

Healthcare goes mobile: Evolution of teleconsultation and e-pharmacy in new Normal

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word



Sudarshan Jain

Secretary General
Indian Pharmaceutical Alliance

We are confronted with an unprecedented crisis of Covid-19 pandemic that is dramatically changing the consumer behaviour. With social distancing becoming the norm, “contactless” has become the “new normal” buzzword. No industry is escaping this disruption including the healthcare sector, where the need for to shift from traditional in-person doctor patient interaction to digitally enabled remote consultations has become imperative.

This was evidenced through increased uptake of teleconsultations and e-pharmacy sales across the globe and India. Teleconsulting platforms in the US and China experienced 50%-100% uptake in during Covid-19 pandemic times. Indian platforms such as Practo, Mfine, Lybrate etc. experienced similar uptake during lockdowns including leading healthcare chains doing 200-500 tele-consults per day. Teleconsulting guidelines issued by the Government of India during the lockdown in March 2020 have further provided much needed fillip to the growth of teleconsulting platforms with both health tech start-ups as well as hospital chains exploring this channel of care.

Phygital (physical along with digital) is likely to be the new normal with data being the backbone of this model. Indian regulatory bodies including medical, industry associations and private players are collaborating to enable the transition. Despite some of these encouraging trends, scalability of virtual care models remains a challenge for Indian healthcare ecosystem. Some of the key challenges include patient data privacy concerns, trust issues, concern about substitution

practices, consultation limitations, lack of adequate infrastructure in rural, tier 2 and tier 3 cities.

The purpose of the study is to understand the transition of Indian healthcare system due to technology disruptions, opportunities and challenges associated with it with an objective to protect concerns over patient’s data privacy and threat of substitution practices by e-pharmacy players as highlighted by pharma companies and doctors. This study is based on surveys covering consumers, doctors, interviews with stakeholders from leading Indian pharma companies and case studies covering global trends. We believe this would help us to provide a direction to understand how teleconsulting and e-pharmacy would enable Indian healthcare providers to respond to rising demand and give patients confidence to manage their health effectively in a transparent, integrated and effective ecosystem.

I thank the entire EY team under the leadership of Mr. Sriram Shrinivasan, Mr. Hitesh Sharma, Mr. Pramod Sudhindra, Mr. Phalgun Rudrapatna, Ms. Shobhna Mishra, Ms. Tavleen Singh, Ms. Swati Garg and Mr. Sumeet Gupta for their efforts in putting this paper together with my team at IPA.

I thank Ms. Archana Jatkar and Mr. Devang Saxena from IPA team for their continued support in this paper and pursuit of new growth areas in the pharmaceutical industry. Finally, I would also like to thank IPA member companies for their continuous support and guidance throughout this effort.

A close-up photograph of a person wearing a white lab coat and a white nitrile glove. The person is holding a clear plastic test tube with a blue cap. The test tube contains a pink liquid and has a scale on the side with markings from 5 to 40 ml. The background is a blurred laboratory setting with various pieces of equipment.

Chapter

01

The changing paradigm of
access to health in the new
normal

1.1 Virtual care in the pre-COVID-19 times

The World Health Organization defines teleconsultation¹ as, “the interactions that happen between a clinician and a patient for the purpose of providing diagnostic or therapeutic advice through electronic means”.

Teleconsultation has always been a quick and simple way to reach your doctor. Most individuals can recount consulting their doctor on a phone, or using a network or video link like Facetime, WhatsApp or Zoom at some point. It has been prevalent since a while now and is not a new concept in India. Nevertheless, it is not a sustainable mode of consultation at a scale that India needs, mainly due to the lack of a proper teleconsultation platform and modularity of patients’ data. This paper will put such issues in perspective and will use a consistent framework to highlight the role of pharmaceutical companies and other healthcare stakeholders to make teleconsultation scalable.

Over the past few years, digital has been touted as the next disruptor in healthcare delivery. While hospitals, pharmaceutical companies, non-government organizations (NGOs), other platform providers and users recognized the potential and the need to adopt the digital platform, they lacked the necessary motivation to accelerate the pace of adoption.

Even before COVID-19, there have been many cross-linking partnerships to enable digitalization of healthcare in India. E-pharmacy companies and large hospital chains started extending their teleconsultation/telemedicine services. Insurance companies, on the other hand, were bringing together the country’s premier health-tech providers on a single platform to enable a digitally-enabled wellness ecosystem.

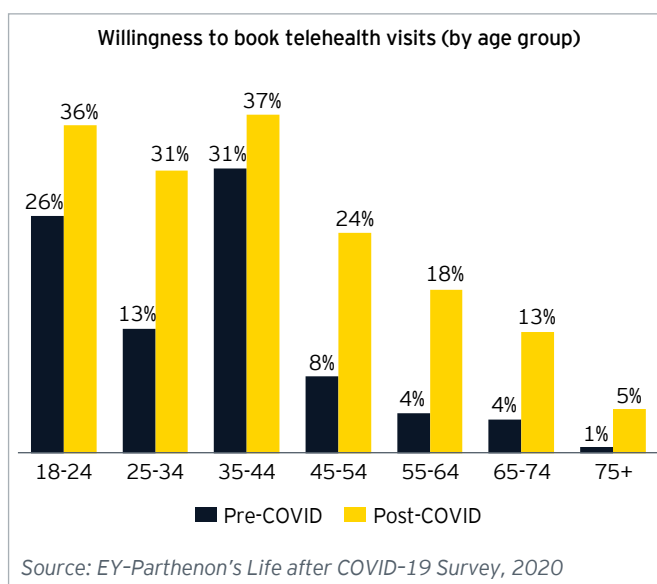
In India, Apollo Telemedicine Networking Foundation (ATNF)² is the oldest and largest multispecialty telemedicine network. The *Sankara Nethralaya*² and the *Aravind Eye Hospitals* in Tamil Nadu and the *Tripura Vision Centre* in Tripura also have successfully used telemedicine to conduct screening of eye diseases (tele-ophthalmology) in rural areas in the general population. With such initiatives succeeding in pockets, the need for them to be in one ecosystem was not emphasized as existing patients are being served through conventional consulting channels.

1.2 Teleconsultation during the pandemic: *the new now*

The ‘Now’ has witnessed a massive expansion of tele-consulting as doctors and patients are restricted to interact in person. Most patients have refrained from getting in-person doctor consultations for acute ailments due to the lockdown and risk of infection. They mostly relied on self-medication/self-diagnostic apps. Some even took medical consultations with general practitioners or family doctors on calls/virtual tools during the first few months of the pandemic. However, with the pandemic extending beyond a few months, patients were forced to explore new channels for reliable acute care. Patients with chronic ailments, such as diabetes, are identified as a high-risk group, resulting in an increase in adoption of digital channels for disease management and control for such chronic diseases.

Healthcare providers, such as hospitals and e-pharmacies, have integrated teleconsultation platforms and scaled-up their existing digital offerings. Teleconsultation and e-pharmacy platforms have showed a steep growth in adoption by both, doctors as well as patients. For e.g., Fortis Healthcare has witnessed the shift in the outpatient department (OPD) consultation with 10%³ of the pre-COVID-19 consultations moving to the teleconsultation platform.

Consumption of telehealth services in India



¹<https://www.paho.org/ish/images/docs/covid-19-teleconsultations-en.pdf?ua=1>

²<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4455413/>

³<https://indianexpress.com/article/lifestyle/health/in-telemedicine-virtual-healthcare-future-scope-india-mindsets-doctors-6421192/>

In response to the growing need for teleconsultation, pharmaceutical companies are also proactively engaging with teleconsultation platform providers to establish a connect between the doctors and the patients. EY surveyed the top 12 pharmaceutical companies in India. It was found that 80% have tied-up with one or more marketplace teleconsultation platforms, 8% have launched its own platform while rest are evaluating different means to adopt teleconsultation.

As one of the key pillars of the health ecosystem, pharmaceutical companies have a strong and significant influence on shaping the teleconsultation maturity cycle. They may engage with teleconsultation platform providers initially for developing a connect with the doctors and to help patients reach doctors through an alternate channel, but in the long run, benefits of transaction data and analysis will help in fostering revenue growth.

Reasons that are causing pharmaceutical companies to set up their teleconsultation platform



Enable doctors to safely continue their practice



Provide alternate consultation channel to patients



Develop synergies for growth of pharma companies

Source: EY analysis

“

COVID-19 has accelerated the adoption of teleconsultation from a two-year horizon to a two-month horizon in terms of doctor onboarding and adoption.

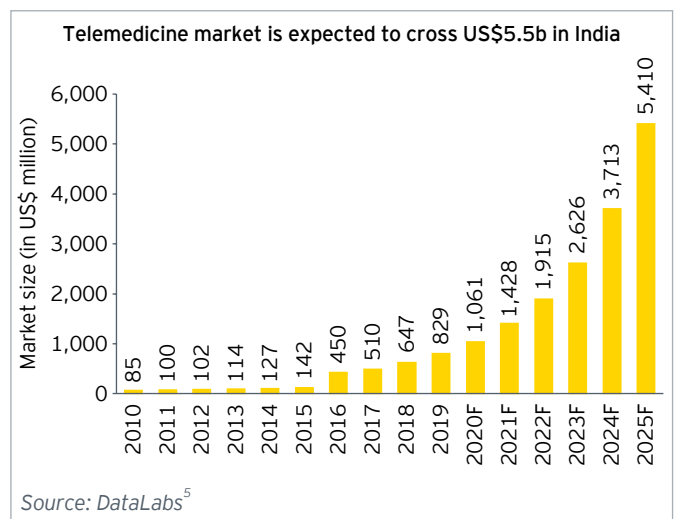
Strategy head of one of the top 10 Indian pharmaceutical companies

The pandemic has highlighted the need to build a simplified and holistic teleconsultation platform encompassing all key stakeholders. With the current levels of adoption by the patient-consumers and doctors, along with emerging teleconsultation platforms, India has commenced its teleconsultation journey.

1.3 Virtual care: market opportunities in India

There is a need for a paradigm shift in the healthcare delivery system in India. The World Health Organization prescribed doctor-patient ratio in India doesn't suffice as a metric to describe the readiness and robustness of the healthcare system. The parity of healthcare, in terms of infrastructure and quality of care, across metros, tier-1 and tier-2 cities and beyond and rural areas needs to be achieved. About 75% of India's population living outside urban cities has access to only 31.5% hospitals and 16% hospital beds⁴. Such disparity has compelled India to neglect preventive, rehabilitative and public health measures. This, among other aspects related to the pandemic, has pushed the country into the current state marked by limited access to healthcare in a mass health exigency. Teleconsultation shows the promise to bridge this gap in the future by removing many infrastructural challenges and reducing the time taken by a patient in getting consultations.

Telemedicine market in India

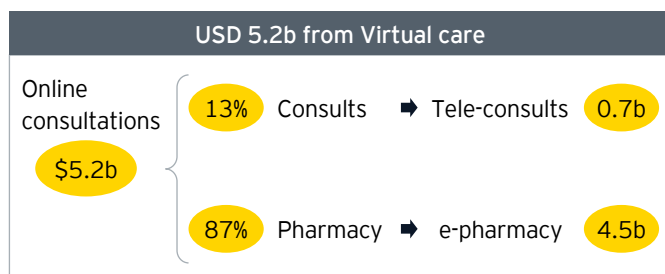


The telemedicine market in India is expected to grow at a compound annual growth rate (CAGR) of 31% for the period 2020-25 and reach US\$5.5b. Virtual care constitutes of tele-consult, telepathology, teleradiology and e-pharmacy and is experiencing an encouraging stimulus in India due to the pandemic. This stimulus has the potential to make teleconsultation and e-pharmacy account for ~95% of the telemedicine market by 2025 which amounts to US\$5.2b⁵. The graphic below illustrates the share of each teleconsultation and e-pharmacy.

⁴<https://thebluecircle.co/2020/03/11/technology-and-healthcare-collaborating-for-a-healthier-india/>

⁵EY analysis

Teleconsultation and e-pharmacy markets in India



Source: EY analysis

Lack of mobility has led to change in consumer behavior, with digital consumption becoming an integral part of it. A holistic

teleconsultation platform may become the fabric of healthcare in India and may evolve to integrate with the broader healthcare system.

The Indian healthcare consumer looks for dual benefit of price and convenience. Online health-tech. businesses are trying to refine their business models around this value proposition. It is the promise of delivery that has enabled online healthcare models to receive steady funding since their inception in the early-2000s. With COVID-19 further highlighting this need in healthcare delivery, e-pharmacies and health-tech firms are attracting investors interest. The industry may see further refinement and simplification of business models and may eventually lead to consolidation and growth.

Recent investments in health-tech. and e-pharmacy companies

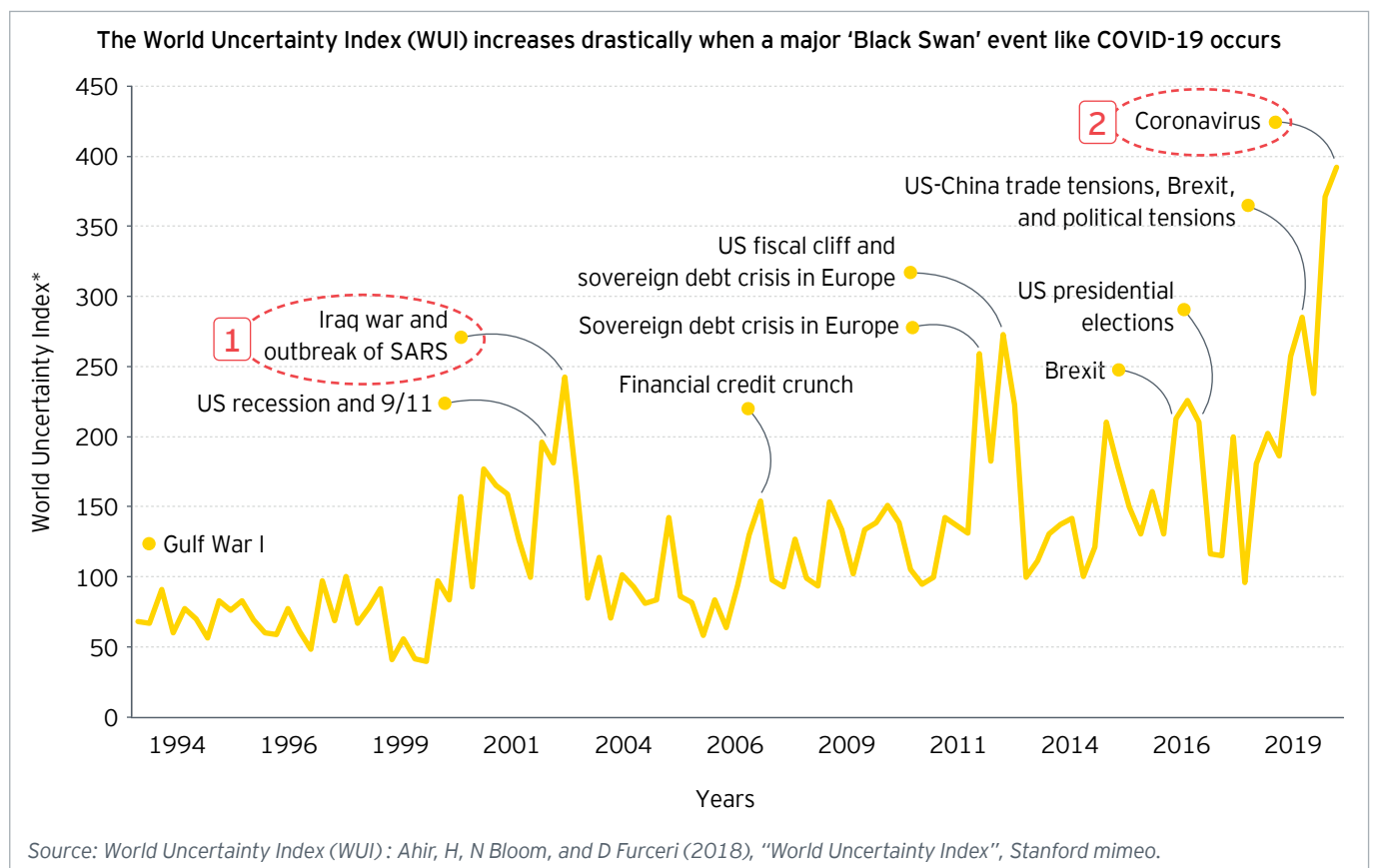
Company	Founding year	Funding from 2014-19 (in US\$m)	Investors
	2008	195	Tencent, Ru-Net, RSI Fund, Thrive Capital, Trifecta Capital
	2018	50	Policy Bazaar Group
	2017	27.8	SBI Holdings, SBI Ven Capital, Bee Next, Stellaris Venture, Prime Venture, Alteria Capital
	2013	14	The Times Group, Sachin Tendulkar, P.V. Sindhu, Pullela Gopichand
	2013	11.43	Nexus Venture, Tiger Global, Ratan Tata
	2015	169	Ascent Health and Wellness, Bessemer Venture Partners, Caisse de dépôt et placement du Québec (CDPQ), LGT Impact and Fundamentum Partnership
	2015	109	Maverick Ventures, Sequoia Capital India, Corisol Holding, HBM Partners and Omidyar Network
	2014	155	Prasid Uno Family Trust, Prashant Dharamdeo Singh, Tushar Kumar, Bennett, Coleman and Company Limited (BCCL), Hero Fin Corp and Wilson Global Opportunities Fund

The pandemic has built an uncertainty around the global trade. According to Ahir H, N Bloom, and D Furceri, the World Uncertainty Index (WUI)⁶ increases drastically when a major 'Black Swan' event occurs. Such global events have a huge impact on the global trade. WUI mapped since the early 90s also show that it has remained flat through 2000. The frequency of occurrence of these events has also increased economic and political uncertainty in the world. The world is again thrown back to Darwinian thoughts of survival of the fittest. Fittest, in today's context means one who is secure from external challenges, agile in adopting new business models when such events occur and is immunized to come out stronger after such uncertain events.

WUI increased considerably during severe acute respiratory syndrome (SARS). This led to a spike in adoption of digital in many industries. Alibaba and JD.com found opportunities

during the crisis as SARS forced the retail sector to become democratized. It also led to adoption and growth of e-commerce.

As per EY's research, adoption to teleconsultation reached up to 10% and the levels did not fall after the crisis. Similarly, the 2016 demonetization in India built uncertainties around the ways people and businesses transact. These uncertainties led to transformation of the payments landscape in India with the emergence of Unified Payments Interface (UPI), an instant real-time payment system developed by the National Payments Corporation of India. UPI saw much higher levels of adoption than all other virtual channels than existed before the Black Swan event. COVID-19 is likely to be the next inflexion point post which 20%-25%⁷ of consultations are expected to happen on tele-consultation platform.



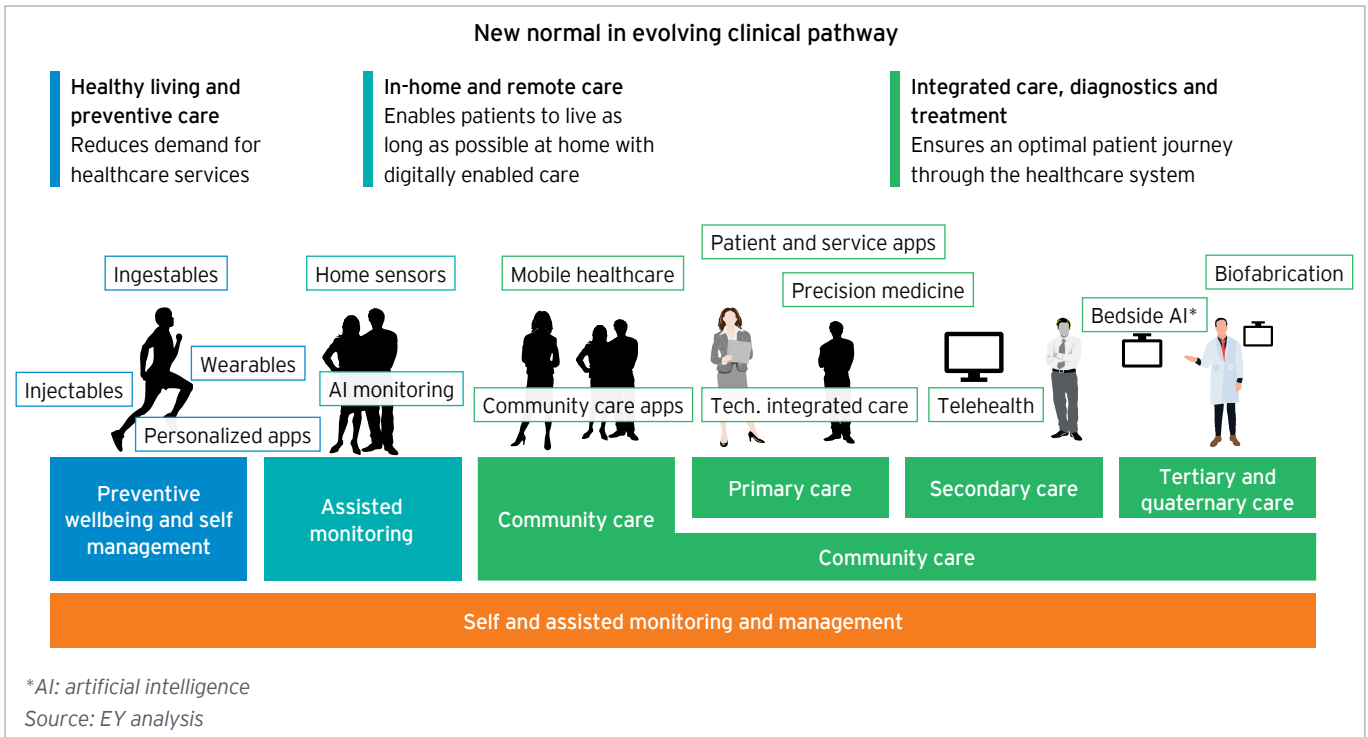
⁶World Uncertainty Index (WUI): Ahir, H, N Bloom, and D Furceri (2018), "World Uncertainty Index", Stanford mimeo.

⁷Based on stakeholder interviews conducted by EY

1.4 Digital healthcare ecosystem in India: a need pronounced by the current crisis

Clinical pathway is journey of a patient-consumer from preventive wellbeing management, primary care, secondary to tertiary and quaternary care. Each step may include additional pathways such as diagnostics, medicines and follow-up. Historically, there has not been much integration between each step. Moreover, there has been disparity in the quality of care as well. To bridge this gap, the then government used digital technologies and launched a virtual healthcare initiative, Social Endeavour for Health and Telemedicine (SEHAT)⁸ in 2015. It aimed to connect 60,000 health service centers pan-India to provide quality healthcare service.

E-pharmacies, hospitals, etc. have also tried to digitize parts of their value chain. Some steps were fulfilled online, while others were completed offline. While the idea to address the disparity in quality healthcare through digital is pertinent, the progress was made in silos and hence the required scale was never achieved. The COVID-19 pandemic has brought out the need for integrating all the steps in the clinical pathway digitally. Hence, the value lies in creating an ecosystem that can integrating all the stakeholders from doctors, caregivers, diagnostic labs and pharmacies to patients and insurance companies to enable an end-to-end customer journey.



The business models that will emerge during the pandemic are likely to determine the strength of the healthcare system after the crisis are over. The next chapter will lay the foundation of

different components of the teleconsultation ecosystem and outline the role of each stakeholder in making it a success.

⁸<https://www.apollohospitals.com/news/government-s-new-health-initiative-sehat-launched-in-association-with-apollo>

Chapter's summary

- ▶ Though Indian healthcare system was making progress towards digitalization, most developments and investments were taking place in pockets.
- ▶ The pandemic has created the need for a healthcare ecosystem that is integrated digitally to enable reach for patients and doctors who refrain from in-person visits to avoid infections. Key stakeholders in the healthcare space are showing interest towards adoption of different teleconsultation and e-pharmacy platforms.
- ▶ Other stakeholders such as pharmaceutical companies have partnered with platform providers or are even launching their own platforms to help doctors connect with their patients. Almost all e-pharmacy companies have launched teleconsultation solutions on their platform.
- ▶ The telemedicine market is expected to grow to US\$5.5b by 2025 with teleconsultation and e-pharmacy making up 90%
- ▶ With the rising adoption levels and a promising growth of virtual care, businesses will further need to refine and simplify their business models.
- ▶ These adoption levels will be retained in the future after the pandemic subsides. This is due to the trend that we see during such Black Swan event like COVID-19. These unprecedented times require businesses to resort to Darwinian instincts and they end up evolving to survive.
- ▶ This uncertainty may fuel transformation in the teleconsultation space as well. COVID-19 will be the inflexion point leading to 20%-25%⁹ adoption to teleconsultation which has potential to grow continuously.
- ▶ The industry leaders must focus on the need to integrate the parts of the patient journey, from doctor consultation to diagnosis and wellbeing, digitally. This will ensure that the teleconsultation ecosystem is built and strengthened which may enable new businesses to grow sustainably.

⁹EY's primary research and stakeholders' interviews





Chapter

02

The Indian health ecosystem at a cusp of change

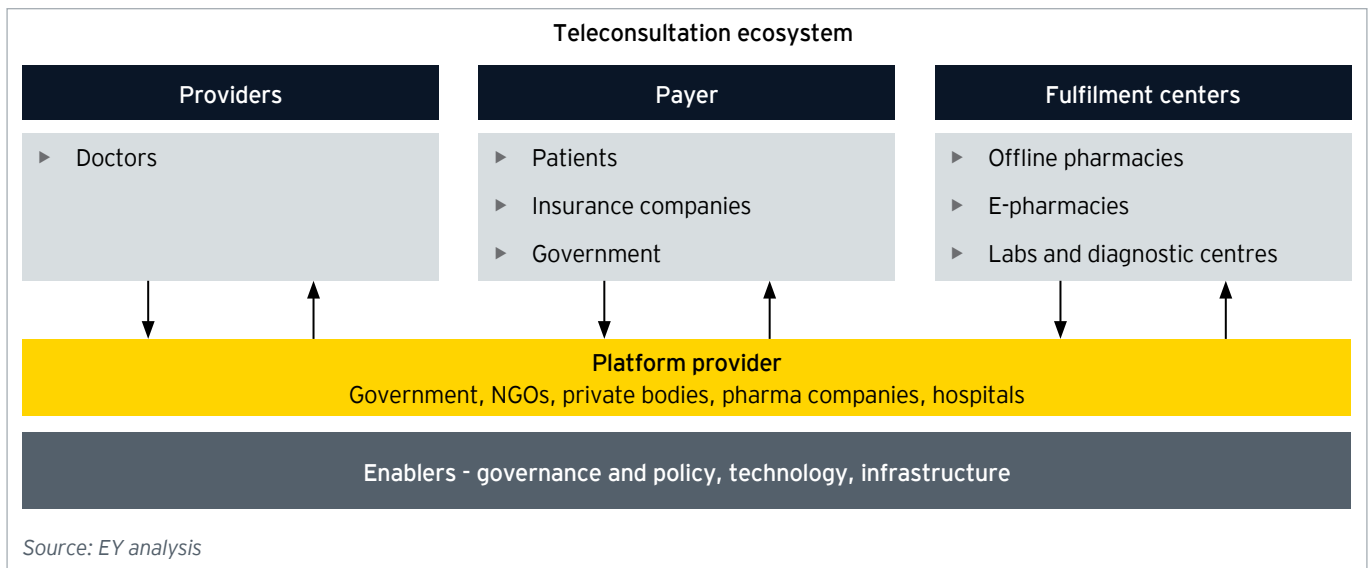
2.1 Teleconsultation ecosystem: an overview

There is a need to build a teleconsultation ecosystem integrating all key stakeholders digitally to ensure sustainability and scalability of the healthcare system in India. The stakeholders include service providers such as doctors and paramedics, fulfilment centers such as pharmacies and diagnostic labs, and payers such as patient-consumers or insurance agencies. The teleconsultation platform should link these stakeholders digitally and enable exchange of data by mutual consent through standardized digital registries.

We are witnessing an advent of teleconsultation platforms by health-tech. start-ups, NGOs, pharmaceutical companies, e-pharmacy companies and hospitals. In the future, multiple agencies are likely to play the role of a platform provider. Platform providers may derive different values from the

platform and the platform may address varied needs of the target patients. For e.g., a pharmaceutical company may use it to facilitate doctors and to build a connect with e-pharmacies. E-pharmacies may use it to generate online sale of medicines while hospitals may use it to create a digitalized journey for patients and for data management. Hence, platforms will be unique to the value that they deliver to the platform provider and the end user. However, they essentially integrate the patients, providers, payers and fulfilment centers for scalability and reach. This integration will form the core of the teleconsultation ecosystem.

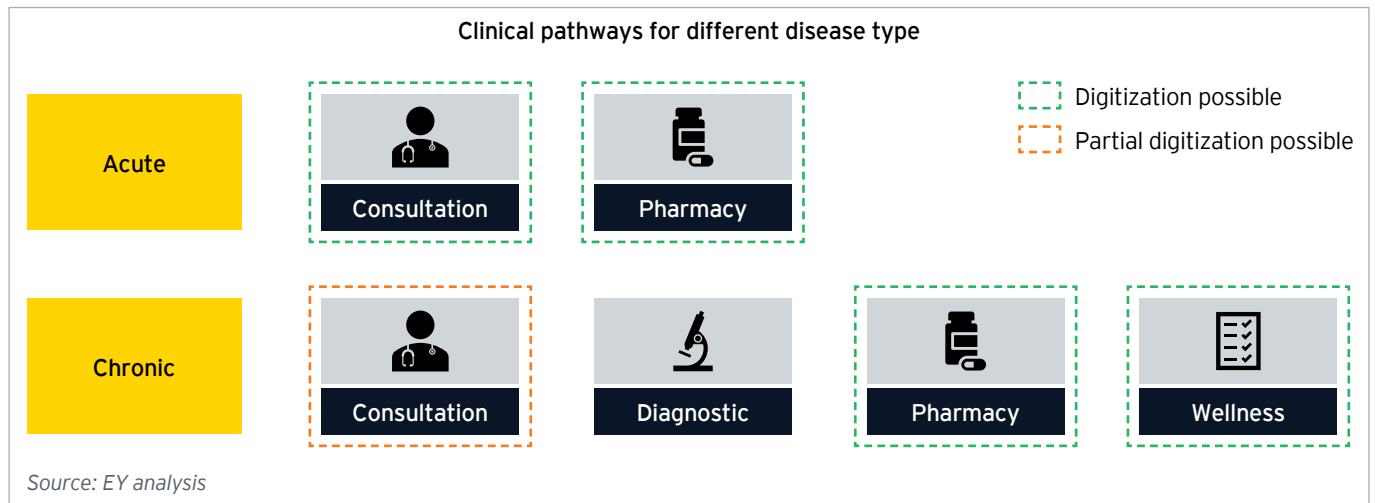
The ecosystem will rest on a steady support in terms of technology, infrastructure and policy. The healthcare structure will be able to use magnitudes of data that it generates with the support of key enablers and the platform. Hence, data will be at the epicenter in this ecosystem that can help enhance the quality of healthcare across the country.



2.2 Optimizing the clinical pathway through teleconsultation

The teleconsultation ecosystem integrates all stakeholders in the healthcare sector and ensures that the clinical pathway, i.e., the patients' journey from consultation to diagnostic to hospital and wellness is covered and connected digitally. The clinical pathway for a patient-consumer can vary based on the disease type. For an acute disease, like cough or stomachache, the patient will require an immediate consultation and pharmacy access. Doctor consultation and access to medicines

can be digitized as the treatment is standard and elaborate physical examination or diagnostic tests are not required. However, in case of a chronic ailment, like diabetes or arthritis, physical examination and diagnostics become extremely important. Hence, these steps may need to be done in person. Though long-term disease management and medicine purchases can be easily done online. Moreover, the chronic patient-consumer may value the digital disease management that a platform can provide by integrating the data from wearables and remote monitoring devices on the platform for easy reference.



Teleconsultation platforms may have the power to optimize the patient journey according to disease types by enabling digitization across relevant steps. The platform will digitally

connect the steps that must be completed offline. This ensures an end-to-end disease management and support for a patient-consumer, hence, completing the entire clinical pathway.



2.3 Features of teleconsultation ecosystem

The end-to-end disease management powered by technology has the potential to change the state of healthcare in India. This teleconsultation healthcare ecosystem will ensure standardized care reaches even those areas that have disparities in healthcare infrastructure and support. A patient-consumer based out of a tier 3 city will easily be able to connect with a doctor in a metro city for follow-up treatment or second opinion.

Data is the fuel of transformation and will be at the epicenter of this ecosystem. However, there is a need to address three key challenges to leverage true power of data:

- ▶ **Data generation:** data will get generated if patients adopt these platforms and are confident about the privacy of the data they share on these platforms.
- ▶ **Data storage and handling:** potential use of data will require it to be stored in a central location to maintain the complete medical history of an individual. The patient-consumer should trust this location and provide consent to share its relevant data pertaining to diagnostic reports and health records with the doctor and/or other qualified professionals.

- ▶ **Data usage:** it is imperative to use the magnitude of data generated by the ecosystem to enable personalized and quality healthcare for the patient-consumer. Technology readiness will be essential for data use and analytics.

These challenges can be addressed with consent-driven digital registries for data storage and adequate policy and regulatory support. Data ownership with patient-consumer will drive responsible use of patient data and confidence for enhancing the quality of healthcare.

The teleconsultation ecosystem seamlessly integrates all key stakeholders across the healthcare system through the platform provider. The digital data registries will empower the patient-consumer with data privacy and consent and enable them to use their data for improving and managing their health. Centralized data storage will also make the platforms interoperable and help the patient-consumer to choose the best platform according to the specific need or therapy area. The ability of the teleconsultation ecosystem to generate, store and use data enables the continuum and quality of care. But this ecosystem will require adequate technology, infrastructure and policy support. The next section will highlight the current state and the future readiness of these three areas.

Chapter's summary

This section explained the parts of the teleconsultation ecosystem, the role of each stakeholder and how they leverage data and technology as a centralized resource to interact with each other.

- ▶ The teleconsultation healthcare ecosystem will connect the three stakeholders, namely, providers - doctors and paramedics, payers - patients and insurance companies, and fulfilment centers - pharmacies and diagnostic labs, through platform providers.
- ▶ The platform providers can be hospitals, pharmaceutical companies, NGOs and government or private bodies.
- ▶ The ecosystem contains multiple platforms that may be customized according to the specific value that they are driving.
- ▶ pharmaceutical The teleconsultation platform can fulfil the entire patient journey from consultation to wellness and can digitally connect the steps which can be completed in-person or offline as per the need.
- ▶ Due to this digital footprint of the patient journey, a lot of data will be generated and captured, that would otherwise have been lost.
- ▶ The prime benefits of the teleconsultation ecosystem will be reach and continuum of quality care. Hence, it holds the potential to make tremendous improvements in the Indian healthcare system.

A person is holding a small yellow pill bottle in their right hand and a tablet computer in their left hand. The pill bottle has a white label with black text that includes 'E-13-10 Richards', 'Rx: 1004', '90 TAB System', 'DIN: 021720', and 'TAKE 1 TABLET'. The tablet screen displays a list of text, possibly a medication list or patient information. The background is a blurred clinical or hospital setting with a table and chairs.

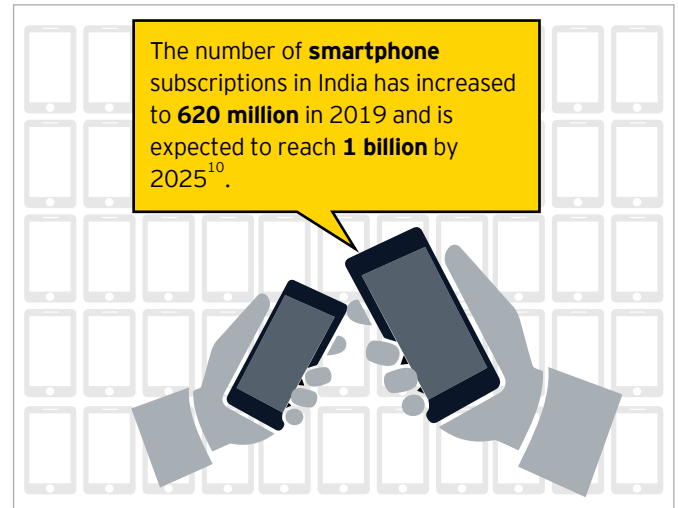
Chapter

03

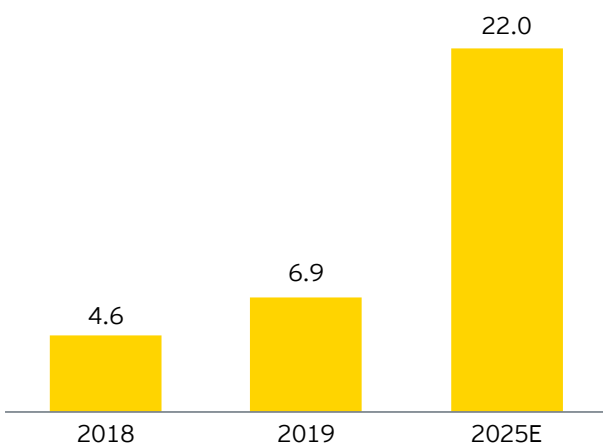
Key enablers of virtual
healthcare: technology and
regulatory policy landscape

3.1 Key drivers

The Indian healthcare industry is at the cusp of transformation. The key enablers that are driving this change are rising income levels, shifts in disease mix and demography, increased affordability, accessibility, awareness of health and wellness, and growth of digital technology. Smartphones and data networks connect us better today as compared to a decade ago. Connectivity has become even more important in the current times, particularly to manage uncertainties surrounding COVID-19.

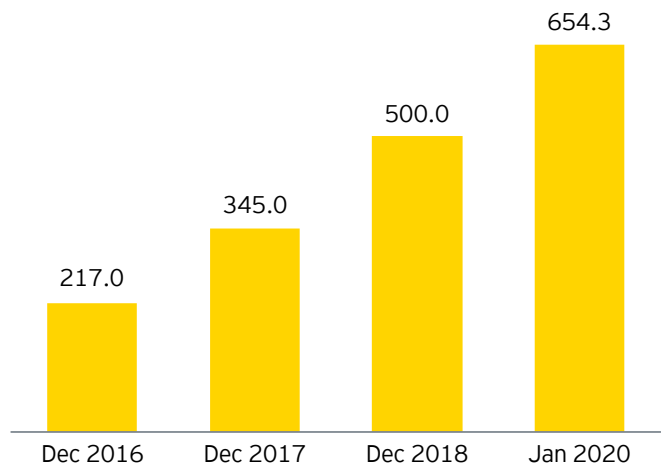


Monthly mobile traffic: India (exabytes)



Source: Ericsson Mobility Report

Wireless broadband subscribers (million)



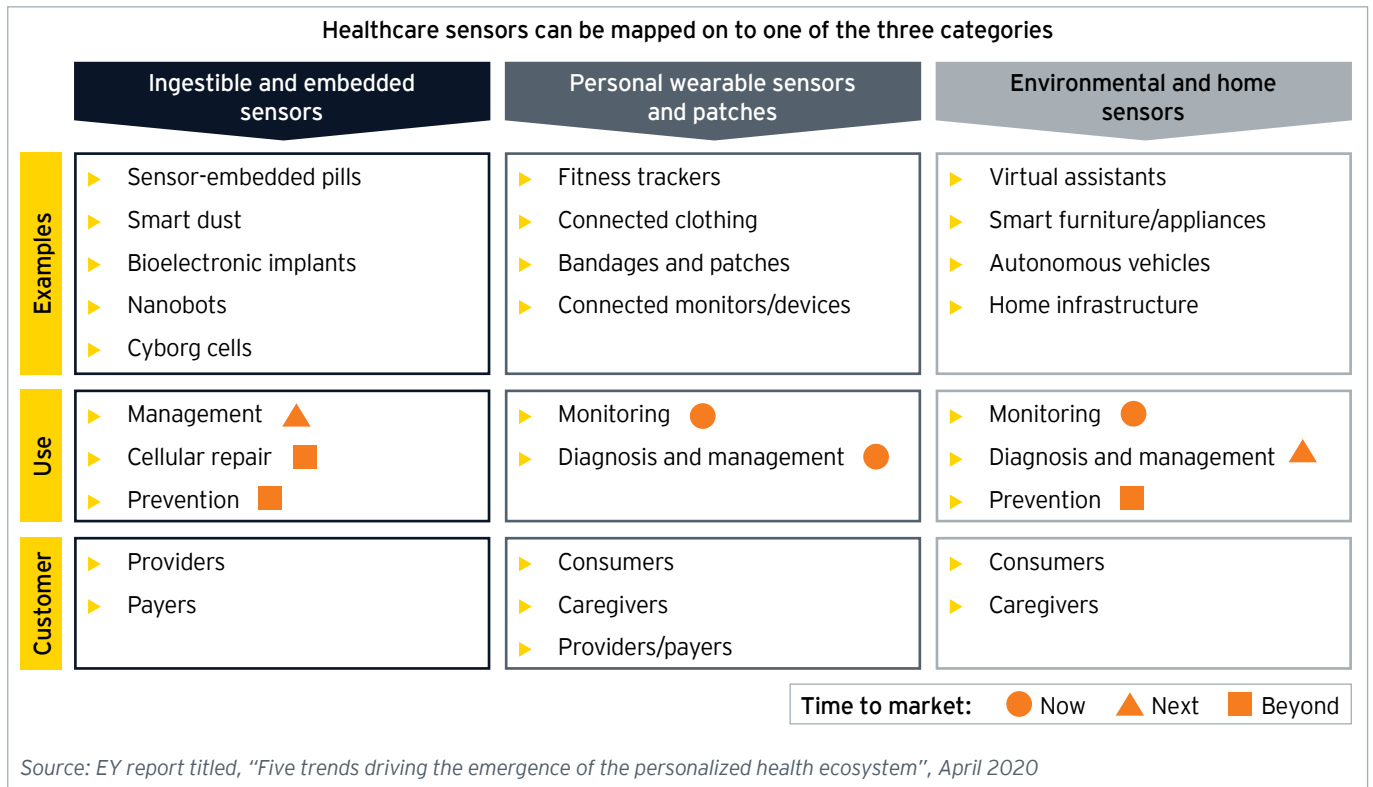
Source: Telecom Regulatory Authority of India (TRAI)

India will soon transition to 5G with Long-Term Evolution LTE (4G) accounting to 64% and 5G accounting for 18% of the subscriptions in 2025¹¹. 5G is expected to provide better speed, capacity, security and decongest the perpetually strained networks. This may facilitate better connectivity for innovative 5G healthcare applications.

Connected smartphones coupled with sensors can capture an ever-expanding range of data for disease diagnosis and management. The figure below illustrates that sensors will become highly widespread and collaborate outside the traditional health sector to extract and combine data from medical and non-medical sources. This data along with 5G network and Artificial Intelligence (AI)-based solutions has the potential to offer hyper-personalized healthcare.

¹⁰Ericsson Mobility Report

¹¹<https://www.ericsson.com/49da93/assets/local/mobility-report/documents/2020/june2020-ericsson-mobility-report.pdf>



Verizon has tied-up with Emory Healthcare, Georgia, the US, to develop use cases with 5G focusing on Augmented Reality (AR)/Virtual Reality (VR)-based medical training, remote physical therapy, patient monitoring and emergency room readiness. The development of such use cases combined with the advent of technology in India is expected to further accelerate the time to market.

3.2 Policy and regulatory landscape

With the release of the telemedicine guidelines in March 2020 the Medical Council of India (MCI) has further confirmed the growing need for teleconsultation. This has enhanced the purview of telemedicine and reduced some concerns among doctors and patients.

The Indian healthcare system is moving towards universal health coverage. It is embracing digital technologies to fix healthcare system-level constraints to increase its accessibility and enhance its affordability. Digital health records are likely to be mandated soon with the advent of *Ayushman Bharat*, the Central Government Health Scheme (CGHS) and Employees' State Insurance (ESI). Health measures such as

tele-medicine and other digital interventions are expected to increase the accessibility by creating a robust patient-centric and interoperable ecosystem. With clinical outcomes being recorded and tracked, quality care under these programs will depend on the ability to unlock the power of the data.

The NITI Aayog has put up the National Health Stack (NHS)¹², a nationally-shared digital infrastructure, for discussion to ensure a strong, reliable and secure continuum of care. It will cover both public and private sectors and will create a unique health ID for every citizen. It aims to enable the entire population's health management and research through a national health analytics platform leveraging Big Data and AI/Machine Learning (ML). NHS's objective is to seamlessly link the healthcare providers, payers and fulfilment agencies to national health electronic registries to lower cost by use nationally shared digital infrastructure and to promote wellness across the population.

With the NHS, the NITI Aayog envisions to build a digital health system and onboard medical device makers, tele-medicine service providers, professional care service providers, and digital healthcare systems providers. This system will provide data access to all stakeholders. The digital infrastructure will be owned and operated by the government and will be accessible to anyone using open API software.

¹²https://niti.gov.in/writereaddata/files/document_publication/NHS-Strategy-and-Approach-Documents-for-consultation.pdf

3.3 COVID-19-led digital developments

Aarogya Setu, a COVID-19 contact tracing mobile app, has prompted the healthcare digitization wave in India. Leading health-tech start-ups and thought leaders have come together to build Swasth Alliance¹³. Swasth Alliance will ride this wave with Swasth Stack, a platform which aims to aggregate multiple healthcare providers and start-ups to ensure reach, flexibility, quality and affordability to the masses. Swasth Stack aims to digitize patients' data/healthcare records and creates an online platform for teleconsultation and hospital care. NHS will support Swasth Stack by enabling consent and data management through the various layers of the Health Stack.

Swasth Stack aims to build trust and transparency by enhancing the standards of care. The transparent business rules will be enforced by the Open Health Services Network (OHSN) layer and by an auditable money settlement system (or the electronic claims engine). As a result, the providers will compete to provide the best service and teleconsultation will no longer be availed free. This will lead to a sustainable growth in the teleconsultation market.

Swasth Alliance includes a consortium of like-minded, relevant and successful physicians, professionals and entrepreneurs from the Indian healthcare ecosystem - representing Hospitals, Health Tech players, Pharmacies, Partners and Investment Funds. This group has voluntarily come together to pool in their time, intellect, Intellectual Property and financial resources to help India leapfrog using best in-class digital technologies.

This is purely a non-commercial and non-remunerative project, driven by cooperation and contribution, for building an open source platform and for its widespread adoption. The group offers an open membership model and is non-binding. All intellectual property and standards, build by this coalition or contributed to by the coalition partners, is open sourced and is free of cost for judicious non-commercial use by public and private players.

3.4 Active policy making to boost teleconsultation

EY interviewed key stakeholders including doctors, pharmaceutical companies, e-pharmacies, policy makers and patients to understand their concerns in teleconsultation and e-pharmacy adoption. The primary concerns of all these stakeholders revolved around data privacy and trust on the quality of care received through such platforms.

Concerns towards adoption of teleconsultation and e-pharmacy

Concerns of the stakeholders

- ▶ Data privacy, data handling and consent concerns on teleconsulting platforms
- ▶ Onus of maintaining patients' data on doctor
- ▶ Liability of maintaining patients' data privacy on doctor
- ▶ Unavailability of drug usage data to check adverse effects
- ▶ Lack of clear drug substitution guidelines
- ▶ Limitation and lack of clarity on prescribing drugs to patients
- ▶ Constraints on mobility of health equipment may restrict equipment access and treatment reach

Source: EY analysis, as cited by pharmaceutical companies, e-pharmacies, doctors and patients

The government is taking necessary steps through active policy making to address these concerns to develop the teleconsultation ecosystem and increase its adoption. The pandemic has forced India to move forward on the path to become self-reliant. Make in India and Atmanirbhar Bharat have given a boost to private entities to achieve this vision. Pharmaceutical companies must develop on this narrative and take the lead to make the teleconsultation ecosystem a reality.

As per primary interviews conducted by EY, it was found that half of the top 12 Indian pharmaceutical companies have admitted to developing or are in the process of developing their teleconsultation platforms. The idea is to connect and support doctors while they are facing mobility challenges. With the current economy and policy rhetoric, the pharmaceutical companies, among all the other stakeholders, are best placed to take lead in developing a platform to address the issues that are plaguing the healthcare system - reach or access, quality and continuum of care.

The next few sections will answer the key questions around the emerging teleconsultation ecosystem:

- ▶ How do developments in the teleconsultation ecosystem impact the patient-consumers?
- ▶ What value does the future ecosystem hold for each stakeholder?
- ▶ Why will the doctors switch to such platforms?
- ▶ What is the role of pharmaceutical companies and medical bodies to support the Atmanirbhar Bharat movement and develop the teleconsultation ecosystem?

¹³<https://www.swasth.app/team>

Chapter's summary

A teleconsultation ecosystem will require adequate technology, infrastructure and policy support.

Technology developments

- ▶ India is witnessing increased use of smartphones and wireless or mobile data.
- ▶ The advent of 5G has the potential to support the upcoming healthcare applications through speed, capacity and security, hence, decongesting the networks.
- ▶ The leading countries of the world have started developing use cases for various healthcare applications. India will see a quicker adoption of these when 5G comes in.
- ▶ The rise of health tech companies will support the teleconsultation ecosystem by providing remote health monitoring devices for chronic disease management.

Infrastructure and policy support

- ▶ India has recently released telemedicine guidelines to provide clarity on the subject.
- ▶ The Niti Aayog has recommended building National Health Stack, a nationally shared digital infrastructure to support the healthcare ecosystem.
- ▶ This nationally-shared digital infrastructure will ensure quality and continuum of care.
- ▶ Aarogya Setu app, a COVID-19 contact tracing mobile app, has instigated creation of a digital ecosystem around healthcare.
- ▶ Swasth Alliance is leveraging the high adoption levels of Aarogya Setu app to build a teleconsultation platform aggregating multiple healthcare providers and start-ups.
- ▶ Swasth Stack aims to build trust and transparency by the Open Health Services Network (OHSN) layer and by an auditable money settlement system.
- ▶ This will reduce the entry barrier for teleconsultation providers, and states may adopt this path for launching their virtual health platforms.

What do these developments mean?

- ▶ These developments augur that teleconsultation will be adopted as a mainstream channel for doctor consultation.
- ▶ Multiple platform providers will leverage the open source platform provided by Swasth Stack to build teleconsultation platforms.
- ▶ This will have a direct impact on the plans of pharmaceutical companies to build their own teleconsultation platforms
- ▶ Pharmaceutical companies should lead the path to set up the teleconsultation ecosystem, hence, serving the government's vision for Atmanirbhar Bharat.

These trends also necessitate active policy making to solve the concerns highlighted by the doctors, patient-consumers, e-pharmacy platforms and pharmaceutical companies. The next few sections will highlight the progress that teleconsultation and e-pharmacies have made till now and the road ahead for them in terms of emerging business models, adoption of solutions and policy support.





Chapter

04

Teleconsultation: a game changer for the Indian healthcare ecosystem

4.1 Tele consultation: potential to support the healthcare industry

The healthcare industry is advancing at a rapid pace to increase the patients' accessibility while decreasing the overall cost of healthcare. Technological advancements in recent past have paved the way for healthcare professionals to communicate with their patients, breaking down the barriers that can impede patients' access to medical care.

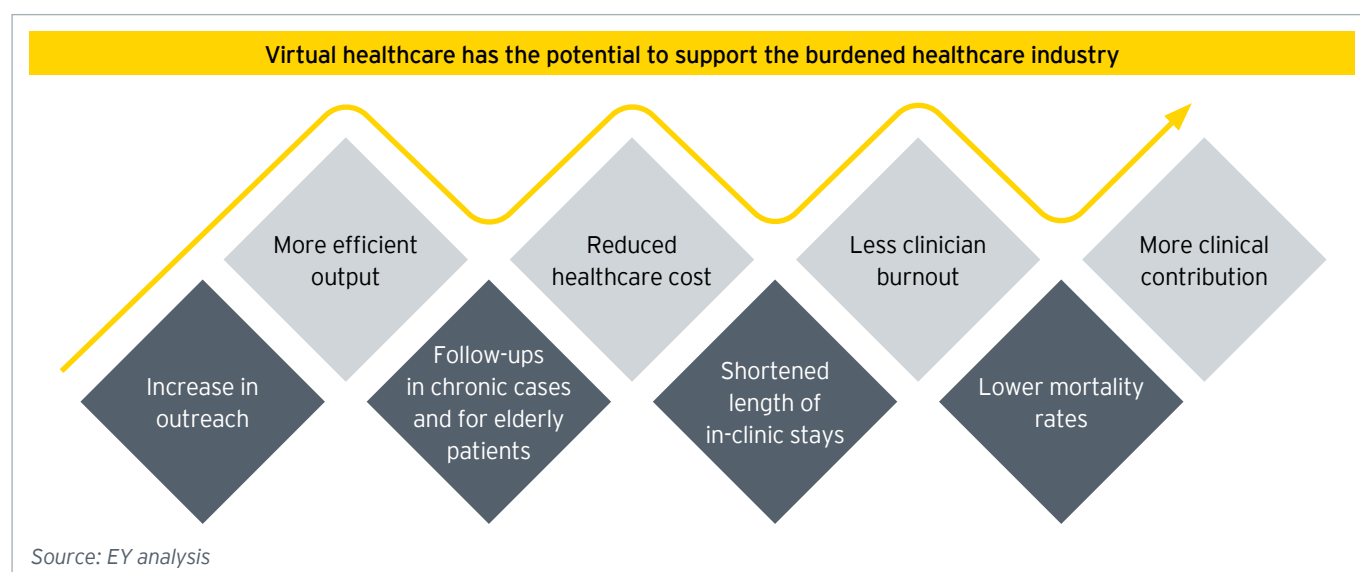
Teleconsultation has opened doorways to access healthcare multiple ways. It is expected to revolutionize the dynamics of the clinical practice. A virtual visit provides remote patients the access to specialized healthcare at their convenience without making it essential for them to be physically present at a doctor's clinic. At the same time, it not only enables the doctors to provide assistance to their existing patients online but

also helps in increasing their reach by connecting with newer patients within the same geography or new geographies.

Patient monitoring at home provides significant benefits to elderly patients and terminally ill patients. It optimizes the patient pathway by reducing the cost of re-hospitalizations especially for patients with chronic conditions such as diabetes and hypertension. Patients can also more readily avail qualified second opinions online.

In India, there is acute shortage of doctors with one doctor for every 1,456 people compared to WHO recommendation of 1:1000¹⁴. This coupled with the fact that the density of doctors is much higher in urban areas than in rural areas, accounts for the great demand and potential of teleconsultation in India.

It may not be feasible in every situation, but teleconsultation has the potential to improve health outcomes, allowing patients to recover faster and stay healthier.



¹⁴<https://www.deccanherald.com/business/budget-2020/the-doctor-population-ratio-in-india-is-11456-against-who-recommendation-800034.html>

4.2 Teleconsultation: surge across the globe

Virtual healthcare has become a widely-accepted form of care delivery across the globe. It is driven by consumer demands and unprecedented events such as SARS and COVID-19 pandemic, accelerating the acceptance and adoption of virtual technologies. As an aftermath of SARS, teleconsultation reached up to 10% in usage and did not reverse after the crisis ended¹⁵. COVID-19 is likely to be the next inflexion point post which the hyper growth curve of teleconsultation will stabilize around 15%-20% of overall follow-up, outpatient visits¹⁶.

4.2.1 COVID-19 outbreak has provided the much needed fillip towards the virtual healthcare adoption

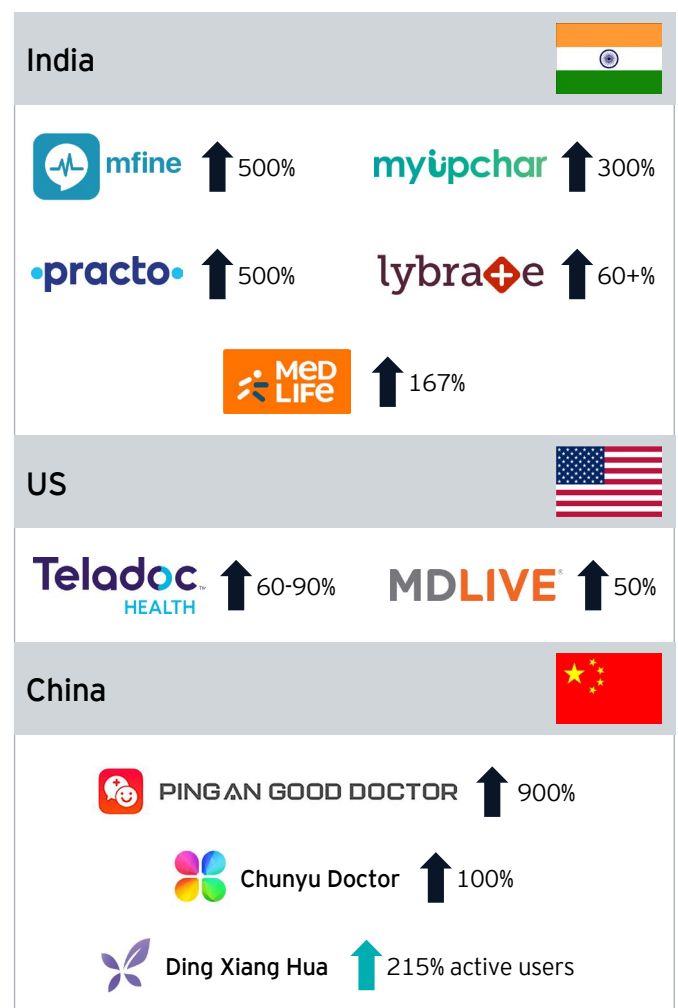
Global outlook: teleconsultation technology platforms adoption post COVID-19 pandemic

The current pandemic is presenting a lot of challenges in continuing patient care, reinforcing the need for a collaborative platform to deliver a seamless experience for both patients and service providers.

A huge surge in teleconsulting is witnessed across hospitals and technology platforms around the globe with the health systems reporting a massive growth in teleconsulting post-COVID-19.

Globally, virtual primary care consultations have grown from 5% to 95% in last five months since January 2020¹⁷. In India, Practo reported five crore Indians accessed healthcare services online during the first phase of lockdown between March 2020 to May 2020. On an average, a typical user consulted a doctor online twice a month which led to a drop of 67% in in-person visits, as per Practo's analysis. Fifty-one percent of the overall teleconsultations are from three specialties viz., general physician, gynecology and dermatology. Amongst the telemedicine users, 80% are the first-time users and 44% are from non-metro cities¹⁸. Leading healthcare chains in India are doing 200-500 tele-consults per day with a few star doctors doing 8-10 consultations per day since COVID-19 pandemic. Major teleconsultation platforms have seen up to a 500% increase in the number of online consultations post-COVID-19.

Similar trends were observed in the US where health systems have reported 50-170 times¹⁹ increase in the number of virtual healthcare visits as compared to the pre-COVID-19 scenario. In the UAE, six telemedicine solutions were approved for use in late April. Private hospitals in the UAE are doing 150-300 consults per day²⁰. Similarly, leading online platforms in China also witnessed a massive increase in the adoption of online consults and growing number of active users on the platforms²¹.



^{15, 16, 17}EY analysis

¹⁸https://s3-ap-southeast-1.amazonaws.com/www.practostatic.com/marketing/images/pdfs/Practo_Insights_Report.pdf

^{19, 20, 21}<https://www.entrepreneur.com/article/350333>

<https://www.livemint.com/news/india/the-coming-of-age-of-e-health-platforms-11590324836814.html>

<https://www.livemint.com/science/health/coronavirus-impact-lybrate-sees-60-jump-in-online-doctor-consultations-11585652263774.html>

<https://hitconsultant.net/2020/05/14/COVID-19-global-impact-primary-care-virtual-consultations/#.XvZLqXdul2x>

<https://www.healthcareitnews.com/news/europe/uae-opens-access-new-telemedicine-applications-and-facilitators>

<https://www.bain.com/insights/as-coronavirus-spreads-healthcare-goes-digital-snap-chart/>






Changing regulatory policy landscape across the globe to enable teleconsultation

Amidst the coronavirus outbreak, governments across the globe have introduced significant regulatory changes with an objective to encourage the use of teleconsultation. The idea was to help decongest the healthcare facilities and enable their accessibility during the pandemic, minimizing the risk of infection²².




In India, the Ministry of Health and Family Welfare (MoHFW) in collaboration with Niti Aayog, the Board of Governors (BoG) and the Medical Council of India issued the latest telemedicine guidelines in March 2020. A comprehensive framework has

been laid out around key aspects including the applications, means of communication, data privacy and confidentiality, medical ethics, process, document requirements, payments, drug list and technological platforms. The guidelines specifically permit doctors to provide teleconsultation for prescribing medicines, providing counselling and imparting health education to patients from any part of India.

With regulatory stringency, teleconsultation adoption is likely to sustain, and the penetration is likely to increase in the next three to five years. This may result in making teleconsultation one of the key fabrics of the Indian healthcare system that could eventually evolve to integrate with the broader healthcare system.

Founded	Regulations/guidelines issued as a result of COVID-19
India 	<ul style="list-style-type: none"> ▶ Recently issued guidelines allowing remote consulting over audio/video and text-based platforms. ▶ The National Accreditation Board for Hospitals and Healthcare Providers (NABH) has initiated work on digital health standards for accreditation of telehealth providers ▶ Ongoing discussions on how to operationalize tele health model (Aarogya Setu) and fund remote care for Ayushman Bharat
US 	<ul style="list-style-type: none"> ▶ Reimbursements for tele health services will be at the same rate as in-office visits ▶ Over 80 additional services identified that may be provided via telehealth ▶ Physicians can reduce/waive patient cost-sharing ▶ Physicians licensed in one state can provide services in another state
UAE 	<ul style="list-style-type: none"> ▶ The Dubai Health Authority (DHA) has extended its telemedicine initiative 'Doctor for Every Citizen' to provide consultations to all Dubai residents for COVID-19 ▶ The Ministry of Health plans to set up a virtual care center in partnership with Du (telecom operator) ▶ TraceCOVID-19 app being used for tracking and tracing
Australia 	<ul style="list-style-type: none"> ▶ The Australian Government has expanded subsidies to cover remote treatment of patients by video/telephone
Singapore 	<ul style="list-style-type: none"> ▶ Government funding being used to pay for teleconsultations during the pandemic

²²<https://www.mohfw.gov.in/pdf/Telemedicine.pdf>
<https://health.economicstimes.indiatimes.com/news/health-it/nabh-to-set-digital-health-standards-telemedicine-accreditation-in-focus-too/75500238>
<https://www.policymed.com/2020/04/COVID-19-hhs-and-fcc-telehealth-changes.html>
<https://u.ae/en/information-and-services/health-and-fitness/telemedicine>
<https://www.healthcareitnews.com/news/europe/uae-set-first-virtual-hospital-middle-east>
<https://gulfbusiness.com/uae-launches-COVID-19-tracing-app/>
<https://www.weforum.org/agenda/2020/05/telehealth-could-be-a-game-changer-in-the-fight-against-covid-19-here-s-why/>

How telemedicine in India differs from the US and China?			
Particulars	US 	China 	India 
Published year	2008	2018	2019
Public awareness	★★★★	★★★	★
Business models	★★★	★★★★	★★
Reimbursement policy	Yes	Yes	Not clearly defined
User acceptance	★★	★★★☆☆	★
Policy accommodation	★★★★	★★★★	★★★

Source: Data labs, inc42, 2020

Though the US started telemedicine early with higher public acceptance, China is leading in telemedicine regulation infrastructure with higher user acceptance²³.

India, being one of the top 10 telemedicine markets in the world, has a huge potential in the space. It can create the conducive regulatory environment and infrastructure to pave the way for the growth of teleconsulting²⁴.

4.2.2 Case studies

India

MeraDoctor

MeraDoctor was launched in 2011 in India. It provides a platform for live chat consultation with doctors. The app provides high-quality medical advice from licensed, carefully-screened and trained doctors. The model offers an ultra-simple, patient-friendly interface as it allows the patient to have a chat with the doctor. Booking an appointment is also easy.

The app maintains patients' medical records for future reference. Moreover, the app offers a delete feature which can be used to prevent personal medical information from being read by others. The app claims that its internal health records system protects privacy and prevents unauthorized access²⁵.

Implementation of telemedicine services in Uttar Pradesh

With an aim to provide preventive and curative healthcare services to the patients in rural areas, especially those belonging to the bottom of the economic pyramid, the Uttar Pradesh Government has decided to implement telemedicine services in its various Primary Health Centers (PHCs) and Community Health Centers (CHCs). The project, proposed to be developed on a public private partnership (PPP) model, provides establishment, deployment, operation and maintenance services.

The project has two components: teleconsultation and video consultation. It has been rolled out to connect patients with specialists using technology rather than transferring the specialists to remote locations to treat the patients. Healthcare centers which require telemedicine services have been identified and a framework has been developed for the involvement of the private sector. A set up of a 50-seater call center has also been proposed for teleconsultations.

The service provider is responsible for the setting up of appointments and providing consultations to patients recommended by the CHC doctors. It also creates electronic health records of the patients in the state. Further, to provide the video-consultation facility at the identified CHCs, patient nodes and a hub with the specialists to connect with the patients need to be set up.

^{23, 24} <https://inc42.com/datalab/telemedicine-market-opportunity-in-indian-healthtech/>

²⁵ <https://healthmarketinnovations.org/program/meradoctor>
<https://www.thehindubusinessline.com/info-tech/meradoctor-gets-rs-7cr-funding-from-unilazer-ventures/article7996032.ece>
<https://www.crunchbase.com/organization/meradoctor#section-overview>

The government-assigned MBBS doctor will facilitate the video consultation with the specialist, when required. Thereafter, if the specialist would identify the need for patients to visit the hospital, the patient will be referred to the relevant facility. However, in other cases, required medical assistance would be provided at the center without the patient travelling to far-off hospitals. This makes it a cost-efficient model for service delivery for both the users as well as the service providers²⁶.

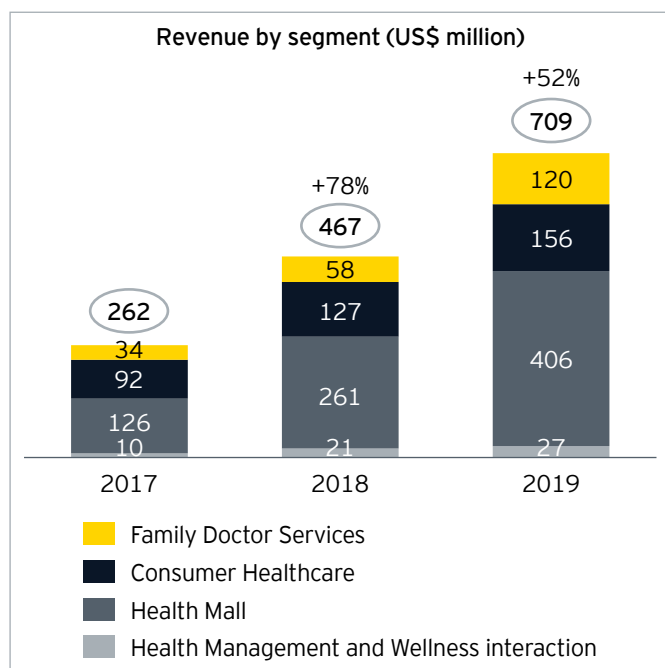
Global case studies

Ping An Good Doctor: China

Ping An Good Doctor is a one-stop Chinese telehealth service. It links patients with healthcare providers as well as insurance companies on a seamless digital platform.

It has strongly leveraged AI in healthcare across five core areas, including disease prediction, medical imaging, clinical decision support, patient follow-up and medical quality control. The in-house insurance and technology vertical of the service have been seamlessly integrated with telehealth platform, catering to a wide range of healthcare needs (i.e., medical consultation, wellness consultation, health headlines, reward programs, etc.) and creating a closed loop healthcare ecosystem.

COVID-19 has led to a 10-times increase in new daily users and nine times increase in daily online consultations. The platform has witnessed a ~90% increase in total daily consultations in absolute terms from year 2018 to 2019²⁷.



Providence Health and Services: the US

This is an example of an extremely mature digital health ecosystem, of which telehealth is only one part. With 1,500 dedicated caregivers, Providence Telehealth specializes in providing virtual clinical support to address workflow demand surges and to close clinical talent gaps. Providence’s health system rapidly scaled up its virtual care capability during the COVID-19 crisis by virtualizing 25%-40% of all its healthcare services²⁸. The health system has created an AI-based screening chatbot with Microsoft and has also developed two solutions for remote monitoring. This includes a low-cost solution for low acuity (app with temperature and oxygenation screening) and *Hospital at Home* solution for high acuity (tablet with blue tooth and peripherals).

The company has rolled out 500 additional in-hospital carts (tele-ICU, stroke, psychiatry) after COVID-19 outbreak. The number of telehealth visits have increased from 50 per day to more than 12,000 per day with telehealth consults as percentage of total outpatient (OP) growing from less than 0.5% to around 14% per day²⁷. There are more than 7,000 clinicians on telehealth as compared to 400 during the pre-COVID-19 scenario²⁹. Consequently, telehealth in acute care have reported NPS scores of 10–20 points above in-person visits due to ease of access, safety and no waiting time .

Global success stories steer towards building a collaborative ecosystem enabling teleconsultation with participation from key stakeholders, providing quality care to patients at their convenience and at the right time³⁰.

²⁶EY study: EY FICCI 2.0 Reengineering Indian Healthcare report

^{27, 28, 29}EY analysis

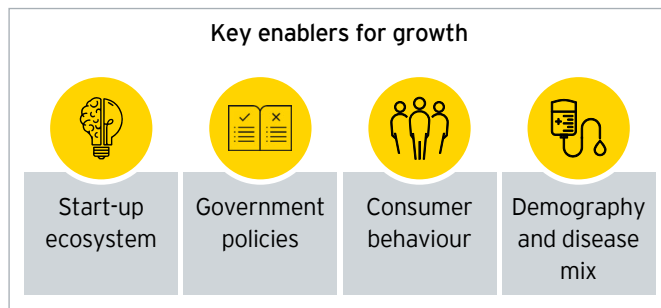
³⁰<https://www.modernhealthcare.com/providers/providence-goes-700-video-visits-month-70000-week>

https://www.providence.org/-/media/Project/psjh/providence/socal/Files/about/financial-statements/continuing_disclosure_quarterly_report_providence_st_joseph_q1_2020.pdf?

4.3 Market opportunities in India

Teleconsultation's market size in India is expected to grow from US\$100m to US\$700m in next five years at a CAGR of 48%³¹. The recently released regulatory guidelines provided new impetus to teleconsulting. Moreover, the spend on medical infrastructure is likely to be increased to US\$200b by 2024.

One of the key enablers for the growth in teleconsulting in India is the emergence of new consumer behavior of digital consumption. Rapid uptake of tele consultation is driven by young population accustomed to the app culture. With more smartphones having access to health apps, digital technology has the potential to transform and enable delivery of virtual health care in a more convenient and effective manner.



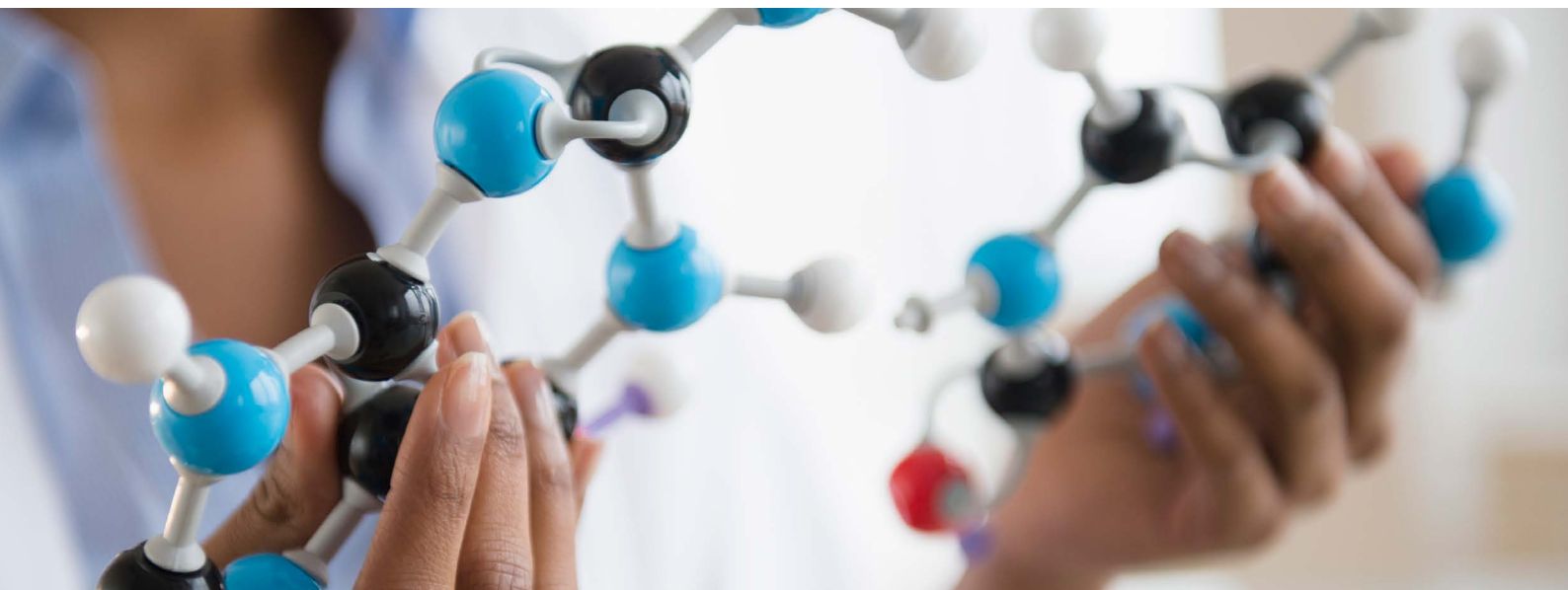
The proliferating start-up ecosystem in India is yet another pillar standing up for tele consultation. The evolution of NHS, iSpirit-creating standards and Swasth Stack's creation through collaboration among private and start-up players³² have further contributed to the growth of teleconsultation.

Recent development during COVID-19

Telemedicine hub launched in Delhi's red zones, July 2020

- ▶ Providing counseling and COVID-19 related help for the residents
- ▶ Contact tracing, real-time monitoring of the health status
- ▶ Introducing a telemedicine portal for patients' grievance redressal

India's changing demographics with elderly population expected to be 20% of total population in 2050 as compared to 8% in 2015³³ and the increasing incidence of chronic and lifestyle diseases also strengthens the increasing adoption of tele consultation in the times to come. India has the second highest number of diabetes cases in the world³⁴ and 28% deaths occur due to heart diseases³⁵. From an investment point of view also, there has been a steady investor interest in the telemedicine space in India and in a post-COVID-19 context, this interest may be further strengthened.



³¹EY analysis

³²<https://theprint.in/india/swasth-the-alliance-of-billionaires-start-ups-that-hopes-to-fix-indias-healthcare-system/446848/>

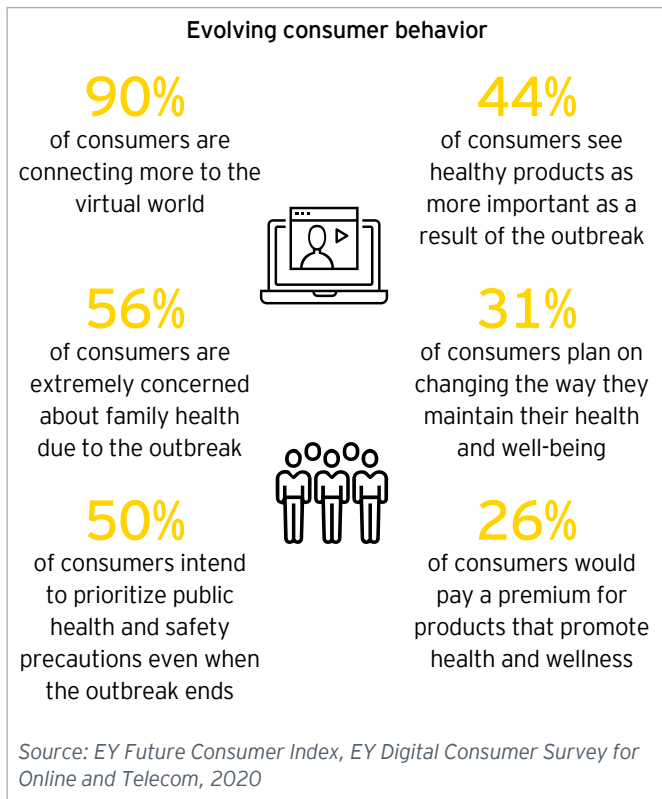
³³<https://economictimes.indiatimes.com/news/politics-and-nation/share-of-population-over-age-of-60-in-india-projected-to-increase-to-20-in-2050-un/article-show/68919318.cms?from=mdr>

³⁴<https://www.thehindu.com/sci-tech/health/india-has-second-largest-number-of-people-with-diabetes/article29975027.ece#:~:text=One%20in%20six%20people%20with,with%20over%20116%20million%20diabetics.>

³⁵https://www.business-standard.com/article/health/15-of-deaths-in-india-were-due-to-heart-diseases-in-1990-now-up-to-28-118091800130_1.html#:~:text=Cardiac%20ailments%20killed%20more%20Indians,15%25%20of%20deaths%20in%20India.

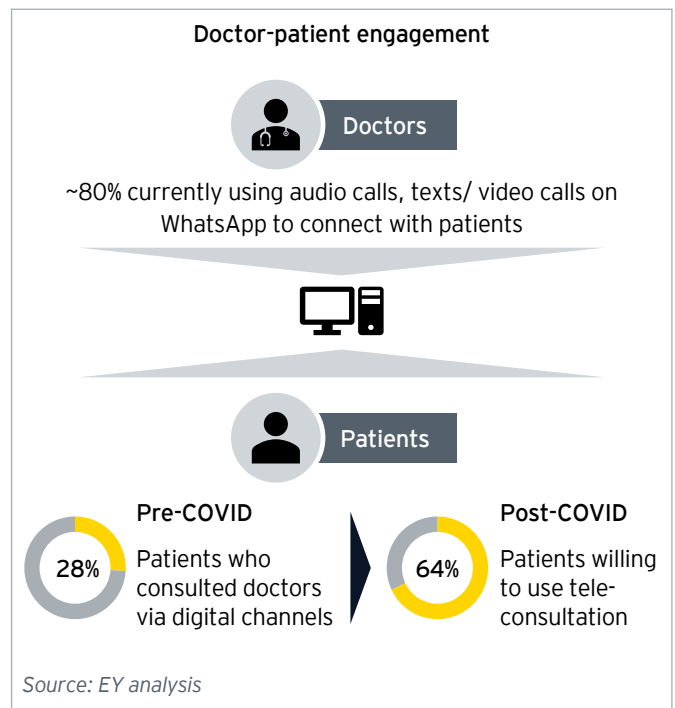
4.4 Adapting to virtual care in the new normal scenario

COVID-19 has propelled health care systems to rapidly scale teleconsultation after years of lagging adoption, gradually making virtual interactions the new normal for patients and clinicians. The pandemic has pushed India's data consumption two-three years into the future, where phygital is the new normal with increased optimism. Now, more than ever, consumers are prioritizing their physical and mental well-being. Consumers are focusing on preemptive self-healthcare through hygiene, social distancing and are monitoring their health and are exercising. Consumers will continue to value convenience, personalization and transparency, but shortages and the economic impact of the outbreak will also lead them to prioritize affordability and availability³⁶.



4.4.1 Changing dynamics of doctor-patient engagement

As the new normal evolves post-COVID-19, the patient-doctor interactions via digital channels are expected to increase. Sixty-four percent of consumers are showing increased willingness to adopt teleconsultation post-COVID-19. On the other hand, doctors are also trying to reduce the non-essential visits of the patients with approximately 80% of them being consulted using informal means of consultation such as audio, video, texts on various messaging apps.



³⁰EY Future Consumer Index (FCI)

https://assets.ey.com/content/dam/ey-sites/ey-com/en_in/topics/digital/ey-digital-survey-shaping-the-new-normal.pdf?download

Synopsis: EY's primary analysis



'Teleconsultation is here to stay'

- ▶ 15%-20% of healthcare is expected to shift to virtual care, across triaging, consults, remote monitoring, home health, etc.
- ▶ Tier 2 and tier 3 towns are the major growth areas owing to quality care at affordable prices
- ▶ Chronic diseases such as diabetes, hypertension can be managed well through teleconsultation follow-ups
- ▶ Uptake in teleconsultation as young population is accustomed to the app-culture



- ▶ Willing to adopt teleconsulting due to convenience and safety but lack of trust on the virtual care remains the major concern
- ▶ Lack of doctors' personal touch causes mistrust among patients while they are diagnosed online
- ▶ Data privacy concerns and reservations about sharing health data online to affect future health seeking behavior



- ▶ Don't want to be on multiple platforms, need patients' consolidation with digital backbone and structured health data
- ▶ Remote diagnostic tools required for effective examination
- ▶ Unethical practices adopted by the platforms around ratings and uberization of doctors is a major disinclination factor
- ▶ Doctors are not comfortable maintaining the patients' data privacy and confidentiality

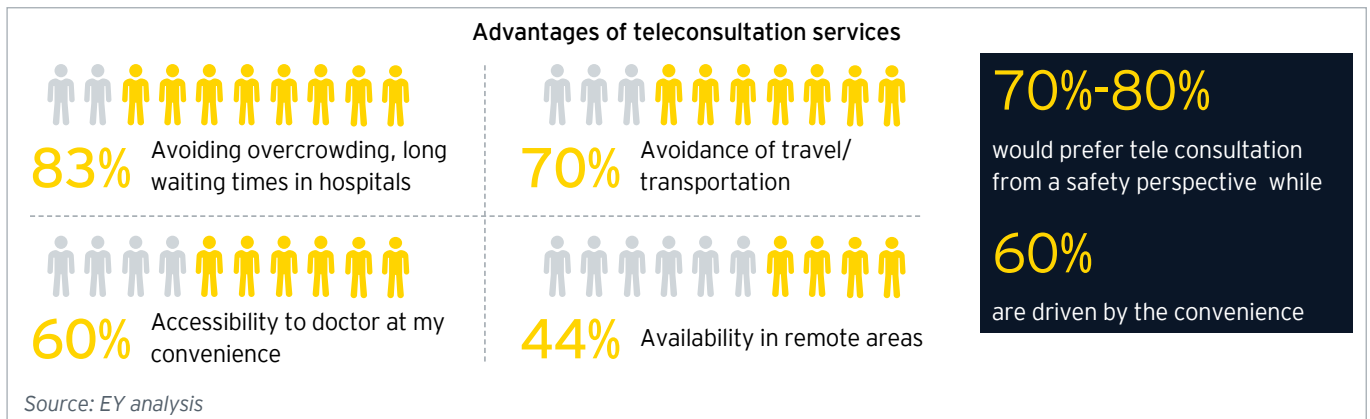


- ▶ They are coming up with diverse platform solutions to maximize doctor equity in the new normal
- ▶ 90% have tied-up or are planning to partner with third-party teleconsultation platforms with 30% of these, developing in-house teleconsultation platforms

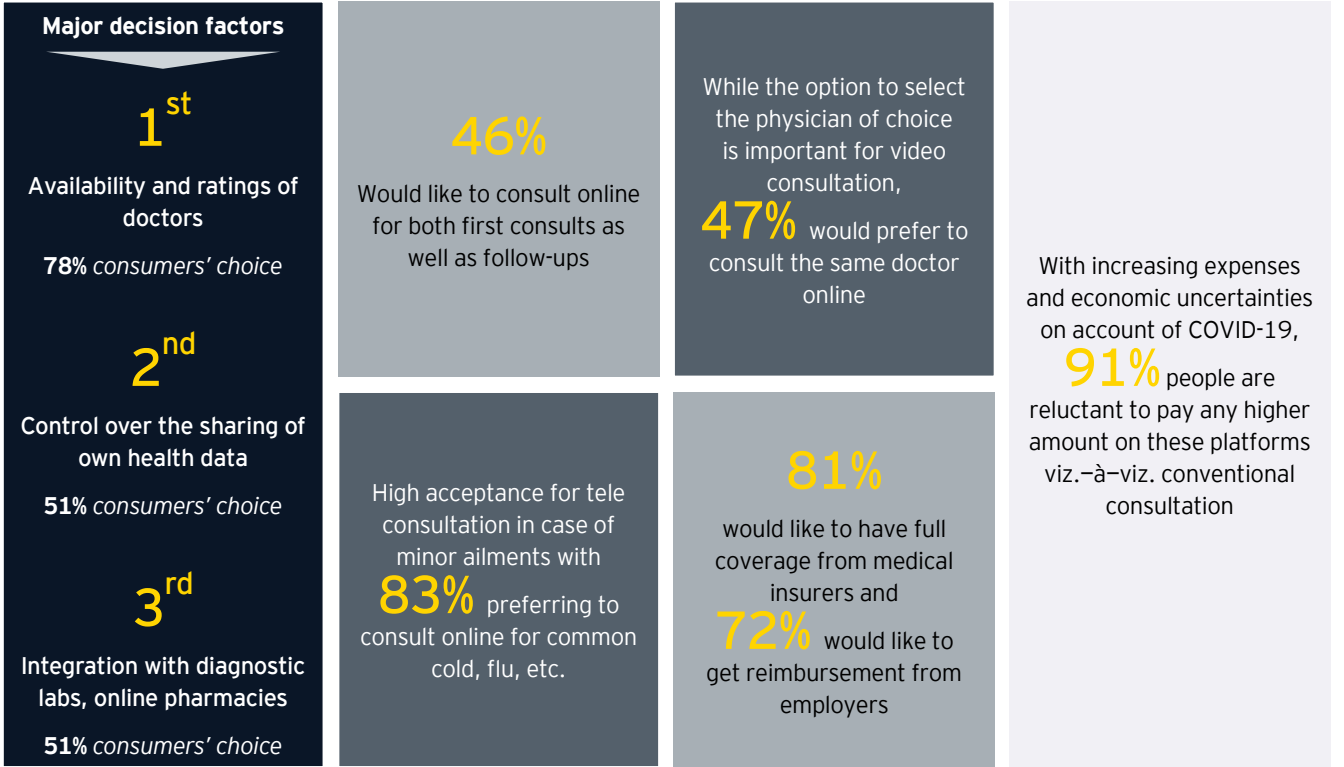
What do consumers think?

As per EY's primary analysis, convenience and safety emerged as the major advantages for the patients to seek telecare which

benefit them in avoiding arduous travel and long waiting times in the hospitals besides being safe.



Consumer preferences towards adoption of teleconsultation



Source: EY analysis

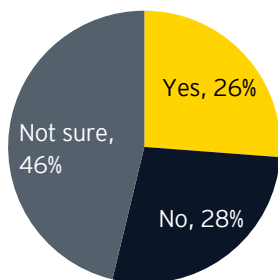
Patients' concerns

Trust issue

While patients are willing to adopt teleconsultation platforms more than ever, there still remains some skepticism about these platforms.

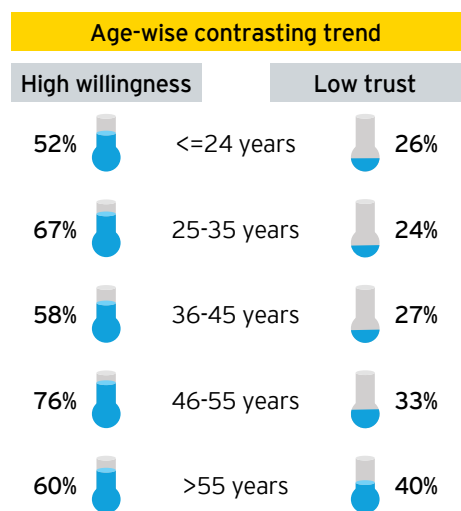
This contrasting trend is observed more sharply for age groups 25–35 years and 46–55 years who showed higher willingness to adopt teleconsultation but simultaneously, are not sure of its efficiency in delivering healthcare as shown in the figure below.

Do you feel that people get comparable healthcare through teleconsultation as they get for in-person visit



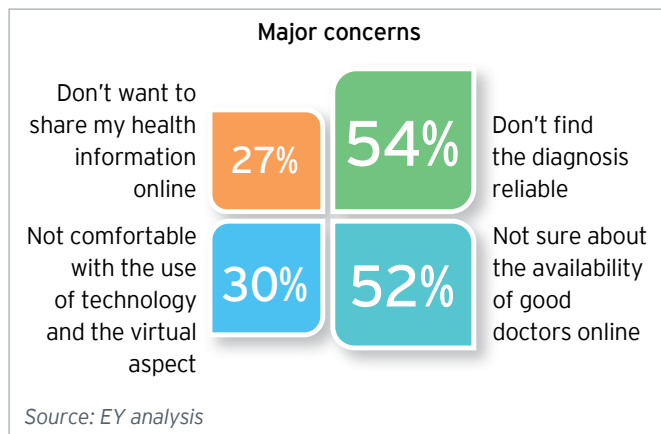
Overall, only **26%** patients are convinced about the efficacy of the teleconsultation

Source: EY analysis



The major concern for the patients is the lack of personal touch of the doctors in a digital platform. While 54% patients questioned the reliability of the online diagnosis, 30% are not comfortable with the use of technology and the virtual aspect. A general concern of credibility or genuineness of ratings and reviews of doctors also remains a barrier on account of frequent reports of paid promotions or marketing for online platforms. Fifty two percent patients are not sure about the availability of good doctors online.

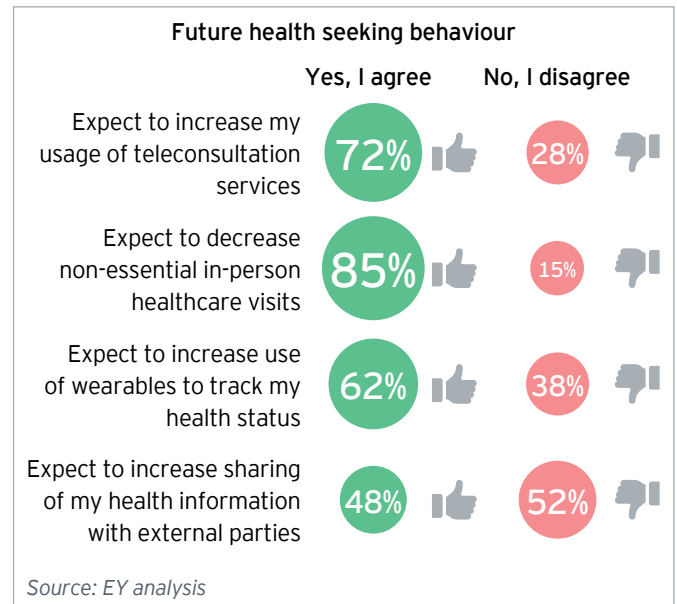
Data privacy, i.e., protection of personal and sensitive information which is likely to be shared with third-party for marketing or advertising also remains a concern. Twenty seven percent of patients showed disc comfort with respect to sharing their health information online.



Future health seeking behavior

While it can be difficult to accept the change, teleconsultation has the potential to add value to the patient-provider experience. It may become the next frontier to handle public health crisis and may be the future of patient care in the post COVID-19 world. The pandemic has accelerated the need for change in the form of immediate adoption of widespread telehealth services.

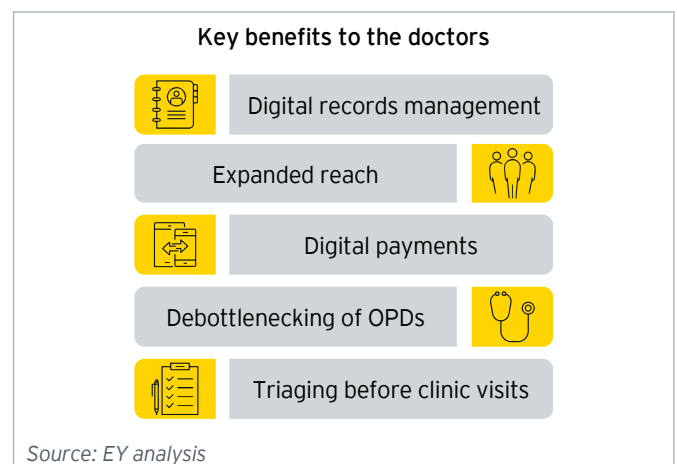
Consumers have already shown interest towards teleconsultation. They also plan to reduce their non-essential visits to the hospitals. However, the usage of wearables and other smartphone features to track health status is expected to increase but patients are still concerned about sharing their health information online which may continue to affect their health seeking behavior in the future as well.



What do doctors say?

With ever-increasing capabilities of the teleconsultation platforms and the associated technology, doctors can reap several benefits from such platforms.

One of the major advantages is the ability to manage records digitally and the facility of e-prescriptions provided by these platforms. Further, such platforms allows doctors to reach patients and geographies which would have been difficult to access using the conventional model of consultation. With different measures adopted for digital payments, doctors can rely more on such platforms for hassle-free collection of consultation fees. Increasing adoption of these platforms may also debottleneck the OPDs in the pandemic leading to increased safety for the doctors and other healthcare workers. Teleconsultation enables triaging based on the initial consultations thereby reduces avoidable in-person visits and the in-clinic time for the patients.



However, there are multiple barriers preventing doctors' active participation on such platforms.



Doctors don't want to be treated like a uber driver who is waiting to be picked up by a patient.

Consultant cardiologist, a leading hospital in Mumbai

Some are wary of their uberization on such platforms and unethical practices of the platform owners. They have cited instances of delayed payments which has negatively impacted their preference for such platforms.

Other doctors are not comfortable with onus on them for maintaining the data privacy and confidentiality which is a significant challenge on these platforms.

Limitations with respect to specific specializations like surgeon, orthopedic and dentists cannot be totally removed by such platforms. This, coupled with lack of remote diagnostic solutions at patients' end impacts the efficiency of teleconsultation. Further, there is dearth of Electronic medical records (EMR) data of patients, and this issue is even more accentuated in rural areas which are oblivious to such platforms altogether. Besides, doctors also face issues with on-boarding processes as they find some platforms less user-friendly, complicated and time consuming.

Major concerns for the doctors

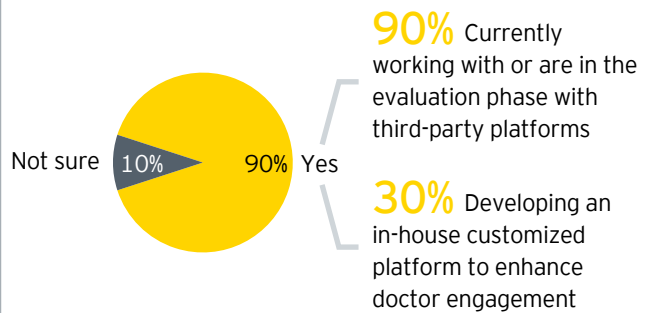
Ratings from patients/uberization	Liabe for patient data confidentiality	Specialization-specific limitations
Lack of remote diagnostic solutions	Complicated/time taking process	Delayed payments

Source: EY analysis

4.4.2 What role pharmaceutical companies play in providing diverse solutions in the new normal

COVID-19 has shaped trends in consumer health and has generated new considerations for pharmaceutical companies. Considering the need for a collaborative teleconsulting platform, pharmaceutical companies in India are choosing from diverse platform solutions to maximize doctors' equity in the new Now.

Is teleconsultation sustainable post-COVID-19?

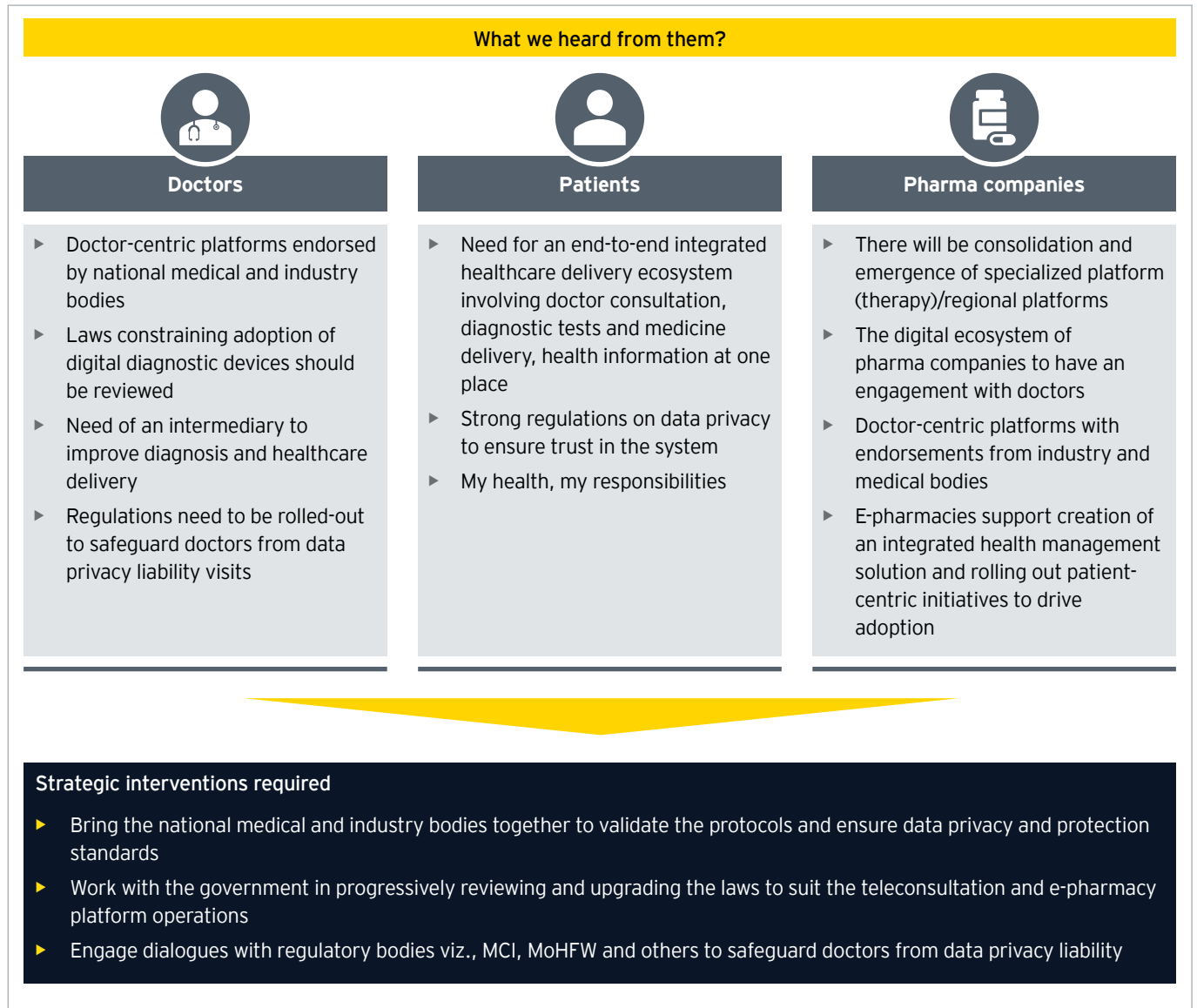


Source: EY analysis

Collaboration over a teleconsultation platform strengthens pharmaceutical companies' equity with doctors. Platforms can facilitate customized focus on therapy areas as well.

Notwithstanding, the adoption is low due to the behavioral issues of doctors and patients towards teleconsultation. Pharmaceutical companies prefer doctor centricity on the available platforms; however, doctors' concerns regarding these platforms make pharmaceutical companies skeptical and cautious to adopt these platforms. Moreover, there are trust issues arising out of conflict of interests in closed loop platforms involving interactions between doctors and patients. Lack of clear regulatory guidelines on substitution also make it difficult for doctors to practice in such an environment.

4.4.3 Future outlook



4.5 Way forward

A holistic teleconsulting platform is expected with creation of integrated health management solutions including teleconsultations, online diagnostics appointment and e-pharmacy. There is a need to embed right digital capabilities to shift care from hospitals to home. As per EY analysis, a general agreement is observed for white-label platforms with endorsement from national medical and industry bodies. A technology-enabled ecosystem with strategic partnerships with relevant stakeholders will be key to a thriving virtual healthcare journey.



All three bodies viz., MCI, IMA, ICMR should be brought together to seek clarity and to frame common guidelines for a nationwide neutral teleconsulting platform.

Paediatric cardiologist, a leading hospital in Bangalore

Key factors to make teleconsultation a success

While all the requisites for success and growth of teleconsultation platforms exist, challenges and concerns of patients and doctors could be impediments in the growth path.

Critical success factors

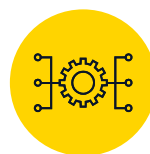
- »» Patient experience emerged as a key determinant for continued use of teleconsultation services
 - Addressing certain patients' perception barriers may enable teleconsultation to transcend and extend beyond the current crisis
- »» Health care providers are also demonstrating increased propensity towards finding a comprehensive virtual solution to enable seamless patient care in a secure environment
 - There is a need to support doctors to deliver care across the continuum by using the right technology enablers and focussed specialties for teleconsultation for value and volume debottlenecking

Hence, it becomes imperative to address these concerns and barriers.

It would be important to understand the patients' concerns empathetically to target new initiatives around them and drive higher adoption of these initiatives. These initiatives should be able to increase the reach and should have the potential to make these platforms more accessible and user-friendly for both, the doctors and patients. It would be critical to develop an adequate technology infrastructure for both, at the time of use and at the time of delivery by including, but not limited to, multi-channel approach for consulting through video and voice call, text interaction and Interactive Voice Response (IVR)-based solutions.

Pharma companies should plan along these four horizons

Value needs to be generated in a way which convinces the key stakeholders



Seamless, simple, personal and engaging for patients, caregivers and clinicians



Highly integrated telehealth service line integration across care continuum



Scalable and interoperable with rich data flow to enable advanced analytical insights



Available, on demand and where possible enabled with smart transaction processing

Basically, there is need for creating a holistic platform which would cover a wide range of services including doctor consultation, prescription and report management, diagnostics, e-pharmacy, wellness and disease management services. There is a need to introduce strong regulatory policies and practices around data protection clinical practices, data storage and handling, data ownership, liability of various stakeholders and most importantly, towards transparency and visibility for the success and growth of such platforms.

Chapter's summary

- ▶ COVID-19 has provided the much-needed fillip towards teleconsultation adoption across the globe with the required policy support globally and in India.
- ▶ Teleconsultation is here to stay with about 15%-20% of consultations expected to happen on teleconsultation platforms in India.
- ▶ Though the adoption faces trust issues, new technology wave, policy changes and consumer behavior in healthcare is expected to shift towards phygital (physical along with digital) in new normal.
- ▶ Doctors look forward to a comprehensive virtual solution with intermediary diagnostic support and patients' consolidation across platforms supported by digital backbone and structured data system.
- ▶ With all the requisites for success and growth of tele-consultation platforms existing, it becomes imperative to address the concerns and barriers faced by both, the patients and the doctors.
- ▶ A technological evolution, digital ecosystem partnerships and policy interventions have the potential to address concerns from key stakeholders in the healthcare sector for teleconsultation to drive large-scale healthcare benefits.





Chapter

05

**E-pharmacy: trends,
challenges and outlook**

Pharmacies across the world followed a basic business model which underwent a little change over the last few decades. The patient consulted their practitioner who would prescribe drugs. This prescription would then be shared with pharmacist who supplied these drugs. With proliferation of online pharmacies, patients have more choices and control over managing their health. The first online pharmacy was started in the US in late 1990s which focused solely on selling drugs. Over the years, the role of e-pharmacy players have evolved, and they have continued to disrupt the pharmaceutical supply chain. Major e-pharmacies now offer end-to-end solutions for customer, improve supply chain visibility for pharmaceutical companies and are increasingly disrupting the role of pharmacies from being suppliers of drugs to providers of primary care.

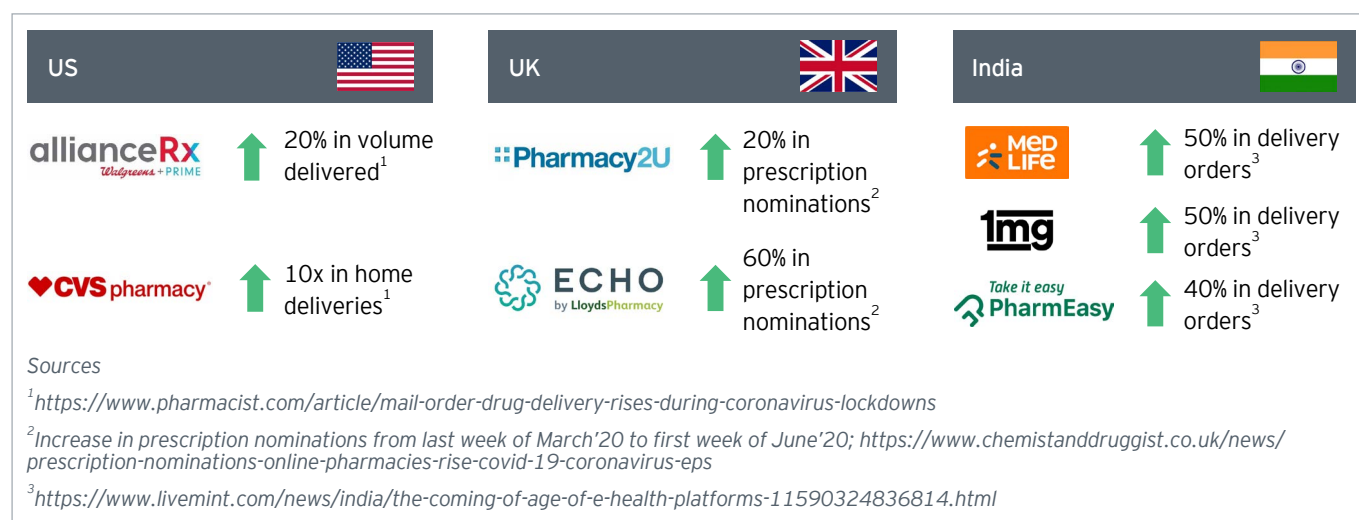
In India, e-pharmacies have increasingly gained traction in the last few years and currently represent 2%-3% of overall medicine sales³⁷. This segment has seen major acquisitions aimed at improving reach, technology and customer experience. The latest entrant in this segment is Jio which has been making partnerships to ramp up its online-to-offline business. The company aims to provide a one-stop solution to patients through its Health Hub platform. It has made investments in KareXpert, a doctor consultation platform and is in talks with a major online pharmacy to strengthen door-step delivery of medicines. JioMart has reach in 200+ cities across India which can act as an offline pharmacy interface for patients. Jio's wide distribution reach coupled with strong brand presence is set to drive adoption especially in the non-metro cities. As per EY's primary survey, e-pharmacy industry is expected to account for 10%-12% of overall sales in the next five years. This will however be at the backdrop of strong regulations especially around issues such as data privacy and substitution. Given that the Indian e-pharmacy space is still

at a nascent stage, it is important to examine the developed markets and witness how the players have diversified their offerings over the years.

5.1 Insights from global pharmaceutical supply chain

E-pharmacies across the developed regions such as the US and the UK offer end-to-end healthcare solutions for patients in teleconsultations, e-diagnostics and e-pharmacy. Players have increasingly formed partnerships with offline pharmacies to expand reach and facilitate primary healthcare at stores. Global e-pharmacy market stood at US\$49.7b in 2018 with the US constituting more than 50% of the market³⁸. It is expected to reach US\$177.8b by 2026 with a compound annual growth rate (CAGR) of 17.3% over a period of 2019-2026.

With the coronavirus pandemic, adoption of e-pharmacies has increased across the world as consumers are avoiding unnecessary interactions and practicing social distancing. In response to COVID-19, Consumer Value Store (CVS), a major retail chain based out of the US, partnered with United Parcel Service (UPS) Flight Forward to offer drone delivery of prescription medicines to villages in Florida. Publix Pharmacy partnered with ScriptDrop to offer home delivery services especially for senior citizens. Echo, a leading online pharmacy in the UK, is recruiting more staff to cater to increased delivery orders. It received 60% rise in nominations³⁹ in the National Health Service's (NHS's) prescriptions between last week of March 2020 and last week of June 2020. Globally, e-pharmacies have witnessed an increase in volume of orders.



³⁷EY study: EY FICCI 2.0 Reengineering Indian Healthcare report





³⁸<https://www.globenewswire.com/news-release/2019/09/12/1914979/0/en/ePharmacy-Market-to-Reach-US-177-794-9-Mn-by-2026-Expansion-of-Online-Retailing-to-Boost-Growth-says-Fortune-Business-Insights.html>

³⁹Increase in prescription nominations from last week of March'20 to first week of June'20; <https://www.chemistanddruggist.co.uk/news/prescription-nominations-online-pharmacies-rise-covid-19-coronavirus-eps>

Leading online pharmacies in India have also reported an increase of 50%-100%⁴⁰ in orders during the lockdown. While globally, e-pharmacies have ramped up their hiring efforts, Indian players are facing issues, given the fragmented nature of supply chain. Absence of large retail or distribution chains in

India poses challenges of inefficient practices and substandard technology infrastructure. In this section, we will examine the pharmaceutical supply chain and e-pharmacy space across the developed countries.

Table: Comparative view of pharmaceutical supply chains across the developed countries:

	US 	UK 	Japan 	India 
Distribution channel and percentage of sales	Dominated by organized players <ul style="list-style-type: none"> ▶ Wholesale: top three players held 92% (2017)¹ ▶ Retail: top 10 chains constitute ~74% (2019)² 	Fragmented with presence of large retail chains <ul style="list-style-type: none"> ▶ Wholesale: top eight wholesalers distributed 92% of NHS medicines (2019)³ ▶ Retail: large chains operating >100 pharmacies constituted 49.4%⁴ 	Fragmented retail with no major chains <ul style="list-style-type: none"> ▶ Wholesale: top four held 90% of market in 2011⁵ ▶ Retail: top 10 account for ~16%⁵ 	Fragmented wholesale and retail <ul style="list-style-type: none"> ▶ Wholesale: pharmaceutical companies deal with one to three carrying and forwarding agents (CFA) in each state⁷ ▶ Retail: organized retail constitute 5%-6%⁸
E-pharmacy players	Dominated by organized retail chains <ul style="list-style-type: none"> ▶ CVS pharmacy, Walgreens and Walmart stores ▶ Online startups such as PillPack, Capsule, NowRx 	Strong presence of retail chains <ul style="list-style-type: none"> ▶ Boots, Lloyds, Pharmacy2u, Chemist direct and Superdrug ▶ Leading online pharmacies such as Pharmacy2U 	Online sales of prescription drugs not allowed	Dominated by startups <ul style="list-style-type: none"> ▶ Netmeds, 1mg and PharmEasy ▶ Organized retailers such as Apollo and MedLife
E-pharmacy investment areas	<ul style="list-style-type: none"> ▶ Offline stores digitalization ▶ Personalization of healthcare ▶ Faster deliveries 	<ul style="list-style-type: none"> ▶ Efficient dispensing systems ▶ Customer experience 	<ul style="list-style-type: none"> ▶ Apps for improving the in-store experience 	<ul style="list-style-type: none"> ▶ Market reach ▶ Supply chain capabilities ▶ Customer experience
Enablers	<ul style="list-style-type: none"> ▶ Complex and strict regulations ▶ Interoperable electronic health record (EHR)/ Electronic medical record (EMR) and high adoption ▶ Tie-ups with teleconsultation platforms 	<ul style="list-style-type: none"> ▶ Clearly defined regulations ▶ >87% physicians using EHR system ▶ Tie-ups with teleconsultation platforms 	–	<ul style="list-style-type: none"> ▶ Regulation in draft stage ▶ EHR/EMR infrastructure not present ▶ Major e-pharmacy players offer teleconsultation

Sources:

¹https://www.mdm.com/top_distributors

²<https://www.statista.com/statistics/734171/pharmacies-ranked-by-rx-market-share-in-us/>

³<https://www.oxera.com/wp-content/uploads/2019/06/Oxera-study-on-the-supply-of-generic-medicines-in-the-UK-26-June-2019.pdf>

⁴<https://www.pharmaceutical-journal.com/news-and-analysis/infographics/measuring-the-market/20206340.article>

⁵<https://pdfs.semanticscholar.org/7b44/693d02870665d8636478cb3af508e5f87474.pdf>

⁶<https://www.mac-advisory.jp/trend/statusquo/>

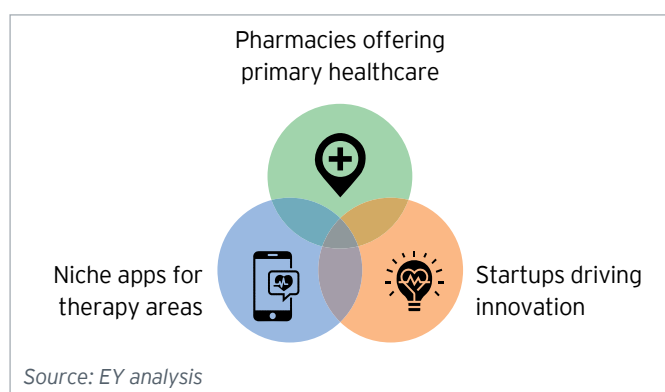
⁷<http://www.biopharminternational.com/pharmaceutical-distribution-india>

⁸<https://www.businesswire.com/news/home/20200221005348/en/Pharmacy-Retail-Market-India-2019---Featuring>

⁴⁰<https://www.livemint.com/news/india/the-coming-of-age-of-e-health-platforms-11590324836814.html>

The US

The US supply chain mainly composes of organized players, both in the wholesale and retail sector. Top three wholesalers AmerisourceBergen Corporation, Cardinal Health, Inc., and McKesson Corporation accounted for 90% of drug distribution revenues⁴¹ in 2018. Retailers such as CVS, Walgreens and Walmart have extensive network of stores which make it easier to supply across the North America. In the recent years, the top three chains have made investments to enhance customer experience. CVS has plans to transform 1500 of its stores to HealthHUBs⁴². These stores feature a health clinic which can provide basic services such as diabetic screening, blood tests and sleep apnea assessments and are equipped to deal with chronic conditions such as respiratory illnesses and diabetes. Walgreens has partnered with multiple local health providers and insurance companies to strengthen its offerings in offline stores. Its clinics will be staffed with physicians, pharmacists, nurses and social workers⁴³. These firms have also launched programs to offer discounts and faster deliveries to customers. Firms are making investments toward improving their analytics and digital capabilities and developing niche programs such as chronic kidney care. Startups such as PillPack, Capsule and NowRx are focused on faster and low cost delivery. PillPack offers convenient supply of medications divided into daily packets at the same cost. There has been an increasing sale of private label over the counter (OTC) medications. It increased from 25.8% in 2009 to 30.7% in 2018⁴⁴.



The UK

The UK has a lower fraction of organized players in the retail sector. Top four retailers, namely, Boots, Lloyds Pharmacy, Rowland Pharmacy and Well Pharmacy made 49.4%⁴⁵ of market. Like their US counterparts, these pharmacies are also making investments focused at improving customer experience.

Boots is focusing on apps and for chronic disease management. Patients can link their health records with the company's app and order their prescription from its online stores. Well Pharmacy also launched a digital pharmacy in 2019 which focused on implementing a patient's medication record with central fulfilment of prescription medicines. It has launched 'essential pharmacy' which comes with a secure 24x7 prescription vending machine. Investments are being made to empower local pharmacies and improve dispensing mechanisms so that pharmacists' time could be spared to provide clinical care. Rowlands Pharmacy is also making investments to make its dispensing processes more efficient through automation and offsite prescription assembly.



⁴¹https://www.mdm.com/top_distributors

⁴²<https://www.modernhealthcare.com/patient-care/cvs-aggressively-expand-healthcare-services-stores>

⁴³<https://www.cnn.com/2020/07/08/walgreens-strikes-deal-to-open-hundreds-of-doctor-offices-in-stores.html>

⁴⁴https://www.mitsui.com/mgssi/en/report/detail/_icsFiles/afiedfile/2019/05/17/1903_sakai_e.pdf

⁴⁵<https://www.pharmaceutical-journal.com/news-and-analysis/infographics/measuring-the-market/20206340.article>

Japan

Japan is dominating in the wholesale segment with four of its players – Medipal Holdings, Alfresa Holdings, Suzuken and Toho Holdings. These hold a combined 85%-90% share⁴⁶ of the Japanese pharmaceutical distribution market. Retail market is fragmented with around 30% of the drugstores being chain pharmacies⁴⁷. In the recent years, top 10 retail pharmacies have accounted for 15%-20% of the total prescription sales⁴⁷.

Online pharmacies in Japan have not flourished as compared to the US and the UK, given that sales of prescription drugs is prohibited online and by mail order⁴⁸. Current laws mandate face-to-face interactions between the pharmacist and patients for prescription drug sales. Over the counter (OTC) sales has been allowed online since 2013 and drugstores selling OTC products online offer their services coupled with beauty, health and other merchandise. Although growth of online pharmacies is slower in Japan compared to other geographies, offline pharmacies provide improved customer experience. QoI Pharmacy has developed a mobile application for patients to share their prescriptions to its pharmacies⁴⁹. This shortens waiting time a patient spends to purchase the medicine from the stores. Pharmacies are also making investments in private label OTC drugs. Market share of such drugs increased from 1.4% in 2009 to 4.8% in 2019⁵⁰. Private label sales in some of the product categories such as treatment of external injuries expanded from 8.6% in 2009 to 24.7% in 2018⁵⁰.

Investment by retail pharmacies



Apps to enhance customer experience



Private labels in OTC

Source: EY analysis

Other locations

The UAE

The Dubai Health Authority (DHA) opened a smart robot-run pharmacy which automates prescription dispensation. Robots can store about 35,000 medicines and dispense 12 prescriptions within a minute which saves time for patients and reduces chances of error (barcode-driven). Pharmacists focus on educating consumer regarding medicines and other therapies. These robots have the capability to download and store prescriptions directly from the doctors' ecosystem.

Leading pharmacies in the UAE bundle teleconsultation and medicine delivery services. Aster Pharmacy offers free home delivery and is available 24/7. It accepts a wide range of insurances and online prescriptions. It has integrated its teleconsultation offerings with Aster Clinic. BinSina Pharmacy launched its online services in February and offers teleconsultation in partnership with a third-party app, TruDoc. It has also setup COVID-19 essential kiosks near entrances of major malls and community centers.

Kenya

Mydawa was granted first e-retailing pharmacy license in Kenya in 2018. It offers prescription and wellness drugs and medical devices. It has tied up with multiple teleconsultation platforms. It provides medicines at discounted rate of 20%-40% compared to offline stores⁵¹. The pharmacy offers medicines in tamper-proof seals which contain an authentication code which can be shared through an SMS to check its authenticity. It is also working on a financing mechanism with micro financiers which will be incorporated as a payment option in its app.

Apps focused on niche therapy areas globally

Nurx: it is an online medicine delivery store that is focused on birth control and pre-exposure prophylaxis (PrEP). Users are required to select drugs and answer a few questions which are then reviewed by doctors to make a prescription. Once these questions get assessed, products get delivered within two hours.

Roman: this teleconsultation and online pharmacy app is based out California. It is focused on men's health. Patients fill out their medical history and follow up questions are prompted. This information is then securely shared with doctors for review who can instantly write prescription for medicines.

Vitau: Vitau offers a subscription-based online pharmacy for chronic segment. It delivers medicines on a monthly basis and collaborates with doctors and insurers for updating their medicines and reordering them.

⁴⁶<https://pdfs.semanticscholar.org/7b44/693d02870665d8636478cb3af508e5f87474.pdf>

⁴⁷<https://www.mac-advisory.jp/trend/statusquo/>

⁴⁸<https://uk.practicallaw.thomsonreuters.com/5-618-3562>

⁴⁹<https://www.chameleon-pharma.com/japans-latest-trends-in-the-pharmacy-and-drug-store-market/>

⁵⁰https://www.mitsui.com/mgssi/en/report/detail/_icsFiles/afidfile/2019/05/17/1903_sakai_e.pdf

⁵¹<https://www.cio.co.ke/mydawa-brand-the-first-ever-retail-license-for-an-e-retailing-pharmacy-in-kenya>

India



A comparison with developed markets is necessary to understand where India lies in terms of supply chain efficiency and where its investments need to focus. As we saw, these developed countries are dominated by organized chains at wholesaler or retailer levels. Indian scenario is complex. Each pharmaceutical company can have agreements with 25-30 carry and forwarding agents (CFAs) (one to three CFAs in each state). With presence of 8,50,000 retailers, the supply chain is becoming challenging. With 250,000 stock keeping units SKUs being manufactured, it is difficult to stock a long tail of SKUs especially when 5,000-6,000 SKUs contribute about 90% of the revenue⁵². There is a diverse influence of brands in regional markets with some brands preferred in some regions. Influence of associations at times can be anemic to adoption of new and efficient practices or technology. India does not have large retail businesses like CVS, Walgreens or Lloyds. Building retail chains across the country requires significant investments in front-end stores and back-end infrastructure. It becomes complex given the low support from the government in organized retail, lack of funding and long lead times involved in developing the infrastructure. Due to fragmented nature of distribution, firms have not been able to experience efficiencies offered by an organized channel.

“

In the Indian pharmaceutical market, demand is not the problem. Its supply is broken.

Head of strategy of an Indian e-pharmacy major

5.2 Indian e-pharmacy market

Indian domestic pharmaceutical market accounted for US\$19.8b in 2019⁵³. The sector remains largely unorganized with 90%-95%⁵³ of sales driven through unorganized pharmacies. EY's primary survey highlighted that acute medicines account for 60% of the market, whereas the chronic segment accounts for the remaining 40% of overall sales. Even with the presence of 8,50,000+ retailers, about 60% of the market remains underserved⁵⁴. In rural areas, masses struggle to get basic life-saving drugs. According to EY's primary survey, physicians based out of tier 2 and tier 3 cities highlighted that there is absence of diabetic medicines such as sitagliptin, teneligliptin or even insulin. As a result, they are limited to prescribing medications as per the availability which could delay the treatment process. The Indian pharmaceutical market also faces a primary challenge of reach as nearly 70% of the population in India is based in rural areas. The government has made efforts to bridge this gap through multiple schemes and programs. Its focus has been to put healthcare on priority for the masses. *Jan Aushadi Program* has been launched to ensure accessibility, acceptability and affordability of quality medicines for the poor.

The Government of India (GoI) also announced *Ayushman Bharat*, world's largest government-funded healthcare insurance program. It is planning to spend ~US\$200b on medical infrastructure by 2024⁵⁵ and is currently running 255,000+ common service centers for tele-medicine, e-pharmacies and e-diagnosis. Despite such efforts, about 92% of the rural population⁵⁵ is underserved with medicine availability limited to acute segment such as common cold or short-term ailments.

~92% of rural population is underserved with medicine availability limited to common cold and short-term ailments

The Indian e-pharmacy market was estimated at US\$0.5b in 2019⁵⁶ with companies such as NetMeds, PharmEasy, Medlife and 1mg dominating the market. It is projected to reach US\$4.5b in 2025 at a CAGR of 44% for the period 2019-2025. It is projected to represent about 10%-12% of the pharmaceutical sales by 2025 up from current 2%-3% levels in 2019⁵⁷.

⁵²EY survey, June 2020

⁵³EY report 2019, "e-pharma: delivering healthier outcomes

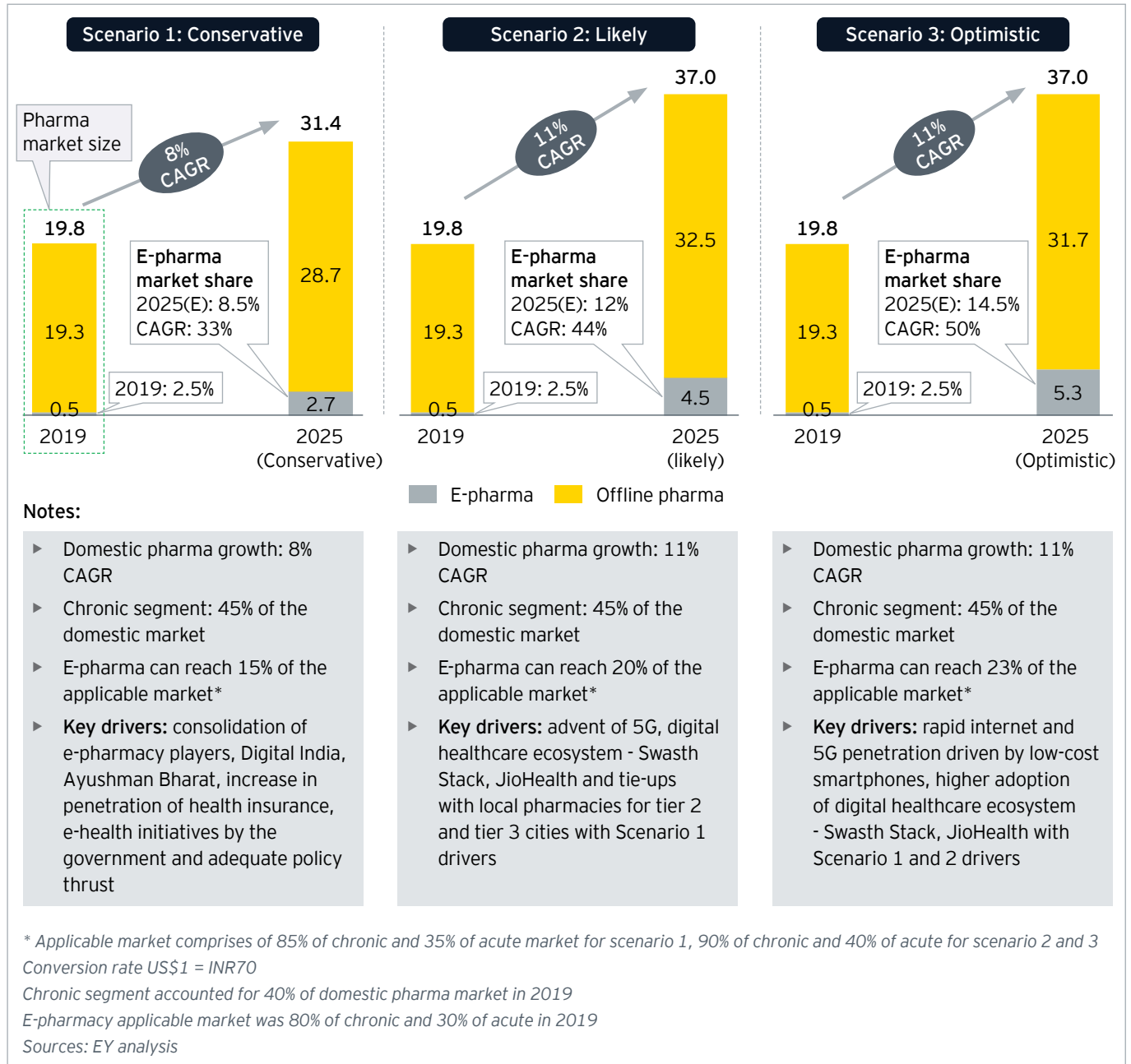
⁵⁴<https://uk.practicallaw.thomsonreuters.com/5-618-3562>

⁵⁵<https://www.chameleon-pharma.com/japans-latest-trends-in-the-pharmacy-and-drug-store-market/>

⁵⁶https://www.mitsui.com/mgssi/en/report/detail/_icsFiles/afidfile/2019/05/17/1903_sakai_e.pdf

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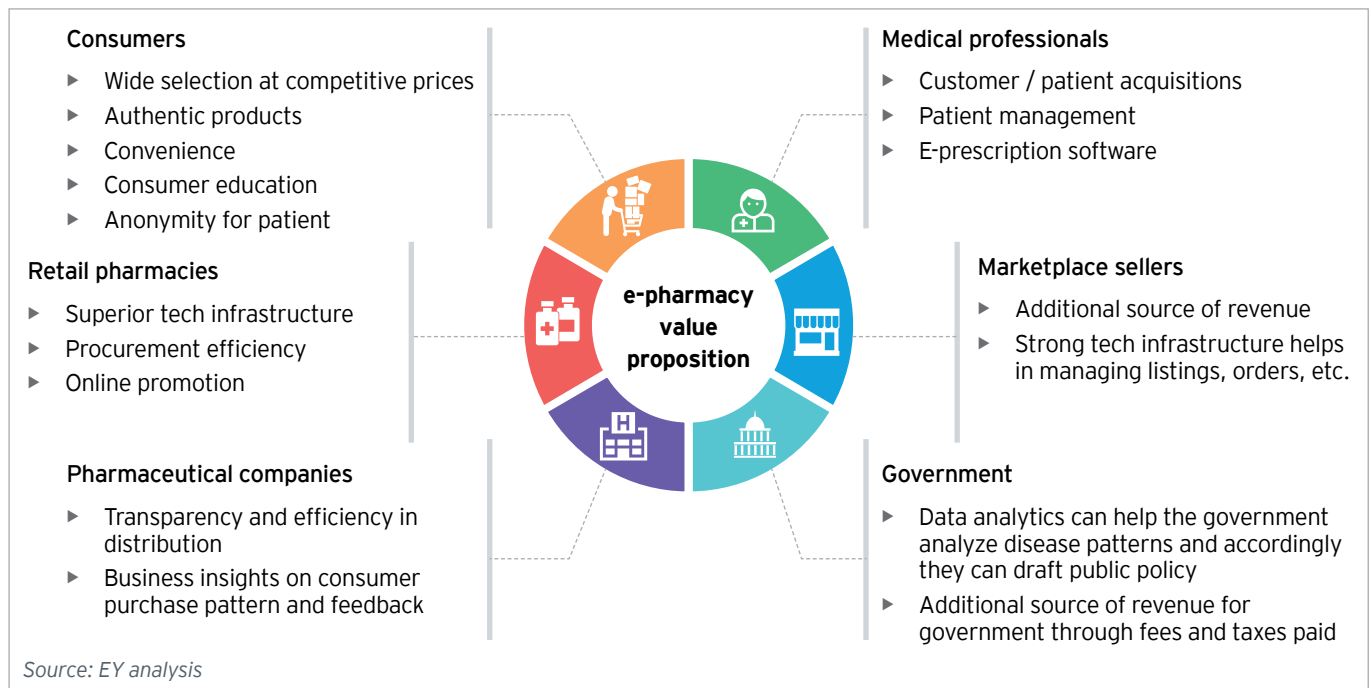
Forecast of the Indian e-pharmacy market in 2025 (US\$ billion)



5.2.1 Value proposition of e-pharmacies

E-pharmacies offer a convenient and an affordable way to purchase medicines. Coupled with teleconsultations, these can provide quick access to quality healthcare for patients in remote areas. Some e-pharmacies have expanded their reach and serve at least 90% of the pin codes in the country. The distribution time in remote locations can vary between 7–10 days. E-pharmacies offer strong value proposition to

doctors in rural areas and tier-3 cities. During EY interviews, many doctors from rural areas mentioned that they encourage patients to purchase medicines from e-pharmacies as local pharmacies stock limited range of medicines. Given the access, doctors are able to prescribe a wide range of medicines which enables them to provide better care. The following snapshot sums up the value proposition that e-pharmacies offer for stakeholders in the value chain.



5.2.2 Acquisitions and diversification

India's e-pharmacy market is projected to reach 10%-12% of overall pharmaceutical sales in the next five years driven by strong regulations, increased funding and creation of digital infrastructure. The e-pharmacy space in India comprises of health-tech companies focusing on chronic and wellness medication and medtech and portable diagnostic devices for common chronic ailments. Over the years, players have been making investments to strengthen their product and services

offerings. A majority of these investments have been keeping customer experience and reach at the center. With presence of over 50 online pharmacies, many players bundle in value-added services in order to provide a complete package to consumers. Firms such as Netmeds, Medlife and 1mg offer doctor consultation to its customers. Medplus and Wellness Forever have built their offline presence through their own stores. The following are the deals by the top 4 players in the last few years.

Table: Key mergers and acquisitions (M&As) in the e-pharmacy sector

Major M&As in India	Acquired	Date of acquisition	Transaction benefits
1mg	Homeobuy	Jun 2015	Enter into alternative medicine space – homeopathy and Ayurveda ¹
	Medd	Jul 2016	Booking of imaging tests such as X-rays, CT scans and MRIs ²
	MediAngels	Dec 2016	Doctor consultations, including specific therapy areas such as, cancer, cardiology, etc., corporate health services, insurance partnerships and business-to-business (B2B) focus ³
	Dawailelo	Sep 2017	Expansion to tier 2 and tier 3 cities ⁴
	Lab for Sure	Jul 2018	Infrastructure for conducting tests at home ⁵
	Delhi Medimart	Jul 2018	Home collection solutions for diagnostic services ⁵
Medlife	EClinic24/7	Nov 2018	Chat and video-based doctor consultations, provides access to a network of doctors on the platform ⁶
	Myra	May 2019	Expansion of delivery, express delivery, improved profitability ⁷
Netmeds	Pluss	Nov 2016	Hyperlocal delivery, baby care, pet care, personal wellness and daily essential products ⁸
	Just Doc	Sep 2018	Doctors' network onboarded on the platform, online video consultation app, telemedicine ⁹
	KiViHealth	Mar 2019	Cloud-based and AI-powered clinic management platform ¹⁰
PharmEasy	Ascent Health	Ongoing	distribution, lab logistics ¹¹

Sources:

¹https://www.mdm.com/top_distributors²<https://economictimes.indiatimes.com/small-biz/startups/1mg-acquires-medd-to-boost-diagnostics-image/articleshow/53053553.cms?from=mdr>³<https://economictimes.indiatimes.com/small-biz/startups/1mg-acquires-online-consult-platform-mediangels-for-an-undisclosed-sum/articleshow/55982247.cms>⁴<https://yourstory.com/2017/09/acquiring-dawailelo-will-help-1mg-expand-operational-presence-tier-ii-tier-iii-cities>⁵https://www.business-standard.com/article/companies/digital-healthcare-platform-1mg-technologies-to-raise-70-million-119030100197_1.html⁶<https://www.thehindubusinessline.com/info-tech/medlife-acquires-healthcare-start-up-eclinic-plans-100-million-expansion/article25558612.ece>⁷<https://tech.economictimes.indiatimes.com/news/startups/medlife-acquires-myra-to-expand-medicine-delivery-service-to-22-cities/69192602>⁸<https://www.vccircle.com/netmeds-buys-idg-ventures-backed-rival-pluss-stock-deal>⁹<https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/netmeds-acquires-justdoc-for-just-under-a-million/articleshow/65943032.cms?from=mdr>¹⁰<https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/netmeds-acquires-health-tech-startup-kivihealth/articleshow/68558448.cms>¹¹<https://economictimes.indiatimes.com/small-biz/startups/newsbuzz/pharmeasy-and-ascent-health-in-merger-talks/articleshow/68606991.cms?from=mdr>

Table: A snapshot of how e-pharmacies have diversified their offerings

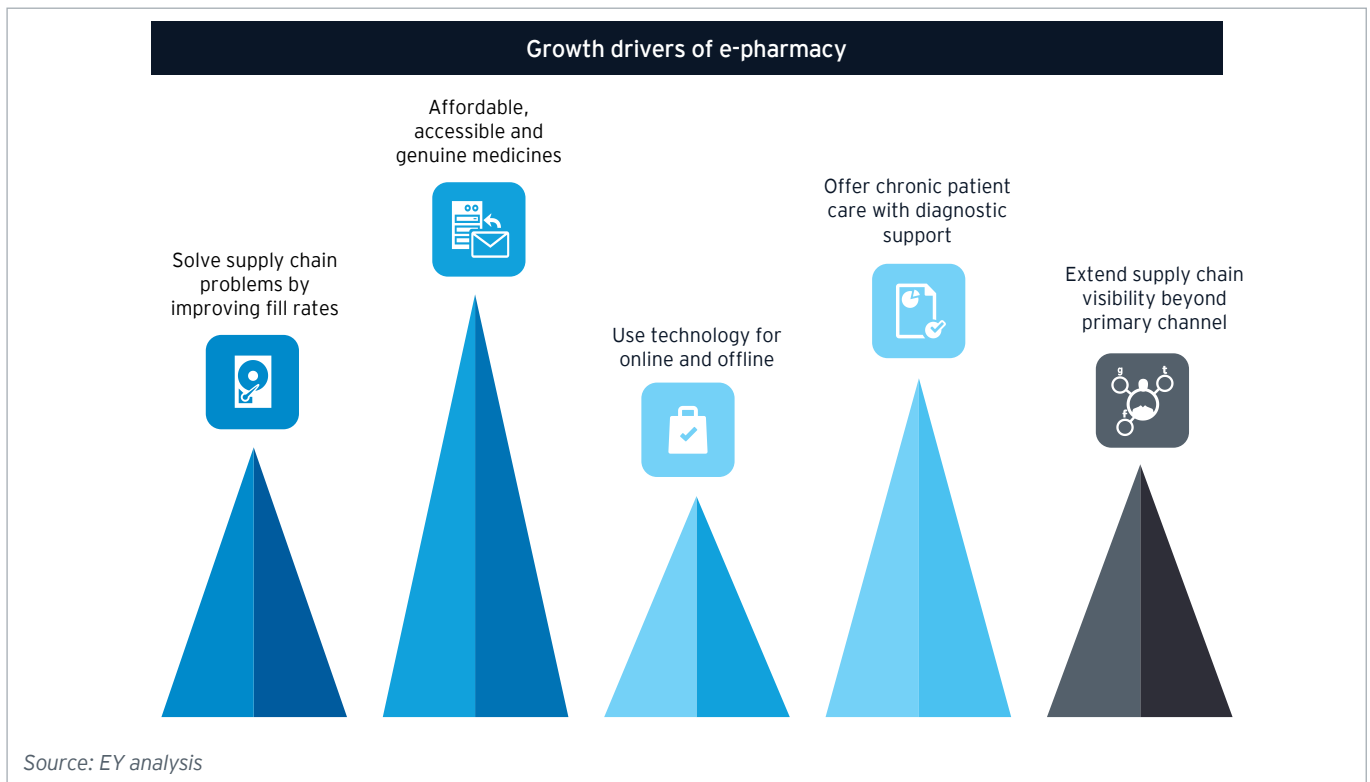
	Medplus	Apollo	Wellness Forever	Netmeds	PharmEasy	Medlife	1mg
Physical stores							
Online medicines							
Diagnostic tests							
Doctor consultation							
Hospital pharmacy							
Lifestyle blogs							
Own products							

Source: EY analysis

5.2.3 Growth drivers

Some of the benefits of the organized retail sector such as established practices across the functions, trained manpower and end-to-end integrated software systems to ensure real-time data availability, investments in distribution infrastructure,

etc. are missing in India's context. According to the EY survey, e-pharmacies highlighted multiple challenges in the Indian pharmaceutical supply chain as compared to the consolidated markets like the US or the UK. Hence, most e-pharmacies are directing their efforts to strengthen the supply side.



Source: EY analysis

Solve supply chain problems by improving fill rates

The Indian pharmaceutical sector has a long tail of stock keeping units (SKUs) with preference for brands varying across geographies. For e-pharmacy companies, holding inventories of 2.5 lakh SKUs across the geographies is a challenge. E-pharmacies optimize inventory using strong analytics of purchase

orders and sales data. These also provide real-time visibility of secondary data to pharmaceutical companies along with sales analytics at regional levels. This allows pharmaceutical companies to align their sales strategy and plan better. With increased scale, e-pharmacies are likely to see more coordination with pharmaceutical companies in data and insights sharing. Some of the e-pharmacies are also extensively focusing on acquiring distributors and turning them around to gain supply chain efficiencies. Adopting a click and mortar model with offline stores has the potential to further reduce the delivery time to serve the acute customer segment as well.

Affordability, accessibility and protection from counterfeits

The share of sales from non-metro cities has been increasing. According to EY survey, June 2020, ~30% of current demand is from outside the metro cities as compared to 10% two years back. This helps in resolving the issue of accessibility on priority. E-pharmacies are reaching out to local medicine stores for partnerships. Region-wide partnerships with brick and mortar stores is expected to begin by 2021.

With fragmented and unorganized supply chain, chances of the product being counterfeit becomes higher. E-pharmacies conduct strict checks on vendors and on-board official distributors post confirmation from pharmaceutical companies. They also educate the customers on how to verify the authenticity of medicines.

Using technology for online and offline channels

In tandem with their global counterparts, e-pharmacies in India are focusing on digitalizing their offline distribution centers and retail stores. One of the e-pharmacies shared how their distribution wing focusses on acquiring local distributors and turning them around to achieve efficiencies.

Sales practices from the FMCG industry such as beat plan adherence, SKU-wise sales targets based on analytics, store mapping and ranking, etc. are increasingly being adopted. It

is estimated that 30%⁵⁸ of the medical representatives (MRs) time is wasted in retrieving sales and inventory reports from distributors which could be better utilized in doctor visits. Having strong digital infrastructure saves time and generates actionable insights around sales at SKU, brand, pin code and district level which can be further used to optimize inventory levels.

Offering chronic patient care with diagnostic support

Addressable market for e-pharmacies is currently limited to the chronic segment given high delivery times. Engagement with chronic patients becomes crucial as platform loyalty is low and sector is driven by high discounts. Many e-pharmacies are educating their customers about different medicines offered by pharmaceutical companies. Such information is mostly available on the platform itself. Some of the pharmaceutical companies are also collaborating with e-pharmacies in providing educational campaigns for consumers by sharing leaflets containing information about purchased medicines. Some of the e-pharmacies have opened diagnostic arms in which they provide OPD facility or have their labs to perform diagnostic tests. This furthers their strategy of driving engagement with chronic customer base.

Substitution exists mainly for OTC dispensing

In the EY's primary survey, e-pharmacy companies highlighted order fulfilment as the primary reason for substitution of medicines. The firms highlighted that substitution is done with consumer consent and only in case of a stock-out. Some e-pharmacies also commented on the need to shift to the practice of prescribing unbranded drugs. To improve fill rates and ensure reach of drugs in remote areas, it is necessary for the government to create a push toward unbranded generics.

Extending supply chain visibility beyond primary sales

Global pharmaceutical companies have been engaging more with e-pharmacies regarding data visibility. Some of the e-pharmacies have integrated their warehouses and carry and forwarding agents to offer better inventory visibility to the pharmaceutical companies. E-pharmacies also offer actionable insights on region-wise and therapy-wise sales which can further help pharmaceutical companies in redirecting their marketing efforts. However, as highlighted by most of the firms, e-pharmacies represent a small proportion of sales as such insights are currently limited to only a few geographies.







⁵⁸EY analysis

5.3 Stakeholders' views

In the EY survey, doctors and pharmaceutical companies highlighted their concerns regarding the substitution practice followed by e-pharmacies. They also highlighted the risks associated with analytics done on patients'

prescription. While most of pharmaceutical companies agreed that e-pharmacies hold the potential to capture 15%-20% of the market in the long-run, their main concerns revolved around substitution. Below is a snapshot of some of the issues. Concerns of the end-users were centered on trust, genuineness of medicines and timely delivery of the medicines.

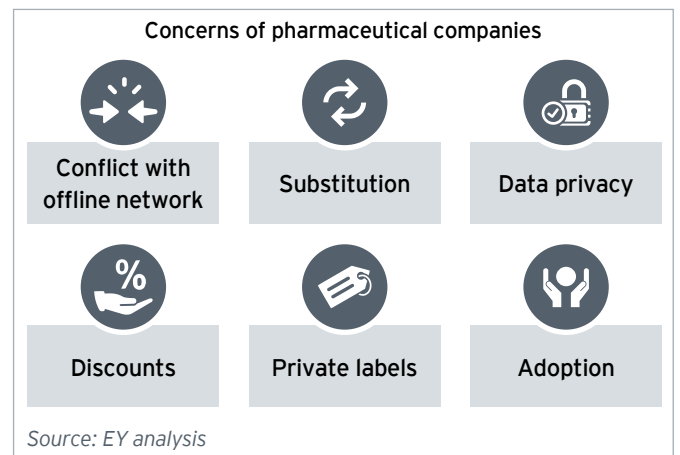
Stakeholders' views on multiple issues highlighted in the EY survey

	 Data Privacy	 Substitution	 Operating model	 Private labels	 Discounts	 Reach
Pharma Co	▶ Unclear regulatory guidelines	▶ Strong concern	▶ Procurement through certified channels	▶ Not concerned about competition	▶ Conflicts with offline channel	▶ Most orders from metros ▶ New localisation models
Patients	▶ Concern about prescription privacy	▶ Some prefer doctor prescribed vs low cost alternatives	▶ Medicine authenticity is a major concern	▶ Preference to known brands in consumer segments	▶ Primary driver	▶ Delivery time is higher
Doctors	▶ Concern about data sharing by platforms	▶ Prefer to be consulted before substitution	▶ Concerned about prescription abuse	▶ Not concerned	▶ Not concerned	▶ Increased reach in rural areas
E-Pharma	▶ Secure platform. Prescription data safe	▶ Substitution in case of stock-outs; no ghost prescriptions	▶ Procured from certified distributors	▶ Medium to long term	▶ Discounts to rationalize: 15-17% vs 20-25% in past	▶ Some players serving all pin codes

Source: EY analysis

5.3.1 Insights from pharmaceutical companies

The e-pharmacy model of business in India has been mired in controversies since inception. Pharmaceutical companies and related associations have been voicing their concerns over certain practices and the operating model in general. The government has been working on providing a governance structure and regulations to address all these concerns while ensuring to provide a conducive environment for them to grow.



The e-pharmacy sector needs regulatory and policy interventions. Pharmaceutical companies have been cautious to partner with e-pharmacies even though they believe that online sales may represent 10%-12% of the medicine sales in the next five years⁵⁹.

Managing the online-offline model

With e-pharmacy sales currently accounting for only 2%-3%⁶⁰ of the total sales, a majority of pharmaceutical companies are adopting a wait and watch strategy to ensure their traditional supply chain is not disrupted. As per EY's analysis, 10%-15% of big Indian pharmaceutical companies engage with e-pharmacy players directly. Drugs from other pharmaceutical companies are procured from the registered distributors. One common trend that emerged during our survey was that e-pharmacy companies will witness consolidation in the medium-term with two or three players emerging as the leaders. With high customer demand backed by wide and efficient distribution network, these e-pharmacy players will be better placed to deal directly with pharmaceutical companies. As of now, most of the pharmaceutical companies are refraining from making any direct deals with e-pharmacies in a bid to ensure smooth functioning of their offline distribution network.

Substitution

The Indian domestic market is dominated by generic drugs. The tendency to prescribe unbranded generic drugs has been on the lower side. In the US, 85%-90% prescriptions are for generics⁶¹. In the UK, 75% of total prescriptions were for generics in 2017⁶². In the developed economies, the pharmacist has a strong influence over the brand of generic drug to be dispensed. Contrast that to India, where less than 1% prescriptions constitute unbranded generics. Doctors exercise considerable influence over patients' choices and pharmaceutical companies' involvement in educating doctors regarding the efficacy of medicines becomes critical.

Substitution of prescribed drugs with other brand generics has been a concern for pharmaceutical manufacturers. Though most of them agreed that this *practice is prevalent in offline stores as well, it becomes more evident in e-pharmacies, given the prescription and dispensation trail that needs to be maintained.*

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*Most of the e-pharmacies have a doctor on-board who calls patients and writes fresh prescriptions with its (the e-pharmacy's) own preferred brand drugs. In e-pharmacies, strong regulation around substitution is necessary as **99% of the prescriptions in India contain branded generic drugs.***

Head of sales of one of the top 10 pharmaceutical companies

For some specialties such as neurology, drug efficacy and molecule size are important and switching drugs might be detrimental to the health of the patient. Such an event also decreases the trust among doctors, patients and such portals. There are certain shortcomings in the current regulations which need to be plugged.

Obtaining consent from the original prescribing doctor is necessary to ensure trust among the stakeholders. Another problem with substitution is that India has a large manufacturer base. Drug quality of some brands could be a concern which may further fuel trust issues.

In response to this, most e-pharmacies commented that drugs are substituted only in case of a stock out. Patients can then contact the doctors available on the platform for seeking alternatives or renewing their prescriptions. The doctors engage with patients keeping the disease's criticality in mind. Some of the pharmaceutical companies were mildly concerned about substitution practice. In the EY survey, June 2020, they stressed on the importance of brand perception among doctors and customers.

While strong regulations are expected around substitution, patients should have a choice in selecting cheaper drug alternatives. This can be possible by dedicating extensive efforts in educating the patients and in consultation with doctors.

Private labels

In the US, the UK and Japan, e-pharmacies have launched private label OTC drugs and health supplements. However, in India, MD of one of the top 10 pharmaceutical companies during EY's survey said, e-pharmacies are driven by commercial decisions and with higher percentage of patients purchasing online, e-pharmacy may venture into their own private labels.

Adoption of private labels may be higher if its quality and efficacy can be backed by a trusted pharmaceutical company. This has the potential to give the necessary boost and drive purchases in hospitals. A majority of the pharmaceutical companies agreed that e-pharmacies launching their private labels might be a commonplace in the long run.

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*Traditionally, pharmaceutical companies with have relied on forming good relations with their own pharmacy stores to drive the sales. We **do not envisage any radical changes** in the market. Big companies with strong distribution network could not capture the retail market and break the traditional channel of distribution. It will be especially difficult in pharma, given constraining regulations and the strong hold of doctors in the customer purchasing decision. **Changes might happen in pockets and therapy areas.***

Head of sales of one of the top 10 pharmaceutical companies

^{59, 60}EY analysis

⁶¹<https://www.fda.gov/drugs/buying-using-medicine-safely/generic-drugs>

⁶²<https://www.oxera.com/wp-content/uploads/2019/06/Oxera-study-on-the-supply-of-generic-medicines-in-the-UK-26-June-2019.pdf>

Discounts

Among other concerns, pharmaceutical companies voiced that high discounts offered by e-pharmacies disrupt the traditional sales. During COVID-19, one of the trends observed was that e-pharmacies were offering lower discounts as compared to what they were providing during the pandemic. This is set to be further rationalized once the market consolidates.

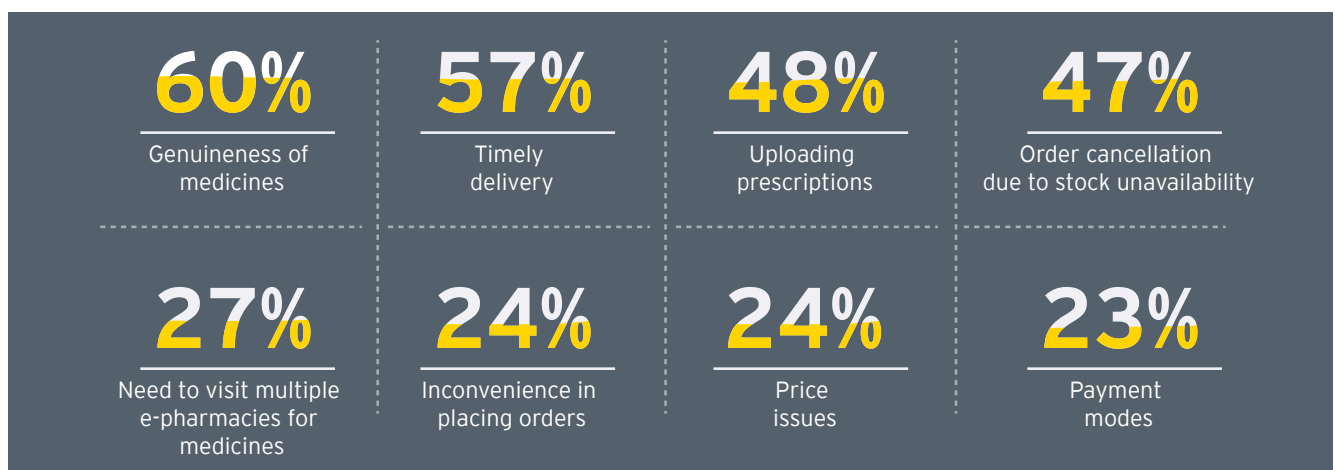
Pharmaceutical companies in the EY's primary survey also highlighted concerns about the older stock of products or near expiry products being offered at higher discounts to manage the inventory. One of the interviewees highlighted that the consumer should be able to see the expiry date of the medicine before ordering. This has also been one of the concerns among the patients.

5.3.2 Consumers' opinions

E-pharmacies in India have been working toward creating an integrated healthcare solution for the consumers. Despite this, customer adoption has been low. It is necessary to understand

the behavioral aspects of the consumers and their concerns related to e-pharmacies. According to EY's survey, genuineness of medicines emerged as the top-most concern (60%) among users along with their timely delivery (57%).

Major concerns while ordering medicines through e-pharmacies



Source: EY analysis

Genuineness of medicines

Consumers are wary of counterfeit medicines and older stocks purchased from e-pharmacies. While high discounts might explain the cause of this concern, reluctantly might also arise due to the consumers' unsatisfactory shopping experiences of other products purchased online. Some medicines require specialized supply chain (cold storage, etc.) for transport to ensure efficacy. Since there is limited information on how medicines are transported or stored in warehouses, purchasing medicines online draw concerns for some customers.

Timely delivery

Delivery timelines have been another area of concern for consumers. Uncertainties pertaining to delivery of medicines is higher in remote areas as order fulfilment can be an issue. Since addressable market of e-pharmacies is limited to chronic diseases in remote areas, investments in supply chain and partnering with local pharmacies especially in tier 2 and tier 3 cities will be necessary.

Uploading prescriptions

Regulations mandate the use of prescriptions that are not older than six months. This makes it cumbersome for a patient suffering from chronic diseases to upload a valid prescription. To address this issue, e-pharmacies' on-board doctors consult patients free of cost and write fresh prescriptions as prescribed by their original doctor.

Customer support

Delays and refusal to process refunds, inaccessibility or unresponsiveness of customer service centers and absence of order tracking and sending updates are some of the other concerns that were highlighted in the survey.

Data privacy

Consumers are concerned about the privacy of their prescriptions which they upload online. Some patients have also cited that they encounter ads related to the disease(s) they are combating on multiple online platforms after they make medicine purchases online.

5.3.3 Views from doctors

There has been a mixed response from doctors towards e-pharmacies. Doctors from tier 3 cities or rural areas encourage patients to order medicines from e-pharmacies due to lack of availability of basic medicines in local pharmacies. In contrast, doctors in tier 1 cities are concerned about maintaining privacy of prescription and substitution of prescribed brands.

Prescription data privacy

Doctors are liable to ensure data privacy of patients. Traditionally, they join hands with local pharmacies in their vicinity and rely on them to stock up medicines that they prescribe. This also forges trust between the doctor and chemists. With rise in sales of the e-pharmacies and mandatory upload of prescriptions, doctors are concerned about the misuse of prescription data. In this scenario, forging trust among doctors and e-pharmacies is crucial in the long run as patients' drug purchase and preference is largely influenced by doctor.

Substitution

Doctors are liable for patients' health, and drug substitution done by e-pharmacies may result in poor outcomes for patients. To build trust in the long run, e-pharmacies need to route any change in prescribed medicine through the doctor.

5.3.4 Regulations

Most of the stakeholder concerns discussed above can be addressed through clearly defined regulations. The Government of India proposed a draft policy around e-pharmacy regulations in 2018. This was opened to public for comments and received 7000 representations in favor of the document with 350 opposing it. The proposed rules contain provisions for protection of personal information and privacy of the patients. Some of the guidelines issued by the Ministry of Health and Family Welfare draft rules are:

- ▶ It will be mandatory for e-pharmacies to register themselves with a central authority.
- ▶ E-pharmacies will be *restricted* from selling drugs covered under the categories of the *narcotic* and *psychotropic* as referred to in the Narcotic Drugs and Psychotropic Substances Act, 1985, as well as tranquilizers and the drugs as specified in the *Schedule X* of the Drugs and Cosmetics Rules, 1945.
- ▶ E-pharmacy registration holders shall have a customer support facility and grievance redressal for all stakeholders. The facility shall be available for 12 or more hours each day throughout the week.

- ▶ The premises of e-pharmacies will be inspected every two years.
- ▶ The *information* received by an e-pharmacy registration holder from the *customers* by way of prescription or in any other manner shall *neither be* disclosed by the e-pharmacy registration holder for any other purposes nor shall the same be disclosed to any other person - rendering it impossible for them to share data with agencies like life insurance companies to supplement their business. Any violations could lead to either suspension or cancellation of the license.
- ▶ E-pharmacies are ordered to keep the data localized, i.e., they cannot store it on international servers. *They are not allowed to share patients' data with anyone but the central/ state governments.*
- ▶ E-pharmacies are prohibited from advertising any drug on radio, internet, print or any other media for any purpose, thereby eliminating a possible source of revenue for them.

These rules are currently being reviewed by the government and are expected to be cleared soon. It is expected that implementing these rules will ease the business operations for e-pharmacies and pave the way for increased trust among the stakeholders.



*Strong regulations are necessary at this stage as e-pharmacy players are gaining traction. India has a large branded generics market and substitution, driven by commercial motives, will be detrimental to patients' health and result in **trust issues getting escalated.***

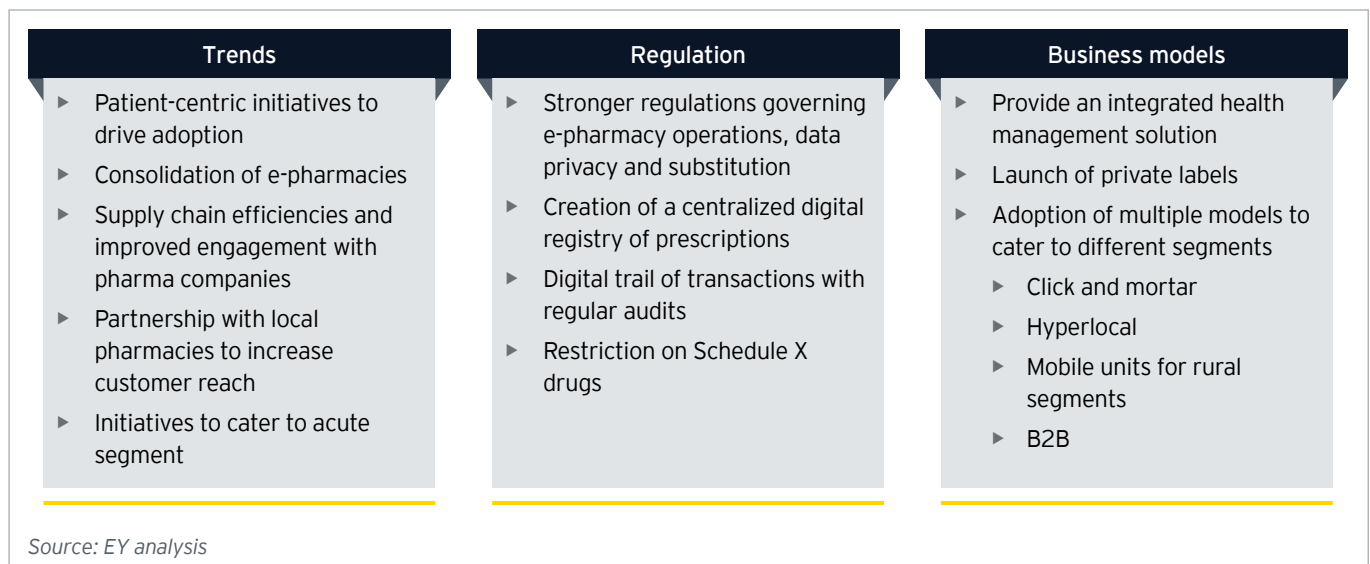
CEO of one of the top 10 pharmaceutical companies

5.4 Future outlook

Globally, e-pharmacies have evolved as an integrated solution offering teleconsultations, online diagnostics appointment and home delivery of medicines at the convenience of the customer. Most of their initiatives revolve around customer experience. Investments are being made in infrastructure to make customer experience seamless. Offline, pharmacies are being transformed to create a one-stop health hub featuring primary care and basic diagnostics. In the developed economies such as the US and the UK, presence of large retailers in form of offline stores across these countries ensure basic distribution infrastructure and uniformity in practices.

However, the Indian pharmaceutical sector lacks large organized retail chains. The e-pharmacy segment is dominated

by start-ups which face unclear regulatory guidelines as a major roadblock in their functioning. Investments are difficult to come in such an environment. Indian healthcare space saw lower funding compared to the fintech space⁶³ in 2019 even though fintech is comparatively more complex in terms of regulations and execution. Presence of unorganized players in supply chain requires investments to upscale the infrastructure and bring uniformity in practices. E-pharmacy players are drawing best practices from the FMCG industry in a bid to drive efficiency in their distribution chain. Majority of them are entering into partnerships to provide an integrated online healthcare solution to consumers and improve their reach, especially to serve rural areas. In the short- to medium-term, we expect strong regulations in the sector which will work towards fulfilling these needs.



Trends for the future

Online sales currently account for a small percentage of overall medicine sales. We expect patient-centric initiatives to drive adoption and repeat orders. Some of the major initiatives are likely to be focused on driving patient adoption in tier 2 and tier 3 cities as well as rural areas. Ease of navigation, regional language support and voice-enabled purchases will be a common feature across apps. Driving patient trust in genuineness of medicines, easier order cancellation/returns coupled with faster deliveries will further drive patient adoption. E-pharmacies are likely to increase their focus on educating patients regarding medicines and supplements.

The e-pharmacy sector is already witnessing a consolidation. Jio is in talks with one of the major online pharmacy in India to strengthen its online to offline (O2O) commerce. In the long run, we envisage consolidation of several top players and dominance of two or three of them.

Investments in supply chain are likely to remain higher and players may focus on making supply chain stronger especially outside metros. Pharmaceutical sector will witness increased partnerships with pharmacies in tier 3 and tier 4 cities and rural areas. E-pharmacies are expected to have increased offline presence to serve the acute customer segment for quicker service times. With increase in scale, e-pharmacies collaboration with pharmaceutical companies will be better. We also envisage stronger alliance with pharmaceutical companies to leverage sales insights and secondary visibility.

Regulation

The government is expected to pass draft regulations on e-pharmacy in the next few months. This will create a favorable environment for e-pharmacy operations and attract funding to scale up the segment. Lack of necessary boundaries around patient data privacy and sole liability on doctors to protect their data is a major issue as per the EY survey. We expect

⁶³ <https://www.expresspharma.in/regulations-policies/online-pharmacies-a-rocky-road-ahead/>

the stakeholders to share liability with regards to patient data. After regulations around substitution get strengthened and doctors' consent becomes mandatory, equity among the stakeholders - doctors, patients, pharmaceutical companies and e-pharmacies will be improved.

Investments in e-prescription capability is necessary to ensure seamless interoperability between online and offline modes. Some e-pharmacy companies have made investments in OCR and AI-based algorithms to interpret the prescriptions and realign these in a common format. E-pharmacies are likely to increasingly focus on building functionality for periodic review and consent from doctors to ensure timely refill of medicines for patients suffering from chronic diseases.

We also expect the creation of a digital infrastructure in the long run to streamline e-pharmacy operations. The following are the initiatives that are expected to be rolled out:

- ▶ Access to prescription through Digilocker, a centralized registry
- ▶ Creation of a centralized electronic medical record (EMR)/ electronic health record (EHR)
- ▶ Digital trail of transactions with batch numbers to manage counterfeits
- ▶ Audit trail to manage abuse of prescriptions

Business models

As with their global counterparts, e-pharmacies have the potential to venture into private labels for OTC and nutraceuticals. Some of the players are already offering private label supplements in their platforms. With the current infrastructure, e-pharmacies are largely catering to consumers in chronic segment. Turnaround time is a critical component to serve the patients in acute therapy. We see an adoption of hybrid approaches within e-pharmacies to cater to different segments of patients.

- ▶ *Chronic:* e-pharmacies can integrate with teleconsultation platforms and diagnostic services and expand their reach rural areas. More initiatives are aimed at improving customer experience in line with their global counterparts. To generate equity with customers, e-pharmacies can operate primary care at their pharmacies. An e-pharmacy in India runs diagnostic centers which offer OPD consultations and basic diagnostic tests. Another e-pharmacy has private label diagnostic centers at which consumers can book appointment online. Such initiatives are critical to retain chronic customers. With consultation, diagnostic and medicine data in one place, platforms may further venture into offering customized services to increase customer engagement and improve customer experience.
- ▶ *Acute:* e-pharmacies are undertaking tie-ups with local pharmacies to serve the acute portfolio. This, combined with hyperlocal deliveries, may drive adoption of consumers in this segment. The players will however need a clear roadmap to drive efficiencies. The trade-off between service levels and costs will have to be crucially evaluated and closely monitored through clearly defined metrics. Increased investments in technology with incremental process improvements may drive synergies in the long run. However, it remains to be seen whether e-pharmacy will achieve significant market share in the acute segment.
- ▶ *Rural:* the digital India program aims to leverage technology for healthcare delivery. The Indian Government currently operates 255,000+ CSCs. This has created a basic infrastructure to drive rural adoption. E-pharmacies may operate a marketplace model in remote areas by onboarding local pharmacies on their platforms. One of the ways e-pharmacies can ensure rural reach is by operating mobile units with doctors for providing primary healthcare, and basic diagnostic equipment and medicines. This can be operated in cost-plus contracts with local government.

Chapter's summary

- ▶ Developed markets globally have organized players in the retail sector which are lacking in the Indian context. Organized chains offer uniform practices and better infrastructure which can be utilized to quickly scale up online pharmacy sales.
- ▶ Globally, markets have clearer regulations around e-pharmacies which is missing in India.
- ▶ E-pharmacies across the globe offer integrated solutions to customers combining teleconsultation, diagnostics appointment and medicine deliveries.
- ▶ E-pharmacies in India are dominated by start-ups which are making investments primarily to improve supply chain and customer experience.
- ▶ E-pharmacies' sales are expected to reach 10%-12%⁶⁴ of the market by 2025. In the last few years, e-pharmacies relied on high discounts to increase customer adoption. This is set to rationalize to lower levels in the next few months. E-pharmacies are also focussing on increasing their customer reach through partnerships with local pharmacies. We captured stakeholders' concerns to understand the areas that e-pharmacies need to address in the near term. These pertain to:
 - ▶ Consumers are concerned about counterfeit medicines and demand timely delivery of medicines. The purchases are primarily driven by discounts and convenience. As per EY's survey, more than 70% consumers are willing to buy from e-pharmacies, going forward.
 - ▶ Pharmaceutical companies are concerned about substitution practices and their conflict with offline channels. Most of the pharmaceutical companies refrain from dealing directly with e-pharmacies. High discounts offered by the e-pharmacies create a stiff competition for the local pharmacies which further increase the discord between online and traditional channels. Transparency in e-pharmacy operations such as prescription data analytics was another major concern highlighted by the pharmaceutical companies.
 - ▶ Doctors are concerned about prescriptions' data privacy and prescription abuse. In EY survey, doctors highlighted the necessity of regulations which mandate consultation with the doctor before providing a substitution.
 - ▶ Most of the stakeholders' concerns can be addressed by implementing stronger regulations. The Government of India has also prepared a draft regulation which is expected to be cleared soon.
- ▶ We expect the e-pharmacy segment to join hands with other players in the long run with two to three players capturing a majority of the market alongside Jio.
- ▶ E-pharmacies may offer integrated services bundling teleconsultation, diagnostics and medicine deliveries. They will also adopt multiple models to cater to different segments of patients.

⁶⁴EY analysis

A long-exposure photograph of a road at night. The road curves through a dark, scrubby landscape. Light trails from cars create vibrant streaks of yellow, green, and red along the road. The sky is dark with numerous bright, diagonal streaks of light, suggesting a starry night or a long-exposure shot of a starry sky. The overall mood is futuristic and forward-looking.

Chapter

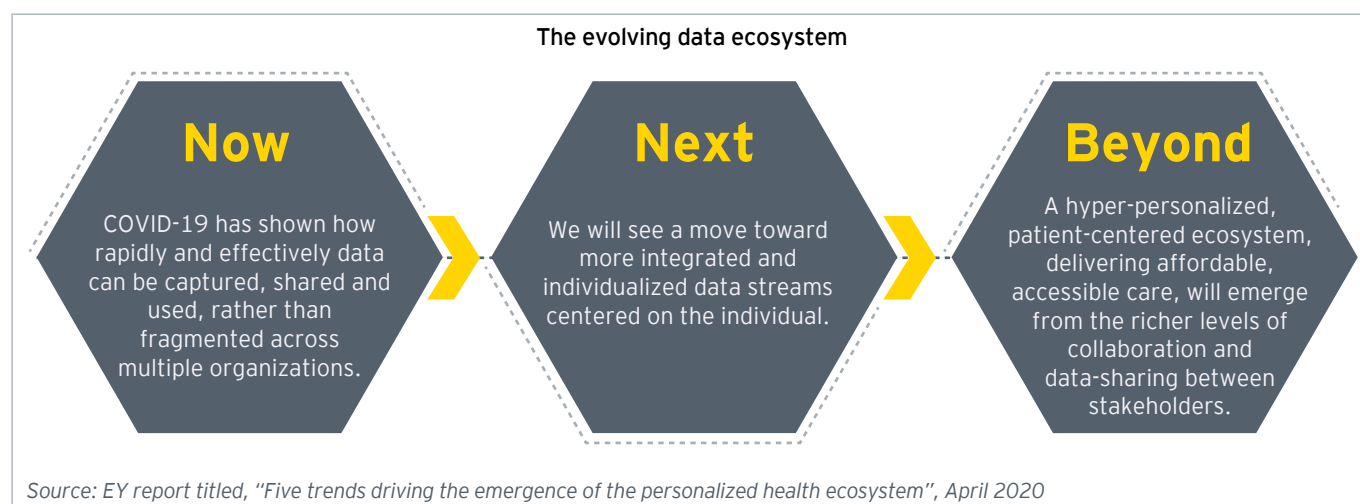
06

The road ahead: actions for
stakeholders

6.1 Power of data and the *new normal*

COVID-19 has led to fundamental changes in the world. Healthcare organizations also need to transform their business models along with their workforce and supply chain. The healthcare sector will also witness significant changes that will

require unlocking the power of health data. Unleashing the power of data may necessitate development of a personalized 'new normal' ecosystem built around the patient-consumer. This ecosystem has the potential to benefit all key stakeholders while generating accessible, affordable care.



Lifesciences companies should move beyond product-centric definitions of value and create sophisticated data-driven partnerships that share value with other health stakeholders. Platforms that support easy and transparent collection, combination and sharing of data may contribute towards the success of these partnerships.

Hence, data will move from being an organization-specific asset to a centralized resource. To generate adoption to new business models from all the stakeholders, organizations must engage proactively with regulators and associations to create trustworthy and value-driven frameworks for the exchange of data.

6.2 Emerging ecosystems

During EY's interactions with key stakeholders, doctors stressed the need for electronic health records (EHR)/ electronic medical records (EMR) infrastructure which is necessary to enhance patient care. Teleconsultation as a standalone solution has limited benefits for doctors and patients, and stakeholders have cited the need to create an ecosystem which links all the aspects of healthcare at a place.

NHS and Swasth: the creation of NHS, a shared digital infrastructure, will link all stakeholders through a secure and an open-sourced digital ecosystem. Open source frameworks offer the flexibility to create solutions on the top of the platforms and build interoperability across the players. This may help in the emergence of many teleconsultation platforms in the market. Swasth aggregates various service providers. In future, we

are likely to see greater collaboration among the stakeholders with NHS as a medium and a shift in the healthcare economy towards online space.

JIO Health Hub: Jio aims to provide a one-stop solution to patients through its Health Hub platform. Patients can consult experts, book lab tests, store health data and create charts. Jio is in talks with NetMeds to complete its offerings through integration of e-pharmacy services. Jio Health Hub is powered by JioMeet, a platform for virtual consultations; KareXpert, a digital healthcare provider and JioMart, an online to offline delivery platform with a large offline footprint. We have seen global retailers such CVS pharmacy allocating more space for healthcare hubs within its stores. HealthHub may leverage the wide distribution reach of JioMart to boost its offline presence in 200+ cities.

Jio Health Hub: an emerging healthcare ecosystem



Create an ecosystem



Intelligent virtual assistant solutions to enhance customer experience



KareXpert provides online appointments through digital healthcare services



In talks with Netmeds to strengthen e-pharmacy offerings



Leverage an ecosystem*



Integrated component within the Jio eHealth Platform - virtual consults/waiting rooms



Reach in 200+ cities. Online to offline commerce platform, hyperlocal medicine delivery expected



High-speed internet connectivity through broadband, LTE, VOLTE to VOWI-FI\$ tech.

Sources:

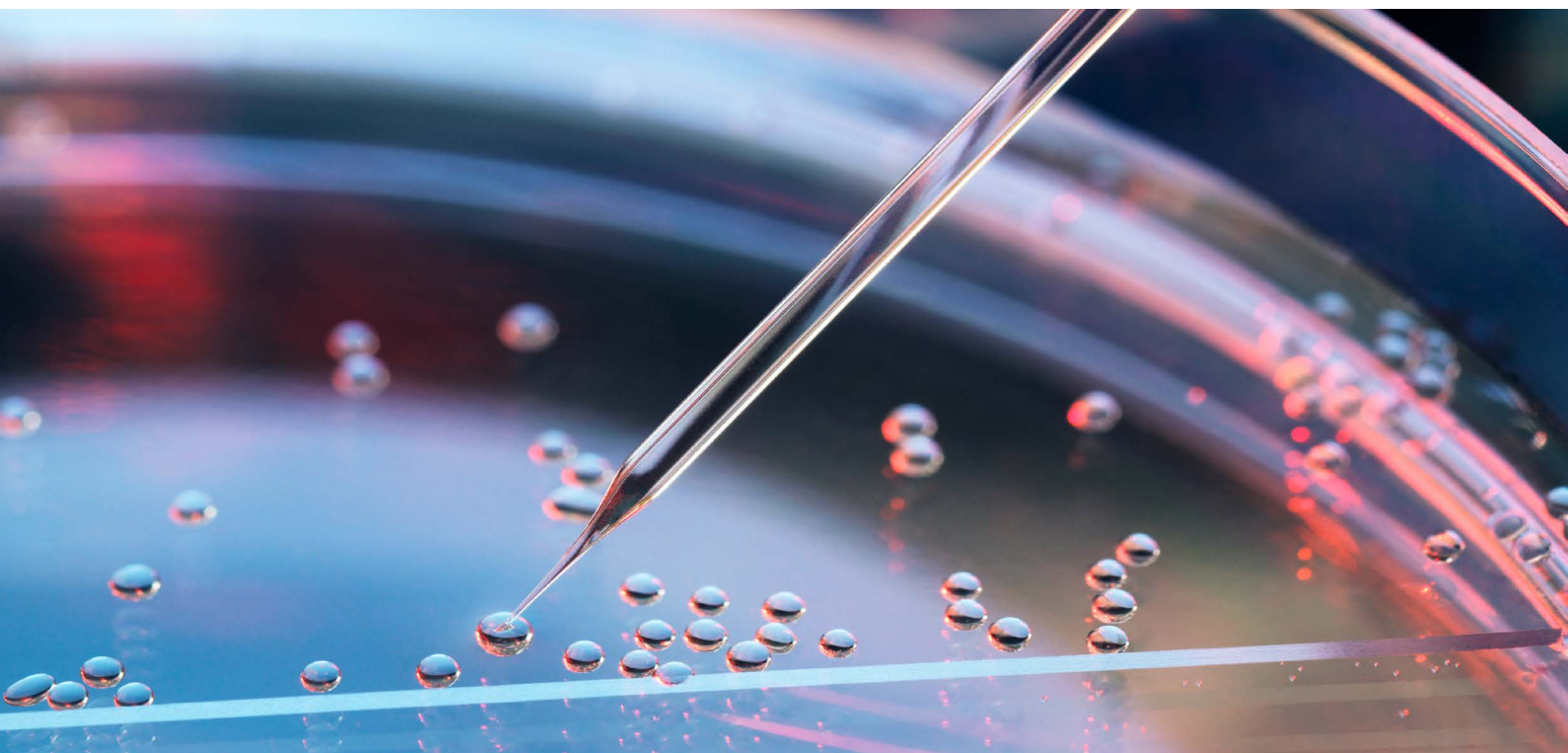
EY analysis, integrated annual report 2019-20 of Reliance Industries Limited

*Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Big Data, Augmented Reality/Virtual Reality (AR/VR), Internet of Things (IoT), Blockchain, Artificial Intelligence (AI), Machine Learning (ML), edge computing, speech/natural language, supercomputing, computer vision, robotics and drones. These capabilities will power the creation of reimagined solutions for various ecosystems

LTE: long-term evolution, VOLTE: voice over LTE, VOWI-FI: voice over wi-fi

Hence, teleconsultation platforms have the potential to evolve as more connected platforms by integrating various service providers to address the complete patient journey. Healthcare

will be driven by an ecosystem approach and offline, disintegrated means may not suffice in the future.

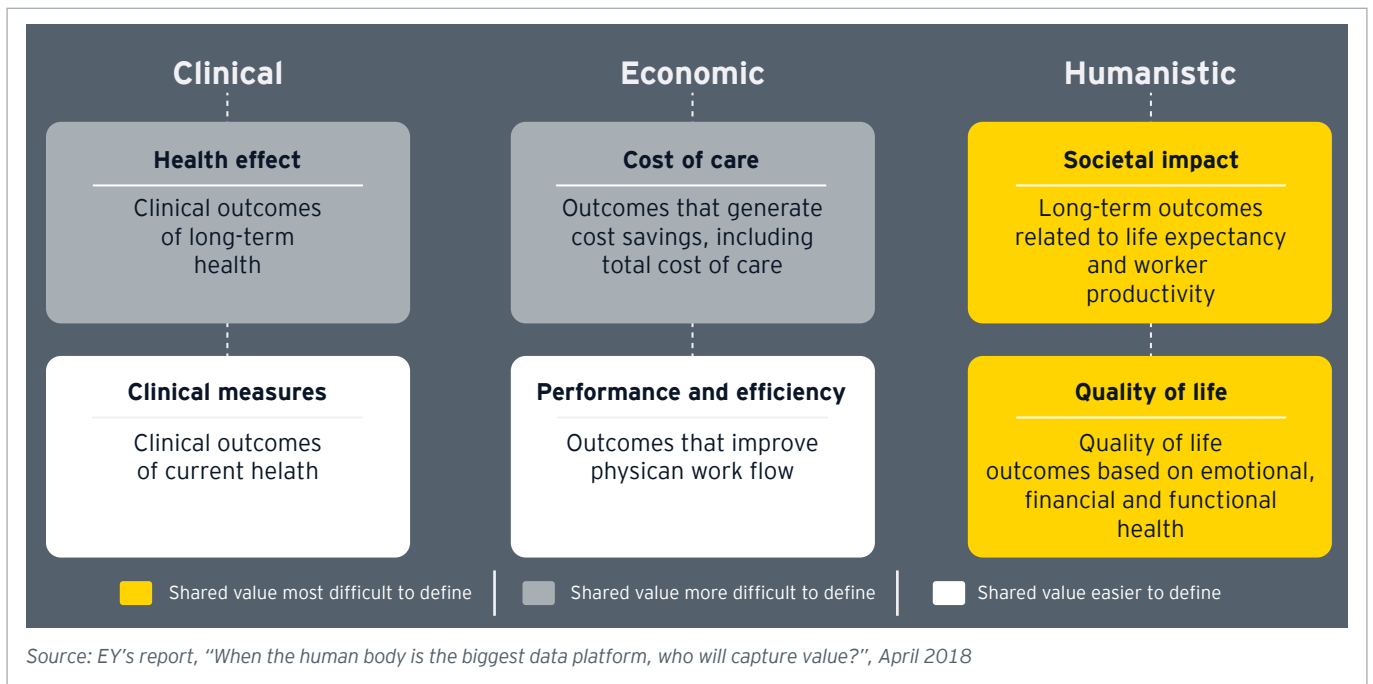


6.3 Implications on the stakeholders

Health outcomes can be defined across three different dimensions – clinical, economic and humanistic. Different stakeholders in the healthcare sector have their own priorities. In the future, success will be measured by the ability to find a common ground to meet these demands. To be successful in the future, life sciences companies need to be agile enough to deliver the right outcomes quickly and reliably to the right stakeholder.

Platforms that allow life sciences companies to create future shared value with multiple health stakeholders

Health outcomes can be defined across three different dimensions – clinical, economic and humanistic. To be successful in the future, life sciences companies must be agile enough to deliver the right outcome quickly and reliably to the right stakeholder.



An integrated teleconsultation platform will fulfil the needs of providers, payers, fulfilment centers and platform providers with adequate regulatory and technology support. Each stakeholder has a distinct role to play in this transformational journey ahead. The following section highlights the role and the value driver for each of these stakeholders.

Doctors

Doctors
Adopting hybrid consultation models for gaining efficiencies and reach

The pandemic has highlighted the regional disparities of medical infrastructure and access. The doctors will play a vital role in shifting the urban bias in healthcare

delivery through upcoming teleconsultation platforms. They stand to gain efficiencies by evolving their practice to a hybrid model of consultation to reduce non-essential in-person visits.

Post-COVID-19 era is likely to witness increased adoption of formalized virtual consultation channels for follow-ups and second opinions. Mobile healthcare units might support the doctors to improve diagnosis and healthcare delivery in remote locations. They will remain at the forefront of this transformational journey to increase the reach of quality care.

Patient-consumers

Patient-consumers
Leveraging data and platform for quality care

As new devices and technologies empower individuals to see and share their health data, consumers are demanding greater say over their

lifelong health journey. These demands are reshaping not only their interactions with physicians and payers, but also the products and services they use to maintain their well-being. Increasingly, consumers will require the integration of existing disease-specific point solutions and more holistic, data-driven platforms of care.

Today, consumers are urged to take charge of their health but do not have access to tools that can empower them. By offering a medium for the rapid exchange of data, a platform could help them manage and track symptoms, discuss care options and receive education about how to make behavioral changes. Currently, accessing and integrating data is also a challenge as data is stored at multiple locations within the health ecosystem. A digital registry can enable patient record management and may provide patients the power of consent and access to quality care.

Platform providers

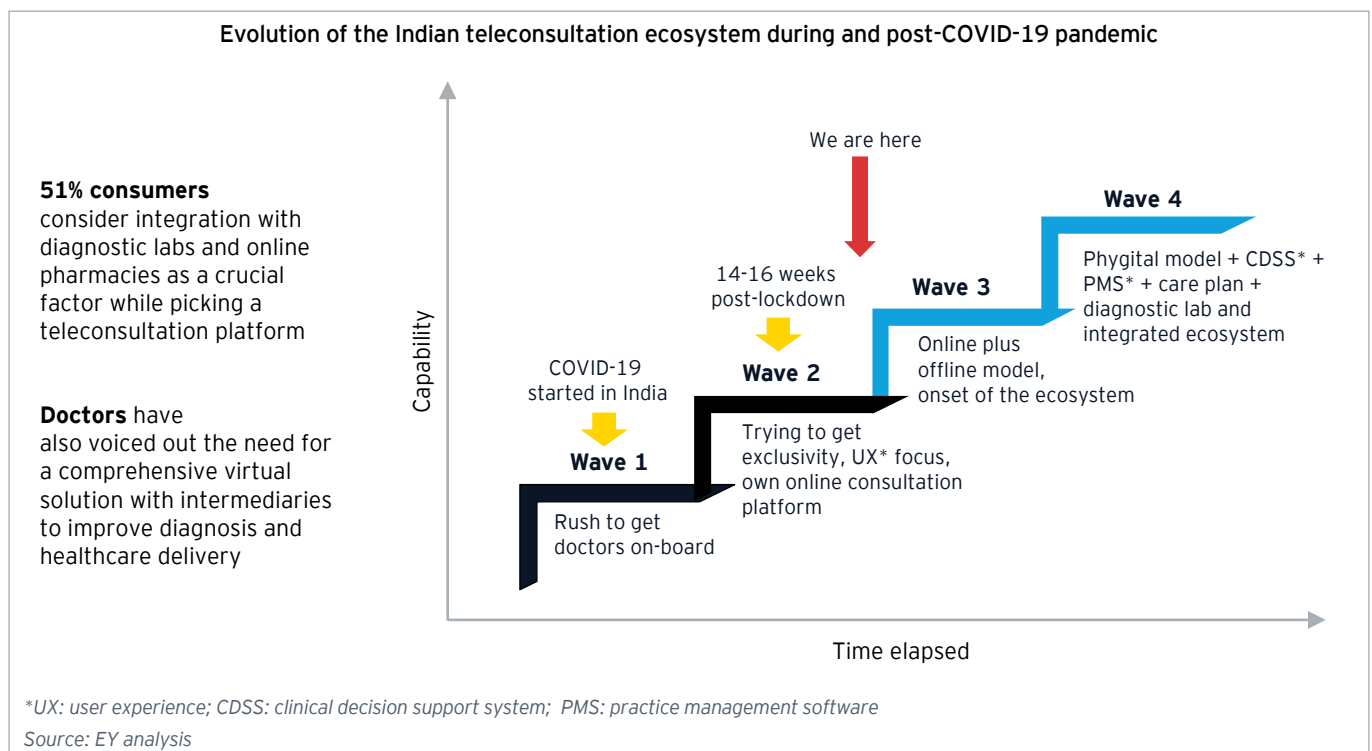


Platform providers
Driving value through integration to cover complete patient journey

A holistic, well-integrated teleconsultation platform covering an end-to-end clinical pathway for the patient-consumer is on the horizon. Swasth has

already integrated health-tech players, hospitals, diagnostic

labs, insurance providers and technology experts with an aim to provide universal and affordable healthcare for the people of India. Pharmaceutical companies and hospitals are partnering with private bodies to launch customized platforms. Multiple pharmaceutical companies are currently in pilot testing phase and aim to launch such platforms soon. The move towards increased online presence is critical in the “new-normal” and we are likely to see pharmaceutical companies make higher investments in such platforms. They have the means to integrate the doctors and the patients with the other stakeholders by leveraging the open source digital infrastructure under development. The teleconsultation model may be up for disruption and the pharmaceutical companies are likely to come together to build a platform to maximize the value for each participant and enable trust and transparency. As the pandemic spreads out, the expectations from new teleconsultation platforms are evolving rapidly and moving beyond just the engagement experience.



Platforms are likely to see increased levels of adoption among patient-consumers as well as doctors if they are constructed on three value drivers:

- Integrated services covering the clinical pathway
- Enhanced quality of care
- Data privacy and trust

Succeeding in the emerging platform environment will require new capabilities related to customer engagement,

personalization and data literacy. The platform provider must collaborate with medical associations and pharmaceutical bodies to enhance the level of trust among all the stakeholders while ensuring an adoption of global best practices for quality care. Partnerships with regulators may help in shaping policies that make expanded volumes of clinical and real-world data more accessible. Close cooperation between platform providers and regulators may also be needed to validate the use of digital technologies to generate future clinical data.

Fulfilment centers



E-pharmacies/diagnostics
Agility through disruptive business models for improved health outcomes

To create a value for the future, life sciences companies must satisfy increased stakeholder expectations by delivering

personalized and improved health outcomes using the power of data. To achieve this goal, life sciences companies need to transform their business models using data to create shared value for themselves and health stakeholders.

A new business model may emerge where the last mile of mobile medical units might be required to curb the social distancing and safety issues. The businesses such as e-pharmacies, offline pharmacies, diagnostic centers, etc. will need to focus on how well they integrate with the teleconsultation platforms to contribute to the clinical journey of a patient-consumer. These organizations will need to invest in disruptive business models with data as the backbone. Success of these businesses will depend on how fast they can develop, test and learn to make their business models scalable.

Regulatory bodies and associations



Regulatory/Industry bodies
Foster regulatory environment for trust and adoption

Regulatory bodies as well as medical and industry associations are encouraging disruptive business

models with adequate policy support. In the past, associations have played a pivotal role in shaping the regulations related to healthcare delivery. Associations will have a dual role to play. They must engage stakeholders such as doctors and pharmaceutical companies to drive adoption and address their concerns through policy making. We expect them to be at the forefront of shaping the laws around digital ecosystem and work actively with the government. In the near term, the Indian Pharmaceutical Alliance (IPA) may create an accreditation standard with ICMR, MCI and other relevant medical bodies for popular telemedicine and e-pharmacy platforms.

Medical associations and industry bodies can further facilitate consumer adoption of virtual-care platforms by highlighting policy reforms to improve doctor-patient relationship. This can be done in the following ways:

- ▶ Highlighting the policy reforms and increasing transparency between teleconsultation and e-pharmacy companies in terms of consent and data protection, anti-substitution, discount structure, drug abuse and guidelines around use of digital equipment for patients' monitoring.
- ▶ Endorsement of a specific set of platforms by the IPA for the members of industry to choose a platform.
- ▶ Emergence of the teleconsultation platform ecosystem enabled by mobile medical units and intermediaries for access, adoption and scalability.
- ▶ Rolling out a more comprehensive structure with telemedicine guidelines for all operators of the open source platforms, Swasth Stack, and an imminent healthcare ecosystem, Jio.
- ▶ Modularization of data and making personal health records (PHR) mandatory on teleconsultation platforms.
- ▶ Setting a clear framework for exchange of health data and protocols to maintain data.
- ▶ Expanding telemedicine guidelines to ensure applicability of portable digital devices to support new operating models.

In addition to this, medical associations and industry bodies can choose to certify platforms to ensure they adopt global best practices. This will propel doctor-patient onboarding and nurture trust.

The change in healthcare delivery is imminent. An ecosystem-based approach can foster quicker development and adoption of teleconsultation platforms. Navigating the emerging collaborative platforms may be challenging for the stakeholders. But the actions accomplished today have the potential of transforming the healthcare system.

EY Contact



Sriram Shrinivasan
Partner
National Life Sciences Leader
Ernst & Young LLP
Email: Sriram.Shrinivasan@in.ey.com



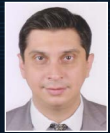
Pramod Sudhindra
Partner
Digital & Innovation Leader
Ernst & Young LLP
Email: Pramod.Sudhindra@in.ey.com



Hitesh Sharma
Partner
National Life Sciences Tax Leader
Ernst & Young LLP
Email: Hitesh.Sharma@in.ey.com



Amit Gupta
Partner
Lead Advisory, Healthcare
Ernst & Young LLP
Email: Amit1.Gupta@in.ey.com



Kaivaan Movdawalla
Partner
Healthcare Performance Improvement
Ernst & Young LLP
Email: Kaivaan.Movdawalla@in.ey.com



Saikat Ghosh
Associate Partner
Pharma Business Consulting
Ernst & Young LLP
Email: Saikat.Ghosh1@in.ey.com



Phalgun Rudrapatna
Director
Pharma Business Consulting
Ernst & Young LLP
Email: Phalgun.Rudrapatna@in.ey.com



Smriti Mishra
Advisor
Health & Life Sciences Sector
Ernst & Young LLP
Email: Smriti.Mishra@in.ey.com



Nitiraj Gandhi
Senior Manager
Healthcare Business Consulting
Ernst & Young LLP
Email: Nitiraj.Gandhi@in.ey.com



Shobhna Mishra
Assistant Director
Health & Life Sciences Sector Coordinator
Ernst & Young LLP
Email: Shobhna.Mishra@in.ey.com

Drafting and Editing

Tavleen Singh
Senior Consultant
Business Consulting
Ernst & Young LLP
Email: Tavleen.Singh@in.ey.com

Swati Garg
Senior Consultant
Business Consulting
Ernst & Young LLP
Email: Swati2.Garg@in.ey.com

Sumeet Gupta
Senior Consultant
Business Consulting
Ernst & Young LLP
Email: Sumeet1.Gupta@in.ey.com

Dhriti Gandhi
Assistant Manager
Brand, Market & Communications
Ernst & Young LLP
Email: Dhriti.Ranjan@in.ey.com

Design Team

Rajeev Birdi
Manager
Brand, Market & Communications
Ernst & Young LLP
Email: Rajeev.Birdi@in.ey.com

Arif Jamaal
Assistant Manager
Brand, Market & Communications
Ernst & Young LLP
Email: Arif.Jamaal@in.ey.com

Marketing and Communications

Rohila Dhiman
Assistant Manager
Brand, Market & Communications
Ernst & Young LLP
Email: Rohila.Dhiman@in.ey.com

Our offices

Ahmedabad

22nd Floor, B Wing, Privilon,
Ambli BRT Road, Behind Iskcon
Temple, Off SG Highway,
Ahmedabad - 380 015
Tel: + 91 79 6608 3800

Bengaluru

6th, 12th & 13th floor
"UB City", Canberra Block
No.24 Vittal Mallya Road
Bengaluru - 560 001
Tel: + 91 80 6727 5000

Ground Floor, 'A' wing
Divyasree Chambers
11, O'Shaughnessy Road
Langford Gardens
Bengaluru - 560 025
Tel: + 91 80 6727 5000

Chandigarh

1st Floor, SCO: 166-167
Sector 9-C, Madhya Marg
Chandigarh - 160 009
Tel: + 91 172 331 7800

Chennai

Tidel Park, 6th & 7th Floor
A Block, No.4, Rajiv Gandhi Salai
Taramani, Chennai - 600 113
Tel: + 91 44 6654 8100

Delhi NCR

Golf View Corporate Tower B
Sector 42, Sector Road
Gurgaon - 122 002
Tel: + 91 124 443 4000

3rd & 6th Floor, Worldmark-1
IGI Airport Hospitality District
Aerocity, New Delhi - 110 037
Tel: + 91 11 4731 8000

4th & 5th Floor, Plot No 2B
Tower 2, Sector 126
NOIDA - 201 304
Gautam Budh Nagar, U.P.
Tel: + 91 120 671 7000

Hyderabad

Oval Office, 18, iLabs Centre
HITECH City, Madhapur
Hyderabad - 500 081
Tel: + 91 40 6736 2000

Jamshedpur

1st Floor, Shantiniketan Building
Holding No. 1, SB Shop Area
Bistupur, Jamshedpur - 831 001
Tel: + 91 657 663 1000

Kochi

9th Floor, ABAD Nucleus
NH-49, Maradu PO
Kochi - 682 304
Tel: + 91 484 433 4000

Kolkata

22 Camac Street
3rd Floor, Block 'C'
Kolkata - 700 016
Tel: + 91 33 6615 3400

Mumbai

14th Floor, The Ruby
29 Senapati Bapat Marg
Dadar (W), Mumbai - 400 028
Tel: + 91 22 6192 0000

5th Floor, Block B-2
Nirlon Knowledge Park
Off. Western Express Highway
Goregaon (E)
Mumbai - 400 063
Tel: + 91 22 6192 0000

Pune

C-401, 4th floor
Panchshil Tech Park
Yerwada
(Near Don Bosco School)
Pune - 411 006
Tel: + 91 20 4912 6000

Ernst & Young LLP

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