very strict licensure regulations for providers and do not allow providers to practice in their state unless they are fully licensed. Since the outbreak of the COVID-19 crisis, almost all states have in some way relaxed provider qualifications, such as training, certification, and re-certification requirements. In addition, many states have also allowed flexibility for out-of-state providers to practice without being required to seek a state-specific license.

**Reimbursement** – In several states Medicaid and Medicare, will be offering advance payments of up to 100% for three months. Given the risk of in-person meetings, Medicare is also increasing telehealth reimbursements to equal in person visits and cover new patients along with different provider types. Finally, Medicare and Medicaid will also be relaxing prior authorization requirements and extending prior authorizations automatically for drugs, DME, and elective surgeries.
With the digital wave aiding the change, the support beyond borders will soon be a reality, albeit with heightened demand for information security and data privacy solutions. Technologies such as blockchain and other emerging tech can securely transfer and encrypt images, gene prints and other information.

We will see new ecosystems emerge on multiple levels to collaborate and cooperate for wellness, reducing cost of care, uberization of health resources, and prevent future pandemics. Successful solutions towards data interoperability will be the foundation of such collaborations.

The global scale of the crisis has opened the gates to more extensive collaboration within the research community across geographies. Countries, states, public and private enterprises will all need to collaborate and cooperate in proactively sharing information to manage care and prevent future pandemics. Here’s a look at some of the potential collaboration avenues:

- **Public, Private and International cohesiveness**
  
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  **Technologies such as blockchain and other emerging tech can securely transfer and encrypt images, gene prints and other information.**

- **Comprehensive health indicators for care**
  
  Healthcare score or citizen level indicator may become an objective independent parameter for day-to-day business practices. This will require collaboration at every level, and concepts like health passport may emerge – leading to a highly secure, standardized, seamlessly interoperable technology fabric promoting data democratization at all levels.

- **Combined forces to combat**
  
  Consumers in every class of the ecosystem globally will demand better quality care. Having predictable, meaningful, and comprehensive health parameters will become a driving force.
  
  For developing nations, the ability to assimilate with indigenous medical practices will dictate care delivery. Health records will become standardized and comprehensive, and will lead to the emergence of new healthcare products, and payment models.
Conclusion

While, the current focus is obviously making it out of the crisis, healthcare enterprises are also evolving their operating models to become resilient, adapt to the evolving needs of the world at large, as well as prepare to play a key role in the emerging purpose-centric ecosystems over the long term. Healthcare agencies will need to eliminate the existing barriers to create fertile grounds for global and local collaboration. They will also need to adapt to more resilient and efficient digital models and transform operations to expand quality and reach of care. Additionally, these transformations will have to be accelerated to not only effectively deal with the current crisis but also prepare for the changed healthcare, social, and business environment, going forward. The industry will need to take advantage of the new ways of working, high degree of collaboration, interoperability, and patient-centricity for better health outcomes to drive the change. The transformation of the healthcare industry will be important to future proof not just the sector but the world at large.
About the Author

Nitin Kumar
Global Head, Healthcare Business Unit

As the Business Head and P&L Owner, Nitin is responsible for globally managing and growing the TCS Business in Healthcare Industry. He has been part of TCS growth journey for over 20 years and has played leadership roles across various industries including Energy, Resources, Financial Services, Healthcare and Life sciences.

Nitin is a business and innovation driven leader and has worked extensively with senior executives globally. His focus has been to help clients adopt digital technologies to ensure reshaping of their businesses and drive incremental business value. He has successfully led and delivered several business transformation initiatives. A strong believer in core values of TCS and the TATA Group, he has been instrumental in establishing trusted long-term strategic partnerships with several fortune 100 customers.

Nitin is an alumnus of Delhi College of Engineering, Delhi and has attended management development program for Tata Group Senior Executives at Ross Business School, University of Michigan.
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