

Explore how the Pharmacy Council is Changing Health Care in Saudi

Bader Mutlaq Alotaibi^{1*}, Ahmed Abdulaziz Samkri², Mshari Mohammed Alharbi³, Salman Hutayl Alshammari⁴, Saud Ahmad Hassan Alzahrani⁵

^{1,2,3,4,5} Pharmacy Technician, Prince Sultan Military Medical City

² Email: Pht.Ahmed@gmail.com

³ Email: msharia74@gmail.com

⁴ Email: Ssalman.1991@hotmail.com

⁵ Email: saud7330@gmail.com

Abstract - The purpose of this piece is to shed light on the National Electronic Pharmacy Platform's (NEPP) efforts to disseminate and promote the use of online pharmacies among Saudi people. Data from 85 of the 225 NEPP-registered online pharmacies was analyzed for a cross-sectional quantitative study. Numerical analysis of the data was used to compile an extensive statistical profile of changing patterns in pharmaceutical use in Saudi Arabia. Despite NEPP's relatively recent introduction (in 2023), there is clearly rising interest among pharmacies. There is a lot of room for expansion, and continued activities to raise consciousness and provide education will only help fuel that development. Africa's increasing emphasis on pharmacy regulation and the proliferation of online drugstores underline the importance of the NEPP model for the continent's individual nations. This research highlights the possible long-term impact of NEPP on Saudi Arabia's healthcare infrastructure. The increased rate at which antibacterial drugs are prescribed is an important finding. This might mean that the Saudi population is seeing an increase in bacterial illnesses, especially those related to breathing difficulties. It is crucial to treat these infections and raise awareness of antibacterial-related disorders. The Ministry of Health, the Saudi Health Service, & the Pharmacy Council may use our findings as they formulate strategies to deal with antibacterial-related health issues.

Keywords - Pharmacy Council, Health Service, Saudi, NEPP, Drugstores.

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INTRODUCTION

The Kingdom of Saudi Arabia, with an area of approximately 2.5 million km², is the biggest of the Gulf Arab countries in the Middle East.[1] It ranks high on the human development index (ranking 34 in 2014), indicating that the nation is prosperous. [2,3] Its healthcare system was rated 26th out of 190 in the globe in the globe Health Report 2000 published by the World Health Organization. [4] Out of a total population of 30.7 million, just 20.7% are Saudi nationals. There are about as many men as women. [5] The median age in Saudi Arabia is merely 28, and only 3% of the population is 65 or older (2013 statistics), making it one of the youngest populations in the world. [6] Between the years 2000 and 2012, the average lifespan increased by three years, from 74 for males to 78 for women. [7] One of the greatest population growth rates in the globe is estimated to be 3.2%.8

Even more encouraging is the news that newborn and neonatal death rates have dropped, to 10.7 and 15.5, respectively, for every 1000 live births. "The declines in neonatal and infant mortality and the rise in life expectancy may be attributed to a number of causes, including advancements in health care and outreach programs and the implementation of free, obligatory child vaccination programs on a nationwide scale." According to the Ministry of Health, the national vaccination rate increased from 95% to 98% between 2006 and 2013, while the prevalence of measles decreased by more than two-thirds during that period. [8]

PC of Saudi Arabia is a body corporate with perpetual succession established under Chapters IV and VI of the Health Professions Regulatory Bodies Act, 2013. The nine (9)-person Governing Board is responsible for setting and enforcing national pharmacy practice standards in the public

interest. The Pharmacy Council's goal is to guarantee everyone's equal access to high-quality medical treatment via ensuring that all pharmacies operate in accordance with established norms. The Council also plans to work with regional organizations and global pharmaceutical groups to increase its efficiency and promote the prudent use of pharmaceuticals in Saudi Arabia. The PC is devoted to doing this task with honesty, professionalism, and integrity.[9]

Since the field of digital healthcare is always developing and evolving, the Pharmacy Council, in accordance with the goals of the Ministry of Health, has carefully designed and implemented the New Electronic Prescription System (NEPP). Computers, by making effective use of digital channels, have expanded the scope of healthcare delivery beyond brick-and-mortar pharmacies. This expansion has brought medical treatment to those living in previously inaccessible areas. This comprehensive strategy guarantees that all Saudis, regardless of where they happen to live, have equal access to the pharmaceutical treatment to which they are entitled.

Health Workforce

A wide range of medical professionals, such as doctors, nurses, pharmacists, psychologists, dentists, speech therapists, laboratory technicians, respiratory therapists, dietitians, physical therapists, and radiologists, are available in the Kingdom of Saudi Arabia. The high turnover rate of medical professionals in the monarchy is a major problem that might destabilize several hospitals and clinics. Due to a severe lack of Saudi nationals entering the health care profession, the country must rely heavily on foreign labor. The Ministry of Health (MOH) is attempting to address this problem by providing scholarships for domestic and international education to Saudi citizens working in the health care sector.[10]

From 2006 to 2013, the number of doctors increased by 27.6 percent, the number of dentists by 68.1 percent, the number of nurses by 31.1 percent, the number of pharmacists by 19.5 percent, and the number of allied health professionals by 53.3 percent. Twenty-six percent (20,241) of the 22,241 pharmacists working in the country in 2014 were Saudi nationals. However, the "Saudization" or full nationalization of the health care workforce will take much longer. "At the present growth pace, it would take the Kingdom of Saudi Arabia almost 17 years to fully nationalize all pharmacy employment, according to a statement released in 2012 by the Saudi Food and Drug Authority." In 2015, it was estimated that the yearly graduation rate of pharmacy students would hit a thousand, with further increases of 7–10% every year afterwards. [11] There were 3.68 medical doctors for every pharmacist in the country in 2014.

There are now 28 schools providing pharmacy-related degrees, including a Bachelor of Pharmacy (BPharm), Master of Science in Pharmacy (MScPharm), and Doctor of Pharmacy (PharmD). The PharmD program is gaining popularity at institutions around the country, suggesting that the BPharm may soon become obsolete. Some schools offer a BPharm degree as a first step, with the option of continuing on to a PharmD after meeting certain prerequisites. "The BPharm requires a minimum of 5 years to complete and involves a semester-long internship or the equivalent amount of training hours over the summer, whereas the PharmD is an entry-level degree that takes 6 years to complete and requires a full year of internship". In comparison to the BPharm, the PharmD program places a greater emphasis on pharmacy practice and clinical pharmacy. Courses in pharmacognosy and medicinal chemistry, among others, that aren't strictly necessary are also cut. More clinical rotations are included.[12]

Limitations in clinical faculty, trained preceptors, and state-of-the-art practice venues for experiential learning are only a few of the obstacles hindering the development of clinical pharmacy education in Saudi Arabia. Some schools of pharmacy are attempting to address these concerns by forming affiliations with big hospitals that employ clinical pharmacists, and then asking clinical pharmacists from these connected facilities to teach as adjunct faculty at the pharmacy schools. A further significant challenge is harmonizing the PharmD curriculum to satisfy the standards of a pharmacy-specific certification organization like ACPE or the Council on Continuing Pharmaceutical Education. To this end, a few schools have begun the process of applying for worldwide ACPE accreditation. When King Saud University in Saudi Arabia earned ACPE accreditation in 2011, it was the first university in the world to do so. There are now 3 schools of pharmacy in the nation with ACPE accreditation. However, the National Commission for Academic Accreditation and Assessment must approve all schools in the nation before they may call themselves "universities." [13]

Background of NEPP

There has been a giant step forward in the digitization of pharmaceutical treatment throughout Africa with the implementation of the NEPP in Saudi Arabia. NEPP is a regional first in terms of its commitment to improving health outcomes, increasing patient safety, and promoting health equality via increased access to pharmaceutical services. "Strengthened regulatory frameworks, capacity-building efforts, and complementary public-private partnerships are crucial to NEPP's long-term viability and scalability. A compelling example of multi-sector coordination and stakeholder involvement is provided by the partnership between key entities such as the Pharmacy Council, the Ministry of Health, the

office of the Vice President of the Republic of Saudi Arabia, the Pharmaceutical Society of Saudi Arabia, the Food and Drugs Authority, the National Health Insurance Authority, the Saudi Health Service, and other vested stakeholders.” This group effort exemplifies the significance of partnerships in the creation and implementation of NEPP. [14]

The Dakar Regional Assembly on Pharmacy Practice Regulation and Electronic Pharmacy underscored the necessity for member states to adopt and adapt the NEPP model. “It is hoped that this modification would have far-reaching consequences for pharmaceutical treatment, strengthen healthcare systems, and pave the way toward establishing Universal Health Coverage over the whole of Africa. Currently, 225 online pharmacies are participating in the NEPP ecosystem. Among the notable accomplishments is the complete integration with all Saudi Private Health Insurance Companies. Alignment with the Saudi Health Service Lightwave electronic medical record system has considerably progressed, having reached 90% completion. The integration path with the National Health Insurance Authority is also commendably advanced, having reached 90% completion.” In the next paper, extensive research will be conducted to illuminate the widespread use of NEPP by Saudi people and the geographic distribution of online pharmacies in the country. The revolutionary potential of NEPP and its lasting influence on the American healthcare system will be revealed in this analytical investigation.

METHODOLOGY

Quantitative, cross-sectional investigation of 85 NEPP online pharmacies' worth of sales data. Eighty-five registered NEPP pharmacies with ePharmacy services were utilized for the statistical study. Therefore, we did not include the remaining 142 online pharmacies in our study. Information was gathered from 10 different regions/zones in Saudi Arabia between January 2023 and June 2023 for this research. Although Saudi Arabia is divided into 16 areas, the Council only has authority over 10 of them. The council decided to create the zones in order to group the expanding areas together.

Table 1: The prevalence and location of online pharmacies throughout different regions

Region	Great Accra	Ashanti Region	Western Zone	Brong Ahafo Zone	Eastern Region	Northern Zone	Central Region	Volta Zone	Upper West	Upper East	TOTAL
No. registered for Private Health Insurance	87	13	10	4	2	2	1	1	-	-	120
No. of licensed e-Pharmacies	156	38	11	5	5	3	5	1	-	1	225
Number providing services on NEPP as of June 2023	91	15	10	4	2	2	1	1	-	-	126

Quantitative information was the main kind of input for the study. In order to produce a complete and descriptive statistical picture of the current drug consumption patterns in Saudi Arabia, the data was analyzed numerically. Drug purchases were the most common kind of transaction on NEPP, and this included both cash purchases and those covered by insurance. The analysis in this paper does not include NEPP cash transactions. Given that the total value of the 8 prescription counts throughout the studied period was only 471 cedis 35 pesewas, we deemed them statistically unimportant and so excluded them from the analysis.

RESULTS

As of June 2023, Table 1 details the number of NEPP service providers, private health insurance enrollees, and approved online pharmacies. “After NEPP was implemented in January 2023, as shown in the table below, the total number of licensed ePharmacies increased to 225.” Considering the site just launched in July of 2022, this achievement is quite noteworthy. It's worth noting, however, that this pattern doesn't hold true in every geographic area.

The Greater Accra region is home to the great majority of ePharmacies; however, no businesses in the Upper West region have signed up to use the service. “The Brong Ahafo Zone, the Northern Zone, the Eastern Region, the Central Region, the Volta Zone, and the Upper East all have less than 10 ePharmacies. The fact that the Eastern Region and the Central Region have reported a significantly lower number of ePharmacies is cause for worry, even if the lower count of ePharmacies in northern areas might be ascribed to infrastructure limits and lower digital literacy rates.” The need for a strong awareness campaign in these areas is highlighted by this finding.

Despite the number of ePharmacies that have registered, it is important to remember that as of June 2023, only about half of them were really using the platform to provide services and had

signed up for Private Health Insurance in Saudi Arabia. Accra may be home to a large number of ePharmacies, but the city's share of the country's total is far less than the share of licensed ePharmacies in other parts of the country. Particularly in areas where their existing presence remains restricted, there is an urgent need to spend serious efforts on fostering increased awareness and supporting the benefits of ePharmacies. This proactive posture will not only fill in the gaps that now present, but it will also play a critical part in creating a more fair dispersion of ePharmacies, which will ultimately lead to a more general acceptance of NEPP throughout all of Saudi.

Covering the period from **January 1, 2023, to June 30, 2023, and related to private health insurance. The number of prescriptions and their total value, in particular, show a rising trend from January to June. This trend is encouraging since it points to a rising tide lifting all boats when it comes to the use of private health insurance for prescriptions in the year 2023.**

Table 2: An Overview of Prescriptions and Costs Covered by Private Health Insurance.

Month	January	February	March	April	May	June	Total
Prescription count	24,387	25,789	28,628	22,494	26,199	26,773	1,54,270
Prescription value (ghc)	1,683,904.76	1,833,734.90	2,208,164.47	2,313,370.03	3,028,419.98	3,310,480.09	14,378,074.20

From a total of 120 possible online pharmacies, 78 are actively accepting Private Health Insurance as payment. During the six-month time frame between January and June of 2023, an astounding total of 64 unique drug kinds were prescribed and administered.

“A total of sixty-four different medication categories (drug kinds) were issued within the setting of the

sample communities, for a grand total of one hundred and fifty-four thousand two hundred and seventy (154,270) prescriptions.” The percentage of these orders that were for systemic antibacterials was 16.2% (n=24,958). Frequent use of antibiotics is correlated with an increased risk of developing a respiratory infection. [15] Curiously, antihypertensives ranked fourth in terms of prescription frequency, just below analgesics and multivitamins, with cough and cold remedies coming in at number five.

Anti-diabetic and anti-malarial drugs ranked seventh and tenth, respectively. However, “antihypertensives emerged as the most financially important, accounting for 16% of the overall cost, followed by antibacterials and antidiabetics. Patients who misuse or overuse antibiotics have a role in the development and spread of antibiotic resistance.” [16]

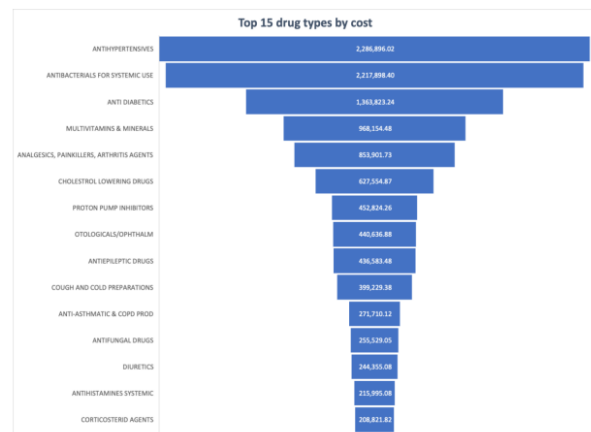


Figure 1: The 15 most often prescribed classes of medications and their associated costs, as covered by private health insurance.

CONCLUSION

The purpose of this study is to investigate the implementation and uptake of the NEPP within the Saudi public health system. We did an extensive study using information obtained directly from NEPP. The results show that pharmacies are becoming more interested in NEPP despite the program's relatively recent introduction in 2023. The prospects for this expansion are encouraging, particularly in light of the fact that training and education initiatives have been expanded. The high rate at which antibiotics and cough syrups are prescribed is striking. This might be an indication of an increase in the number of bacterial illnesses, most notably those associated with the respiratory system. Treating these infections and increasing awareness of disorders that may be connected to antibacterials are both very important. In addition, if NEPP is successful in Saudi Arabia, it may

encourage other nations to implement similar systems, so improving global health.

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Corresponding Author

Bader Mutlaq Alotaibi*

Pharmacy Technician, Prince Sultan Military Medical City