

# Organization of Management Processes in Pharmaceutical Institutions: A Scientific Review

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**Annotation:** Rational organization of management in pharmacy and pharmaceutical institutions plays a key role in ensuring effective drug supply to the population. Modern healthcare challenges, digitalization, quality requirements and cost-effectiveness require evidence-based approaches to management. The article discusses the main management models, principles of workflow organization, the role of information systems and performance indicators supported by statistical and empirical studies.

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**Introduction.** The pharmaceutical health sector is a complex system in which the management of resources, personnel, assortment and interactions with government agencies requires strict adherence to norms, standards and logistical principles. As noted by Kolesnikova and Slobodchikova (2022), the organization of management in pharmacy goes beyond the mere sale of medicines - it is a multidisciplinary system that includes economics, law, clinical pharmacy and marketing [1]. Effective management in pharmacy and pharmaceutical institutions is a key factor in ensuring the availability and quality of medicines. Modern challenges, including increased competition, digitalization and changes in the regulatory framework, require the introduction of evidence-based approaches to the organization of management processes.

**Results and discussion.** First, let us discuss the management model, which is a set of principles, methods, structures and processes used to achieve the goals of an organization. In the pharmaceutical sector, management is of particular importance because of the stringent requirements for the quality, safety and efficacy of medical products and services.

Linear-functional and matrix management models are the most common. According to a study by the Peoples' Friendship University of Russia (RUDN, 2021), more than 68% of pharmacy institutions in Russia use a linear or linear-functional structure, which provides high manageability, but is not flexible enough in crisis conditions [2].

In the 2020s, hierarchical models are gradually being replaced by flexible approaches - lean management, agile models and process-oriented management. A study by the Higher School of Economics (HSE,

2023) showed that the application of lean methods in pharmacy chains can reduce logistics costs by 17% and customer waiting time by 21% [3].

Pharmacists' competence is critical: implementation of continuing education models and motivational programs (according to IPM RAS study, 2021) increases customer satisfaction by 35% [5]. The use of ERP systems (e.g., 1C:Pharmacy) can increase the transparency of financial flows, automate procurement and reduce the level of excess inventory by 20-25% (PwC Russia Survey, 2023) [6].

In EU and US countries, quality management certification systems (ISO 9001 in pharmacy practice) are actively used, as well as customer-oriented approaches. For example, in Germany, pharmacists are required to provide counseling when dispensing prescription drugs, which reduces the risk of polypharmacy by 28% (European Medicines Agency, 2021) [9].

In Indonesia, the implementation of Lean Kaizen using the PDCA (Plan-Do-Check-Act) cycle reduced prescription waiting time from 135 minutes to less than 10 minutes, significantly improving patient satisfaction. In the United Arab Emirates, changing workflows and optimizing the use of the HIS information system in the outpatient pharmacy resulted in a reduction in wait times from 21.5 minutes to 4 minutes, with 82% of patients expressing a high degree of satisfaction. Collaborative Practice Agreements (CPAs) between pharmacists and physicians are being actively developed in the United States and Canada. These agreements allow pharmacists to participate in the management of chronic diseases, resulting in improved clinical outcomes such as HbA1c levels in diabetic patients and blood pressure control in hypertensive patients. A study conducted in Indonesia, identified the need to integrate information systems in primary health care to improve medication management. The lack of standardized systems leads to duplication of data and increased staff workload. In Saudi Arabia, the implementation of an electronic medical record (EMR) system and integration with the pharmacy information system (PIS) has improved prescription verification and inventory management processes, thereby increasing pharmacists' efficiency.

Over the last decade, Europe's share in global commercial clinical trials has decreased from 22% to 12%. This is due to more complex and slower regulatory processes compared to the US and China. At the same time, China has doubled the number of commercial trials since 2018, reaching a global share of 18%.

Current research emphasizes the importance of integrated planning and flexibility in managing global pharmaceutical supply chains. Using the organizational ambidexterity approach allows companies to simultaneously achieve efficiency and adaptability, which is especially relevant in a volatile supply environment. International experience in organizing management processes in pharmacies and pharmaceutical institutions demonstrates the effectiveness of integrating modern methodologies, information systems and interprofessional cooperation. Adapting these practices to local circumstances can significantly improve the quality of pharmaceutical services and the sustainability of organizations in the face of global challenges.

Modern management models in pharmaceutical institutions are based on the principles of process approach, strategic planning and quality management. The process approach involves dividing the pharmacy's activities into interrelated processes, which helps to improve efficiency and identify bottlenecks in the organization's operations. Strategic planning includes analyzing the internal and external environment, setting goals and developing strategies to achieve them. Quality management based on ISO 9000 standards provides a systematic approach to ensuring the quality of pharmaceutical services.

Optimization of business processes in pharmacy organizations helps to increase efficiency and reduce costs. The key processes are: ordering and receiving, inventory management, pricing, customer service and personnel management.

Analysis of economic indicators is an integral part of pharmacy organization management. The main indicators include: turnover, gross profit, cost of sales and net profit. For example, turnover reflects the

volume of sales of goods and services over a given period and is an indicator of the scale of a pharmacy's operations. Effective inventory planning based on turnover analysis helps to ensure uninterrupted service to customers and reduce costs associated with the storage of goods.

Digitalization of management processes in pharmacy organizations includes the use of automated management systems, electronic document management and analytical tools for decision making. The use of telemedicine and telepharmacy technologies increases the availability and quality of pharmaceutical services. In addition, the implementation of quality management systems based on ISO standards improves the reliability and efficiency of pharmaceutical processes.

According to research, about 4,000 new pharmacies opened in Russia in 2022, the most significant increase since 2015. The total number of pharmacies reached 70,423, indicating the highly competitive market and the need for effective management to ensure business sustainability. In the face of increasing competition and changing customer needs, pharmacy organizations must adapt by adopting innovative management and service approaches.

Thus, it is concluded that the organization of pharmacy management requires the integration of economic, legal and informational approaches. For this purpose, a number of tasks are recommended, such as, implementation of digital solutions, regular staff training, transition from linear structures to flexible process models, focus on customer experience and pharmacovigilance.

Organization of management processes in pharmacies and pharmaceutical institutions requires a comprehensive approach based on modern management theories, optimization of business processes, analysis of economic indicators and implementation of innovative technologies. The application of scientifically based management methods contributes to the efficiency, competitiveness and sustainability of pharmaceutical organizations in modern conditions.

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