International Journal of Medical and Health Sciences Research
2020 Vol. 7, No. 1, pp. 37-48.
ISSN(e): 2313-2752
ISSN(p): 2313-7746
DOI: 10.18488/journal.9.2020.71.37.48

INTERNATIONAL INTEGRATION OF PHARMACEUTICAL SUPPLY CHAINS IN VIETNAM: AN OVERVIEW OF CHALLENGES AND OPPORTUNITIES AT HOSPITALS IN HO CHI MINH CITY

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Article History
Received: 8 October 2020
Revised: 30 October 2020
Accepted: 20 November 2020
Published: 10 December 2020

Keywords
Pharmaceutical supply chain
Hospital management
Hospital pharmacy
Supply chain integration
Performance.

ABSTRACT

The purpose of this paper is to analyze the changing aspects of the types of pharmaceuticals purchased, distributed, and sold throughout the supply chain in hospitals in Ho Chi Minh City. The information for analysis is based on the secondary data from the previous studies. The research was combined with analysis from practitioner papers to gain key insights change affects the international integration of pharmaceutical supply chains in hospitals in Ho Chi Minh City. The outcomes of the study are suggestions four key issues: Pharmacists are a workforce of hospital workers to provide quality products and services at affordable prices; Quality management is an important component of all hospital or healthcare industry; Hospitals ensure patient supply continuity is to protect the brand and the hospital by restoring normal operations as quickly as possible with minimal disruption; Hospitals need to pay attention to applying the techniques and information technology available today to build integrated relationships from stakeholders in the supply chain to create a competitive advantage, using comprehension. Information technology results play a very important role in the success of the hospital. The hospital wanted to get the pharmaceutical supply chain's desired performance measurable by monitoring and controlling its operation. The article contributes specific information about the pharmaceutical supply chain in hospitals in globalization for Vietnam.

Contribution/Originality: The paper's primary contribution is finding that the situation of the pharmaceutical supply chain at hospitals: (i) pharmacist human resource management, (ii) management activities comprehensive quality management, (iii) ensuring the pharmaceutical product supply process for patients, and (iv) applying information technology for pharmaceutical supply chain operations in hospitals.

1. INTRODUCTION

Currently, Vietnam has participated in international integration. Since 2006, Vietnam has become a full member of the World Trade Organization. This milestone has brought many innovations to Vietnam's economy. In the current globalized competitive economy, many companies are making constant efforts to improve operational efficiency and gain a competitive advantage with competitors, both companies and domestic companies [1].

There is a demanding increasing level of medical service in the future. According to the World Health Organization (WHO) has indicated that the health service delivery system, there are three primary levels of service - the grassroots level with the district and commune levels, the provincial level with the local hospitals, and the central level with central hospitals under the management of central government [2].

Additionally, according to WHO, Human health (including doctors, nurses, midwives, pharmacists, etc.) is the component that is extremely important in the provision of health services quality, commitment to covering care for healthy people, and achieving sustainable development goals related to health. A highly specialized, multidisciplinary health workforce capable of delivering high-quality and people-centered health services is essential to meet changing medical needs in Vietnam. In the reform of the health system in Vietnam, one of the main focuses is building human resources in the health sector. Specifically, it is necessary to create a couple of qualified health workers, especially at the grassroots level; adopt mechanisms and policies to ensure the quality of medical expertise and the quality of training at medical universities, and ensure adequate salaries for health workers [2].

Moreover, the World Health Organization has mentioned the role of medical quality and patient safety in Vietnam. Vietnam has demonstrated its commitment to providing safe and high-quality health services to its people. In 2011, Vietnam launched medical incidents and patient safety, called "Medicine safety," and has become a priority policy of the health sector. More recently, in 2018, the Ministry of Health issued Circular No. 43 / BYT / 2018, guiding medical incidents prevention in medical facilities. The guidance given in the circulars helps medical facilities build an environment of health care. Medicine incidents are identified, analyzed, reported, and handled to prevent a repeat in the future. There has been an increase in the investment trends in the health sector in Vietnam at present. It is noted that three factors that attract investment in the health sector: optimizing investment, maximizing efficiency, reasonable distribution of risks [3].

Like many developing countries with relatively poor healthcare provision, Vietnam has a substantial burden of communicable diseases. Disability-adjusted life years (DALYs) lost to a communicable disease (3,375,565) represented 28.1% of DALYs lost to all diseases in 2014 and will only decline slightly to 27.7% by 2030. The pharmaceutical industry in Vietnam faces huge opportunities and development currently and in the future. Additionally, Western regulatory standards are taking place at the International Conference on Initiative of the Association of Southeast Asian Nations and WHO guidelines [4].

Based on Decision No. 68 / QD -TTG in 2014, the National Strategy for developing Vietnam's pharmaceutical industry from 2020 and a vision to 2030. It has provided a specific goal of rational use of drugs, it is a requirement in safety, effective services; promote clinical pharmacy and pharmacovigilance; Strictly and effectively manage stages from production, export, import, preservation, circulation, distribution to use of drugs.

According to Nguyen, Vitry, and Roughead, due to government changes to domestic regulations on imported drugs. The pharmaceutical sector in Vietnam has grown significantly over the past decade. Vietnam's market offers many opportunities for the potential pharmaceutical supply [5]. According to the 2018 report of Business Monitor International, the Vietnamese healthcare market is worth 17.4 billion USD. Spending is expected to double from $ 170 in 2017 to $ 400 by 2027 at the per capita level. Vietnam's pharmaceutical market reached an estimated revenue of 5.9 billion USD in 2018, up 11.7% year-on-year, and is forecasted to have double-digit growth over the next five years. In Vietnam, the average spending on drugs increased from 22.25 USD in 2010 to 37.97 USD in 2015 and doubled to 56 USD in 2017. The average expenditure on drugs was 14.6% over the period. 2010-2015 and maintained at least 14% until 2025. Vietnam is heavily dependent on pharmaceutical imports. We can see that the country imported pharmaceutical products worth USD 1.8 billion in 2012 while products exported worth USD 77.1 million during the same period. From 2014 to 2019, we see the forecast export and import of pharmaceuticals will double the annual 19.5% growth rate, respectively, and 11.0% by US dollars [4].

2. LITERATURE REVIEW

2.1. Conceptualizing the Evolution of the Pharmaceutical Supply Chain

According to Nguyen, Vitry, and Roughead, the pharmaceutical supply chain (PSC) in Vietnam is a complex system consisting of several intermediaries between the manufacturer and the consumer. The first is to ensure the

quality of drugs in the entire supply chain by controlling good pharmaceutical standards. However, the number of inspection personnel insufficient pharmaceutical inspection led to the occasional manufacturer and ineffective inspection of the distributor base. Some private pharmacies were selling drugs of unknown origin, country of origin, even counterfeit drugs. In Vietnam, PSC drugs domestic production from factories producing Vietnam's pharmaceuticals are distributed directly to retailers and health facilities, or indirectly through wholesalers or distributors coordination. Vietnamese manufacturing factories with a retail business license can supply drugs directly to end consumers and distribute domestically manufactured pharmaceutical products. Manufacturers of capital foreign direct investment can directly distribute the products they manufacture in Vietnam. Figure 1 below provides a "quick look at" PSC's basics in Vietnam [5].

Research by Angelino, Khanh, An Ha, and Pham gives many recommendations to improve Vietnam's pharmaceutical industry's participation in the PSC in the globalization context. Pharmaceutical companies in the country focused on investing in producing new medicines and improving medicines' quality to gradually leave the market segment generics conventional and specialized medicine production quality for the wider market rather than export. They are developing supporting industries for the pharmaceutical industry, making raw materials, the pharmaceutical supply chain's input materials, helping to narrow the price gap between Vietnam's exported drugs and countries. The domestic market needs to be open to foreign investors, especially manufacturers wishing to set up manufacturing plants in Vietnam [6].

Supply Chain Management (SCM) is one of the major contributors to improving the healthcare sector's performance. Still, its implementation is at the nascent stage worldwide [7]. Therefore, further study the supply chain's performance in providing excellent quality and service towards ending users requiring globalization. SCM concept demands the update for efficient use of resource utilization for the modern organization. Effective SCM is key to efficient resource utilization and customer satisfaction in service sectors, including government health institutions [8]. Similar to the supply chain in the production environment. Different modes of integration can characterize the PSC: integrating and coordinating processes; Integrating and coordinating information flows; Integrate and coordinate planning processes; Integrate internal and external processes across organizations; Integrating market approach; Market development integration [9].

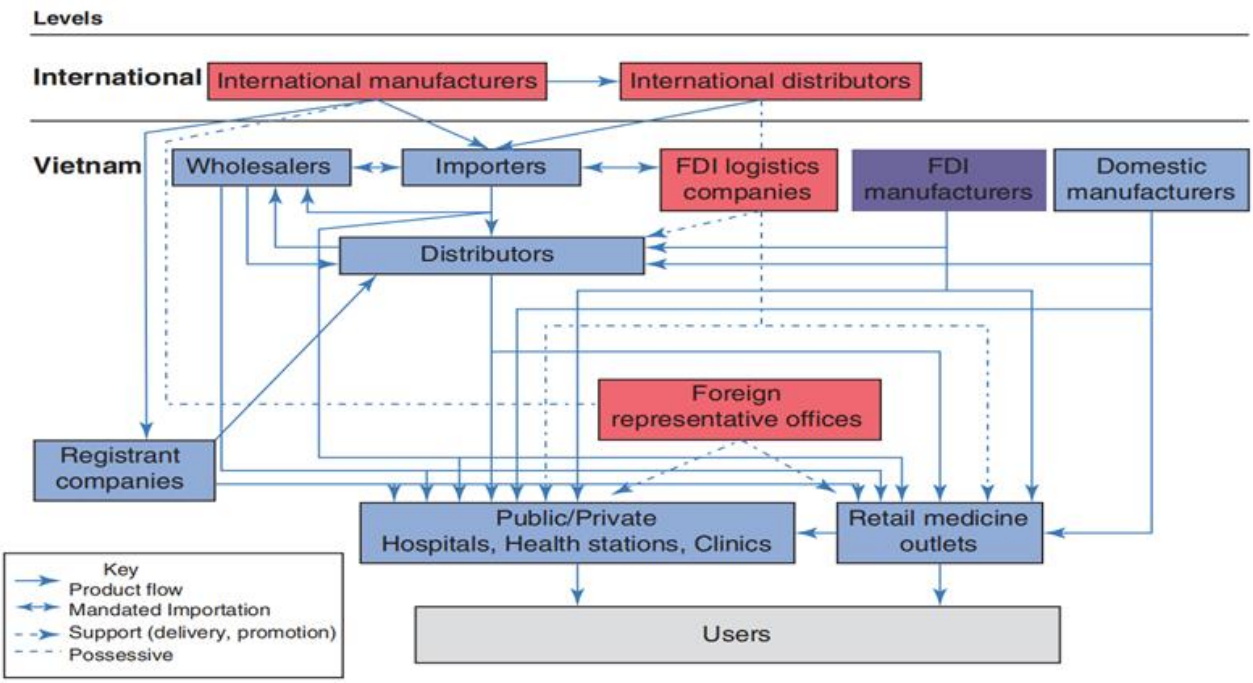

Figure-1. The pharmaceutical supply chain in Vietnam.

The health sector is changing very rapidly in the industrial revolution 4th. So an organization to survive and develop should also be able to: innovate, adapt and upgrade, in which the information system is one of the important factors to help investors and managers up each year and plans to develop plans for new projects. Due to digital development, there is a need to update the smart supply chain to provide good services and general values. Mostly, information technology [7]. For example, the IoT(s), blockchain, Artificial intelligence (AI) is the tool for applying in the smart pharmaceutical supply chain that the Vietnamese enterprises need to change and innovate.

In the current context of globalization or epidemic problems. Especially in 2020, with the outbreak of COVID-19 worldwide [8]. Factors driving change in the life sciences supply chain are even more apparent [9]: Firstly, the driving force drives the supply chain development. New product types have shorter product life cycles, leading to more complex production and distribution processes. Second, the ability to manage risk in the supply chain should be considered pharmaceuticals. There is a need for closer monitoring of related diseases due to increased regulation and increased morbidity for a more robust risk assessment. Third, New ways of health care are creating clear boundaries between primary care and acute care. The development of a more comprehensive distribution network as well as production processes and distribution on demand. Fourth, PSC will need to continue to save costs through lean operations. The current trend of healthcare is patient-centered. Pharmaceutical companies need to shift focus and find new means of collaborating with payers, providers, and patients and information technology (IT) and technology companies, management with integrated management to expand into health care.

2.2. Case Study Approach

In Vietnam, in the future, there is a trend in the patient-centered healthcare sector. The current PSC needs to be reorganized accordingly. It has many layers in the distribution network, contributing a dual sign along the supply chain, increasing medicines' final prices [5].According to Plan No. 224 / KH-UBND, 2018, the National Strategy for the Development of the Pharmaceutical Industry form 2020 and a vision to 2030 in Ho Chi Minh City. Pharmaceutical development towards specialization and modernization is capable of competing with other countries in the region and the world; developing the distribution system, providing modern medicine, professionalism and standardization: provide adequate, timely, quality, and reasonably priced drugs according to the disease structure corresponding to each stage of socio-economic development and ensure safe and rational use of drugs.Department of Health of Ho Chi Minh City, (2017). Hospitals affiliated with the Ministry of Health and other ministries and agencies in the city also provide outpatient check-ups and treatment 5,144,999, accounting for 12.67% and 1,259,552 inpatient treatments 41.5 % of the total number of inpatient treatments at all hospitals in the city. The number of outpatient examinations and treatments at medical facilities directly under the Department of Health: 35,472,946 turns, patients in the southern provinces of Vietnam accounting for 30-40%. The number of inpatient treatments at health facilities under the Department of Health: 1,776,339 cases, patients in the southern provinces of Vietnam accounted for 40-60%.

3. METHODOLOGY

The study performed an analysis of reports of hospital pharmacy science conferences 2017, 2018, 2019 based on the study problem. Documents can provide background information before designing the research project [10]. The hospital pharmacy conferences were organized by the Ho Chi Minh City Pharmaceutical Association. The conference's research reports were presented by pharmacists and experts from hospitals and pharmaceutical training universities in Ho Chi Minh City.

4. RESULTS

The authors prepared the analysis challenges of the pharmaceutical supply chain in hospitals. It is combined with analysis from practitioner papers to gain key insights into the main driving force for change affects the

international integration of PSC in hospitals in Ho Chi Minh City. The scarcity of knowledge and awareness converts the pharmaceutical supply chain in hospitals to become a problem for hospital management and pharmacy practice in hospitals. Consistent with this problem, we found a gap in the field of literature, as follows in Table 1.

Table-1. These challenges of hospital pharmacy in Ho Chi Minh.

These challenges	References
Regarding the Human resources in the pharmaceutical supply chain sector: Based on the study problem of manage human resources (HRM). The authors prepared the analysis: The hospital leaders recruited more pharmacists trained in the right direction for the hospital's job position. Hospital pharmacists play an important role in ensuring quality and safety during the movement of drugs at the hospital, improving professional efficiency (increasing compliance with professional standards to ensure patient safety). Pharmacists are members of a multidisciplinary care team that coordinates multidisciplinary and patient care. Pharmacists in hospitals related to operational efficiency organizations: eliminate wasted time and optimizing human resources, coordination of activities under a specific plan.	The Hospital Pharmacist Association Ho Chi Minh City [11].
Based on the study problem of total quality management. The authors prepared the analysis: The hospital should have procedures for each activity pharmaceuticals. The hospital stores evidence for activities of evaluating hospital quality improvement and improving the quality of hospital pharmacy activities, convincing evidence to convince hospital leaders to increase resources for pharmacists, increase activities. Continuously train to improve hospital pharmacists' expertise and profession to meet the hospital's needs and development. Increase the organization's efficiency by implementing effective team activities in the examination and treatment, improving interoperability and coordination between units in the hospital. Develop safe and effective drug management processes: financial and professional. The hospital needs to have cost-effectiveness as an important indicator in selecting drugs supplied to the hospital. Hospitals need to assess the effects of drugs' economic use, conducting studies evaluating medication use to hospital patients. Hospitals should have policies to support and reward announced the findings at conferences and in magazines at home and abroad, developing scientific publications each year associated with activities Hospital practices.	The Hospital Pharmacist Association Ho Chi Minh City [11]
Based on the study problem of supplying the product. The authors prepared the analysis: Public sector hospitals that are not self-financed use a reasonable budget and have a reasonable plan to purchase drugs for public hospitals (promptly, with the right type, good quality, and sufficient quantity). The hospital that purchased drugs still had a smaller, larger quantity of drugs and was not included in the hospital's approval plan initially. Medicines supplied by the company pharmaceutical to the hospital do not match the records of the pharmaceutical supplies sent to the hospital by the company (for example, incorrect quantity, unit, concentration, dosage form). Profile of the drug supply pharmaceutical companies to hospitals to change as additional or missing content in the hospital's procurement records. Pharmaceutical suppliers can not afford to supply constant over the years for a long time when there arose about the number and category of new drugs on the market—changing disease patterns, new diseases, epidemics, and severe disease affecting the sources of drug supply. Hospitals need to note that reducing inventory is financially efficient, and it is necessary to reduce costs in drug supply. Hospital care about the quality of drugs supplied to hospitals, drug supply quality assurance can lead to treatment failure, reduces economic efficiency in the use of hospitals, and brand hospital budgets.	The Hospital Pharmacist Association Ho Chi Minh City [11]
Based on the study problem of IT. The authors prepared the analysis: Hospital pharmacists must ensure patients and medical staff are provided with information on the proper use of medications. Enhance pharmaceutical services' quality, hospital application of IT to the analysis of drug use fast, accurate, easy to read results, have reported quickly, supports pharmacists and related parts quality assessment of pharmaceutical services in hospitals. When implementing electronic medical records, it is necessary to expand the network for other hospitals in the current trend. Hospitals perform collaborative connections between hospitals' shared data sources in using the drug for patients. The hospital applied IT in the hospital's pharmaceutical activities was not found, but the maximum (for example, also be updated regularly when new drugs). Hospitals make a selection and application of technology to optimize the most, constantly improve the quality of software, become the software "smart" maximum support of the work, and be user-friendly easy to the user.	The Hospital Pharmacist Association Ho Chi Minh City [11]

Source: The Hospital Pharmacist Association Ho Chi Minh City [11].

5. IMPLICATIONS AND DISCUSSION

The authors found the potential trends for the PSC opportunities for the international integration process of

Vietnam. Besides, considering a hospital's environmental factors is needed in PSC to the end customer is the patient. Furthermore, from the results obtained from proposed scientific research reports by pharmacists and other experts working in Ho Chi Minh City hospitals. The study looks in more detail at factors related to hospital efficacy in PSC. Examples are HRM of pharmacists in hospitals; comprehensive quality management at the hospital; securing medicinal products from supplier to hospital and the end customer (patient); using IT in the hospital's operations; Finally, the integration of related activities to increase the operational efficiency of the hospitals under PSC.

A hospital operates not only for profit but also to assume social responsibility for its clients. Pharmacists are a force of workers and the hospital's community to provide products and quality service at reasonable prices. HRM in the pharmaceutical supply chain in the hospital takes a key-role to contribute to the supply chain performance:

According to the International Pharmaceutical Federation, pharmacists represent the third-largest healthcare professionals in the world. The availability of trained human resources is important in meeting national and global health goals, and attention is therefore needed. Therefore, the pharmacist shortage may affect the operation of the health system. The activities related to public health services usually refer to physicians and nurses. Still, they often do not mention pharmacists working in the health care system in both the public and private sectors [12, 13]. Hospital pharmacists need to feel sure about their future, so managers should strive to ensure the pharmacist's role in health care delivery [14].

HRM affects the organization's effectiveness through its effects on the employee's capacity to mediate [15]. Human resources are the factors that drive an organization's performance in the healthcare supply chain. The effective management of a supply chain demands excellence in managing its human resources. An area particularly overlooked in a resource-poor environment [16]. Identify how management and personnel practices lead to satisfaction with supply chain performance, especially suitable for modern industrial organizations where there is a tendency toward inter-organizational networks in the form of supply chain integration [17, 18]. Some challenges need to be addressed before implementing an integrated key performance indicator that encompasses the entire pharmaceutical. Pharmaceutical services at the hospital departments and proven under the key performance indicators are standardized nationally and internationally [19].

Quality is a key component of all healthcare industry or business-related services: this has become the norm for most companies or hospitals globally. The worst is that the issues related to safety may affect the long-term viability of the hospital. Therefore, the quality of the hospital must always be improved to bring customer satisfaction. The total quality management in PSC in Hospital takes a key-role to contribute to the supply chain performance:

Quality management provides a viable model to improve the PSC's overall performance, potentially impacting people's lives, reducing pharmaceuticals and healthcare burdens. Healthy while improving the basic structure [20]. Hospitals need to build a quality management system to provide better services related to existing drugs and continue developing expertise for specialists to improve customer satisfaction with services. They offered at the pharmacy [21].

- Pharmaceutical service managers need to improve service quality to improve patient satisfaction [22] and useful for the pharmaceutical department in public hospitals in improving service quality to increase customer satisfaction [23]. The issue of designing PSC is because these supply chains are currently designed in an arbitrary, non-scientific way. These factors will help change the PSC design for greater efficiency, safety, and quality [20]. PSC processes have an important influence on the quality of drugs and patients' end-result [24].

Regardless of the interruption of drug supply secondary treatment for patients at the hospital, there is nothing worse than hastily seeking contact information for units in hospitals and suppliers in crisis times. Ensuring patient continuity is to protect the brand and the hospital by restoring normal operations as quickly as possible with

minimal disruption. Supplying product in PSC in the hospital takes a key-role to contribute to the supply chain performance:

The current supply chain and drug management system in hospitals has some gaps and shortcomings, especially the lack of resources and a well-documented policy framework. A process of cooperation with many stakeholders' participation is needed to provide a roadmap for improvements PSC continuously. It includes prevention costs with specific goals and success measures in managing drug effectiveness [25]. The PSC at establishments operating below the required standards, and many factors have contributed to exhausting essential drugs [26]. Identified problems in the undesired drug system include the storage and transport of drugs and drug delivery [27].

Studies have shown that legal requirements prolonging the purchasing process negatively affect pharmaceutical procurement [28]. Transforming sourcing strategies will enable healthcare systems to deliver healthcare [29]. Hospitals need to be regularly evaluated by different departments. They also need to ensure staff inventory control is regularly trained on inventory management to equip staff knowledge and skills to use and manage. Sign and form various forms for appropriate qualifications [28]. The shortage of drugs and improper use of pharmaceuticals leads to financial losses and significantly affect patients [30]. The most important future challenges facing pharmacies regarding healthcare development plan management may include space shortages due to overcrowding of patients and excess medication availability [18].

Information technology can support internal operations and cooperation between supply companies and hospitals in the PSC. Using the data network good elevation and database, companies providing and hospitals can share data to manage better the entire supply chain of individual hospitals' pharmaceutical and location. IT in PSC in the hospital takes a key-role to contribute to the supply chain performance:

Health IT provides electronic healthcare services that integrate information flow from interactions between patients, providers, government agencies, and insurance companies. It helps improve the quality of comprehensive management, safety, and efficiency of service providers with fewer medical errors than improving management efficiency, reducing costs, and expanding access to the patient's health care [31, 32]. The PSC is more complicated than many other supply chains. It can affect social and political attitudes. On the other hand, managing the PSC faces many difficulties because of its complexity and government regulations in this area [33]. Managed care pharmaceutical professionals must understand the value and effective use of health IT solutions to impact how future development occurs [34].

Hospitals must be patient-oriented, streamlined, and agile to redesign and integrate healthcare processes properly, helping to reconcile effective requirements with patient needs [35]. IT is interested in identifying delays in the drug delivery system and further avoiding drug errors, major problems related to patient safety in hospitals [36, 37]. The pharmaceutical information system acts as one of the central pillars of the information system. This ensures that drug therapy is supported and evaluated with the same optimum safety and quality as other treatments and services [38]. Standardization by better integrating procurement functions and information technology makes collaboration between clinicians more standardized [39].

Currently, to build integrated relationships from stakeholders in the supply chain to create a competitive advantage. The spread of network data transfer speed of the computer and technology has promoted SCM with more accurate level stakeholders in the pharmaceutical supply chain. To develop this capability, each hospital and the entire PSC need to learn new behaviors, cooperation, and information sharing from suppliers and customers. Hospitals want to activate this new behavior by using appropriate technologies. Relationship between integration in PSC in Hospital takes a key-role to contribute to the supply chain performance:

- An integrated pharmacy practice model comprising an interdisciplinary team of doctors, nurses, and pharmacists improved patient compliance with therapeutic therapies [40]. Studies suggest that hospital-provider integration results in positive performance [41]. The PSC identifies the distributed flow of

information among supply chain participants, providing solutions to improve supply chain reliability in an actual pharmaceutical supply network [42].

Internal supply chain integration between clinical, material, and information flows are essential to improving logistics processes' operational performance and integrated supply chains [43]. The inventory model integrates continuous review with production and distribution for pharmaceutical company-related supply chains and hospital supply chains [30]. SCM application in hospital management is about to be applied as a competitive advantage of SCM as a useful tool to improve operations and strategy [40].

The supply chain is like a liquid, continuously adjustable according to changes in product supply and demand. To get the desired performance from the PSC, hospitals need to monitor and control their activity daily. To determine the results the PSC can provide, we need to assess the market being served. These companies supply and hospitals can work together to create a PSC efficiency will become the largest profit in the long term. Hospitals could find ways to share data effectively will be the ones to create a competitive supply chain. Customers are always attracted to the supply chain efficiency, and hospitals will gain market share from less efficient hospitals. Measuring overall PSC in the hospital takes a key-role to contribute to the supply chain performance:

- SCM practices play an important role in achieving and maintaining customer satisfaction in the pharmaceutical industry. This requires identifying, from the outset, the critical factors that influence these activities [44]. Future research needs to evaluate whether integrated supply chain operations effectively enhance other performance types, such as innovation [45]. There are three types of performance studies related to integrated supply chains, namely, the connection between external integrated supply chains and performance, integrated supply chains and internal performance, or supply chain integration, inside and outside with performance [46].
- Hospital operators have recognized the importance of supply costs in hospital operations and economic sustainability. Hospitals that rely significantly on such organizations often incur lower supply chain-related labor costs but pay for their middleman service and administrative fees [47].To serve as an excellent input to management decision-making in the PSC, To improve logistics processes. Supply chain performance measurement is fundamental to identifying and addressing shortcomings in logistics operations [48].

6. SUMMARY

Based on these research results, the practitioners and academics within Ho Chi Minh City can understand the impact of organizational factors on the hospital's PSC performance. The overall significance of this study will present the following: Firstly, this study will provide an overview of performance management for the pharmacy sector's supply chain in Ho Chi Minh City. Research with SCM practice of hospital pharmacy: minimizing drug shortage in medical examination and treatment; reduce administrative procedures in the hospital; improve the management capacity of the hospital pharmacy; information sharing drug information from pharmaceutical providers to hospitals and patients; reduce waiting time to receive drugs at the hospital. Second, this study will support supply chain practitioners or researchers with an overview of changing hospitals' changing health care practices towards a patient-centered approach. The details are discussed as follows: Hospitals in Ho Chi Minh City are always faced with overcrowding and need more pharmacists and medical staff. These unfavorable conditions brought less ideal conditions for the patient to the hospital. The patient has to move to many places in the hospital and wait and then encounter some medical staff with a wrong attitude. Third, this study will provide a perspective on the healthcare sector's supply chain system to ensure continuity and efficiency in providing output products to Ho Chi Minh City patients. The study defines a string value-added care patient-centered process, focused on identifying the evidence in the supply chain of pharmaceutical hospitals improves care health patients, gradually bringing added value, and improving the operations cycle is choking the hospital. Fourth, research helps hospital managers with a comprehensive understanding of what IT is important, not only in the supply chain sector but also in the health sector's pharmacy sector. IT's importance in the development of industry pharmaceutical industry

plays an important role in minimizing healthcare errors. Reducing errors is an important step toward health care better, and IT applications have certainly created the new impetus to efforts to reduce the error. It can address the supply chain's specific points, such as traceability, compliance, flexibility, and managing stakeholders. This can result in better performance when monitoring the product, ensuring high standards are met, reducing costs, and reducing risks. Fifth, this study will help managers an overview of total quality management in the supply chain field. The quality management of the supply chain will bring efficiency in terms of governance. Besides, it will get quality in using drugs for patients and be satisfied with products and services. Patients expect eventually, "everything is a prescription" to help his health improves soon integrate into the life of society and community. Finally, efficient SCM in the new era requires the integration of relationships in management. This is the intermediary role, but it is also an important influence on suppliers' efficiency to customers. The research contributes to a management platform that creates the journey of patient-centered hospitals. Hospitals can look forward to transforming the supply chain of hospital pharmaceuticals to healthcare services. PSC in hospitals is linked throughout the organization based on the standards developed and applied. Without standardization, the hospital will not be measured to measure what you are doing.

7. CONCLUSIONS

The article gave an overview of the hospital PSC factors that need to be changed to increase the hospital's efficiency in Ho Chi Minh City. These factors are provided, and analysis is applied in the subsequent study by considering qualitative and element quantification. The proposed factors are concentrated in the PSC sector in the hospital. The article has proposed future research directions and pointed out the factors that need to be integrated to increase the PSC's efficiency to help hospitals more successful. However, the article has focused on understanding the factors that helped improve PSC in hospitals that are not interested in improving the healthcare model. Moreover, the article also learned the application of quantitative analysis methods to get specific statistical results.

Funding: This study received no specific financial support.
Competing Interests: The author declares that there are no conflicts of interests regarding the publication of this paper.
Acknowledgement: This article is part of the Ph.D. thesis, specializing in Doctor of Philosophy in Management, Malaysia University of Science and Technology.

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