



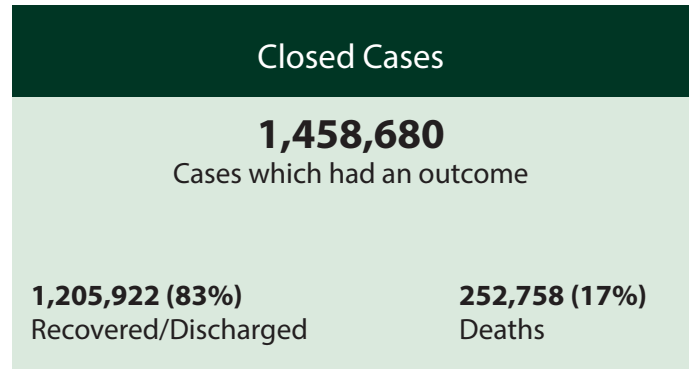
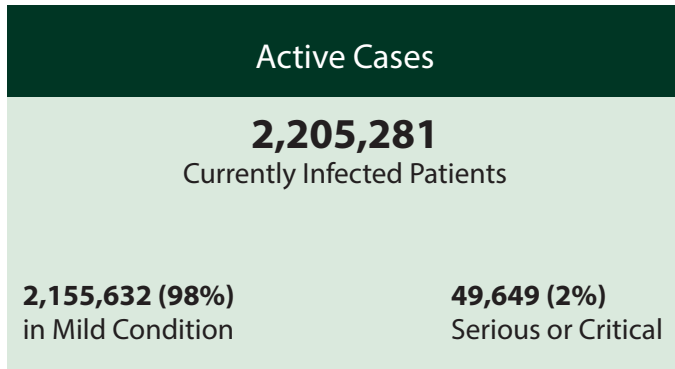
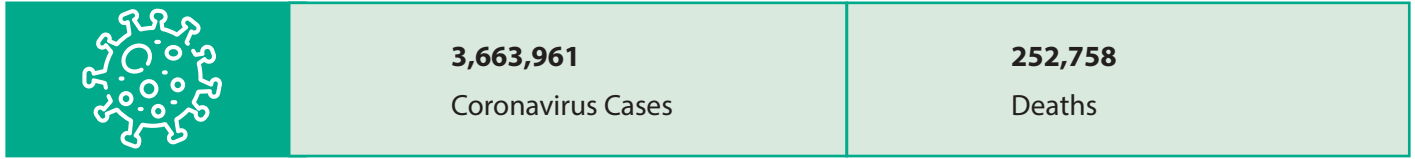
COVID-19 IMPACT ON THE HEALTHCARE INDUSTRY: CHALLENGES AND OPPORTUNITIES

Today, the world is facing an acute health emergency with the ongoing COVID-19 pandemic. As of 5 May 2020, COVID-19 has infected over 36 lakh people worldwide with more than 2 lakh deaths. The adverse effects of the pandemic have been pushing the 'already-struggling' economy further

down the slippery slope.

The intensified restrictions by the Government have been affecting business continuity, and workforce productivity and security. Frozen markets across the globe are leading to credit crunch, which in turn would mean corporate bankruptcy. The

demand for goods has been at its lowest owing to restricted consumer movement, lack of income, supply chain disruptions, lack of investments, among others. In fact, 70% of US market is consumer driven and unemployment is predicted to rise by 20%.¹



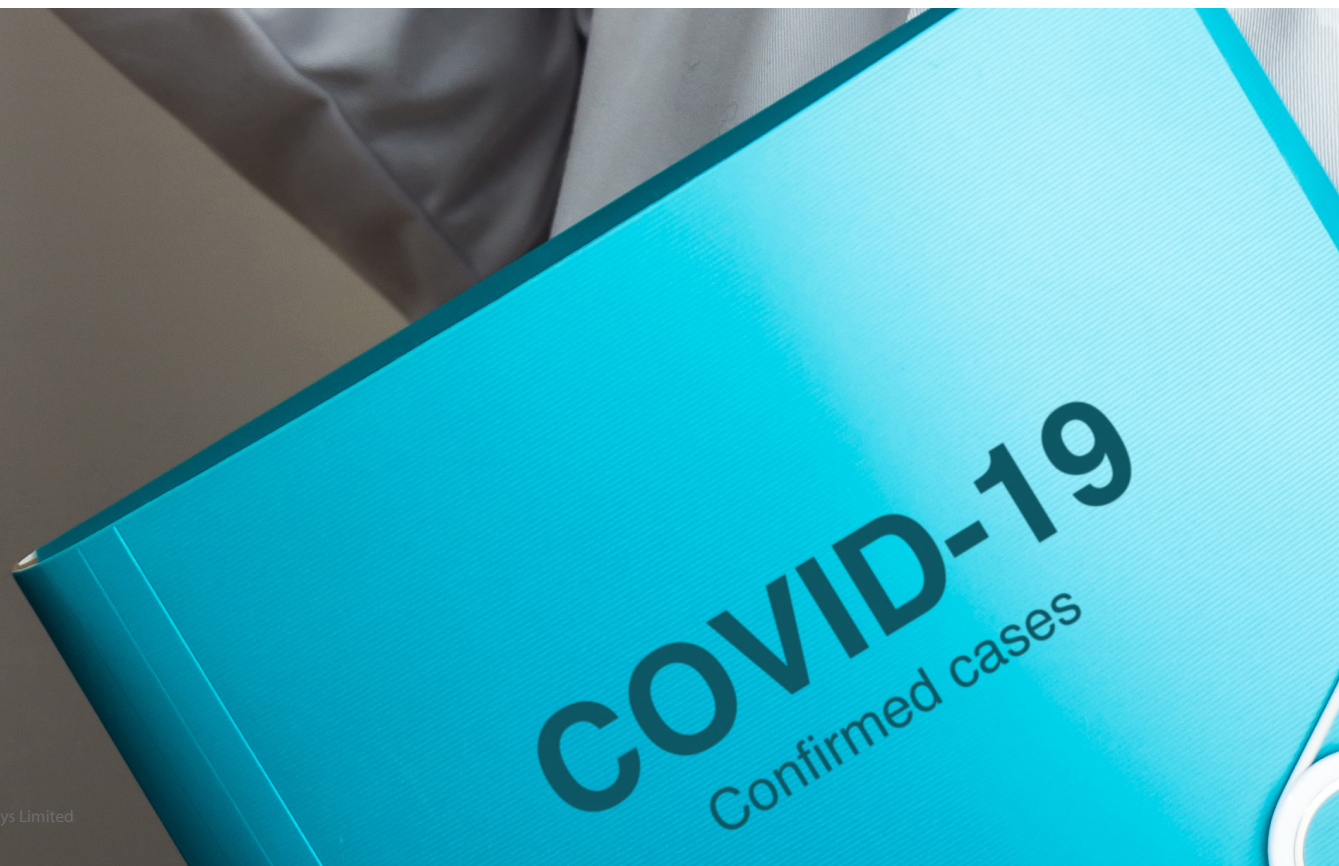
Source: Worldometer, 5 May 2020, 11:18 GMT

While every industry is being impacted by the dual threat of COVID-19 and the economic slowdown, it's the Healthcare industry that takes center-stage. The Healthcare industry has been transitioning through a disruptive time pre-COVID with

focus on changing the business model.

The current fragile state of the Healthcare system didn't just make the global environment ripe for a worldwide pandemic but also exposed how digital transformation

in healthcare has been long-overdue. The influx of patients, inundated hospitals, shortage of resources has weakened the arsenal of some of the world's most developed healthcare systems, exposing some persistent challenges.



Roadblocks Facing The Healthcare Ecosystem

Let's take a look at the roadblocks facing each of the stakeholders and other entities of the healthcare ecosystem.

Providers: The increasing demand on resources is leaving the healthcare system overstretched and unable to operate effectively. One of the key issues is the security of frontline workers due to the scarcity of personal protective equipment (PPE) and concerns over their mental well-being. Besides, most health workers are utilized for COVID-19, which has reduced access to primary care and face-to-face appointments have taken a hit. Financial limitations, security and data breaches are making it difficult for hospitals wanting to upgrade to Electronic Health Record (HER) systems.

Payers: The COVID-19 has opened the Pandora's box for payers with the impact clearly visible on their operational models and financial health. As they look to support members while improving products, sharp increase in enquiries and claims, rising costs with financial uncertainty, rapidly evolving mandates from regulators, managing remote workforce productivity and keeping cybercrimes at bay are some of the challenges to tackle.

Patients or rather Consumers: While there is fear of getting infected by the virus, there are also concerns over continuing with regular treatments. Those with chronic conditions are choosing to delay treatment while there is also the fear of rising cost of premium and risk of losing insurance.

Regulators: As regulators are creating strategic responses to address COVID-19 pandemic, they've been facing unique challenges. To begin with, there has been clearly lack of advanced health technology.² Electronic data breaches, cybersecurity and black of data management systems are some of the other concerns.

Government: The lack of infrastructure to take appropriate measures to tackle such a pandemic is among the key

concerns for Governments across the globe. The slowdown further accentuates its inability to provide financial support to stakeholders and address the lack of supplies.

Care Management: Care management has always been manual, episodic and fragmented with limited access to data. This is upended by lack of coordination and limited visibility and transparency among stakeholders.

Global Supply Chain: The global lockdown disrupted the supply chain, resulting into shortage of medical and diagnostic equipment. This also highlighted the fragile system that has been over dependent on manual processes.

Clinical Data Exchange/Interoperability:

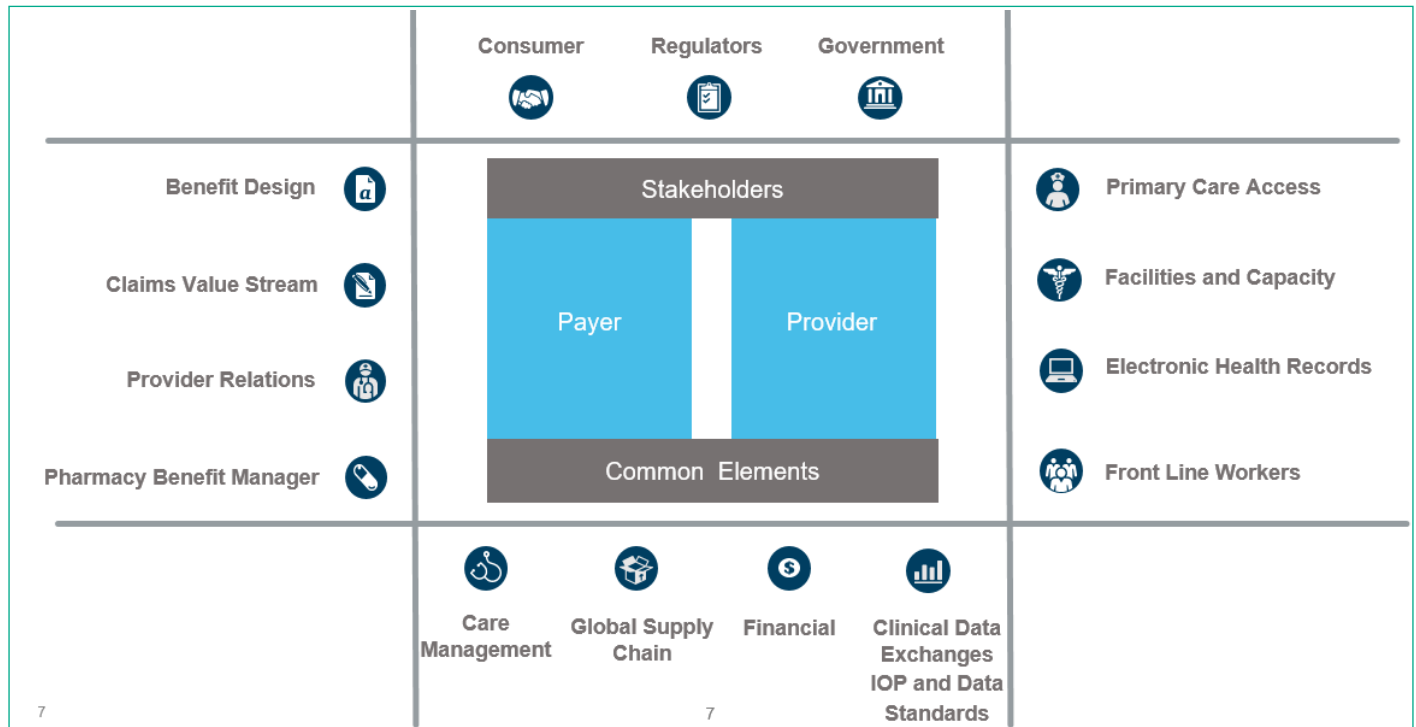
The lack of standardization of data as well as resistance to seamlessly exchange health data has been some of concerns recently. This calls for an up-to-date centralized data platform.

A closer look and you will realize that some of these concerns have been lurking around for a long time now. On the brighter side, there has been massive concerted response from across the globe. Digital innovation that had once taken months or even years to be adopted, is being put into practice today.



Paving the way for Opportunities/Payer-Providers are Leading The Big Shift

There is an age-old saying - Necessity is the mother of invention! The pandemic could be the catalyst in driving the much needed change across the healthcare ecosystem, creating new opportunities across the healthcare ecosystem.



Healthcare Value Chain and the Key Stakeholders

For instance, telehealth has been a buzzword for some time now, but it took COVID-19 for us to realize that it is a boon for the healthcare industry. Today, there is a sudden surge in telehealth investment and services.³ It is seen as a viable option to provide primary care. Besides, virtual appointments, remote monitoring, nurse-bots can play a key role in safeguarding frontline workers.

A standard and secure EHR system is also making headway amid pandemic as it can be used across hospitals for quick access to patient data, thereby enable faster outcomes. Such digital platforms could also be a great way to keep track of equipment, streamline communication across the health system, reduce administrative tasks, create awareness, rework costs, among other benefits.

COVID-19 has also compelled people to take insurance seriously. Here's an

opportunity for payers to enrol more people into low premium plans and also increase membership through special enrolment period. Digital platforms that can enable faster claims, streamline requests and handle queries are finally taking precedence.

Governments must work towards greater collaboration with regulators, manufacturing companies and other stakeholders to secure adequate supply of medical products and equipment. Patient population management can help create a comprehensive patient profile. This can set the ball rolling for data standardization, patient registers and interoperability using data analytics.

Now, with the voluminous data involved, regulators must begin pushing for secure, integrated data standards for exchange of information. Also, regulatory changes must facilitate increased acceptance of virtual

health and remote monitoring, ensuring lower cost of care.

COVID-19 also showed us how disrupted global supply chains were quickly restored by making quick short-term alternate arrangements. This can be spruced by exploring new technologies to create a comprehensive business continuity process.

As we combat the dual threat of COVID-19 and economic slowdown, it is important to go beyond the rudimentary practices and strategies. However, this cannot be achieved in silos! It calls for a greater collaboration between the key stakeholders – payers, healthcare providers, the Government, regulators, technology service providers and consumers. And, technology can play a key role in enabling this change.

Role of Digital Technology as an Enabler

With digital emerging as the new frontier, the healthcare industry can build next-gen solutions by tapping into new intelligent technologies. This can help drive innovation beyond COVID-19 and accelerate digital transformation across the healthcare ecosystem.

AI, ML and Automated Solutions

Artificial intelligence (AI) is increasingly being deployed in recent times to predict which COVID-19 patients are at risk of developing complications. By integrating AI into operations, it can be further used to gain faster access to scans, reports and provide insights into logistics, supply chain and warehouse management. AI and Machine Learning (ML) are also being used in revenue cycles to quickly identify procedural inaccuracies and deliver faster reimbursement across the healthcare supply chain.

Robotics

COVID-19 has also accelerated robotics adoption. Telepresence robots are now collaborating with the nursing staff to screen patients, thus reducing the risk to healthcare workers. Robots powered by AI are being used in surgical procedures, and also help analyze patient demographics,

social determinants of health, claims and clinical activity, improving healthcare services. Moreover, human-centered AI can help develop autonomous machines and expand the robotic fleet.

Real World Data and Analytics

Data as a Platform (DaaP) is being widely leveraged to gain insights into population health demographics, healthcare expenditures, diseases trends, and more. This is enabling innovation in new product development for medical and consumer devices. Data is also being harnessed to create personalized treatment plans for patients and boost payer/provider relationships. This collaboration ensures improved processes and data control in research and academia, which in turn can promote a shared culture mindset.

Consumer Engagement Platforms

Consumer engagement will play a key role in the post-COVID-19 era. Healthcare providers are utilizing AI-based online screening and triage tools to offer patients improved access to care, regardless of their geographical location. A rise in such digital platforms can increase productivity and reduce costs for the provider while improving the quality of care for the patient.

The integration of virtual reality can help drive awareness and create new ways of assisting patients with pain management and mental illness. AI and analytics are capable of powering a comprehensive remote monitoring platform. Providers are increasingly inclined towards wireless connectivity. We've already heard about the "smart pill" that can be swallowed by patients, offering real-time information on their well-being has been already approved by FDA.⁴

Blockchain

Blockchain-based collective claim-sharing platforms could be the single source of information for a patient's health care record. It can process claims, reduce paperwork, back-and-forth document delivery to clinics and mitigate the risk of infection from face-to-face contact. Blockchain's security features promise clarity to donors, who can track their donations; and users to trace the demand and supply chains of medical supplies. Using blockchain, health systems can continuously update factories with the latest product requirements and specifications and improve delivery of healthcare services.



The Way Forward

Now, COVID-19 isn't a short-term crisis. By harnessing the true potential of technology, healthcare providers and payers must prepare to not only navigate current conditions but also thrive in the future and emerge as trusted partners. Here are some of our recommendations:

Stabilize to Meet Immediate Needs - Short Term (0-3 Months)

It is important to align cost and volume over the next three months by determining staff needs, vendor costs, etc. For payers to stabilize after the COVID-19 pandemic, we suggest modifying current products for COVID as well as installing a setup dedicated to meet COVID-19 related administrative work. Providers should consider setting up COVID-19-

specific hospitals, and optimize scarce resources based on priority. Through process automation, they should look at improving revenue cycle efficiencies. On the digital front, it is important to establish infrastructure to build DaaP capabilities and leverage AI/ML tools, automate manual tasks and identify supply chain methodologies. It is also important to work with all stakeholders and expand coverage of health plans like mental health services through audio calls only.

Reconfigure and Retool Approaches and Processes - Mid Term (4-12 Months)

Ensure you have a financial rescue plan in place by now, and communicate it to all stakeholders. Payers must reevaluate

business plans that cover medical disasters like COVID-19 and improve access to care and cover the cost of vaccines. Providers can look into investing in IT to help stakeholders and expedite interoperability across all facilities, functions and workforces. Payers are also recommended to review medical malpractice to include virtual healthcare services. Developing a fully connected supply chain driven by clinical data, from patient diagnosis to discharge is another step forward in the right direction. Stakeholders must develop strategies that harness technology and electronic health records for disease management. This is also the time to scale DaaP across all healthcare channels, use AI/ML functionalities, reduce bottlenecks with predictive analytics, automate supply chain, leverage RWD and use cloud services to implement layered, in-depth cyber-defense strategy.

Transform with a Clear Roadmap - Long Term (12+ Months)

This is the time to introduce new business models and unlock the full potential of emerging technologies like AI, ML, robotics, etc. For the long term, payers should focus on bringing coverage access to the various groups of population, and follow an infrastructure strategy to support new capabilities and applications. Payers must also formulate a digital strategy at organization level to become more patient-centric and switch to a value-based model. Providers can enhance their capabilities by deploying virtual healthcare services and remote monitoring. Providers can also leverage NLP/ML to create FAQs on consumer portals and build social media medical neighborhoods to assist in self-care. AI and automation can help free up more resources and ensure a better claims processing. Establish a mature DaaP across all healthcare business units. Build out a mature medical claims review process with AI/ML while introducing road maps and preventive measures. It's also the time to reimagine supply chain with digital tools to decrease overall costs and overhead.



Authors



Venky Ananth
Senior Vice President and Global Head,
Healthcare, Infosys



Ed Francis
Global Managing Partner, Healthcare
and Life Sciences, Infosys

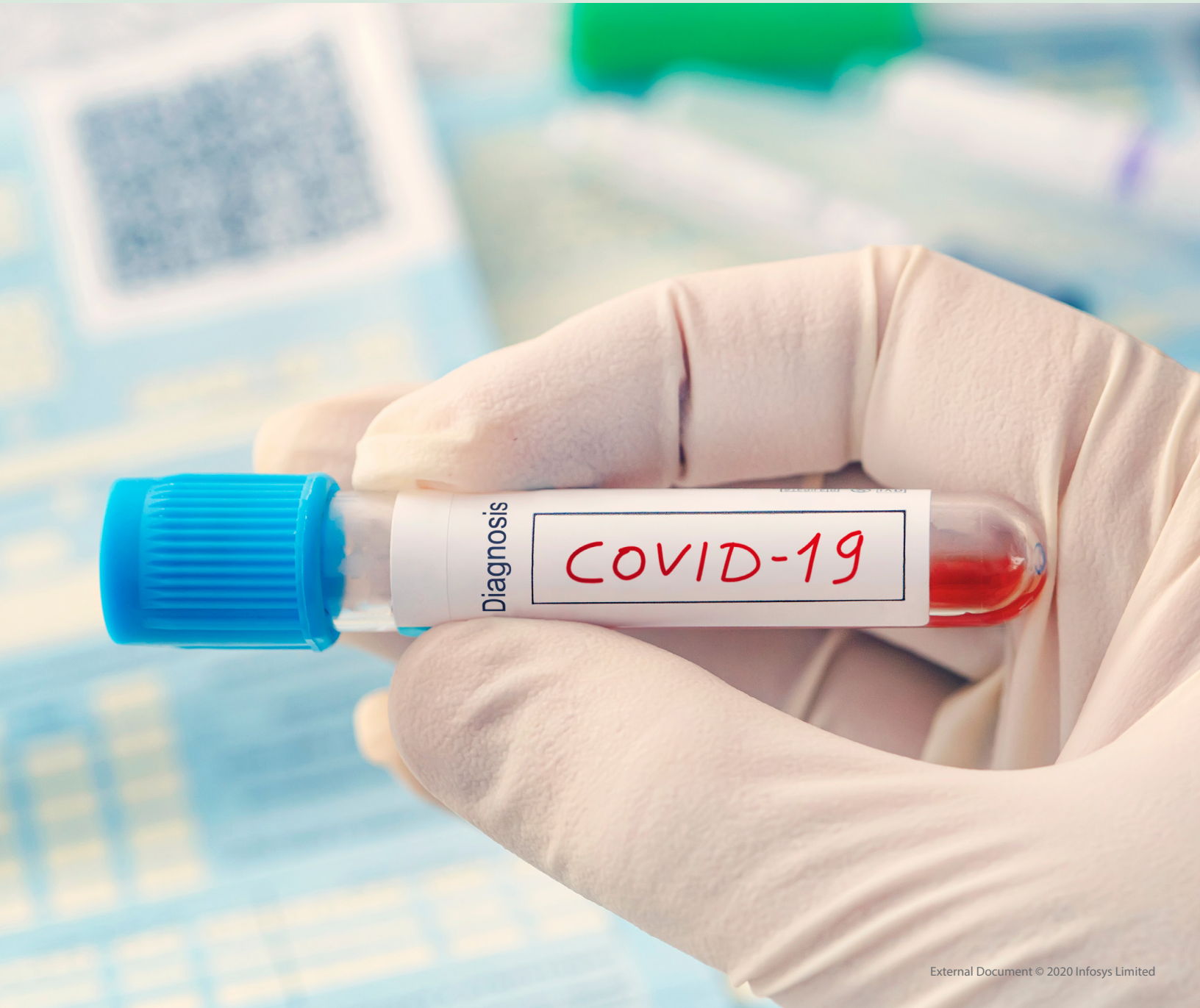
Sources

¹US unemployment rate could hit 15%-20% peak in April: Moody's Analytics, CNBC

²[Top 10 Challenges Healthcare Companies Face Today, Fioit](#)

³[COVID-19 and the rise of Telemedicine, The Medical Futurist, March 2020](#)

⁴[New 'smart pill' maker gains FDA approval, MedCity News](#)



For more information, contact askus@infosys.com



© 2020 Infosys Limited, Bengaluru, India. All Rights Reserved. Infosys believes the information in this document is accurate as of its publication date; such information is subject to change without notice. Infosys acknowledges the proprietary rights of other companies to the trademarks, product names and such other intellectual property rights mentioned in this document. Except as expressly permitted, neither this documentation nor any part of it may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, printing, photocopying, recording or otherwise, without the prior permission of Infosys Limited and/ or any named intellectual property rights holders under this document.