

## The Role of Pharmacist in the Health Care System: Current Scenario in India

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### Abstract

Pharmacists are society's specialists on drugs. The Pharmacist of today is a drug-maker, drug-dispenser, drug-custodian, patient-counselor, drug-researcher, and drug-educator and above all an honest and patriotic citizen. The techno-proficient foundation of the drug expert gives him/her the certainty of providing services with a moral way to deal with the satisfaction of patients. The consecrated qualities are required to be cherished and professed by the pharmacist. Pharmacists assume a significant job in giving health care services, benefits through community pharmacy services in rural areas where physicians are not accessible or where physician services are unreasonably expensive for meeting the health care necessities. The paper at that point recognizes how pharmacists give expanded services, identifies key challenges and barriers, and suggests rules and regulations that could help secure open doors for pharmacists to play out an extended job.

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### INTRODUCTION

A pharmacist or drug expert is an individual who is engaged in designing, creating or manufacturing of a drug product, dispensing of a drug, managing, and planning of a pharmaceutical care plan (Abdelaziz *et al.*, 2016). They are experts in the activity and use of drugs, including their chemistry, pharmacology, and the formulation of medicines. They are the health care professionals who have the responsibility to give essential consideration to the patients and giving protection and providing safe and effective use of medicines (Islam *et al.*, 2016). The focal point of the profession of pharmacy has moved from technical, product-oriented, functions to patient-oriented, health outcomes counseling information and professional services (Toklu & Hussain, 2013). This move by and large alluded to as 'Pharmaceutical care', humiliates the

country that pharmacists, working in collaboration with other health care providers, undertake responsibility for patient outcomes with respect to their drug therapy (Tran *et al.*, 2017).

The chief undertaking of a modern pharmacist is to identify, resolve and prevent drug-related issues (Ayalew *et al.*, 2019). Some significant parts of health care are laid out in the report of the international conference on primary health care held in September 1978 at Alma Ata to achieve the goal 'Health for by 2000 A.D.' are (Kulczycki *et al.*, 2017):

1. Education concerning prevailing health problems and methods of identifying, preventing and controlling them
2. Promotion of food supply and proper nutrition
3. Prevention and control of locally epidemic nutrition
4. Provision of essential diseases
5. Immunization against the major infection diseases

6. Availability of health professionals and national health policies (Lam & Sokn, 2019).

All the more ever this report was viewed as a basic requirement to be supplement as indicated by the economic and social estimations of the country and its public. The word HEALTH implies various things to various people groups from an alternate country (Odeh, et al., 2019). Such a large number of individuals only means opportunity from any infection or the absence of disease. According to the World health organization (WHO) 'Health is complete physical, mental and social well-being and not merely absence of disease' (Alhamoudi & Alnattah, 2018).

The word pharmacy is derived from the word "Pharma". This word had first been used in the 15th to 17th century (Gomo et al., 2016). As per WHO, there are approximately 2.6 million pharmacists and other pharmaceutical personnel all over the world. Pharmacy is one of the popular fields among the students. Education in pharmacy varies from one country to another country. In India, the academic courses in the field of pharmacy start from diploma level to doctoral level as presented in Table I (DiPietro-Mager & Farris, 2016).

**Table I.** Pharmacy courses (diploma to doctoral level) in India - A complete guidance

Course	Description
Diploma in Pharmacy	Diploma in Pharmacy (D. Pharm.) admission requirements include that applicants must be at least 17 years of age at the time of admission and are required to complete the Higher Secondary Certificate (HSC) or Intermediate exam in the science stream. Required subjects are physics, chemistry and biology or mathematics. A minimum of 40% marks is needed in each course. The fees for both Bachelor of Pharmacy (B. Pharm.) and D. Pharm. is varies based on institution (Croft et al., 2018).
Bachelor of Pharmacy	B. Pharm. admission requirements are as follows: applicants must be at least 17 years of age at the time of admission and are required to complete the HSC or Intermediate exam in the science stream. Necessary subjects are biology/mathematics, chemistry, and physics. Admission requirements vary between institutions, so in order to be considered a top candidate for admission, it is also

Masters of Pharmacy	of	important to get a high rank in the state or institutional entrance examination. If a candidate wants to get admitted to the 2 <sup>nd</sup> year of B. Pharm. (i.e. lateral entry), he must have passed D. Pharm. from a Pharmacy Council of India (PCI) approved institute (Burson et al., 2016).
Doctor of Pharmacy	of	Master of Pharmacy (M. Pharm.) is a 2-year post-graduate (PG) course. In order to be eligible for admission to an M. Pharm. course, you should have a B. Pharm. degree from a PCI approved institute and should have scored at least 55% marks over the 4 years of B. Pharm. Specialties/subjects in which M. Pharm. A degree can be awarded by the Indian universities: Pharmaceutics, Pharmacology, Pharmacognosy, Pharmaceutical Chemistry, Pharmaceutical Analysis, Phytopharmacy & Phytomedicine, Pharmaceutical Quality Assurance, Regulatory Affairs, etc. Any other specialty as may be prescribed by the PCI from time to time (Abdulghani et al., 2018).
Doctor of Pharmacy	of	The Doctor of Pharmacy (Pharm. D) course was introduced in India only in 2008 by the PCI. The duration of Pharm. D is 6 years (5 years of study + 1 year of internship). It is a PG qualification and hence Pharm. D graduates can register directly for Doctor of Philosophy (Ph. D). All candidates being awarded the Pharm. D degree is eligible to use the prefix "Dr." before their name and the same will reflect on the certificate issued to them by their PCI approved institute/university. Eligibility to join a Pharm. D course: Science stream students (Mathematics/Biology), who have passed 10 + 2 board examinations from a recognized board and candidate must be at least 17 years old (Brown et al., 2016).
Doctor of Philosophy in Pharmaceutical Sciences	of	Doctor of Philosophy is the research program in the pharmacy field. Candidates can pursue this course after completing M. Pharm. from a well-recognized institution (Henkel & Marvanova, 2017).

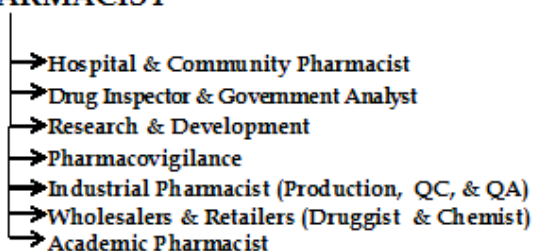
In general, professionals including health care systems in India are not much different from those in other countries, including:

1. Direct professionals: Pharmacist, Physician/surgeon, Nurse, Compounder, and Dispenser
2. Indirect professionals: Engineers, Teachers, Every person (Todd et al., 2015).
3. Different professionals play different minor roles in the health care system, but the only pharmacist plays a major role in the health care system (Saseen et al., 2017).

## ROLES OF PHARMACIST

The pharmacist is the bridge between a physician/surgeon and patients who counsel and advise the patient to maximize the desired effect of the drugs and minimize the untoward/adverse effects of the drug. The roles of the pharmacist in different sectors of the health care system is shown in **Figure 1**. Meanwhile, details of the role of the pharmacist in the different health sectors are presented in **Table II** (Introne & Goggins, 2019; Minor *et al.*, 2019).

### PHARMACIST



**Figure 1.** The roles of the pharmacist in different sectors of the health care system in India

**Table II.** The role of the pharmacist in the different health sectors in India

Sector	Role
Pharmacovigilance	Pharmacist plays a vital role in medication safety monitoring. Pharmacists can be deployed to assist in monitoring the safe and effective use of available medicine, which certainly includes the management of adverse drug reactions. The worth-while information collected by the pharmacist in Pharmacovigilance should be appreciated. Pharmacists act as an open-arm to clinical expertise in the sharing of resources including databases. Pharmacist plays an essential role in developing communication materials like newsletters and other publications through the drug information and poison centers, which are utilized by different professions and professionals for disseminating drug alerts and other drug safety information (Kagashe <i>et al.</i> , 2017).
Academic Pharmacists	In academic pharmacists focus on teaching, research, and training of the upcoming pharmacist. Academic institute is a major source of a pharmacist, who adds professionals into the health care system. By arranging a seminar, project, or system academics, pharmacist plays a valuable role in the health care system. Education motivates

professionals in the health care system. From their basic education training and pre-registration training, students acquire a broad understanding of the scientific principles and techniques of the pharmaceutical sciences and the ability to keep pace throughout their careers with developments in medicine and pharmacy (Brazeau *et al.*, 2009).

Their knowledge and expertise extend to all aspects of the preparation, distribution, action, and uses of drugs and medicines as well as to enable those who wish to continue their studies to undertake PG training and research. Educational training programs help to professionals for their current knowledge. The pharmacist gets specialized knowledge regarding drugs and therapeutic action through their practical training. Overall, we can say academic pharmacist's preliminary part in the pharmacy profession (Nguyen *et al.*, 2019).

Hospital Pharmacists

Hospital pharmacists are a vital part of the healthcare team. Working in either the government or private hospitals, being a hospital pharmacist means the part of a team where the focus is firmly on patients. Hospital pharmacists are responsible for monitoring the supply of all medicines used in the hospital and are in charge of purchasing, manufacturing, dispensing and quality testing their medication stock along with help from pharmacy assistants and pharmacy technicians (Kelling *et al.*, 2016).

Community Pharmacists

Community pharmacist jobs would be all about helping the public, assessing their condition and making the decision about which medicines they should take. They will be involved in dispensing medicine and offering patient advice and practical help on keeping health. It is a very responsible job and community pharmacists tend to be highly respected members of their communities (Dalton & Byrne, 2017).

Community pharmacists are also taking on more of the clinical roles that have traditionally been undertaken by a physician, such as the management of asthma and diabetes as well as blood pressure testing. They also help people give up smoking, alter their diets to make them healthier and advice on sexual health matters. Some community pharmacists own their own business and enjoy the challenges of financial management and responsibility for staff, stock and premises that this brings. Other work for large high street pharmacy chain and have the opportunity to move around within an established company structure (Hermansyah *et al.*, 2016).

Primary Care Pharmacist/

These are people work for National health service organizations that are in charge of a range of local. Their job is to ensure the best use

Prescribing Advisors	of medicines and resources across the area. In Some places, practice pharmacist or primary care pharmacist also run medication review Clinics and have lots of patient contacts (Dalton & Byrne, 2017).
Research & Development	Pharmacist contributes to research and their expertise in formulation development is of particular relevance to the biological availability of active ingredients (Khan <i>et al.</i> , 2011).
Sales & Marketing	The pharmacist, whose professional ethics demand a concern for the interest of patients, can make a contribution to proper marketing practices related to health care and to the provision of appropriate information to health professionals and the public (Casalino <i>et al.</i> , 2018).

## CONCLUSION

In a quickly developing health care services framework with expanded requests for results and customized care, the pharmacist is a critical partner in the provision of care. The range of abilities of the pharmacist gives a unique opportunity to convey the ideal medicine usage to oversee intense and chronic diseases just as numerous different roles. The various roles of Pharmacists in various segments of the pharmacy profession, like Industrial, academics, community health, clinical research, drug design, discovery and development of new molecules, etc. The paper features the present situation of the pharmacy profession in the various health care frameworks. The pharmacist is a backbone that reinforces the health care framework. At last, pharmacists are responsible for ensuring that 'Right drug to the right patient at the right time in the right dose through the right route in the right way'. With the goal that pharmacists are a basic piece of the health care framework.

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