

# E- Pharmacy: Current and future market scenario in India

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**Abstract :** This article includes the study of various companies involved in field of e-pharmacy also known as online pharmacy. E-Pharmacy or online pharmacy is one of the fastest growing branch of e-commerce. Development in field of telecommunication as added to progress of this field. All medicine and health care services become easily accessible with help of E-pharmacies with cost reduction as added benefit for consumers. In this article we will discuss various aspects of online pharmacies including advantages and disadvantages of online pharmacy services, current and future scenario of e-pharmacy market.

## I. INTRODUCTION

The online sale of drugs started in the late 1990s and has expanded so much that the US Food and Drug Administration (FDA) has implemented an entire section on its website dedicated to "Buying medicines over the Internet". An online pharmacy is a pharmacy that operates over the internet. It receives the order from customers and patients online and sends the orders to customers through the mail or shipping companies. This is also called e-pharmacy, Internet pharmacy, Cyber pharmacy or mail-order pharmacy. Online pharmacies specifically deal with medicines and accessories related to administration of medicines (syringes, pumps, nebulizers, bandages, nutraceutical etc.). This is one of the emerging and fastest growing fields in area of e-commerce. There is rapid increase in use of online pharmacies as the number of internet users is increasing. It is easy, cheap and convenient method to obtain the medicines from online platforms. But there are some disadvantages also like fake medicines, drug abuse, medication error etc. Following are some definitions as given in notification of Ministry of Health and family welfare, Government of India on the 28th August, 2018.

- E-pharmacy:** E-pharmacy means business of distribution or sale, stock, exhibit or offer for sale of drugs through web portal or any other electronic mode.
- E-pharmacy portal:** E-pharmacy portal means a web or electronic portal or any other electronic mode established and maintained by the e-pharmacy registration holder to conduct business of e-pharmacy.
- Central Licensing Authority:** Central Licensing Authority means licensing authority appointed by the Central Government under clause (b) of rule 21 of the Drugs and Cosmetics Rules, 1945.
- Prescription:** Prescription means an instruction from a Registered Medical Practitioner to a patient, written by hand or in any electronic mode duly signed, to dispense a drug and quantity of drug to a patient.
- Sale by way of e-pharmacy:** It means a sale whether to a hospital, or dispensary, or a medical, educational or research institute or to any other person through e-pharmacy by way of retail sale.

## II. Mode of working:

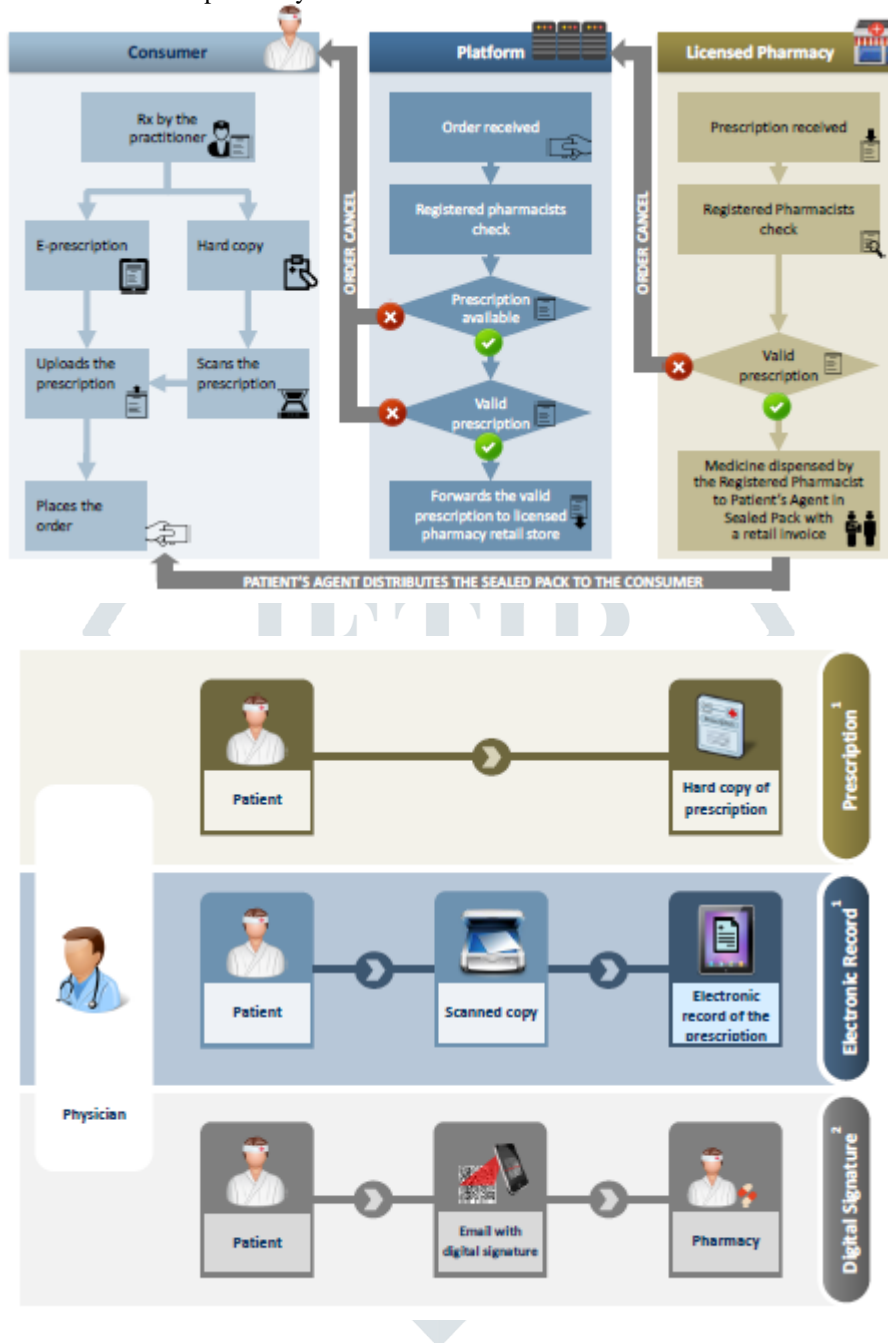
In this system, the customer places the order by sending the prescription to online pharmacy through internet. A Prescription is a written or electronic direction from a Registered Medical Practitioner or other properly licensed practitioners such as a Dentist, a Veterinarian, etc. to a Pharmacist to compound and dispense a specific type and quantity of preparation or prefabricated drug to a patient. This order is placed through uploading the scanned picture or clicked image of prescription on website or internet portal or application software of e-pharmacy. The e-pharmacy receives prescription, analyzes the medicines ordered, verifies the order and then dispenses the order to customer in proper packing accordingly through mailing or shipping companies. The order reaches to the customer in specified time. The payment for the order can be either made online or cash on delivery (COD) is also available on several platforms. These medicines are relatively cheaper as the profit of middle man is eliminated. There are several options to avail discount through e-pharmacy on basis of quantity of medicine ordered or through some special offers. The order is delivered only on checking and authentication of prescription uploaded by the customer. Generally it is difficult to obtain or medicine from e-pharmacies without a prescription or valid prescription. The prescription can be refilled or medicines can be re-ordered by the same procedure mentioned above.

An e-Pharmacy model is required to have two operating components for dispensing prescription medicines:

### Technology:

- Web-based and/or mobile-based application for consumers to upload the scanned copy of their prescriptions and place requests for medicines.
- Every order that is received to be verified and checked by a team of registered pharmacists.
- The registered pharmacists to forward the validated prescriptions to the pharmacy store from where the medicines are dispensed.

- The web or mobile-based platform to be governed under the IT Act 2000 and only act as a platform to facilitate connection between consumer and pharmacy store



Source: 1. Pharmacy Practice Regulations, 2015; released by the Pharmacy Council of India  
 2. The Information Technology Act, 2000; released by the Ministry of Law, Justice and Company Affairs (Legislative Department)

**Pharmacy Retail Store:**

- The licensed pharmacists of the store to check for the validity of the prescriptions, failing which the medicines would not be dispensed.
- The medicines should be dispensed from a licensed premise in a sealed tamper-proof pack to the patient or patient’s relative (patient’s agent).
- There should be proper invoice with batch number of the medicines dispensed, expiry date, name and address of the pharmacy with signature of the registered pharmacist/(s).
- The pharmacy store to be operated under the oversight of the Drugs and Cosmetics Act & Rules and need to comply with all the requirements of the act, as it does for its normal business.

An e-Pharmacy model would help with better purchasing margins, better inventory management, increased reach, reduced prices and greater provision of value-added services to the consumers.

**III. Types:**

- a. **Inventory based model of e-commerce:** Inventory based model of e-commerce means an activity where the inventory of goods and services is owned by the e-commerce entity and is sold to customers directly.
- b. **Marketplace-based Model of e-Commerce:** Marketplace-based model of e-Commerce means providing of an information technology platform by an e-Commerce entity on a digital and electronic network to act as a facilitator between a buyer and a seller.
- c. **Generic e-Commerce Marketplace:** Generic e-Commerce marketplace is a technology-driven electronic platform where a wide variety of products like electronics, fashion, furniture, home furnishings, cosmetics etc., are sold. This model prohibits the advertisement and sale of prescribed drugs or any drugs, which are in violation of the Drugs & Cosmetics Act.

**IV. Advantages of E-Pharmacy:****1. For Patients / Consumers:****a. 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. This is also pertinent with the increasing nuclear family concept, working couples, increasing number of elderly population, and urban development in the periphery of the metro cities.

**b. 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, resulting in the consumer having to visit multiple stores to procure the medicines.
- e-Pharmacies also 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.

**c. Cost Advantage:**

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

**d. Improved Patients' 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 in improving compliance.

**e. Authenticity:**

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

**2. For the Regulators:****a. Tracking of Data:**

- All the 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 analyze large amounts of data on consumers across the nation, which would be very useful for planning public health policies.

**b. Medicine Authenticity:**

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

**c. Documentation:**

- 100% orders are 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.

**d. Innovation:**

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

**3. For the Pharmacists:****a. Additional Business Opportunity:**

- An e-Pharmacy model will enable existing pharmacies to start online operations and serve a broader set of customers, or a network of pharmacies integrating to one platform and accessing a broader customer base.

**b. Inventory Consolidation:**

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

**c. Upgrade of Retail Pharmacy:**

- The e-Pharmacy model has the benefit of technology to streamline and make inventory planning, processes, and systems more efficient.
- d. Enhanced Services of the Pharmacists:**
- The e-Pharmacy model enhances the services of the pharmacist to the 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 the pharmacists at present, could be made accessible through this model.

**v. Disadvantages:**

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

**VI. Indian Pharmaceutical Industry: Market Potential**

The statistic depicts that global online pharmacy (e-pharmacy) market size in 2014 was estimated to be worth some 29 billion U.S. dollars. By 2023, it is predicted that the market will grow to reach around 128 billion dollars.

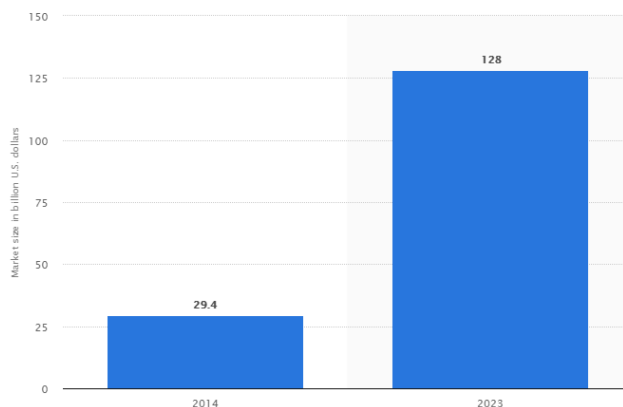


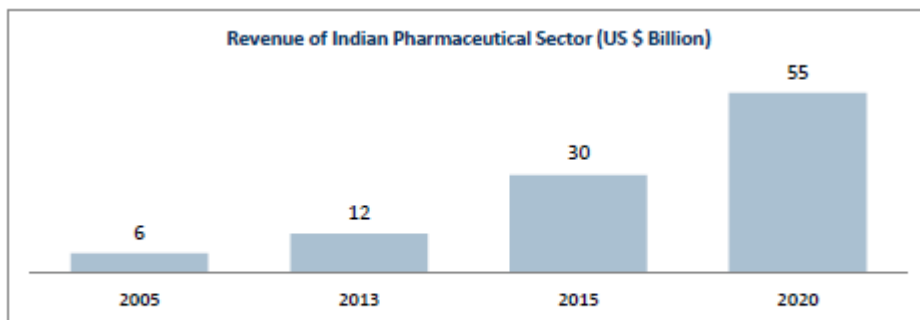
Image source: [www.statista.com/statistics/819754/global-e-pharmacy-drug-market-size](http://www.statista.com/statistics/819754/global-e-pharmacy-drug-market-size)

According to Coherent Market Insights, the global E-pharmacy market was valued at US\$ 36.7 billion in 2017, and is projected to exhibit a CAGR of 16.5% during the forecast period (2017 - 2025). Increasing investment and funding in this field is expected to be the primary driver for growth of E-pharmacy market. In 2017, Medlife, an India-based E-pharmacy company, invested a total amount of US\$ 30 million to support and enhance its E-pharmacy business. In 2017, Medsonway Solutions Pvt. Ltd, an India-based online pharmacy company, raised US\$ 600,000 from RPG Ventures, the venture capital arm of RPG Group. The company is expected to use this funding to expand its business across India. In 2017, 1mg, an India-based online pharmacy company received US\$ 15 Million funding in Series C round. Besides, increasing internet penetration across the globe has expanded the customer base for these E-Pharmacy companies. For instance, according to data published by World Bank, only 12.58% of total population were using internet in 2012 in India, which has increased to 29.5% in 2016. The growth rate of internet coverage is similar in developing economies such as China, Brazil, and Mexico. According to mordorintelligence.com, India is among the region where E-pharmacy market growth rate is maximum.

E-Pharmacy Market - Growth Rate by Region (2019 - 2024)



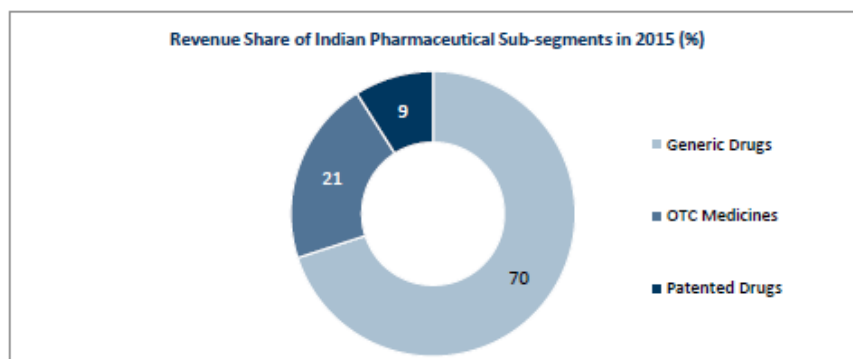
The Indian pharmaceuticals market is third largest in terms of volume and 13th-largest in terms of value, globally, according to a report released by Equity Master. This market grew from US \$6 Billion in 2005 to US \$30 Billion in 2015 at a CAGR of 17.46% and is expected to grow at a CAGR of 15.92% to reach US \$55 Billion by 2020. This growth is primarily driven by 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 sixth largest market globally in absolute size by the end of 2020.



Source: India Brand Equity Foundation, PWC, McKinsey, Frost & Sullivan

### Retail Pharma Market

As per joint report of Frost & Sullivan and Indian National Bar Association, the retail pharma market in India is currently has three broad segments of generic drugs, OTC drugs, and patented products. Generic drugs form the largest segment of the Indian pharmaceutical sector, with around 70% market share in terms of revenue. OTC medicines and patented drugs constitute 21% and 9%, respectively, of the total market revenues of around US \$20 Billion.



Source: India Brand Equity Foundation, PWC, McKinsey, Frost & Sullivan

In 2015 the domestic pharma retail market, valued around INR 98,000 Crore primarily with the anti-infective having 15.17%, cardiac drugs market having 12.47%, gastrointestinal drugs market having 11.75%, vitamins / minerals / nutrients market having 8.78%, and anti-diabetic market having 8.13% shares.

The pharmacy industry is widely fragmented throughout the country. India currently has over 850,000 independent pharmacy retail stores that are able to meet only 60% of the total domestic therapeutic demand. These traditional Brick and Mortar Retail pharmacies are currently responsible for 99% of the pharmaceutical sales annually with online pharmacy contributing to only 1% of the total therapeutic sales.

The Indian E - pharmacy market growth is fuelled by the rise in the number of Indian population suffering from chronic clinical indications like diabetes, hypertension, Asthma and Obesity, leading to an increased demand for therapeutics. Further, government initiatives and programmes such as the digital India, Jan Aushadhi programmes for promotion of generic medicines, telemedicine and E - healthcare initiatives to provide quality healthcare and medications to rural parts of India (Where more than 60% of the Indian population Resides ) are key parameters that make the e- pharmacy segment, a burgeoning market of the future. In spite of being a novel segment in the Indian E - commerce industry, it is anticipated to grow at a CAGR of over 20%, crossing the US\$ 3 Billion mark by 2024.

Some of the major players involved in the global E-pharmacy market are:

| Company                  | Country of Origin | Revenue (Billion US\$)   |
|--------------------------|-------------------|--------------------------|
| Abbott Laboratories,     | United States     | 30.578 (2018)            |
| BG Medicine, Inc.,       | Cambodia          |                          |
| F. Hoffman LA Roche Ltd. | Switzerland       | 58.4 (2018)              |
| Medtronic PLC            | United States     | 29.71 (2017)             |
| Nexus-DX,                | United States     |                          |
| Qiagen N.V               | Germany           | 1,501.848 million (2018) |
| Seimens Healthineers     | Germany           |                          |

The major companies involved in e-pharmacy in India are

NetMeds, 1mg, Apollo Pharmacy, Healthkart, PharmEasy, MyraMed, MedsonWay, Care On Go, Metapharmacy.in, Medidart.com, Buydrug.in, Medplussmart, mChemist etc.

### VI. Conclusion:

It is clear that e-pharmacy has lot of advantages but the disadvantage are also required to be addressed. Though e-pharmacy business in India has to clear legal hurdles but e-pharmacy market is expected to rise in future. It is clear from the data that e-pharmacy business is going to grow both horizontally and vertically globally and in India too. So an eye should be kept on market trend in this segment to reap the profits.

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