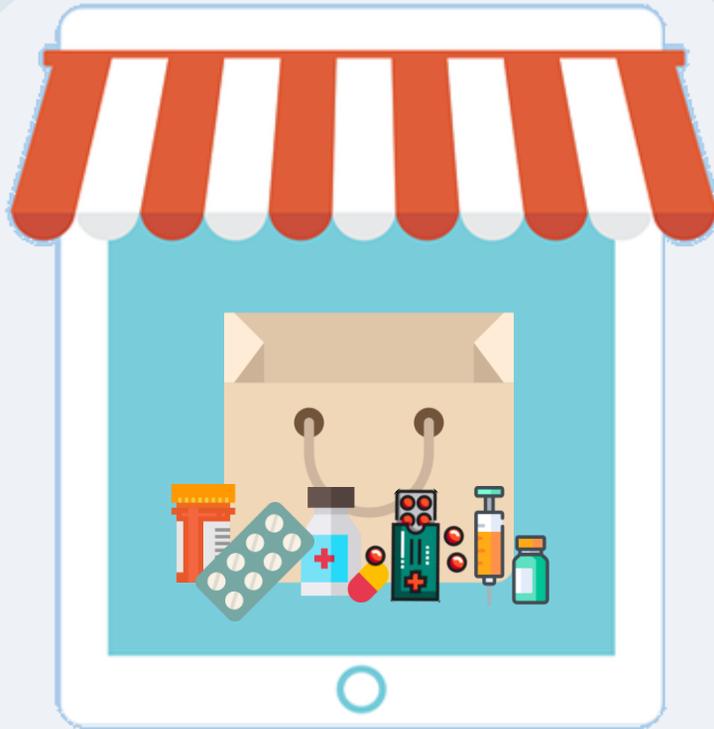




IN THE SPOTLIGHT:

e-Pharmacy in India

An Exponential Growth Opportunity

**1**

INDIAN HEALTHCARE IS WITNESSING AN UNPRECEDENTED POSITIVE TRANSFORMATION

2

UNDERLYING FUNDAMENTALS, OPPORTUNITIES, AND OUTLOOK FOR KEY SUB-SECTORS IN PHARMACY

3

EVOLVING PLAYERS IN e-PHARMACY MARKET IN INDIA

4

CREATING LONG TERM VALUE AND SUSTAINABLE IMPACT

1

**INDIAN HEALTHCARE
IS WITNESSING AN
UNPRECEDENTED
POSITIVE
TRANSFORMATION**



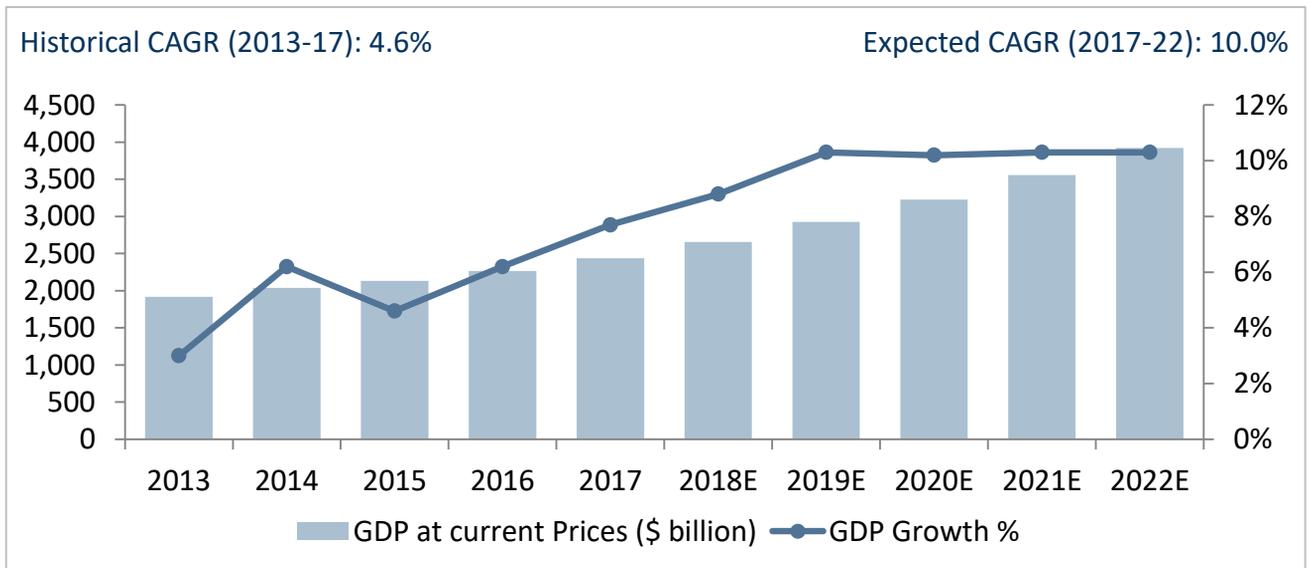
A Growing Challenge: To provide healthcare services to 1.35 billion people

India is set to be the third largest economy in the world by 2050

1.1 Gross Domestic Product (GDP)

India is the world's sixth largest economy by nominal GDP and the third largest by Purchasing Power Parity (PPP). Its GDP at current prices (in US \$ terms) has expanded at a compound annual growth rate (CAGR) of 5.4% from 2010 to 2017, making it the second fastest growing major economy in the world after China [Source: Central Statistics Organization (CSO) and International Monetary Fund (IMF)]. The country recorded a GDP of US \$2,439 Billion in 2017. Its strong democracy, industrial growth, and strategic relations (both regional and global) are expected to drive future growth, pushing its GDP to US \$3,924 Billion by 2022 and thereby making it one of the top three economies of the world over the next 10-15 years (Source: IMF).

Exhibit 1.1: India's GDP at Current Prices and GDP Growth (2013-2022E)



Source: International Monetary Fund (IMF) & World Bank Data.

India's GDP at current prices in US \$ terms is expected to reach US \$3.9 Trillion by FY22 and achieve upper-middle income status backed by digitization, globalization, favourable demographics, and reforms.

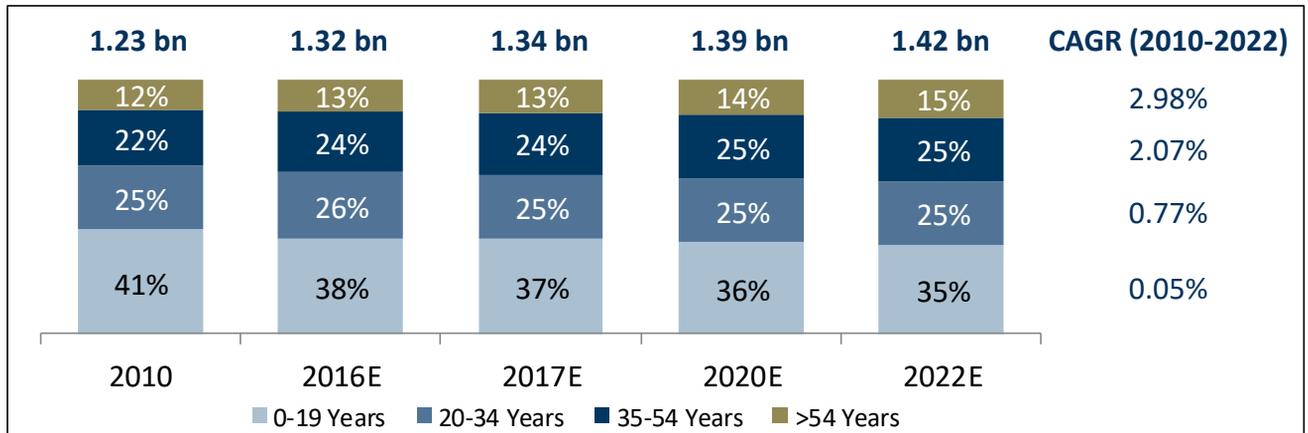
India is expected to be the world's third largest economy in terms of consumption, which is estimated to be triple by 2025, aided by the shift in consumer behaviour and expenditure patterns. We believe that owing to reforms like liberalization, simplified regulations, increasing role of the private sector, and opening up of the economy to competition, the country's equity market is well positioned to become the world's third largest. Our view is strengthened by India being among the only two developing countries to feature in the top-10 emerging economies with advancing trends.

Increasing ageing population base with a higher predisposition to chronic diseases

1.2 Population by Age Groups

12% of the total Indian population was estimated to be above the age of 54 years in 2010. This number is expected to increase to 14% by 2020. We expect the ageing population base and its predisposition to various chronic diseases to stress healthcare resources in the near future and pose a serious challenge to the idea of healthcare access for all. We also expect this to reemphasize the need for development of healthcare infrastructure for all levels of care delivery—primary, secondary, and tertiary.

Exhibit 1.2: Age Group Wise Classification of Population (2010-2022E)

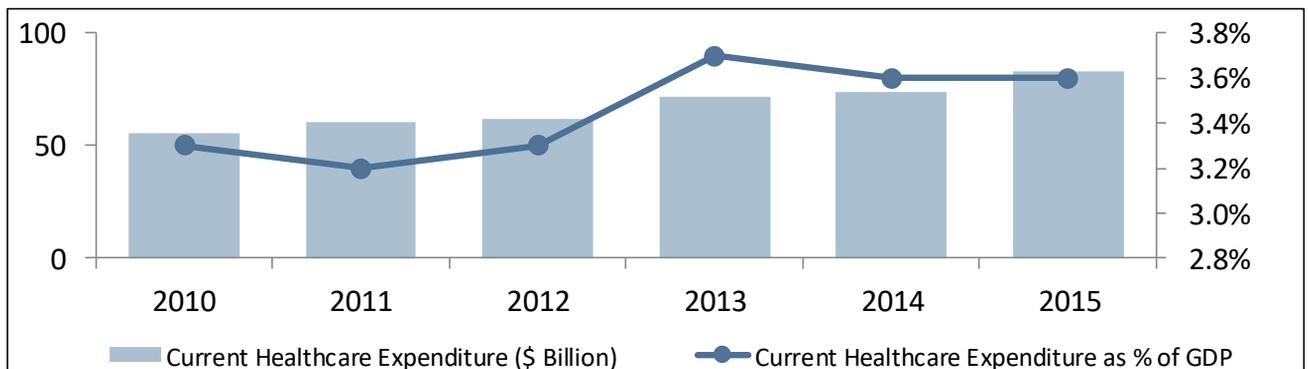


Source: United Nations Population Division, World Population Prospects (2017 Revision), Frost & Sullivan Analysis

1.3 Healthcare Expenditure

India's Total Health Expenditure (THE) stood at \$91.7 Billion in 2015. The total expenditure on healthcare constitutes current healthcare expenditure and capital healthcare expenditure incurred by government and private sources including external / donor funds. Current Healthcare Expenditure (CHE) for India stood at \$82.9 Billion for 2015, whereas the capital healthcare expenditure was at \$8.75 Billion, as per a report released on National Health Accounts by the WHO in October 2017.

Exhibit 1.3: India's Current Healthcare Expenditure and Healthcare Expenditure as a % of GDP (2000-2015)



Source: World Health Organization Global Health Expenditure database, October 2017

Fast Paced Economy with 1.3 Billion Population Poses a Huge Opportunity for Healthcare Sector



INDIA

US \$ 3.9 Trillion

Size of Indian economy by 2022

10%

Expected GDP Growth rate 2017-2022

3rd

Largest economy in world by 2050

US \$ 91.7 Billion

Total healthcare expenditure in 2015

US \$ 273 Billion

Healthcare market size by 2020

437 Million

No of lives covered by health insurance (2016-17)

2

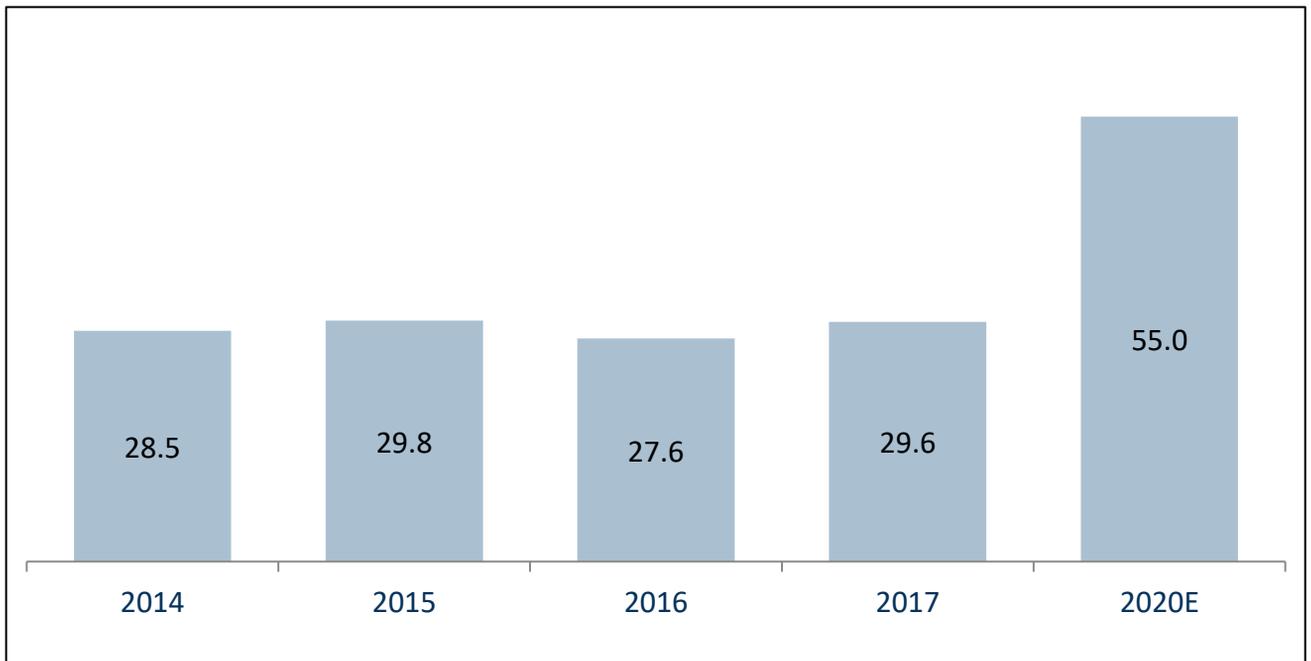
UNDERLYING FUNDAMENTALS, OPPORTUNITIES, AND OUTLOOK FOR KEY SUB- SECTORS IN PHARMACY



2.1 Indian Pharmaceutical Industry Market Size and Growth

The Indian pharmaceuticals market is the third largest in terms of volume and 13th largest in terms of value, globally. This market grew from US \$28.5 Billion in 2014 to US \$29.6 Billion in 2017. It is expected to grow at a CAGR of 11.3% and reach US \$55 Billion by 2020. This growth will be primarily driven by the high burden of disease, good economic growth leading to higher disposable incomes, improvements in healthcare infrastructure, and improved healthcare financing, to name a few. India is expected to be among the top three pharmaceutical markets by incremental growth and the sixth largest market globally in absolute size by the end of 2020.

Exhibit 2.1: Revenue for the Indian Pharmaceutical Sector (US \$ Billion)



Source: Frost & Sullivan

2.2 Retail Pharma Market

The retail pharma market in India is currently at a promising stage with its three broad segments of generic drugs, over-the-counter (OTC) drugs, and patented products. Generic drugs form the largest segment, with around 70% market share in terms of revenue. OTC medicines and patented drugs constitute 21% and 9% shares, respectively, of the total market.

The domestic pharma retail market, valued at around US \$17,643 Million (INR 119,641 Crores) in 2017, is primarily driven by the anti-infective market with a 15.2% share, the cardiac drugs market at 12.5%, the gastrointestinal drugs market at 11.8%, the vitamins / minerals / nutrients market at 8.8%, and the anti-diabetic market at 8.1%.

1 US \$ = INR 67.8

2.3 Challenges for Retail Pharmacy

Low Industry Margins



Retail pharmacy is a highly fragmented and competitive industry with ~8,00,000 registered retail outlets across the country. Drugs are bought in smaller quantities by these retail stores from drug distributors at high prices which in turn reduces their profit margins.

Sustainability of the Industry



Due to increased competition and rising pressure on price controls, the sustainability of the retail pharmacy industry is at risk due to the already lower profit margins. Technology adoption can help this industry to increase productivity and provide value-added services to consumers.

Drug Abuse



Allegations of medicine sales without prescriptions are levied at retail pharmacies. This has led to significant number of cases of drug abuse.

Counterfeit Medicines



Retail pharmacies in India are alleged to sell sub-standard and fake medicines, thereby increasing the risk of adverse effects.

Documentation/Tracking



Sale of drugs also happens without providing bill / invoice for the purchase, affecting the amount of tax collected. Poor documentation of prescription drug sales is therefore impacting the drug recall process.

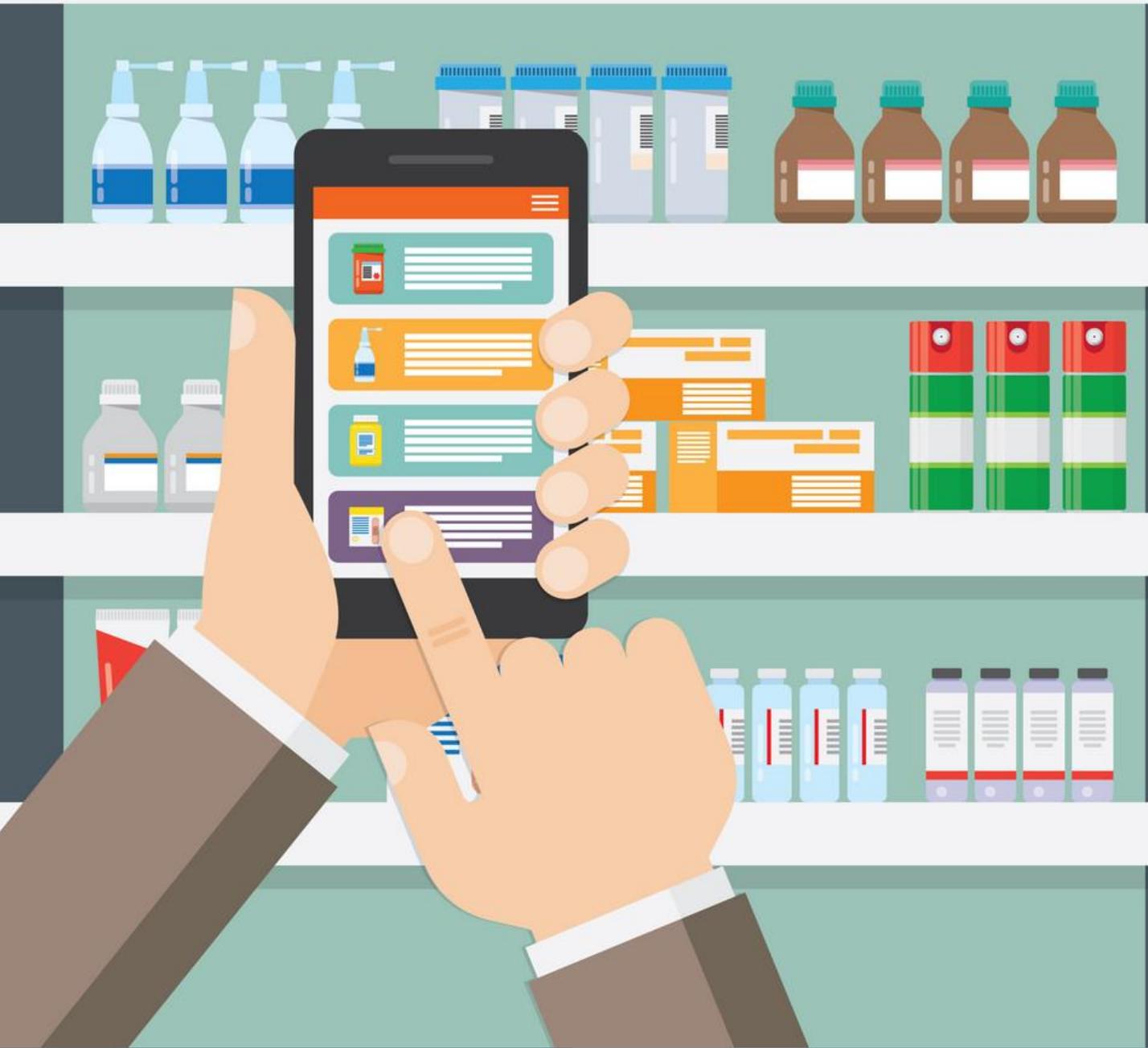
Poor Inventory Management



In India, it is generally not feasible for a single pharmacy to store a wide range of products, which forces consumers to visit multiple pharmacies for procuring all their medicines.

Currently, the retail pharmacy ecosystem has high friction, leading to inefficiencies and high cost to the consumers. Thus, there is a need for a technological upgrade of the model for streamlining the processes. Computerization of pharmacies, recording of transactions, and restricting cash transactions could transform the industry.

PHARMACY

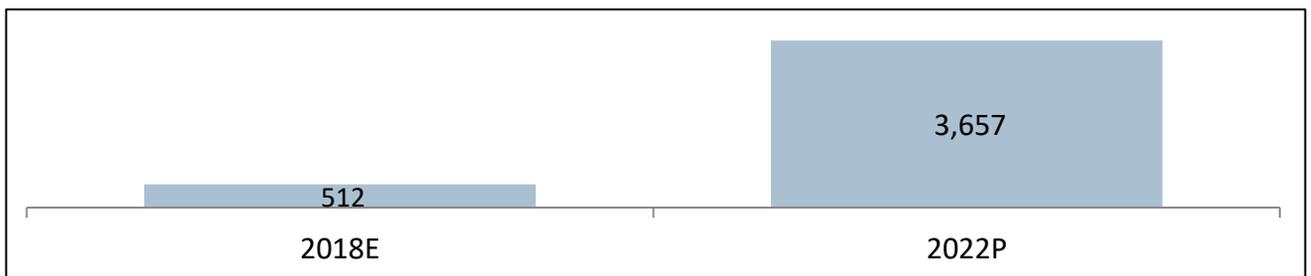


2.4 e-Pharmacy: A Potential Pharmacy Model

e-Pharmacies are online platforms where consumers can purchase medicines without having to visit brick-and-mortar pharmacies. These platforms have improved the convenience of consumers and resulted in a rising demand for the model across the world. In addition, increasing utilization of e-Prescriptions in hospitals globally has also led to the growth of this industry.

According to Frost & Sullivan, the e-Pharmacy market in India is estimated to be around US \$512 million (~INR 3,500 Crores) in 2018 and is estimated to grow at a CAGR of 63% to reach US \$3,657 million (~INR 25,000 Crores) by 2022. The global e-Pharmacy market is currently led by North America and Europe. However, the major opportunity lies in addressing the vast unmet needs of the developing Asia Pacific market.

Exhibit 2.2: e-pharmacy market in India (US \$ million)

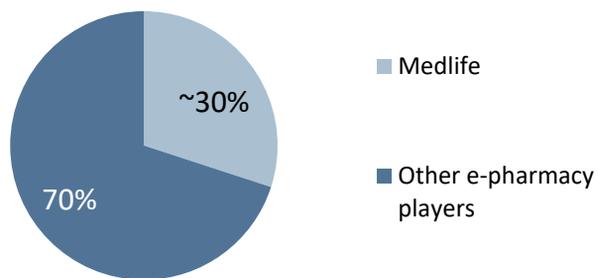


Source: Frost & Sullivan, Economic Times (dated 7 December 2018)

e-Pharmacy is at its nascent stage in India, but like other categories, has the potential to be a very large industry segment in the near future. The online purchase of medicines is gaining momentum in India. The advent of online pharmacy retailers in the Indian market will further the penetration of the organized pharmacy segment. It is expected that the e-Pharmacy model could account for 15%-20% of the total pharma sales in India over next 10 years, largely by enhancing adherence and access to medicines for a majority of the under-served population.

Currently, many e-Pharmacy players such as Medlife, Netmeds, 1MG, Pharmeasy, Myra, CareOnGo and Pharmasafe operate in this segment. Medlife is currently a leading player with about 30% market share of the total e-pharmacy market in India³.

Exhibit 2.3: Market share of leading e-pharmacy players in India (%)



1. CII, 'e-Commerce in India A Game Changer for the Economy' (April 2016) 7

2. 'Indian ecommerce market to grow fastest globally over 3 years: Morgan Stanley'

3. <https://www.medlife.com/blog/medlife-ceo-discloses-future-plans-major-investments-made-ipo/>

2018 - 1 US \$ = INR 68.36

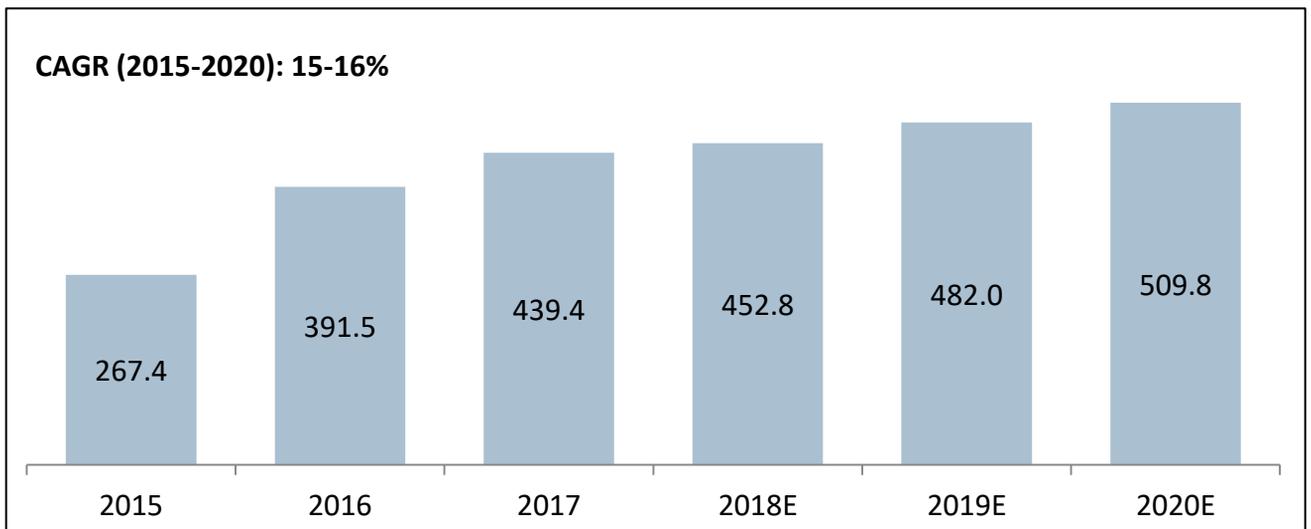
2022 - 1 US \$ = INR 68.36

1. Rapid internet penetration in India

Internet penetration in India has risen significantly in recent years and the total Internet subscribers set to increase at a CAGR of 15-16% from 2015 to 2020. Mobile Internet has led this growth, driven by the proliferation of Internet-enabled mobile devices and 4G deployments by telecom providers.

The top nine Indian cities account for 35% of all urban Internet users. With improving broadband connectivity under the 'Digital India Program', the number of Internet users is expected to increase substantially. Smartphone users, who will transact digitally, are expected to grow to 600 million in the next five to seven years.

Exhibit 2.4: Internet Users in India (Million)



Source: TRAI

2. Digital India Initiative

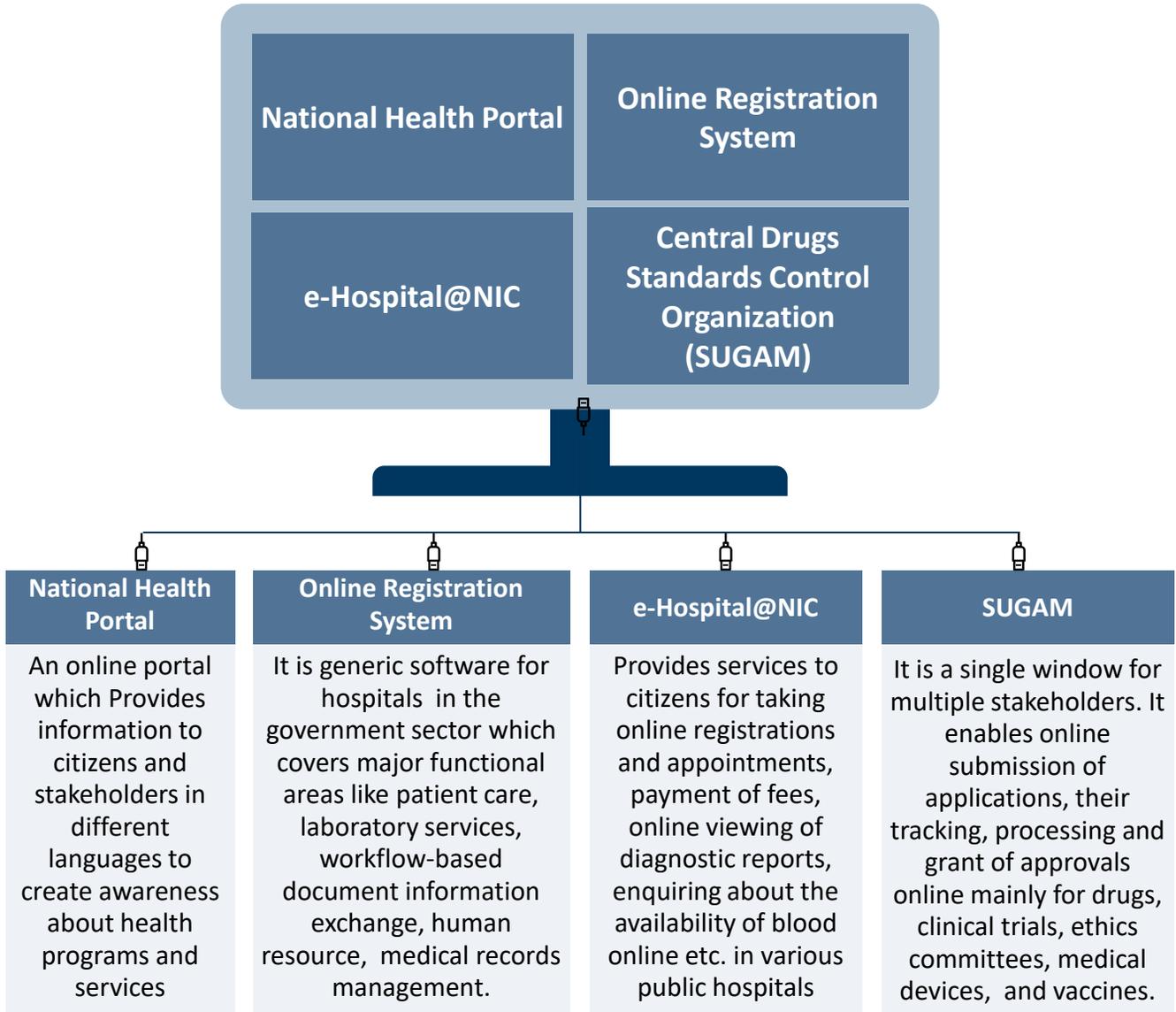
Digital India is a flagship program of the Indian Government with a vision to transform the country into a digitally empowered society and knowledge economy. It is a campaign launched to ensure the Government's services are made available to citizens electronically by way of improved online infrastructure and by increasing Internet connectivity or by making the country digitally empowered in the field of technology.

The fundamental objective of this program is to digitally connect every corner of the country, including smaller towns and remote villages, with high-speed Internet. It aims to empower citizens to avail services with more ease and to conveniently interact with the Government. This initiative is expected to not only boost the country's economic growth but also improve the lives of its citizens.

3. e-Healthcare Initiatives by the Government

The Ministry of Health & Family Welfare has undertaken various initiatives using Information & Communication Technologies (ICT) for improving the efficiency and effectiveness of the public healthcare system. Some of the initiatives are depicted in the exhibit below.

Exhibit 2.5: Government initiatives for e-Healthcare



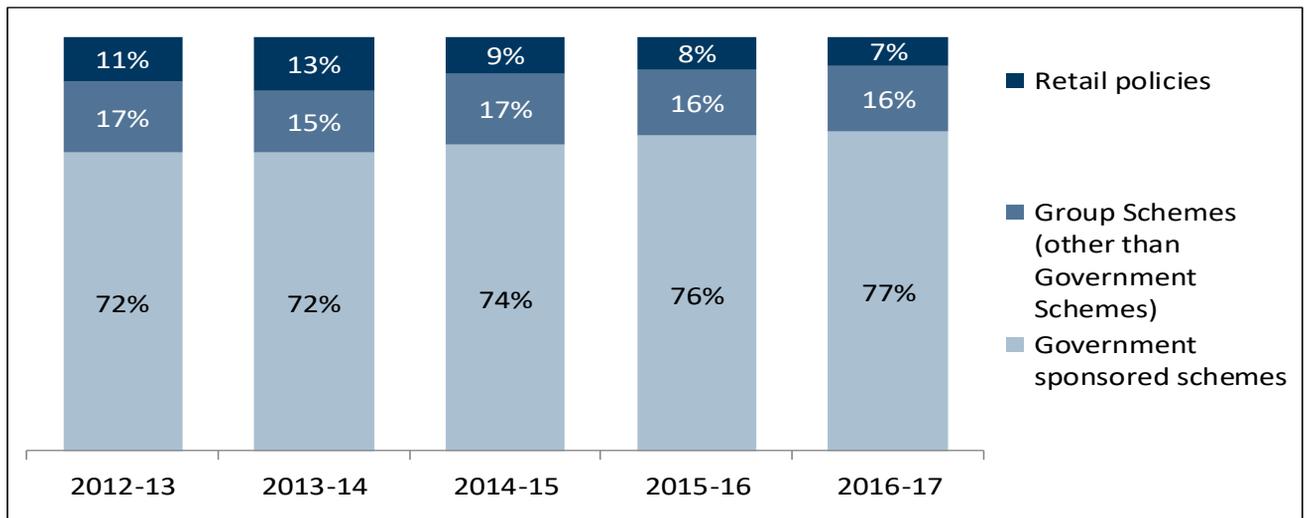
Source: Frost & Sullivan

Along with these initiatives, the National Health Stack is expected to significantly bring down the costs of health protection, converge disparate systems to ensure a cashless and seamlessly integrated system for the benefit of patients. All these government initiatives will bring more and more patient services online and make people familiar with using online health services. This will in turn help private online healthcare providers to sell their services with ease.

4. Increase in Health insurance penetration

The number of lives covered under health insurance in India has more than doubled in the last five years. It stood at 437 Million in 2016-17, registering a CAGR of 20.5% between 2012-13 and 2016-17. Major drivers for this increase are a growth in lives covered by government and group (other than government) schemes in the last three years, which in turn is largely dependent on increased awareness and uptake of insurance products, and rising launches of insurance schemes by various states and the central government. Exhibit 2.5 shows the number of persons covered by various health insurance businesses.

Exhibit 2.6: Number of Lives Covered (in %) by Various Health Insurance Businesses



Source: IRDAI annual report 2016-17

5. Ayushman Bharat Health Insurance Scheme

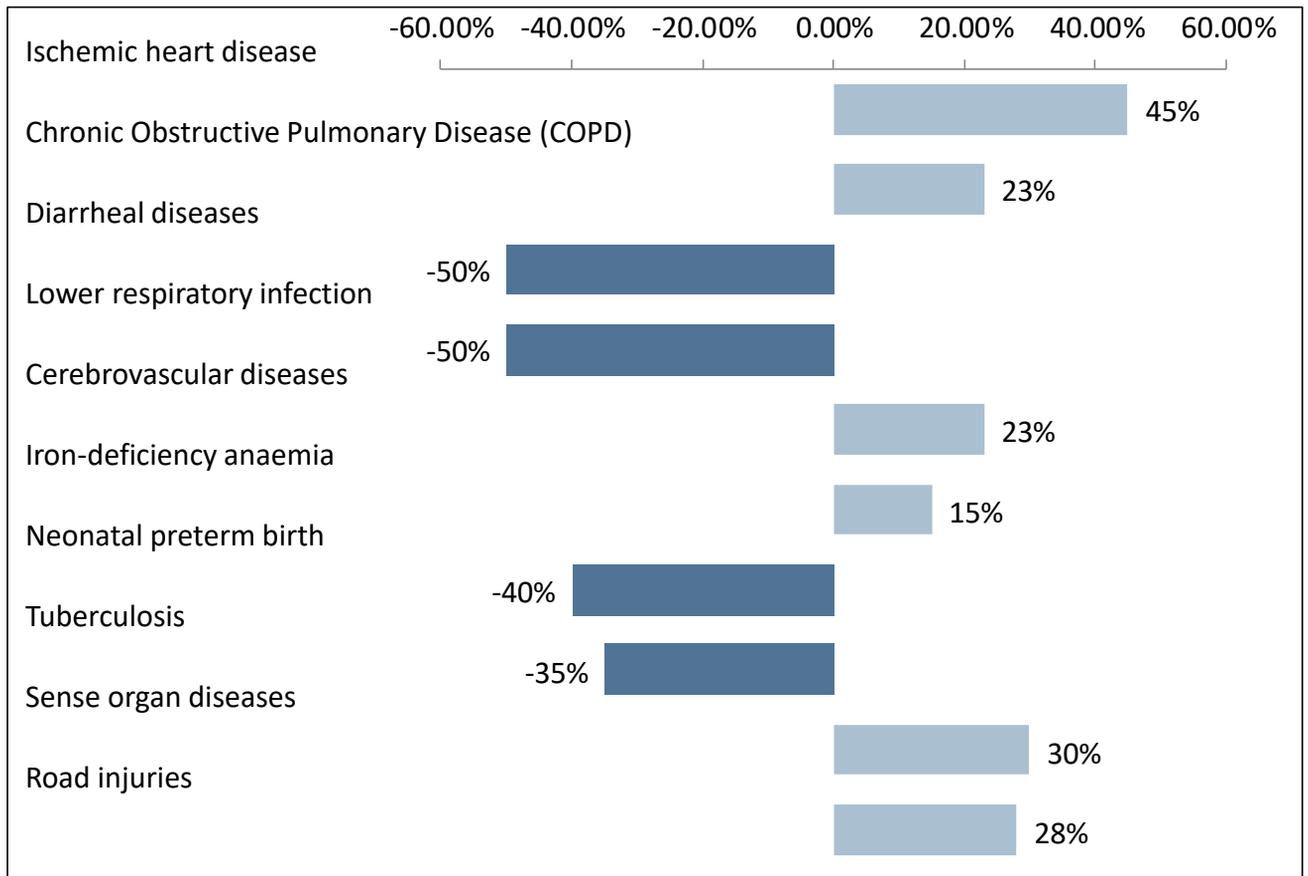
Ayushman Bharat Yojana, or National Health Protection Scheme, is a program which aims to provide a service to create a healthy, capable, and content new India. The scheme is targeted at poor, deprived rural families. 8.03 crore rural families and a further 2.33 crore in urban areas are entitled to be covered under this scheme. It will cover around 50 crore people and will have a defined benefit cover of INR 5 lakh per family.

This increase in health insurance penetration along with new innovative products launched by insurers has led to increased uptake of OPD services. Many e-pharmacy players have started tie-ups with health insurers to provide medicines to the customers at cheaper prices in turn saving the costs for insurers and keeping their claim ratio under check. Also, more and more health insurers are increasingly promoting the customers to buy medicines through e-Pharmacy portals.

6. Changing disease patterns in India

There has been a major epidemiological transition in India in the last 25 years, and the focus has shifted from communicable to non-communicable diseases (NCDs). The morbid population base with diabetes and hypertension in India is expected to rise to 263 Million by 2020. However, many do not seek medical help due to a lack of awareness and the high cost of treatments. An estimated 77.2 Million people in India were pre-diabetics as of 2014. Exhibit 2.6 shows the Top ten diseases causing the highest mortality and morbidity in India.

Exhibit 2.7: Top ten diseases causing the highest mortality and morbidity in India, 2016



Source: Global burden of diseases, Healthdata

The precursors to some of these diseases are linked to conditions which are preventable; some of those are diabetes and hypertension, which have been on a rise due to changing lifestyles. This shift in disease pattern towards chronic diseases has led to increased demand of daily medicines to be taken over long term. e-Pharmacies provide cost benefits to chronic disease patients by supplying medicines at lower cost than retail pharmacies along with providing regular reminders for replenishing medicines in turn leading to increased drug compliance



7. Foreign Direct Investment (FDI) policy

The Union Cabinet has given its nod for amending the existing FDI policy in the pharmaceutical sector and allow FDI up to 100% under the automatic route for the manufacturing of medical devices subject to certain conditions. This has helped in ensuring (i) continuous availability and supply of drugs, (ii) non-discontinuance of essential medicines, and (iii) an increased supply of drugs over a period of time.



8. Single Window Approval

In March 2018, the Drug Controller General of India (DCGI) announced its plans to start a single-window facility to provide consents, approvals, and other information. This process will aid the 'ease of doing business'. The move is aimed at giving a push to the Make in India initiative.



9. Increased Spending on Medicines

Medicine spending in India is expected to increase at a 9-12% CAGR between 2018 and 2022 to US \$ 26-30 billion, driven by increasing consumer spending, rapid urbanization, rise of NCDs, and raising healthcare insurance among others.



10. Growth in Healthcare Financing Products

With the increase in awareness levels, growth in per capita income, changes in lifestyles due to urbanization, and the rise in literacy levels, the demand for advanced medical treatment is expected to increase. Moreover, growth in the middle class population would further influence the demand for pharmaceutical products.



11. Booming Indian Economy

India is the world's sixth largest economy by nominal GDP and the third largest by purchasing power parity (PPP). It's GDP at current prices (in US \$ terms) grew at a CAGR of 5.4% from 2010 to 2017, making it the 2nd fastest growing major economy in the world after China [Source: Central Statistics Organization (CSO) and International Monetary Fund (IMF)]. Its strong democracy, industrial growth and strategic relations (regional and global) are expected to drive future growth such that it is set to become one of the top three economic powers of the world over the next 10-15 years (Source: IMF).



12. Increase in Domestic Demand

With the increase in awareness levels, growth in per capita income, changes in lifestyles due to urbanization, and the rise in literacy levels, the demand for advanced medical treatment is expected to increase. Moreover, growth in the middle class population would further influence the demand for pharmaceutical products.



13. Growing Number of Lifestyle Diseases

There has been a major epidemiological transition in India in the last 25 years, and the disease incidence has increased from communicable to NCDs. This increase in lifestyle diseases like diabetes and hypertension generates a regular and lifelong demand for drugs.



14. Growth in Healthcare Financing Products

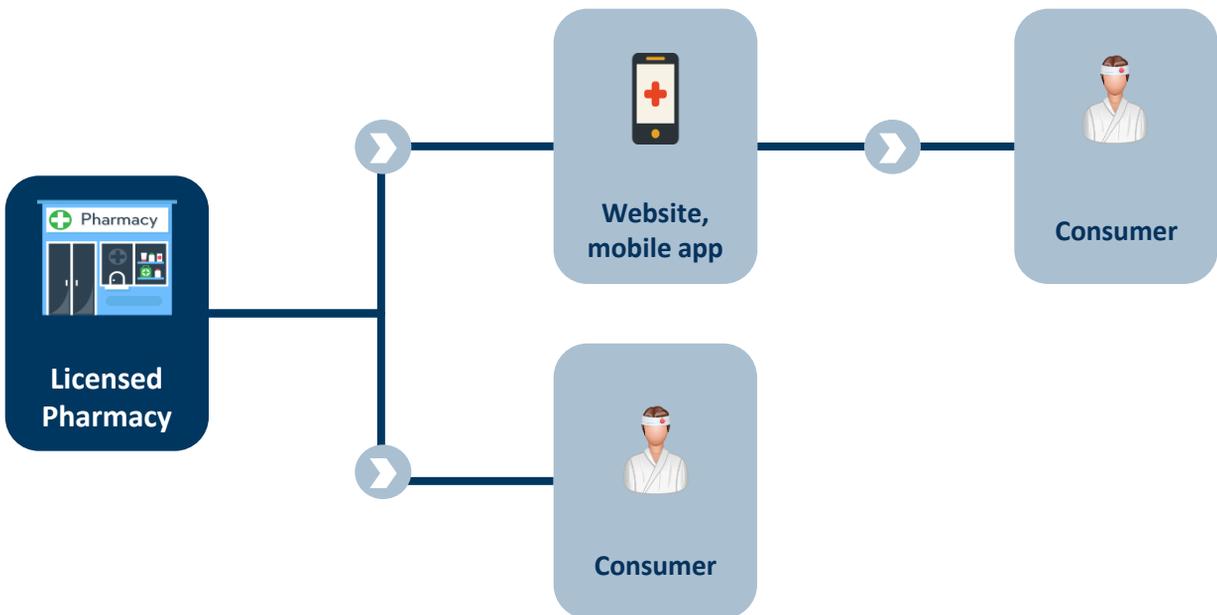
Developments in the Indian financial industry, with the introduction of products such as health insurance policy, life insurance policy, and cashless claims, have eased the financing of healthcare services. This has resulted in an increase in healthcare spending which, in turn, has benefitted the online pharmaceutical industry.

Existing e-Pharmacy Models

1. Inventory-based Model of e-Pharmacy

Inventory-based model of eCommerce means an activity where the inventory of goods and services is owned by the eCommerce company and the products are sold to the customers directly. Similarly, in e-Pharmacies, the e-Pharmacy owns the inventory of medicines / drugs that are stored in warehouses / fulfilment centers across geographic locations. Once orders are received by the e-Pharmacy on its website / app, they are checked by the registered pharmacist. Orders which require a prescription are checked for a valid e-prescription / scanned prescription uploaded by the consumer on the website. Medicines / drugs are not dispensed without a valid prescription. Registered pharmacists wrap the medicines in a tamperproof pack and deliver them to customers through a courier service.

Inventory-based Model of e-Pharmacy



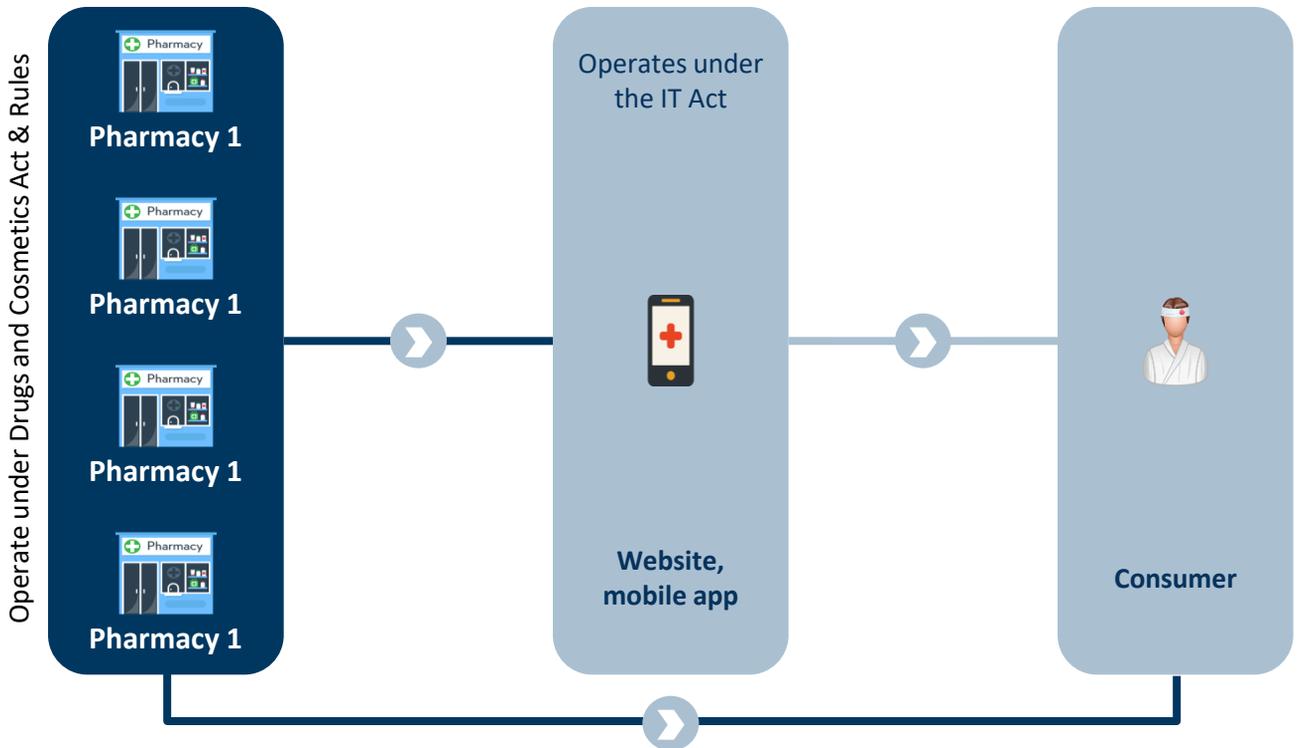
Source: Frost & Sullivan

2. Marketplace-based Model of e-Pharmacy

Marketplace-based model of eCommerce means that the technology companies act as a facilitator between a buyer and a seller. In this model, the e-Pharmacy plays the role of an aggregator. It provides a technology platform that connects the buyers and sellers of medicines. The e-Pharmacy website empanels licensed pharmacies and lists their products. Consumers select the medicines / drugs available on the website / app. The e-prescription / scanned prescription is uploaded on the website / app. The order is passed on to the licensed pharmacy. The pharmacy verifies the order against the prescription and then prepares the order. The orders are cancelled in the absence of a valid prescription. The medicines are then delivered to the customers through a courier service.

e-Pharmacy In India

Marketplace-based Model of e-Pharmacy



Source: Frost & Sullivan

3. Generic eCommerce Marketplace

Generic eCommerce marketplace is a technology-driven electronic platform where a wide variety of products like electronics, fashion, furniture, home furnishings, and cosmetics are sold. This model prohibits the advertisement and sale of prescribed drugs or any drugs, which are in violation of the Drugs & Cosmetics Act. Examples of this marketplace are Flipkart and Amazon.

Risks to Existing e-Pharmacy Models

- **Existing brick-and-mortar chains can establish their presence online:** Brick-and-mortar pharmacy chains like Apollo Pharmacy can establish online portals for selling their drugs. The chains already have a geographical presence in different parts of the country and have an established procurement and delivery process.
- **Established eCommerce players may enter the e-Pharmacy business:** eCommerce players like Flipkart and Amazon can acquire brick-and-mortar pharmacy chains or existing e-Pharmacies to add to their basket of existing products. The eCommerce players already have the supply chain in place. The e-Pharmacy business will substantially add to their profit margins.
- **Evolution of the existing models:** There may be consolidation of the existing e-Pharmacy players in terms of mergers and acquisitions. Dual models like e-Pharmacy in combination with brick-and-mortar stores may evolve.

Regulations for e-Pharmacy

e-Pharmacy Draft Guidelines

The Union Health Ministry released draft rules on the sale of drugs by e-Pharmacies on 28th August 2018 and is awaiting feedback over the next few weeks before finalizing the policy. On 7th December Drugs Controller General of India Eswara Reddy confirmed that The union government is expected to come out with final regulations for the companies selling medicines online by the end of this month

Key Highlights of the e-pharmacy Draft Guidelines

Regulatory Authority



- e-Pharmacies are currently governed by state drug regulators. The draft proposes that the DCGI should be the sole agency granting approvals to e-Pharmacies.
- The DCGI will be regulated under the Drugs and Cosmetics Rules 1945 as well as the Information Technology Act 2000 under which eCommerce companies are regulated.
- Companies operating e-Pharmacies are required to take one license in any state. Any state license will enable the pharmacies to sell drugs all over the country.
- The portal would also have to abide by the provisions of the Drug and Cosmetic Act, 1940. Failing to follow the guidelines could lead to suspension and cancellation of the e-portal.

Registration of e-Pharmacy



- Any person who intends to conduct the business of e-Pharmacies will have to mandatorily apply for registration to the Central Licensing Authority (“CLA”) by filling up Form 18AA along with paying a fee of INR 50,000 (US \$ 7,300) and furnishing the requisite documents through the online portal of the Central Government. Registration is mandatory for the purposes of selling, distributing, stocking, exhibiting, or offering for sale of drugs through the e-Pharmacy portal by any person.
- Registration would remain valid for three years from the date of issue.
- An e-Pharmacy registration holder will be required to make an application for renewal before its expiry or three months before expiry in Form 18AA along with a fee of INR 50,000 (US \$ 7,300) and the requisite documents as specified in Form 18AA.
 - The registration will be deemed to have expired if the application for its renewal is not made within six months after its expiry.
 - The e-Pharmacy registration holder must keep his place open for periodic inspection, every two years, by an authorized team of the CLA.
 - The e-Pharmacy registration holder needs to inform the CLA in writing upon any change in the constitution of the firm operating under the registration.

Verification



- The registered pharmacist must verify the details of the patient, registered medical practitioner, and arrange for the dispensing of drugs as per the instructions of the registered medical practitioner. The details of the drugs dispensed along with the patient details are to be maintained on the e-Pharmacy portal.



DRUGS WHICH CANNOT BE SOLD ON THE E-PHARMACY PORTAL

The e-Pharmacy registration holder must not deal in drugs that are covered under the narcotic and psychotropic categories as referred to in the Narcotic Drugs and Psychotropic Substances Act, 1985.



CONFIDENTIALITY OF INFORMATION GENERATED THROUGH THE PORTAL

The e-Pharmacy will be required to keep all its customer information confidential but will be duty bound to disclose any information to the State or the Central Government, whenever required, for public health purposes.



HELPLINE AND GRIEVANCE REDRESSAL

The e-Pharmacy will be required to keep all its customer information confidential but will be duty bound to disclose any information to the State or the Central Government, whenever required, for public health purposes.



DATA COLLECTION

It is mandatory to establish an e-Pharmacy portal in India and all the data generated is to be kept in the country. The data generated or mirrored through the e-Pharmacy portal cannot be sent or stored, by any means, outside the country.



MAINTENANCE OF THE E-PORTAL

Data to be available on the e-Pharmacy portal Registration issued in Form 21AA, constitution of the firm (details of directors and partners with ownership patterns), official logo of the e-Pharmacy portal, details of the logistic service provider, return policy of the dispensed drugs, etc



ADVERTISEMENT AND PUBLICITY

e-Pharmacies are forbidden to advertise on any media platform like print, television, or the digital medium.



Prashant Singh

Co-founder, Medlife



The government as well the CDSCO is very supportive of e-Pharmacies. There are no regulatory pressures other than expectations of following the laws. The HC judgment too was only with regards to pharmacies selling online who do not carry the valid licenses to dispense and hence operate illegally.



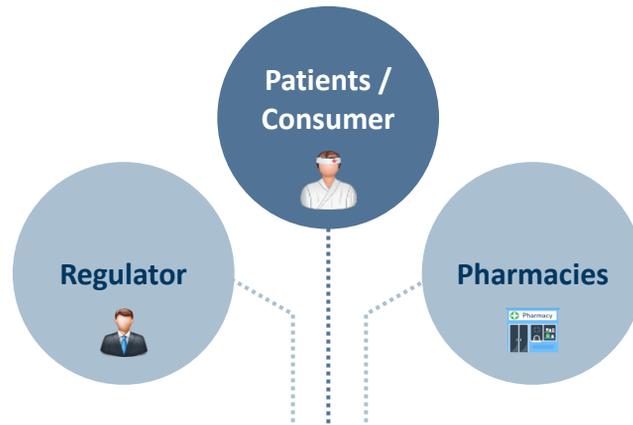
Source: Frost & Sullivan

Retail Pharmacy vs. e-Pharmacy Chains

The e-Pharmacy model presents various advantages over the traditional retail pharmacy model. The advantages range from higher profit margins, keeping a better check on counterfeit / fake drugs, and superior adherence to regulatory checks. The following table enlists a detailed comparison between retail pharmacy stores and e-Pharmacy chains.

Model	Retail Pharmacy Stores	e-Pharmacy Chains
Profit Margins	<ul style="list-style-type: none"> Single retail pharmacies have low profit margins. Drugs are purchased in small volumes from distributors at high prices, which reduces the profit margin. 	<ul style="list-style-type: none"> e-Pharmacies purchase in bulk directly from companies/ distributors, which enables them to get the drugs at a substantial discount there by increasing their profit margin.
Growth Model	<ul style="list-style-type: none"> Increasing competition from the evolution of branded pharmacy chains and rising pressure on price control has limited the growth of retail pharmacy stores. 	<ul style="list-style-type: none"> Financial backing from the parent company / venture capitalist firms aids e-Pharmacy chains to expand quickly across regions.
Regulatory Control	<ul style="list-style-type: none"> At times, the sale of drugs happen without a valid prescription, leading to significant cases of drug abuse. 	<ul style="list-style-type: none"> e-Pharmacy chains have better adherence to regulations.
Counterfeit / Poor Quality Drugs	<ul style="list-style-type: none"> Sub-standard and fake medicines also get sold through this channel, increasing the risk of adverse effects. 	<ul style="list-style-type: none"> e-Pharmacy chains assure customers of the quality of the drugs and value-added services and discounts.
Documentation / Tracking	<ul style="list-style-type: none"> Sale of drugs without providing a bill / invoice for the purchase affects the amount of tax collected. Poor documentation of prescription drug sales makes it difficult to recall drugs. 	<ul style="list-style-type: none"> The advanced level of information technology enables e-Pharmacy chains to track the drugs at every transaction level.
Inventory Management	<ul style="list-style-type: none"> It is not feasible for a single pharmacy to store a wide range of products, which forces consumers to visit multiple pharmacies for procuring all the medicines. 	<ul style="list-style-type: none"> Apart from storing a wide range of products, the software helps e-Pharmacies to analyse the consumption pattern of customers, enabling them to predict future requirements, thereby leading to efficient inventory management.
Level of Technology	<ul style="list-style-type: none"> Single retail pharmacies generally do not have the resources to invest in advanced information technology software. 	<ul style="list-style-type: none"> e-Pharmacies have the resource to invest in the latest information technology software. Digitalization of pharmacies enables them to record transactions and increase productivity.
Challenges	<ul style="list-style-type: none"> Retail pharmacies are facing the challenges of high rental rates and rising overhead costs combined with the growing threat from online pharmacies. 	<ul style="list-style-type: none"> Consumer loyalty towards retail pharmacy and the growing threat from the rising number of online pharmacies are the key challenges.

Benefits of the e-Pharmacy Model



Benefits of the e-Pharmacy Model to CONSUMERS

1 Increased Convenience

Consumers would be able to order medicines in a convenient manner from their mobile phones or computers. This will significantly help patients who are old and sick and not in a condition to go out to find a pharmacy. e-Pharmacies are also becoming relevant with the growing nuclear family concept, working couples, increasing number of elderly population, and urban development in the periphery of the metro cities.

2 Improved Accessibility

With the use of technology and access to inventory of multiple stores at a time, e-Pharmacies can aggregate supplies, making otherwise-hard-to-find medicines available to consumers across the country. Retail pharmacies can only keep a limited inventory, which results in the consumer having to visit multiple stores to procure the medicines.

Further, e-Pharmacies enable access to rural areas where there is limited presence of retail pharmacy. e-Pharmacies allow the consumer to choose from a wide range of affordable generic equivalents for a particular branded drug, which is not possible in the current offline model.



Online also provides convenience. For the elderly and sick, an online delivery model is crucial as they might have serious mobility issues

Dharmil Sheth

CEO of PharmEasy



Source: Economic Times dated 11 Nov 2018

Benefits of the e-Pharmacy Model to consumers

3 Cost Advantage

e-Pharmacies enable pharmacy entrepreneurs to broaden their customer base while reducing working capital, overhead costs, and increasing margins, which translates into a cost advantage for end consumers.

4 Improved Patient Compliance and Education

e-Pharmacies may provide value-added information to consumers, such as drug interactions, side effects, medicine reminders, and information on cheaper substitutes. This power of knowledge enables the consumer to improve compliance.

5 Authenticity

All medicine purchases are stored digitally, making it easy to track the supply chain, thereby decreasing the risk of counterfeit medicines, drug abuse, and self-medication.



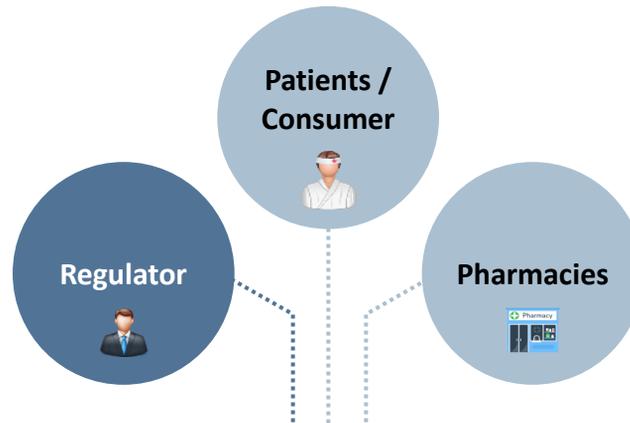
As one of the key agenda of the Government has been to provide easy, quality and affordable access of health services to the consumers, I'm sure that the evolving concept of e-Pharmacy will definitely give an impetus to the health sector of the country.

Dr. A. Didar Singh ”

Former Secretary General FICCI

Source: Frost & Sullivan

Benefits of the e-Pharmacy Model



Benefits of the e-Pharmacy Model to REGULATORS

1 Tracking of Data



All transactions could be efficiently tracked with complete details of the medicines, batch number, dispensing pharmacy name and address, prescribing doctor, name and address of the patient, etc., thereby reducing the problem of drug abuse and self-medication.

e-Pharmacies could store and analyse large amounts of data on consumers across the nation, which would be very useful for planning public health policies.

2 Medicine Authenticity



The technology-enabled tracking systems of the e-Pharmacy model assist in back-tracing the channel / manufacturer / supplier of counterfeit medicines, thereby making the market a lot more transparent and authentic.

3 Documentation and Tax compliance



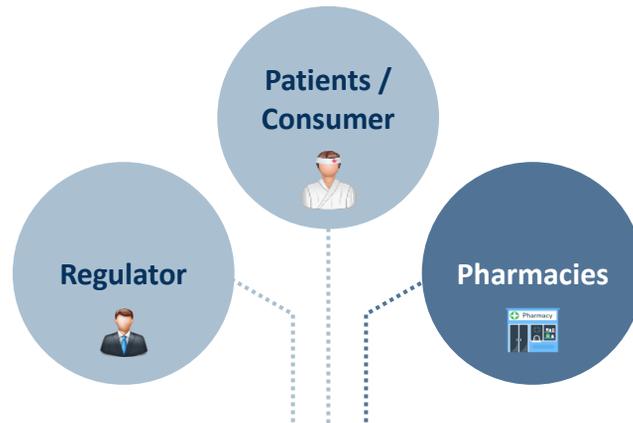
Orders are 100% documented with records of the prescriptions. Every order dispensed through e-Pharmacy has a valid bill and tax to the Government is paid in full. Since the e-Pharmacy model has a stringent documentation process, the taxes paid on all transactions will largely benefit the Government.

4 Innovation



The model will be in sync with the global models, thus spurring innovation in the industry.

Benefits of the e-Pharmacy Model



Benefits of the e-Pharmacy Model to PHARMACIES

1 Additional Business Opportunity for Brick-and-Mortar Pharmacies



An e-Pharmacy model will enable existing pharmacies to enlist their products on the e-portal and serve a broader set of customers, or a network of pharmacies integrating to one platform and accessing a broader customer base across geographic locations.

2 Inventory Consolidation



The e-Pharmacy model ensures consolidation of inventory. This would reduce working capital requirements, remove wastage from the system, and increase margins, thus making the e-Pharmacy a sustainable value-added service model.

3 Enhanced Services of the Pharmacists



The e-Pharmacy model enhances the services of the pharmacists to consumers. Routine questions about medications could be answered by online pharmacists using e-mail or other real-time chat options. Knowledge of a patient's diagnosis, list of drugs the patient is already taking, and established drug monitoring parameters, largely unavailable to pharmacists at present, could be made accessible through this model.

4 Stimulate Upgrades to The Retail Pharmacy Model and the Adoption of Best Global Practices



The e-Pharmacy model can help retail pharmacies to streamline their processes with the aid of technology. It also aids them in creating efficient processes for inventory planning and forecasting as per past consumption patterns. This will help reduce working capital requirements and increase margins, thus making e-Pharmacy a sustainable value-added service model. These practices will modernize the existing pharmacies and help in the growth of the industry.

Status of E-Pharmacy in Other Countries

- The early years of internet pharmacies resemble that of the mail-order patent medicines from the late 20th century with its trade in questionable cures. While scientific advances and improved manufacturing processes allowed for better medicines to be made available to the public, shady cures and practices persisted. By the 1990s the digital marketplace had begun to emerge as a destination for consumers.
- A decade ago US pharmacies started selling medicines online. The growth in demand for lower cost prescription drugs among Americans, and the supply problems faced by Canadian international pharmacies, largely a product of restrictive selling practices of drug companies, led to an increasing number of countries entering the industry. Today, pharmacies in other countries, such as Australia, Barbados, India, Israel, Italy, Mauritius, New Zealand, Singapore, South Africa, Switzerland, Turkey, and the United Kingdom play a larger role in meeting the demand .

Following is the status of e-Pharmacy market in few of the major economies of the world.



United States

- E-Pharmacies are permitted in the US but the Pharmacy must be domiciled within the US. E-Pharmacies must be registered with the Drug Enforcement Administration (DEA) to dispense “controlled substances”, must be compliant with Federal Food, Drug and Cosmetic Act, Federal Controlled Substances Act, and cannot dispense medications that are not approved by the FDA. The pharmacy must comply with state-specific rules in addition to federal rules.
- Prescription drugs can only be sold if the patient submits valid prescriptions. A prescription is only considered valid if issued by an authorized medical practitioner. E-Pharmacies will have to build robust systems in place to verify the accuracy of drug prescriptions that on the face appear to be issued by authorized medical practitioners (e.g. frequent orders of opioids might indicate that patient suffers from drug-abuse and is likely getting his prescriptions from an unethical medical practitioner).
- Patients must have the ability to easily contact e-Pharmacies should they have questions regarding dosage, drug type and/or adverse effects post-drug usage. FDA guidelines suggest that a legal, regulated “e-Pharmacy”:
- Requires a valid prescription
- Provides a physical address in the United States
- Is licensed by the state board of pharmacy in the state and the state where the pharmacy is operating
- Has a state-licensed pharmacist to answer your question

Status of E-Pharmacy in Other Countries



Brazil

- Brazil-based pharmacies fill online orders, but with restrictions. Pharmacy has to be licensed in Brazil. An e-Pharmacy must post its ANVISA (Brazilian Health Surveillance Agency) permit number on its website, which provides a link to a searchable database of licensed Internet pharmacies.
- These pharmacies must be open to the public, with a pharmacist present during all hours of operation.



Canada

- Canada-based pharmacies may fill online orders, but with the restrictions. The licensed pharmacy selling drugs over the Internet must be the website of a brick and-mortar pharmacy with a physical street address. However, there is no national licensure for pharmacies — it happens at the provincial level.
- According to Health Canada, any licensed pharmacy that offers Internet services must meet the standards of practice within its own province.



United Kingdom

- Internet Pharmacies are permitted in the UK but that must be registered with the General Pharmaceutical Council (GPhC).
- The GPhC operates an Internet pharmacy logo scheme to identify legitimate e-Pharmacies so that the public can be sure they are purchasing safe and genuine medicines online. The logo not only provides visual means to help patients identify whether a website is connected to a registered pharmacy, but it will also provide a direct link to the GPhC website. By clicking on the logo, visitors can verify the registration details of both the pharmacy and the pharmacist(s) behind the website.

SUMMARY & INFOGRAPHICS

Factors contributing to growth of the e-Pharmacy Industry in India



01

Internet penetration in India is set to increase at a CAGR of 15-16% from 2015 to 2020, reaching ~510 million users by 2020.



02

Digital India Initiative is expected to boost the country's economic growth along with improving the lives of its citizens.



03

e-Healthcare Initiatives by the Government will bring more and more patient services online and make people familiar with using online health services



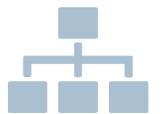
04

The number of lives covered under health insurance in India has more than doubled in the last five years. It stood at 437 Million in 2016-17, registering a CAGR of 20.5% between 2012-13 and 2016-17



05

Ayushman Bharat Health Insurance Scheme is expected to cover 8.03 crore rural families and 2.33 crore in urban areas totaling around 50 crore people to be covered under this scheme.



06

The morbid population base with diabetes and hypertension in India is expected to rise to 263 Million by 2020.



07

Medicine spending in India is expected to increase at a 9-12% CAGR between 2018 and 2022 to US \$ 26-30 billion



08

Developments in the Indian financial industry, with the introduction of products such as health insurance policy, life insurance policy, and cashless claims, have eased the financing of healthcare services

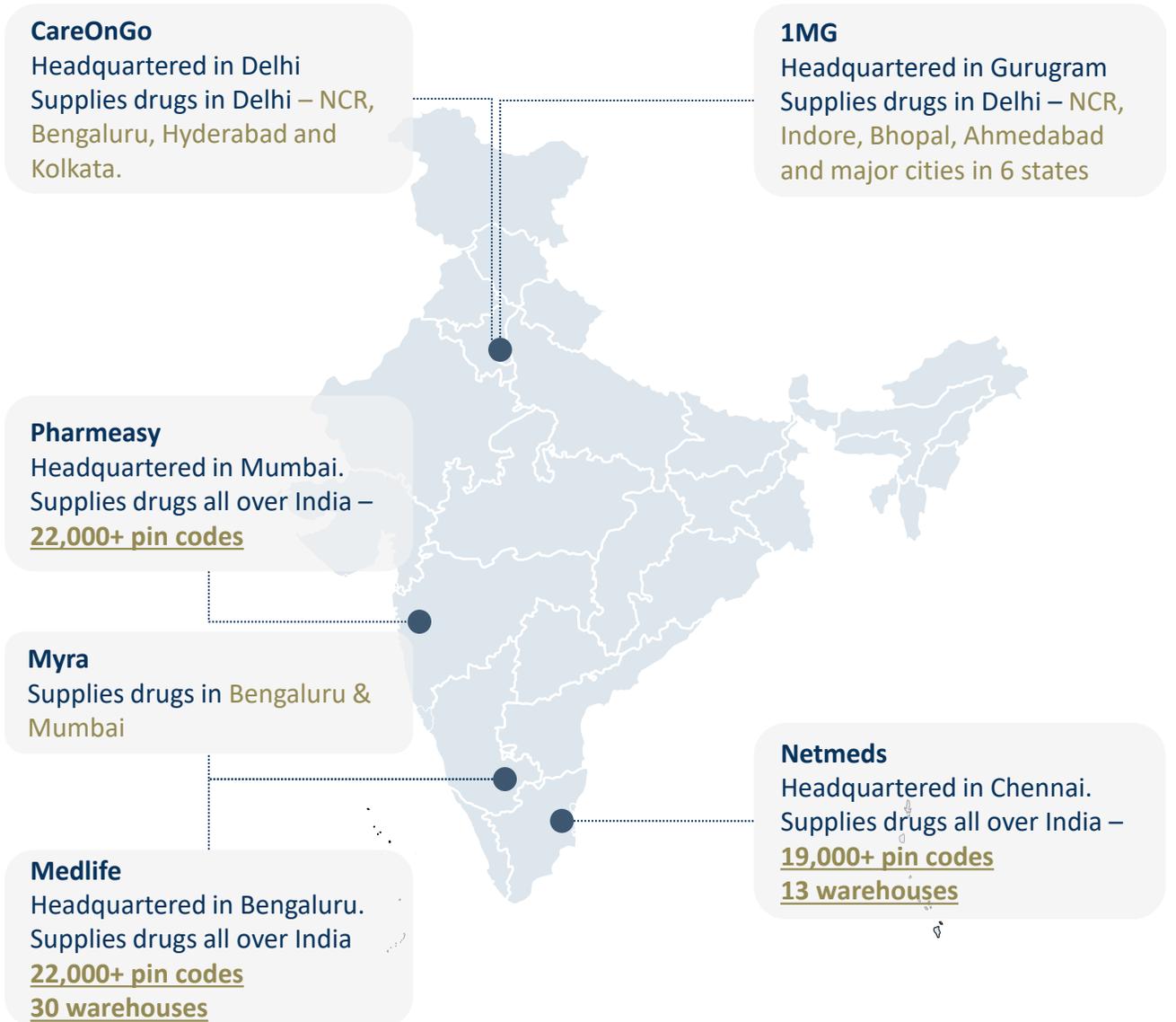


3

LEADING PLAYERS IN e-PHARMACY MARKET IN INDIA



Major e-pharmacy players – Geographic reach



Source: Respective company websites- as on Oct 2018

Geographic reach of major e-pharmacy players

- Medlife and Pharmeasy have the widest reach amongst all the e-pharmacy players delivering medicines to 22,000+ pin codes across the country. Medlife with 30 warehouses has widest reach as compared to its competitors with 13* warehouses for Netmeds.
- Netmeds supplies drugs to all major cities in India with 19,000+ pin codes
- 1 MG delivers prescription medicines and drugs to Indore, Bhopal and Ahmedabad. It also delivers prescription drugs to Delhi – NCR region, and all major cities in Maharashtra, Karnataka, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal. It supplies non prescription, over the counter and health products Pan India.

Source – Hindu business line

* As on Sep 2018

Major e-pharmacy players – Value added services

	Online Consultation	Tie up with Diagnostic laboratories	Appointments with Doctors /Clinics	Health blog
Medlife				
1 MG				
Netmeds				
PharmEasy				
CareOnGo				
Myra				

Blue coloured box denotes that the e-pharmacy player provides corresponding service

Source: Frost & Sullivan

Note : Netmeds has acquired online consultation start-up JustDoc in Sep 2018

Value added services provided by major e-pharmacy players

e-pharmacy players have started offering wide range of value added services like appointments for doctors/clinics, online consultation, health blogs, medicine reminders & refills, tie ups with diagnostic centres, etc. This is helping them to attract more and more customers.



Medlife has been the leaders in terms of value added services by offering a wide range of services like doctor appointments, tie up with laboratories, maintenance of records, health blog, chat, etc.



While, Pharmeasy also offers value added services like online consultation, home sample collection, tie up with laboratories, medicine reminders & refills and helpline.



Medlife



Inception: 2014



Founders: Tushar Kumar and Prashant Singh



Based in: Bengaluru



Parent Company/Vision: Tushar Kumar, son of Prabhat Narain Singh, one of the founders of Alkem Laboratories



e-Pharmacy Model: Inventory based model



Delivery Time: 24-48 hours. Express delivery (2 hours) has recently been started

Geographic Reach:

Medlife supplies medicines Pan India. The most popular cities from which it receives orders are Bengaluru, Mumbai, Kolkata, Delhi, Chennai, Hyderabad, Pune, Ahmedabad, Indore, Allahabad, Durgapur, Faridabad, Agra, Kanpur, Ghaziabad, Gurugram, Gwalior, Howrah, Rajkot, Jabalpur, Jaipur, Bhopal, Kharagpur, Lucknow, Noida, Surat, Vadodara, Thane and Varanasi.



Funding rounds

	Funding
Year	2017
Funding Raised	\$60 million
Investors	Self Funded

Highlights of the model:

Patients can take consultation appointments for doctors in Bengaluru.

It also offers e-consultation, laboratory services, app-based healthcare-related services, private label generics and ayurvedic brand to become an integrated healthcare service provider with a pan-India presence.

Medlife has also expanded by adopting the franchise model.



Source: company website- as on Oct 2018

1 MG



Inception: 2014



Founders: Prashant Tandon, Vikas Chauhan, Gaurav Agarwal



Based in: Gurugram



Parent Company/Vision: The venture was launched by the name 'Health kart Plus' as a part of the Health kart family which focuses on health and nutrition.



e-Pharmacy Model: Market place-based model

Geographic Reach:

1 MG delivers prescription medicines and drugs to Indore, Bhopal and Ahmedabad. It also delivers prescription drugs to Delhi – NCR region, and all major cities in Maharashtra, Karnataka, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal

1 MG supplies non prescription, over the counter and health products Pan India.



Funding rounds

	Series A	Series B	Series C
Year	2015	2016	2017
Funding Raised	\$6 million	\$15 million	\$15 million
Investors	<ul style="list-style-type: none"> Sequoia Capital, Kae Capital, Intel Capital, Omidyar Network MakeMyTrip founder Mr. Deep Kalra 	<ul style="list-style-type: none"> Maverick Capital, Sequoia India Omidyar Network HBM Healthcare Investments 	<ul style="list-style-type: none"> HBM Healthcare Investments Maverick Capital Sequoia India Omidyar Network Kae Capital

Highlights of the model:

1 MG has expanded through acquisitions. In 2015 it acquired a web platform for homeopathic medicine to expand its reach in Ayush medicines. In July 2016 it acquired Medd.in, a diagnostics and imaging tests marketplace. In 2016 it acquired MediAngels to offer consultations, corporate health services and insurance partnership. In 2017 it acquired Dawaillelo, run by DL Lifecare Private Limited which helps users connect with medical stores, doctors and pathology labs through its website and app. It has tie ups with laboratories like Thyrocare, 1mg labs, SRL labs and , Metropolis.



Source: company website- as on Oct 2018

Netmeds



Inception: 2012



Founders: Pradeep Dadha and Bruce Schwack



Based in: Chennai



Parent Company/Vision: In 1914, the Dadha family ventured into pharmaceutical retailing business and entered into drug manufacturing in 1972. The manufacturing unit, Tamil Nadu Dadha Pharmaceuticals, was later merged with Sun Pharma in 1996. The Group sells drugs in wholesale in Kerala and retail in Tamil Nadu. It has now ventured to the online model.



e-Pharmacy Model: Inventory based model

Geographic Reach:

Netmeds supplies medicines all over India.

It has fulfillment centers in Chennai, Bengaluru, Hyderabad, Delhi, Pune, Ahmedabad, Raipur and Kochi.



Funding rounds

	Series A	Series B	Series C
Year	2015	2017	2018
Funding Raised	\$15 million in May and \$50 million in October	\$14 million	\$35 million
Investors	<ul style="list-style-type: none"> Investment banking firm MAPE Dadha family Orbimed healthcare fund management 	<ul style="list-style-type: none"> Tanncam Investment Sistema Asia Fund 	<ul style="list-style-type: none"> Daun Penh Cambodia Group Sistema Asia Fund Sistema JSFC Tanncam Investment

Highlights of the model:

- Netmeds has expanded by acquisitions and by adopting a franchise model. In 2016 Netmeds acquired Delhi-based hyper local drugs delivery app Plus.
- In 2018 Netmeds acquired JustDoc to add diagnostic and telemedicine services to the already existing delivery of drugs and medicines.
- Netmeds is looking to set up offline stores to cater to tier II, III and IV markets. Netmeds is also looking to strengthen its technology platform and warehousing facility to boost online sales.



Source: company website- as on Oct 2018

PharmEasy



Inception: 2015



Founders: Dharmil Sheth and Dhaval Shah



Based in: Mumbai



Parent Company/Vision: The company was started with a vision to deliver genuine medicines at affordable rates by optimizing the supply chain and logistics.



e-Pharmacy Model: Market place-based model

Geographic Reach:

PharmEasy supplies medicines all over India to more than 1000 cities and towns covering 22000+ pin codes all over India.

Popular cities are Mumbai, Delhi, Kolkata, Pune, Bengaluru, Jaipur, Thane and Ahmedabad.

Diagnostic Test services are available in Mumbai including Thane, Navi Mumbai, Kalyan and Dombivali, Delhi with Noida, Gurgaon, Faridabad & Ghaziabad, Chennai, Pune, Ahmedabad and Gandhi Nagar, Surat, Vadodara, Lucknow, Kolkata, Hyderabad, Bengaluru and Jaipur.



Funding rounds

	Series A	Series B	Venture Debt	Series C
Year	2016	2017	2018	2018
Funding Raised	\$5 million	\$16 million and \$2 million.	\$5.56 million (Rs.40 crores)	\$50 million
Investors	<ul style="list-style-type: none"> Ascent Health and Wellness Solutions Bessemer Venture Partners Orios Venture Partners 	<ul style="list-style-type: none"> Bessemer Venture Partners Orios Venture Partners 	<ul style="list-style-type: none"> InnoVen capital 	<ul style="list-style-type: none"> Eight Roads Ventures F-Prime Capital Fundamentum Advisors Think Investments Bessemer Venture Partners

Highlights of the model:

- PharmEasy has medicine reminders, medicine refills (subscription), digital prescription records, free E-Doctor-Consultation, sample collection from home for laboratory tests and easy return policy.
- It has tied up with laboratories like Apple diagnostics, iGenetic Diagnostics, Oncquest Diagnostics, SRL Diagnostics, Dr. Avinash Phadke labs, SRL Diagnostics and Suburban Diagnostics.



Source: company website- as on Oct 2018

CareOnGo



Inception: 2015



Founders: Ritu Singh, Aditya Kandoi and Yogesh Agarwal



Based in: Delhi



Parent Company/Vision: ZotikDelhi a sister concern of CareOnGo, is India's first and largest e-distributor of medicines and general wellness products. It aims to be a one-stop destination for one's pharmacy procurement needs.



e-Pharmacy Model: Inventory based model

Geographic Reach:

CareOnGo services are available only in a few parts in the country. In the northern part of India the services is available in Delhi, Noida, Gurugram, Ghaziabad and Faridabad. The other regions CareOnGo services are available are in Bengaluru, Hyderabad and Kolkata.



Funding rounds

	Seed Funding
Year	2015
Funding Raised	\$300,000 (around Rs 2 crore)
Investors	<ul style="list-style-type: none"> • Farooq Oomerbhoj of FAO Ventures • Anupam Mittal and Anand Mittal of People Group • Ravi Garikipati, Head of Flipkart's Ads Business; • Vibhu Garg, Co-Founder of Unicommerce • Singapore Angel Network • Konglo Ventures

Highlights of the model:

It aims to be a one-stop destination for one's pharmacy procurement needs. It is an aggregator for all distributors. Zotik a sister concern of CareOnGo has partnered with more than 150 brands to provide a seamless one-stop procurement platform to all its partner retailers.



Source: company website- as on Oct 2018

Myra



Inception: 2015



Founders: Faizan Aziz and Aniruddh Coontoor



Based in: Bengaluru



Parent Company/Vision: The founders wish to make medicines accessible at the time of need and also ensuring quick and timely delivery.



e-Pharmacy Model: Inventory based model



Delivery Time: 1 hour



Geographic Reach:

As of now Myra operates only in Bengaluru and Mumbai but plans to expand to other cities. It has its own automated warehouses.

Funding rounds

	Series A	Additional Capital Raised	Individual Investors
Year	2017	2018	
Funding Raised	\$1.86 million (Rs.12 crores)	\$1.2 million (Rs 8.75 crore)	
Investors	<ul style="list-style-type: none"> Dream Incubator Matrix Partners India Times Internet 	<ul style="list-style-type: none"> Tanncam Investment Sistema Asia Fund 	<ul style="list-style-type: none"> Akshay Kothari, CEO of LinkedIn India Nitin Gupta PayU India co-founder and Ola Money CEO, Pranay Chulet,, CEO of Quikr Prashant Malik, LimeRoad co-founder and CTO Vamsi Duvvuri, Vy Capital associate director Former Twitter executive Pankaj Gupta.

Future Expansion Plans:

Myra is planning to expand to other cities with the funds raised.



Source: company website- as on Oct 2018

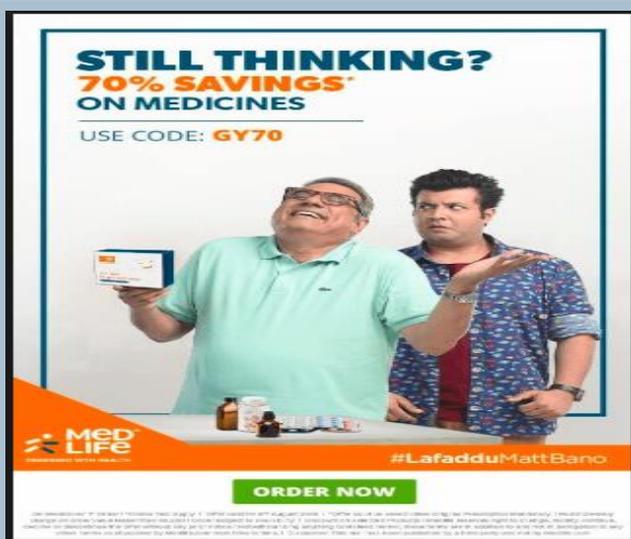
Marketing initiatives

E-pharmacy players in India are undertaking various activities for marketing. e-pharmacy players are allocating high portion of their total expenses to marketing activities.

- e-pharmacy players are using print, digital and television advertising as the major mode of marketing
- Advertising is mainly done through digital media through Whatsapp, Facebook, Instagram and other social media platforms. Few players are dedicating high amount of marketing budgets to social media platforms due to the huge impact they have on the young target customers.
- Many players are offering discounts in the range of 15-70% to attract more and more consumers on their platforms
- Few players are sponsoring big sports events like cricket tournaments. Netmeds has been sponsoring various cricket events like Asia cup.

Medlife

- Medlife offers discounts on products available on their website. It offers up to 50% discount on medicines. The products available are Medicines and over the counter products.
- Advertising is done through print, digital and television advertising.
- "Lafaddu Matt Bano" television campaign was launched in June 2018. The campaign was a major success with significant impact on company revenues during and post the campaign.
- Medlife sales team also has been engaging on ground with Doctors and making them aware of the e-pharmacy services and benefits of ordering medicines online.



Marketing initiatives

1 MG

- 1 MG offers discounts on products available on their website. It offers up to 35% discount on medicines.
- The products available are Medicines and over the counter products.
- Advertising is mainly done through digital media through whatsapp and Facebook. In September 2017 launched a new campaign - The Grandmaster Series - that aims to celebrate the unsung heroes in the field of medicine.



PharmEasy

- PharmEasy offers discounts on products available on their website. It offers up to 35% discount on medicines. It also has tie-ups with mobile wallets to provide discounts.
- The products available are Medicines and over the counter products.
- PharmEasy has used multiple media formats like hoardings, billboards, AC bus wraps, non-Ac bus panels and other Below the line activation including residential welfare campaign like health camps, to promote its offerings. Print and radio campaign to explain the easy of using the online pharmacy. Social media advertising like twitter has also been used.



Marketing initiatives

Netmeds

- Netmeds offers discounts on products available on their website. It offers up to 50% discount on medicines. It also has tie-ups with mobile wallets for cash back.
- The products available are Medicines and over the counter products.
- Netmeds uses the tag line “India Ki Pharmacy.”
- Netmeds has signed M.S. Dhoni as a brand ambassador for their advertising campaign. The campaign aims to establish the brand’s as the most reliable “player” in the online pharma space. The advertising campaign is estimated to be upwards of Rs.50 Crores.
- In September 2018 Netmeds announced its association with the Asia Cup ODI cricket tournament in Dubai.



A promotional banner for Netmeds. On the right, M.S. Dhoni is shown in a blue jacket with "SEV" on it, waving. The banner includes the Netmeds logo and tagline "India ka rakhe khayaal, India ki Pharmacy." Below this, it lists "100+ years' experience in pharmaceuticals", "2,000,000+ loyal users", and "Maximum savings". A central offer states "Up to 55% off only at netmeds.com". At the bottom, there are three offers: "20% Flat Discount* (on all medicines)", "20% Netmeds Supercash* (on all prepaid orders, up to Rs. 3000)", and "amazon pay 15% Cashback* (up to Rs. 500, valid only today!)". A "Use Code: Netmeds55" is also displayed. At the very bottom, it provides the website "www.netmeds.com", app download instructions for Google Play and the App Store, and a contact number "72007 12345".

4

CREATING LONG TERM VALUE AND SUSTAINABLE IMPACT



Healthcare is expected to be massively altered and transformed with technological advancements

Rising burden of Chronic diseases in India



- India is experiencing a rapid transition with the rising burden of chronic non-communicable diseases (NCDs) which currently accounts for around 60% of the total deaths.
- Rapid urbanization, increased motorization, mechanization and sedentary lifestyle, especially among the working age groups, predispose the population to premature NCDs.
- The treatment of chronic diseases commonly includes long-term use of pharmacotherapy. Although medications are effective in combating disease, their full benefits are often not realized because most of the patients do not consume their medications as prescribed.
- According to the WHO, improving adherence to medical therapy for chronic conditions like hypertension, hyperlipidemia and diabetes would yield substantial health and economic benefits to the country.

Lack of adequate Healthcare Infrastructure in India



- Some of the patient-related factors contributing to poor medication adherence include suboptimal health literacy, limited access to care, high medication costs, long waiting times at the healthcare set up or pharmacy, lack of family or social support etc.
- The urban India has seen a transition from a traditional extended family structure to a nuclear family structure which has isolated the elderly and reduced their access to medicines; while, people living in remote villages are required to travel to nearby towns to access the healthcare services, thereby affecting patient compliance.
- Thus, accessibility, affordability and lack of awareness are the major challenges for last mile access to medicines. These barriers could be effectively overcome by adopting technology, specifically the Internet, into the healthcare system.

Technology has a huge potential of bridging the supply demand gap in healthcare space



- With the help of technology, healthcare is expected to be massively altered and transformed to a system where the consumer would be informed and empowered. This shift could be brought about by an e-Healthcare model, which is built around solving problems of the consumer in the most optimized manner.
- At the same time, an online model, operating across the country, to procure healthcare services will ensure organized tracking and recording of the data for audit trails, thus making the healthcare system more structured.
- One of the technology innovations which have positioned itself as an attractive model in the online healthcare space is e-Pharmacy and this model is expected to create a huge demand in the future.

e-Pharmacy model provide price advantage as compared to retail pharmacies

Price comparison of medicines on e-pharmacies and retail pharmacies

Drug	Condition		mg	Price Online (US \$)	Price Offline (US \$)
Aromasin	Breast Cancer		25	78.76	84.11
Docezap	Breast Cancer		120	211.38	232.45
Abraxane	Lung Cancer		100	243.42	251.90
Glucotrol	Diabetes		5	0.16	0.16
Metformin	Diabetes		500	0.26	0.27
Terbutaline	Asthma		0.5	0.48	0.57
Thiazide	Fluid retention		12.5	0.15	0.17
Sulfasalazine	Arthritis		500	0.73	0.79

Source: company websites and Frost & Sullivan

Prices online are 10%-20% lower than in offline. Online players cut out so many of the costs — real estate, inventory, salaries to employees, utilities, intermediaries. The only significant costs that online players have are related to delivery.

For e.g. in cancer, treatment costs could be between INR 12,00,000 (US \$ 175,541) and INR 40,00,000 (US \$ 585,138). And drugs cost between 30-60% of total treatment costs, depending on whether the person undergoes surgery or not. In diabetes, asthma, and arthritis, drug costs can be 70%-80% of treatment costs. So if the drugs cost about INR 25,000 (US \$3,657) a year, a 10%-20% reduction in drug prices can result in lifelong savings for the patient. For cancer patients, price savings could be as much as INR75,000 (~US \$11,000) - INR 3,00,000 (~US \$44,000).



1 US \$ = INR 68.3

e-Pharmacy model will help in implementation of various Government initiatives

Jan Aushadhi Program is an integral part of the country’s plans to create awareness and enable access of affordable medicines to the general population across the country without compromising the quality of medicines. This program is a key part of the Digital Health Program under the Digital India Initiative and will be of immense benefit to the consumers.

- **Help users to find Jan Aushadhi stores in their vicinity**

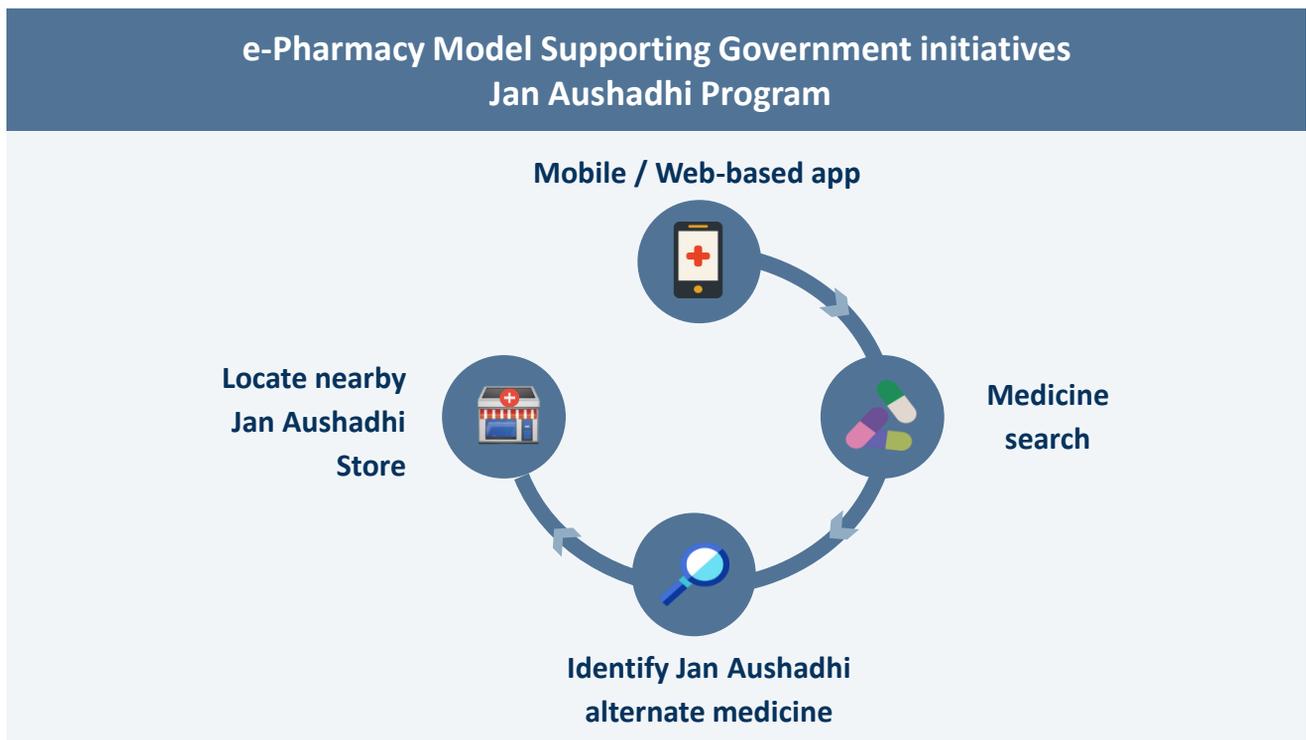
The operating model of e-Pharmacy that has been envisaged will have a mobile and a web-based application, directly linked to the inventory at existing Jan Aushadhi stores, which would help consumers procure their medicines. The platform could enable the users to find Jan Aushadhi equivalents for their prescribed brands and also get information about Jan Aushadhi retail stores in their nearby vicinity.

- **Drive more traffic to Jan Aushadhi stores**

The operating model could facilitate the last mile access of Jan Aushadhi drugs by driving more traffic to the Jan Aushadhi stores; thus making this program a successful and self-sustainable model.

- **Improve delivery of essential health services in rural India**

The e-Pharmacy model could also be effectively aligned to CSC’s goal of improving delivery of essential health services in rural India by improving access, ensuring efficacy, transparency and reliability of the services at an affordable cost.



Express delivery will be a key for e-Pharmacy players for catering to acute disease segment

Express delivery will gain momentum as more and more players enter e-Pharmacy market in India

e-Pharmacy players are competing with each other based on delivering medicines to customers in shortest possible time. While, Medlife has started express delivery promising delivery of medicines in 2 hours of order and Myra promises of medicine delivery within 1 hour of order. Now with delivery time dropping to 1-2 hours will open up the acute disease drug market for the e-Pharmacy players which will be a huge boost to their revenue potential. There could also be synergies and integration between the e-Pharma players extending their brand to brick and mortar models in order to provide for the acute care segment.



e-Pharmacy penetration in tier 2 and tier 3 cities will help in solving the timely availability and accessibility of medicines for people in these areas

Increasing awareness about e-Pharmacies in tier 2 and tier 3 cities along with increased efficiencies in supply chain due to higher number of orders will help e-Pharmacy players to penetrate tier 2 and tier 3 cities. This will help in solving the medicines availability and accessibility issues in these areas.



Increasing health insurance penetration will help in increased usage of e-Pharmacy model

With increasing healthcare insurance penetration in India, insurers are offering various outpatient services and medicines with insurance plans. Insurers are facing cost pressures due to increasing claim ratios. So as to reduce their costs insurers are promoting buying of medicines from e-pharmacies due to their lower costs as compared to traditional retail pharmacies. This trend will help e-Pharmacy players to capture higher market share in coming days.



e-Pharmacy players are setting up Brick and Mortar presence to increase brand visibility

Some e-pharmacy brands are in the process of setting up brick and mortar stores to reinforce their presence and target customers who are not comfortable using the digital platforms.

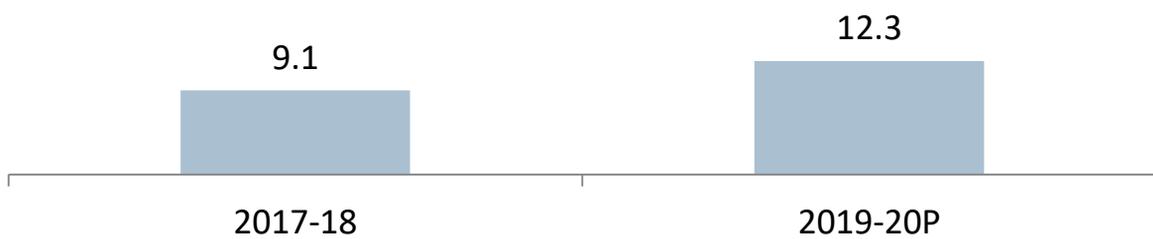


e-diagnostics services offered by e-pharmacy players is expected to be a major disruptor

Diagnostic industry is expected to grow 1.3x times from FY18 to FY20

In the spectrum of healthcare delivery services in India, diagnostic services play the role of information intermediary, providing useful information for correct diagnosis and treatment of patients' diseases. From the year FY15 to FY18, the Indian diagnostic industry is estimated to grow at a CAGR of approximately 16.5% to approximately ₹ 596 billion (US \$ 9.1 billion). For the next two years, it is estimated that the Indian diagnostic industry is expected to grow at a CAGR of approximately 16% to reach ₹ 802 billion (US \$ 12.3 billion) in the year FY20. Within the diagnostic market, pathology segment is estimated to contribute about 58% of total market by revenue in FY18, while the rest 42% is contributed by radiology segment.

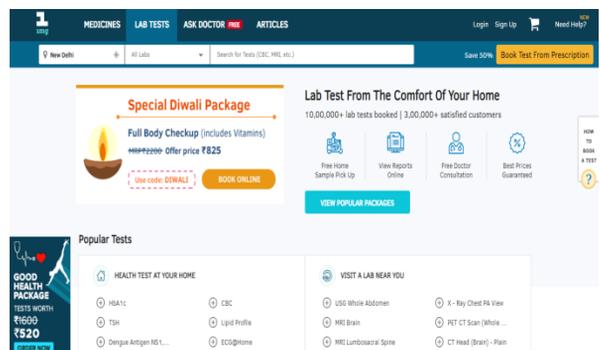
Indian Diagnostic Industry Market size (FY18 to FY20), (US \$ billion)



e-diagnostics revenue stream is expected to be a significant contributor for e-pharmacy players

Many e-pharmacy players in India are trying to integrate other healthcare services like diagnostics, doctor consultations, doctor appointments etc. on their platforms to widen their service portfolio. e-pharmacy players have tie-up with laboratories and offer online booking of diagnostic tests, health packages, home collection of pathology samples. Few players like Medlife have started their own laboratories offering diagnostic services for patients on their e-pharmacy platform. Diagnostic is one of the fastest growing sector in healthcare industry. With e-pharmacy players offering diagnostic services and opening their own diagnostic laboratories, e-diagnostics revenue stream is expected to be a significant contributor for e-pharmacy players taking into consideration the US \$ 12 billion diagnostic market in India by 2019-20.

e-pharmacy players offering diagnostic services on their platforms





E-Pharmacies Evolving As A One Stop Solution For All Healthcare Needs

The e-pharmacies in a bid to maintain and increase their consumer base are providing an additional bouquet of services. Apart from selling medicines/drugs and over the counter healthcare products the e-pharmacies are increasing the number of products and services available on the portal. Furthermore the large user base can be tapped to sell other products and services.



Portal for Appointments for Doctor Consultation

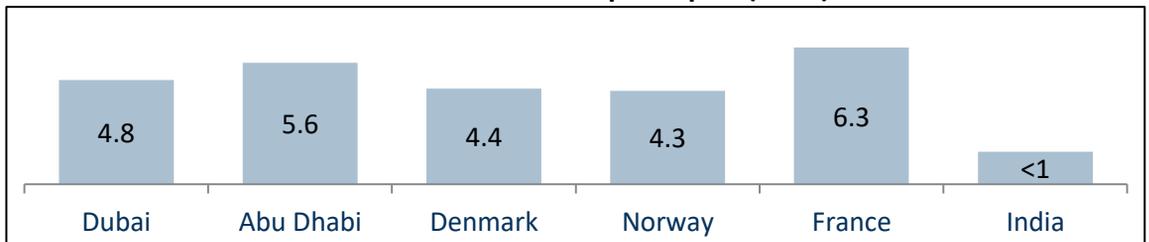
The e-pharmacies have tied up with hospitals, stand alone clinics and individual consultants for appointments. The consumers can take appointments for their doctor consultation from the e-pharmacy website. Thereby the e-pharmacy will replace services offered by portals like Practo, Lybrate, etc.



Providing E-Consultation for the Consumers

In India, the doctor consultation per capita is significantly low as compared to developed countries. With increase overall awareness, increase in insurance coverage and more and more insurers offering health check ups and doctor consultations, the doctor consultation per capita is expected to increase. e-pharmacies have on board registered consultants who provide e-consultation to the patients. This is very useful in remote places where specialist are not available and even for patients who find it difficult to travel for consultations. Furthermore the medicines prescribed by the specialist will be delivered to the patients.

Exhibit 4.2: Doctor consultation per capita (2017)



Source: Frost & Sullivan



Tie-ups with Diagnostic Facilities & Setting Up of Diagnostic Laboratories

E-pharmacies have tied up with diagnostic facilities like existing established laboratories like SRL labs, Dr.Lal Path lab for sample collection. In this manner they are also acting as an aggregator for diagnostic facilities. Some e-pharmacies have also set up their diagnostic laboratories.

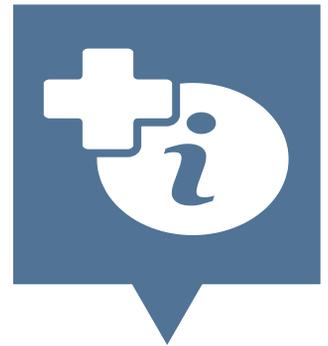
Value added products/services are being offered by e-pharmacies to widen customer base



SELLING HEALTHCARE PRODUCTS

Apart from selling prescription drugs/ medicines the e-pharmacies have products which are not available in the stand alone pharmacy stores. Various health and fitness products are available. Ayush products like Ayurveda and homeopathy products are also available. The e-pharmacies also provide alternative generic products for expensive branded drugs thereby reducing the overall cost of healthcare.

The e-pharmacy websites provide health blogs which provide information about the drugs purchased like indications, adverse effects and dosage requirement. They also provide information and awareness about various medical conditions to increase patient education and awareness.



HEALTHCARE INFORMATION



Tushar Kumar

Founder, CEO Medlife

The advent of e-consultations as well as the use of cutting edge technologies & AI in healthcare will take e-Pharmacy model to next level play. The ability for a patient to enjoy higher quality and convenience while optimizing price is what will keep driving the market share up for e-Pharmacy players. There is a strategic investment focus at Medlife on this.





An e-Pharmacy aligns very well with the national development objectives and has clear and tangible benefits to the consumers as well as the industry. E-Pharmacies expect

- **Regulatory framework and support**

The benefits the e-Pharmacy model brings to consumers, who are the majority, should be the first priority of the Government. It is critical that the regulatory framework in the country be conceptualized keeping in mind the larger interests of the consumers in the country.

- **Support on Technological aspects**

If technology is available to cut the intermediary costs on medicines, it must be allowed to be used to its full potential as it will bring down the retail price of many drugs and benefit the middle-class, which is most impacted by the price hikes.

- **Define policies and guidelines for e-Pharmacy**

This is the right time for the Government of India to define policies and guidelines for e-Pharmacy and come up with a clear-cut operating model, in line with the concerns of the regulator, while providing benefits to the consumers.



The possibility of a single license for pan India operations is a big advantage as well in this post GST era. The current policy guideline being the first major iteration and considering how the e-Pharmacy space is just getting started, we expect further additions for improvement.

Prashant Singh

Co-founder, Medlife



Potential concerns of the e-Pharmacy model and their mitigations

The e-Pharmacy concept is still in a nascent stage in India with numerous concerns raised against the model. Major concerns related to the sales of medicines online centre around counterfeit medicines and drug abuse cases. The following table shows key potential concerns of the e-Pharmacy model and the possible solutions for addressing them.

Category	Potential Concerns	Possible Solutions
Fake and Illegal Sites	What if fake e-Pharmacies spring up?	<ul style="list-style-type: none"> • Create a registry of e-Pharmacies with a logo, which needs to be displayed prominently by the authorized players • Consumers can cross-verify the authenticity of the players from the regulator’s website
Drug Abuse	How to prevent drug abuse, especially for sensitive medicines?	<ul style="list-style-type: none"> • All medicines with potential for abuse, like Schedule X and other habit-forming drugs, could be prohibited • All prescription medicines should only be processed against an electronic copy of a valid prescription • Entire audit trail, including the name and address of the patient, should be digitally stored and tracked
Medication Errors	How can medication errors be addressed through e-Pharmacies?	<ul style="list-style-type: none"> • The registered pharmacist at the licensed pharmacy should be the final decision maker for dispensing a drug • The e-Pharmacy should have a team of qualified pharmacists for validating a prescription and for handling any drug-related queries from patients • Address / phone / other contact information of the pharmacists should always be clearly disclosed for any drug related query from the customer
Counterfeit Medicines	How do e-Pharmacies help ensure fake or counterfeit medicines are not sold through their platforms?	<ul style="list-style-type: none"> • All medicine purchases should be tracked effectively and be subject to audits • Digital transaction trails ensuring recording of full transaction payment, valid bill, and batch number of medicines should be available
Substitution	What if the vendor does not have the same brand as on prescription? What do e-Pharmacies do?	<ul style="list-style-type: none"> • e-Pharmacies should fulfill the orders as per the prescription of the registered medical practitioner (RMP), in exactly the same manner as offline pharmacies • As per current law, substitution is not allowed, unless specifically allowed by the RMP on the prescription
Pharmaco-vigilance	How can drugs be recalled after dispensing?	<ul style="list-style-type: none"> • e-Pharmacies should maintain a record of every transaction with details around the patient name, address, telephone number, and email • e-Pharmacies should record the batch number and expiry date of the drug for all their transactions • All the drugs are to be dispensed with a proper invoice by a licensed pharmacy, thus enabling product recalls

SOME OF THE RECOMMENDATIONS FOR THE E-PHARMACY MODEL AND MAKING IT FOOL-PROOF INCLUDE

- A separate license and registry of e-Pharmacy players should be created
- The dispensation of scheduled drugs should be against a valid prescription from a Registered Medical Practitioner (“Prescription Drugs”) and must be undertaken by, or under the direction and personal supervision, of a registered pharmacist
- The e-Pharmacy would be permitted to process the order for prescription drugs only after obtaining
 - (i) the original prescription
 - (ii) a scanned copy of such original prescription
- Audit trail (including the address and name of the patient) should be digitally stored to prevent abuse and ensure tracking in case there is any adverse event to a medicine
- Narcotic medicines (like morphine) and other habit-forming drugs (like sleeping pills) should be restricted to be sold through an e-Pharmacy model
- Suitable arrangements must be made to ensure that the medicines are packed, transported, and delivered in such a way that their integrity, quality, and effectiveness are preserved.
- The website / mobile application must clearly provide information regarding the logo, license number, and contact details of pharmacists for addressing patients’ queries and grievances.
- New optimization strategy leveraging big data and machine learning algorithms to automate operations, supply chain and address business challenges will be the area that will impact long term sustainability of ePharmacy initiatives.
- Integrating the value chain of demography, disease, diagnostics, doctors consultation and delivery of Drugs would be a key value differentiators and will create niche players able to lead a PAN India operations

Value added by e-Pharmacy to the healthcare system in India

- E-Pharmacy improves consumer convenience and access. This will most importantly benefit chronic elderly patients living in nuclear families, and patients who are not in a condition to go out to find a pharmacy.
- E-Pharmacy also offers competitive pricing which thereby enables less affluent people to afford medicines. There are a lot of technology advancements that are coming up in the form of applications which help in bringing price transparency, create awareness, find an appropriate healthcare service provider, medicine reminders, and pregnancy alerts to the consumers.
- In addition, e-Pharmacy models are well aligned to address key known issues in pharmacy retail for tracking authenticity, traceability of medicine, abuse prevention, addressing consumption of drugs without prescription, tax loss and value added services for consumer empowerment in healthcare.

E-commerce and e-Pharmacy is the need of the hour

- E-Commerce is a shift in how business will be done in the future and everyone will have to align themselves according to the changing trends.
- Since e-Pharmacy is only technology advancement, it is recommended that it should be allowed and its benefits should be made available to the consumers in India but with sufficient safeguards and under stringent regulatory control to protect the interest of the consumers.

Impact of e-Pharmacy model on the traditional brick and mortar pharmacies

- Currently, there is a lot of misunderstanding about e-Pharmacies impacting the traditional brick and mortar pharmacies.
- In reality, e-Pharmacy model enables the existing traditional pharmacies to cater to a broader set of customers and also ensures that the inventory is consolidated by reducing the requirement for working capital, removing wastage from system and increasing margins, thus making the model sustainable.

Authors

ANKIT GOYAL

Director - Middle East, Africa and South Asia

Transformational Healthcare | Frost & Sullivan

dr.nksingh@frost.com

DR. NIROD KUMAR SINGH

Director - Middle East, Africa and South Asia

Transformational Healthcare | Frost & Sullivan

dr.nksingh@frost.com

DR. AKSHAY ZANJURNE

Strategy Consultant - Middle East, Africa and South Asia

Transformational Healthcare | Frost & Sullivan

[Akshay.zanjurne@frost.com](mailto:akshay.zanjurne@frost.com)

F R O S T  S U L L I V A N

Frost & Sullivan, the Growth Partnership Company, works in collaboration with clients to leverage visionary innovation that addresses the global challenges and related growth opportunities that will make or break today's market participants. For more than 50 years, we have been developing growth strategies for the Global 1000, emerging businesses, the public sector and the investment community. Is your organization prepared for the next profound wave of industry convergence, disruptive technologies, increasing competitive intensity, Mega Trends, breakthrough best practices, changing customer dynamics and emerging economies?

www.frost.com