

# CHINESE PHARMACISTS LAW MODIFICATION, HOW TO PROTECT PATIENTS' INTERESTS ?

Longyun Wang

China World Academy

## **ABSTRACT**

*The pharmacy profession is relatively new in China. Recently, the demand for pharmacists has increased as China's hospital system has been unable to support a large patient population due to the increasing demand for health care. This paper discusses how to improve the Chinese pharmacist law. To make reasonable laws on pharmacists, used to regulate and manage communication between pharmacists and patients, the ethical relationships, financial support and degree requirement, and governance of pharmacists. Improving pharmacist laws can help improve the quality of pharmacists' work, protect patient privacy, and enhance pharmacists' work efficiency. I will use government reports and authoritative data collected by myself as examples to analyze what needs to be improved in pharmacist law.*

## **1. INTRODUCTION**

Pharmacists are among the most accessible healthcare professionals, and the Chinese government is eager to complete the Chinese Pharmacist Law. In this article, I will provide some possible plans to provide ideas for the government to improve the details of the Chinese Pharmacist Law.

This paper will be analyzed based on accurate statistics published by real government departments. The full paper attempts to summarize the feasible amendments to the Pharmacist Law of the People's Republic of China by listing the data, combined with analysis and summary. I will go through Communication & Computerized Provider Order Entry System, Ethical Relationships, Financial Support & Pharmacists Degree Requirement to analyze the governance of pharmacists.

In addition to the analysis of China, this paper will compare the data of the United States, discuss the revision of the Act, find reasonable legislative points, and propose improved legislation in the context of China.

## **2. COMMUNICATION & COMPUTERIZED PROVIDER ORDER ENTRY SYSTEM**

How to solve the problem of communication between pharmacists and patients? What tools can be used?

The Third Draft Law of the People's Republic of China on Pharmacists was released in February 2021. It sets out comprehensive rules to improve the working environment and guidelines for pharmacists and thus strictly requires the quality of their work. However, there is no mention in the draft of the law of communication between pharmacists and patients and how to reduce the chance of pharmacists making mistakes more effectively in their work.

Pharmacists are responsible for preventing and resolving medication-related problems, identifying and minimizing barriers to medication adherence, directing over-the-counter medications, and documenting and communicating information and recommendations to physicians and other members of the healthcare team. Drug-related problems (DRPs) frequently occur before drug-related morbidity. A drug-related event or circumstance, or DRP, prevents a patient from receiving the best possible medical care, either directly or indirectly. Strand and associates identified eight DRP categories. There are eight different DRPs, which are untreated indications, improper drug selection, subtherapeutic dosage, overdosage, failure to receive the drug, adverse drug reaction, drug interactions, and drug use without indication. The Pharmacists Law of the People's Republic of China was implemented to address these DRPs. Much of the legislation in the latest draft is already well-developed, but there is no sensible regulation of patient communication or Artificial Intelligence systems.

Communication can solve problems with improper drug selection, overdosage, and failure to receive the drug from eight DRPs. The note emphasizes the protection of those unable to communicate and avoid some misinformation.

I provide some optional suggestions for the Pharmacist Law of the People's Republic of China by analyzing factors such as the average level of education in China, the division of language, religion as well as traditional culture, and artificial intelligence systems.

I think computer-assisted medical systems can solve this problem. Such as a computerized provider order entry system. It is a method of entering medical practitioner instructions electronically for patient care. Computer networks are used to convey pharmaceutical entry orders from the pharmacist to the medical staff or to the department that will fill the order, such as the pharmacy or the laboratory. By decreasing transcribing errors (including preventing duplicate order entry) and speeding up inventory management and billing, CPOE decreases the time needed to dispense and fulfill orders. At the same time, patients and pharmacists can develop effective communication and obtain an accurate diagnosis of the disease under the supervision of the computer. In addition, the physician can give adequate attention to the patient's problems to perform real-time condition monitoring.

Since the resulting prescriptions are frequently printed by a machine, medication errors brought on by illegible or unreadable handwriting are eliminated. Prescribers can choose drugs with the aid of these computerized systems. As a result, the possibility of errors is reduced. This system also helps the pharmacist to check information about the patient's disease at any time and engages the pharmacist to determine the type of disease more precisely, which helps the patient's treatment. The automatic system outputs result instantaneously after input variables and considerable factors, which increases the working efficiency.

Some patients may not be able to communicate with the pharmacist because of differences in dialect, education, or customs. According to the seventh Chinese census, 2.67% or 37,750,200 population are illiterate (those aged 15 and above who cannot read) in China. These patients, who don't understand their doctors' prescriptions, require the help of the Computerized Provider Order Entry system. These patients don't need to read their own doctor's report but instead get simplified information from the system, which makes it easier for them to buy drugs and understand what doctors are thinking. These large illiterate populations need to use the Computerized Provider OrderEntry system.

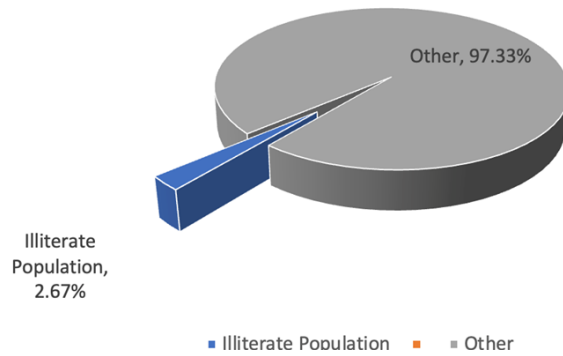


Figure 1. Illiterate population

Some Chinese dialects, such as the Wenzhou dialect, Shanghai dialect, and Guangzhou dialect, are quite different from Mandarin. According to the survey results of the Ministry of Education, PRC, the proportion of people who can communicate in Mandarin is 53.06%, that with Chinese dialects is 86.38%, and that with minority languages is 5.46%. It proves that there are still many local dialect speakers in China. At the same time, the Ministry of Education has been massively popularizing the use of Mandarin, leading to more and more new doctors and medical practitioners can only speak Mandarin. It is impossible to popularize Mandarin with all people in a short time. The process of popularizing Mandarin will take a long time. As the consequence, this system can help pharmacists communicate with patients. Pharmacists only need to input the patient's information into the computer, and through the artificial intelligence algorithm recommendation, prescriptions are produced.

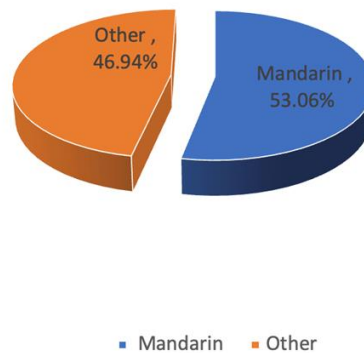


Figure 2. People can speak mandarin

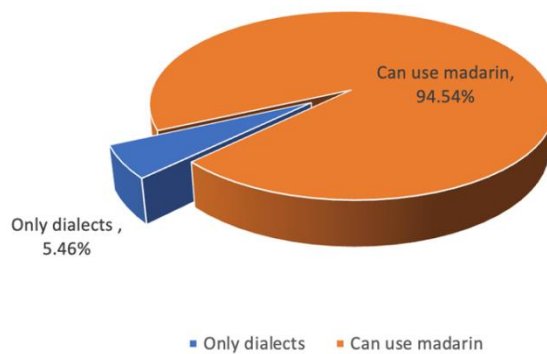


Figure 3. People who can only speak dialects

In China, religious beliefs and special cultures also influence normal medical practices. Until now, the so-called "traditional methods" have existed in rural areas of China. Most of these traditional methods were conceived as "healing methods" in the ancient Chinese feudal period when people believed in the existence of immortals. This leads to families living in remote areas or elderly people being misled. In addition, there are about 5.5 million Catholics in China. The Catholic church's ban on abortion is compulsory for all Catholics. As a result, women in the Catholic church may miss the best time for treatment because of this rule. Based on the above two points, the communication skills of pharmacists are very important. Pharmacists need to build trust with patients and try to find a workable path for them, persuading them to trust science and follow the professional advice of practitioners.

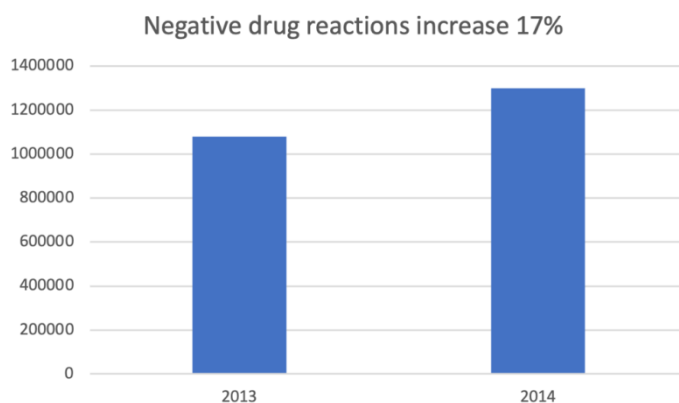


Figure 4. The increase of negative drug reaction

According to National Medical Products Administration, over 530,000 reports of adverse medical device events were submitted to the National Medical Device Adverse Event Monitoring Information System in 2020, or an average of 402 reports per million people. The county-level coverage of medical device adverse event reporting reached 100% in 28 provinces (autonomous regions and municipalities). Additionally, more than 350,000 people, including 27,195 medical device registrants, are registered users of the medical device adverse event monitoring system at the grassroots level. Medical security is challenged by doctors' heavy workloads, "great pressure," "errors in busy," rapidly updating new technology, application indications, unfamiliar operation, and others. In 2013, each doctor made 7.7 outpatient visits per day, up 13% from 2012, and many hospitals saw more than 10,000 outpatient visits per day, according to data from the National Health and Family Planning Commission. Drugs and medical devices were directly linked to 11.5% of medical safety and adverse events reported online between 2012 and 2014. More than 1.3 million reports of negative drug reactions, including 340,000 new serious reports, were submitted to the National Adverse Drug Reaction Monitoring and Reporting System in 2014, an increase of 17% from 2013. Thus, Computerized Provider Order Entry systems can help reduce the number of medical errors. Through accurate calculation, the possibility of making mistakes under busy people is eliminated, and interference factors are eliminated.

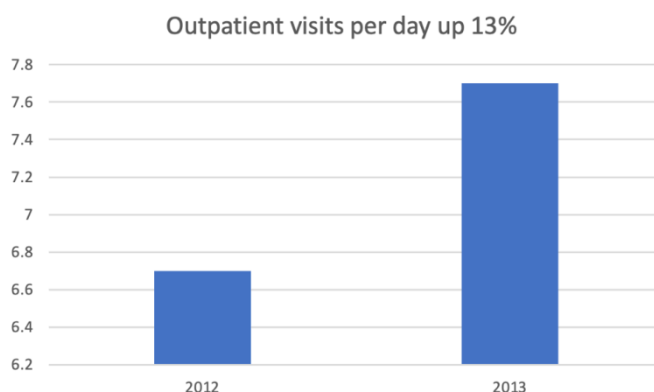


Figure 5. Outpatient visits per day

Pharmacists need to master good communication skills and use the Computerized Provider Order Entry System as a solution to communication problems and poor medical judgment.

### 3. ETHICAL RELATIONSHIPS

What ethical relationships exist between pharmacists and patients, and how these ethical relationships should be legislated and protected?

Patient privacy encompasses a wide range of matters, such as one's physical space, one's information, one's choices (including one's cultural and religious affiliations), and one's interpersonal relationships with family and close friends (associated privacy). According to the China Health Development Statistics Bulletin 2020, the total number of health workers in China is 13,475,000 (0.963%), which indicates that most Chinese residents lack medical knowledge. They need to receive professional guidance from pharmacists. Thus, pharmacists play an important role in making critical decisions and providing accurate diagnoses.

In pharmacist legislation, it is clearly required that pharmacists must provide the best diagnostic options for their patients. Improving the efficiency of treating patients' diseases. Patients, however, do not know which is the best decision. This is because all diagnoses and diagnostic methods are decided by the pharmacist himself. What ethical relationship exists between the pharmacist and the patient? How should the pharmacist communicate with the patient to make recommendations? All need to be added to the pharmacist law of the People's Republic of China to improve the management system of pharmacists, to improve the efficiency of patient care, and to protect privacy.

The ethical relationship between pharmacist and patient must be analyzed based on several factors, such as the ethics of decision-making, privacy, and consent. Maintaining an efficient pace of communication and an appropriate relationship during treatment can provide optimal outcomes, save time and costs, and reduce morbidity.

The first thing that needs to be made clear is that the patient has the right to know the details of the prescription, but at the macro level, the patient must use the pharmacist's professional advice and not mix the prescription privately. At the same time, pharmacists must educate patients about their condition and available treatments so that they are empowered to participate meaningfully in healthcare decisions. For example, it requires providing accurate and sensitive presented pertinent information, and the diagnosis, the nature and intent of suggested interventions, the costs, risks, and anticipated advantages of each option, including forgoing treatment, should all be covered by

the pharmacist. Furthermore, it also requires recording the patient's choice and the informed consent discussion in the medical file. The consent form ought to be kept in the file when the patient or surrogate has given specific written consent. This way, pharmacists can manage patients' personal information, which is also helpful for regulating Computerized Medical Order Entry Systems. The comprehensive information allows patients to directly understand their disease without the need for a separate explanation by the pharmacist, which saves time. It also reduces the chances of pharmacists making mistakes.

However, ethical concern also occurs if the Computerized Provider Order Entry System is implemented. According to the 2019 Mobile App Security Observation Report in the Industry, 88.83% of apps in the medical and health industry have high-risk vulnerabilities. Attackers can use the flaw to install malicious software, create fake apps, steal sensitive personal data without authorization, etc. As technology brings patients and pharmacists the advanced medical system, it also contains the risk of revealing private information. Therefore, pharmacists' law must strictly require pharmacists to protect patients' privacy and pay attention to the rigor of electronic information registration. On the other hand, for humanitarian reasons, the decision must be in the hands of the patient. Furthermore, pharmacists need to adhere to specific cultures and traditions but do not defer to the patient completely. If a pharmacist serves a minority patient or a patient with a religious stance, an informed consent form must be signed before treatment to ensure that the patient follows the pharmacist's advice. This is a sign of respect from the pharmacist to the patient. Equivalently, pharmacists should make it clear to obtain consent from users when using computer systems. According to the "Network Security Law of the People's Republic of China", network products or services have the function of collecting user information. If users' personal information is involved, the provisions of this law and relevant laws and administrative regulations on protecting personal information should be complied with. Therefore, patients also have the right to refuse to enter their information into the network system. In addition, the system needs to be regulated by public safety. Only identification can be made, and no detailed information can be available to prevent attackers from attacking private information, which can avoid privacy issues.

#### 4. FINANCIAL SUPPORT & PHARMACISTS DEGREE REQUIREMENT

How can money flow to the pharmacists, do the academic standards for pharmacists need to be improved?

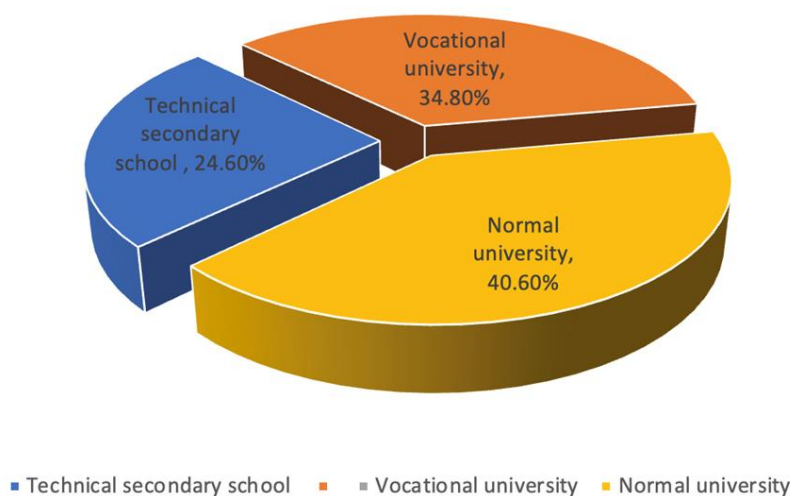


Figure 6. Pharmacists' educational degree

Pharmacists' average degree in China just requires a Bachelor of Vocational Education. According to the report from National Medical Products Administration, licensed pharmacists should take the official examination, and people who have a bachelor of vocation or higher bachelor are qualified to participate in the exam. According to the Certification Center for Licensed Pharmacists of NMPA, by June 2022, the total number of licensed pharmacists in China will have increased to 671,594. The number of licensed pharmacists was 4.8 per 10,000 people. The increasing market demand creates many blanks that require more labor to work as pharmacists. The data from China Health Statistics Yearbook 2020 shows that 34.8% of pharmacists hold a Bachelor of Vocational Education, and 24.6% of pharmacists graduate from technical secondary school. Pharmacists must be proficient with professional skills, and they need to be qualified to deal with emergencies, but skills that vocational school students and secondary students don't have, the medical and physical knowledge, are not taught to students. Therefore, the official examinations' basic requirements should be changed to those of ordinary four-year bachelor's degree holders.

Furthermore, the average salary of Chinese pharmacists shows an increasing trend. According to the data from Zhiyouji, a Chinese professional statistics website, the average salary of pharmacists rose to 6,400 Yuan per month as of July 26-22, 2022, based on 2,843 samples taken over the past year. The huge blanks in the labor force of pharmacists make institutions eager to find a labor force, which causes an increase in pharmacists' salaries. However, compared with the USA, there is insufficient financial support for pharmacists in China. Therefore, the average salary of pharmacists in China has a large income gap compared to the US standard, which is \$106,121 per year. The government needs to figure out how to put more money into pharmacists. In the Pharmacist Law of the People's Republic of China, many regulations prescribe strict professional codes, academic research, and the required pharmacological skills. As previous mentions, there are 34.8% of pharmacists graduated from vocational universities, and 24.6% of pharmacists graduated from technical secondary schools. Vocational school students can't master these skills. It is difficult for the Chinese government to ask students at vocational schools without professional academic knowledge to follow strict regulations strictly. American pharmacists require a doctor's degree to become a pharmacist. Although it seems strict, American society places more importance on pharmacists than on China. In China, if many pharmacists are involved in diagnostic work, it will reduce the probability of medical errors due to doctors' mistakes. Therefore, the government should invest more money to support the Chinese pharmacist industry and improve the basic degree requirement to attract more potential talented pharmacists.

The Pharmacist Law of the People's Republic of China must set a higher degree requirement and screen out qualified talent. On the other hand, it is helpful if the government pays more attention to pharmacists. Skilled pharmacists can help physicians to decrease the possibility of medical malpractice.

## **5. GOVERNANCE OF PHARMACISTS**

How to unify the governance of pharmacists? How do control local governments like county governments over pharmacists?

By lowering the availability of resources and limiting access to health care, poor governance and corruption undermine the delivery of health care, putting the greatest burden on the underprivileged and marginalized.

In Chinese society, there is a problem with local autonomy. The central government distributes powers to local governments, which may use them to gain profits. From the standards of pharmacist legislation, the local government may completely take over the governance of pharmacists. This leads to unprofessional management, abuse of power, and even the exploitation of funds.

In China, the system for managing the cadre has changed. The former two-level administration would be changed to one-level administration, and the central committee would only oversee top officials at the central state organs and provincial levels, according to a notice on revising the list of official titles under the administration of CPC Central Committee Cadres issued by the organization department of the CPC Central Committee in 1984. This has increased the administrative power of local officials. As the following consequence, local governments and local officials became independent stakeholders, and causes the administration of pharmacists will be entirely determined by the local government.

According to the FDA-issued Notice on the Measures for the Administration of Registration of Licensed Pharmacists, the drug regulatory departments of the provinces, autonomous regions, and municipalities directly under the Central Government shall be responsible for the registration of licensed pharmacists and related supervision and administration within their respective administrative areas. Pharmacists' duties include guiding patients to buy medicines, such as the self-service drug purchase service on APP Meituan. But pharmacists being managed by the local department of medicine may lead to various stakeholders working together to extract additional benefits. For example, local authorities require pharmacists to recommend drugs from local pharmaceutical manufacturers to customers, which is a sign of corruption.

The reason for the emergence of decentralized management is based on the Chinese large population and the complex administrative system customized. However, the medical system is in urgent need of Chinese residents. It should be regulated by one central department, which can alleviate the occurrence of corruption. The pharmacists' law should stipulate one central administration to regulate each local management unit, rather than different regional administrations being responsible for the management of local pharmacists. All drug recommendations and service guidelines must be set by central authorities. To achieve unified management of pharmacists throughout the country. At the same time, the central administration should regularly and strictly check the indicators of various places to achieve the effect of supervision.

This central authority must be directly under the Chinese Ministry of Health because the management of pharmacists needs the supervision of professionals rather than the unified management of all departments by restrictions that do not know medical knowledge.

## **6. CONCLUSION**

Communication barriers between pharmacists and patients reduce communication effectiveness and lead to poor treatment outcomes. China is a country consisting of multi-ethnic citizens, and the social situation is more complex and the factors to be considered are more diverse. The formulation of the Law on Pharmacists of the People's Republic of China requires respect for each culture and special group. The Computerized Provider Order Entry System can help pharmacists reduce unnecessary communication and tension in the doctor-patient relationship. Of course, the pharmacist will need to provide additional instructions for patients with different levels of education, but the communication must be in direct language to reduce the transmission of misleading information.



Pharmacists are obliged to explain to patients how to use medicines and information about their condition. Pharmacists must keep a distance from patients and protect their privacy. Pharmacists need to make sure that the communication with patients is only general information transfer and forbid any personal topics. This ensures that pharmacists are following industry guidelines while helping pharmacists stay focused, reducing the likelihood of medical errors and misjudgments, and ensuring that patients receive the most effective prescriptions.

Pharmacists are in increasing demand in China and serve a wider range of people. Thus, the standard of pharmacists should also be raised. Pharmacists must have a degree in undergraduate education. Because undergraduate education is different from vocational education, students can learn ways to deal with emergencies in addition to their professional abilities. At the same time, students with undergraduate education have stronger academic ability and executive abilities. Pharmacists need to provide patients with the right prescription, then pharmacists need a strong knowledge of pharmacology. Not only that, but pharmacists also need to do research and experiments on drugs. Undergraduate students are more likely to complete these indicators. Of course, the government also needs to pay more attention to pharmacists. They can reduce the pressure and number of jobs for doctors in hospitals. At the same time, it can help doctors in hospitals reduce the incidence of medical errors. Hence, the government needs to spend more money on the training and salaries of pharmacists to attract more people to join the profession.

The government needs to set up specific government departments with expertise in managing pharmacists separately. The central pharmacists' management unit must control pharmacists in different regions and implement uniform management and standards. The management discipline of pharmacists should strictly comply with the requirements of the central administration. It is important to reduce local control and corruption. Unified management and control can reduce the corruption risk controlled by different regions.

## REFERENCES

- [1] National People's Congress (2022) "PHARMACIST LAW OF THE PEOPLE'S REPUBLIC OF CHINA." China: The Chinese government.
- [2] T. Fulda, A. Lyles and A. Wertheimer, "Pharmaceutical Public Policy", Taylor & Francis Group, 2016. [Online]. Available: <https://doi.org/10.1201/b19633>.
- [3] Breadcrumb HealthIT.gov, (2018) "What is computerized provider order entry? | HealthIT.gov" [Online]. Available: <https://bit.ly/3zw3z9m>.
- [4] National People's Congress (2021) "Bulletin of the Seventh National Census (No.6)", National Bureau of Statistics. [Online]. Available: <https://bit.ly/3OtTldx>.
- [5] National People's Congress (2000) "The main results of a survey on the use of Chinese languages were released", Ministry of Education of the People's Republic of China. [Online]. Available: <https://bit.ly/3Px5uzU>.
- [6] National People's Congress (2013) "Religion in China", The Central People's Government of the People's Republic of China. [Online]. Available: <https://bit.ly/3J3sq7t>.
- [7] Noonan, John T. Jr., Abortion and the Catholic Church: A Summary History. Notre Dame Law School, 1967, p. 129.
- [8] National People's Congress (2021) "National Annual Report on Adverse Events Monitoring of Medical Devices (2020)", National Medical Products Administration.
- [9] National People's Congress (2021) "Statistical Bulletin on the development of China's health undertakings in 2020", Central People's Government of the People's Republic of China.
- [10] American Medical Association "Code of Medical Ethics: Consent, communication & decision making", American Medical Association. [Online]. Available: <https://bit.ly/3zvAMSf>.
- [11] National People's Congress (2021) "Statistical Bulletin on Health Development in China 2020", Chinese government website.
- [12] National People's Congress (2014) "Xi Jinping's remarks on seriously handling the behavior of injured doctors by the law received applause from the audience", The Second Session of the 12th

- National People's Congress. [Online]. Available: <https://bit.ly/3baCTkO>.
- [13] China Software Pingce Center (2020) MOBILE INTERNET MEDICAL SECURITY RISK CONTROL WHITE PAPER. China.
- [14] National People's Congress (2016) "Cyber Security Law of the People's Republic of China", Gov.cn. [Online]. Available: [http://www.gov.cn/xinwen/2016-11/07/content\\_5129723.htm](http://www.gov.cn/xinwen/2016-11/07/content_5129723.htm).
- [15] National People's Congress (2020) "The Ministry of Human Resources and Social Security of the SDA issued the Notice on the issuance of the Provisions on the Professional Qualification System for Licensed Pharmacists and the Implementation measures for the Professional Qualification Examination for Licensed Pharmacists", Nmpa.gov.cn.[Online]Available:<https://www.nmpa.gov.cn/xxgk/fgwj/gzwj/gzwjyp/20190320161601446.html?type=pc&m=>.
- [16] Organisation for Economic Co-operation and Development(OECD) (2022) "Registration Status of Licensed Pharmacists Nationwide In June 2022,".
- [17] National People's Congress (2021) "China Health Statistics Yearbook 2020,".
- [18] "Licensed pharmacist salary income," Licensed pharmacist salary income (treatment, monthly salary), employment prospects how - job friends set. [Online]. Available: <https://bit.ly/3oyLjFW>.
- [19] "Pharmacists," Data USA. [Online]. Available: <https://bit.ly/3z7NULT>. [Accessed: 02-Oct-2022].
- [20] Liu Haibo: Look at Chinese local government from the Angle of interest structure, 14-Jan-2007. [Online]. Available: <https://bit.ly/3RXuRMO>. [Accessed: Oct-2022].
- [21] Chinese Government (1984) " Notice on revising the List of Official Titles Administrated By THE CPC Central Committee,".
- [22] National People's Congress (2021) The FDA issued the Notice on the Measures for the Administration of Registration of Licensed Pharmacists," Notice of the Food and Drug Administration on the issuance of Administrative Measures for the Registration of Licensed Pharmacists \_No.25, 2021 Bulletin of The State Council, 18-Jun-2021. [Online]. Available: <https://bit.ly/3z8Ar6p>.
- [23] "The FDA issued the Notice on the Measures for the Administration of Registration of Licensed Pharmacists," 18-Jun-2021.