

**MINISTRY OF HEALTH PROTECTION OF UKRAINE**

**ODESA NATIONAL MEDICAL UNIVERSITY**

**Faculty** Pharmacy  
*(faculty name)*

**Department** Organization and economics of pharmacy with post-diploma specialization  
*(name of department)*

CONFIRMED by  
Acting vice-rector for scientific and pedagogical work  
Eduard BURIACHKIVSKYI  
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**GUIDELINES FOR LECTURES  
IN THE EDUCATIONAL DISCIPLINE**

**Faculty, course** International, 4-5 year

**Educational discipline** Pharmaceutical management and marketing  
*(name of academic discipline)*

**Approved:**

Meeting of the Department of Organization and Economics of Pharmacy with post-diploma specialization  
Odesa National Medical University

Protocol No. 1 dated September 4, 2023.

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**Developers:**

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## Lecture No. 1

**Topic: Theoretical foundations of management. Management and successful management. Management and leadership in pharmaceutical organizations. Organization as an object of management. The external environment of pharmaceutical organizations.**

**Relevance of the topic:** The processes of market transformation in Ukraine and the increase in the intensity of competition cause an urgent need for a quick and flexible response of pharmaceutical enterprises to changes in the external environment with minimal costs. Under these conditions, basic knowledge of management and marketing in pharmacy plays an important role, the practical implementation of which by pharmacist specialists will ensure adequate response of pharmaceutical enterprises to the rapidly changing demands of consumers.

Perfect knowledge of the historical development and terminological aspects of modern management theories, functional commonalities and differences between managers and entrepreneurs, principles and levels of management, characteristic features of American and Japanese management models is of great importance in the process of becoming a pharmacist as a manager (manager). Therefore,

studying the essence and evolution of management is a relevant topic for becoming a pharmacist

**The goal:** to reveal the essence of the theoretical foundations of modern pharmaceutical management theories, to form a professional view on the issues under consideration, to ensure the assimilation of socio-ethical aspects of management by students, to assimilate the historical experience of the development of pharmaceutical management sciences and the contribution of domestic scientists to this development.

**Basic concepts:** management, management theories, management, levels of management, management, leadership, organization, influencing factors, external environment, internal environment.

### **Plan and organizational structure of the lecture:**

1. Evolution of modern management theories.
2. Concepts and principles of management.
3. Managers and entrepreneurs.
4. Management levels.
5. The essence and classification of organizations.
6. Teams (groups) of employees in the organization.
7. Factors influencing the organization.
8. Organization management process.

### **Content of lecture material (lecture text):**

#### **Evolution of modern management theories**

##### **Stages of development of the world economy**

The history of the emergence and development of management theories is more than seven thousand years old. Priests who conducted trade transactions, business correspondence, and commercial settlements also gained management experience. In the time of the pharaohs, a code of management laws was issued, which contained the order of control and responsibility for the performance of this or that work. The first civilizations were characterized by a traditional method of resource distribution based on traditions and customs. In slave and feudal societies, command distribution prevailed. The economy of this period was characterized by management based on performance control, that is, the reaction to changes took place after the events had taken place.

However, the most active development of the world economy took place in the last three hundred years. This period is characterized by three industrial revolutions (slide 1). The first, which took place XVIII at the beginning of XIX the century and was associated with the introduction of steam

power into the industry, put an end to the dominance of the agrarian sector and led to the transition to machine production. The second, which refers to the end XIX- beginning XXof the century, was accompanied by the development of electricity, as well as a systematic and controlled process of technological innovations. The third industrial revolution, which began in the 1970s and 1980s XX, is characterized by the rapid development of microelectronics, computer and information technologies.

The result of the first industrial revolution was the introduction of the machine system into economic development, the second - the predicted technological process, the third - the advantages of the production and use of knowledge. If the second industrial revolution led to the replacement of local economic systems by national ones, then as a result of the third revolution there is a transition from national economic systems to a global economy, on the one hand, and the maximum use of the creative potential of an individual - on the other. Knowledge serves as the basis of modern economic progress, it becomes a source of wealth, which has never happened before. At the same time, it should be noted that the consequences of material damage inflicted on a specific state (nation) both today and tomorrow can be overcome in contrast to intellectual damage, which is problematic to overcome.

In view of the above, it follows that XXthe century in economic terms was marked by great transformations, in particular, the second industrial revolution contributed to the emergence and successful use of management, including production and financial management, as well as marketing and logistics. As can be seen from the analog model developed by us and presented on slide 2, the evolution of the specified scientific theories is a set of "built-in" stages (links) according to the principle of a "telescopic antenna".

### **Development of management**

Despite the ancient history of management practice, it, as a scientific discipline, was formed in response to the challenge of automation of production and became recognized and widespread only from the 10th years of the last century. In 1911, F.U.Taylor published his work "Principles of Scientific Management", which is considered the beginning of the recognition of scientific management as an independent branch of research. Since this period, the distribution of resources in society has been transformed from a pure market method to a regulated (state) market method.

The evolution of management as a scientific discipline represents a number of stages that often coincided (slide 3):

the stage of development of the science of managing people in the production process - the school of scientific management (1885-1929), the school of "Fordism" (1899-1945), the classical or administrative school (1920-1950). It was based on increasing the efficiency of the organization on the basis of improving production processes and operations;

the stage of formation of management mechanisms on the basis of the development of human relations (related to the recognition of man as a priority factor of industrial and economic activity) - the school of psychology and human relations (1939-1950), the school of behavioral sciences (1950 - our time);

the stage of building market-oriented management systems (since the second half of the century has passed) - associated with the emergence of overproduction problems at enterprises caused by unmet demand;

the stage of active application of quantitative (economic-mathematical) methods as important areas of formalization of management methods and their transformation into management solutions (related to the wide application of mathematics in management) - school of management science (1950 - present time);

the stage of formation of systemic (from the late 50s) and situational (from the 60s of the last century) approaches - related to the consideration of the organization as a system, the activity of which constantly depends on a changing set of circumstances;

the stage of computerization of management processes (since the 1980s) is associated with the development of information and computer systems.

At the same time, management systems were formed as management based on extrapolation, anticipation of changes, and flexible emergency decisions. It is worth noting that during this period

the distribution of resources in society was transformed from a purely market-based to a regulated (state) market method.

Today there are many definitions of management. According to the processual approach, the most optimal of them is interpreted in such a way that management is a process of planning, organizing, motivating, controlling and regulating, which is necessary for the formation and achievement of the organization's goals.

A natural question arises whether there was management under socialism, the ideology of which dominated the territory of our state for more than 70 years. If we proceed from the official interpretation at the time, then management was considered as a system of management methods of capitalist companies, which, despite real scientific achievements, was a tool of harsh exploitation of workers, on the one hand, and unrestrained social demagoguery - on the other. However, one of the first methods of socialist management was the scientific organization of work, which was an adaptation of F.U. Taylor's theory of scientific management. At the same time, the main organizational structure of management was traditional (bureaucratic), which, from the point of view of management theory, is characterized by a high degree of division of labor, a developed hierarchy of management, the presence of rules and norms of personnel behavior, and the selection of personnel based on business and professional qualities. However, in the conditions of the planned economy, this organizational structure of management acquired hypertrophied importance, the leitmotif of management became centralization, which was implemented in the administrative-command system. So, management in a socialist society was based on control over execution, that is, it was similar to the management system of slave and feudal societies, albeit on a higher spiral of development.

Production and financial management are distinguished among the areas of management.

*Production management* is a set of principles, methods, means and forms of production management aimed at increasing its efficiency and increasing profits. It has five components: formation and functioning of production systems, management of the production process, management of production funds, quality management, management of creation and development of new products.

*Financial management* is a system of principles, means and a form of organization of monetary relations of an enterprise aimed at managing its financial and economic activities, which includes:

- development and implementation of the company's financial policy;
- information support (compilation and analysis of the company's financial statements);
- assessment of investment projects and formation of an "investment portfolio";
- ongoing financial planning and control.

The main goal of financial management is the rational use of resources to create a market value capable of covering all costs associated with the use of resources and providing an acceptable level of income on terms adequate to the risk of capital investors.

### **Development of marketing**

Marketing contributed to solving the sales problems faced by foreign organizations as a result of the "explosion" of technological possibilities offered by science and technology after the end of the Second World War. It, like management, has many interpretations. In relation to the pharmaceutical industry, the most acceptable definition is that pharmaceutical marketing is a management activity aimed at creating demand and achieving the goals of a pharmaceutical enterprise through the maximum satisfaction of consumer needs in medicines and medical products. At the same time, under the need it is appropriate to understand the feeling of a lack of a quality standard of living as a result of pathological changes in the condition or functions of the human body, which took a specific form in accordance with the cultural level and personality of the individual, and under demand - a need supported by purchasing power, that is, these are the drugs that consumers are ready and can buy for at a certain price during a certain period of time.

Marketing activity begins with a comprehensive market research, as a result of which market opportunities are evaluated, and possible consumers are searched for with the help of market segmentation. After that, the products are positioned on the market. Having made a decision about

positioning, the company develops a system of marketing tools, which is defined as a marketing complex or marketing mix.

Considering the modern theory of marketing, its complex consists of five elements - 5R, that is, it is a set of means (product, price, distribution, promotion, personnel) that the company uses to influence the target market, with the aim of achieving the desired response from its side

Marketing arose, standing out from general economic theory as a field of applied economics, which is related to the analysis of the distribution system, and is characterized by a long evolutionary path.

At the first stage of evolution (the beginning of the 20th century - the 40s of the 20th century), it is associated with sales and is called sales marketing. In 1901, Harvard, Illinois, and Michigan universities in the United States began teaching an independent course in marketing, which provided for the description of the marketing techniques of industrial enterprises, the operations of retailers and wholesalers, and the organization of advertising.

The second stage of marketing development (1950s - the first half of the 1970s) is associated with the emergence of new industries based on scientific and technological progress, the development of transnational companies. The main idea of marketing is to focus on the market, on the consumer. It is interpreted as managerial marketing, that is, as a concept focused on market dynamics, changes in demand for goods and services.

At the third stage of evolution (from the second half of the 70s of the 20th century), marketing becomes complex and systematic. Considering it from the point of view of systemic analysis, the features of development are distinguished: orientation towards long-term commercial success, active influence on consumer behavior, innovative activity, use of marketing methods not only in the market of consumer goods, but also in the market of means of production, the market of services in the non-commercial sphere: social, political and educational.

Was there marketing in the pre-market era of our country? In those days, it was understood as a system developed in capitalist countries for managing the activities of organizations related to the development, production and sale of goods or the provision of services based on the study of the market and real requests and needs of consumers. Despite the fact that marketing ideologues and managers of capitalist organizations, according to socialist ideologues, were not guided by care for the consumer, but by concern for maximum profit, practical marketing methods, incl. methods of development and production management, comprehensive market research, were of interest to specialists in socialist countries. On the one hand, it was necessary to know them in the conditions of the expansion of international trade as methods by which counterparties were guided, on the other hand, they could be useful in solving one's own problems related to the planning of product assortment, influence on the consumer market, etc.

However, marketing under socialism was applied at the level of the state, that is, the economy of the country as a whole, which characterizes it as macro-marketing. Thus, the state secured the main marketing function - market research, as well as directly and strictly regulated all elements of the marketing complex of enterprises. At the same time, such a type of marketing as macro-marketing under socialism not only existed, but acquired exaggerated weight and importance. Hypertrophied macro-marketing as a necessary component of a centralized economy has led to a shortage of some types of products, including medicinal products, with simultaneously unrealized remainders of others. This proved that macromarketing without micromarketing is ineffective, and in the ratio "macromarketing - micromarketing" primary and basic is micromarketing, that is, marketing at the enterprise level, which did not exist and could not exist under socialism.

### **Development of logistics**

Logistics appeared as a result of the critical situation with energy carriers and other resources, the automobilization and modernization of transport, the appearance of personal computers, the improvement of means of communication, the globalization of the economy, as well as the growth of "fidgety" consumers. It is appropriate to consider logistics as an organized collection of knowledge, as well as targeted studies of the processes of formation and development of end-to-end (integrated) flows in a specific industry or the economy as a whole.

Logistics activity has a final goal, which was called the "seven rules of logistics" or the "7R" logistics complex (from the English word "right" - correct), namely: the necessary goods of the required quality in the required quantity delivered to the required place at the required time to the appropriate consumer with minimal costs.

Was logistics at the socialist stage of the development of our state? No, it did not exist, because it appeared in the world economy as a management system in the 70s of the 20th century, and in Ukraine - only in the 90s. In the times of the command-administrative system, this concept was interpreted as empty, aimless reflections, which are detached from experience and practice, the same as scholasticism. According to Prof. E.V. Krykavskiy - the first Ukrainian doctor of economic sciences in the field of logistics (Lviv Polytechnic University), in other terminological sources, logistics was considered as a component of imperialist military doctrine. However, one cannot deny the existence of certain elements of logistics, in particular, inventory management, warehousing, transportation, *etc.*

The evolution of logistics in countries with developed economies, in particular in the USA, has five stages. As can be seen from the data of slide 5, the development of the concept of logistics was accompanied by corresponding changes in the forms and methods of its practical use and has now reached such a level that the need for the formation of new directions for the optimization of logistics management based on complexity and the ideology of rationality is objectively felt.

### **Peculiarities of the development of management theories in the pharmaceutical industry**

As for the evolution of management sciences in domestic pharmacy, in the days of the planned economy, the principles of control-based management and certain issues of macro-marketing were present both in practical activities and in education. They were taught within the framework of such an educational discipline as the organization and economy of pharmacy.

It is worth noting that one of the first mentions of pharmaceutical marketing was in the magazine "Aptechnoye delo" (now "Pharmacy") in 1957, where it was noted that the quality of domestic drugs is competitive with foreign ones, but their design and packaging need better. And in order to establish exports, a deep study of the foreign market and wide advertising of domestic medicines are necessary. At the same time, separate marketing functions, such as advertising, sometimes existed in pharmacies. However, they were very superficial and did not mean the marketing orientation of these establishments in conditions of strict centralization.

Logistics in pharmacy was published for the first time in the literature available to us at that time in the "Medical Reference Journal" in 1988, where it was discussed the introduction of elements of logistics in pharmacies in Germany. The term "logistics" meant a system of operational management of the movement and storage of various goods. An important role was given to computers, coding and ABC analysis of goods, logistics rules.

Starting in 1978, the last year of higher pharmaceutical educational institutions included a pre-diploma specialization, within which the specialized course "Fundamentals and management methods in pharmacy" was taught. Great merit in substantiating the relevance and elaboration of the new discipline for the pharmaceutical personnel training system belonged to the then head of the Department of Pharmacy Organization and Economics of the Lviv State Medical Institute, Professor R.M. Pinyazhko. And a few years later, on his initiative, a corresponding study guide was published.

It should be noted that the scientific school of Prof. R.M. Pinyazhka, in particular, the scientific foundations of pharmaceutical management were determined, the use of a system approach and system analysis was theoretically substantiated, the process of pharmaceutical supply and the peculiarities of its management were studied, *etc.*

In the conditions of independent Ukraine, with the beginning of the market orientation of domestic pharmaceutical enterprises, the theories of management sciences in domestic pharmacy were intensively formed at the expense of comprehensive research in such scientific centers as the National Pharmaceutical University (Prof. V.M. Tolochko, Prof. Z.M. Mnushko, Prof. A.S. Nemchenko, Prof. D.I. Dmytrievskiy), Kyiv Medical Academy of Postgraduate Education named after P.L. Shupyka (Prof. M.S. Ponomarenko, Prof. V.A. Zahorii), National Medical University named after O.O. Bogomolets (Prof. D.S. Voloh), Lviv National Medical University named after

Danyla Halytskyi (Prof. B.L. Parnovskyi, Prof. O.L. Grom) and others.

At the same time, from September 1, 1992, the department of management and marketing in pharmacy began to function at the Kharkiv Pharmaceutical Institute. The staff of the department, headed by prof. Z.M. Mnushko, a program for a new academic discipline was created, and appropriate methodological support was developed. Already in 1998-1999, a corresponding textbook in two volumes was published on the basis of the processed materials.

In turn, the first logistic studies of a pharmaceutical nature, which were initiated on the basis of the scientific school of prof. R.M. Pinyazhka, found understanding and were continued by scientists of the National Pharmaceutical University .

### **Concept, principles and characteristics of stages of management development**

In the process of market transformations in Ukraine, the term "management" began to be actively used in various branches of the national economy, including the pharmaceutical industry. At the same time, the concept of "management" is also widely used and very often they are equated, which leads to confusion. Management is a purposeful action on an object with the aim of changing its state or behavior in connection with a change in circumstances. You can manage technical systems, computer networks, cars, conveyors, planes, people, etc. Management is a type of management and means managing people (employees, groups of employees, groups, organizations, etc.). Slide 6 shows the relationship between the concepts of "management" and "management".

From a functional point of view, management is a process of planning, organizing, motivating, controlling and regulating, which is necessary for the formation and achievement of the organization's goals. Organizations mean enterprises, societies, banks, associations, etc., their departments, bureaus, sectors, shops, etc.

The main categories of management include the concepts of organizations, management functions, levels of management, management methods, leadership styles, communications, management decisions, etc.

### **Principles of management**

Management principles play an important role in management activities.

All principles of management are closely interrelated. Rejection of one or more principles, or their improper consideration in management activities, reduces the quality of management decisions and management efficiency.

### **Comparative characteristics of Japanese and American management models**

The theory and practice of management demonstrate clearly formed approaches in management - Japanese and American management models. With the coincidence of the general, strategic directions of the struggle for leadership, there are peculiarities in the approaches of leading Japanese and American companies to how to ensure their advantages in economic competition on the world market. The fundamental difference between the two named management models is that the Japanese one is based on collectivism, and the American one is based on individualism and competition between people. All other differences are derived from it.

It should be emphasized that mutual enrichment of management systems is taking place today. Much of the Japanese management experience is used, for example, in the USA and Western Europe. Differences in management practices in different countries are becoming less obvious.

In order to create and implement an "own" management model that will create opportunities in the specific conditions of Ukraine's economic development to obtain the highest results, it is advisable to:

- to study the theory of progressive management practices of domestic enterprises. At the same time, special attention should be paid to cultural and socio-historical factors that caused or influenced the development of effective management systems;
- study advanced management practices abroad. The main thing is to understand the principles underlying company management systems, the effectiveness of which is beyond doubt;
- on the basis of the above - creation of a management system for a specific object.

Here it is important to emphasize the creation itself, and not the borrowing; it is necessary to strive for systems that are superior to the already existing ones according to the list of parameters, as



well as systems that anticipate the expected changes in the global business environment. Practice shows that Japanese industry has not borrowed anything from the West in a complete and unchanged form. She adopts everything valuable, improves it and only after that implements it.

### **Managers and entrepreneurs**

The central figure of modern management is the manager. A manager is a market-oriented manager who actively implements effective business conditions, innovations and the achievement of scientific and technical progress, carefully takes into account changes in international relations, timely influences the situation and the dynamics of demand and supply, skillfully restructures production and economic activity taking into account the requirements market

Managers ensure proper planning, maintenance of efficient operations and a favorable environment for productive work.

A manager is a hired professional manager who is not the owner of the company (manager, director, manager, administrator).

In the late 60s of the last century, the American economist Mintzberg singled out ten management roles performed by managers. The specified ten roles were combined into three groups.

Managers make decisions, analyze information and use communication channels. They plan, organize, motivate and control the activities of the organization as a whole and its members.

Specialists in the field of management point to four groups of qualities of a manager that characterize him in modern conditions:

*Professional and business* : high professionalism; the ability to generate useful ideas; the ability to make non-standard management decisions and bear responsibility for them; desire for professional growth; entrepreneurship; authority; the ability to take reasonable risks; ability to innovate; the ability to carry out anti-crisis management, etc.

*Administrative and organizational* : efficiency; the ability to exercise strategic and tactical control; the ability to change the style of managerial activity depending on the situation; ability to develop long-term programs and organize their implementation; ability to stimulate, cause initiative; consistency in one's actions; the ability to bring things to an end; internality (awareness that the success of the case depends on you); internal control; the ability to form a single team; the ability to use the knowledge of subordinates; knowledge of the limits of one's power; the ability to delegate authority; ability to organize time, etc.

*Socio-psychological* : psychological competence; managerial culture; mind; culture of business communication; desire for leadership and power; the ability to manage one's behavior and regulate one's mental state; collegiality; tolerance; optimism; extroversion and interactivity; the ability to manage conflicts; the ability to clearly express one's thoughts and speak publicly; intellectuality; the ability to optimize the social and psychological climate in the team; ability to create psychological comfort; emotional stability and stress resistance; sense of humor; the ability to create and maintain one's image, etc.

*Moral* : patriotism; national consciousness; statesmanship position; intelligence; humanity; decency; sense of duty; civil position; willingness to help people; honesty; respect for the dignity of people, etc.

In addition to the manager, the entrepreneur plays an extremely important role in the market economy. An entrepreneur is someone who "makes money", the owner of capital that is in circulation and brings income. He can be a business person who has no subordinates, or an owner who does not hold any position in the organization, but is a holder of its shares, or a member of the board. The manager necessarily occupies a permanent position and under his command are people, and the entrepreneur is the subject of property, the holder and manager of property objects. An entrepreneur is a person of this type who is ready to take risks, innovations, innovation, increase of wealth, changes in the organization; regulates the process of creating something new that has value; assumes financial, moral and social responsibility; receives monetary income and personal satisfaction from achievements.

The differences between a manager and an entrepreneur are that the manager is a hired workforce engaged under certain conditions to carry out managerial activities. He is focused on the

implementation of the plan and achieving the effectiveness of the resources at his disposal, makes decisions and makes every effort to implement it. *The manager* attracts resources in order to ensure the work of divisions, therefore, he is interested in the accumulation and accumulation of funds. He uses the organizational management structure that has developed and has a hierarchical nature. He receives a salary for his work. *An entrepreneur*, in turn, starts a certain business, opens an enterprise, acts as an owner, investor, founder, who uses his own or borrowed financial funds and other resources. He is focused on finding new opportunities, takes risks, that is, he can replace an idea that turned out to be unviable; attracts resources to achieve the set goal, shows flexibility, uses rent, credit, leasing, etc. The entrepreneur acts as the owner or manager of the organization's resources and property, prefers horizontal organizational management structures that rely on informal connections.

So, the main differences between a manager and an entrepreneur lie in their formal status, production and economic orientation, ways of implementing the plan, attracting resources, in the field of material interests and attitude to building the organization. The fundamental difference between an entrepreneur and a manager is that the entrepreneur generates an idea (for example, the creation of a pharmacy), implements it with his own or borrowed funds (founds a company for the retail sale of medicines, finances the entire process) and hires a manager for management work, and the latter manages the organization created by the entrepreneur.

To a certain extent, the roles of manager and entrepreneur may overlap. A manager can open his own business and become an entrepreneur. But an entrepreneur who does not have the appropriate special education cannot lead an organization in the field of pharmacy. The roles of a manager and an entrepreneur can coincide only temporarily, that is, after a certain time, the employee's functions are specified and he will take the appropriate position in the organization. As for the long-term combination of the roles of "entrepreneur-manager", this is possible only in the conditions of small pharmaceutical enterprises.

### **Socio-ethical aspects of management**

In addition to direct production and economic activity, entrepreneurs and managers face problems of social responsibility and social ethics. Each organization uses material, financial and labor resources of the state in its activities and therefore bears responsibility to society. It is for this reason that it should direct part of its income and efforts for the benefit and improvement of society (in various social ways).

In management, two types of responsibility are distinguished - legal and social.

*Legal responsibility* is the implementation of specific state legislative acts; instructions, norms, etc., which determine what the organization can and cannot do.

*Social responsibility* is a voluntary response to the social problems of society on the part of the organization. Recognition of social responsibility by entrepreneurs and managers and their corresponding response has its advantages and disadvantages.

*Social responsibility* provides the following benefits:

- provides long-term prospects;
- changes the needs of society;
- helps to solve social problems, including those of its employees;
- forms moral standards in the organization itself;
- creates friendly relations between entrepreneurs ( frame management) and other members of society.

*The disadvantages* are:

- violation of the principle of profit maximization;
- cost growth due to increased spending on social needs;
- impossibility of ensuring a high level of accountability to society;
- inept satisfaction of social needs, i.e. unprofessionalism;
- application of social responsibility only for advertising purposes.

Entrepreneurs and managers should choose such a variant of social responsibility that provides advantages and contributes to the elimination or weakening of disadvantages.

Social responsibility is a derivative of those personal values that flow from the ethics of

managers and their subordinates. Society, any organization or group of workers determines its ethics of behavior. Ethical behavior should be understood as a set of actions and actions of people that correspond to the norms of morality, consciousness or order that have developed in society or to which it is moving.

In the process of business activity, there are cases of greater or lesser deviation from social norms, which actually constitutes unethical behavior. Reasons for unethical activity can be:

- competitive struggle;
- the desire to have large profits;
- inept stimulation of managers for ethical behavior;
- decreasing importance of ethics in society;
- the desire to achieve the goal and fulfill the mission of the organization at any cost;
- unethical behavior of partners (spouses, founders, suppliers, etc.);
- occurrence of conflict, stress and other similar phenomena in the organization;
- unsuccessful selection and inept application of leadership styles in the organization;
- too complex system of development and decision-making in the organization, etc.

Modern management offers the following measures to ensure ethical behavior.

1. Implementation of ethical norms that reflect the system of general values, social preferences and rules of ethics of the organization's employees. For example, ethical standards prohibit bribes, gifts, violations of laws, illegal payments to political organizations, unreasonable demands, disclosure of company secrets, use of prohibited information, etc.

2. Introduction of ethics committees, the main task of which is to evaluate everyday practice from the standpoint of ethics and ethical behavior. In smaller businesses, a business ethics professional (such as an ethics attorney) may perform this function.

3. Conducting social audits, the purpose of which is to assess the impact of social factors on the organization.

4. Organization of training in ethical behavior of managers and subordinates.

5. Constantly informing employees about cases of highly ethical behavior through the press, radio, television, etc.

6. Conducting meetings, conferences, symposia, etc. on issues of ethical behavior.

### **Management levels**

One of the main features of every organization is the division of labor within it. This division is of two types: horizontal and vertical.

*Horizontal* division of labor involves the appointment of managers to manage separate units of the organization that perform specific tasks.

Activities aimed at coordinating the work (actions) of individual units of the organization to achieve its goals constitute the essence of management and are called *vertical* division of labor.

It is the vertical division that leads to the creation of levels of management. The American sociologist Parsons distinguishes three levels of management:

- technical;
- administrative;
- institutional

*Three groups of managers (executives) correspond to these levels:*

- grassroots managers (operational managers);
- middle managers;
- senior managers.

The shape of the pyramid demonstrates the interdependence of management levels and the number of managers.

The essence and classification of organizations

An organization should be understood as a group of people whose activities are consciously, controlled or spontaneously coordinated to achieve a certain goal. The concept of "organization" is based on the compliance of a certain group with several mandatory requirements:

- the presence of at least two people who consider themselves part of this group;
- the presence of at least one goal (that is, the desired final result), which is accepted as common by all members of a certain group;
- the presence of group members who intentionally work together to achieve a goal that is meaningful to all.

In Ukrainian legislation, organizations that have the status of a legal entity are called enterprises, societies, associations, associations, etc. In practice, the terms "firm", "corporation", etc. are used. Organizations can be classified according to various characteristics, namely: by the method and purpose of formation, by the number of purposes, by size, by legal status, by forms of entrepreneurship, by the nature of adaptation to changes.

According to the method and purpose of formation, organizations are divided into formal and informal. Formal organizations are groups of workers whose activities are consciously planned, organized, motivated, controlled and regulated in order to achieve a certain goal. Examples of formal organizations can be enterprises, departments, subdivisions, services, committees, faculties, departments, etc. In the future, formal organizations will be called simply organizations. Informal organizations arise and function spontaneously. Most often, they are part of a formal organization and are actually created on the basis of taking into account common interests. Examples of informal organizations can be groups of fans of certain types of sports, tourism, art, music, economic approaches, etc.

If an organization has one goal, it is a simple organization. But in the economy, complex organizations that set themselves a complex of interrelated goals are mainly functioning.

Large, medium and small organizations are distinguished by size. Large organizations have thousands of employees, medium-sized organizations have hundreds, and small organizations have dozens.

Officially registered organizations receive the status of a legal entity (official recognition, state registration attributes, bank account, business form, etc.). All other organizations are non-legal entities.

According to the forms of entrepreneurship, organizations are divided into enterprises, business associations, banks, insurance companies, investment funds, etc.

According to the nature of adaptation to changes, mechanistic organizations (characterized by conservatism, inflexible organizational management structure, autocracy in control and communications, fetishization of standardization, etc.) and organic organizations (characterized by dynamism, flexibility of organizational management structures, developed self-control, democratization of communications, etc.) should be distinguished.

An organization is a system, that is, a set of interrelated, interacting elements that make up a whole entity that has properties different from the properties of the constituent elements. At the current stage, all organizations are considered as open systems, that is, those whose internal elements interact not only with each other, but also with the external environment. An open system has certain properties, namely:

- integrity (the change of one component leads to the change of others);
- individuality (each component can be considered separately);
- perspective (development in the direction of improvement);
- independence (possible separation of subsystems);
- specialization (ability to perform a certain list of works);
- conversion of input elements into output elements;
- centralization (one of the components becomes dominant);
- growth (tendency to expand, increase);
- cyclical development;
- balance;
- unpredictability of the causes of possible disturbances.

An open system has input and output. The input for the organization as a system is all kinds of resources (materials, capital, labor, information, etc.), the output is products, services, profit, social responsibility, development of the market, provision of employees.

The organization consists of the controlling and controlled subsystems. In the future, the term "subsystem" can be replaced by the term "system". In the process of functioning, a synergy effect is formed, that is, an increase in the overall efficiency of management activities as a result of the combination, integration and interaction of the controlling and controlled systems. Synergy creates conditions under which the overall effect exceeds the sum of the performance indicators of individual subsystems of the organization acting independently.

The following general features of organizations can be distinguished:

- establishing the mission and goals;
- availability of resources: people, capital, materials, technology, information;
- dependence on the external environment (economic and legal conditions, public organizations, international events, legislative acts, competitors, technology, the mentality of society, etc.);
- horizontal division of labor (allocation of specific tasks), which causes the emergence of divisions and services;
- vertical division of labor aimed at coordinating work, i.e. implementation of the management process;
- the need for management;
- presence of formal and informal groups;
- implementation of certain types of activities (production, financial, investment, trade, research, etc.).

The success of any organization depends on the following conditions:

- profitability;
- capitalization;
- survival;
- entrepreneurial initiative;
- development of communications;
- effectiveness (efficiency);
- productivity;
- ability to form culture;
- ability to practical implementation;
- self-development abilities;
- ability to effectively use investments;
- ability to self-improve the management system.

Any organization has a cyclical nature of development, that is, it goes through certain stages of the life cycle, which determine the nature of production and economic, investment, financial and other types of activities, etc. The stages of the organization's life cycle and the nature of the organization's activities according to each stage of life development are shown in slide 3.

According to another concept of the organization's life cycle, four stages of the organization's development are distinguished: birth (registration, initial investment of activity), growth (increasing production and sales volumes, image formation, profit growth), "peak" activity (maximum profits, production and sales volumes), decline (collapse of activity and reorientation).

In the process of evolution, the organization forms its culture, which characterizes the qualitative aspects of management activity and its compliance with economic, organic, social, ecological, economical, ergonomic, physiological, aesthetic, psychological and technological requirements.

The culture of the organization is a set of values, traditions, norms of behavior, and views that are characteristic of the members of the organization. Organizational culture consists of objective and subjective elements. Subjective elements of organizational culture include: organizational taboos, customs, rituals, patterns of behavior, language of communication, slogans, etc. Objective elements of the organization's culture are formed due to the location of the organization, design and equipment of workplaces, prestige and image of the organization, etc.

### **Teams (groups) of employees in the organization**

Any organization consists of groups (teams). There is a complex interweaving of formal and informal groups in organizations, which affects the quality and efficiency of activities.

According to the definition of the American economist Marvin Shaw, a group (collective) is two or more individuals who interact with each other in such a way that each individual influences specific people (employees) and is simultaneously influenced by other individuals. Group and collective are identical terms, the first is more widespread in the West, the second — in our country and in other states of the former USSR.

Groups that are created at the request of the leaders of the organization are called formal. They arise during the division of labor:

- horizontal (emergence of subdivisions);
- vertical (emergence of management levels).

The primary function of formal groups is to perform certain tasks and achieve specific goals. There are three types of formal groups in any organization:

- groups of managers (team groups);
- target production (business) groups;
- committees.

Examples of groups of managers can be: company president and vice president; company director (pharmacy manager) and department heads; the head of the workshop and his deputies.

Target production (economic) groups consist of persons who perform one task. They have a certain independence, plan their own work, are highly specialized, specific elements of targeted stimulation are applied to them, etc. There may be groups of technologists, financiers, suppliers, advertising specialists, economists, marketers, designers and others in the organization.

A committee is a group to which an organization delegates authority to perform a specific task. Committees include councils, commissions, meetings, teams, parties, societies, etc. There are two main types of committees:

special (temporary), which is created to identify problems, solve local, global or sensitive issues, develop alternative solutions, etc.;

permanent, which acts permanently and has a specific, often long-term purpose (for example, for consultations). This includes the board of directors, the scientific and technical board of the organization, the audit commission, the association of buyers in the process of privatization, the planning group, the commission for considering employee complaints, the commission for reviewing wages, etc. At lower levels of management, committees can be created to help increase labor productivity, reduce cost, improve technology, solve social problems, resolve conflicts in the workforce, etc.

The manager in the organization should be clearly aware that it is appropriate to create committees in the following cases:

- when solving a problem in a new field of knowledge, a new field of activity;
- if there is a need to make unpopular decisions (reduction in the number of employees, decrease in earnings, liquidation of units, demotion, etc.);
- for the purpose of coordinating the activities of divisions, services, individual employees and teams;
- to raise the morale of the organization's employees, to stimulate the "fighting" qualities of individual officials;
- for the purpose of decentralization of management, delegation of certain powers "downwards", division of spheres of influence between levels of management;
- for more effective implementation of general management functions;
- when choosing and adjusting a specific leadership style by the manager.

We note that informal committees (for example, a strike committee) may also arise. Then the manager must apply the "rules of the game" typical of informal groups. An effective alternative can be the formalization of such committees.

Summing up, we can conclude that formal groups should work as a single well-organized team. The better the manager knows the mechanisms of group management and the factors affecting them, the stronger he influences both the individual (employees) and the results of the organization. Lee Iacocca in his book "Manager's Career" noted that the manager should focus on creating a cohesive, cohesive and purposeful team. He emphasized that in business, employee teams should be formed like sports teams. That is, it is necessary to start with the most elementary things. Players (team members) must know the basic rules and techniques of the game and be able to choose their positions correctly. Next, you need to establish discipline and teach it to be followed by introducing certain incentives and sanctions. The team should be friendly and aimed at achieving a certain global goal, should feel its direct involvement in business results.

The manager should pay special attention to informal groups, as they can become dominant in the organization, mutually penetrate other informal and formal groups and strongly influence management. The average employee and even the manager are not always aware that they have already found themselves in informal groups. To reveal the nature of informal organizations, a group of American researchers, to which Elton Mayo eventually joined, conducted a series of experiments at the Hawthorne plant (Western Electric Company, Chicago, Illinois). At the first stage (it took place without Mayo's participation), the impact of lighting intensity on labor productivity was revealed. Workers were divided into two groups: control and experimental. When the lighting was increased and then decreased, the productivity of both groups increased. Thus, it was found that the collective has factors that are characterized not only by physical parameters, features of technology, equipment, and organization of production.

At the second stage (here Mayo has already joined), a laboratory experiment was conducted with the relay assemblers (six female workers), who were given great freedom of communication. Additional breaks were introduced, the working day, week, etc. were shortened. At the same time, labor productivity increased. It turned out to be characteristic that productivity did not decrease after returning to the previous working conditions.

At the third stage, on the basis of a large number of conversations (more than 20 thousand employees were involved), surveys, conversations, it was found that labor productivity depends both on the employee himself and on the work team.

At the fourth stage, collective material stimulation of labor productivity was introduced at the branch for the production of bank signaling. It was expected that the best workers would be encouraged to work more productively than the worst. But it turned out that the more productive workers slowed down because of their reluctance to go beyond the limits set by the group. At the same time, the worst workers tried to work better. That is, a certain averaged stereotype of attitude to work was formed.

The Hawthorne experiment made it possible to draw certain conclusions, namely:

- behavioral factors are important in management;
- relations between subordinates and managers have a significant influence on the results of the organization;
- participants of the experiment work more diligently from the awareness that they are involved in the experiment (the so-called Hawthorne effect);
- the form of control plays an important role in management;
- social and psychological factors have a stronger influence on labor productivity with sufficiently well-organized work than physical ones (Mayo's discovery should be noted, which allows identifying types of social interaction);
- any organization is also a social system.

Thus, researchers of management problems established the need to study informal groups, i.e. spontaneously created collectives of people (employees) who engage in regular interaction in order to achieve defined goals. The latter are the reason for the existence of informal organizations and their specific network.

Informal and formal groups have certain common features, namely:

- managed with the help of leaders in order to solve certain tasks based on a specific hierarchy;
- have a certain structure of management and interaction;
- use unwritten rules (norms) in their activities;
- apply a certain system of rewards, incentives and sanctions.

But there are also differences:

- formal groups are created according to a well-thought-out plan, and informal groups spontaneously;
- the structure of formal groups is created consciously, informal groups - as a result of social interaction;
- employees of the formal group join it in order to realize its goals, receive income, achieve prestige, etc., and join the informal group to meet the needs of involvement, mutual assistance, mutual protection, close communication;
- a formal group is created, as a rule, by the decision of the leaders, and an informal group is created as a result of interest, sympathy, etc.

The main characteristics of informal groups are as follows:

- the application of social control, which is carried out by establishing and consolidating group standards of permissible behavior, harsh sanctions, alienation, etc.;
- the existence of resistance to changes, which arises due to threats to the existence of the informal group itself;
- the presence of informal leaders who occupy the same position as the leaders of formal groups. The only difference is that the leader of a formal group receives his powers officially (in a specific area), and the leader of an informal group - due to the recognition of him by the group. Therefore, the sphere of influence of an informal leader may go beyond the administrative boundaries of a formal organization, but still his main functions are to help the group achieve its goals and consolidate its existence.

Factors that distinguish the leader of an informal group include: age, education, position, professional competence, experience, knowledge, intelligence, gender, character, location of the workplace, freedom of movement, responsiveness. The manager should also take into account the fact that there may be two leaders in the group: one for the fulfillment of the group's goals, the other for social interaction.

Informal groups and organizations can interfere with the achievement of formal goals, negatively affect labor discipline, spread false rumors, promote the nomination of incompetent managers, and hold back the modernization of industrial and economic activities.

Since informal groups (organizations) are an objective phenomenon, the manager must learn to manage them effectively. For this purpose, it is advisable to:

- Recognize the existence of an informal group, as well as the fact that its destruction can lead to the liquidation of a formal organization.
- Be able to listen to the thoughts, reasoning and suggestions of members and leaders of an informal group.
- Influence the activities of informal groups by involving general functions, as well as management methods.
- Evaluate each decision from the standpoint of ensuring quality interaction of the management with the informal group.
- Involve leaders and members of informal groups to participate in the development of management decisions.
- To ensure the rapid preparation of accurate information in order to prevent false rumors that may be spread by an informal group (organization).

Management of groups should be carried out on the basis of the application of general management functions: planning, organization, motivation, control and regulation. Meetings, where problems are solved and decisions are made, are the central element of any group's functioning.



Therefore, it is important to clearly establish the periodicity of their implementation; the content of the problems to be considered; list of participants; technical means that will be used, etc.

To ensure the effectiveness of meetings, it is advisable to use the recommendations of the American specialist Bradford, that is, it is necessary:

- draw up a specific procedure for holding meetings;
- to ensure free exchange of information between group members;
- to fully use the abilities of its members (competence, experience, knowledge, entrepreneurship, talent, ideas, etc.);
- create an atmosphere of trust, self-expression;
- consider the conflict as a positive factor and manage it;
- based on the results of the meetings, sum up and outline future measures;
- for the purpose of combating unanimity, ensure the free transfer of information;
- appoint an "opponent" to put forward alternative ideas and a "lawyer" to defend even illegal positions;
- ensure listening to different points of view, their criticism;
- listen to the ideas of subordinates, etc.

The manager must understand that the group will be able to realize its goals and ensure effective activity under the positive influence of the following factors:

Group size. According to various experts, groups can consist of 3-9, 4-5, 5-8, 5-11 people. Yes, it is known that departments with 5 to 25 employees work most efficiently.

Composition of the group. Experience shows that a group should consist of dissimilar people, people with different positions, ideas, ways of thinking, views on life, etc.

Group norms: pride in one's work, desire to achieve goals and ensure profitability, principles of collective work, professional training, attitude to innovations, relations with partners, methods of protecting integrity, relations between team members, methods of distribution of earnings, etc.

Cohesion of group members.

Group unanimity, that is, a mechanism of suppression of an individual personality in order to preserve the harmony of the group.

Conflict within the group. It can be caused by differences in opinion.

Status of group members. It is determined by seniority in the job hierarchy, position, office location, education, salary (income) level, people's social talents, experience, awareness, etc.

Roles of group members, i.e. determination of people who will be engaged in solving group tasks, proposing alternative solutions, preparing information, establishing communications, etc.

Providing the group with information.

Relations of the group with the management of the organization, its divisions, services, officials, as well as with other groups.

Availability of established rights and responsibilities for group members.

Speed of decision-making and execution.

The mechanism for making compromise decisions.

Formation of costs (material, labor, financial) related to the functioning of groups.

Use of management functions and methods in the process of group management.

Selection (appearance) of group leaders.

Application of leadership styles when managing a group.

### **Factors influencing the organization**

The activity of the organization depends on various factors. Factors affecting the organization are driving forces that influence the production and economic activity of the organization and ensure a certain level of the obtained results. Factors determine any processes carried out in the organization. They can be classified according to two characteristics:

- level of influence (macro level, micro level);
- environment of influence (internal, external).

According to the level of influence, the following are distinguished:

1. Microeconomic factors (goals, structure, tasks, technology, employees, resources, trade unions, parties, suppliers, consumers, competitors, etc.) that exert influence at the enterprise level;

2. Macroeconomic factors (legislative acts, state authorities, the system of economic relations in the state, the state of the economy, international events, the international environment, scientific and technological progress, political circumstances, socio-cultural circumstances, features of international economic relations) that influence levels of industries and states.

Based on the environment of influence, factors of the internal environment of the organization (from the organization from the inside) and factors of the external environment of the organization (related to the consideration of the organization as an open system) are distinguished. Depending on how the production and economic activity is carried out at the pharmaceutical enterprise, the factors of the internal and external environment can have both a positive and a negative impact.

The internal environment of the organization is determined by internal factors, that is, situational driving forces within the organization. The main factors of the internal environment in any organization are goals, structure, tasks, technology, employees and resources.

The situational approach requires taking into account not only the factors of the internal, but also the external environment. According to the definition of the American researcher Jerall Bell, the external environment includes such elements as consumers, competitors, government bodies, financial organizations, sources of labor resources, etc.

Mescon, Albert, Khedouri came to the conclusion that the factors of the external environment should be divided into two groups: direct action (directly affect the organization's activity and depend on this activity); indirect effect (influence not directly, but through certain mechanisms and relationships). Factors of indirect action tend to influence through factors of direct action.

When evaluating the factors of the external environment, the manager should take into account the following characteristics:

Interdependence of all environmental factors (a change in one factor can lead to a change in others).

The complexity of the external environment (a significant number of factors, a wide range of methods of influence).

Mobility of the external environment (speed of change in the organization's environment).

Dynamics of the external environment (variability of the organization's environment).

Uncertainty of the external environment (limited information).

Interdependence of internal and external environmental factors.

The diversity of the external environment.

The characteristics of the factors of the external environment of direct action are given on slide 8. At the same time, examples of the influence of the factors on the organization and the reverse influence of the organization on the factors are provided. And the characteristic features of the factors of the external environment of indirect action are presented on slide 9, which gives examples of their influence through the factors of the external environment of direct action.

### **Organization management process**

The process of managing an organization is a sequence of certain completed stages, the implementation of which contributes to ensuring the managerial influence of the management system on the managed in order to achieve the goals of the organization. The management process covers certain categories, such as management and managed systems of the organization, management functions, management methods, management decisions, communications, leadership, etc. Thus, a consistently implemented and completed management process forms a management cycle.

The organization is considered as an open system that has inputs and outputs, and also consists of controlling and controlled systems that closely interact because they are organically interconnected. The control system includes those components that ensure the control process. The managed system includes elements that ensure the direct process of production, economic, commercial and other types of activity.

The first stage of the employee management process consists in the implementation of management functions, which include any types of management activities, for example, planning production and sales of products, management of technology development, management of accounting, management of a division in the organization, etc. So, we are talking about management activities at all levels of the management system of the organization: heads of organizations and their deputies, departments, departments, groups, districts, specialists of all areas (economists, technologists, etc.). Thus, the management apparatus, which is concentrated in the management system, in the process of management activity must fulfill its main task: to create a system of management methods, i.e., a set of ways of influencing the management system on the managed in order to ensure the production and economic activity of the organization and obtain specific results (production products, provision of services, ensuring profitability, profitability, the required level of wages, a certain level of expenses, etc.).

That is why the second stage of the management process is the formation of management methods, that is, methods of influence of the management system on the managed. Management methods and pharmaceutical management standards include a production plan, a plan to accelerate scientific and technical development, material incentives for work, technological documentation for the manufacture of a medicinal product or a medical product, etc. However, the received management methods and standards of pharmaceutical management, as a rule, cannot exert managerial influence, since they in most cases do not take the form of administrative levers. In order to ensure their effective management influence, management methods and pharmaceutical management standards must go through the stage of their formalization and, as a result, turn into management decisions.

Thus, the third stage of the management process consists in the formalization of management methods, which is accompanied by the creation of mechanisms for transforming management methods into orders, orders, instructions, regulations, etc. After that, management decisions (formalized management methods and pharmaceutical management standards) are sent from the management system to the managed through direct communication channels and exert the necessary management influence that ensures the performance of production and economic operations, the manufacture of certain drugs or medical products, the provision of services, ensures the achievement of production, financial, economic and other results.

If the management decisions in the managed system do not work well enough (they are not implemented, they are partially implemented, they are implemented with deviations, etc.), then information about all inaccuracies, shortcomings, deviations through feedback channels is sent to the control system (that is, the adjustment procedure is performed), in which the device management develops the necessary measures. Management decisions regarding the developed measures are sent through direct communication channels to the managed system and are aimed at eliminating deficiencies, deviations, etc. In fact, the work of a cyclic mechanism is ensured, as a result of which (if necessary, in several cycles) all shortcomings will be eliminated, and the controlled system under the influence of the control will eliminate the existing problems. If the management system does not work professionally, competently, efficiently or proactively, then it should be expected that the managed system will not ensure the fulfillment of the tasks and achievement of the established goals. The level of performance of set tasks and achievement of set goals by the managed system is directly dependent on the activity of the management system (management apparatus).

At the same time, management acts as a type of management activity that unites the labor processes of all employees of the organization, ensures the implementation of functions and the formation of management methods and pharmaceutical management standards, the development and adoption of management decisions, and also formalizes the influence of the management system on the managed, i.e., the fourth stage of the management process is the provision of managerial influence on the basis of leadership. Management is a unifying function in the structure of management categories, i.e., it plays the role of an engine that determines the directions of the management apparatus, the effectiveness of management decisions, and the degree of achievement of the organization's goals.

All the above-described stages of management are accompanied by communications, that is, processes of information exchange, its content between employees, divisions, and other organizations.

### **Materials on the activation of students of higher education during the lecture:**

#### **Question:**

1. Concept of modern management theories.
2. Stages of development of modern management theories.
3. Approaches to management (process, system and situational).
4. Characteristics of foreign management models.
5. Management levels.
6. Concept of organization in management theory.
7. General characteristics of organizations, their internal environment.
8. Internal variables of pharmacy enterprises and their relationship. .
9. The external environment of the organization. Factors of direct action.
10. The role of the environment of indirect action.  
Influence of external factors on the activity of pharmaceutical enterprises.

### **General material and educational and methodological support of the lecture:**

- m multimedia projector;
- educational platform ( MS Teams) ;
- presentation;
- illustrative material on the topic;

#### **Questions for self-control:**

1. What is the essence of the concept of management and management?
2. What are the components of management and its main categories?
3. What are the roles of a manager according to Mintzberg's classification?
4. What are the manager's activities?
5. Name groups of qualities of a manager and describe them.
6. What are the differences between a manager and an entrepreneur?
7. What is the essence of the concept of "organization" and their classification?
8. What properties does the organization have as an open system?
9. What are the general features of the organization?
10. What are the conditions for the organization's success?
11. What are the stages of the organization's life cycle and their characteristics?
12. What are the reasons for the emergence of formal groups, their main types?
13. What is the essence of the concept of the "Hawthorne" experiment and its conclusions?
14. What is the essence of informal groups. Their characteristics.
15. What are the common features and differences between formal and informal groups?
16. How are groups of employees managed and what factors influence their activities?
17. What are the factors of the internal environment of a pharmaceutical enterprise?
18. What are the general characteristics of environmental factors?

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3. Marketing workshop. Education manual / by A.Ya. Ageev - 2018.-p.496

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5. Management in pharmacy. Module 1. Educational method. manual / V.O. Demchenko, N.O. Tkachenko, N.M. Chervonenko, T.P. Annual; edited by G. Knysya. – Zaporizhzhia: ZDMU, 2017. – 194 p.
6. Pharmaceutical Law and Legislation: the textbook for applicants for higher education / A.A. Kotvitskaya, IV Kubarieva, AV Volkova et al. Kharkiv : NUPh : Golden Pages, 2019.204 p.

## Lecture #2

**Topic: Management functions. Management of the decision-making process. Communicative processes in management, record keeping, document flow of pharmaceutical organizations.**

**Relevance of the topic:** Management activity is one of the most important factors in the functioning and development of enterprises in the conditions of a market economy. This activity is constantly being improved in accordance with the objective requirements of the production and sale of goods, the complexity of economic relations, the increasing role of the consumer in the formation of technical, economic and other parameters of products.

The management process involves the performance of functions of planning, organizing, coordinating, motivating, and controlling the work of the organization's workers to achieve certain goals. Therefore, management is the ability to achieve set goals by directing the work, intelligence, and behavioral motives of people working in the organization. Therefore, management can be considered as a process of influencing the activity of an individual employee, group, organization as a whole in order to achieve the best results.

**Objective:** To acquire managerial skills that are important for pharmaceutical workers. To reveal the essence of general characteristics of forms of collective management information exchange; to form a professional view on the procedure for organizing a business conversation and organizing the document flow of incoming documents at pharmaceutical enterprises.

**Basic concepts:** control functions, general functions, specific functions, unifying function, decision-making, decision-making models, communication, noise.

### Plan and organizational structure of the lecture

1. Management, its types and elements.
2. Management as a type of economic activity, its constituent parts and types.
3. Approaches to management. Management process.
4. Management decisions
5. Information support of the communication process.
6. Bookkeeping at pharmaceutical enterprises.
7. Automation of management activities.

### Content of lecture material (lecture text):

#### *Management, its types and elements.*

Management is a purposeful action on an object with the aim of changing its state or behavior in connection with a change in circumstances. You can manage technical systems, computer networks, cars, conveyors, planes, people, etc.

Management is a type of management and means managing people (employees, groups of employees, groups, organizations, etc.).

Management is a purposeful influence on the collective of employees or individual performers in order to fulfill the tasks and achieve the defined goals.

Management (from English - to manage) is a type of activity aimed at achieving certain foreseen goals by the production and economic activity of an organization (enterprise) that functions in market conditions, through the rational use of its material, labor and financial resources.

*There is another definition of management* - it is a system of current and prospective planning, forecasting and organization of production, sale of products and services for the purpose of profit.

The term "management" is much broader, as it is applied to various types of human activity. The term "management" is used only for managing socio-economic processes at the level of a firm operating in market conditions - technocrats, white collars.

A manager is a leader (manager) who works in the economic, first of all, production and market sphere and has professional knowledge of the organization of production management.

### ***2. Management as a type of economic activity, its constituent parts and types.***

All principles of management are closely related. Rejection of one or more principles or their improper consideration in management activities reduces the quality of management decisions and management efficiency.

Management is divided into:

- production management - aimed at choosing the main parameters of the technological process;
- financial management - analysis and assessment of the financial state; development of financial strategy; maintaining the company's liquidity; price policy;
- operational management - rational organization of management and production; production planning; inventory management; product quality control;
- personnel management - labor resources planning; recruitment and selection of personnel; determination of salary; professional training; division of labor
- marketing management - identification of market needs; determination of consumer qualities of products in accordance with market needs; satisfying market needs for products; ensuring the profitability of the enterprise's work;

### ***3. The purpose and tasks of management.***

The purpose of management is to ensure the profitability or profitability of the organization's activities based on the rational adjustment of the production management process, the development of the material, technical and technological base, the effective use of personnel potential and the attraction of funds.

The profitability of the organization indicates the effectiveness of its production and sales activities, which is achieved due to the minimization of costs (for raw materials, materials, wages, etc.) and the maximization of income from the results of production - the production of products and the provision of services.

The task of management – the content of the management goal specified in space and time for individual structural subdivisions of performers in accordance with their functional purpose.

The most important task of management in relation to pharmacy is the creation, organization of production of LP and VMP, provision of services taking into account the needs of consumers on the basis of available material and human resources and ensuring the profitable operation of the organization, its stable position on the market

*Management as management in the conditions of a market economy involves:*

- orientation of the organization to the demand and needs of the market, specific consumers ;
- production of types of products that are in demand and can bring the expected profit ;
- constant striving to improve production efficiency: obtaining optimal results with lower costs ;
- economic independence, which ensures freedom of decision-making by those who are responsible for the final results of the organization - its divisions;
- constant review of goals and programs depending on the market situation ;
- establishing the final result of the organization's activities, its divisions on the market .

*Management must simultaneously solve three tasks:*

1. Profit \_

2. Reduction of own costs, i.e
3. Expansion of the market segment (sales market )

Management tasks also include:

- determination of specific goals of enterprise development ;
- identification of priority goals, their order and sequence of resolution ;
- development strategy development ;
- development of a system of measures to solve problems for different time periods ;
- determination of necessary resources and sources of their provision ;
- establishing control over the performance of assigned tasks .

*The management method is a set (system) of management techniques that contribute to ensuring high efficiency of the organization's activities.*

With the help of the correct choice of the management method, a clear organization of the management process and all production and economic activities is ensured.

*The following management methods are successfully used in management practice:*

- administrative;
- economic;
- socio-psychological;
- commercial;
- legal;
- research.

*The set of application of management methods is designed to ensure:*

- purposefulness of the team;
- organization;
- clarity and coherence of work;
- efficiency and timeliness of decisions;
- management, flexibility, discipline and initiative.

Administrative management as the main means of management activity recognizes an administrative instruction (command), the execution of which is strictly controlled. At the same time, the system of responsibility meets the needs of such control. Here, priority is given to team management and production, not to the person in production.

Economic management is characterized by the priority of economic means over others, including administrative ones. To carry out such management, special training of managers who know the economy and understand economic processes is necessary. As world practice shows, the human factor plays a very important role in modern production.

Management should be based on the human factor in a comprehensive understanding of its manifestation, as well as take into account the full set of dynamic interests of the individual. Such management can be called social - psychological. This is management, at the center of which is a person, his interests, needs and values.

#### **4. Approaches to management. Management process.**

The list of general management functions includes: forecasting, coordination, control, management, reporting (accounting), activation (stimulation), information, regulation, analysis, performance evaluation, preparation and adoption of management decisions, modeling, programming and approval.

*Management functions are a specific type of management activity that is carried out by special techniques and methods, as well as the appropriate organization of work.*

In a general sense, the management process consists of general management functions that are combined into management cycles.

So, to perform this or that relatively simple work, it is necessary to determine in advance, what you need to get in the end, how to organize the case, motivate and control its implementation. It and is functions management . Although subsequently machinery management and improved , the main ones management functions remained comparatively unchanging \_

### *Planning function.*

The planning function involves deciding what the organization's goals should be and what its members should do to achieve those goals. In fact, it is preparation today for tomorrow, determination of what is needed and how to achieve it. The decision is the central point of the entire management process. We can say that the essence of the manager's profession is decision-making.

In a broad sense, this concept includes the preparation of a decision (planning), in a narrow sense, it is the choice of an alternative. Within the framework of long-term planning, basic decisions are made (what to do?), then in the process of current planning, organization, motivation, coordination, regulation, changes in plans - decisions in a narrow sense (how to do?), although such a limit is conditional.

The stages of the planning process are basically universal. As for specific methods and strategies, they differ significantly. Usually, the organization forms a single plan for managing its general activities, but within its framework, individual managers use different methods to achieve specific goals and objectives of the organization. In this way, a map of the path that the organization must take in a specific period of time is drawn up.

*Planning, as the main function of management, is a type of activity for the formation of means of influence, which provide a single direction of efforts of all members of the firm to achieve common goals. Planning as a management process includes the development and implementation of means of influence: concept, forecast, program, plan. Each of the means of influence has its own specifics and conditions of use.*

In essence, the planning function answers the following three main questions:

1. *Where are we now?* Managers must assess the strengths and weaknesses of the organization in such areas as finance, marketing, production, labor resources, scientific research and development.

2. *Where do we want to go?* By assessing opportunities and threats in the environment, such as competition, customers, laws, political factors, economic conditions, technology, supply, management determines what the organization's goals should be and what may prevent the organization from achieving those goals.

3. *How are we going to do it?* Managers must decide, both generally and specifically, what members of the organization must do to achieve the organization's goals.

Planning is one of the ways in which management ensures a unified direction of efforts of all members of the organization to achieve its common goals.

Planning in an organization is not a separate event due to two important reasons. First, although some organizations cease to exist after achieving the purpose for which they were originally created, many seek to continue in existence as long as possible. Therefore, they redefine or change their goals.

The second reason why planning should be carried out continuously is the constant uncertainty of the future. Due to changes in the environment or errors in judgment, events may not unfold as planned by management. Therefore, the plans must be reviewed so that they are consistent with reality.

There is no one-size-fits-all planning method that fits every situation. The type of planning and emphasis that a manager makes in the planning process depends on his position in the organizational hierarchy of the firm, that is, the planning process is carried out according to the levels of the organization. So, strategic planning (higher level) is an attempt to take a long-term view of the main components of the organization.

At the middle level, management deals with tactical planning, that is, intermediate goals are determined on the way to achieving strategic goals and objectives. Tactical planning is essentially similar to strategic planning.

Planning is also carried out at the lower level of the organization. It is called operational planning. This is the basis of the basics of planning. All three types of plans make up a general system, which is called a general, or general, plan, or a business plan for the organization's operation.

Planning involves the use of all methods, tactics and procedures that managers use to plan, forecast and control future events.



With the help of the planning function, the problem of uncertainty in the organization is significantly weighed. Planning helps managers better cope with uncertainty and respond more effectively to it. Therefore, it is worth remembering that uncertainty is one of the main reasons why planning can help the organization to manage better in conditions of uncertainty, to respond more effectively to changes in the external environment.

#### 4.2. *Function of the organization.*

The function of the organization consists in establishing permanent and temporary relationships between all units of the organization, determining the order and conditions of its functioning. This is the process of uniting people and means to achieve the goals set by the organization.

The purpose of planning is to allow for uncertainty. However, as important as planning is, it is only the beginning. An organization that has a large number of different plans and does not have a coherent scheme of the structure of turning them into life is doomed to failure. The fact is that the functions of planning and organization are closely related. In some sense, planning and organization go hand in hand. Planning sets the stage for realizing the organization's goals, and organization as a management function creates a work structure of which people are the main component.

Since the concept of the organization consists in bringing together all the company's specialists, the task is to define the mission, role, responsibility, accountability for each of them.

Thus, organization is the second function of management.

#### 4.3. *Motivation function.*

Human behavior is always motivated. Vina can work carefully, with effort and enthusiasm, or she can shy away from work. Personality behavior can have any other manifestations. In all cases, it is worth looking for the motive of the behavior.

*Motivation is the process of encouraging oneself and others to act in order to achieve personal and organizational goals.* The traditional approach is based on the belief that employees are just resources, assets that must be forced to work effectively.

The desire of a person to realize himself in his business is undeniable. So it is already arranged. Where management and labor organization provide employees with such opportunities, their work will be highly effective, and the motivation for work will be high. So, to motivate employees is to touch their important interests, to give them a chance to realize themselves in the process of work.

*Different theories of motivation are divided into two categories: substantive and procedural. Theories of substantive and procedural motivation are related to values: consumption and reward.*

*Consumption is the perceived absence of something that causes an urge to act. Consumption can be satisfied with rewards. Reward is what a person considers valuable for himself.*

*Meaningful theories of motivation* first of all try to determine the needs that motivate people to act, especially when determining the scope and content of work.

*The most famous meaningful theories of motivation are the following:*

- 1) Abraham Maslow's theory of needs hierarchies;
- 2) ERG theory ;
- 3) David McClelland's theory of needs;
- 4) Frederick Herzberg's theory of motivational hygiene.

Abraham Maslow's theory of the hierarchy of needs is based on the thesis that human behavior is usually directed by trying to satisfy his strongest need at the moment; prediction that human needs have a hierarchical structure, that is, they can be ordered according to the criterion of increasing their importance for a person; the assumption that the strongest need determines a person's behavior until it is satisfied. If two or more equally strong needs exist at the same time, then the lower-level need is dominant. This means that needs are satisfied in a certain order: lower-level needs must be satisfied to an acceptable degree before higher-level needs become significantly important for a given person.

The hierarchy of needs according to A. Maslow can be presented as follows: **first-order needs (physiological, basic)** are related to ensuring the physical survival of a person (needs for food, housing, family, etc.). Such needs are met through the wage system.

After the basic needs are satisfied to an acceptable level in this society, the needs of the next level - the need for safety - become important for this worker. Such needs mean that basic needs will continue to be met. Ways to meet such needs can be: pension system; insurance; rights provided by work experience, membership in trade unions, etc.

Next, the needs are satisfied in the following sequence:  
 – **needs for belonging** are the needs to unite with other people (belonging to a company, a work group, a sports team, etc.);  
 - **needs for respect** - needs to satisfy a person's ego (awareness of personal achievements, competence and recognition by other people);  
 - **needs for self-realization** - needs for the realization of one's potential, for growth as an individual.

Thus, Maslow's theory states that people's desire for work is based on their numerous needs. Therefore, in order to motivate a subordinate, the manager must provide him with the opportunity to satisfy his needs, but in such a way as to ensure the achievement of the goals of the entire organization.

Table  
Essential characteristics of needs in A. Maslow's pyramid

<i>Physiological needs</i>	<i>Security needs</i>	<i>Social needs</i>	<i>Esteem needs</i>	<i>Self-realization needs</i>
Needs that a person must satisfy in order to survive (basic needs for food, water, shelter, etc.) <u>Effective management</u> is ensured by appropriate payment mechanisms and the creation of appropriate working conditions	Associated with the desire for a stable, safe state, protected from fear, pain, pain, etc. <u>Effective management</u> is carried out by creating a clear and reliable system of social insurance for workers, clear and fair rules for regulating their activities, paying labor above the subsistence minimum, not involving them in making risky decisions and performing actions related to with risk and change	Related to a person's desire to participate in joint actions, public events, be a member of any associations of organizations, belong to a certain class, etc. <u>Effective management</u> is provided by the composition of functions that require an expanded sphere of social contacts	These needs reflect people's desire to be competent, strong, capable, self-confident, as well as the need for others to recognize them as such. <u>Effective management</u> is ensured by the use of various forms of expression of recognition and achievements	Needs are manifested in a person's desire to use his knowledge, abilities, skills and abilities to the fullest. For <u>effective management</u> , it is necessary to give workers original tasks, the execution of which requires creativity and freedom of action

Modern Western companies generally satisfy the socially recognized basic needs and safety needs of their workers. However, the needs of higher levels remain mostly unsatisfied . Thus, insufficient motivation of the worker to work is caused mainly by the fact that he is unable to satisfy the needs of belonging, respect and self-realization at his workplace.

*Western firms solve the need to satisfy the needs of higher levels by:*

- creation of an atmosphere that improves interpersonal contacts of the organization's employees;
- support for the emergence of informal groups in the organization;

- delegation of additional rights and powers to subordinates;
- organization of training courses, advanced training and retraining of personnel;
- finding opportunities to satisfy the higher needs of workers outside the company.

2. Clayton Alderfer's ERG theory, as well as A. Maslow's theory, states that human needs have a hierarchical structure. However, in the ERG theory: *first*, only three groups of worker needs are highlighted.

- **existence needs** (existence) - needs for food, normal working conditions, etc.;
  - **needs in communication** (relatedness) - needs in friendly social and interpersonal relations;
  - **needs for growth** (growth) - needs for self-realization, self-improvement;
- secondly*, it is claimed that in addition to the sequentially progressive process of satisfaction of Maslow's needs, there is also a so-called disruptive-regressive process. The latter means that if a person for a long time feels the impossibility of satisfying the need for growth, then the need for communication (belonging) again becomes the main motivating force that forces a person to direct efforts in the direction of satisfying a lower level need. In other words, if a higher-level need (for example, for growth) is blocked for any reason, then the manager must direct his efforts to reorient the subordinate's aspirations in the direction of meeting communication (or existence) needs.

In David McClelland's theory of needs, three other types of needs are proposed, in particular:

1) the need for success (achievement), that is, the need for excellence, for exceeding the established standards of activity. The needs for success are understood as the needs for the realization of personal achievements, and not for the reward of such achievements. People with such a need try to do their work better, better, more efficiently than it was done before them;

2) the need for power, that is, the need to influence the behavior of other people, to be influential, to "have weight";

3) the need for belonging, that is, the need for friendly, sociable interpersonal relations with work colleagues.

McClelland's research showed that people with needs for success (achievement) are most motivated by work that:

- implies personal (personal) responsibility of the performer;
  - has a clear, clear and quick feedback (so that it is possible to draw a conclusion about the progress in the performance of the work);
  - is characterized by a moderate degree of risk (probability of success/failure 50:50).

Workers with achievement needs are not gamblers who rely on chance to succeed, but neither are they those who choose easy tasks that do not allow them to fulfill themselves.

People with a high need for power find satisfaction in situations where they are responsible for the actions and behavior of other people. They prefer positions for which situations of competition or status orientation are typical. They are focused on increasing their influence, increasing their own prestige by increasing the efficiency of their activities.

People with a high need for affiliation need friendly relationships, prefer cooperative rather than competitive situations, and need relationships with a high degree of mutual understanding. Manipulating this need, managers create a sense of a strong team spirit of the team.

According to the results of his research, McClelland made the following conclusions:

1. People with a high need for success achieve good results in entrepreneurial activities, in managing their own business, in managing independent units within large (large) companies.
2. A high need for success is not a necessary trait of a good manager.
3. The needs for affiliation and power are closely related to success in management. Effective managers have a high need for power and a much lower need for affiliation.
4. It is necessary to stimulate the need for success (achievements) in subordinates.
5. The theory of motivational hygiene was developed by Frederic Herzberg based on interview data taken in different workplaces, in different professional groups and in different countries.

The purpose of such a survey was to describe the situations in which workers felt satisfied or dissatisfied with their work. Processing of the survey data made it possible to highlight:

- 1) factors that motivate a person to highly productive work and cause job satisfaction. Such factors were called "real (true) motivators";

- 2) factors that cause dissatisfaction in the work process and have a demotivating effect. Such factors are called "hygienic" *"Motivational" and "hygienic" factors in the theory of Frederick Herzberg.*

<b>"Real motivators"</b>	<b>"Hygienic factors"</b>
Recognition of work results (merits of the worker). Content of work (interest in work, opportunity for personal development). Achievements at work (work success). High degree of responsibility. Promotion by service. Recognition of work results. Opportunities for creative and business growth.	Salary. Working conditions. Social and labor policy of the company. Interpersonal relations in the team. The degree of direct control over work by the manager. The attitude (relationship) of the immediate supervisor.

According to F. Herzberg, the factors causing satisfaction and dissatisfaction with work should not be contrasted. Each of these groups of factors is, as it were, in its own measurement scale, where some operate in the range from (-) to (0), and others - from (0) to (+).

Hygienic factors form the environment in which work is performed. If they are absent or insufficiently expressed, the worker feels dissatisfied. If they are sufficient, they cannot motivate a person by themselves. That is, in the best case, hygienic factors are able to form a neutral attitude to work (range from (-) to (0)).

The feeling of job satisfaction is caused only by motivational factors, the use of which increases satisfaction from a neutral state (0) to (+).

So, according to the theory of "motivational hygiene", in order to create a situation of motivation, the manager must ensure the presence of not only hygienic, but also motivational factors.

Motivational factors are related to the nature and essence of the work itself. This logically follows the method of "enrichment of labor" proposed by F. Herzberg. The method of "labor enrichment" is based on the assumption that workers should be personally interested in performing this or that work. To create a situation of personal interest, it is necessary that any work performed meet the following three requirements:

- 1) the work must be meaningful, that is, the worker at the institution of his own value system must understand the importance of performing this particular work. In other words, the work must:
  - to make certain demands on the worker in order to mobilize his abilities;
  - must have a certain completeness, that is, have some specific result.
- 2) performance of the work should involve a certain share of responsibility of the performers. The degree of this responsibility determines the worker's interest in the work he performs. In particular, the worker must be provided with:
  - freedom of action in the process of planning his work;
  - the possibility of choosing a method of performing certain operations;
  - a certain freedom and independence from petty supervision and strict control by the manager.
- 3) availability of feedback. At the same time, both the method and efficiency of obtaining information about the results and quality of his work by the worker are essential.

*Process theories consider motivation in a different way. They analyze how a person distributes efforts to achieve various goals and how he chooses a specific type of behavior. Process theories do not dispute the existence of needs, but believe that the behavior of people is determined not only by them. Process theories of motivation do not deny the existence of needs, but emphasize that the behavior of people in the organization is determined not only by needs. According to the process approach, the behavior of the worker in the organization, together with the needs, is determined by:*

- 1) the worker's perception of this specific situation;
- 2) expectations of the worker related to this specific situation;

3) assessment by the worker of the possible consequences of the chosen type of behavior.

Among the many process theories of motivation, the following are considered in the lecture

- V. Vroom's theory of expectations;
- the theory of justice of S. Adams;
- the Porter-Lawler model.

**1. The "theory of expectations of V. Vroom"** is based on a simple truth: in order for a person to be motivated for a certain activity, his achievements in this activity must be rewarded. At the same time, the strength of the desire to receive a reward depends on three situational factors

First, from the presence of a connection between the labor costs of the worker and the achieved results, that is, from the hope that the labor costs will produce the desired results (Z - R). If there is no such connection, then motivation weakens.

Secondly, from the possibility (reality) of receiving a reward, that is, the expectation that the results will be rewarded (P - B). If a person does not feel the connection between results and rewards, then his motivation will weaken. Even if a person is sure that the achieved results will be rewarded, but with "reasonable" efforts he cannot achieve these results, then the motivation will be weak in this case as well.

Thirdly, the strength of the desire to receive a reward depends on the value of the reward from the standpoint of a particular worker. Since each person has his own value system (different desires and needs regarding rewards), a specific reward may not represent any value for him. In other words, motivation depends on expectations about the value of the reward (B - C). Negative expectations about the value of rewards lead to low employee motivation.

If the expectations are high, then the power of the motivating motive increases. Previous positive experience in similar situations reinforces hope. Therefore, success increases motivation. On the contrary, if expectations are not met, there is a feeling of futility of effort, as a result of which motivation decreases. To get rid of the feeling of futility of efforts, it helps to establish the goals of activity that are achievable for this particular worker and to reward him in a way that he personally values.

The factor that causes the feeling of futility of efforts is the lack of the worker's own abilities to perform this task. As a result, the task fails or does not complete at all. Next time, receiving a similar task will not motivate the worker at all. Therefore, the complexity of the tasks assigned to a particular worker should correspond to his qualifications, abilities and skills. Only in this case, the worker's activity will be motivated.

**2. The "fairness theory" of Stacey Adams** assumes that people subjectively evaluate the ratio of the reward they receive for performing a certain job to the effort associated with its performance and compare this ratio with what other workers received. According to the results of the comparison, the feeling: either justice or injustice

In the "theory of justice", the following main components are distinguished:  
- a worker - an employee of an organization who evaluates the ratio of reward / effort and is able to feel justice / injustice;  
- an object of comparison - any other employee of a given organization, which is used as a basis for comparing coefficients output/input;  
- "inputs" - individual attributes of the worker that he invests in the work he performs (education, experience, qualification of abilities, efforts applied to perform work, etc.);  
- "compensation" - everything that the worker receives for performing work (salary, bonuses, benefits, recognition of merit, promotion, etc.).

The worker feels justice in a situation where his own output/input ratio is approximately equal to the similar ratio of the object chosen for comparison. If the output/input balance is disturbed, the worker feels unfair. When a worker feels injustice, there is tension, a sense of internal contradiction, which forces him to act in the direction of correcting the situation, achieving an appropriate balance, ensuring justice. The ways of achieving justice can be:

- 1) a change in the inputs of this worker (expenditure of time, diligence, etc.);
- 2) change of exits (request to increase remuneration);
- 3) change in attitude to work;

- 4) changing the object for comparison;
- 5) changing the output/input ratio of the object for comparison;
- 6) change of situation (leaving work).

*Possible types of worker reactions to injustice*

AND	II	III	IV	V	VI
A person decides that it is necessary to reduce the expenditure of effort. Result: reduction of labor intensity	A person makes an attempt to increase the reward. Methods: demanding higher wages, improving working conditions, promotion	A person is reassessing his capabilities, a possible decrease in self-confidence, a decrease in work performance	A person can try to influence the organization and the people with whom he compares himself in order to increase their efforts or reduce their reward	A person can change the object of comparison, deciding that he is in a special situation and finds a better object for comparison	A person can go to work in another department or leave the organization altogether

Conclusions of the "theory of justice" for the practice of motivation:

- in his evaluations, the worker concentrates not only on the absolute reward he receives for his efforts, but also on the relative reward, that is, the reward that other workers receive for their contribution;
- perception is subjective; it is important that workers have full information about who, how and for what receives remuneration;
- people focus on a complex assessment of remuneration, in which salary plays an important, but not decisive, role;
- the management should regularly conduct research to determine how compensation is evaluated by workers, how fair it is from the workers' point of view.

**3. The Porter-Lawler model** is a complex theory of motivation and includes elements of the theory of expectations and the theory of justice. According to its authors, motivation is simultaneously a function of needs, expectations and workers' perception of fair remuneration

There are 5 main situational factors in the Porter-Lawler model:

- 1) the efforts expended by the worker;
- 2) perception;
- 3) obtained results;
- 4) remuneration;
- 5) degree of satisfaction.

According to the Porter-Lawler model:

- the level of effort expended (3) depends on the value of the reward (1) and on the confidence in the existence of a connection between the expenditure of effort and the reward (2);
- the results achieved by the worker (6) are influenced by three factors: expended efforts (3), abilities and characteristic features of a person (4), as well as from his awareness of his role in the work process (5);
- achieving the required level of performance (6) can lead to internal reward (7a), i.e. a sense of job satisfaction, competence, self-respect, and external reward (7b) – praise from the manager, bonus, promotion, etc.;
- the dotted line between the results and the reward perceived as fair (8) comes from the theory of justice and shows that people have their own assessment of the degree of fairness of the reward;
- satisfaction (9) is the result of external and internal rewards, taking into account their fairness;
- satisfaction is a criterion of how valuable the reward really is (1). This assessment will influence a person's perception of future situations.

The Porter-Lawler model allows us to draw the following conclusions: 1) productive work leads to satisfaction, and not vice versa - satisfaction leads to the achievement of high results at work; 2) motivation is not a simple element. To ensure its effectiveness, it is necessary to combine into a single system: efforts, abilities of workers, results of their work, reward and satisfaction.

#### 4.4. Control function.

*Control is a special type of activity at the enterprise, which is focused on monitoring the management process and its evaluation.*

Control is the ultimate function of management. In the most general form, control means the process of comparing (matching) the actually achieved results with the planned ones.

Some organizations have established entire control systems. Their functions consist in mediating between plans and activities, that is, the control system provides feedback between the defined initial plans and the actual performance indicators of the organization. And whoever has modern and accurate control systems has more chances to survive. Management is characterized by a large number of not only different types of plans, but also types and control systems. All control systems have always been based on the idea of feedback, namely: they compare actual achievements with forecast data. As a result, deviations are established in order to either correct the negative effects or reinforce the action if the results are positive.

The control function is not the end point of the entire process of managing the organization. In practice, such an end point does not exist at all, because each management function is motivated by another. A kind of gradual circular movement occurs. For example, the information obtained in the process of control can be used at the stage of planning, organization and motivation of employees.

High-level managers spend a large part of their working time on planning and control functions, while lower-level managers are more busy with recruiting and organizing their work. However, at all levels of management, they use and perform all four management functions to a certain extent: planning, organization, motivation and control. Managers at all levels are evaluated according to two main criteria: effectiveness (that is, the ability to achieve the desired result) and efficiency (the ability to achieve the result with the lowest costs).

Each management function represents the scope of a defined management process, and the management system of a specific type of activity is a set of functions connected by a single management cycle. The main functions are independent and flow one after the other until each specific one is fulfilled.

#### The essence and classification of management decisions

A management decision is a management method formalized on an alternative basis, with the help of which the management system of the organization gets the opportunity to directly influence the managed.

Management decisions can be classified according to the following characteristics:

- By scope:
  - general solutions. Applies to the entire organization. For example, the head of the interhospital pharmacy approves the plan for the introduction of a progressive technological line for the production of injection solutions by signing the corresponding order;
  - partial solutions. Applies to specific divisions, services, problems, etc. For example, the deputy director of the economy of a wholesale pharmaceutical company approves by a corresponding order the provisions regarding bonuses for employees of the sales department based on the results of product sales.
- By duration of action:
  - promising solutions. Their development and implementation takes place over a long period. For example, the director of a pharmaceutical enterprise approves the capital construction plan for a new building of a pharmacy warehouse by signing the corresponding order;
  - current solutions. Accepted and implemented within a short-term period. For example, the manager gives an instruction to carry out planned cosmetic repairs of the pharmacy in accordance with the approved plan of repair and maintenance works;

- operative decisions. Decisions regarding specific episodes of production and economic activity. For example, the head of the pharmacy issues an order to temporarily replace the pharmacist due to his illness.
- decisions at the highest level of management. Accepted by the director and his deputies, president and vice-presidents, rector and vice-rectors, etc.;
- decisions at the middle management level. Accepted by heads of departments, heads of departments, department heads, deans, etc.;
- decisions at a lower management level. They are accepted by masters, heads of districts, heads of bureaus, heads of departments, senior pharmacists, etc.
- According to the nature of tasks solved by the organization:
  - organizational programmed solutions (the American scientist Herbert Saiman proposed to distinguish them in management based on the involvement of computer terminology). This is a certain known list of steps with few alternatives.
  - organizational unprogrammed decisions caused by new or unknown factors and situations. These can be decisions regarding the realization of the organization's goals, improvement of product quality, improvement of the management structure, motivation methods, etc.;
  - compromise solutions that should balance the contradictions that arise.
  - According to the justification method:
    - intuitive decisions, that is, those based on the manager's feelings about the correctness of the choice. It is clear that the validity is determined by the personal qualities of the manager;
    - decisions based on judgments (opinions, considerations, conclusions). This is a choice based on knowledge, experience, seniority, and qualifications. Since these decisions are made directly by the manager, they are formed quickly and without significant costs;
    - rational decisions (justified by objective analytical processes).
  - By method of acceptance:
    - individual decisions;
    - collegial decisions (developed by a group of specialists, and adopted by a corresponding group of managers);
    - collective decisions (made by general meetings).
  - By nature:
    - economic decisions. The spheres of finance, investments, wages, use of loans, fulfillment of debt obligations, etc. are concerned. For example, the deputy director of economics makes a decision to obtain a loan for investing in the production of an additional volume of products that are in demand on the market, by signing the corresponding order;
    - technological solutions. This applies to the development of new technologies, improvement of technological equipment, replacement of technological equipment, etc. For example, the deputy director of production makes a decision on the introduction of a new technological line at the production site for the production of tablet dosage forms by signing the corresponding order;
    - socio-psychological solutions. The spheres of social security of employees, improvement of the psychological climate in the team, moral stimulation, creation of normal working conditions, etc. are concerned. For example, the deputy director for general issues makes decisions regarding the current repair of the dormitories where the company's employees live, in accordance with the repair work plan;
    - administrative decisions. For example, the director signs an order approving the operating mode of the enterprise; the deputy director for foreign economic activities signs the order on the procedure for transporting products for export, etc.

#### Characteristics of intuitive and judgment-based decisions

As stated above, an intuitive decision is a choice made only on the basis of a feeling that it is the right one. At the same time, the decision-maker does not consciously weigh the pros and cons of each alternative and does not need to understand the situation. The manager just makes a choice.

Judgment-based decisions are choices based on knowledge or experience. The manager uses knowledge of what has happened in similar situations before to predict the outcome of alternative



choices in the current situation. Based on common sense, he chooses an alternative that has brought success in the past.

Factors affecting the process of making management decisions

There are a number of factors that influence the decision-making process in organizations.

Including:

- the degree of risk, i.e. there is always a possibility of making a wrong decision that may adversely affect the organization.

- time to make a decision – the amount of time a manager can use to make a decision is often limited.

- the degree of support of the manager by the team - this factor characterizes the fact that new managers are not immediately accepted. If the understanding and support of other managers and subordinates is not enough, then the problem should be eliminated at the expense of one's personal traits, which should contribute to the implementation of the decisions made.

- the manager's personal abilities are one of the most important factors. Regardless of how managers make decisions and are responsible for them, they must have the ability to make good decisions.

- the policy of the organization - in this case, the subjective factor is taken into account when making a decision. Status, power, prestige, ease of execution - all this can influence the adoption of this or that decision.

Conditions and models of successful managerial decision-making

Successful management decision-making is based on such conditions as the right to make, authority, obligation, competence, responsibility.

In management theory, there are three main decision-making models: classical, behavioral and irrational.

The classical model is based on the concept of "rationality" in decision-making. It is assumed that the decision-maker must be objective and logical, have a clear goal, and all actions in the decision-making process are aimed at choosing the best alternative.

It is possible to act according to the presented model in the presence of a complete array of information, which is quite problematic in practice. In addition, subjective factors, which are fully taken into account in the behavioral model, have a significant impact on decision-making.

A behavioral model that has the following characteristics:

- "bounded rationality", which means people's ability to only try to make rational decisions, but their rationality will always be limited;

- "achieving satisfaction", i.e. managers strive to make their choice when making a decision optimal, overcoming possible risk.

The irrational model is based on the assumption that decision-makers are mostly irrational in this process. This approach states that a decision is made before alternatives are explored. This model is used most often in cases involving fundamentally new, difficult to solve and extraordinary decisions, as well as when a manager or a group of managers has enough power to make a decision. Political decisions are often irrational.

Stages of the process of making rational management decisions

An important aspect of management decision-making is the implementation of the technological process of making rational management decisions, which includes six main stages.

First, they identify, diagnose it and form requirements for information. At this stage, the contradiction between the variable nature of the influence of the external and/or internal environment on the organization and the organization's ability to ensure the achievement of its goals in these conditions is realized and formulated in any form.

Next, they collect information, evaluate it, and form limitations and criteria for decision-making. The identification of the decision-making criteria is essentially the determination of the signs on the basis of which the assessment of the solution to the problem situation will be carried out and their ordering by degree of importance.

After that, alternatives are established and evaluated. In the process of establishing alternatives in order to limit their number, the following requirements for them must be taken into account:

- mutual exclusivity - comes from the definition of the "decision-making" category, i.e. the choice is possible only when the alternatives are mutually exclusive;
- ensuring the same conditions for describing alternatives, - for this it is necessary to describe them in the same conditions: resource, time, and so on.

The evaluation of alternatives means the examination of each alternative according to the following criteria:

- realism - the possibility of its implementation in general, taking into account the surrounding circumstances, independent of the organization itself;
- satisfaction - that is, compliance with the capabilities of the organization;
- acceptability of implementation consequences.

Then, on the basis of the criteria identified at the previous stage, the optimal decision option (alternative) and its design are selected, which is the most important thing in the technology of making management decisions. It is in the optimization process that rational solutions are obtained. The optimization of management decisions is understood as the selection of the most effective decision option from possible alternatives (i.e., a rational decision).

Next, there is a discussion of the project of the optimal version of the decision, approval of the management decision, execution of the decision and issuance of an order on its implementation. Here, it is important to convey the content of the decision exactly at the address, in accordance with job duties, to check the understanding of the received information; if necessary - change of powers.

The process of making rational management decisions is completed by organizing the implementation of the decision, monitoring its implementation and evaluating its effectiveness, and a report on the implementation of the decision.

An important operation included in the process of making a managerial decision and which begins at the fourth-sixth stages is the establishment of feedback. A tracking and control system is necessary to coordinate, compare and evaluate the actual results with the current ones that were expected during the decision-making period. The feedback of the incoming data about what happened before and after the implementation of the decision allows the manager to adjust it before significant damage has been done to the organization.

An important issue in the decision-making process is determining the expediency of applying group or individual decisions.

If the critical factors are time, the decision should be made individually in the style of an order. When time is not a critical factor, the factor of trust between the manager and subordinates must be taken into account. When it is high enough, the manager should use the "consultation" style. If trust is low, then it is necessary to take into account the next factor - the quality of the decision made.

#### Optimization of management decisions

Management science, which is also known under the terms "decision-making science", "system analysis", "system science", "operations research", etc., deals with the optimization of management decisions.

According to the provisions of American management, the science of management as a decision optimization mechanism can be implemented using the following approaches:

1. Application of the scientific method.
2. Use of system orientation.
3. Application of models.

The scientific method of optimizing management decisions involves the use of the scheme presented in fig. 6.6. For example, in the process of optimizing product sales, information on the market and demand is collected at the first stage, its analysis is carried out at the second stage, and the impact on demand is established at the third stage, and the optimal amount of product sales is determined as a hypothesis. After the fourth stage, which provides the process of testing the

hypothesis, two options are possible: implementation of the decision, if the hypothesis is true (the fifth stage); returning with the help of feedback to one of the previous stages, if the hypothesis is not correct. In the latter case, the search for the optimal option continues.

System orientation in the process of decision optimization is based on the fact that the organization is an open system consisting of interconnected parts. In the process of its activity (transformation), the organization processes inputs (resources, information, etc.), turning them into products, services, profit, etc. Based on the study of this process, the selection of the most effective solution option is carried out.

A model is a representation in a diagram, formula, sample, etc. of the characteristic features of the object being studied. The following models stand out:

- physical. They display an enlarged or reduced description of the object;
- analog. These models behave like real objects, but they don't look like them;
- mathematical (symbolic). Symbols are used to describe the properties or characteristics of an object.

Management singles out the following most common modeling methods:

1. Theory of games. Simulates the impact of the adopted decision on competitors. This theory was first developed by the military.
2. Theory of queues. Determines the optimal number of service channels in relation to the need for them (the so-called optimal service model).
3. Modeling inventory management. Determines the placement of orders, their quantity, the volume of finished products in the warehouse.
4. Linear programming. Provides an optimal way of considering resources in the presence of specific needs. Linear programming models are most popular in management.
5. Simulation modeling. Provides a practical way to apply a model instead of a real system.
6. Economic analysis, that is, a method of estimating costs and economic benefits. It is based on determining the economic conditions under which the enterprise becomes profitable. It is clear that the main condition will be the situation when the total income is equal to the final costs.
7. Balance methods, which are based on the construction of expense balances, incomes, budgets, etc.
8. Payment matrix. This is a statistical method that allows you to choose the most optimal solution from several options. At the same time, payments (cash rewards, income, etc.) are presented in the form of a table.
9. The decision tree is a schematic display of actions in management, taking into account financial results, the probability of obtaining their positive value, the possibility of comparing alternatives.
10. Forecasting, that is, predicting future management situations and their likely impact on the functioning of the organization and its individual areas.

Delegation of organizational powers and responsibilities

Delegation means the transfer of tasks and powers to a person who assumes responsibility for their implementation.

There are two concepts of the delegation process:

- 1) The classic concept, when authority is transferred from a higher to a lower level (Fig. 6.8). For example, the senior pharmacist receives authority from the head of the pharmacy.
- 2) The concept of limited powers (according to the position of Chester Bernard). In accordance with this concept, the subordinate has the opportunity to reject the manager's request.

In management, linear and functional powers are distinguished. Lineal authority is transferred directly from a higher official to a subordinate and further to other subordinates. Functional (staff) authority is delegated by a manager of a higher management level, who manages a certain management function, to a manager of a lower management level, who manages a similar function. For example, the head of the planning department of the enterprise delegates functional authority in the field of planning to the head of the planning bureau of the workshop, although the latter is under the linear subordination of the head of the workshop.

## Communications and information in management

Communications is the exchange of information and its content between two or more people (employees). Communications are communication processes between employees, units, organizations, etc. Communications accompany all processes taking place in the organization.

It is advisable to classify communications according to various characteristics.

As you can see, communications are distinguished by the scope of coverage:

Between the organization and the external environment (external communications). For example, information is exchanged through advertising, with the state through reports, and with the political system through the creation of a lobby in the parliament. Under the influence of the external environment, meetings, discussions, telephone conversations are held, memos, videotapes, reports, etc. are prepared.

Organizational or internal communications, which can be carried out both vertically and horizontally:

- from higher levels of management to lower ("top to bottom" or downward communications). For example, the director of a wholesale pharmaceutical company announces to the heads of the company's structural units the work plan for the next working week, current tasks, changes in work technology, etc.;

- from lower levels of management to higher ("bottom-up" or upward communications). This is usually how reporting information on the level of task performance, deficiencies, violations, strike situations, problems, etc. is received;

- between the manager (head of the pharmacy) and his work group (pharmacy employees);

- between different divisions (departments of pharmacies (wholesale pharmaceutical companies), workshops and services of manufacturing pharmaceutical enterprises, etc.).

Interpersonal, communications that occur between individuals, employees. Certain obstacles may arise in the way of such communications, namely: incomplete perception of information by the employee; non-verbal barriers that arise in the process of using non-verbal signs: look, facial expression, smile, etc.; bad feedback. To eliminate such obstacles, it is necessary to explain and justify your ideas before starting to convey them, to be receptive to possible semantic problems, to follow your own gestures, postures, intonations, to be attentive to the feelings of other employees, to take into account the social and psychological climate in the team, to establish quality feedback connection, allow for the possibility of duplication of ideas, messages, explanations, etc.

According to the method of occurrence, the following are distinguished:

formal or official communications, which are created by the management of the organization to achieve its goals and ensure interaction between structural links.

informal communications that are established on the basis of personal relationships in the organization, as a rule, within informal groups.

Information that is transmitted through informal communication channels, that is, through hearsay, is often highly reliable if it concerns the enterprise. However, the level of accuracy is significantly reduced when the rumors concern personal or highly emotionally charged information.

According to the method of implementation, there are communications:

verbal, that is, verbal communications that are carried out through conversations, oral statements, messages, etc.

non-verbal, i.e. non-verbal communications, which are carried out using a look, facial expression, smile, etc. The basis of non-verbal communication is kinesics (systems of means of communication, which are gestures, postures, facial expressions), proxemics (norms of spatial and temporal organization of communication), visual communication (eye contact).

## Characteristics of the communication process

The communication process is a process of information exchange based on the use of certain components and the implementation of appropriate stages in order to solve a specific problem. In the process of information exchange, five basic components of the communication process are distinguished:

- the sender (source) is a person or organization that generates ideas, collects information and transmits it:

- a message is actually an informational idea that is coded with the help of symbols;
- channel – means of information transmission;
- recipient (consumer) – person or organization for which the information is intended;
- reaction – the result of the receiver's perception of information.

The communication process has the following stages:

1. Formation or selection of an idea (genesis of an idea). The sender decides what meaningful idea or message should be made the subject of the exchange. For example, a manager wishing to share information about performance appraisals should be clear that the idea is to communicate specific information to subordinates about their strengths and weaknesses and how their performance can be improved. The idea cannot be general praise or criticism of the behavior of subordinates.

2. Coding (transformation of an idea into a symbolic form using words, gestures, intonation).

3. Channel selection (selection of the method of transmission by means of telephone or electronic communication, video tapes, etc.). The selected channel must be compatible with the type of symbols used for encoding. If the channel does not exactly correspond to the idea born in the first stage, the exchange of information will be less effective. For example, the manager of a pharmacy warehouse during a confidential conversation informs the loader about the inadmissibility of violations of safety rules. However, such a channel may not be able to convey the idea of the seriousness of violations as effectively as an official letter or in the process of a production meeting. Also, sending a service note to the pharmacist about the exclusivity of his achievements will not convey the idea of the importance of his contribution to the work of the pharmacy, and will not be as effective as informing in the process of a personal conversation followed by informing him of the content of the order, which expresses thanks and/or a bonus.

4. Transfer of the idea (message). At this stage, the sender uses the channel to deliver a message (an encoded idea or set of ideas) to the receiver. We are talking about the physical transmission of a message, which many people mistake for the communication process itself.

5. Decoding (translation of the sender's symbols into the recipient's thoughts). The receiver must understand the symbolic form of the message in order to receive it.

Decoding and encoding create special areas of understanding for the sender and receiver.

6. Evaluation and clarification of the message. Since the message is perceived by the receiver at the level of his culture and education, the receiver evaluates and specifies the degree of understanding of the message (idea).

7. Feedback. Two components of this stage are distinguished, namely the corresponding reaction (a set of personal reactions that arose as a result of contact with the message) and direct feedback as a part of the corresponding reaction that is transmitted back to the sender and in which the sender and receiver exchange communication roles.

The communication process is characterized by three critical problems: the problem of clarity, the problem of accuracy, and the problem of efficiency.

The problem of clarity arises at the second stage and is characterized by the level of coincidence of the representation of the formed idea with the selected symbols. The problem of accuracy is inherent in the third stage and is characterized by the channel's ability to technically accurately transmit the sender's symbols. The problem of effectiveness is manifested in the adequate reaction of the recipient to the sender's message.

Obstacles (noise) constantly arise in communication processes, i.e. distortion of the communication process, as a result of which the recipient receives a message different from the one generated by the sender. In other words, noise is something that distorts the content of the message (deviations, errors, etc.). Noises (obstacles) can have a subjective color (unsuccessful choice of channel, complexity of the form and content of the message, indistinctness of speech, poor translation, mismatch of intonation, distortion of the content, stereotypes of thinking, lack of proper attention and interest, bias towards the message, etc.) and objective (malfunction of means of communication, interference on the telephone line, cumbersomeness of the communication process, etc.).

Common barriers (noises) include the following:

Message scrolling. They are unintentional, intentional (deliberate distortion of information), due to the transfer of information from one level to another, and due to status differences among the parties exchanging information.

Information overload, the essence of which is that a large volume of information causes important information to be filtered out due to the subjective assessment of its value by a manager of one or another level.

Unsatisfactory organizational structure. If the structure is unreasonably multi-level, then the probability of information distortions increases, since each subsequent level of management can correct the message. In addition, possible conflicts between groups and divisions of the organization lead to the interpretation of information in favor of one and to the detriment of another division.

Information support of the communication process

Information is a set of messages that reflect a specific aspect of a phenomenon, event, industrial and economic activity. It can come in centralized, decentralized and mixed schemes. Information can be classified according to certain characteristics:

According to the completeness of coverage of the phenomenon Full, partial, redundant.

By period of action Single, periodic, long-term.

By content Planning and economic, financial, accounting, accounting, technological, reference, administrative, etc.

According to the level of credibility Credible and unreliable.

According to the source of appearance Primary and secondary, external and internal.

Forms of collective management information exchange

Forms of collective exchange of management information are meetings, gatherings and video conferences, which end with the adoption of specific decisions, as well as business conversations. Usually, they differ in the number of participants (specialists or interested persons are present at the meeting, video conference, all the organization's staff or its representatives are present at the meeting); a circle of discussed problems (at meetings, video conferences, specific current issues are considered; at meetings - more general ones that have accumulated over a certain period); purpose (meetings, video conferences have an operational nature and are intended to make adjustments to the organization's activities, at the meetings, first of all, the results are summarized and plans for the future are determined).

Meetings, video conferences and meetings are convened in those cases when it is necessary:

- o make an important announcement that may raise a significant number of questions that require immediate discussion and clarification on the spot;
- o to achieve an agreed solution to a fundamental problem, to obtain the approval of certain important and serious actions;
- o instruct a group of people on methods and procedures for performing some important work; when it is necessary to publicly or expose to refute some false information, hearsay.

Bookkeeping at pharmaceutical enterprises

Documentation is the provision of information about facts, events, phenomena of objective reality and the mental activity of a person with the help of certain carriers.

A document is a material form of obtaining, storing, using and distributing information provided by law by recording it on paper, magnetic, film, video, photo film or other media.

Documentation can be classified according to various features (Table 6.6). They make it possible to distinguish information flows and systematize documents.

The process related to the preparation of documents, their processing, passing, storage, etc. is called record keeping. The office is designed to perform certain functions, namely:

- 1) Preliminary examination and accounting of documents.

- 2) Reference and information service.
- 3) Implementation control.
- 4) Improvement (rationalization) of document flow.
- 5) Expeditionary processing and transportation of documents.

The following accounting systems are distinguished:

- 1) centralized, when all documentation goes to a certain single center of the organization (for example, to the office);
- 2) decentralized, in which documents are sent by appointment to departments, divisions, etc.;
- 3) mixed, when one part of documentation movement operations (for example, receiving and sending) is carried out centrally, and the other (compilation and registration, registration, formation of cases) is carried out both in the office and in departments, subdivisions of the organization.

The special services of the organization, which are designed to work with documentation, include the office, archive, library, reference bureau, legal department, secretariat, reference office, etc.

Organization of document flow at pharmaceutical enterprises

The purposeful movement of documents in the organization from the moment they are received or created to the completion of execution, sending or handing over is called document circulation.

Document circulation is divided into the following document flows:

Incoming, consisting of documents of superior organizations, authorities and management, subordinate organizations, independent organizations (organizations that exist in the external environment in parallel), controlled organizations, citizens.

Outbound, consisting of information sent to organizations in the external environment.

Internal, consisting of documents circulating between departments and individual performers within the organization.

### **Materials on the activation of students of higher education during the lecture: question:**

1. Concept of modern management theories.
2. Stages of development of modern management theories.
3. Approaches to management (process, system and situational).
4. Characteristics of foreign management models.
5. Management levels.
6. Components of the organization's successful activity.
7. System of management methods in pharmacy.
8. Socio-psychological aspects of team management.
9. Concept of leadership. Types of power and influence.
10. The essence and principles of classification of management decisions.
11. Characteristic features of intuitive and judgment-based decisions.
12. Factors affecting the process of making management decisions.
13. Peculiarities of successful managerial decision-making.
14. Stages of the process of making rational management decisions.
15. Models used to optimize management decisions.
16. The essence and principles of classification of communications.
17. Characteristic features of the communication process.

### **General material and educational and methodological support of the lecture:**

- multimedia projector;
- educational platform ( MS Teams) ;
- presentation;
- illustrative material on the topic;

### Questions for self-control:

1. THE essence of the board and its varieties and elements.
2. Components of management and its main categories.
3. List of general management functions.
4. Approaches to management. management process.
5. What is the essence and what are the principles of classification of management decisions?
6. What are the characteristics of intuitive and judgmental decisions?
7. What factors affect the process of making management decisions?
8. What are the features of successful managerial decision-making?
9. What are the stages of the process of making rational management decisions?
10. How is the expediency of applying group or individual solutions determined?
11. How to optimize management decisions?

### List of used sources:

1. Basics of management and marketing in pharmacy: Teaching method. manual for higher med. (Pharm.) Institutions / Comp. N.M. Kosyachenko, V.P. Gorkusha et al. — K., 2018. — 49 p.
2. Management and marketing in pharmacy. Educational method. manual / comp. O.H. Chirva, O.V. Harmatyuk; MES of Ukraine, UDPU. – Uman: Visavy, 2018. – 217 p.
3. Marketing workshop. Education manual / by A.Ya. Ageev - 2018.-p.496
4. Pricing: a collection of test and calculation tasks, a study guide Recommended by the Ministry of Education and Culture of Ukraine / comp. E.Ya. Ageev, T.V. Shakhmatova - 2018. - p. 288
5. Management in pharmacy. Module 1. Educational method. manual / V.O. Demchenko, N.O. Tkachenko, N.M. Chervonenko, T.P. Annual; edited by G. Knysya. – Zaporizhzhia: ZDMU, 2017. – 194 p.
6. Pharmaceutical Law and Legislation: the textbook for applicants for higher education / A.A. Kotvitskaya, IV Kubarieva, AV Volkova et al. Kharkiv : NUPh : Golden Pages, 2019.204 p.

### Lecture #3

**Topic: Management and pharmaceutical entrepreneurship. Management of labor resources of the pharmaceutical industry and personnel of the organization. Group dynamics and leadership. Conflict management.**

**Relevance of the topic:** Over the past five years, the dynamics of the development of the national pharmaceutical market has been characterized by a gradual increase in the number of manufacturing enterprises, a faster rate of increase in the number of pharmacies and their structural divisions, and a decrease in the number of wholesale enterprises. Today, the national pharmaceutical market is developed by more than 180 manufacturing enterprises, about 1,500 wholesale brokerage firms, as well as more than 8,500 pharmacies and almost 13,000 of their separate structural divisions. These pharmaceutical enterprises differ in forms of ownership, amount of capital and mechanisms of their internal organization and functioning. In the process of activity on the market, a number of pharmaceutical firms are united in their business activities. These associations can be permanent or temporary. Other pharmaceutical organizations, responding inadequately to changes in the external and internal environment, cease their business activities without the right to transfer rights and obligations to legal successors

Therefore, studying the principles of classification, organizational and legal forms and associations of pharmaceutical enterprises, the features of their registration and licensing, and the stages of termination of business activity is relevant for becoming a pharmacist.

**The goal:** to reveal the essence of entrepreneurial activity as, first of all, the intellectual activity of an energetic and proactive person; to form a professional view on the licensing of economic



activities for the production of medicinal products, their wholesale and retail trade; highlight the social and ethical aspects of business risk and its possible result - bankruptcy and termination of business activity.

**Basic concepts:** entrepreneurship, labor resources, personnel, rotation, staff turnover, conflicts

### **Plan and organizational structure of the lecture**

1. Entrepreneurship and enterprises in pharmacy .
2. Entrepreneurial risk .
3. Bankruptcy and termination of business activity.
4. The essence, classification and general features of personnel policy.
5. Basic principles of personnel management.
6. Peculiarities of the stages of labor resources management.
7. Formation of personnel management potential
8. Basic types of employee behavior.

### **Content of lecture material (lecture text):**

#### **Entrepreneurship and enterprises in pharmacy**

**Entrepreneurship** is an independent, initiative, systematic, at one's own risk economic activity, which is carried out by economic entities (entrepreneurs) with the aim of achieving economic and social results and obtaining profit. Economic entities are recognized as participants in economic relations who carry out economic activities, have separate property and bear responsibility for their obligations within the limits of this property, except for cases provided for by law. Business entities can be:

- economic organizations, state, communal and other enterprises - legal entities that carry out economic activity and are registered in accordance with the procedure established by law;
- citizens of Ukraine, foreigners and stateless persons who carry out economic activities and are registered in accordance with the law as entrepreneurs;
- branches, representative offices, other separate subdivisions of economic organizations (structural units) formed by them to carry out economic activities.

Entrepreneurship is carried out on the basis of certain principles and is characterized by general features:

#### *Principles of entrepreneurial activity:*

- Free choice of activities
- Independent formation of the activity program, selection of suppliers, consumers, setting of prices in accordance with the law
- Involvement of material and technical, financial and other types of resources
- Free hiring of workers
- Free disposal of profits after making payments established by law
- Independent implementation of foreign economic activity and use of foreign exchange earnings.

#### *General features of entrepreneurship:*

- Mobility, dynamism
- Arbitrary search and choice of course of action
- Search for consumers, capital, materials, connections, contacts
- Relative short-term activity
- It is carried out in conditions of a high level of uncertainty
- Risk and responsibility, threat of loss

Entrepreneurial activity takes place at the level of an enterprise - an independent subject of a market economy, created by a competent body of state power or a local self-government body to meet social and personal needs through the systematic implementation of production, research, trade, and

other economic activities.

*The main features* of the enterprise are:

- the presence of an approved statute, which defines the goals, organizational structure, rights and duties of management bodies, the procedure for liquidation of the enterprise, as well as the main relationships between founders and owners;
- the right to bear property liability to counterparties within the limits provided by economic legislation and the property owned by this enterprise;
- the right to protect one's property interests in court, arbitration and other bodies of state power and management;
- the presence of a registration certificate, and in certain specially determined cases, a license for the right to carry out certain types of activities, as is the case in the field of production and retail and wholesale sale of medicinal products.

Therefore, the enterprise is a legal entity, has separate property, an independent balance sheet, accounts in bank institutions, a seal with its name and identification code.

Entrepreneurship is carried out on the basis of certain principles and is characterized by general features, as shown on slide 1.

Depending on the purpose, classification can be based on different features.

*According to the form of ownership*, the following types of enterprises can operate in Ukraine:

- *a private enterprise* operating on the basis of private property of citizens or a business entity (legal entity);
- *collective ownership* - an enterprise operating on the basis of collective ownership;
- *communal an enterprise* operating on the basis of communal property of a territorial community;
- *state an enterprise* operating on the basis of state ownership;
- *mixed form of ownership* , which is based on the combination of property of different forms of ownership.

If foreign investment in the company's statutory fund is at least ten percent, it is recognized as *a foreign-invested company* . An enterprise in which foreign investment is 100 percent in its charter capital is considered *a foreign enterprise* .

Depending *on the method of formation (establishment) and formation of the statutory fund*, *unitary* and *corporate* enterprises operate in Ukraine . A unitary enterprise is created by one founder, who allocates the necessary property, forms in accordance with the law a statutory fund, not divided into shares (shares), approves the statute, distributes income, directly or through a manager appointed by him, manages the enterprise and forms its workforce on the basis of employment, resolves the issue of reorganization and liquidation of the enterprise. Unitary enterprises are state enterprises, communal enterprises, enterprises based on the property of an association of citizens, a religious organization, or on the private property of the founder. A corporate enterprise is formed, as a rule, by two or more founders by their joint decision (agreement), operates on the basis of the pooling of property and/or entrepreneurial or labor activities of the founders (participants), their joint management of affairs, on the basis of corporate rights, in that including through the bodies created by them, the participation of the founders (participants) in the distribution of income and risks of the enterprise. Corporate are cooperative enterprises, enterprises created in the form of a business partnership, as well as other enterprises, including those based on the private property of two or more persons.

*According to the number of employees and the volume of gross income from sales*, enterprises can be classified as small, medium or large. According to the Economic Code of Ukraine, enterprises are recognized as small (regardless of the form of ownership) in which the average accounting number of employees for the reporting (financial) year does not exceed fifty people, and the volume of gross income from the sale of products for this period does not exceed an amount equivalent to five hundred thousand. euros at the average annual exchange rate of the National Bank of Ukraine against the hryvnia. In this context, all retail pharmaceutical enterprises (pharmacies) will belong to small enterprises.

Small businesses play an important role in the market economy, especially in the process of its formation.

*The main advantages of small businesses:*

- Adaptation to local conditions
- Independence of the entrepreneur's actions and readiness for justified entrepreneurial risk
- Low operating expenses for management
- Coincidence of economic and psychological motives of work
- Maneuverability and flexibility (flexibility), the ability to easily adapt to fluctuations in demand and quickly change the range of medicines and medical products.

*Disadvantages of small businesses:*

- Low market share
- Weak technical equipment
- Lack of optimal specialization
- Vulnerability to the influence of external factors: changes in prices, taxation conditions, lending, etc
- Impossibility of participation in large innovative projects.

### **They form a competitive environment**

*by market affiliation* - manufacturers, wholesale and retail organizations (pharmacies). The basic manufacturing enterprises in Ukraine are such firms as "Darnytsia", "Arterium", "Farmak", "Borshchagivskiy HFZ", "Zdorov"ya", "Indar", "Kyiv vitaminny zavod", "Lekhim", and "Biostimulant". About 1,181 intermediary organizations with different forms of ownership and amount of capital have a license for the wholesale sale of medicinal products. Subjects of the retail sale of medicinal products are pharmacies and their separate structural divisions (pharmacy points and pharmacy kiosks). The pharmacy network of Ukraine includes more than 8.5 thousand pharmacies of various forms of ownership and almost 10 thousand of their separate structural subdivisions.

*According to the degree of market coverage*, pharmaceutical enterprises are divided into local, regional, interregional, national and transnational. From the point of view of market coverage, *local wholesale intermediaries*, which have only basic structural units and which operate on permanent terms within one or more regions, include the organizations "Galmedservice" (Lviv), "Ruta-farm" (Ternopil), etc. . Among *the regional organizations* that, through their structural subdivisions, constantly work within the boundaries of a separate region, is, for example, the Luhansk "Sana", which has three representative offices in the east of the country. An example of *interregional enterprises* is the Odesa enterprise "Medfarcom", which has one branch or representative office in the west and in the center, two in the east and south, etc. *National wholesale pharmaceutical organizations* that develop all economic regions of the country are represented, for example, by the company "Artur-K" (Kyiv), which operates through six regional branches and 11 representative offices and its own pharmacy network.

Entrepreneurship in Ukraine, in particular in pharmacy, is carried out in any organizational form at the choice of the entrepreneur. The most widespread subjects of entrepreneurial activity are business associations.

*Business partnerships* are organizations created on the basis of an agreement by legal entities and citizens by combining their property and business activities for the purpose of obtaining profit. Business partnerships include joint-stock companies, limited liability companies, additional liability companies, general partnerships and limited partnerships.

The founders (participants) of the company have the right to participate in the management of the company, the distribution of profits, receive information about the company's activities, and can also leave the company in accordance with the established procedure.

Foreign citizens, stateless persons, foreign legal entities, as well as international organizations can be founders and participants of business companies on an equal footing with citizens and legal entities of Ukraine.

*A joint-stock company (JSC)* is a business company that has a statutory fund divided into a certain number of shares of the same nominal value. Shares determine the share of the owner in the

share capital. Shareholders are responsible for the obligations of the company only within the limits of the shares they own. The total nominal value of the issued shares constitutes the statutory fund of the joint-stock company, which must be at least 1,250 minimum wages.

There are two types of joint-stock companies: *closed (JSC) and open (JSC)*. In a closed joint-stock company, shares are distributed among the founders and cannot be distributed by subscription, bought or sold on the stock exchange; only registered shares are issued. In an open joint-stock company, shares are freely distributed through open subscription and purchase and sale on the securities market .

Abroad, a joint-stock company is called a "company" or "incorporation".

A *limited liability company (LLC)* is a company with a statutory fund divided into shares, the size of which is determined by the constituent (founding) documents. The statutory fund of a limited liability company must be at least 100 minimum wages. The members of this society bear **responsibility** within the limits of their contributions. Abroad, in the name of such a company, as a rule, the concept "limited" (from English - to limit) or abbreviated LTD is indicated.

A *company with additional liability (TzDV)* is the same as a company with limited liability. However, unlike the latter, its members are responsible for the company's debts not only with their contributions to the statutory fund, but in case of insufficient amounts of these amounts, additionally with their property in the same multiple for all members as the contribution of each member. The maximum amount of liability of the participants is provided for in the founding documents. It is worth noting that abroad this form of partnership is not separated into a separate one, but is a variety of limited liability partnership.

*General partnership (PT)* - a business partnership, all members of which, in accordance with the agreement concluded between them, carry out business activities on behalf of the partnership and bear additional joint and several liability for the obligations of the partnership with all their property. The charter for a general partnership is not approved. In the name of a partnership, usually include one or more names of its founders.

*Limited partnership (CT)* (from the French "kommandite" - union by faith). Its feature is that it consists of so-called full members and depositors. The first in their rights and obligations do not differ from members of a full partnership and also bear additional joint and several liability with all their property. As for investors, they are called "limited" or "sleeping" partners. They are present in the activities of the partnership only with their contributions and bear responsibility is also only within the limits of the contribution. This form of entrepreneurship has not become widespread in the world. In the USA and Great Britain, this legal form corresponds to the limited liability company. It is most typical for France and Germany.

Under the conditions of a market economy, enterprises often unite in their business activities. In Ukraine, enterprises can create the following business associations:

- *associations* - contractual associations created for the purpose of permanent coordination of the economic activities of enterprises. All members of the association have production and commercial independence;

- *corporations* - contractual associations created on the basis of a combination of industrial, scientific and commercial interests of the participants with their delegation of separate powers of centralized regulation of the activities of each of the participants to the management bodies of the corporation;

- *consortia* - temporary statutory associations of enterprises to achieve a common economic goal (implementation of target programs, scientific and technical and other projects). In case of achievement of the goal of its creation, the consortium ceases its activity;

- *concerns* - statutory associations of organizations based on their financial dependence on one or a group of association participants, with the centralization of the functions of scientific, technical and industrial development, investment, financial, foreign economic and other activities;

- *cartels* – a contractual association of enterprises mainly of the same industry for the implementation of joint commercial activities (for example, regulation of the sale of manufactured products);

- *syndicates* - a type of cartel agreement, which provides for the sale of products of the

participants through the established joint sales body or the sales network of one of the members of the association. Raw materials can be purchased for all members of the syndicate in the same way. The association of enterprises is created for industries that produce homogeneous products. Syndicates retain production, but lose commercial independence;

- *trusts* are an organizational and production unit or a form of monopoly, in which all united enterprises lose their commercial and production independence and are subordinated to a single body;

- *holdings* - an organizational form of association, in which a separate company does not have production enterprises, but owns a controlling stake in other companies, thanks to which it exercises control over their activities. Enterprises united in the holding have legal and economic independence, but the decision of the main issues of their activity belongs to the holding company;

- *industrial and financial groups* - an association that is created by decision of the Cabinet of Ministers of Ukraine for a certain period in order to implement state programs for the development of priority industries of production and structural restructuring of the economy of Ukraine. The industrial and financial group may include industrial and other enterprises, scientific and design institutions, other institutions and organizations of all forms of ownership. At the same time, the main enterprise is determined, which has the exclusive right to act on behalf of the industrial and financial group as a participant in economic relations. The industrial and financial group is not a legal entity and is not subject to state registration as a business entity;

- *conglomerate* – an organizational form of a union of enterprises, which arises as a result of the union of various companies, regardless of their horizontal or vertical connections. Conglomerates are focused on the development and maximization of profits, regardless of the spheres of activity. The main methods of formation of conglomerates are mergers and acquisitions of enterprises of various fields of activity.

### **Business risk**

Risk is the probability of losses, underachievement of profits, undesirable development of the operating environment, deviation from established goals, etc.

Economic or business risk is defined as the risk arising from any form of activity related to the production of products, goods, services, their sale, commodity-monetary and financial transactions, commerce, implementation of socio-economic and scientific and technical projects.

All risks are closely related to the operating environment, so it is advisable to divide them into risks of the external environment and risks of the internal environment.

**The risks of the external environment** include :

- economic;
- social;
- political;
- administrative and legislative;
- natural and ecological;
- scientific and technical.

**The risks of the internal functioning environment** include :

- resource risks (financial, personnel, material, information, energy risks);
- production and economic risks (technical, technological, innovative, property, etc.);
- commercial risks (non-payment, marketing, trade, transport, service, etc.).

It should be noted that risks are distinguished according to the degree of risk saturation: minimum, average, optimal, maximum or permissible, critical, catastrophic. When making management decisions, it is advisable to use the following risk management methods:

- avoidance, prevention (prevention) of risks;
- risk acceptance – involves the conscious formation of measures taking into account potential risks and the manager assuming responsibility for covering possible losses due to the occurrence of risk;

– optimization (reduction) of the degree of risk can be carried out in various ways: through risk distribution, insurance, diversification, limiting, formation of reserves, etc.

*Business losses* are an accidental, unforeseen decrease in business profits. The main types of damages: financial, material, labor, special.

*Financial expenses* are direct monetary losses associated with unforeseen payments, fines, payment of additional taxes, loss of money and securities, non-repayment of debts, non-payment by the buyer of products delivered to him, etc. Special types of monetary losses are associated with inflation, changes in the exchange rate of the national currency units, additional withdrawal of funds from enterprises to the state or local budget.

*Material types of damages* are manifested in unforeseen additional costs or direct losses of equipment, product property, raw materials, energy, etc.

*Labor losses* are losses of working time caused by random, unforeseen circumstances, or when the process of business activity is slower than expected.

*Special types of damages* are manifested in the form of damage caused to the health and housing of people, the environment, the prestige of the entrepreneur, as well as due to other adverse social and moral and psychological consequences.

Ways to reduce risk include diversification, insurance, and getting more information about choices and outcomes.

**Diversification** is the distribution of capital investments and the diversification of forms of activity that are not related to the main production and the results of which are not directly related.

Business insurance is provided by insurance companies through the sale of insurance policies. Diversification and investment of funds are forms of self-insurance.

The value of information lies in the fact that decisions are made, as a rule, in conditions of uncertainty and based on limited access to information. If information is more available, entrepreneurs can make better predictions about the problem being solved and reduce risk.

### **Bankruptcy and termination of business activity**

Bankruptcy is the financial failure of legal entities and citizens, the inability to pay creditors for debt obligations and to continue normal activities.

*The main reasons for bankruptcy* are:

- incompetence (managerial and official);
- unbalanced experience of the business entity, who may be an experienced manager, but an inexperienced businessman;
- lack of experience in financial transactions, inability to establish and maintain business relations and contacts.

Grounds for the liquidation of a pharmaceutical enterprise

The liquidation of an enterprise means the termination of business activity of a legal entity or an individual without the right to transfer rights and obligations to legal successors.

Termination of activity can be voluntary or forced.

The main reasons for canceling the state registration of a pharmaceutical enterprise can be:

- invalidation of the founding documents of the enterprise (non-compliance with the current legislation) and the decision of the founders to establish the enterprise;
- systematic or gross violation of legislation;
- untimely notification of a change of location, etc.

Liquidation at the initiative of the owner or self-liquidation is a rather complex and long-term process, which requires certain sequential actions within the framework of current legislative and regulatory documents.

**Personnel management** is understood as the process of planning, selection, training, evaluation and continuous education of personnel, aimed at their rational use, increasing the efficiency of production and, ultimately, improving the quality of life.

Personnel policy is a set of principles, basic models, goals and ideas that determine the direction and content of work with personnel and are decisive in the field of organization management. It defines the goals related to the company's relationship with the external environment (labor market, relations with state bodies, etc.), as well as goals related to the company's relationship with its personnel

(participation in management, management style, improvement of the professional education system, social issues, etc.). Issues of personnel policy are resolved with the help of personnel strategy and tactics.

The personnel strategy includes raising the prestige of the enterprise, researching the relations between employees within the enterprise, analyzing the prospects for the development of the potential of the workforce in this region, summarizing and preventing the reasons for dismissal, etc.

The components of the development of the personnel strategy of the enterprise are:

- staffing needs planning – organizational analysis, analysis of existing positions, need for new positions and quality personnel planning, evaluation of positions, replenishment of staff;
- training and professional development – improvement of the general educational and professional level, on-the-job training, job rotation, internship, self-education, etc.;
- regulatory system – purposeful management, assessment of work performed, assessment of employees' capabilities (abilities), career growth planning;
- labor remuneration - the totality of all types of remuneration, remuneration for the volume and quality of work performed, remuneration depending on the position held, social security, etc.

The daily implementation of the personnel strategy, as well as the simultaneous provision of assistance to management in the performance of enterprise management tasks, belong to personnel management tactics.

Therefore, the tactics of the pharmaceutical company in solving personnel issues are:

- increasing the interest of personnel in work through their motivation;
- achieving better mutual understanding between the manager and subordinates through interviews, observation, discussion;
- increasing employee satisfaction with work, identifying obstacles in work and finding ways to eliminate them;
- notifying subordinates of their performance evaluations;
- accumulation of professional forces, and if necessary, improvement and retraining according to a specific plan;
- setting real and achievable goals for the near future;
- consideration of all possible options for personnel changes within the organization.

The main elements of personnel management include:

- personnel selection;
- assessment of professional qualities or activity;
- reward;
- training and professional development.

### **Materials on the activation of students of higher education during the lecture: question:**

1. The concept of entrepreneurial activity, its purpose and tasks
2. Basic organizational forms of entrepreneurial activity.
3. The procedure for state registration of an enterprise.
4. The procedure and conditions for issuing a license for entrepreneurial activity in the pharmaceutical industry.
5. The procedure for acquiring a trade patent, its purpose.
6. Business risk and ways to reduce it.
7. Bankruptcy and the procedure for liquidation of business activity.
8. Constituent parts of the development of the personnel strategy of the enterprise. Concept of organization in management theory.
9. General characteristics of the tactics of the pharmaceutical enterprise in solving personnel issues.
10. Basic elements of personnel management.
11. Basic principles of personnel management.
12. Peculiarities of stages of management of labor resources.

13. Formation of personnel management potential.
14. Evaluation of the personnel of the pharmaceutical enterprise

**General material and educational and methodological support of the lecture:**

- multimedia projector;
- educational platform ( MS Teams) ;
- presentation;
- illustrative material on the topic;

**Questions for self-control:**

1. What is the essence of entrepreneurship?
2. What are the principles of entrepreneurial activity?
3. What are the main features of entrepreneurial activity?
4. By what signs are enterprises classified?
5. What is the importance of small businesses? Their advantages and disadvantages?
6. What are the main types of pharmaceutical enterprises?
7. On what basis are business associations formed and their types?
8. What is meant by personnel management?
9. What does personnel strategy include□
10. What are the components of developing a personnel strategy of an enterprise□
11. What are the tactics of a pharmaceutical company in solving personnel issues?
12. What are the main elements of personnel management?
13. What stages does the personnel management of a pharmaceutical enterprise include?

**References:**

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2. Management and marketing in pharmacy. Educational method. manual / comp. O.H. Chirva, O.V. Harmatyuk; MES of Ukraine, UDPU. – Uman: Visavy, 2018. – 217 p.
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5. Management in pharmacy. Module 1. Educational method. manual / V.O. Demchenko, N.O. Tkachenko, N.M. Chervonenko, T.P. Annual; edited by G. Knysha. – Zaporizhzhia: ZDMU, 2017. – 194 p.
6. Pharmaceutical Law and Legislation: the textbook for applicants for higher education / A.A. Kotvitskaya, IV Kubarieva, AV Volkova et al. Kharkiv : NUPh : Golden Pages, 2019.204 p.

**Lecture #4**

**Topic: Labor relations under market conditions. Evaluation of the effectiveness of the organization and management.**

**Relevance of the topic:** HR policy defines goals related to the company's relationship with the external environment (labor market, relations with state bodies, etc.), as well as goals related to the company's relationship with its staff (participation in management, management style, improvement systems of professional education, social issues, etc.). The stage of creating an effective personnel management system at a pharmaceutical enterprise and its management mechanism, which includes:



development and creation of an optimal structure of the personnel service and staffing of the personnel service, determination of the structure of professional training and the structure of professionally significant qualities of personnel specialists, selection, training and training of qualified specialists in human resource management. Therefore, studying the management of labor resources in the pharmaceutical industry is a relevant topic for becoming a pharmacist.

**Purpose:** to reveal the essence of the functioning of organizations as subjects of interpersonal relations; to form a professional view on the factors influencing the pharmaceutical organization.

**Basic concepts:** business efficiency, efficiency assessment

**Plan and organizational structure of the lecture**

1. The essence, classification and general features of personnel policy.
2. Basic principles of personnel management.
3. Peculiarities of the stages of labor resources management.
4. Forming management personnel potential
5. Basic types of employee behavior.

**Content of lecture material (lecture text):**

**Personnel management is understood** as the process of planning, selection, training, evaluation and continuous education of personnel, aimed at their rational use, increasing the efficiency of production and, ultimately, improving the quality of life.

**Personnel policy** is a set of principles, basic models, goals and ideas that determine the directions and content of work with personnel and are decisive in the field of organization management. It defines the goals related to the company's relationship with the external environment (labor market, relations with state bodies, etc.), as well as goals related to the company's relationship with its personnel (participation in management, management style, improvement of the professional education system, social issues, etc.). Issues of personnel policy are solved with the help of *personnel strategy and tactics*.

*The personnel strategy* includes raising the prestige of the enterprise, researching the relations between employees within the enterprise, analyzing the prospects for the development of the potential of the workforce in this region, summarizing and preventing the reasons for dismissal, etc.

The components of the development of *the personnel strategy* of the enterprise are:

- *personnel need planning* – organizational analysis, analysis of existing positions, need for new positions and quality personnel planning, evaluation of positions, replenishment of staff;
- *training and professional development* - improvement of the general educational and professional level, on-the-job training, job rotation, internship, self-education, etc.;
- *regulation system* – purposeful management, assessment of work performed, assessment of the capabilities (abilities) of employees, career growth planning;
- *remuneration* - the totality of all types of remuneration, remuneration for the volume and quality of work performed, remuneration depending on the position held, social security, etc.

The everyday implementation of the personnel strategy, as well as the simultaneous provision of assistance to management in the performance of enterprise management tasks, belong to *personnel management tactics*.

Therefore, *the tactics* of the pharmaceutical company in solving personnel issues are:

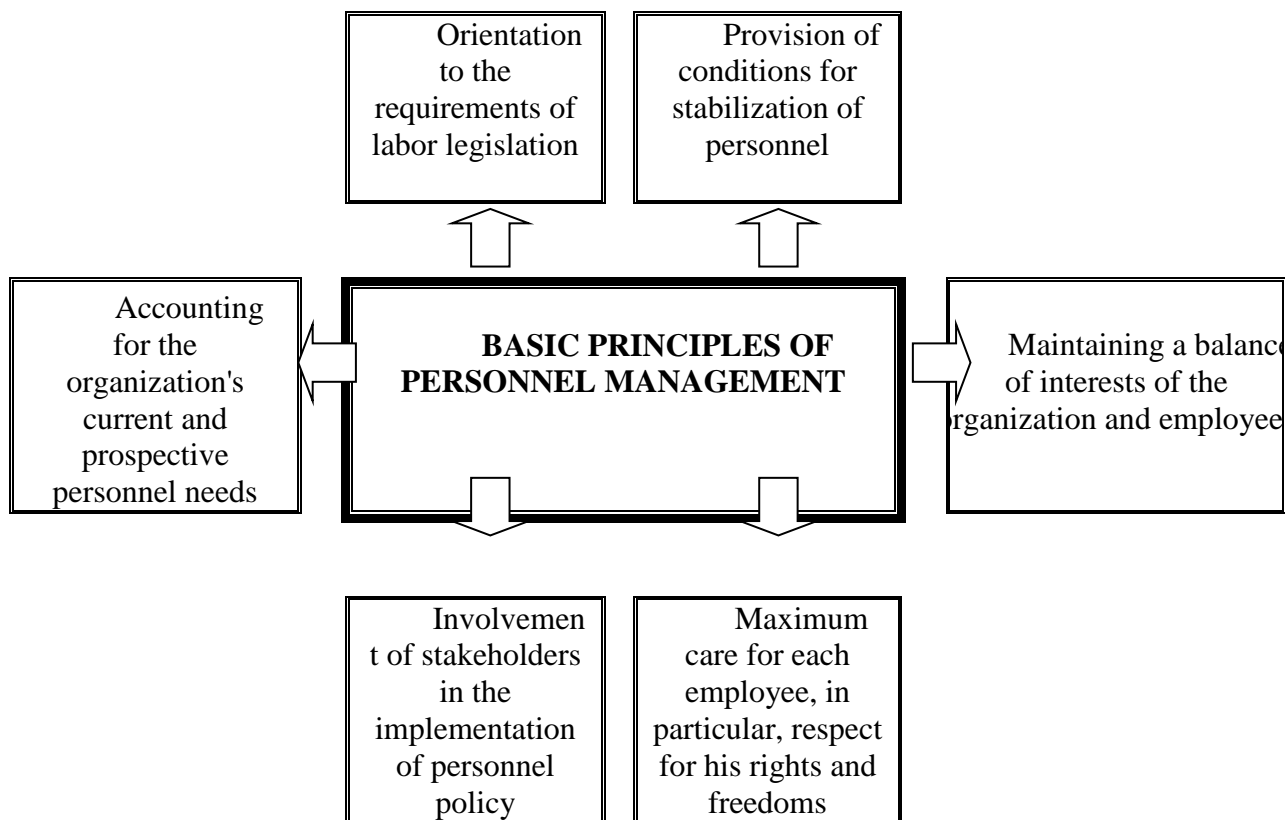
- increasing the interest of personnel in work through their motivation;
- achieving better mutual understanding between the manager and subordinates through interviews, observation, discussion;
- increasing employee satisfaction with work, identifying obstacles in work and finding ways to eliminate them;
- notifying subordinates of their performance evaluations;
- accumulation of professional forces, and if necessary, improvement and retraining according to a specific plan;
- setting real and achievable goals for the near future;

- consideration of all possible options for personnel changes within the organization.

The main *elements* of personnel management include:

- personnel selection;
- assessment of professional qualities or activities;
- remuneration;
- training and professional development.

The main *principles* of personnel management are shown in fig. 9.6.



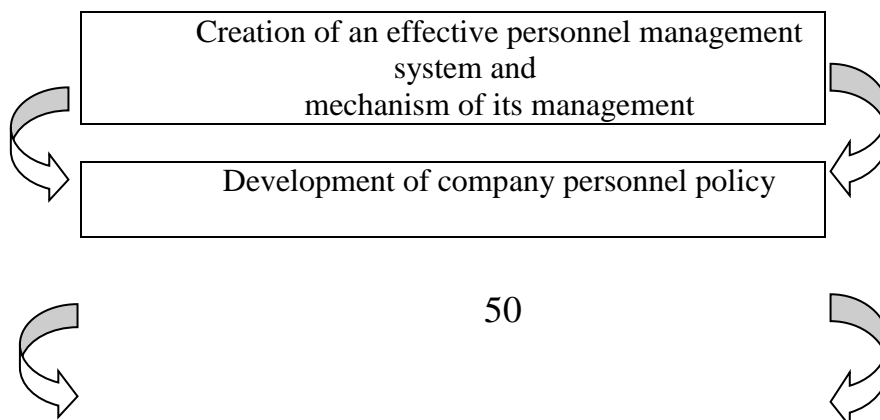
**Fig. Basic principles of personnel management**

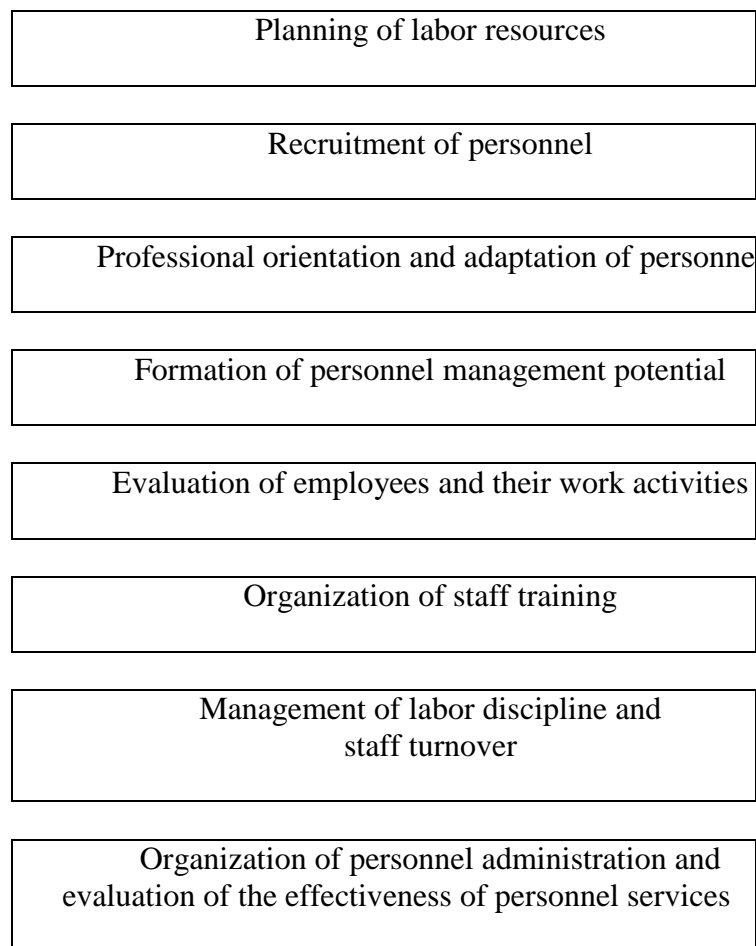
**Peculiarities of stages of management of labor resources**

Personnel management of a pharmaceutical enterprise includes the following interrelated stages (Fig.):

*The stage of creating an effective personnel management system at a pharmaceutical enterprise and its management mechanism, which includes: development and creation of an optimal structure of the personnel service and staffing of the personnel service, determination of the structure of professional training and the structure of professionally significant qualities of personnel specialists, selection, training and training of qualified specialists in human resource management.*

The creation of a *corporate personnel policy* involves the development of basic principles and methods of strategic and operational personnel management.





**Fig.** Stages of management of labor resources of a pharmaceutical organization

*The stage of planning labor resources* includes: drawing up plans and forecasts in work with personnel, planning the number and composition of employees, creating automated human resources management systems.

*Recruitment* involves knowledge and skillful use of all possible sources of staffing needs. When searching for specialists, as a rule, the following methods of personnel selection are used:

- recruitment agencies;
- job fairs;
- contacts with universities;
- internal personnel reserve of the pharmaceutical enterprise;
- own databases of pharmaceutical enterprises;
- advertisement and review of resumes in mass media;
- through familiar company employees or personal acquaintances.

*The stage of professional orientation and adaptation of personnel* includes: introduction of hired employees into the organization, development and implementation of professional training and professional development programs. Adaptation is an important element both for the employee and for the pharmaceutical enterprise and includes industrial and social elements, contributes to the professional development of the employee, establishing relationships with employees. In turn, difficulties with professional adaptation can serve as information about the possibility (or impossibility) of the specialist's effective work at this enterprise.

*The formation of management personnel potential* involves the analysis of the quality composition of management personnel, the organization of hiring and permanent work with young specialists, the development of scientific and practical bases for the selection and placement of management personnel.

At the stage of *evaluating employees and their work activities*, methods for evaluating the professional suitability of employees are developed and communicated to the staff, regular attestations are conducted, and a reserve of potential candidates for all positions is created.

*Organization of staff training.* At this stage of personnel management, the development and implementation of programs for professional training, retraining and advanced training of employees is carried out.

The stage of *managing labor discipline and staff turnover* involves the development of a salary structure and a system of benefits; rotation and mobility programs within the enterprise, procedures for hiring, promotion, demotion, transfer and dismissal of employees.

*Personnel turnover* is an integral part of the general movement of labor resources, it is individual, unorganized movement of employees between enterprises and organizations. Among the many reasons for personnel turnover, the following are highlighted first of all:

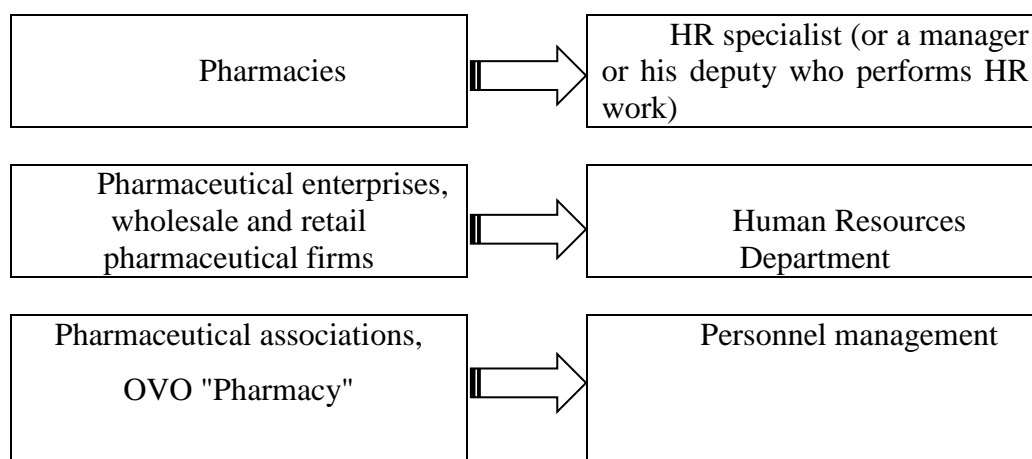
- dissatisfaction with production and economic conditions (work organization, salary, lack of opportunities for professional growth);
- dissatisfaction with living conditions;
- relationships that did not develop with the management or team;
- motives of a personal nature and others.

**rotation**, which is also a component of their general movement, is fundamentally different from personnel turnover. **Rotation** is movement, movement of frames. There are several types of rotation. Spiral (horizontal) rotation – involves moving an employee at the same position level. Helical (vertical) rotation is the transfer of an employee with promotion. Combined rotation (mixed) combines the features of the above types of rotation. An example of such a rotation can be the pharmacist-intern rotation. In addition, in relation to the "Pharmaceutical personnel" system, internal rotation is distinguished - the movement of employees at workplaces within the system or enterprise, as well as external rotation, when the employee leaves the system and moves to another field of activity.

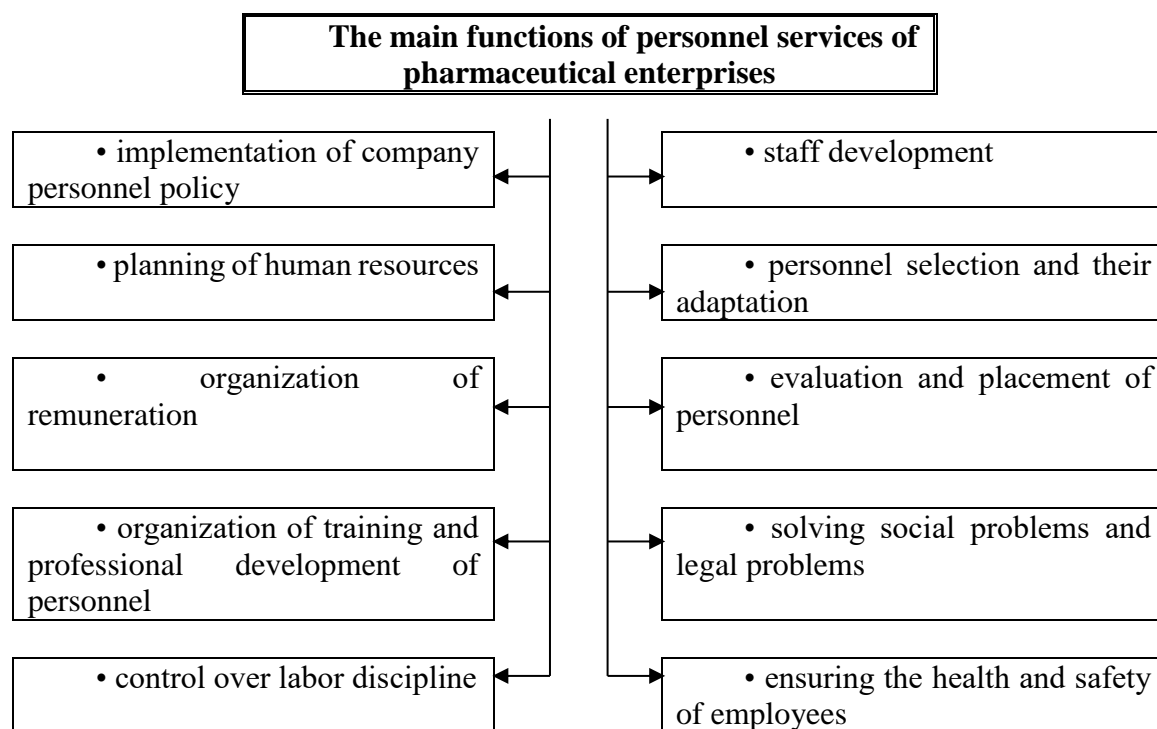
The effectiveness of the company's labor resources management also depends to a large extent on the correct *organization of personnel records* (maintenance of personal files of employees, accounting and reporting on personnel). Here, a significant role is assigned to the use of organizational equipment and personal computers by personnel services in the automation of human resource management processes. this same stage involves evaluating the effectiveness of personnel work units.

### **The structure of the personnel service of pharmaceutical enterprises and its main functions**

Depending on the size of the organization and the scope of its work, the structure of the personnel service of a pharmaceutical enterprise can be as follows (Fig.):



**Fig.** The structure of personnel service of enterprises of the pharmaceutical industry



**Fig.** The main functions performed by personnel services of pharmaceutical enterprises in modern conditions

### **Evaluation of the personnel of the pharmaceutical enterprise**

Practically no area of personnel work can do without personnel evaluation. Personnel evaluation procedures are fundamental to many specific aspects of personnel work. In particular, *when hiring*, the degree of readiness of the candidate to work in the position is assessed, the presence or absence of the necessary qualities for successful (effective) work is determined.

At the same time, it is advisable to be guided by the following motives:

- clearly define the requirements for this job, analyze the tasks and responsibilities, make a description of the functions and a list of the candidate's necessary qualities;
- to determine which recruitment will be: internal (from among the company's employees) or external;
- focus on a person's strengths rather than their weaknesses; search for not ideal candidates, but those most suitable for the given position;
- focus on the most qualified personnel, but not more highly qualified than the workplace requires;
- compliance of the applicant's individual qualities with the requirements of the job content (education, length of service, experience, sometimes gender, age, health, psychological state) must be ensured.

*When promoting* an employee, the extent to which the employee is prepared to perform new functions is determined. *During training*, the level of professional competence is determined, the list of knowledge and skills that must be mastered are revealed; stereotypes of thinking that prevent effective work or management, which must be overcome; determine the directions in which training and development should be carried out. *When reorganizing* a pharmaceutical enterprise, the possibilities of adapting employees to new working conditions are evaluated, the most adaptable and efficient ones are chosen, and it is they who remain at the new enterprise.

There are a large number of different approaches to personnel evaluation, but all of them have a common drawback - subjectivity, since the final decision largely depends on who uses the method or who acts as an expert.

Evaluation technologies should be built in such a way that personnel evaluation is:

- *objective* - independent of anyone's private opinion or individual judgment;
- *reliable* - relatively free from the influence of situational factors (mood, weather, past successes or failures, etc.);
- *reliable* - the real level of skills and competence is assessed (how successfully the employee can perform his job);
- *with the possibility of a forecast* - the assessment should provide information about what types of activities and at what level the employee is potentially suitable;
- *complex* – not only each of the employees of the pharmaceutical enterprise is evaluated, but also the connections and relations between them within the pharmaceutical enterprise;
- *accessible* – the purpose of assessment procedures and assessment criteria should be accessible not only to a narrow circle of specialists, but also to those who are assessed.

It is necessary that during the evaluation process, a stressful situation is not created for the team, capable of disorganizing the work. These peace enterprises should be included in the general system of personnel work of the company in such a way as to contribute to its development and improvement.

The most suitable assessment technology that meets the above requirements can be the "Assessment Center" technology (Center).

Assessment method Center is considered the most accurate and effective method of assessing the business and personal qualities of employees, especially managers, in the global practice of human resources management.

This method is usually used in two cases when:

**1. Evaluation of the employees available at the pharmaceutical enterprise** (most often middle and senior managers) to solve the tasks:

- optimization of personnel placement (promotion, movement, withdrawal);
- justified formation of personnel reserve;
- career planning of company employees;
- formation of individual plans for training and professional growth.

**2. Evaluation of a group of applicants for certain positions in the company** for the purpose of reasonable and reliable selection of those who most fully meet the requirements.

The essence of the method is to create exercises that simulate the key moments of the employee's activity, in which his professionally significant qualities would manifest themselves. The degree of their severity is evaluated by trained specialists, and on the basis of this evaluation, a conclusion is made about the degree of suitability of the certified person for this job, promotion, the need for individual psychological consultations, psychocorrection, or social-psychological training.

Thus, during the "speech test" the applicant is offered to speak in front of an audience. After that, the observers evaluate the speaker's confidence and ability to control himself, the logic of the presentation of the material, the emotionality and memorability of the speech.

During the "testing with documents" the applicant is offered to deal with a package of documents and make a decision for a certain period of time. In this case, the ability to analyze is mainly evaluated.

To assess the ability to cope with stressful situations, role-playing games are used (for example, a situation is played out when a consumer came to the pharmacy to return medicine).

Assessment method Center allows you to create an organizational plan for conducting evaluation procedures, formulate requirements and restrictions, and also allows you to achieve a deeper understanding of the characteristics of the activities of the evaluated employees, the specifics of the organizational culture and interaction schemes used in the organization.

For the purpose of effective personnel management, it is worth establishing to which category according to the type of behavior an employee belongs, since such affiliation determines the employee's behavior and the possible nature of the relationship (table).

Table

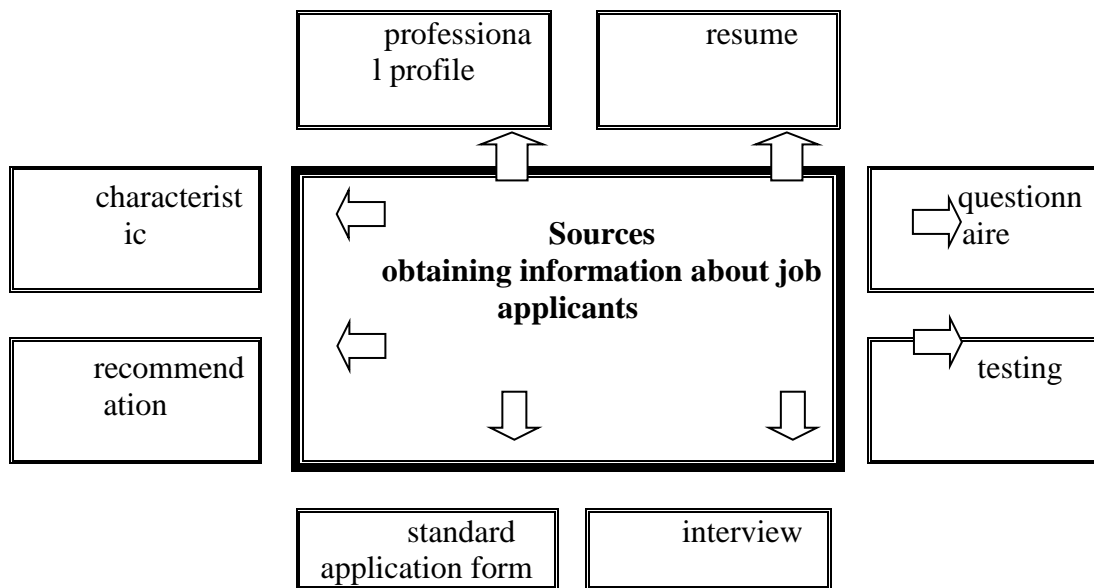
**The main types of employee behavior**

<b>Category of employees</b>	<b>Types of their behavior</b>	<b>The nature of the relationship</b>
<b>1. "Indispensable" (universal)</b>	It is agreed to replace, replace, represent. Often does not only his work, but also beyond his duties. Full of pride that anything is possible. He understands half a word, sometimes he even gets ahead of the work himself.	Addressing is "necessary", and you don't need to ask twice: it may offend.
<b>2. "Self-lover"</b>	In the first place is the actual "I". Takes on everything only when you can show your merits. Loves social work.	It must be kept in "frames". Because of vanity can do any work.
<b>3. "Business"</b>	A strong feature is practicality. The final result can be achieved in any way, everything depends on benefit. He is not able to correlate his tasks with the tasks of joint work.	It is necessary to set specific goals, clarify them, cultivate the habit of looking forward, looking back and looking around.
<b>4. "Player"</b>	A developed selective interest in activities can work well only when he likes the work. However, his interest is unstable: he quickly catches fire and also quickly cools down.	From time to time it is necessary to "shake", to remind that he is personally responsible for the performance of the work.
<b>5. "Energetic"</b>	What is important is not the work, but the very reflection in it, which rarely happens on the spot. All in public affairs. Forever hurrying somewhere, sitting somewhere.	Responds well to the words "don't feel sorry for yourself" or "wouldn't you agree to help us a little".
<b>6. "Moralist"</b>	He behaves authoritatively, likes to teach everyone, he does not need to be brought up, you need to be careful with him. Loves the role of a consultant.	He likes to be treated with respect, but it is better not to bother him in the morning, because you will listen to advice until lunch.
<b>7. "Archivarius"</b>	Everything is done according to the instructions. Neat with documents in which everything is clear to him. The scale and content of the work are powerful incentives, because otherwise he does not feel needed.	Ask for help in understanding the documents, trust the "dossier". Do not entrust a new one, as it will be overwhelmed at the beginning.
<b>8. "Skeptic"</b>	Starts to perform any task after the second or third reminder. Does not see the content in the work.	An individual approach is not necessary
<b>9. "The Creator"</b>	He does everything while playing, everything is interesting to him. It works smartly, beautifully. Wants to do better, more, faster. He is easily injured, cannot	Needs friendly support and recognition. It is necessary to guard

	and does not want to adapt to the surrounding order. Respects openness of relations and honesty.	him against mistakes and some naivety.
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### Sources of obtaining information about potential employees of a pharmaceutical enterprise

It is difficult to overestimate the importance of such a personnel function as recruitment . Its essence lies in the recruitment and selection of personnel using various methods of obtaining information about applicants for vacancies at the pharmaceutical enterprise (Fig. 9.10), placement of personnel, management of their adaptation and consolidation at the pharmaceutical enterprise.



**Fig.** Sources of obtaining information about potential employees of a pharmaceutical enterprise

At the same time, the more complex the company is in terms of hierarchy, the more important the recruitment function is, the more expensive it is to avoid errors in the selection of personnel, especially when it comes to key positions.

**Recruitment** is the selection and appointment procedures, which are related to the involvement in the management or production sphere of employees from the party who have not previously worked at the enterprise or organization, who by their qualifications, level of knowledge and practical skills meet the requirements set to candidates for a vacant position.

**Recruitment** – determination of psychological and professional qualities of people in order to determine their suitability for the work they perform.

### Professionogram

The qualities that an employee applying for a position must possess can be determined by the so-called *professional profile* , or a *competency map*, which can be theoretical, based on regulatory documents (instructions, regulations, etc.) or empirical, compiled by studying a real group of people. A *professional profile* is a comprehensive, systematized, multi-faceted description and justification of the system of requirements that a certain activity, specialty or profession places on a person. Any professional profile should include information of two types: a description of the professional activity itself (psychological profile) and a description of the requirements for the person who will be engaged in this professional activity, for his psyche as a list of professionally necessary qualities (psychogram). The psychogram describes the psychological features of the profession. Each specific profession determines the quantitative and qualitative expression of certain mental formations



(feelings, perception, memory, thinking, imagination, language, attention, will, etc.), their relationship and interaction in the process of performing production operations, which determines the presence of certain abilities. The psychogram is intended to reflect this uniqueness and to make it clear to a person what the demands on the psyche and personality of the profession that interests him are.

The general plan of the description of the profession (professionogram) contains the following sections:

**1. General information about the profession**, specialty (name of the profession, forms of professional training, jobs that can be occupied after acquiring the profession).

**2. Content and conditions of work** (materials used, work process and its results, level of mechanization and automation, knowledge, skills, abilities, nature and working conditions necessary for work).

**3. A person in the process of work** (attractive aspects of work and its difficulties, degree of responsibility and elements of creativity, psychophysiological qualities and medical contraindications, positive and negative consequences of work for a person).

**4. Socio-economic features of the profession** (wages system and social security, cultural and household conditions, prospects for professional growth, geography of the profession, etc.).

At the preliminary stage of selection, based on the professional profile, candidates who are able to perform the necessary functions are first identified, the circle of applicants is narrowed as much as possible, and a reserve is formed from them, with which further thorough work is carried out. Her task is a comprehensive assessment of the candidate, which is not focused on individual traits, but on personality properties in general.

### **Testing**

A fairly reliable way of checking applicants is **testing**, which is intended both for selecting the best candidates and for screening out weak ones. With the help of tests, speed and accuracy of work performance, stability of attention, visual memory, mastery of related professions, analytical thinking, accuracy, ability to quickly navigate, executive ability, interest in work, ability to communicate with people, personal inclinations are evaluated.

In the US, the most commonly used are aptitude and psychological tests, as well as drug tests. Qualification tests make it possible to assess the competence of employees and their special abilities. Psychological tests allow you to assess the general intellectual level, attitude to work, interests, interests, ability to manage, personal qualities. There are both supporters and opponents of psychological testing. Proponents argue that psychological tests provide relatively accurate and complete information that predicts how well an applicant will perform at a job. Opponents argue that psychological tests are ineffective and potentially discriminatory. At domestic companies, such a method of meeting the applicant as **an interview is more widely used**. At the same time, some of them, before scheduling an interview, want the job applicant to send a resume or fill out a questionnaire.

The personnel interview is considered the most universal way of personnel evaluation. It should be well thought out and prepared. It is recommended to ask questions in approximately the following order: about personal characteristics, details of education, qualifications, training, work experience, plans and aspirations, reasons for wanting to get this position, possibilities of combining work and personal life, strengths and weaknesses, salary, goals 5-10 year terms, reasons for dismissal from the previous job, action plans in the event of holding the position. It is also necessary to invite the applicant to ask questions that interest him, on the basis of which you can learn a lot about the person.

During the interview, you can use both direct questions ("Can you work a lot?", "Are you a good organizer?", etc.), and with hidden value, for example:

- Do you agree or disagree with the criticism and why?
- What have you been criticized for in recent years?
- What job duties do you perform with the greatest satisfaction?
- Name three situations where you managed to achieve success.

- Can people be made to work better?

In addition to the interview, external factors are also important: behavior, conformity of appearance and style of clothing to the position for which the person is applying, neatness, manner of speaking, etc.

Additional, but sufficiently specific information about the candidate for the position can be provided by knowledge of the relationship between a person's capacity for work, the relationship to work with the type of nervous system, physique, appearance, gestures, etc. Yes, *a sanguine* is emotional and characterized by good work capacity, but his motivations are unstable, his attention is unstable; he orients himself in an unfamiliar environment quite quickly, is proactive, joins the team in a short time, adapts well, and experiences failures relatively easily. At the same time, he tends to "slide along the surface", avoid difficulties, rush to make a decision. *A phlegmatic person* is calm even in difficult situations, stable in aspirations and moods; adheres to the developed schedule, strives for a system, takes his time. At the same time, he is inert, slowly switching from one job to another. *A choleric person* is characterized by the speed of actions and decisions, rapid mood changes, emotionality, increased irritability, abruptness and directness. *A melancholic* gets tired quickly, is unsure of himself, anxious, but he feels very subtly, is cautious; characterized, as a rule, by closedness, slow reaction.

At the same time, each person has a mixture of different temperaments, but one of them always prevails over the others.

There is also a typology that explains the peculiarities of human behavior with a certain type of body structure. There are three types:

- *asthenic* - thin, thin, with narrow shoulders, a long, narrow and flat chest. He has a fragile body structure, tall stature, an elongated face, a long thin nose;
- *picnic* - of medium or small height, with a lot of adipose tissue, a round head on a short neck, with a wide face;
- *athletic* - has good musculature, strong body, tall or medium height, wide shoulder girdle and narrow hips, convex facial bones.

These types of body structure have been brought into line with the general structure of human behavior, which includes *cognitive* (thinking), *sensory* (emotional) and *practical* (transformative) components. It was established that the "thinker" type corresponds to the asthenic body type, the "interlocutor" to the picnic type, and the "practitioner" to the athletic type. In particular, the athlete - "practitioner" prefers clearly set tasks, does not like unfinished business and procrastination. He is often a good organizer, speaks easily in front of large audiences, tends to dominate communication and relationships.

## Group dynamics

process refers to the creation and functioning of a formal organization. In the middle of any formal organization there are informal organizations. Despite the fact that these organizations are not created by the will of management, they represent a factor that every manager must reckon with, because both informal organizations and other groups can have a strong influence on the behavior of individuals and on the work behavior of employees.

In addition, no matter how well a manager performs his functions, it is impossible to determine what actions and relationships will be necessary to achieve goals in a forward-looking organization. Managers and subordinates often have to interact with people who are outside the organization and with units outside their subordinates. People will not be able to successfully perform their tasks if they do not achieve the proper interaction of individuals and groups on which their activities depend. In order to cope with such situations, the manager must understand what role this or that group plays in a specific situation, and what place the management process occupies in it.

*Group dynamics* is the process by which interaction between people reduces the tension of each of them or leads them to mutual satisfaction. He explains:

- Belonging of an individual to a group, attractiveness of a group and membership in a group. The individual is attracted to interaction with others because he derives pleasure from it. In addition to the private needs inherent in this situation, he satisfies general needs - the need for power, belonging to society, respect.
- Formation of spontaneous or informal groups. Satisfying needs through interaction explains the formation of spontaneous groups, which is the result of the freedom of action of individuals. Everyone finds what they need here.
- The appearance of the roles of "favorites" in the group. Some individuals are larger than others, meet the needs of group members and make the group situation satisfactory. This happens, for example, when there is a spring in the group, the soul of society, a person who reports all the news, a clown, a guardian angel, and so on.

The group and the individuals mutually reduce the tension of each and allow each to achieve his own goals. How do general goals appear?

1. *"Common Purpose"*. Group goals and goals of each individual are not necessarily clear and conscious.
  - The goal of the group is the convergence of personal goals. Each member of the group may have different goals, but achieving a common goal allows each of them to achieve their personal goals.
  - *The purpose of the group is to induce interactions* . A goal proposed in a group by some members affects others depending on the attractiveness of the group to its members.
2. The role of group members and pursuit of group goals. Everyday experience shows that not all actions and interactions of group members lead to the realization of goals (for example, the discussion does not move forward - the speech of one of the group members contributes to its progress).

In every group there are group norms. The emergence of norms is explained by several aspects of group life:

- The pursuit of common goals is an inductive element of the behavior of its members.
- The desire to preserve the stability of the group reinforces the need for uniform behavior and compliance with norms.
- Common ideas, life arising as a result, in the group. Belonging to a group affects how a group member imagines situations or prefers shared values. There is a group selectivity of perception, a certain way of life and thoughts.
- Imitation of other members depends on the degree of attractiveness of the group for the individual. Imitation is supported by the need to belong to a group and the need for security.
- Fear of sanctions (ridicule, rejection, etc.). The stronger the attractiveness of the group, the greater the fear of sanctions.

Pressure and coercion are applied unequally to all members of the group. There are "conformists" and "deviants". These differences can be caused by a number of factors:

- Everyone needs to stand out.
- Differences in sensitivity to group pressure are related to status in the group. Individuals with high prestige experience less group coercion.
- In general, it can be said that the more attractive a group is to an individual, the closer he is to group goals, the more he pays attention to its requirements.

In organized groups, there are special roles of controllers: policeman, head of the protocol department, classroom supervisor, and so on.

In spontaneous groups, some individuals spontaneously act as controllers. Such roles, associated with personal traits, are needed to maintain security, preserve the group, its reputation, and so on. In most groups, there is a censor - the keeper of norms.

***Conflicts and changes. The laws of spontaneous changes of groups are subject to a dynamic explanation:***

1. From a dynamic point of view, structure is a state of equilibrium in the life of a group.
2. Under the influence of internal or external causes, a state of disequilibrium occurs in the group, its structure is destroyed.
3. The life of groups is an alternation of states of equilibrium and its violations.
4. In groups, there are unifying forces that resist structural change, and disintegrating forces that push for change. Equilibrium exists if the forces of association are greater than the forces of disintegration.
5. A group conflict can be defined as a state of upheaval, disorganization in relation to the previous equilibrium. Conflict is a generator of new structures.

### **Conflicts as an object of management**

***Conflict*** (lat. conflictus - collision, disagreement) is a lack of agreement between two or more subjects, a clash of opposite parties, forces that can be specific individuals or groups of workers, as well as internal discomfort of one person. In the process of conflict, each subject imposes his point of view, goals, thoughts, a heated dispute, and prevents the other subject from doing the same.

#### ***Causes of conflicts:***

- allocation of resources;
- interdependence of tasks;
- differences in the plans of the parties;
- dissimilarity of goals;
- differences in ideas about a specific situation;
- different understanding and perception of values;
- differences in behavior;
- false information;
- unsatisfactory communications;
- differences in life experience;
- sudden change of events;
- demonstration of negative personal qualities (distrust, suspicion, arrogance, hatred), etc.

#### ***Types of conflicts***

**According to the results**, conflicts are:

1) *functional (constructive)*, which lead to an increase in the effectiveness of the organization's activities and create positive consequences, namely:

- making acceptable decisions;
- inclination to cooperation;
- improvement of relations between employees, subordinates and managers, etc.;
- emergence of additional ideas;
- emergence of additional alternatives, etc.

2) *dysfunctional (destructive)*, which lead to a decrease in the level of provision of personal needs, a decrease in the role of group cooperation, and as a result, the effectiveness of the organization's activities, that is, cause the occurrence of negative consequences, namely:

- deterioration of relations between employees;
- unsatisfactory moral climate, drop in labor productivity, staff turnover;

- weakened cooperation in the future;
- unproductive competition with other groups or employees;
- search for enemies;
- reduction of interaction between the parties to the conflict;
- increase in hostility between the subjects of the conflict;
- exaggeration of the meaning of "victory";
- long celebration of "victory", etc.

1) *ineffective*, which do not lead to any changes in the organization's activities.

**According to the content**, six main types of conflicts can be distinguished:

1) *Intrapersonal*. The parties to such a conflict situation are various components of a person's spiritual structure, while an internal struggle of motives, principles, beliefs, etc. may take place. Most often, it is caused by incorrect requirements, unstructured tasks, as well as the fact that different managers make contradictory and even opposing requirements to a certain employee, as well as when these requirements do not correspond to the employee's personal needs and values. It arises as a result of deficiencies in the delegation of authority, organizational management structures, the application of leadership styles, etc.

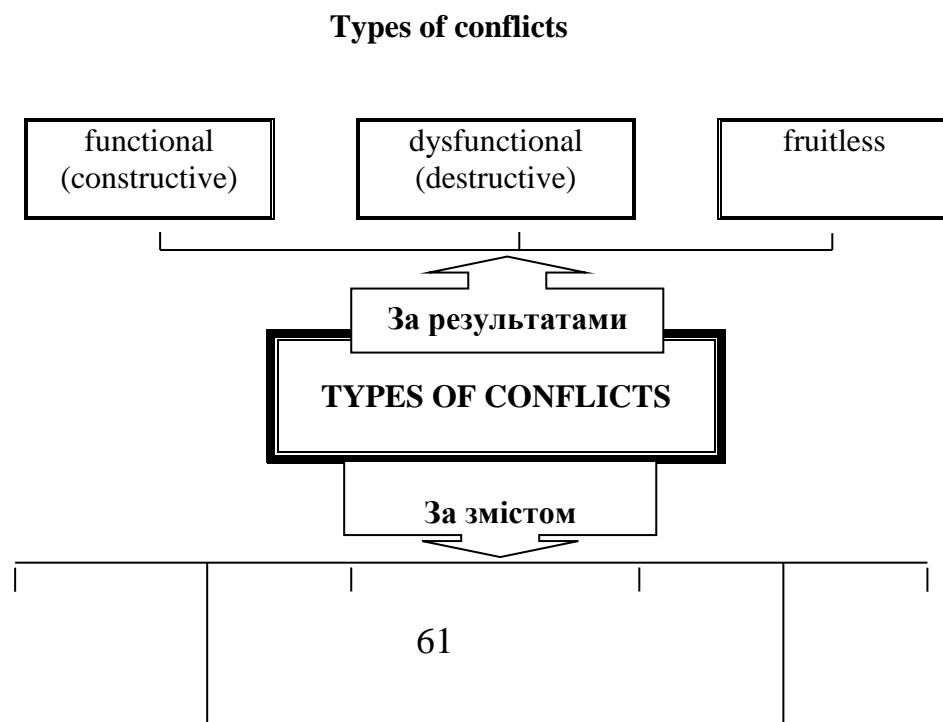
2) *Interpersonal (dyadic)*. It arises during the distribution of resources, work, material incentives, duties, etc., as well as under the influence of differences in character, knowledge, qualification parameters, levels of intelligence, degrees of compatibility, etc. Usually dyadic conflict arises on the basis of personal likes and dislikes, it is emotional and open. In the organization, all formal relationships are closely intertwined with informal ones, which creates opportunities for transferring personal feelings (hatred, antipathy, anger, disrespect, etc.) to business relationships.

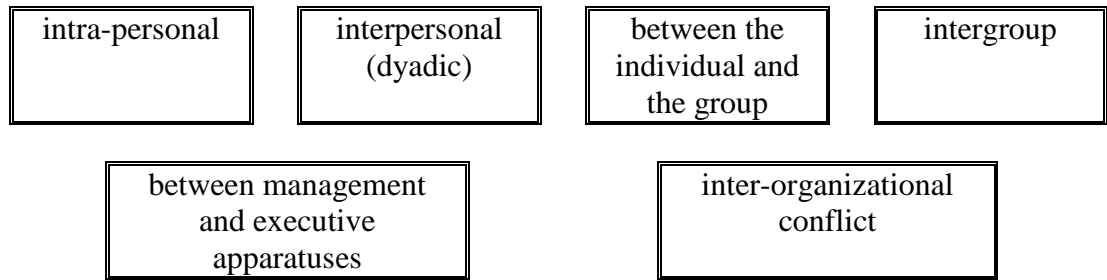
3) *Conflict between a person and a group*. It is generated by violations of group norms, one's duties, general "rules of the game", culture of relationships, etc.

4) *Intergroup*. It arises between line and staff personnel, trade union and administration, formal and informal groups, etc. The main reason is the clash of interests of different groups.

5) *Conflict between the control apparatus (controlling system) and executive apparatus (controlled system)*. It arises as a result of ineffective management decisions, deficiencies in communications, the use of illegal disciplinary measures by the management apparatus, etc.

6) *Inter-organizational conflict*. It is formed in the form of competitive relations between organizations as a result of the struggle for limited resources, consumers, and markets. At the same time, the main bearers of such a conflict are the owners of organizations and heads of the institutional level of management.





### ***Stages of the conflict***

Conflict is a process that goes through certain stages, although sometimes it is almost instantaneous, but more often it is quite long. **Four stages of the conflict** are distinguished, namely: *latent, demonstrative, aggressive, combat*.

At the *latent stage* of the conflict, a real contradiction arises in the interests, views, needs, goals of the parties, awareness of their incompatibility, but the parties continue to demonstrate normal, normal relations. Latency is hiddenness, reluctance to openly discuss contradictions, closedness of the conflict. At this stage, there is a violation of normal communication without emphasizing the presence of misunderstandings, while there is no aggressive demonstration of one's own positions.

At the second stage of the conflict - *demonstrative* - the parties are aware of the existence of a conflict, seek to convince each other of their rightness, which is characterized by manifestations of irritation, mutual accusations, and, as a rule, ends in a break in relations.

The *aggressive stage* of the conflict is based on the fact that the conflicting parties try to destroy each other as an enemy. At the same time, both open methods of struggle (mutual threats, quarrels, moral insults, physical violence) and closed ones (slander, dissemination of compromising information, discrediting, intrigues, etc.) are used.

The last stage of the conflict - *the battle stage* - involves the resolution of the conflict: the complete destruction of the enemy in the psychological sense, or the declaration of a truce. At this stage, a very important role is played by the intervention of a third party, who is an authority for the conflicting parties and is able to open their eyes to the absurdity of the situation.

### ***Forms of conflict***

It should be noted that the conflict does not necessarily flow through all the stages described above, some of them may be missed. Depending on what stage the conflict situation has reached, **four are distinguished forms of conflict**, namely: open, hidden, "blind" and "unknown" conflict.

*Open conflict* is pronounced, emotional, aggressive. It is obvious, very inflammatory, and at the same time it is sometimes difficult to identify the real reasons for its occurrence, the real motives and views of the conflicting parties. The positions of the opponents in such a conflict become principled and do not involve any concessions.

*Hidden conflict (disguised)*. The most widespread form of conflict in groups and organizations, when real disagreements are hidden by conflict participants behind outwardly impeccable forms of behavior. Such a conflict is caused by one of the parties primarily due to envy, dislike, own antipathy, finds expression in various intrigues, slander, and, as a result, causes dislike and unpleasant feelings in the other party, to whom the actions of the initiator of the conflict are directed. At the same time, negative consequences primarily await the initiator of the conflict, since he initiated it, caused its development, was unable to control his emotions and antipathies, that is, he was unable to act wisely, without showing personal unpleasant feelings. At the same time, the initiator of the conflict exposes himself to the fact that the other party may sooner or later take revenge for all the actions that were committed against him.

In a *"blind" conflict*, one of the parties to the conflict situation is not aware of its existence, becomes the object of attacks by the opponent, but does not perceive the situation as a conflict, ignoring it. At enterprises with improper organization of activities, such conflicts often arise as a result of inconsistency and inconsistency of management decisions of various managers, while

managers try not to notice and ignore such a situation, and as a result, executives stop working altogether or are fired.

*"Unknown" conflict.* Presupposes the presence of a conflict-causing situation, which is based on hostility, which is deliberately hidden. At the same time, an open confrontation can take place at any time due to the occurrence of an incident (pretext, reason, etc.).

### **Conflict management**

**Three methods of eliminating conflict situations** that usually arise between a person (or a trade union) and the company's management, namely: suppression, compromise, integration. Of course, of these, only integration really offers a solution.

*Suppression.* This method of resolving conflict situations involves the use of force by one of the conflicting parties. With the help of force, you can destroy the opponent. Yes, a strong management will defeat a weak union or a powerful union can disperse the enterprise.

*Compromise* is the most respected and often used form of resolution. In a compromise, each side demands what it needs and negotiates to the end. This temporary agreement, of course, is designed for a short period of time and leads to a new recurrence of the conflict.

*Integration.* This approach considers the conflict as a multifaceted problem with a solution that consists in satisfying the main demands of the parties to the conflict. Integration requires a unified system of values and mutual understanding on the part of conflicting parties. In integration, disputed points are separated and analyzed separately; each aspect is given a certain weight. The needs, desires and hopes of the parties are brought together for consideration and evaluation. As a result of such an analysis, interests may be reassessed.

Currently, there are several areas of conflict regulation:

- philosophical-sociological – theoretical direction covering the general trends in the development of conflicts at the macro level;
- organizational and sociological - study the causes and dynamics of organizational conflicts;
- individual-psychological - study the psychophysical features and characteristics of individual personalities, their behavior in conflict conditions.

The central element of the model is conflict management, the methods of which can be divided into two groups:

- structural;
- interpersonal

There are four structural methods of conflict resolution, namely:

- clarification of work requirements, i.e. clarification of what consequences are required from each employee or structural unit, taking into account their desired level, the procedure for providing and using the necessary information, the system of powers and responsibilities;
- the use of coordination and integration mechanisms (through teams, a hierarchy of officials, units, functions, services, etc. The presence of a common leader streamlines the interaction of people, decision-making, information flows within the organization, which allows you to avoid conflict);
- establishment of overall organizational complex goals in order to direct the efforts of all employees to achieve a common, unified goal;
- the use of a system of rewards (bonuses, material incentives , promotions, etc.) involves preventing conflict situations by correcting people's behavior, visibly encouraging those who contribute to the achievement of overall organizational goals, and helps to solve problems.

The main interpersonal methods of conflict resolution include:

- avoidance (a person avoids conflict);
- smoothing (dissolving the desire for conflict);
- coercion (the conflict is eliminated by the power of the authorities or by other coercive means);
- compromise (combination of points of view);
- solving the problem that led to the conflict.

The presence of obstacles significantly complicates the resolution of the conflict, namely:

- insufficient information support;
- the status of conflicting parties;
- uncertainty of the situation;
- fear of choice;
- peculiarities of character, temperament, life positions of the parties, etc.

***Styles of behavior in a conflict situation:***

**Competition style** . It provides for the active resolution of the conflict in a defined way on the basis of cooperation with various parties to the conflict. It is effective when the manager has some power. This style is recommended to be used in the following situations:

- the final result is very important for the manager;
- the decision must be made quickly;
- if there is no other way out, and there is nothing to lose;
- if the manager is in a critical situation that requires an immediate reaction;
- if the manager has to make a non-standard decision.

**Evasion style**. It is a passive style. It is acceptable when the issue under discussion is not very important or when there is not enough information to make a decision. Although this avoidance style is identified with "running away from the problem" (responsibility) and is not considered an effective way to resolve conflicts, withdrawal or postponement is a completely constructive reaction to a conflict situation. The most typical situations in which it is appropriate to use the avoidance style are:

- the result is not very important, the decision is trivial and it is not worth spending time, money and energy on it;
- it is difficult to resolve the conflict in one's favor;
- it is advisable to buy time to get additional information;
- little power and few chances to solve the problem in the desired way;
- solving the problem is currently dangerous due to the high probability of worsening the situation.

**Adaptation style**. This is a passive style. It should be used if the outcome of the case is extremely important for the opponent and not very important for the manager. The difference from the previous style is that the opponents act together. The adaptation style is appropriate to use in the following typical situations:

- when it is necessary to maintain good relations with opponents;
- when the result is important for opponents, etc.

**Collaboration style**. Opponents take an active part in resolving the conflict and defend their own interests, but at the same time they try to cooperate. This style requires more productive work, as the needs and interests of all parties are first announced, and then a joint discussion takes place. This style is particularly effective when the parties have different hidden needs and there are difficulties in establishing the sources of dissatisfaction. It is advisable to use the cooperation style in the following situations:

- solving the problem is very important for both parties, and none of them wants to avoid this process;
- when opponents have long-term and interdependent relationships;
- there is time to work out the problem that has arisen;
- all parties are well acquainted with the problem and their wishes are known;
- all parties are equal, so they are looking for a solution to the problem on an equal footing.

**Compromise style**. It involves partial satisfaction of the interests of both parties through mutual concessions, taking into account all the pros and cons. If the opponent concedes in something, then the other side concedes in return. This style is most effective when the parties want the same thing, but know that it is impossible to achieve the same goal at the same time. Compromise is often the last chance to reach a solution. As a rule, a compromise produces a better result for the party with more power. The compromise style is most appropriate when:



- the parties are equal and have common interests;
- the parties want to quickly find a solution to the problem;
- everyone is satisfied with a temporary solution;
- other approaches to solving the problem were not successful;
- as a result of a compromise, good relations can be maintained;
- it is better to gain at least something than to lose everything.

### **Stresses as an object of management**

**Stress** (English stress - tension) is a phenomenon that is caused by large or small volumes of work, the need to get along with each other, conflict of roles, their uncertainty, sadness, aimlessness of existence, lack of important work, physical, psychological and other reasons.

#### ***Factors of stress formation***

Factors that cause stress can be divided into three groups:

1) *Organizational* : lack of an important matter, aimlessness of existence, overload or underload with work, conflict of roles, their uncertainty, uninteresting work, etc.

2) *Personal*: the need to get along with each other, death in the family, marriage, pregnancy, sexual problems, bad relations with relatives, changing apartments, going on vacation, unsuccessful celebration, joy, violation of habits, preferences, dreams, etc.

3) *Environmental factors* : heat, cold, noise, wind, rain, storm, earthquake, etc.

Reaction to stress is largely related to a person's adaptive capabilities, his ability to tolerate external stimuli. Each person has an individual sensitivity to stress: if one will worry about small things, the other will not pay any attention to such situations.

First of all, certain categories of people are subject to stress: stubborn people; people who strive for perfection; workaholics; indecisive people; reserved and self-confident people.

Physiological signs of stress include: insomnia, memory impairment, headaches, causeless excitement, increased heart rate, desire to cry, irritability, incontinence, bad or too cheerful mood, the appearance of a feeling of indifference.

#### ***Types of stress***

Ukrainian scientist Doctor of Biological Sciences Professor Ana Toliy Kosenko notes that stress is formed under the influence of:

- positive feelings (gratitude, respect, trust, admiration, affection, benevolence, etc.);
- negative feelings (hatred, mistrust, contempt, hostility, jealousy, desire for revenge, threat to security, etc.).

Depending on this, the following **types** of stress are distinguished:

- *euphoric stress* associated with falling in love, marriage, birth of a child, successful vacation, pleasant acquaintance, unexpected reward, etc. Such stress brings satisfaction, joy, happiness, pleasant emotions and increases the body's defenses.

- *distress* associated with illnesses, failures, conflicts, unpleasant life situations and circumstances, divorce, loss of a loved one, etc. Such stress causes worries, fears, restlessness, leads to the occurrence of depression, diseases, and destroys health.

#### ***Ways to overcome stress***

The negative impact of stress can be eliminated with the help of self-management and the application of certain management decisions.

In the process of self-management, the employee must:

- evaluate your own condition and performance results;
- specify the system of your work (for example, you should write down what to do today and what to do tomorrow, etc.);
- not agree to a new job (assignment), if the old one is unfinished;
- maintain friendly relations with the boss;

- not to agree with conflicting requirements;
- report to the boss about the vagueness of the task;
- improve relations with team members, formal and informal groups;
- don't complain;
- think over each step;
- skillfully organize your vacation;
- study the relevant literature and apply the acquired knowledge in practice.

*For stress management, you can offer:*

- to study character traits, range of knowledge, attitude to work of subordinates;
- choose the type and volume of work in accordance with the abilities, needs and skills of employees;
- provide employees with the most complete description of their future work;
- allow employees to reasonably refuse work;
- able to explain the need to perform work;
- make optimal decisions;
- establish clear areas of authority;
- improve communications;
- use leadership style according to the situation;
- not to hide production and economic information;
- provide the necessary remuneration for effective work;
- use graphs to explain certain economic phenomena;
- act as a mentor to subordinates;
- improve the qualifications of subordinates;
- develop the abilities of subordinates;
- if necessary, assist the employee in changing the workplace, etc.

*In addition, to overcome stress caused by various reasons, it is advisable to:*

- do sports regularly;
- cultivate a sense of humor;
- engage in self-training and meditation;
- narrow your circle of communication only to those you like;
- engage in a certain type of activity that will allow you to increase your self-esteem (judo, karate, shaping, archery, foreign language courses);
- actively relax (go to nature with friends);
- do not avoid pleasant communication, but on the contrary - encourage it;
- perform certain tasks exactly as you see fit, not someone else, etc.

**Materials on the activation of students of higher education during the lecture:  
question:**

1. Constituent parts of the development of the personnel strategy of the enterprise. Concept of organization in management theory.
2. General characteristics of tactics and pharmaceutical enterprises in solving personnel issues.
3. Basic elements of personnel management . \_
4. Basic principles of personnel management.
5. Peculiarities of the stages of labor resources management.
6. Formation of personnel management potential.
7. Evaluation of the personnel of the pharmaceutical enterprise

### **General material and educational and methodological support of the lecture:**

- multimedia projector;
- educational platform ( MS Teams) ;
- presentation;
- illustrative material on the topic;

### **Questions for self-control:**

1. What is meant by personnel management?
2. a corporate strategy ?include?
3. What are the components and parts of the development of the company's ?personnel strategy
4. What are the tactics of the pharmaceutical company in solving personnel issues ?
5. What are the main elements of personnel management ?
6. What are the stages ? includes in the board the personnel of the pharmaceutical enterprise ?
7. Name the main functions of personnel services of pharmaceutical enterprises .
8. What motives should be used when assessing the degree of readiness of a candidate to work in a position ?
9. the main types of employee behavior do you know ?
10. Name the sources of obtaining information about job applicants

### **List of used sources:**

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2. Management and marketing in pharmacy. Educational method. manual / comp. O.H. Chirva, O.V. Harmatyuk; MES of Ukraine, UDPU. – Uman: Visavy, 2018. – 217 p.
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### **Lecture #5**

#### **Topic: Basic provisions of pharmaceutical marketing. Pharmaceutical marketing management process. Study of the drug market.**

**Relevance of the topic:** A pharmaceutical enterprise that carries out production and sales activities in the conditions of a market economy can work successfully only if it uses a marketing concept in the process of its functioning, which will make it possible to meet the urgent needs of public health care and, as a result, to make a profit for this enterprise .

The transition of enterprises to a new management mechanism based on economic methods involves a gradual change of the "seller's market", i.e. the producer, to the "buyer's market", i.e. the consumer's. With such a system, not so much the presence of goods, but their quality, high consumer properties, play an important role.

For the manufacturer, this system sets strict requirements for high efficiency, use of the latest achievements of science and technology. The complex of special measures that ensures the

fulfillment of such requirements by the enterprise in the conditions of a developed market, and is called marketing, becomes a subject not only of study, but also of practical use.

Therefore, studying the general provisions of pharmaceutical marketing is important for becoming a pharmacist and his practical work.

**Goal:** reveal the essence of the theoretical foundations of modern pharmaceutical marketing; to educate students in modern historical thinking regarding the development of the marketing concept; to form a professional view on the issues under consideration, to ensure students' assimilation of socio-ethical aspects of pharmaceutical marketing.

**Basic concepts:** marketing, marketing management, market, classification of medicines

#### **Plan and organizational structure of the lecture**

1. Characteristics of the pharmaceutical market .
2. The essence and development of the theory of pharmaceutical marketing.
3. Goals and types of pharmaceutical marketing depending on the state of demand.
4. Components of marketing activity .

#### **Content of lecture material (lecture text):**

##### **Characteristics of the pharmaceutical market**

**The pharmaceutical market** is a system of buying and selling relations between economically free sellers and buyers of medicines and medical products.

Market relations are manifested in the form of acts of purchase and sale, in which the subjects of the pharmaceutical market participate.

**Subjects of the pharmaceutical market** are sellers (owners of medicines and medical devices), which include pharmaceutical manufacturers, wholesale pharmaceutical firms and pharmacies, and buyers (owners of money), which include the same pharmaceutical intermediaries (under certain circumstances), as well as medical and preventive institutions (consumer organizations) and the population (individual consumers).

**The object of their relationship** is medicines and medical products.

##### ***The functions of the pharmaceutical market are:***

- *economic function* (bringing the seller closer to the buyer, implementing the sale of medicines and medical products, adjusting the supply and demand, distributing pharmaceutical goods by region, reducing consumer costs for purchasing medicines and eliminating the disparity between demand and the population's income);
- *informational function* (objective information about the assortment and quality of those medicines and medical products that are supplied to the market);
- *intermediary function* (between subjects of the pharmaceutical market);
- *price-forming function* (establishing an active connection between cost and price, which responds sensitively to changes in production, consumption, and business conditions);
- *stimulating function* (return of pharmaceutical production in the face of consumer needs, interest of all participants in the competitive process in satisfying these needs);
- *regulatory function* due to intra-industry competition and supply-demand ratio.

##### ***Classification of the pharmaceutical market***

So, the pharmaceutical market is classified according to:

- geographical location: internal and external, local (local), regional, national and global;
- saturation level: balanced, deficient, excessive;
- degree of maturity: undeveloped; one that is being formed; developed;
- by the degree of restriction of competition: free, monopolistic, oligopolistic, mixed;
- in accordance with the current legislation: legal and illegal ("shadow", "gray") market;
- subjects of the pharmaceutical market: sellers' market and buyers' market;
- sales by nature: wholesale (wholesale) and retail (consumer). Retail, in turn, is divided into the market of individual consumers and the market of consumer organizations. The latter includes such segments as hospital, hospital department and centralized procurement.

The first type of market that was formed in the developed countries of the world was the seller's market.

**A seller's market** is a market that is characterized by a shortage of goods and, as a result, sellers have more power, and the most active "market players" are forced to be buyers.

Gradually, as the supply grew compared to the demand, another type of market was formed - the buyer's market.

**A buyer's market** is a market in which there are plenty of goods and therefore buyers have the opportunity to choose, and the most active "market players" are forced to be sellers.

The buyer's market is the implementation into practice of the leading idea of the marketing concept: a reliable guarantee of the company's market success is the identification of the unsatisfied needs and desires of a certain group of consumers and the satisfaction of these needs with more effective methods than those of competitors.

**The infrastructure of the pharmaceutical market** is a complex of interconnected institutional, material and immaterial elements that adequately serve the system of circulation of medicines and medical products and ensure the effectiveness of its functioning throughout the entire path from the manufacturer to the final consumer.

*All elements of the market infrastructure* are classified into three groups:

elements of the internal and external market;

elements of the foreign market;

elements of the internal market.

*The elements of the internal and external market* include the system of education and scientific research, registration, licensing, control and accreditation, banking and currency exchange, arbitration and legal, customs, tax and insurance systems, joint ventures, as well as information and communications, transport organizations and means, production, warehouse, trade, electronic computing equipment and equipment.

*The elements of the foreign market* include foreign manufacturers and their representative offices, foreign trade firms, enterprises with 100 percent foreign investment, the system of international trade practices.

*The elements of the domestic pharmaceutical market include:* domestic manufacturers, wholesale pharmaceutical companies, pharmacies, treatment and prevention institutions, the population and other subjects.

## **The essence and development of the marketing concept**

**Pharmaceutical marketing** is a managerial activity aimed at creating demand and achieving the goals of a pharmaceutical enterprise through the maximum satisfaction of consumer needs for medicines and medical products.

At the same time, *the need* is understood as the feeling of a lack of a quality standard of living as a result of pathological changes in the state or functions of the human body, which has taken a specific form in accordance with the cultural level and personality of the individual, and the *demand* is a need supported by purchasing power, i.e., these are the drugs that consumers are ready and can buy at a certain price during a certain period of time.

There are three aspects of the marketing concept: *philosophical (ideological), analytical and active*.

In *the philosophical aspect* of marketing as science offers a system of thinking and an ideological basis for entrepreneurial activity.

As *an analytical process*, marketing comes down to understanding markets, that is, it is strategic marketing, which means the development and implementation of a medium- and long-term policy (5-10 years) of a pharmaceutical company.

As *an active process*, the concept of marketing solves a number of issues regarding market penetration and is implemented in the form of tactical (operational, operational) marketing. It is understood as the development of a short-term (up to two years) market policy of a pharmaceutical company, which is based on a timely response to the dynamics of needs and demand, based on the company's own capabilities.

### **Development of marketing concepts**

There are five alternative concepts on which relationships between manufacturers and consumers of medicinal products are built in market conditions, and each of which corresponds to a certain stage of the development of marketing, in particular:

1. *The manufacturing improvement concept* states that consumers prefer widely distributed and affordable medicines.

Management of the enterprise, which focuses on this concept, focuses on improving production and increasing the efficiency of the distribution system of medicines (Fig. 1.3).

An example of this concept can be the enterprise's use of low-energy and automated high-performance technological lines.

The application of this concept *is appropriate* in two situations:

when there is a high demand for specific drugs and consumers show interest in them. In such cases, manufacturers are looking for opportunities to expand production capacity and increase sales volumes of drugs;

when the cost is too high and it can be reduced by increasing labor productivity.

2. *The concept of drug improvement* assumes that consumers prefer drugs of the highest quality, efficacy and safety. Therefore, the company should focus its efforts on their constant improvement and increasing competitiveness. For example, taking into account the high demand for acetylsalicylic acid tablets and the need to reduce the side effect (irritant effect on the stomach), some manufacturers have offered the pharmaceutical market quick-dissolving tablets of the drug.

Paying attention primarily to the quality of drugs, the manufacturing company believes that consumers are interested in purchasing them, know about the availability of competitors' drugs and make their choice, focusing on high quality and agreeing to pay a higher price for it.

3. *The concept of intensification of commercial efforts* states that consumers will not buy a company's drugs in sufficient quantities if it does not make significant efforts in the field of sales.

Businesses focused on this concept are guided by the fact that consumers mostly do not have a clear intention to purchase their drugs, and therefore it is necessary to intensify sales activities through progressive commercial efforts and methods of promotion and expansion of the distribution network.

In practice, the concept of intensification of commercial efforts is implemented by imposing drugs on the buyer, and the seller tries under any conditions to sign the agreement and make the sale, and the satisfaction of the consumer's needs is a secondary matter for him.

The majority of small and medium-sized wholesale domestic pharmaceutical companies are guided by this concept today.

4. *The concept of integrated marketing* assumes that the key to achieving the company's goals is the determination of consumer needs and the satisfaction of these needs with more effective and productive methods compared to competitors.

Introducing this concept, pharmaceutical companies focus, first of all, on meeting the needs of a certain group of consumers, for which they constantly conduct market research, analysis and control of marketing activities.

*The concept of marketing* is a modern concept of business activity, which is more advanced compared to the previous three. If the main object of attention in the first of them is the medicine of the enterprise, which is actively imposed on the seller (consumer), then in the concept of marketing the main object of attention is the needs of the target group of consumers. And the profit of the pharmaceutical company is due to the achievement and support of consumer demand.

Today, the concept of marketing is used by large manufacturing and wholesale domestic pharmaceutical enterprises, as well as most foreign pharmaceutical firms.

In recent years, the concept of social and ethical marketing is gaining more and more popularity.

5. *The concept of socio-ethical marketing* involves determining the needs of consumers and satisfying them more effectively than competitors, taking into account the interests of all members of society.

This concept arose under the influence of many external factors, including the deterioration of the quality of the environment, limited natural resources, rapid population growth, etc. The concept involves balancing all three factors:

- company profits,
- consumer needs of the target group,
- interests of society.

By focusing on the concept of socio-ethical marketing, some foreign pharmaceutical companies have already achieved a significant increase in sales and profitability, as they have won the trust of consumers.

### **Goals and types of pharmaceutical marketing depending on the state of demand**

A pharmaceutical company always has a certain idea about the desired level of demand in the

market. In practice, the demand presented does not always correspond to this level. Eight situations characterizing the state of demand can be clearly distinguished. Each such situation corresponds to a certain task regarding marketing management and its types.

*Conversion marketing* is associated with the presence of negative demand for medicines and medical services, that is, a situation in which they do not find their buyer in a significant part of the potential market. For example: most people have a negative demand for vaccinations, children - for tablet dosage forms and medicines without a prescription.

The causes of the mentioned situation are the neglect of the elements of pre-sale research and consumer information.

The task of pharmaceutical marketing is to create demand as a result of analyzing the causes of negative demand, developing tactics and strategies for influencing demand or supply, which may involve improving the assortment structure or quality of drugs, reducing prices, and finding new forms of promoting drugs on the market.

*Stimulating marketing* is associated with the absence of demand, that is, a state in which the potential market does not show (or almost does not show) interest in a specific offer. For example, a survey of female students of the 4th and 5th years of the pharmaceutical, medical and economic faculties of three universities of Ukraine showed that 15 percent had unplanned pregnancies, and at least a tenth had to have an artificial termination of pregnancy. At the same time, only a fifth of the respondents preferred oral contraceptives in their sexual life.

The reasons for the lack of demand may be the neglect of advertising, studies of the competitiveness of medicinal products.

The task of marketing is to awaken the activity of consumers on the basis of finding ways to connect the inherent qualities of a medicinal product with the natural needs and interests of a person.

*Emergent marketing* is related to the demand for the medicine that is being formed (latent demand). Potential (hidden) demand occurs when a certain part of consumers has a need for a real solution to a problem that cannot be satisfied with drugs and medical services available on the market. For example, today health care has an unmet need for drugs that would be effective in the treatment of cancer, stroke, AIDS, etc. The task of marketing is to estimate the size of the potential market and to create effective medicines and medical services that would really satisfy the demand.

*Remarketing* is associated with a situation of declining demand for medicines or medical services over a certain period of time due to moral aging, failure to take into account sales promotion measures, advertising renewals, and competitive factors. The task of pharmaceutical marketing is not so much to extend the life cycle of a drug that is in a phase of declining demand, but to create a new life cycle of the drug. This can be achieved by advertising unknown or little-known properties and benefits of this medicinal product. For example, regarding aspirin, it has been established: its regular use reduces the risk of stroke by 15%. In addition, to create a new life cycle of aspirin, its fast-dissolving dosage forms, as well as dosage forms with the addition of vitamins, have been developed.

*Synchromarketing* (irregular) is associated with uneven demand, its fluctuations:

- a) seasonal (medicines for colds, gastrointestinal diseases, etc.);
- b) daily (pharmacies are visited more often on weekdays, less often on weekends);
- c) hourly (the pharmacy has fewer visitors in the morning and evening than during the day).



Since it is not possible to smooth out fluctuations in demand for many medicinal products, the task of pharmaceutical marketing is to study these fluctuations and adapt to them.

*Supportive marketing* is associated with the availability of satisfied demand. The task of marketing is to maintain demand in the future due to constant attention to factors that can change the level of demand:

- a) a change in need (for example, a decrease or increase in the level of morbidity );
- b) appearance on the market of similar drugs and medical services of other companies at lower prices.

It is necessary to solve a number of tactical tasks related to the implementation of the price policy, maintaining the necessary volume of sales, coordination of activities, implementation of cost control.

*Demarketing* is associated with excessive demand, that is, the demand for drugs significantly exceeds the supply (production capacity). The task of pharmaceutical marketing is to reduce excess demand by raising prices, discontinuing sales promotions, advertising analogues or substitutes, etc.

*Counteractive marketing* is associated with irrational (non- rational) demand, with the harmfulness of products from the point of view of health, well-being of the consumer and society. For example, demand for alcohol, tobacco, narcotic and psychotropic drugs, etc.

The main reason for this phenomenon is shortcomings in the behavior of consumers from the point of view of social and ethical norms of morality. The task of marketing is to eliminate or reorient demand or significantly limit access to products or change the terms of their sale. For example, in health care, the national demand for narcotic and psychotropic drugs is regulated through the rationing of the need per one thousand people of the population and the dispensing of these drugs from state and communal pharmacies according to the prescriptions of special doctors.

## **Components of marketing activity of pharmaceutical enterprises**

### ***Complex of pharmaceutical marketing***

*The marketing mix* is a set of marketing tools, a combination of which the company uses to influence the target market, with the aim of achieving the desired response from it.

The marketing mix covers all measures that a firm can implement to stimulate demand for medicinal products. Based on the classic theory of marketing, it consists of four elements - the **4R system** :

**A product** is an assortment of medicines that a pharmaceutical company specially develops for its target consumers.

**Price** is the monetary value of a unit of a medicinal product.

**Marketing or distribution methods (place)** — activities that make the medicinal product available to target consumers.

**Promotion methods or marketing communications (promotion)** are activities aimed at disseminating information about the drug by the company and convincing target consumers of the feasibility of its purchase.

**The set of specificity of pharmacy or 4S is** a set of specific characteristics of the pharmaceutical industry, the totality of which provides justification for the right to self-determination

of the theory of pharmaceutical marketing. *Its essence:*

- medicinal products as a product are special due to their social importance, since the benefits of their use are manifested in the reduction of the duration of illness, loss of working time due to incapacity, payments for this reason, as well as in the use of an additional fund

working time Ultimately, medicines are important factors in saving people's lives. On the other hand, some medicines are poisonous and powerful. Non-compliance with the rules of their use can cause deterioration of health and even death. In addition, most medicines are biologically active synthetic compounds whose analogues do not exist in nature, which complicates the process of their safe natural disposal. That is, we are talking about the specificity of social and ecological ( **specificity of social and ecological** );

- the price is not the primary factor influencing the purchase, since the particularity of buying and selling depends on the disease, its nosology, course and degree of severity, as well as the specific properties of medicinal products (specificity **of health** ). At the same time, for a group of vital drugs, especially where they are purchased at the expense of the state (insurance companies) or the cost of their purchase is compensated by the state (insurance companies), the price is often inelastic or little elastic;

- distribution – a feature of the distribution of medicinal products is that their production, wholesale and retail sale can be carried out only on the basis of a special permit, i.e. we are talking about the specificities of licensing (specificity **of licensing** );

- promotion consists in the specificity of communication methods ( **specificity of communications methods** ), since medicinal products are products of forced demand. The use of most of them cannot be based on the advice of relatives and acquaintances, as well as on one's own experience or personal preferences. In addition, it is legally allowed to advertise only over-the-counter drugs. First of all, medical and pharmaceutical specialists play a motivational role in the consumption of drugs, which is why the advertising of most drugs is intended for them, personal sales and, to a large extent, methods of sales promotion are aimed at them.

### **Model of marketing activities of a pharmaceutical enterprise .**

To ensure the operation of the enterprise on the basis of marketing, it is necessary to first of all *develop* a business *strategy*, which aims to ensure that the pharmaceutical company finds and develops the strong sides of its activity and reduces or completely curtails the weak ones. After the management of the firm has made a strategic decision regarding each of its productions or areas of activity, they move on to *pharmaceutical marketing tactics*. At this stage, detailed plans are developed for a separate production, business division, medicine or brand of the company. The annual marketing plan becomes the basis for the coordination of all activities: production, marketing and finance.

Implementation of plans requires *the creation of a marketing service*. Depending on the size of the enterprise, the specifics of its products and markets, the organizational structure of the marketing service may be different: functional, product, regional, market (segmental) or mixed (product-segmental).

When plans begin to translate into marketing practice, many surprises arise. A pharmaceutical company needs *to monitor* its marketing activities to be sure of the ultimate achievement of marketing goals.

Three *types of marketing control can be distinguished* :

- control over the implementation of annual plans;
- profitability control;
- control over the implementation of strategic decisions (strategic marketing control).

Successful marketing activity of the enterprise is possible only under the condition of good information support, constant monitoring of the market environment. To collect, process and analyze information about consumers, competitors, suppliers, etc. and to conduct marketing research at a pharmaceutical enterprise, it is necessary to create a special *marketing information system (MIS)*.

The information obtained with the help of MIS will actually help the pharmaceutical company to determine the strategy and tactics of its pharmaceutical marketing.

Since marketing is focused on meeting the needs of consumers, marketing activity always begins with *a comprehensive research of the pharmaceutical market*.

In the course of market research, the behavior of consumers, their needs, consumer preferences, motives that prompt them to make decisions regarding the purchase of medicinal products are studied. A deep understanding of consumer behavior allows you to satisfy their needs better than your competitors.

Market research also involves studying and forecasting the demand for medicines, analyzing the prices and drugs of competitors, determining the market capacity and the company's share in it. Such an analysis helps *to assess market opportunities* and determine an attractive direction of marketing activity, in which the company can gain competitive advantages.

At the same time, the company is looking for potential customers whose needs the company seeks and can satisfy. At the same time, they use a very important marketing technique - *the segmentation of the pharmaceutical market*, that is, the division of consumers into groups based on the difference in their needs, characteristics and behavior. If the company has correctly chosen the market segment for further cooperation, it means that it has found its "niche" in the market.

After that, they carry out *the positioning of the medicine on the market*, that is, they clearly define how the drug of this company will differ from the drugs of competitors, thanks to which its characteristics can gain competitive advantages in the minds of potential consumers.

Having made a decision on the positioning of its drug, the company can start developing a marketing mix.

### **Materials on the activation of students of higher education during the lecture:**

#### **question:**

1. Structure and organization of the pharmaceutical market.
2. The importance of marketing in modern conditions.
3. The essence, principles and functions of marketing.
4. The essence of the marketing complex.
5. The essence of the complex of pharmacy features.

### **General material and educational and methodological support of the lecture:**

- multimedia projector;
- educational platform ( MS Teams ) ;
- presentation;
- illustrative material on the topic;

### **Questions for self-control:**

1. What is the pharmaceutical market, its subjects and object?
2. What are the functions of the pharmaceutical market?
3. What are the signs of classification of the pharmaceutical market?
4. What is the essence of the seller's and buyer's market?

5. What is the essence of the infrastructure of the pharmaceutical market?
6. What components belong simultaneously to the domestic and foreign pharmaceutical market?
7. Which elements belong only to the foreign pharmaceutical market?
8. Which elements belong only to the domestic pharmaceutical market?
9. What is the essence of pharmaceutical marketing and its three aspects?
10. What are the characteristic features of the concepts of improvement of production and medicinal product and intensification of commercial efforts?
11. What is the essence of the concepts of integrated marketing and social and ethical marketing?
12. What are the features of marketing in the pre-market period of our country?
13. What are the goals and types of pharmaceutical marketing depending on the state of demand?
14. What are the components of marketing activity of pharmaceutical enterprises?
15. What is the essence of the pharmaceutical marketing complex?
16. What is a set of pharmacy features?

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**Lecture #6**

**Topic: Product in the marketing system. Assortment policy of pharmaceutical and pharmacy enterprises. Product and innovation policy of pharmaceutical enterprises.**

**Relevance of the topic:** The product (goods) is the first and most important component of the marketing complex that the pharmaceutical company develops for its consumers. The market success of the enterprise depends on a balanced marketing product policy of the enterprise. Therefore, the formation of the assortment of medicines, their quality and competitiveness, marketing strategy at various stages of the life cycle of the drug, development of a trademark, packaging and brand is important for the future work of a pharmacist.

Assortment policy establishes a connection between market requirements, on the one hand, and the firm's intentions and capabilities, on the other. The task of assortment policy is that at any given moment (and in a reasonable perspective) the set of goods produced by the company optimally meets the needs of consumers both in terms of qualitative characteristics and in terms of quantitative volumes. This is the main goal of the assortment policy.

**Purpose:** to reveal the essence of the formation of the assortment policy of the pharmaceutical enterprise and the development of new medicines as, first of all, the intellectual activity of an energetic and proactive person; to form a professional view on the analysis and assessment of the life

cycle and competitiveness of the medicinal product; highlight social and ethical aspects of quality, trademarks and brands, brands and packaging of medicinal products.

**Basic concepts:** commodity, product, range, product policy, innovation policy, life cycle of medicines, development, original medicine, generic

#### **Plan and organizational structure of the lecture**

1. Assortment policy of the pharmaceutical enterprise.
2. Development of new medicines .
3. Life cycle of the medicinal product .
4. Competitiveness of the medicinal product .
5. Trademarks, brands and packaging of medicines.

#### **Content of lecture material (lecture text):**

##### **Assortment policy of a pharmaceutical enterprise**

The first and most important component of the pharmaceutical marketing complex that his company develops for its target consumers is **pharmaceutical products**. It is divided into two large groups: medicinal products and medical products.

##### *Classification of medicines and medical products*

**Medicinal products** are substances or their mixtures of natural, synthetic or biotechnological origin, which are used to prevent pregnancy, prevention, diagnosis and treatment of human diseases or changes in the state and functions of the body.

Medicines are classified by *toxicological groups* (poisonous, potent, general list), *anatomical and nosological principle* (means that affect the musculoskeletal system, cardiovascular system, for the treatment of infections, etc.); *therapeutic use* (analgesics, antibiotics, hypotensive agents, etc.); *pharmacological action* (anticoagulants, diuretics, vasodilators, etc.); *chemical structure* (alkaloids, cardiac glycosides, steroid drugs, etc.); *type of control and order of circulation* (narcotic drugs, psychotropic substances and precursors); *prescribing rules and dispensing procedure* (prescription drugs and drugs allowed to be dispensed without a prescription); *method of use* (external, internal); *physical and chemical properties and the influence of various factors of the external environment* (light-sensitive, thermolabile, odorous, colored, etc.); *aggregate state* (drugs in "bulk" mass - solid, liquid, soft, gaseous); *by type of medicinal form* (solutions, suspensions, emulsions, drops, powders, tablets, dragees, granules, ointments, pastes, liniments, suppositories, etc.); *ready-made medicinal products* (factory and pharmacy production) and *medicinal products means of individual production* ; *expiration dates* - with a short expiration date (up to two years) and a long expiration date (over two years); *dosed and non-dosed medicines* , etc.

The most accepted today is the international ATC classification , which is based on the system of dividing drugs into groups depending on their effect on a certain anatomical organ or system in accordance with the therapeutic indicators and chemical characteristics of the drug. The principle on which the system is built is that only one ATC code is defined for each finished dosage form. According to this system, drugs are divided into groups that have five different levels.

The first level is the main **anatomical groups** . There are 14 of them, they are denoted by Latin letters A - V, for example, H - hormone preparations for systemic use (except sex hormones). Groups of the first level are divided into groups of the second level - the main **therapeutic ones groups** denoted by two Arabic numbers, for example, H01 - pituitary, hypothalamic hormones and their analogs. Groups of the third level - **therapeutic subgroups** - are formed on the basis of groups of the second level. They are denoted by one Latin letter. For example, H01 A - hormones of the anterior lobe of the pituitary gland and their analogues. The fourth level consists of **therapeutic and chemical subgroups** , which are also designated by one Latin letter. For example, H01A C – somatotropin and analogues. The fifth level is **a chemical substance** (international non-proprietary name of a therapeutically active substance), which is indicated by two Arabic numbers, for example, H01A C01 - somatotropin.

**Medical products** are medical equipment products, materials and medical products intended for diagnosis, treatment, prevention of the human body and/or ensuring these processes. They are classified by: materials from which they are made (rubber products, plastic products, glass, etc.); assortment groups (bandages and perfumery and cosmetic products, sanitary and hygiene items, etc.); functional purpose (items for patient care, tools, devices, devices and equipment); by storage groups (rubber products, plastic products, dressings and auxiliary materials, medical equipment products).

### ***Characteristics of the product range of the pharmaceutical enterprise***

**A product range** is a set of assortment groups of drugs and/or medical products offered by a pharmaceutical company.

*Assortment group* – a collection of assortment positions of drugs or medical products of a given functional purpose.

The range of medicines is characterized by:

- *width* , which is determined by the number of proposed assortment groups (for medicinal products, this is the number of pharmacotherapeutic groups);
- *depth* , which reflects the number of items in each assortment group;
- *saturation* , which is determined by the total number of offered medicines;
- *comparability (harmony)* , which reflects how closely related individual assortment groups are with regard to final consumption, distribution channels, price range, etc.

After determining the nomenclature of medicines, the pharmaceutical enterprise decides the issue of the width of the assortment, since the optimal profit depends on the correct definition of the assortment of medicines.

### ***Expanding the range of medicines***

Diversification –an increase in the number of medicines compared to what is currently available. May be:

- down, that is, a pharmaceutical enterprise that covers the upper segment of the market and produces expensive drugs, then spreads its activities to the lower segment;
- upward, that is, a pharmaceutical company that occupies the lower segments of the market, often, wanting to achieve higher growth rates or higher profits, as well as the opportunity to position itself as a manufacturer of a complete product line, strive to break into higher segments;
- in both directions at the same time , that is, a pharmaceutical manufacturer operating in the middle segment of the market can decide to expand its product range both up and down .

### ***WAYS to replenish the range of medicines :***

- saturation of the product range , i.e. development of new drugs or varieties of their medicinal forms to existing ones ;
- updating the assortment , i.e. radical improvement of the drug or improvement of the external design, packaging, color scheme, etc.;
- *modification* – adaptation of medicines to the special requirements and characteristics of each individual segment, which creates a certain number of modifications in the form of different medicinal forms. This makes it possible to more fully use the absorbing capabilities of the market, taking into account the specifics and requirements of individual consumers in different regions of the country and abroad, to fill those niches where there is no competition or it is insignificant;
- *diversification* - in a general sense, this is the expansion of the activity of large pharmaceutical enterprises beyond the framework of the main business, which means the release of a new type of product that is not related to the main production. Diversification significantly reduces the risk that arises in the process of manufacturing new medicines. It has positive and negative features. The positives are related to the fact that a large enterprise is able to more intensively conduct scientific research, and it is also easier to penetrate the market and survive on it. Negative ones are caused by a possible decrease in labor productivity and the level of competition;

- *modernization* – change, improvement of medicinal products that meets modern requirements. It provides for the introduction of modern technologies, progressive machines and equipment in the production of medicines.

### **Development of new medicines**

#### ***Innovations in pharmacy***

Innovations in pharmacy are classified into two types: *product and process* .

*Products* include:

- creation and release of original medicines;
- development and production of generic drugs;
- introduction of new forms of medicines;
- improving the quality of medicines that are already being produced;
- identification of new areas of application of known medicines.

*Process* innovations are divided into:

- technological (introduction of new or improvement of existing technologies);
- organizational and managerial (development of new markets, use of new channels of drug promotion and forms of sales promotion, use of new economic, management, and organizational mechanisms);
- social (again, as in the food sector – improving the quality of medicines already produced; improving the working conditions of the staff, raising the qualification and professional level of the staff);
- information (introduction of information technologies in management, rationalization of information flows).

***A new medicinal product*** is any medicinal product which

- is issued again; criteria for its development and production there is time;
- used to satisfy a previously unknown need;
- has undergone progressive changes , which distinguishes it from previously known ones, and concerns raw materials, material, technology , external design, etc.

#### ***Levels of novelty of medicinal products***

According to *the novelty of medicines*, the following are distinguished:

- an original drug of a new pharmacological group;
- an original drug of an existing pharmacological group, including combined drugs based on known substances and dosage forms that improve the pharmaco-kinetic properties of substances;
- generic drug and traditional drugs that have been used in medical practice for a long time.

*Original medicine* is a drug that is the property of only the company that developed it or the company that holds the first license to sell it. The active substance of the original drug has a patent, until the expiration of which no other pharmaceutical company has the right to synthesize and use this active substance for commercial and non-commercial purposes. This concept is not equivalent to the concept of "original (trade) name of medicinal product".

A drug whose patent protection for the active substance has expired is called *a generic drug or a generic drug* .

*The generic drug* contains an active substance that is identical to the active substance of the original drug. Excipients included in the composition of the drug (preservatives, fillers, binders, dyes, flavor correctors, etc.) and the production process may differ. A generic drug can be under the original name or under a common name.

#### ***Characteristics of the stages of development of a new medicinal product***

**The first stage** - the development of a new drug - the generation of scientific ideas, which is relevant for the original medicinal product, but is not carried out for the generic drug. There are many sources of ideas for new products, including: consumers with their needs; employees of the pharmaceutical industry, motivated to search for ideas; medical and pharmaceutical personnel in

contact with consumers; urgent health care needs; research laboratories, scientific consultants; new medicinal products of competitors; publications in professional publications; exhibitions, etc.

**The second stage** - the creation of new drugs - involves *directed synthesis of new substances, screening of biologically active substances or modification of existing molecules and substances*, etc. The stage is relevant only for original drugs.

Traditional approaches are used in *the selection of the material basis for the creation of a new drug*: artificially synthesized substance; new medicinal substances obtained from already known physicochemical differentiation; a known drug that is used for a new purpose; a substance that is found in nature and has a medicinal effect.

At this stage, primary preclinical studies of the obtained compounds are carried out and the most promising of them are selected.

**The next stage is the III stage** - development of technology and control methods; biopharmaceutical, preclinical and clinical studies of the medicinal product.

*Preclinical study* of medicines involves chemical, physical, biological, microbiological, pharmacological, toxicological and other scientific studies to study their specific activity and safety.

At the same stage, draft analytical and regulatory documentation, technological regulations are developed, and permission to conduct clinical trials of the medicinal product is also obtained.

The most important stage in the development of a new drug is *clinical trials*, which are carried out in specialized medical and preventive institutions (clinical bases) with human participation to establish or confirm the effectiveness and harmlessness (safety) of the drug. They are conducted after a mandatory assessment of the ethical and moral-legal aspects of the clinical trial program by ethics commissions at the medical and preventive institutions where the trials are conducted.

The first phase of clinical research is conducted on volunteers. In the next phase of clinical research, the new drug is administered to patients as a prophylactic and therapeutic agent for the disorders and symptoms for which it is intended to be treated. At the same time, the effect of the new drug and its analogues are compared.

For a generic drug, *simplified preclinical studies are conducted*, which consist in conducting limited pharmacological studies (determining only acute toxicity and specific activity), as well as *limited clinical trials* - in Ukraine and *proving bioequivalence* - in the world.

At the stage of development of the medicinal product, patent protection of the drug is also worked out to prevent its copying.

If the drug has successfully passed the test at the previous stages, the company proceeds to its *trial marketing*. This is the release of a small batch of the drug for its *market testing* in one or more regions based on a specially developed marketing program.

*The final stage of clinical trials* is carried out only after obtaining sufficiently reliable data on the safety and effectiveness of the drug. The obtained data are the basis for obtaining permission for the registration, use and commercial release of the drug.

Market testing provides a sufficient amount of information to make a final decision regarding the feasibility of releasing a new medicinal product and **deploying its commercial production (stage IV)**. This stage requires significant financial costs and prompt decision-making, because the new medicine must gain recognition from consumers and pharmaceutical intermediaries as soon as possible.

### **The life cycle of a medicinal product**

**The life cycle of a medicinal product** is the duration of the presence of the drug on the pharmaceutical market. It consists of five qualitatively different stages: the creation and development of the drug, bringing it to the market, growth, maturity and saturation, decline and withdrawal from the market.

**The first stage** is costly and combines such processes as **the creation and development** of the drug, including preclinical and clinical research of the drug.

**The second stage** opens the market period and is characterized as **bringing the drug to the market**. This is a period of slow growth in the sales volume of medicinal products, since the market is still little familiar with the new drug. Competition is insignificant, there is no profit, costs for the



formation of demand for the drug and its promotion on the market (advertising, sales promotion) very high, sales are low. The main consumers are innovators.

**The third stage "growth"** is characterized by the following features: rapid growth in sales and profits, competition; high costs for the promotion of the drug, creating loyalty to the brand. Early followers and early majority are the primary consumers.

**The stage of maturity and saturation** is characterized by the following signs: the maximum possible sales volume, the maximum possible profit, high competition, stable costs for the promotion of the medicinal product, advertising is a reminder. The main consumers are the late majority.

**strategies** are used *to keep the medicinal product at the stage of maturity longer and to extend its life cycle*:

- **modification market**, i.e. its expansion, access to new segments, search for new indications for the use of the medicinal product;
- **modification of the drug** in the form of new dosage forms, doses, i.e. changing its characteristics, transferring it to the group of drugs allowed to be dispensed without a doctor's prescription, modernization, improvement of packaging design, etc.;
- **modification of the marketing mix**, in particular, a change in price policy, distribution channels, accents in the advertising campaign, improvement of service, etc.

**The stage of decline (decline)**. Sales and profits fall, competition and promotion costs decrease, the drug's consumers remain mostly conservatives who do not like to change their habits. The fall in sales volumes can be rapid or slow, but the essence of this stage remains unchanged: the drug morally ages, new, more advanced drugs appear.

At the stage of recession, the company can use different **strategies**:

- stop the release of outdated medicines;
- if the drug is still profitable, for some time "harvest the fruits", drastically reducing your costs for its marketing (advertising, sales network, etc.);
- conclude contracts for its production with subsidiaries in other countries or regions.

Some researchers also distinguish **the stage of withdrawal from the market**, which characterizes the process of withdrawal of the drug from active market circulation. For certain medicinal products, the stage of the life cycle of the medicinal product is also relevant - **the revival stage**, which occurs after the stage of maturity and saturation. Price reductions and other sales promotion measures sometimes help to avoid a complete drop in demand and even bring the drug to another saturation stage, but at a lower level, which can continue for a long time. This stage is also relevant for medicinal products, in which new properties and characteristics were discovered in the process of application, which led to their use for the therapy of a wider range of diseases.

Some medicinal products may have different from traditional life cycle curves. The *"style"* life cycle curve reflects the fascination with homeopathic treatment. Such excitement is explained primarily by the absence of toxicological, infectious and immunological risk compared to other drugs, the absence of contraindications and side effects, smooth effect on the body. The cost of homeopathic treatment is much lower, which plays a role in the limited health care budget. The most current style is a *"fashion"* in a certain period of time for some drugs (for example, for antidepressants, immunostimulators, combined drugs with paracetamol). The *"fashion"* curve is characterized by an initial period of rather slow growth, stable popularity for some time, after which a period of gradual decline is observed.

For certain medicines, the life cycle is characterized by *"seasonality"*, which is explained by the increase in the number of patients in certain seasons (colds - in the autumn-winter period and gastrointestinal diseases - in the spring-summer).

Quite often, there is *a decline in sales of the drug* at the beginning of the growth stage. There are two reasons for this phenomenon. One is that during the practical use of the drug, significant side effects are additionally revealed. The other is explained by an ineffective marketing strategy. Such a *"failure"* occurred when the new antihypertensive drug Posicor (Mibefradil) from the Roche company entered the market.

The use of the life cycle concept in practice is complicated by the fact that for most drugs the stages are not clearly divided, the duration of the life cycle of the drug and the shape of its curve can

differ significantly for different drugs. But, despite this, the concept of the life cycle is very important in marketing, because it helps to correctly define the marketing strategies of the manufacturer depending on the stage at which the drug is.

### **Competitiveness of the medicinal product**

**The competitiveness of a medicinal product** is a set of consumer properties of a medicinal product, created during development and production, which contributes to its fastest sale on a specific market in a certain period of time under the conditions of differences from similar drugs in terms of:

- the degree of satisfaction of the needs of the consumer organization or individual consumer and the level of costs for its purchase and use;
- the degree of awareness, accessibility and convenience of the consumer in purchasing and using, ensured by marketing and logistics measures.

The basis of the competitiveness of a medicinal product is its quality, but these two concepts should not be equated.

**The quality of a medicinal product or a medical product** is a set of properties that give a medicinal product or a medical product the ability to satisfy the needs of consumers in accordance with its purpose and meet the requirements established by legislation.

The quality of a medicinal product is measured by a system of specific properties (effectiveness; safety; advantages over other drugs; variety of dosage forms and doses; frequency of doses; speed of onset and duration of action; convenience of use; novelty; packaging design) and activity to the number of nosologies (one or two and more); the course of the disease (acute, subacute or chronic period); degree of severity of the disease (mild, medium or severe form); of different age groups (children, adults, elderly people).

The quality of a medical product is a system of characteristics that determine reliability, functionality, durability, maintainability, economy, design, ease of use, and other consumer properties.

**The effectiveness** of the drug consists in high preventive and therapeutic indicators and in meeting the urgent needs of medicine.

**The safety** of the drug is the degree of side effects (functional disorders, immune reactivity, teratogenic, narcotic effects, effects on reproductive capacity, etc.), their frequency, the benefit/risk ratio when using this drug compared to analogue drugs.

As for **the advantage over analogs**, there are certain difficulties for the drug, since one drug can be significantly more effective than another and at the same time give severe side reactions. This requires a complex comparison between the benefit and the risk due to the use of comparative drugs, which is based on the following principles:

- the new medicinal product must be more effective than a known analogue, with satisfactory acceptance;
- with the same effectiveness as the existing drug, the new drug should have a less pronounced side effect due to lower toxicity and better perception;
- in combination therapy, the new drug must increase the effectiveness of existing drugs, reducing or at least not increasing the toxic effect; in that case, if the drug has significant advantages, but its use is accompanied by a greater risk, its competitiveness may be limited.

**The price** characterizes the availability of the medicinal product for the consumer and plays a corresponding role in its competitiveness. The drug is evaluated both from the point of view of properties and from the point of view of price. There is an established opinion that the cost of a course of treatment with a new drug is always higher than the cost of a course of treatment with older analogues, but very often this is not the case. Conducted studies on pharmacoeconomics show that treatment with new, more effective and safer drugs is ultimately less expensive than long-term treatment with cheap drugs, which is ineffective but more expensive, which is associated with the length of stay of the patient in the hospital, temporary loss of work capacity, etc. If the drug has no advantages over analogues, then its sales will depend mostly on the price.

The quality and cost of medicines or medical products is one of the most important factors in the successful commercial activity of a pharmaceutical company.

There are several methods of determining the competitiveness of medicinal products.

**Characteristics of methods of determining competitiveness. *The method of assessing the level of quality-price competitiveness :***

$$k_i = \frac{Iq}{Ip} = \frac{\sum_{i=1}^n Vi \cdot q_i}{Pi \cdot \beta} \cdot Pia,$$

where  $Iq$  is a group indicator of quality parameters (quality index);  $Ip$  - consumer price index;  $Vi$  - coefficients of weight (significance) of each of the quality (functional) parameters of the medicinal product;  $q_i$  - weight as a percentage of the value of a separate parameter;  $Pi$  - the consumption price of the researched medicinal product;  $Pia$  - the price of consumption of the analog drug;  $\beta_i$  is the conversion factor for the same amount of doses, but different amounts in the packages of the compared drugs.

If  $k_i < 1$ , then the analyzed drug is inferior to the basic analogue of competitors; if  $k_i > 1$ , then the analyzed drug has a higher competitiveness than the basic one.

***Differentiated method:***

$$k_i = \frac{Ni \cdot m \cdot \beta_i}{\sum_{i=1}^m Nia}$$

where  $Ni$  is the sales volume of the evaluated medicinal product (in units);  $Nia$  – sales volume of the  $i$ -th drug (in units);  $\beta_i$  - coefficient of calculation of the number of doses;  $m$  is the number of items of analogue drugs. If  $k_i > 1$ , the evaluated drug has stable demand.

***Graphical-mathematical method*** (it is based on a graphic model of a polygon (cyclogram)) :

$$k = 0.5 \cdot \sin(360/n) \cdot (x_1 \cdot x_2 + x_2 \cdot x_3 + \dots + x_n \cdot x_1),$$

where  $x_1, x_2, x_3 \dots x_n$  are the lengths of the radius vectors OA, OB, OC ... OF;

$n$  is the number of studied parameters.

At the same time, the greater the value of  $k$ , the higher the competitiveness of the evaluated medicinal product in comparison with the analogue drug.

### **Trademarks, brands and packaging of medicines**

One of the important elements of the marketing policy of medicinal products is the decision on the use of *trademarks*. The offer of a medicine under a certain brand helps to strengthen its market position, but at the same time it requires additional costs and accordingly increases the price of these medicines.

**A trademark** is a name, title, symbol, picture or a combination thereof, intended to identify the products or services of a given seller and differentiate them from the products of competitors.

**A trademark** is a trademark that is registered in accordance with the established procedure and has legal protection.

#### **Functions of trademarks**

The role and meaning of trademarks is that they:

- create differences between medicinal products or medical products;
- facilitate drug identification;
- act as a guarantor of the high quality of the medicinal product;
- provide information about the medicinal product and its manufacturer;
- advertise a medicinal product;
- allow the company to bring new drugs to the market at lower costs;
- contribute to the improvement of corporate spirit, unite employees, create a sense of responsibility for a common cause - "corporate patriotism";
- raise the prestige of the medicinal product;
- provide legal protection of medicines.

With regard to the medicinal product, the name of the new drug should be as simple as possible, short - such that it is easy to pronounce and remember, which is especially important for the consumer. For the trademark of a medicinal product, it is desirable that the word has a "medical" or "pharmaceutical" sound. The suffixes -dr, -il, -ol, -yen, etc. are widely used to denote the medicinal product. A significant amount of the trademark consists of fragments of the chemical name of the active substance, and for combined drugs - several active substances. Another group of trademarks contains an indication of the disease or the purpose of the drug. In some cases, elements of chemical structure and therapeutic effect are combined.

Sometimes the name is based on the obtained therapeutic effect: spasmolytic - from spasmolysis; analgin - from an (against, denial) and algos (pain); no-shpa – from no (denial) and spa (spasm); panadol - from pan and douleur - complete pain relief; apressin - from a (denial) and pressure (arterial pressure); norvask - from norm and vascular (vascular), etc. Such names are highly associative and the most successful.

Pharmaceutical companies producing generic drugs often release them under an international non-proprietary name or a specially invented name that must differ from the name of the original drug.

### **Brands of manufacturers, brands of dealers and product and brand franchising**

Considering who is **the owner of the brands**, manufacturers' brands and reseller brands (dealer brands) are distinguished. A third option is also possible - the use of the concept of **franchising** in product trademark practice (licensing in Ukrainian legislation ). Its essence is that a well-known large franchisor company - on a license basis, grants the right to use its trademark (and the corresponding technology) to a small independent licensee company. The latter uses the authority and trust of consumers in a well-known brand, but at the same time assumes great responsibility for maintaining its authority.

### **Strategies for the use of trademarks**

Both manufacturers and resellers in their practice can focus on different **strategies for using trademarks** .

When focusing on the strategy of **group brands**, the company uses one name for all its products. *The advantages* of group brands are most clearly manifested when the company launches *new medicines on the market* . Consumers quickly accept a new drug because it appeared under a well-known brand they trust. The manufacturer's costs for advertising a new drug are significantly reduced. The main *disadvantage* of the group brand strategy is that it practically eliminates differentiated marketing efforts.

**The strategy of the multi-brand approach** involves the use of individual brands for each drug of a pharmaceutical company. The strategy of the multi-brand approach is used by most powerful pharmaceutical companies. *The advantage* of this approach is the ability to attract different market segments. However, at the same time, the costs of promoting a large number of brands increase dramatically, and new drugs do not gain the advantages of an already known name.

In order to combine the advantages of group and private label strategies, some pharmaceutical firms use *combined approaches* . These can be collective brand names for separate assortment groups of medicines, as well as a combination of a brand name with an individual brand of the drug.

### **Brands**

*A brand* is a consumer's persistent perception of a brand, its image in the minds of consumers. In other words, a well-known trademark with a defined, formed position is called a brand. A brand is a broad concept that, in addition to a trademark, includes: the drug itself, its characteristics, expectations, associations perceived by the consumer, information about the consumer and promises of certain benefits that the brand owner guarantees to consumers.

Derived from "brand" is the concept of "branding", which means the creation and management of a brand, that is, a certain technology that provides a comprehensive approach to a certain brand in order to achieve the goals of its owner.

A brand is an entity that develops over time from a brand as a concept consisting of well-known elements (brand name, trademark, style, slogan) to a set of functional and emotional elements clearly perceived by buyers, unified with the drug itself and the way it is presented. This is **the fundamental difference between a brand and a trademark**, which has a designation capable of distinguishing, respectively, the drugs of one pharmaceutical company from the drugs of competing companies.

The main characteristics of the brand are: its main content; functional and emotional associations expressed by buyers and potential clients; verbal part of the brand or verbal trademark; the visual image of the brand formed by advertising in the perception of the buyer; level of brand popularity among consumers, brand strength; a generalized set of brand features characterizing its individuality; cost estimates, indicators; degree of brand promotion; degree of brand loyalty in the target audience and its individual segments.

Branding of products of pharmaceutical enterprises allows:

- distinguish your medicines from others;
- to give the drug an "image" by focusing the consumers' memory on it, and in this way gain the trust of the consumer;
- speed up and increase the volume of implementation;
- to accumulate money invested in advertising in brands.

### **Packaging of the medicinal product**

Another element of the product policy of a pharmaceutical company is packaging, which in the conditions of a developed market is becoming an increasingly effective marketing tool, a component of the company's image and the subject of innovative research.

and **transport packaging** are distinguished. Consumer packaging includes **retail (individual) packaging** and **wholesale (product) packaging**.

The process of packaging medicines begins with *the stage of preliminary preparation* of medicines and packaging materials (stage 0), which includes tableting, encapsulation, preparation of containers (containers) of medicines and application of printed information (labeling) and cutting of rolls. This stage is designed to ensure manufacturability and automation of the packaging process.

At **the first two stages**, consumer packaging of medicines is carried out. At the same time, **at the first stage**, medicinal products are packed in retail (protective, individual) packaging intended for the end consumer, and **at the second stage** – in wholesale (product) packaging, aimed at wholesale and retail pharmaceutical enterprises.

*Primary packaging* involves packing tablets and capsules in blisters, dosing and pouring liquid and loose substances into containers and capping the latter, as well as labeling.

*Group packaging* of medicines is carried out by packing them in cardboard boxes, stacking and packing vials and ampoules in "deep" blisters (so-called trays). At this stage, labels are pasted on vials or cardboard boxes, instructions and other necessary tools are inserted (dosing spoons, devices for cutting ampoules, etc.), a cipher (code) and other information are applied.

**The third stage** is intended for *the transport packaging* of drugs, which would ensure their safety and convenience of delivery from the manufacturer to commercial pharmaceutical enterprises. Group packaging is packed in the form of parcels in shrink film or cardboard boxes, packed on pallets.

#### ***Packaging features:***

- makes it possible to collect liquid, granular, loose medicinal forms *in the required volume and form*;
- *protects the medicinal product* during transportation and storage;
- *facilitates the use* of medicines; some types of packaging can be reused;
- *is a means of advertising and communication* of the pharmaceutical company with the consumer: it demonstrates the trademark, indicates the content and rules of use of the drug, creates the image of the manufacturing company with the help of design;
- made for a specific group of consumers, *contributes to market segmentation*;

- is an important element of *planning a new medicinal product* ; sometimes it was precisely thanks to the creation of fundamentally new packaging that new modifications of drugs appeared on the market (aerosol packaging of medicines and cosmetic products, etc.).

At the same time, certain **problems are associated with the use of packaging** , among which the following can be distinguished:

- *Excessive cost of packaging* . Sometimes the cost of complex packaging significantly increases the price of the medicine it contains (it is 50 percent or more of the price), which causes criticism from consumers.

- *Environmental pollution*. About 40 percent of solid waste comes from packaging. Most of it turns into garbage in the form of broken bottles and crumpled metal cans. Of particular concern are the problems of disposing of non-biodegradable packaging.

- *The degree of truthfulness of the information on the packaging*. The public is concerned that this information sometimes misleads consumers. The Law of Ukraine "On the Protection of Consumer Rights" interprets this as a type of unfair competition and provides for compliance with certain requirements for information on the packaging. In particular, it must be written in the state language, the content of ingredients, the maximum period of use, etc. must be indicated.

Wide application of **the product bar coding system is of great importance for solving the problem of reliability of information on the packaging and identification of medicinal products.**

The presence of a barcode is the norm in the world market, it carries a large amount of information. So, in the EAN-13 code, the first three digits identify the country where the drug was produced - this is the so-called "state flag". The next four numbers identify the manufacturing company, five more - the name of the drug, some of its consumer properties (size, weight, ingredients, color, etc.). The last digit is a control digit, it is used to check the correctness of reading the previous digits of the code by the scanning system.

#### **Materials on the activation of students of higher education during the lecture: question:**

1. Existing classifications of medicinal products.
2. Existing classifications of medical products.
3. Parameters of the quality of medicinal products.
4. Examples of trademarks.
5. Types of packaging of medicines.

#### **General material and educational and methodological support of the lecture:**

- multimedia projector;
- educational platform ( MS Teams) ;
- presentation;
- illustrative material on the topic;

#### **Questions for self-control:**

1. How are pharmaceutical products classified? On what principle is the ATC classification of medicines based?
2. The concept of the product range of a pharmaceutical enterprise and its characteristics.
3. What are the ways to expand the assortment of medicines?
4. What are the types of innovations in pharmacy? Their characteristics.
5. What is the essence of the concept of a new medicinal product?
6. What are the levels of drug novelty? Differences between the original drug and the generic drug.
7. What are the main stages of the process of developing an original drug and a generic drug?
8. Describe the stage of bringing a drug to the market and the stage of growth. What are the tasks of marketing at these stages?

9. Describe the stage of market maturity and saturation. What marketing measures can extend its duration?
10. Describe the decline stage. What strategic decisions can be made at this stage?
11. The essence of the revival stage. What are the possible variants of the drug life cycle curves?
12. What is the essence of the "competitiveness" and "quality" indicators of the medicinal product?
13. What are the features of the methodology for assessing the level of quality-price competitiveness of medicinal products?
14. How to determine the competitiveness of a medicinal product using a differentiated method?
15. What are the principles of applying the graphical and mathematical method of evaluating the competitiveness of drugs?
16. Describe the essence, functions, requirements for creation and legal protection of trademarks.
17. What is the difference between manufacturer's brands, dealer's brands and brand franchises?
18. Analyze different branding strategies. What are their advantages and disadvantages?
19. What is the essence of brand and branding?
20. Describe the types and functions of packaging. What are the problems associated with its use?

#### **List of used sources:**

1. Basics of management and marketing in pharmacy: Teaching method. manual for higher med. (Pharm.) Institutions / Comp. N.M. Kosyachenko, V.P. Gorkusha et al. — K., 2018. — 49 p.
2. Management and marketing in pharmacy. Educational method. manual / comp. O.H. Chirva, O.V. Harmatyuk; MES of Ukraine, UDPU. – Uman: Visavy, 2018. – 217 p.
3. Marketing workshop. Education manual / by A.Ya. Ageev - 2018.-p.496
4. Pricing: a collection of test and calculation tasks, a study guide Recommended by the Ministry of Education and Culture of Ukraine / comp. E.Ya. Ageev, T.V. Shakhmatova - 2018. - p. 288

### **Lecture #7**

#### **Topic: Price, pricing, pricing policy of pharmaceutical and pharmacy enterprises.**

**Relevance of the topic:** In the conditions of market relations, the law of value plays an important role, which is implemented through mechanisms of pricing, balance of demand and supply. The main feature of market pricing is that the real process of price formation here takes place not in the field of production, but in the field of product sales, that is, on the market. The pricing mechanism is revealed directly through prices and their dynamics. Price dynamics are formed under the influence of two most important factors: strategic and tactical.

The strategic factor is that the prices are formed on the basis of the value of the product, and in the market conditions, prices constantly fluctuate along with the value. Today's realities show that the increase in retail prices for medicines is mainly a consequence of the increase in the cost of the goods themselves, while the net profit of the retail trade remains at the previous level, and recently even decreases.

A balanced pricing policy has a significant impact on the market success of a pharmaceutical enterprise. Prices are closely related to other components of the pharmaceutical marketing complex: medicines, their distribution and promotion. Therefore, studying the price policy of pharmaceutical enterprises is important for the future work of a pharmacist.

**Purpose:** to reveal the essence of strategies, models and methods of drug pricing; to form a professional view on the analysis of the price situation of the pharmaceutical market; highlight the socio-ethical aspects of the factors influencing the price policy of medicinal products.

**Basic concepts:** price, pricing policy, pricing strategies, influencing factors, demand, supply, law of demand, law of supply, elasticity of demand.

### **Plan and organizational structure of the lecture**

1. Factors influencing the price policy.
2. Basic pricing strategies for medicinal products .
3. Models and methods of drug pricing .
4. Analysis of the price situation of the pharmaceutical market.

### **Content of lecture material (lecture text):**

#### **Factors influencing the price policy**

##### *Stages of drug pricing*

The pricing process consists of the following stages: *a finding of factors affecting the pricing policy of a pharmaceutical company, ⇒selection of a pricing strategy, ⇒selection of a pricing model and method, ⇒price calculation.*

All pricing factors are divided into two groups: **internal** and **external** . Internal **factors** include, first of all, pricing goals, production and sales costs, and the stage of the drug's life cycle. **External ones** include the level of demand, the state of the competitive environment, participants in the product movement, state regulation of drug pricing, etc.

Depending on the goals pursued by the pharmaceutical company, **the goals are determined drug pricing** . The most common of them are: *maximizing current profit, increasing market share, gaining leadership in the quality of medicinal products, ensuring the survival of the manufacturing company* in a difficult market situation.

One of the most important *internal factors* that determines the lower price limit is **costs** . Their division into constant and variable is of great importance during implementation.

*Fixed costs* of a pharmaceutical enterprise for a certain period (year, quarter, month) with given production capacities do not change with an increase in the volume of production and sales of the medicinal product. These are rent, loan interest, heating fees, administrative (management) staff wages.

*Variable costs*, on the contrary, directly depend on production volumes. These include, in particular, the costs of raw materials, wages and salaries of employees, etc. But these costs per unit of medicinal product, as a rule, remain unchanged.

*Fixed costs* per unit of packaging can fluctuate significantly depending on the volume of production and sales, which can be seen from the formula for the unit cost of production:

$$S = V + F / N,$$

where  $V$  is variable costs per unit of production;  
 $F$  – fixed costs for a certain period of time;  
 $N$  is the volume of production (sales) of products for this period.

The sum of fixed and variable costs for the production and sale of a medicinal product determines **the lower limit** of its price.

It is also very important what *stage of the life cycle* the medicine is at. Any drug undergoes significant changes during its life cycle, which significantly affects the conduct of pricing policy. Depending on the state of the drug's life cycle, companies take various measures to extend its stay on the market precisely at the expense of a flexible pricing policy.



### Analysis of the price elasticity of demand for medicinal products

When determining the initial price of a medicine, it is very important to establish **the relationship between the price and demand** for it (its sales volume) and to determine the price elasticity of demand.

There is an inversely proportional relationship between the price and the amount of demand, that is, a decrease in the price (with other parameters unchanged) leads to an increase in the amount of demand. Conversely, an increase in price leads to a corresponding decrease in demand.

**Demand** is called **elastic**, in which a percentage decrease in the price causes the same percentage increase in the volume of sales of medicinal products.

If a decrease in price causes a slight increase in sales volumes or a decrease in sales volumes, then it is customary to consider this situation as a state of **inelastic demand**.

**Price elasticity** ( $E_{pc}$ ) is determined by the ratio of the change in the amount of demand to the change in prices (in percent).

$$E_{ps} = \frac{(N_1 - N_2) / (U_1 - U_2)}{(N_1 + N_2) / (U_1 + U_2)} \cdot 100;$$

where  $U_1$  is the actual sales price;  
 $U_2$  – forecasted reduced sales price;  
 $N_1$  – actual sales volume;  
 $N_2$  – the expected volume of sales, subject to a price reduction.

Price elasticity reflects the percentage change in quantity demanded for each percentage change in price.

Depending on the price elasticity, the following are distinguished: *completely elastic* (the price is unchanged, demand increases), *elastic* (a decrease (increase) in price leads to an increase (decrease) in demand), *unitary* (a sharp decrease in price leads to a slight increase in demand and vice versa), *inelastic* (changes in price do not cause sharp fluctuations in sales volumes), *completely inelastic* ((changes in price do not cause any fluctuations in sales volumes) types of demand. If the percentage decrease in price coincides with the percentage increase in sales volumes of medicines, then the sales market is in a state of *unit elasticity*.

On *the price elasticity of demand for medicinal products* are affected by the following **factors**:

- *drug interchangeability* – the more analogue drugs on the market, the higher the elasticity of demand for it (one generic drug can be replaced by another with the same active ingredient);
- *the importance of medicines for the consumer* (which can become innovative medicines) – demand is often inelastic;
- *the specific weight of the medicinal product in the consumer's income* – the greater the share of medicinal products in the consumer's budget, the higher the price elasticity of demand for it;
- *the time factor* – the longer the decision-making period, the more elastic the demand for the medicine. This is due to the fact that many consumers after increasing the price of the drug may consume it out of habit. Over time, they may find and try other medications.

Demand becomes *inelastic* under the following circumstances:

- the drug has no or almost no substitutes;
- the drug has unique or exceptional properties;
- stable commitment of a significant part of the market to a certain brand was formed;
- consumers believe that the price increase is related to the improvement of the quality of the medicinal product or to inflationary processes in the economy;
- there are no competitors.

Given the low solvency of the majority of the population of Ukraine, the demand for medicinal products is usually elastic, and the more analogs and synonyms a medicinal product has, the higher

the price elasticity of demand for it. It also increases when the consumer's expenses for the purchase of medicines increase.

Consumers are less sensitive to price when the total cost of the drug has little impact on the budget and when the cost is covered by a third party. Low elasticity of demand is characteristic of innovative medicines, the active substance of which is under patent protection.

The results of the analysis of the demand elasticity are very important for the formation of the enterprise's price policy and the determination of the marketing strategy. So, if the demand is elastic, it is advisable to use **the methods of price competition**, since the price reduction will lead to an increase in the volume of sales of medicines and the total income of the pharmaceutical enterprise. With inelastic demand, **methods of non-price competition** are more effective, which include improving the quality of the drug, the level of service, intensification of advertising activities, etc.

### **The main strategies of drug pricing**

**The pricing strategy** is the choice of the possible dynamics of the change in the initial price of the drug in market conditions, which corresponds to the goals of the pharmaceutical company.

The well-known and most widespread **pricing strategies** in relation to the pharmaceutical market are: the strategy of "penetration" into the market; price leader strategy; strategy regarding "price-performance" indicators; "associate" market strategy.

The choice of strategy depends on the characteristics of the medicinal product or medical product, primarily their novelty, competitive conditions, market and sales features, production costs, manufacturer's image, etc.

### **Market penetration strategy**

For the domestic drug market, which is in the stage of formation, *the strategy of "penetration" into the market is widespread*. This strategy is typical for manufacturers who are just starting their activities or mastering a new market segment. By setting relatively low prices for their medicines, manufacturers hope to attract a large number of consumers and capture a significant market share. The "penetration" strategy is used by manufacturers of medicines that do not have patent protection and a trademark, that is, generic drugs.

*The following conditions contribute to the establishment of the penetration price*: the market is characterized by high price elasticity of demand; the increase in sales volume helps to reduce costs for the production and sale of medicinal products; the manufacturer has large-scale production of drugs with a wide spectrum of action; a low price does not attract possible competitors.

### **Strategies of the price leader**

*The strategy of the price leader* is relevant for large pharmaceutical companies. It provides for the production and sale of high-quality, competitive medicines.

There are two types of price leadership: **dominant** and **barometric**.

With *dominant leadership*, the industry leader is a large and powerful pharmaceutical enterprise that acts as a price regulator in the pharmaceutical market. *Barometric* price leadership is observed in the market when competing pharmaceutical firms are relatively equal. In this case, one leader is nominated from among them, who carries out marketing activities most successfully. Barometric leadership is characteristic of pharmaceutical wholesale firms, which are forced to produce a single price policy at the regional level and nominate a single leader who sets a price level acceptable to all.

Pharmaceutical companies that adhere to the price leadership strategy develop such pricing strategies.

*The "skimming the cream" strategy*, when used by a pharmaceutical company for original drugs that have no analogues, first sets high prestige prices that make them affordable only to consumers with a high level of affluence. The main factor in the implementation of such a strategy is a high level of demand from consumers. After the first wave of sales slows down, the prices are gradually reduced, which makes it possible to gradually involve more and more market segments in the purchase of the medicinal product.

*The strategy of "prestigious" prices* - consumers associate high prices with high quality and effectiveness of the medicinal product. They are installed by companies with a high image in the pharmaceutical market. Consumers perceive a high price as a guarantee against fakes, which is especially important for medicinal products. This strategy is rarely used in the pharmaceutical market.

*The strategy of discriminatory pricing* is used if the firm, at constant costs, sells medicines at two or more different prices. For example, the firm sells medicine at a lower price to those consumers in whom it is particularly interested (this may be a subject of trade secrets). The strategy of discriminatory prices in relation to a specific market segment is associated with the use of the services of a specific intermediary, customs fees. Firms use price discrimination when the market can be divided into groups of consumers with different elasticities of demand; it is possible to isolate groups of consumers operating in different market segments.

***Pricing strategies regarding price-performance indicators***

		Price		
		High	average	low
Quality	High	1. Premium markup strategy	2. Strategy of deep market penetration	3. Strategy advantages
	average	4. The strategy of ostentatious brilliance	5. Mid-level strategy	6. Good quality strategy
	low	7. Robbery strategy	8. Overpriced strategy	9. Strategy cheap medicines

With regard to **the prices of new drugs** whose analogues already exist on the market, different strategies can be used in relation to the "price-effectiveness" indicators, taking into account the conjuncture of a specific market (Fig.). In such a situation, the price serves as a means of positioning this drug among competitors' drugs.

Pricing strategies 1, 5 and 9 can be used simultaneously in the same market. They illustrate *price differentiation depending on the level of quality* : the firm offers a highly effective medicine at the highest price; a drug of medium effectiveness at an average price and, finally, a drug of low effectiveness at the lowest price. The condition for the simultaneous use of these price strategies is only the presence of relevant market segments that show demand for medicinal products of different effectiveness and price. Positions 2, 3, and 6 represent different options for a price strategy aimed at displacing a competitor from positions 1, 5, and 9. *These are strategies for creating price advantages*. Their representatives can advertise themselves as follows: "We offer medicines of the same effectiveness, but at more reasonable prices!"

In contrast to them, strategies 4, 7, 8 illustrate *the overestimation of prices relative to the beneficial effect of the medicinal product* . If a firm uses such strategies in a developed market, its consumers will feel misled, which will damage the firm's reputation.

**Strategies of the "associated" market**

This group includes the following price strategies:

- *discount price strategy* (is relevant for medicinal products characterized by seasonal demand, as well as in the event of a threat of expiry of the medicinal product);

- *the strategy of flexible or elastic prices* , the level of which depends on the size of the batch of medicines, terms of payment (advance payment, upon delivery, for sale for a certain number of banking days), etc. Most often, they are used when concluding individual agreements between wholesale firms and pharmacies, as well as manufacturers and wholesale firms;

- *the strategy of uniform prices* assumes that the pharmaceutical company sets the same markup for all consumers who would like to purchase the medicine under similar conditions. The markup may vary depending on the level of service, the number of drugs purchased or the provision

of credit, but it is the same for all consumers. This approach strengthens the trust of consumers and is convenient in practical use;

- *the strategy of unstable prices , variable prices* is used by a significant number of both manufacturing firms and intermediary pharmaceutical enterprises. Prices change depending on the level of production costs , market conditions, etc.;

- *the strategy of competitive prices* characterizes the aggressive pricing policy of competing firms;

- *the strategy of unrounded prices* provides for prices that are several units lower than the next round number (4.95 UAH, 29.80 UAH). Such prices are perceived by consumers as carefully calculated and create the impression of a slightly lower price level than in reality;

- *mass procurement strategy*, in which the consumer (wholesale company, pharmacy) is given a discount depending on the number of purchased medicines, as well as discounts for regular customers.

### **Models and methods of drug pricing**

According to the factors that determine the pricing policy of a pharmaceutical company , various methods of determining the initial price of medicinal products can be combined into three basic models: *a pricing model based on production costs; a pricing model based on market demand; a pricing model based on competition .*

Each model contains specific **pricing methods** . Let's consider the most common of them.

#### **Pricing methods for medicinal products related to the cost model**

##### ***Method of allowances***

This most common pricing method belongs *to the cost model* . According to this method, the price of a medicinal product is determined by adding a certain *allowance to the costs of its production and sale* .

There are two ways to determine this surcharge and include it in the price of the drug.

1) The calculation is carried out based on the cost of drugs:

$$U = S \cdot (1 + H_s / 100),$$

where

$S$  is the cost of drugs;

$H_s$  - percentage markup to the cost price.

2) The calculation is made based on the desired income from turnover (sale prices):

$$U = \frac{S}{(1 - N_{CPU} / 100)},$$

where

$H_{tsp}$  is a percentage markup to the selling price.

In general, premiums are higher for drugs with high warehousing and storage costs and slow circulation.

When using this method of pricing, current changes in demand and the competitive environment are not taken into account. This means that the use of fixed markups quite often leads to suboptimal pricing decisions.

And yet this method is very popular due to several reasons:

- firstly, it is easy to use, because the firm knows much more about its own costs than about market demand;

- secondly, if all manufacturers of the industry use this method, then the prices of their medicines will be close, and price competition will not take strict forms;

- thirdly, many producers and consumers believe that the method of average allowances is the most correct and does not allow each of the parties to enrich themselves at the expense of the other.

The greatest effect from the use of this method can be expected if you take the average allowances for the industry only as a guide, and then adjust the price taking into account the conditions of the specific market.

### ***The method of ensuring the target profit on invested capital***

It also belongs to *the cost model of pricing*. A pharmaceutical firm seeks to set a price that will allow it to cover all costs and earn its planned rate of return on invested capital.

The price is calculated according to the formula:

$$\Pi = S + \frac{N_{pr} \cdot K_{inv}}{100 \cdot N_{sq}},$$

where  $S$  is the unit cost of production;

$N_{pr}$  - the planned rate of return on invested capital in percent;

$K_{inv}$  - amount of invested capital;

$N_{pl}$  - the planned volume of production and sale of medicines.

However, when using this method, it should be remembered that significant deviations of the actual sales volume from the planned will significantly affect the value of the rate of return on capital. Therefore, the company needs to conduct a break-even analysis, which we will consider at the end of this subsection, since it should be performed when using other pricing methods.

### **Methods of drug pricing model based on market demand**

#### ***The method of maximizing current profit***

It belongs to the second model of pricing - a model based *on market demand for a medicine*.

Since, according to the law of demand, a decrease in the price of drugs increases the demand for them (the volume of their sales) and vice versa, the firm wants to find such a price point on the demand curve that will ensure maximum profit in the near future.

This method is advisable to use for medicines with a fairly high price elasticity of demand. Mathematically, the model of this problem looks like this:

$$\Pi = [U \cdot N - (F + V \cdot N)] \square \max,$$

where

$\Pi$  is the company's profit;

$U$  is the price of the medicinal product;

$N$  - its sales volume;

$F$  - firm's fixed costs for a certain period;

$V$  - variable costs per unit of medicinal product.

The most difficult thing when using this method is establishing the relationship between the price of the drug and the demand for it (its sales volume).

To obtain the necessary data, you can practice market testing of the drug, during which the price is reduced several times and the amount of the drug sold at each price value is fixed. The research results are processed using correlation-regression analysis techniques and the regression equation is obtained:

$$N = b_0 + b_1 \cdot Ts$$

Since the relationship between price and demand is usually inversely proportional, the regression coefficient  $b_1$  has a negative value.

After determining the relationship between  $Ts$  and  $N$ , the profit function is maximized using the first derivative  $dP/dTs$ .

As a result, they find the optimal price, the use of which provides the company with the maximum profit during a certain period. If the situation changes in the future, the price should be adjusted.

#### **The method of setting the price based on the "perceived" value of the drug**

This method is focused on consumers, their purchasing perception, which is very important for socially important products, which include medicinal products. Firms should use non-price methods of influence to form ideas about the value of pharmaceutical products in the minds of consumers.

For example, a pharmaceutical company, using the method based on the "perceived" value of the drug, sets a certain price for one package of the drug. At the same time, a similar drug from a competing company can cost twice as much. The pharmaceutical company must convince consumers that the higher price of the drug is a real price, because it includes a premium for a convenient dosage regime, a premium for greater safety (fewer side effects due to the use of a substance and auxiliary substances with a high degree of purification, the presence of an annotation-tab in the package, information on the outer packaging), higher effectiveness of the drug (again thanks to highly purified substances and excipients), faster onset of the pharmacological effect, lower cost of the full course of treatment, longer shelf life, more convenient and safer packaging (has protection against children), etc. By buying such a drug, the consumer saves money, because the additional benefits of purchasing such a drug (convenience, safety, effectiveness) justify its high cost.

### **Methods of establishing contractual prices for medicinal products in conditions of inflation**

These methods relate to the production and wholesale sale of medicines.

In the simplest version, the price is agreed upon at the time of conclusion of the agreement and is not subject to revision during its execution under any circumstances - it is a firm or fixed price. The method is effective when there is a slight difference in time between the conclusion of the agreement and payment or payment and delivery of medicines at low rates of inflation.

In the conditions of inflation, it is more profitable to use *a price that is fixed on a certain date* (a), or *it is calculated according to a pre-agreed formula* (b), or *is set in equivalent to a hard currency* (c):

a) *The method consists in setting the price not at the time of concluding the agreement, but on the date on which the price will be determined (the day of delivery (shipment) or its payment, etc.); the source of price information must be specified in the agreement (for example, a price list);*

b) *The method provides for the establishment of a base price in the agreement, that is, a price acceptable to both parties at the time of its adjustment (with an indication of the source of information for its implementation - for example, the inflation index, the price index for a group of medicinal products, which are provided by statistical authorities and officially published).*

The calculation is carried out according to the formula:

$$Ts_d = Ts_b (100 + P_r + K_d) / 100,$$

where  $Ts_d$  is the contractual price, hryvnias;

$Ts_b$  – base price, UAH;

$\Pi_p$  – increase in the inflation index of the prices of drugs of the group or another similar indicator during the period of execution of the agreement, %;

$Kd_{is}$  the contractual coefficient, %.

The contractual coefficient ("braking" coefficient) is used when the buyer is not satisfied that the seller's full protection against inflation is included in the contractual price thanks to the multiplication by the inflation index. As the ratio decreases, the seller's protection against inflation decreases, but the buyer's losses from inflation also decrease. The method is not effective enough when inflation and the change in the national currency exchange rate have different rates;

c) *The method involves setting the price in equivalent to hard currency.* It is widespread, and it is often used not only in foreign economic, but also in domestic agreements.

### **Pricing methods belonging to the competitive model**

#### ***Pricing method based on current price level***

This method belongs to *the competitive pricing model*. It is widely used in the oligopoly market of medicinal products, where price fluctuations for homogeneous medicinal products are insignificant. In such a situation, firms focus primarily not on their own costs or demand, but on competitors' prices.

The behavior of firms is adequate to their position on the market. Small firms "follow the leader", changing their own prices only in case of appropriate actions of the market leader. Sometimes they allow themselves small discounts or allowances.

This pricing method is popular. In cases where the elasticity of demand is difficult to measure, firms believe that the current price level embodies the collective wisdom of the industry, is a guarantee of a fair rate of return, and allows the market to maintain equilibrium.

Using this method, the price of the drug is compared with that of competitors: per package, single dose, daily dose, cost of a course of treatment, etc. Based on that, the price for the package of the medicinal product is formed.

***The method of determining the price according to the level of competitiveness of the medicinal product***

This method also belongs to the competitive pricing model.

If the firm has developed a new medicine with certain parameters, better or worse than the similar parameters of its main market competitor, then it can set the price taking into account the integral indicator of competitiveness:

$$U = U_b \cdot k,$$

where  $U_b$  is the price of the competitor's basic medicinal product;

$k$  is an integral indicator of the competitiveness of pharmaceuticals.

And  $F.P.$

$$k = \frac{I_{f.p.}}{I_{E.P.}},$$

And  $E.P.$

where  $I_{f.p.}$  – index of functional parameters (quality index);

And  $E.P.$  – index of economic parameters (consumer price index).

It is advisable to analyze the price determined by this method in view of the costs of production and sale of the medicinal product, as well as market demand.

***The method of setting the price based on bidding (tender pricing)***

This is another unique method of competitive pricing. The buyer (customer) announces a tender for the supply of pharmaceutical products. After receiving and comparing offers, the customer signs a contract with the manufacturer who offers the most favorable conditions.

To organize tenders, the customer creates a tender committee, which prepares documentation, conducts tenders, analyzes and evaluates offers - offers submitted by bidders. Bids can be open or closed.

Open tenders are held, as a rule, for relatively simple projects, in the implementation of which many firms would like to participate. The conditions for conducting competitions are published in the press. A limited number of companies with a high reputation are involved in closed auctions. Announcements of such auctions are not published, invitations are sent individually.

During the auction, each competing firm sets its bid price. The higher the price, the lower the probability of receiving an order, and vice versa. By multiplying the profit embedded in one or another price option by the probability of receiving an order at that price, you can get the so-called profit expectation estimate. According to decision theory, the price that leads to the highest expected profit should be offered.

**Break-even analysis**

After determining the initial price of the drug based on the selected pricing method, it is advisable for the pharmaceutical company to conduct a break-even analysis at a given price level. Such an analysis links any applied method to a cost model of pricing.

It is based on the study of fixed, variable and total (gross) costs compared to the gross income obtained from different levels of sales.

In real market conditions, the sales volume is a very dynamic indicator and may fall due to the influence of various factors (changes in the economic situation, actions of competitors, etc.). The

analysis will make it possible to determine *the critical volume of sales* ( $N_{kr}$ ) for which the pharmaceutical company will not yet have losses (at a given level of the initial price), as well as the volume of sales for which a net profit is ensured at the level of the loan fee rate of the given profitability ( $N_{ren}$ ).

The indicated points are the limits of *three intervals of turnover*. *The first one includes the amount of paid sales up to the break-even point*. Long-term work in it leads to bankruptcy, as the company gradually loses its invested capital. In addition, the pharmaceutical company is forced to look for cash to cover the partial loss of working capital.

*The second interval covers the volume of paid sales from the point of market equilibrium (the break-even point) to the point of normal profitability*. In such conditions, the pharmaceutical enterprise receives profit from current activities. However, long-term work in this interval is economically inefficient, since with less effort you can get an equivalent profit by keeping investment amounts in a bank account.

*The third interval covers sales volume greater than at the point of normal profitability*. With the volume of turnover of this interval, the pharmaceutical company is guaranteed an economic profit.

If the sales volume is less than  $N_{cr}$ , then the firm will have losses, and if it is larger - profits. The volume of sales at critical points can be determined analytically using the following formulas:

$$N_{cr} = \frac{F}{T_s - V}, \quad N_{ren} = \frac{F + P}{T_s - V},$$

where  $F$  is the fixed costs of the firm for a certain period of time;  
 $P$  - normal balance sheet profit;  
 $U$  is the initial price of the medicine;  
 $V$  - variable costs per unit of medication.

Regardless of the volume of sales, fixed costs remain unchanged. Gross (total) costs (the sum of fixed and variable costs) grow at the same time as the volume of sales increases. The gross revenue line starts at 0 and goes up as the number of units sold increases. The slope of the gross income line depends on the price of the medicine. To ensure break-even (self-sufficiency), that is, to cover total costs with gross revenues, the firm must sell a certain number of units of the drug.

If the price is increased (with the same costs), the break-even point and the point of normal profitability will shift to the left on the graph, since the line of gross income from sales will rise at a greater angle. Similarly, when the price decreases, the specified points will shift to the right.

That is, if the company will sell its drug at a high price, then in order to make a profit, it can sell a smaller amount of it, and vice versa.

### **Analysis of the price situation of the pharmaceutical market**

The indicators that characterize the market situation, in particular the supply, include the range of medicines and price dynamics.

For a detailed analysis of the price situation, you can use such indicators as *the price liquidity ratio* ( $K_{liq}$ ) and *the solvency adequacy ratio* ( $K_{as}$ ).

*The price liquidity coefficient* ( $K_{liq}$ ) is calculated according to the formula:

$$K_{liq} = \frac{T_{s\ max} - T_{s\ min}}{T_{s\ min}};$$

where  $T_{s\ max}$  - the highest price of the drug on the market;  
 $T_{s\ min}$  - the lowest price of the drug.

The specified ratio shows the ratio between the maximum and minimum price of a specific drug in a certain period of time and on a specific market. The price liquidity ratio can range from 0.1 to 1.0 and higher.



Based on the concept of socio-ethical marketing, the price liquidity ratio in the wholesale segment of the domestic pharmaceutical market from 0.16 to 0.5, and even more so from 1.0, is far from correct and unethical, as it ultimately affects the patient.

It is common knowledge that the market does not respond to needs that are not covered by the solvency of the consumer (the patient, his family, medical and preventive institution). The main factors influencing the amount of demand for medicinal products are:

- the level of morbidity of the population;
- the patient's need for a specific drug, resulting from a certain nosological form of the disease and determined by the doctor;
- the cost of the medicinal product;
- the price of analogue drugs;
- the purchasing power of the patient, which is determined by his income or the income of his family.

To assess the influence of the patient's purchasing power on the amount of demand for medicinal products, it is advisable to calculate such an indicator as *the solvency adequacy ratio*. This indicator represents the ratio of the range of the price of the drug for the corresponding month to the average monthly salary in percentage, namely:

$$K_{as} = \frac{T_{s \max} - T_{s \min}}{W_{aw}} \times 100\%$$

- where
- $K_{as}$  – solvency adequacy ratio;
  - $T_{s \max}$  – the maximum price of the drug;
  - $T_{s \min}$  – the minimum price of the drug;
  - $W_{aw}$  is the average monthly salary.

This indicator characterizes the dynamics of the relationship between the price of the drug and the consumer's ability to pay.

A slight fluctuation of the coefficient of adequacy of the ability to pay indicates that for this drug there is a relationship between the price and the patient's ability to pay. A significant fluctuation in the value of the coefficients of the adequacy of the ability to pay characterizes the absence of a relationship between the cost of drugs and the patient's purchasing power. A low indicator of the solvency adequacy ratio ensures the availability of the drug and guarantees the sale of this drug in conditions of low solvency demand of the population. Thus, there is an inversely proportional relationship between the solvency adequacy ratio and the concept of price affordability.

The price situation of the market can also be analyzed by such an indicator as *the affordability factor* ( $K_d$ ), which is calculated according to the formula :

$$K_d = | C.r. / Z.p. - 1 |,$$

- where
- $C.r.$  – the average retail price of the drug for a certain period, UAH;
  - $Z.p.$  - average salary for a certain period, hryvnias.

The module of the indicated coefficient shows the availability of the drug. The larger the value of the coefficient, the more affordable the drug is on the market for the consumer.

The number of standard packages of the drug, which can be bought with free money, is also considered as an indicator of the availability of medicines for the consumer, which is determined as the difference between the level of income and the subsistence minimum per capita, i.e. according to the formula:

$$D = (R_d - P_m) : T_m,$$

- where
- $D$  is an indicator of drug availability;
  - $R_d$  – average monthly level of income per capita, hryvnias;
  - $P_m$  - living wage, hryvnias;
  - $T_m$  - the price of the medicinal product, hryvnias

If the subsistence minimum exceeds the average level of income per capita, then the affordability index ( $D$ ) is equal to:

$$D = I_z : I_z,$$

where  $I_z$  – average salary index for a certain period;  
 $I_c$  – individual or group price index for medicinal products for the same period of time.

However, monetary incomes to a greater extent reflect the purchasing power of consumers, in whom the need for medical supplies increases with age due to the increase in morbidity, a characteristic feature of which is polymorbidity, and the multiplicity of pathologies causes the need to prescribe a significant number of medications. Therefore, the part of the money income of an average citizen, which is necessary for the purchase of one package of a medicinal product, will determine the possibility of purchasing this drug (in percentage). Formalizing this expression, it can be presented in the following form:

$$M = C_m : I_s \times 100,$$

where  $M$  is an indicator of the possibility of purchasing the drug, which reflects the purchasing power of consumers' monetary income for a certain period of time;

$T_s$  – the average price of a standard package of a medicinal product for the same period, hryvnias;

$R_d$  – average monthly monetary income per capita in the corresponding period, hryvnias.

The average monthly monetary income, according to the methodology of statistics, includes wages, income from the sale of agriculture, pensions and benefits, scholarships, income from the financial system and other incomes.

To compare the possibility of purchasing a drug or a group of drugs in dynamics, it is worth using *the coefficient of anticipation (lag) of the growth of the price* of a specific drug in relation to monetary income ( $K_m$ ):

$$K_m = M_i : M_o,$$

where:  $M_o$  and  $M_i$  are indicators of the possibility of acquisition for the base and researched periods.

A high value of the  $K_m$  coefficient characterizes a decrease in the possibility of purchasing medicines for a certain period.

### **Materials on the activation of students of higher education during the lecture: question:**

1. The price from the point of view of the complex of pharmacy features.
2. The difference between pricing strategies and models.
3. Breakeven schedule .
4. Indicators characterizing the price situation of the pharmaceutical market.

### **General material and educational and methodological support of the lecture:**

- multimedia projector;
- educational platform ( MS Teams ) ;
- presentation;
- illustrative material on the topic;

### **Questions for self-training:**

1. What stages does the process of setting the initial price for medicinal products consist of, and what are the main factors affecting the pricing policy of a pharmaceutical company?
2. What is the relationship between price and demand for a medicine?
3. How is the price elasticity of demand calculated?

4. What factors affect the price elasticity of demand for a medicine? Under what conditions does the demand for a drug become inelastic?
5. What are the differences between price and non-price competition?
6. What is the essence of the concept of "possible price" of a medicinal product?
7. What are the most common drug pricing strategies?
8. Describe the strategy of "penetration" into the market.
9. What are the types of price leader strategy?
10. Describe the possible options for the strategy regarding "price-effectiveness" indicators.
11. Describe the group of strategies of the "associated" market.
12. Describe the most common cost methods of pricing: a) method of allowances; b) a method of ensuring the target profit on invested capital.
13. Describe the pricing methods based on market demand: a) the method of maximizing current profit; b) the method of setting the price based on the "tangible" value of the medicinal product; c) methods of setting contract prices in conditions of inflation.
14. Describe the competitive pricing methods for medicinal products: a) pricing method based on the level of current prices; b) the method of determining the price according to the level of competitiveness; c) the method of setting the price based on bidding (tender pricing).
15. What is the purpose of analyzing the break-even operation of a pharmaceutical enterprise ?
16. What indicators characterize the price situation of the pharmaceutical market?

#### **List of used sources:**

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2. Management and marketing in pharmacy. Educational method. manual / comp. O.H. Chirva, O.V. Harmatyuk; MES of Ukraine, UDPU. – Uman: Visavy, 2018. – 217 p.
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#### **Lecture #8**

#### **Topic: Marketing activity of pharmaceutical enterprises. Marketing policy of communications.**

**Relevance of the topic:** The main meaning and principle of marketing — satisfying the needs of consumers — involves not only the production of the necessary goods, but also the delivery of these goods to the consumer in a way convenient for him, in a convenient place and at a convenient time. Sales help to achieve this. In recent years, simultaneously with the growth of the role of marketing, the role of marketing communications has increased. Indeed, effective communications with consumers have become key success factors for any organization. Modern marketing requires much more than creating a product that satisfies a customer's needs.

Methods of distribution of medicines and medical products are the third element of the marketing complex. Each manufacturer must form effective distribution channels for its products, using its own structural divisions or involving independent and dependent wholesale intermediaries in the distribution. Therefore, studying the sales policy of pharmaceutical enterprises is important for the future work of a pharmacist.

**Purpose:** to form a professional view on the organization of a rational system of sales of medicinal products; reveal the essence of strategies for the distribution of medicinal products; highlight social and ethical aspects of pharmaceutical logistics.

**Basic concepts:** sales, logistics, sales channel, sales level, distributor, distribution channel width.

#### **Plan and organizational structure of the lecture**

1. Rational system of sales of medicines.
2. Strategies for the distribution of medicinal products.
3. Pharmaceutical logistics in the sales policy of pharmaceutical companies.
4. The essence of the marketing policy of communications.
5. Algorithm for forming a complex of marketing communications
6. Definition of tasks of marketing communication
7. Development and implementation of a set of marketing communications

**Content of lecture material (lecture text):**

**Rational system of sales of medicinal products**

***The pharmaceutical essence of the concepts "sales", "sales activity", "sales policy"***

*Marketing* is a set of activities carried out by a pharmaceutical company from the moment when the medicinal product enters the consumer market and/or the market of consumer organizations until the moment when the consumer buys it. *Sales policy* is the activity of a pharmaceutical company aimed at planning, implementing and controlling the movement of medicinal products to meet consumer demand and generate profit for itself.

*Sales activity*, in turn, is a holistic process that includes planning the volume of sales of medicinal products taking into account the expected profit level, the search and selection of counterparties, carrying out exchange processes with them and setting the price in accordance with the quality of the medicinal product and the intensity of demand for it. Identification and active use of factors capable of accelerating the promotion of drugs to the market and increasing profit from sales. Sales activity is characterized by the unity of three components:

- the organizational and technological component, which characterizes the exchange of medicines and medical products for means of payment;
- an economic component that determines the change in forms of value in the process of exchange and fixes the completion of a certain process;
- the legal component, which regulates the rules of exchange and records the transfer of ownership of medicinal products.

The process of organizing a rational sales system consists of several stages.

**Determination of goals and development of alternative options for the structure of drug sales channels**

***The first stage is the determination of the sales goals of the pharmaceutical enterprise.***

The goals of the sales policy of a pharmaceutical enterprise are to penetrate new segments of the pharmaceutical market, expand coverage of various regions, increase market share, sales volume, profit, etc.

***The second stage is the development of alternative options for the structure of drug sales channels***

**Distribution channels (sales methods) medicine** is a set of pharmaceutical firms or individuals that perform intermediary functions regarding the physical movement of medicines and medical products and take over or facilitate the transfer of ownership of medicines on the way of their promotion from the manufacturer to the consumer.

*The involvement of intermediaries* is explained by many reasons, including:

- a significant part of pharmaceutical manufacturers lacks financial resources for direct marketing;
- many pharmaceutical manufacturers are deprived of the opportunity to establish direct contacts with consumers of their products due to territorial isolation;
- pharmaceutical intermediaries can provide buyers with the necessary range of medicines and medical products and high quality service, using their contacts, experience and qualifications;

- even if a pharmaceutical manufacturer is potentially able to create its own distribution channels, in many cases it is not profitable for it, since it is more efficient to invest in its core business;
- a significant reduction in costs for the sale of medicines through intermediaries is achieved by reducing the number of direct contacts with consumers.

The need for mediation in the pharmaceutical market is also explained by the impossibility of direct cooperation of a large part of pharmacies and medical and preventive institutions with manufacturers, because:

- the minimum amount of the contract and the delivery batch are so large that due to the lack of working capital it is impossible to purchase the necessary medicine;
- the purchase may cause the stocking of medicines from one or another manufacturer, which, as a rule, has a narrow range of them;
- the territorial remoteness of manufacturers does not contribute to the promptness of supplies of the necessary medicines for most pharmacies.

All participants of distribution channels perform at least one of the following **functions** : collection of information for marketing research; dissemination of positive information about medicines (participation in the communication process); establishment and maintenance of relations with potential consumers; adaptation of medicines to consumer requirements, namely sorting, packaging, packaging, etc.; formation of assortment policy; conducting business negotiations with consumers regarding the level of prices and other conditions before concluding supply agreements; organization of the movement of medicines: transportation and storage of medicines; partial or full financing of channel operation costs; assumption of risks (partial or full) from the functioning of the channel and the sale of medicines.

#### *Characteristics of traditional channels of distribution of medicinal products*

**The length of the sales channel** is determined by the number of intermediaries through which medicinal products pass on the way from the manufacturer to the consumer. *The level of the sales channel* is any intermediary that performs one or another job in promoting medicines to the consumer.

*The zero-level channel or direct marketing channel* consists of a manufacturer that sells its medicinal products directly to consumers (through a sales department, sales branches, a network of branded pharmacies, etc.). *In a single-level channel*, there is one mediator. In the pharmaceutical market, such intermediaries are pharmacies established by economic entities, legally independent from the manufacturer whose drugs they sell, and are not structural subdivisions of consumer organizations (medical and preventive institutions).

*The two-level channel* consists of two intermediaries: a wholesale pharmaceutical company and a pharmacy or a medical and preventive institution. There are channels with a greater number of levels, for example, *a three-level one*, in which small wholesale enterprises are added to the already mentioned intermediaries, which buy drugs from powerful wholesale pharmaceutical companies (importing companies) and resell them to pharmacies.

**The width of the distribution channel, or the method of sales of medicines**, is determined by the number of independent participants at each level of the channel. There are three approaches to solving this problem.

*With exclusive distribution*, a pharmaceutical firm sharply limits the number of intermediaries in a geographic region, using one or two intermediaries in a specific sales region, to whom it grants the exclusive right to sell its drugs. In such a situation, the pharmaceutical company, as a rule, requires the intermediary not to trade analogues of competitors. Exclusive distribution is typical for the sale of certain groups of medicinal products (for example, narcotic, psychotropic drugs).

*With intensive distribution*, a pharmaceutical company uses numerous intermediaries. Its goals are to cover a wide market, obtain high profits through mass sales and the convenience of the place of purchase of medicines for the consumer. This approach is typical for the selection of intermediaries in the retail segment of the pharmaceutical market.

*In selective distribution*, the pharmaceutical company selects the best intermediaries from among those who are ready to provide their services. This approach is the average between the previously indicated. It is typical for the choice of intermediaries in the wholesale segment of the pharmaceutical market.

### **Characteristics of marketing pharmaceutical systems**

, **vertical marketing pharmaceutical systems (VPMS)** have recently gained popularity . VMFS consists of a pharmaceutical manufacturer, wholesale pharmaceutical firms and pharmacies, which **cooperate as a single system** . The coordination of the actions of each of the participants can be conditioned by various factors that determine the type of FMFS.

If all distribution links are the property of one of its members, they are *corporate VMFS* . Most often, the owner is a pharmaceutical manufacturer, but it can also be a pharmaceutical intermediary.

*Contractual FMFS* consist of independent pharmaceutical firms bound by contractual relations and coordinating their activity programs to jointly achieve better commercial results. In particular, the practice of creating contractual FMFS on the basis of *granting trade privileges* (franchising is most often under the auspices of the manufacturer) is widespread.

*Managed (administrative) VMFS* coordinate their activities not due to belonging to a specific owner, but due to:

a) the economic power of one of the system participants. Thus, the multinational corporation "GlaxoSmithKline" achieves extremely close cooperation with the sellers of its medicines, helping them in the organization of exhibitions, forming a price policy, carrying out incentive measures, providing powerful advertising support;

b) as a result of legislative regulation of circulation of certain products on the domestic market. For example, in Ukraine, the circulation of narcotic drugs and particularly dangerous psychotropic substances is allowed only to state and communal enterprises with a license for this type of activity;

Another type of marketing systems is **horizontal marketing pharmaceutical systems (HMPS)** . They arise when two or more pharmaceutical enterprises (only manufacturers or only intermediaries) join together, which direct their efforts to the effective use of marketing opportunities.

An example of GMFS can be the association of intermediary pharmaceutical companies of a certain region for the purchase of medicines from a foreign manufacturer, joint work with non-payment pharmacies, development of a single anti-dumping policy.

#### **The third stage is the selection of the optimal distribution channel for medicinal products**

*Direct distribution channels* (zero-level channels) are most often used by pharmaceutical firms that want to control their entire marketing program and have close contact with consumers in limited target markets. *Indirect distribution channels* , which involve the participation of pharmaceutical intermediaries, are usually chosen by manufacturing companies seeking to expand their markets and sales volumes. At the same time, they agree to give up many sales functions, but, accordingly, from a certain share of control over sales channels and contacts with consumers.

*The effectiveness of the channel's functioning* is determined by at least three indicators: the time period during which medicinal products travel from the manufacturer to the consumer (the speed of movement of medicinal products); costs for implementation (per unit of medicinal product) and the availability of opportunities to reduce them; the volume of product sales per unit of time (the speed of drug sales).

When choosing a distribution channel and determining its length and width, the following **main factors should be taken into account** :

- *consumers* (their number, concentration, frequency of purchases, average purchase size);
- *medicinal products* (their cost, novelty, properties, shelf life, etc.);
- *competitors* (their number, assortment of drugs, methods of selling products, etc.);
- *market* (capacity, saturation, prospects, etc.);
- *opportunities of the pharmaceutical company* (financial situation, competitiveness).

#### **The fourth stage is the selection of subjects of the drug distribution channel**

Various means of the communication process are used to search for possible business partners (advertising, mass media, personal contacts, business partners, competitors, trade directories, correspondence). After identifying a potential intermediary, the pharmaceutical manufacturer evaluates his reliability in order to obtain certain guarantees of the success of future cooperation. What is optimal is the use of data from professional periodicals, business partners and competitors,

own marketing research and expert evaluation communication channel, in which the main role is given to independent experts (scientific consultants).

*Criteria* that should be taken into account when *choosing pharmaceutical intermediaries* can be: the principles of market behavior of the intermediary, his reputation; work experience in the pharmaceutical market; market segment occupied by the intermediary; nature of specialization (presence of regional branches, retail network, etc.); personnel qualification; reliability and good faith of the intermediary; the state of the material and technical base; financial situation (solvency, sources of financing and dependence on credit resources).

The next stage of the pharmaceutical manufacturer's behavior is to assess the reaction of a potential intermediary to an appeal to him. In the case of a positive reaction, positions are agreed between the parties, the result of which may be the termination of work with this intermediary and the search for a new one, or the reaching of an agreement on the conclusion of a contract and its implementation.

Since the process of concluding an agreement is bilateral, the intermediary is also characterized by a specific multi-stage motivational complex of behavior in the pharmaceutical market.

The first stage is the determination of the demand for medicinal products by range, quantity and quality. After that, a package of requirements for a possible manufacturer-supplier is formed, which includes a number of indicators: the reputation of the manufacturer (reliability, image, relationships with counterparties), the range of medicines, price level, terms of delivery, payment forms, additional services, etc. Having decided on the requirements for the manufacturer, the intermediary searches for him. At the same time, the latter uses the same means of communication as the manufacturer. The next stage is a request for a commercial offer from the selected pharmaceutical manufacturer. After analyzing the offer according to the package of requirements, the intermediary reacts accordingly. In the case of a neutral or negative reaction, he continues the search for another manufacturer (manufacturers). If the reaction is positive, then in the presence of some differences in approaches to cooperation, the positions of the parties are agreed, which, with mutual concessions, can end in the conclusion of a contract.

**The fifth stage is *the organization of control over the drug distribution channel***

FOR this, *indicators are used*, from which each pharmaceutical company chooses the ones that suit it: the volume of sales of medicinal products; the firm's expenses for organizing the work of a specific sales channel; the timeliness of the intermediary's payment for the medicine; frequency of ordering new batches of medicines by the intermediary; image of the intermediary in his region, etc.

**The sixth stage is *the adjustment and evaluation of the activities of the participants in the drug sales channel***

Effective operation of the sales channel is impossible without the motivation of the intermediary. The main goal of motivation is to achieve a long-term partnership that would bring profit to all channel participants. To do this, sales promotion measures aimed at pharmaceutical intermediaries are used.

### **Strategies for the distribution of medicines**

There are three main types of drug distribution strategies: direct, tiered, and flexible.

**The direct strategy of drug distribution** consists in the fact that drugs from the manufacturer immediately reach the end user. The structure of direct sales *channels covers* the following divisions of the pharmaceutical manufacturer: *sales department*, *regional branches*, *representative offices*, *branded pharmacies*.

**The sales department**, located, as a rule, on the production premises of the main enterprise, sells medicinal products directly to consumer organizations (medical and preventive institutions).

**Regional branches or branch companies** (sales branches, regional offices) are organized by manufacturers in the presence of their own or leased pharmacy warehouses in regions to bring their medicines closer to potential consumers.

**Representative offices of enterprises** do not carry out physical operations with medicinal products and often do not even have them, except for samples for exhibitions, preclinical studies and

clinical trials, in-depth clinical study. The main task is to establish contacts with wholesale pharmaceutical companies, medical and preventive institutions, pharmacies, advertising and information activities, marketing research, etc.

**Branded pharmacies** increase the availability of drugs of a specific manufacturer to the final consumer, especially the population, due to lower prices for these drugs compared to pharmacies of other companies.

**The echeloned strategy of distribution of medicinal products** is multi-level and represents the use of indirect distribution channels, i.e. medicinal products are transported from the manufacturer to the consumer with the participation of at least one dependent or independent intermediary (wholesale or retail).

The main structural representatives of *dependent intermediaries* are agents, brokers, commission agents, consignors. They do not buy medicinal products on their own; when forming a pricing policy, they can maneuver prices within the limits of the agreement concluded with the manufacturer.

**An agent is understood** as an intermediary, who sometimes acts as a permanent representative of a pharmaceutical company in a certain region, has limited rights to conduct negotiations and conclude sales agreements. The agent has the right to sign agreements, but does not have the right to conclude them on his own behalf and at his own expense. Its main task is to find a possible buyer. There are no warehouse stocks and a pharmacy. Performs its activities for a certain fee. Agent compensation may include commissions and/or salary. In the pharmaceutical market, a combination of high commissions and low wages has become widespread in order to stimulate high labor productivity. Commissions are based on the volume of sales or the amount of the markup. The payment system may include an indicator of the receivables of enterprises with which the agent is in contact.

**A broker** is an intermediary who concludes agreements, as a rule, on behalf of and at the expense of the client, and also has the opportunity to act on his own behalf, but at the expense of a trusted person. Receives a certain fee (brokerage) upon agreement of the parties. It can be set as a percentage of the value of the transaction or in the form of a certain amount for a separate batch of medicines. Unlike an agent, a broker does not have long-term business relationships with buyers and sellers and acts on the basis of individual assignments. It may provide additional services to customers, including market research, advertising, lending, etc. There are no warehouse stocks and a pharmacy. Brokers were widely represented in the domestic pharmaceutical market at the beginning of the 1990s. Their main task was the implementation of the social order of the regional health care administrations regarding the purchase of vital medical means

**A commission agent** is an intermediary who buys and sells medicinal products from his pharmacy on his own behalf, but at the expense and on behalf of the client (principal) for a stipulated fee (commission), acting only within the limits of the powers granted to him. Any intermediary firm can be a commission agent in case of concluding a commission agreement with the manufacturer.

**Consignor** - an intermediary who, on behalf of the manufacturer or another intermediary (consignor), organizes commission trade from its own pharmacy warehouse in the region specified by the consignor and at the price agreed with him. At the same time, the consignee remains the owner of the drugs until the funds for their payment are received. Medicinal products not sold during the term of the consignment agreement are returned to the owner. Consignors, like commission agents, have the right to conclude agreements on their behalf, to sign them, but they cannot conclude agreements on their own account.

**An independent intermediary (trader)** is the main and numerous – basic wholesale intermediary enterprise on the pharmaceutical market.

Intermediaries who carry out the resale of medicines at their own expense, have the right to ownership of them and take over the risk of their further sale are called independent. They have the right to enter into agreements in their own name, at their own expense and to sign them. Independent intermediaries independently set the price level, maintain warehouse stocks and sell medicines from their pharmacy warehouse. They include distributors, dealers, and jobbers.



*A distributor* is an intermediary who is granted exclusive or predominant rights to purchase and resell medicinal products within the territory or market agreed with the counterparty.

*A dealer* is an intermediary who resells medicines supplied to him by a distributor or other intermediary, often on his own behalf and at his own expense. Medicines are purchased by him in accordance with the supply agreement, and after full payment for the supply, the dealer becomes their owner.

*Jobber* is an intermediary who resells medicines bought from an importing company.

**Retail pharmaceutical intermediaries** promote drugs both directly to consumer organizations (health care institutions) and to individual consumers (patients and their relatives). They include *pharmacy chains* and separate *pharmacies*, and as well as their separate structural subdivisions (pharmacy points, pharmacy kiosks) and rural paramedic-midwifery points, subject to the permission of the district state administration and an agreement with the pharmacy on cooperation.

Among retail intermediaries, there are pharmacies organized by enterprises whose activity is aimed only at the retail sale of medicinal products, pharmacies of wholesale firms (branded) and pharmacies-licensees (which have the right to use a well-known brand on the basis of their contract).

#### ***Pharmacy networks***

An effective form of implementation of competitive mediation in the retail segment of the pharmaceutical market is pharmacy chains, organized both by manufacturers and wholesale firms, and by enterprises whose activity is aimed only at the retail sale of medicinal products. Pharmacy networks can be the property of an enterprise (branded pharmacy network), organized on the principles of franchising (pharmacy-licensees network) or of a mixed type.

Pharmacy chains have different structures, namely: one pharmacy and a system of pharmacy kiosks, one pharmacy and a system of pharmacy points and pharmacy kiosks, two or more pharmacies and a system of pharmacy points and/or pharmacy kiosks.

#### ***Flexible drug distribution strategy***

Flexible distribution strategy provides for the delivery of medicinal products to consumers both with the participation of structural divisions of manufacturing companies and with the participation of intermediaries. It is a combined variant of drug distribution.

It is necessary to emphasize that there is no sale of medicines on the pharmaceutical market only through sales divisions of manufacturers. Most manufacturers use a tiered distribution strategy.

### **Pharmaceutical logistics in the sales policy of pharmaceutical companies**

#### ***Concepts and types of pharmaceutical logistics***

##### **Pharmaceutical logistics:**

- as *the science of management*, it is an organized collection of knowledge, as well as purposeful studies of the processes of formation and development of end-to-end (integrated) material and immaterial flows in the pharmaceutical industry;
- as *a management system* – a set of interdependent pharmaceutical enterprises, each of which contributes to the integration of flow processes;
- as *a management practice*, it is the implementation of functions of planning, organization, motivation, control and regulation of integrated flow processes of a pharmaceutical enterprise, the final result of which is *logistics service*. The latter means a complex process of creating a good for the consumer by providing him with the necessary medicines of the required quality in the required quantities in the required place at the required time with the required costs.

*Material flows in the pharmaceutical industry* are an interconnected set of raw materials, materials, components, semi-finished products, drugs and medical products that move through manufacturing and intermediary pharmaceutical companies from suppliers to consumers, as well as production and consumer waste.

*Intangible flows* are a combination of information, financial and personnel flows. The financial flow is related to the monetary remuneration of the members of the distribution channel for the services provided, as well as to the mobilization of resources and the formation of financial support. Personnel flow includes the recruitment of employees, their training, placement, retraining and professional and qualification growth, payment and labor incentives. Information flow

corresponds to material, financial and personnel flows and is considered as a set of messages circulating within the logistics system, as well as between the logistics system and the external environment, necessary for managing logistics operations.

**types of pharmaceutical logistics** can be distinguished : three main or functional (purchasing, production and sales) and six auxiliary components. The first and third functional components are also called commercial logistics . In the resource (auxiliary) aspect, that is, depending on the type of flow, pharmaceutical logistics is divided into material (transportation, storage, waste management) and immaterial (informational, financial and personnel), each of which is present in both the commercial and production stages of the pharmaceutical logistics

**Sales pharmaceutical logistics** ensures effective organization of the distribution of manufactured products. Actually, sales logistics is the subject of this course.

As a result of the successful implementation of the sales logistics system, the pharmaceutical enterprise:

- determines the optimal size of the stock of medicines;
- reduces the number of lost sales, as a result of the lack of necessary drugs. At the same time, the volume of sales increases and a higher level of pharmacy service is provided, given the availability of drugs;
- shortens the customer service cycle, i.e. the time between the order and delivery of medicines. On the one hand, it helps to reduce the stock of medicines at the buyer, on the other hand, it provides an advantage to the company over others;
- strengthens the ties between sellers and buyers, in particular by bringing pharmacies closer to potential consumers;
- significantly saves money due to the implementation of more effective methods of physical movement of drugs (optimization of delivery routes, selection of a rational mode of transport taking into account the cost and delivery time, ensuring the maximum use of the carrying capacity and carrying capacity of vehicles, etc.);
- provides a deeper concentration of efforts of pharmaceutical specialists engaged in marketing and sales on the formation and stimulation of demand for medicinal products.

All this contributes to the growth of the economic efficiency of the functioning of the pharmaceutical enterprise and ensuring a competitive advantage over other competing firms.

The total amount of costs for sales logistics ( *in zlotys* ) can be determined by the formula:

$$V_{zl} = Tv + Cn + C3 + B3 + Ba ,$$

where  $Tv$  is transport costs;  
 $Sp$  - warehouse fixed costs;  
 $Sz$  - warehouse variable costs;  
 $Vz$  - costs for placing an order;  
 $And$  - costs of administrative and other measures.

### **Selection of drug distribution systems**

In sales activities, enterprises can use four main logistics sales systems: direct route sales, advance sales, telemarketing, e-business.

*Direct route sales (venselling)* is the delivery by company transport along developed routes of medicines that are in stable demand, and the formation of orders and processing of documents directly in pharmacies. It is worth noting that the implementation of direct route sales in the practice of pharmaceutical companies requires significant investments (specially trained personnel, transport, computer equipment (preferably specialized portable terminals), appropriate software, etc.).

However, the operation of this system can bring benefits to the company, because as a result of venselling, partner pharmacies receive, in addition to formal utility, the utility of time, place, information, possession (optimality of drug stocks) and additional service.

*Pre-sale* is a technology that is based on a preliminary visit to a possible customer by a sales representative of the company and the execution of an agreed order with the subsequent delivery of drugs at an agreed time. It is used by many manufacturing and wholesale pharmaceutical companies.

*Telemarketing* is systematic and continuous communication with existing and potential customers using the telephone and an integrated computer program connected to a database. It was formed from taking orders over the phone, when customers wanted to purchase medicines, information about which they received from suppliers' price lists. The manager entered the order into the computer and could immediately inform the customer about its fulfillment (possibility of full satisfaction, delivery time, etc.). Instead of waiting for an order, companies themselves began to call potential customers on a regular basis. The development of computer programs that provide information on previous purchases of each counterparty enables the manager to compile a control list of drugs that are regularly purchased. Therefore, telemarketing is used to find customers, receive orders from active and activate passive customers, offer special discounts, provide information services, etc. Elements of this sales system are used by the absolute majority of manufacturing and wholesale pharmaceutical companies.

*Electronic business (E-business)* is based on the use of Internet technologies for commodity exchange operations. There is a B2B segment (business-to-business or enterprise-enterprise), that is, the creation of corporate e-business systems for working with suppliers and intermediaries. The exchange of commercial information between B2B sites is facilitated by E2E portals (exchange-to-exchange). Another electronic segment B2G (business-to-government or enterprise-state) is intended for trade transactions between the enterprise and the state (any government body). The B2E segment (business-to-economy or business-to-economy) facilitates the enterprise's entry into international markets.

*Electronic trade (E-commerce)* as a part of electronic business is the use of Internet technologies to support trade transactions between business partners, one or two of which is the end consumer (consumer organization).

B2C sites (business-to-consumer or company-consumer) represent the sale of drugs by the company directly to consumers through so-called Internet pharmacies. Electronic commerce of the C2C type (consumer-to-consumer or consumer-consumer) represents the sale of products by one consumer to another and is not very promising for pharmacy. It is similar to individual advertisements for medicines in some newspapers. With C2B (consumer-to-business) visitors can participate in a virtual auction of investment products (houses, furniture, cars, jewelry, etc.) in real time. They can set requirements for products (size, color, material and other attributes).

### **Transportation of medicines**

The main tasks of transport pharmaceutical logistics are:

*The choice of mode of transport* is influenced by six main factors - speed of delivery, frequency of shipments, reliability, ability to transport various cargoes, availability, cost of transportation. The majority of pharmaceutical companies prefer road transport, much less - rail, and even less - inland waterways. Sea and air transport are used in the case of individual export-import operations.

*The choice of the type of transport* depends on the volume of transportation (for example, to replenish warehouse stocks, wholesale companies use vehicles with a high carrying capacity, and for the delivery of medicines to pharmacies - medium or low carrying capacity).

When *justifying the expediency of using their own or third-party transport*, large manufacturing or wholesale pharmaceutical companies prefer their own vehicles. Small pharmaceutical enterprises use a rental vehicle, hiring its owner for work. Contract transport companies often do not meet the requirements of specialized transportation (in our case – medicines and medical products), so pharmaceutical companies almost do not turn to them.

The specifics of transportation across the territory of Ukraine is that most pharmaceutical companies use *one-way transportation*, as opposed to *mixed-combined transportation*, in which two or more types of vehicles are used to deliver drugs to the customer.

The simultaneous use of two or more types of transport is effective thanks to the containerization of transport. **Containerization** – loading of medicines into boxes or trailers that can be easily moved from one mode of transport to another, in particular:

- *rail counter-trailer* – transportation by rail and road transport;

- *ship counter-trailer* - with the help of water and road transport;
- " *rail-ship* " - with the help of railway and water transport;
- " *air-highway* " - with the help of air and road transport.

In the conditions of constant growth of transport costs, *the development of optimal schemes for the delivery* of medicines acquires special importance. One of the methods of reducing transport costs is consolidation, which means combining small batches of cargo into large ones. There are three consolidation strategies - geographical, planned and contractual. *Geographical consolidation* involves the transportation of combined consignments of cargo in one direction or to a common destination. Using it, pharmaceutical companies plan a specific day of delivery of drugs to a specific geographic market segment. *Planned consolidation* establishes a tight connection between daily delivery and customers, i.e. its basis is the satisfaction, first of all, of the customer's demand according to the " J4U " PRINCIPLE ( just for you) and delivery according to the " JIT " principle (just- in-time - exactly, on time). The strategy of *contractual consolidation* consists in the centralized delivery of combined cargo by one means of transport to the customer with whom preliminary agreements have been made.

An important condition in transport logistics is transportation routing, which is based on rational transport technologies and established schedules for the delivery of medicines to consumers. In the simplest case, it is about finding the optimal travel path from the starting point to the final point. It can be the shortest road between these points, and the most profitable in terms of relatively low costs, and the road with the shortest travel time. To plan traffic routes, it is worth using special computer support, in particular, electronic and digital road atlas. Computer routing makes it possible to take into account drug distribution points, the number of customers that can be served within one route, the time of operation of vehicles, breaks within one transportation, the length of the route, the carrying capacity of the vehicle, as well as the ability to adapt to the work schedule of buyers.

The process of drug delivery from one subject of the pharmaceutical market to another is divided into two components: transport and forwarding. *The transport component* is primarily a process of direct movement of drugs in single-species or mixed-combination systems. *The forwarding component* is a complex of operations aimed at ensuring the quality of transportation, the level of which plays a significant role in reducing transportation costs and increasing the efficiency of transportation in general.

*Ensuring the unity of the transport-production and transport-warehousing process* is aimed at reducing the downtime of vehicles due to the optimization of loading and unloading operations and intra-production and intra-warehouse transportation. Unloading and loading in modern pharmacy warehouses is carried out at the appropriate car or railway ramps and container sites with the help of correctly selected loading and unloading equipment. Intra-production transportation is the movement of goods between different structural divisions and individual workplaces at a pharmaceutical enterprise. Intra-warehouse transportation involves the movement of goods between different zones of the pharmacy warehouse: from the unloading ramp to the reception area, from there to the storage, assembly area and to the loading ramp.

### **Warehouse pharmaceutical logistics**

The main issues of warehouse pharmaceutical logistics are:

*Choice between own and leased pharmacy warehouse* . The advantage of own pharmacy stock is given with a consistently large volume of turnover, a high concentration of consumers in the sales region. Leased pharmacy warehouses are better to use in case of low volumes of turnover, entering a new market, where the level of stability of sales is unknown or unstable.

*Determination of the optimal number of pharmacy warehouses and placement of the warehouse network*. Small and medium-sized pharmaceutical companies, whose sales are carried out in one or more regions, have, as a rule, one pharmacy warehouse. Large pharmaceutical companies, which deal with interregional or national markets, carry out their sales activities through a network of pharmacy warehouses. The territorial location of pharmacy warehouses and their number is determined by the power of material flows and the degree of their rational organization. There are two main approaches to the placement of pharmaceutical warehouses and their number - the

centralized approach, in which the bulk of drug stocks are located in one large central pharmacy warehouse, from which they are regularly redistributed among territorial pharmacy warehouses, and the decentralized approach, according to which the bulk of stocks are concentrated in territorial pharmacy warehouses.

It is worth noting that the increase in the number of pharmacies simultaneously leads to:

- increase in cost of delivery of medicines to pharmacy warehouses, maintenance of warehouses, accounting of orders and storage costs;
- reduction of costs for transportation to the direct customer;
- ensuring clear and accurate execution of customer orders, quick response to changes in their needs, which ultimately allows to reduce costs from lost sales.

*Choosing the location of the pharmacy warehouse.* For this purpose, place-forming factors are taken into account (size of the region, population density, type of administrative-territorial and functional location, functional zoning of the territory, trends in infrastructure development), transport factors (direction and intensity of the main traffic flows, its types, location of transport hubs, convenience of delivery and unloading of medicines, potential frequency of imports), social - (convenience of approaches and visibility from the street, service and specificity of services in locations) and economic (average level of income of the population, location of competing enterprises, specificity of demand for pharmaceutical products, return on investment) .

*Determination of the type and size of the pharmacy warehouse.* The most optimal pharmaceutical warehouses are single-story high-rise warehouses, since in multi-story warehouses about 20% of the space is occupied by elevators and stairwells, and the total costs of a warehouse with a high storage area are significantly lower than the costs of a warehouse of the same volume, but lower height.

*Development of the storage system.* This process includes the selection based on the design features of warehouses: warehouse cargo unit; type of storage; equipment for maintenance of the pharmacy warehouse; technologies of assembly, cargo movement and information processing.

*Control of drug stocks* is one of the functions of the logistics policy of the enterprise in relation to the management of drug stocks. It consists in checking with a certain frequency the level of stocks of medicines available in a specific place, in particular at a pharmacy warehouse, and comparing them with the optimal parameters of stocks, which in turn affects the time and volume of re-ordering.

### **Maintenance of commodity stocks at the pharmaceutical enterprise**

**Commodity stocks** are a set of medicines and medical products that are in circulation and subject to sale. They ensure the continuity of the medical supply of the population and medical and preventive institutions. Medicines and medical products, which are between acts of purchase and sale, acquire forms of stock.

From the point of view of logistics, inventories are material flows that have already left the production sphere, but have not yet entered the consumption sphere. At the same time, they can be concentrated, mixed and distributed, and according to the sign of discrete states, they are in motion (promotion of drugs through the company's own structural sales divisions, warehouse operations, etc.) and at rest. However, in the absolute majority of cases, drug stocks have a static form.

Stocks of medicines can be classified as:

- *by sales links* (at the manufacturer, the wholesale segment of the market and the retail network);
- *by location* (in pharmacy warehouses, on the way, shipped, in pharmacies);
- *by appointment* :
  - a) cyclic stock, designed to ensure the consumption process during a certain cycle, i.e. to meet the expected demand;
  - b) buffer (reserve, insurance) stock - to compensate for random fluctuations in demand or uncertainty regarding the duration of the consumption cycle or to eliminate the possibility of a drug shortage;
  - c) speculative stock - in the event of an expected price increase, change in demand or supply for one or another medicinal product;

- d) seasonal stock - with the seasonal nature of production, consumption and transportation;
- e) strategic stock - for the prevention and liquidation of medical and sanitary consequences of man-made and natural emergency situations or material stock for mobilization purposes;
- g) incentive stock - for broad promotional campaigns;
- h) dead stock - non-current drugs, that is, those that have no demand for a certain period (for example, for the last six months) or current drugs, the balance of which exceeds the need for a certain period (for example, quarterly);
  - *by measurement method:*
    - a) current stock – actually available stock in storage locations;
    - b) net stock - current stock after subtracting the total taken into account, but not yet satisfied demand;
    - c) fictitious stock - net stock in the amount with the volume of already submitted, but not yet received orders for stock replenishment.

### Methods of assessing the optimality of drug stocks

One of the main directions of improving the efficiency of drug stock management is their optimization. Selection of **the optimal variant of the purchase frequency of medicines** is based on a comparison of the logistic costs inherent in each of the options. The amount of logistics costs ( $B_{\pi}$ ) is determined by the formula:

$$B_{\pi} = Bmp \cdot \mathcal{U}_n + \mathcal{V}II + \frac{B_3 \cdot \mathcal{V}_3}{2 \cdot \mathcal{U}_n},$$

where  $\mathcal{V}_z$  is the cost of delivery to ensure the average monthly optimal stocks of the medicinal product, hryvnias;

$\mathcal{V}tr$  - average costs for the formation and transportation of one batch of the drug, hryvnias;

$\mathcal{C}hp$  - the number of deliveries per month;

$\mathcal{U}P$  – contingent and permanent warehouse costs, hryvnias;

$\mathcal{U}Z$  - conditionally variable warehouse costs, %.

If an intermediary pharmaceutical company or a medical and preventive institution places an order at the same time intervals, then it is advisable to determine **the optimal size of the order** according to the Wilson (Wilson) formula:

$$Q_i = \sqrt{\frac{2 \cdot Z_i \cdot A_i}{B_i}},$$

where  $Q_i$  is the optimal order fulfillment size for drug  $i$ , units;

$Z_i$  – the need for *the*  $i$  drug for a certain period of time, units;

$A_i$  – costs for the supply of unit  $i$  – the drug ordered, hryvnias;

$B_i$  – storage costs of unit  $i$  – drug, hryvnias/unit.

**The interval between the execution of orders**, or *the duration of the order cycle*, that is, the time interval between the placement of two consecutive orders for the supply of a medicinal product, the stock of which is approaching the point of stock replenishment, can be calculated by the formula:

$$I_i = \frac{N \cdot Q_i}{Z_i},$$

where  $I_i$  is the interval between orders for  $i$  drug, days;

$N$  is the number of working days in a certain time period.

In wholesale pharmaceutical firms that purchase drugs directly from pharmaceutical manufacturers, in particular foreign ones, the order fulfillment period ( $L_i$ ) is greater than the required interval between orders. For them, it is necessary to calculate **the effective term of the order** ( $l_i$ ) according to the formula:

$$l_i = L_i - nI_i,$$

where  $n$  is the largest number that does not exceed  $\frac{L_i}{I_i}$ , for example, if  $L_i = 12$  and  $I_i = 10$ , then  $n = 1$ , since this is the largest integer  $\square (12:10)$ .

Then **the point of stock replenishment**, that is, the lower limit of the stock, upon reaching which it is necessary to organize another order for the drug, will occur at the stock level  $q_i = l_i \cdot Z_i$ .

In turn, **the daily costs associated with maintaining a stock of the medicinal product** ( $U_i$ ) can be calculated by the formula:

$$U_i = \frac{A_i \cdot Z_i}{Q_i} + \frac{B_i \cdot Q_i}{2}.$$

Adherence to the optimal size of the order and the interval between its execution makes it possible to minimize the costs of maintaining drug stocks and repeating the order, taking into account other factors, in particular, the use of warehouse space and the cost of placing an order.

### **The essence of the marketing policy of communications**

*Marketing communication policy* is a set of measures used by an enterprise to inform, persuade or remind consumers about its goods or services. Often, in specialized literature, this block of marketing elements is called "promotion". But it is far from the same.

If promotion is a one-vector informational influence of the product manufacturer on the consumer, then marketing communications also involve feedback between them. Thanks to such feedback, the enterprise receives valuable information that gives it the opportunity to correctly navigate in the surrounding business environment, to make appropriate adjustments to its activities, including in relation to the tools and actions of the communication complex.

The marketing policy of communications is implemented with the help of an appropriate process of many elements placed in a certain, logical sequence.

The main elements of this process:

- sender (source of information) — an enterprise that offers its goods or services and sends relevant information about them, addressing it to its target market;
- coding — transformation of information into a form convenient and understandable for the consumer, effective from the point of view of communication tasks;
- appeal is, on the one hand, a set of symbols (words, images, numbers), and on the other hand, the moment of their transmission to the target market;
- communication channels — means of disseminating information, its specific carriers;
- decoding — deciphering the address, when the symbols that come through the communication channels acquire specific meanings in the consumer's mind;
- recipient - the consumer to whom information about the company's goods or services is transferred;
- feedback — feedback from consumers, their actions in response to receiving and decoding the appeal;
- feedback — a part of the feedback that becomes known to the sender;
- obstacles — possible unwanted or unconsidered interventions in the process of marketing communications (quality of printed publications, time of transmission of radio messages, consumer attitude to advertising, ambiguity of appeals, etc.).

### **Algorithm for the formation of a complex of marketing communications**

An effective marketing policy of the company's communications is impossible without the formation of a complex of its measures. The algorithm for planning a complex of marketing communications is shown in fig.

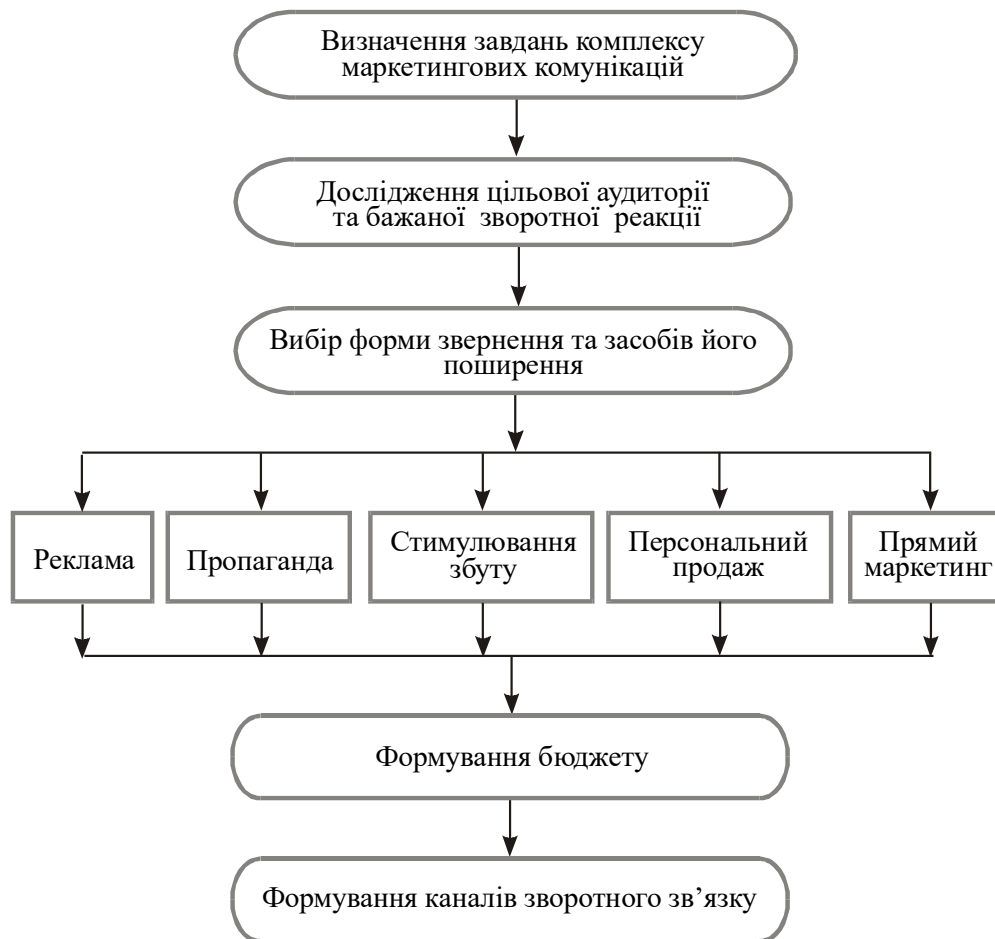


Fig. Algorithm for the formation of a complex of marketing communications

The starting point for the formation of such a complex is the definition of its tasks. Such tasks can be: attracting the attention of consumers, forming their knowledge about the goods or services of the enterprise, beliefs about the value of such goods and services for solving certain problems of the consumer. In other words, it ultimately means stimulating demand, increasing sales volumes, improving the image of the enterprise and its products, maintaining market share, etc. Tasks should be defined clearly and concretely, which will make it possible to monitor their implementation, to make appropriate adjustments in case of any complications. When determining the task, it is necessary to focus on the available means, take into account possible obstacles (fig.).



Fig. Definition of tasks of marketing communication



Therefore, defining the tasks of marketing communication requires:

- market research: capacity, concentration of consumers, their behavior, presence and features of competitive offers and substitute goods;
- knowledge of sales strategies, business conditions, current legislation and rules of conduct in a specific market;
- product research: level of market novelty, degree of differentiation, image, role of packaging, reasons and essence of consumer complaints, level of accompanying service;
- research of marketing communication channels: condition, branching, cost, experience and loyalty of communicators;
- study of the distribution system: the presence and branching of distribution channels, the state of the system of intermediary enterprises and organizations, the variety of trade methods, the qualifications and experience of sellers.

Analysis of the situation related to the formation of a set of marketing communications requires a more detailed study of the target audience and the desired response. The target audience of the enterprise's marketing communications complex is current and potential buyers of its product or service, that is, those persons who will use them or influence decision-making regarding their purchase.

It is to them that the company will address in the communication process, and therefore it is necessary to know as much as possible about their behavior, value system, habits, motivations, lifestyle, daily routine, attitude to the product, degree of readiness to buy it, etc. This makes it possible to properly direct information and get the desired feedback.

One of the main elements of the marketing communications process is the appeal. When developing it, you must first of all solve such problems. The first of them consists in determining what exactly to say, that is, what should be the content of the appeal, how to use in it certain rational, emotional or other motivations attractive to the consumer. The second problem is how exactly to say it, how to increase the impact of the appeal on the consumer through the form of embodiment of a particular idea. The third problem is when and how many times to say so that the appeal reaches a specific target audience, is attractive and fulfills its task.

Appeals must be delivered to consumers in a timely and efficient manner. Therefore, the next stage of forming the process of marketing communications is the choice of means of information dissemination. For this, firstly, appropriate channels of communication are chosen — personal (experts, consumers, personal sellers, retailers, etc.) or impersonal (mass media system, public events, exhibitions, fairs, etc.), and secondly, information carriers, taking into account such features that make the information carrier authoritative, worthy of attention and trust from the target audience. Such traits can be decency, honesty, professionalism, attractiveness.

The penultimate stage of the formation of the marketing communications complex is the selection of means of influence. The list of these tools, their advantages and disadvantages is presented in the table.

When choosing means of influence, it is necessary to take into account the following points:

1. *To which group of consumers is marketing communication directed.* The subjects of the target audience can be industrial enterprises, budget and private organizations, retailers or wholesalers, service organizations or end consumers. In each specific case, choose the means of influence that will provide the desired results. Yes, it is clear that personal selling or sales promotion are the most effective for industrial enterprises, while advertising and propaganda are the most effective for end consumers.

**advantages and disadvantages of means of influencing marketing communication**

Means of influence	Advantages	Disadvantages
1. Advertising	An effective tool for reaching large numbers of consumers. Ability to shape consumer behavior, facilitate the sales process	Quite high cost. Lack of flexibility, difficulty in organizing feedback. The possibility of concluding agreements is limited
2. Personal selling	Persuasive character. High informativeness, interactivity, flexibility, argumentation, personal contact with consumers. The possibility of concluding agreements. Duration of contacts	High cost
3. Propaganda	Trustworthy character. High informativeness of consumers	The difficulty of establishing contacts with mass media. Low level of control over publications
4. Stimulation of sales	An effective means of quickly changing consumer behavior. Flexibility, duration, informativeness	Easily duplicated by competitors. Only a short-term effect is achieved. May damage the brand image. Quite a significant cost
5. Direct marketing	Individualization (personalization) relations with the consumer. I measure - the results. Duration of contacts	Low probability of getting reliable answers from consumers

### 3. Characteristics of the product.

This group of factors includes:

- technical complexity — the higher it is, the greater the efforts and expenses for communications, the greater the need to use personal selling and direct marketing;
- measure of consumer risk (risk of loss of funds, time, image, as well as social and physical risk);
- the greater it is, the greater should be the efforts in marketing communications, the bias towards the use of propaganda and sales promotion;
- the level of additional services — the higher it is, the more powerful and diverse the set of marketing communications should be.

4. *Distribution channel strategy.* The so-called push strategy pays the most attention in marketing communications to the personality of the reseller as the main actor. For "extraction strategies" direct means of influence on the consumer are used.

5. *Geographical location (concentration) of consumers.* As such concentration is less, such means of influence as advertising and propaganda become more important.

6. *Purchase decision making process.* Here, in determining the means of influence, the main thing is to solve the problem of choosing between their mass and individual types (Fig.).

### Comparison of advertising and personal selling

Selection factor	Selection indicator	
	Advertising	Personal selling
Target market	End consumer	Producer consumers or intermediaries
Purchase risk	Low	High
Product complexity	low	High
Service level	Low	High
Making purchase decisions	Before and after purchase	Purchase
Distribution channel strategy	Pull strategy	"Push" strategy
Geographical location of consumers	Scattered	Concentrated

Implementation of the marketing communications process requires costs. In this connection, the determination of the necessary budget, i.e. the funds needed for the implementation of these processes, becomes particularly relevant. There are several approaches to calculating the marketing communications budget.

The most progressive is the calculation of the budget based on the purpose and tasks of the enterprise. Its progressiveness lies in the fact that in the process of marketing communications such amount of money is invested, which is necessary for the implementation of all planned activities.

But this is not always possible given the company's available resources. Therefore, other methods are also used. Yes, the method "preliminary allocations for marketing communications, increased by a certain percentage" is known. This approach is used when the company aims to strengthen its activity in the market (increase in market share, product sales volume, development of new segments, etc.). It is clear that such a method is not applicable at the last stages of the product life cycle, as well as when the company intends to exit this business.

The method of calculating the budget based on competitive parity is also known. Here, the company tries to allocate no less funds than its main competitor for the implementation of the marketing communications complex.

You can also use the method of calculating the budget based on the "certain percentage of the sales amount" principle. It makes the amount of appropriations for communication dependent on the volume of product sales. However, this method becomes inappropriate when sales volumes fall, because in this case, communication costs should be increased, not decreased.

Sometimes they use the method of calculating the budget by analogy (based on costs that are considered rational for this or some other industry), as well as by the principle of "everything that is possible". The latter is a typical residual method of budget calculation, and hence its main drawback - there may not be a balance, or it will be too small to ensure the achievement of the goal of marketing communication.

The last stage of forming a complex of marketing communications is the establishment of feedback channels. The purpose of this stage is to organize the receipt of information about the extent to which the complex achieves the appropriate goals and fulfills communication tasks. Such information makes it possible to make appropriate adjustments in a timely manner, which increases the effectiveness of the enterprise's marketing communications complex.

The success of the product (service) on the market is achieved thanks to the solution of a set of tasks. Excellent design, efficient production, reasonable price, well-thought-out product distribution network are not sufficient conditions for reaching the target market. The final solution to marketing tasks involves informing the target market about the product, the place of its purchase and the manufacturer itself. It is necessary not only to inform, but also to convince the maximum number of consumers that the company's product or service has certain advantages, to form or strengthen the propensity of a certain number of buyers to buy the product.

*Informing, persuading, changing the propensity to buy a product are the main goals of marketing, which are achieved as a result of the implementation of the marketing policy of communications. The set of measures by which the company's marketing communications policy is implemented includes the following main components: advertising, sales promotion (sales promotion), personal (personal) selling, public relations (public relations, PR or PR ) and direct marketing.*

According to other interpretations, communication policy *is promotion mix* ) as a component of marketing-mix is a set of means of promoting a product (service) to the market.

We will give some definitions of the named components of marketing communications.

*Advertising* is any paid form of impersonal presentation and promotion of goods and services by a well-known sponsor (enterprise, organization).

*Sales promotion (sales promotion)* — provision of an additional incentive that provokes a purchase (price discounts, gift, prize, etc.).

*Personal (personal) selling* is an oral presentation in a conversation with one (or more) prospective buyers with the aim of making a sale.

*Public relations* — establishment and maintenance of communications in the environment (primarily external) of the organization in order to ensure favorable behavior of the environment in relation to the organization.

*Direct marketing* is the use of mail, telephone, fax, e-mail and other non-personal means of communication to directly influence actual (real) or potential buyers.

To increase the effectiveness of marketing communications, they need to be built as a management of the product promotion process at all stages - before sale, during sale, during consumption and after consumption. At the same time, communication programs, as a rule, need to be developed for each segment, market niche and even individual buyers. At the first stage of the communication process, potential opportunities for interaction between the company and its product with customers are revealed. Marketers in each specific case try to assess which factors in making purchase decisions have the greatest influence on buyers, which will help to use the funds allocated for communications more effectively. The choice and implementation of certain tools, their place in the general communication system will be determined by the specifics of the target market, the offered goods and the general situation on the market.

### **Development and implementation of a complex of marketing communications**

Marketing communication will be effective when the company's specialists, with the participation of other specialized organizations (advertising agencies), develop a comprehensive program for the promotion of goods (services).

The following main stages of development and implementation of a marketing communication program are known:

- determination of the target contact audience;
- determination of communication goals;
- creation of an appeal (advertisement);
- selection of communication channels;
- determination of the general budget allocated for promotion;
- making a decision on mixed means of promotion;
- preliminary assessment of possible promotion results;
- managing the implementation of complex marketing communications. Therefore, the development of a communication program begins with the definition of the target contact audience (*the audience* is people or companies that

will be in contact with means of communication). The audience may include potential buyers of the company's products; consumers; those who decide to make a purchase; those who influence purchasing decisions. In general, the audience can be represented by individuals, groups, a certain circle of individuals or groups, or the entire society.

Analyzing the audience, the main efforts are aimed at evaluating the stereotypical ideas of the audience about the company, its products and competitors (*a stereotype* is a set of ideas, ideas and impressions of a person about a certain subject, phenomenon). Using survey methods, first of all, the level of knowledge of the contact audience about the product (company, competitors) and attitude towards it is determined. And already then the company's management decides what position it can take on the market. Perhaps the company should improve the characteristics of the offered product or service, improve its image compared to competitors. If it is necessary to change this or that stereotype, the company must prepare for long-term painstaking work, because stereotypes are too durable.

After determining the target market (contact audience) and its characteristics, the marketer must decide what the firm wants from the audience. Most often, companies want to receive the following reactions-answers from the audience: making purchases, satisfaction with the purchase and good reviews about the company and its products. In other words, communication goals will be formed depending on the state of existing and predicted audience reactions and their desired changes.

Based on the definition of the desired reaction-answers of the audience, they develop an effective appeal to it. The appeal should attract *attention*, arouse *interest*, *desire* and stimulate *action*.

As practice shows, very few appeals lead consumers through all stages at once — from awareness to sale. However, the use of the scheme "*attention - interest - desire - action*" helps marketers achieve the desired result even when influencing the buyer's decision to make a purchase at individual stages.

The process of creating an appeal to the audience (here we are primarily talking about an advertising appeal) requires solving the following questions: what to say (content of the appeal), how to logically organize the appeal (structure of the appeal), how to convey it with symbols (formation of the appeal) and from whom it will come.

Usually, the development of an advertising appeal (as well as the entire complex of marketing communications) is handled by professionals, and a detailed consideration of this issue goes beyond the scope of this manual. Our goal is to consider the main, principled approaches to solving marketing communications problems.

An appeal, as a rule, reflects *an appeal (slogan), a theme, an idea or a unique selling proposition*, that is, the developers of the appeal try to formulate certain benefits, motivations or reasons that encourage the audience to think about the advertised product or discuss it. There are many types of appeals, but the most commonly used are rational, emotional, and moral appeals.

*A rational appeal* is designed for the interests of the audience. It claims that the product will deliver the claimed benefits. An example would be appeals that demonstrate the quality of the product, its cost-effectiveness, value or effectiveness. There is a widespread opinion that industrial buyers are most responsive to a rational appeal. But other consumers, especially when deciding on a serious purchase, usually collect the necessary business information and compare options. At the same time, they will also (like business buyers) respond to the quality, economy, consumer properties and efficiency of the product.

*An emotional appeal* should evoke positive or negative emotions that motivate a purchase. Perhaps the company's product is not superior to that of its competitors, but consumers have certain unique associations with it — in this case, communications should address such associations. Marketers use appeals that evoke positive emotions — fun, love, pride, etc. Appeals based on negative emotions (for example, fear) are effective only up to a certain limit, without exaggeration. Such appeals will be more effective when the communications offer accessible and effective recipes for getting rid of fear.

*The moral appeal* is addressed to the buyers' sense of what is right and what is customary to do. Using moral appeals, people are reminded that they need to support certain social activities, in particular, aimed at protecting the environment, helping the disabled, etc.

The effectiveness of the appeal depends not only on the content, but also on the structure and design (sound, color, etc.). It is also useful to use, for example, in advertising celebrities, especially when they are identified with the key qualities of the products.

Various communication channels are used to convey a message aimed at a target audience. There are two general types of communication—personal and impersonal.

*A personal communication channel* is communication between two or more people for the purpose of familiarization, discussion and/or promotion of a product (service). Communication can be carried out in the form of a dialogue, an address of one person to the audience, a telephone conversation, etc. The effectiveness of personal communication channels is determined by the level of individualization of the presentation and receiving feedback. Examples of personal communication:

- *lawyer-channels* are sales representatives of the company who communicate with representatives of the target audience;
- *expert channels* — independent experts who make statements for representatives of the target audience;
- *social channels* are neighbors, friends, relatives and colleagues who talk to representatives of the target audience.

Sometimes the "energy of rumors" is also used, even in advertising campaigns.

*Non-personal communication channels* transmit appeals without personal involvement. These include media, interiors and certain special events.

*Mass media are printed media* ( newspapers, magazines, direct mail), *broadcast media* (radio, television), *electronic media* (audio and video cassettes, video discs, CD - ROM ) and *outdoor advertising media* (advertisements, signs, posters) . Most referrals made through non-personal channels are paid.

*The interior* is an "environmental tool" that can push a potential buyer to make a purchase or strengthen their decision.

*Special events* are actions aimed at conveying certain appeals to the target audience. Companies organize conferences, presentations, sponsor sports events in order to achieve special communication effects and impact on the audience.

One of the most difficult marketing tasks is to determine the amount of funds needed for promotion. It is known from world practice that, for example, the costs of promotion in cosmetic companies make up 30-50% of sales volumes, and manufacturers of industrial equipment spend 10-20 % *on it*. However, in every industry you can find both companies that spend a lot of money on promotion, and those that spend little money on it.

Companies most often use the following traditional methods of determining the total budget for promotion: *opportunities, percentages of sales, compliance with competitors, goals and objectives*.

The opportunity method (how much the firm can afford to allocate funds for promotion) does not take into account the real role of promotion as an object of investment of funds and its impact on the volume of sales, which complicates long-term planning of marketing programs.

Many companies set a promotion budget based on a certain percentage of sales (existing or projected) or a percentage of price. Proponents of this method believe that it has certain advantages over other methods. Firstly, this approach suits financial managers, who believe that costs should be closely related to the movement of corporate sales within the business cycle. Secondly, this method forces managers to consider the relationship between promotion costs, product prices and profitability per product unit. Third, the method maintains stability among competitors, since competing firms spend approximately the same percentage of sales on promotion. However, the shortcomings of the method are also obvious. It sees sales as a determinant of promotion, not the other way around. And this leads to the fact that the budget is determined by the availability of funds, and not by the needs of the market. Dependence of the promotion budget on annual fluctuations in sales volume interferes with long-term planning.

Some companies set their promotion budget based on competitors' spending. Proponents of the method put forward the following arguments: firstly, competitors' costs reflect the accumulated experience in this field; secondly, by observing the ratio of competition, it is possible to avoid "wars of promotion". However, these arguments are unconvincing, perhaps because the reputation, resources, capabilities and goals of companies differ so much that the budget for the promotion of one company can hardly be a reference point for another.

As the name implies, in the goals and objectives method, the budget for promotion is determined based on the goals and objectives of the promotion and an estimate of the costs necessary for this. At the same time, it is important to determine the place (which is quite difficult) of promotion in the general means of marketing-mix (in relation to improving the product, reducing prices, increasing the level of services, etc.). Everything depends on the stage of the life cycle of the company's products: is it a product of general use or a product of a highly differentiated market; does this product belong to items of everyday demand or is it simply "need to sell" etc. In theory, the total promotion budget should be set so that the marginal return on a unit of money spent on promotion is equal to the marginal return on a unit of money best spent on other means of marketing. It is difficult to actually adhere to this principle.

Finally, the company must decide on the promotion mix system. *Promotion-mix* is a combination of various methods and tools, the optimal application of which makes it possible to more successfully bring the product to the market, stimulate sales, and create customers who are loyal to the company (brand).

Companies are always looking for ways to increase the effectiveness of their activities by replacing one marketing method with another. Many firms have replaced part of their sales activities

with media advertising, mail advertising, and telemarketing. Others, on the contrary, have increased the cost of sales promotion through advertising. By the way, the positive effect of replacing one promotion method with another is impossible without professional coordination of marketing functions by the marketing department.

When developing a promotion-mix program, the following factors should be taken into account: the type of market in which the company operates; strategic tasks ("pull" or "push"); willingness of consumers to make a purchase; the place of the product in its life cycle.

Promotion methods are used differently in consumer and industrial markets. Thus, companies producing consumer goods usually set priorities in the following sequence: sales promotion, advertising, personal selling, public relations. For manufacturers of industrial goods, the sequence is different: personal selling, sales promotion, advertising, public relations. In general, personal selling is more actively used when selling complex, expensive and risky goods, as well as in markets where there are fewer and larger sellers.

The choice of specific methods of promotion-mix is also determined by the basic marketing strategy of the company - "from yourself" ("push") or "on yourself" ("pull").

The "self-made" strategy is aimed at intermediaries, to whom the manufacturer tries to "push" the product — to shift the main problems of its further promotion to end consumers onto them. This strategy is used when there are many approximately identical products (brands) on the market and the buyer makes the choice directly in the store. The main task of marketers is to create conditions for intermediaries that will facilitate the intensification of the promotion of the company's products.

The strategy "on itself" is determined by the company's desire to focus the attention of end buyers on its own company (trademark). At the same time, the manufacturer takes the main part of the problems of product (brand) promotion, the attention of end buyers is drawn to the quality and certain advantages of the company's products. This strategy is used for products with clear brand advantages, the goal is to achieve customer loyalty to the company's brand.

At different stages of the buyer's readiness to make a purchase, promotion methods differ in cost effectiveness. Therefore, it is advisable to follow these recommendations. At the stage of *awareness*, advertising and publications are most important. Advertising and personal selling work best for a buyer who has already *chosen*. *Brand-friendly* consumers should use more personal selling and less advertising or sales promotion programs. Repeat *orders* can be influenced by personal selling and sales promotion, and sometimes by reminder advertising. The general conclusion is that advertising and publications are most cost-effective in the early stages of the buyer's purchase decision, while personal selling and sales promotion are most cost-effective in the later stages.

The place of the product in its *life cycle* also determines the feasibility of using and the importance of certain means of promotion. At the *stage of introduction to the market*, the most effective are advertising and publications, followed by the use of personal selling and sales promotion. At the *stage of growth*, most of the time, all tools of promotion cease to be used, as information (rumors) spontaneously spreads. The *maturity stage* requires the use of sales promotion, advertising and personal selling. At the *stage of recession*, it is possible to improve the condition of the product for a certain time by stimulating sales; the influence of advertising and publications decreases.

Before applying the developed program for the promotion of goods (services), it is necessary to pre-evaluate the possible results. For example, you can test some advertising measures on part of the contact audience with a subsequent survey. At the same time, respondents should be asked the following questions: do they remember the advertising message, how many times and where did they see it, what exactly did they remember from it, how did the message affect their opinion about the manufacturer or brand, etc. The obtained data can be compared with the sales results in general and the real actions of each representative of the reference group (did they buy the product; if so, how many times; does the opinion about the used product correspond to the idea they had from the advertising appeal). At this stage, a certain adjustment of the designed promotion program is possible.

Management of the implementation of complex marketing communications involves, of course, management of the implementation of individual components in accordance with the developed promotion program. Recently, more and more companies are applying the concept of

*integrated marketing communications*. This is how the American Association of Advertising Agencies defines this concept.

*Integrated Marketing Communication (IMC)* is a marketing communication planning concept based on the need to assess the strategic role of their individual areas (advertising, sales promotion, public relations, etc.) and search for an optimal combination to ensure clarity, consistency and maximize the impact of communication programs with the help of a consistent integration of all individual appeals.

Thanks to the creation of IMC, the entire sales system of the company can be made more efficient. Proponents of IMC claim that this system makes it possible to combine all areas of marketing influence to achieve a single goal, instead of the former dispersal of funds in separate areas.

**Materials on the activation of students of higher education during the lecture:  
question:**

1. The role of pharmacies in the distribution of medicines.
2. Examples of pharmaceutical marketing systems in Ukraine.
3. Principles of classification of wholesale pharmaceutical enterprises .
4. The role of commodity stocks in the organization of medical provision of the population and medical and preventive institutions.

**General material and educational and methodological support of the lecture:**

- multimedia projector;
- educational platform ( MS Teams) ;
- presentation;
- illustrative material on the topic;

**Questions for self-training:**

1. What is the pharmaceutical essence of the concepts "sales", "sales activity", "sales policy"?
2. What are the alternative options for the structure of drug sales channels?
3. What is the possible length and width of the drug distribution channels?
4. What marketing pharmaceutical systems do you know?
5. How to choose the optimal distribution channel for medicines?
6. How to choose subjects of the drug distribution channel?
7. How to organize control, motivation and evaluation of the activities of the participants in the drug sales channel?
8. What is the essence of a direct strategy for the distribution of medicines?
9. What is the essence of an echeloned and flexible strategy for the distribution of medicines?
10. What are the characteristics of pharmacy chains?
11. What is the essence of the concept and types of pharmaceutical logistics?
12. What are the peculiarities of sales pharmaceutical logistics?
13. What are the drug distribution systems?
14. How to organize the transportation of medicines?
15. What is the essence of warehouse pharmaceutical logistics?
16. How are drug stocks maintained at a pharmaceutical enterprise?
17. What are the methods of assessing the optimality of drug stocks?

**List of used sources:**

1. Basics of management and marketing in pharmacy: Teaching method. manual for higher med. (Pharm.) Institutions / Comp. N.M. Kosyachenko, V.P. Gorkusha et al. — K., 2018. — 49 p.
2. Management and marketing in pharmacy. Educational method. manual / comp. O.H. Chirva, O.V. Harmatyuk; MES of Ukraine, UDPU. – Uman: Visavy, 2018. – 217 p.
3. Marketing workshop. Education manual / by A.Ya. Ageev - 2018.-p.496



4. Pricing: a collection of test and calculation tasks, a study guide Recommended by the Ministry of Education and Culture of Ukraine / comp. E.Ya. Ageev, T.V. Shakhmatova - 2018. - p. 288
5. Management in pharmacy. Module 1. Educational method. manual / V.O. Demchenko, N.O. Tkachenko, N.M. Chervonenko, T.P. Annual; edited by G. Knysya. – Zaporizhzhia: ZDMU, 2017. – 194 p.
6. Pharmaceutical Law and Legislation: the textbook for applicants for higher education / A.A. Kotvitskaya, IV Kubarieva, AV Volkova et al. Kharkiv : NUPh : Golden Pages, 2019.204 p.

## Lecture #9

**Topic: Advertising in the pharmaceutical marketing system. Sales promotion and other means of marketing communications.**

**Relevance of the topic:** transformations led to the emergence of a new type of entrepreneurial activity - advertising business. The process of forming advertising as a component of the market infrastructure and one of the sectors of the market economy in Ukraine began almost spontaneously. The former experience of organizing commercial advertising activities, which was acquired in the conditions of the command-administrative system of management, was completely insufficient for the new economic realities. Under the conditions when economic relations between producers and consumers were established centrally, the need for advertising as a commercial information communication was largely symbolic in nature.

In the conditions of a saturated market, informing, persuading, reminding consumers about the company's medicinal products, supporting their sales, as well as creating a positive image of the company are gaining more and more importance. Therefore, the study of methods of promotion of medicinal products to the market is important for the future work of a pharmacist.

**Purpose:** to form a professional view of the marketing communications system of a pharmaceutical enterprise; to reveal the essence of public relations", personal sales and sales promotion of medicinal products; highlight social and ethical aspects of drug advertising, merchandising and specialized medical exhibitions.

**Basic concepts:** advertising, marketing communications system, public relations, sales promotion, merchandising.

### **Plan and organizational structure of the lecture**

1. Advertisement of medicines.
2. "Public relations" of a pharmaceutical enterprise, personal sales and promotion of sales of medicinal products.
3. Merchandising in pharmacies and specialized medical exhibitions.

### **Content of lecture material (lecture text):**

#### **System of marketing communications of a pharmaceutical enterprise**

##### *Goals of communication policy of pharmaceutical enterprises*

Promotion of drugs on the market is carried out using **the marketing communications system**, which covers any activity of a pharmaceutical company aimed at informing, persuading and reminding consumers about their drugs, stimulating their sales and creating a positive image of the company in the eyes of the public.

The main goals of marketing communications: formation of demand and stimulation of sales. Subordinate goals follow from the main goals, namely: informing consumers about the company and its medicinal products; formation of a positive image of a pharmaceutical company; consumer motivation; formation and actualization of consumer needs; stimulation of the act of purchase; formation of brand loyalty; reminders about the company and its medicines, etc.

After defining the goals, the company specifies *the addressees of the communication policy*, which can be: consumers, suppliers, intermediaries, contact audiences, public administration bodies.

### **Characteristics of the components marketing communications systems**

The marketing communications system includes four main elements: advertising, public relations, personal selling, and sales promotion.

**Advertising** is any paid, non-personal form of disseminating information about the company and its medicinal products. Its unique characteristics are:

- expressive character, the ability to effectively present the drug, the pharmaceutical company itself;
- mass audience coverage;
- the possibility of multiple appeals, the ability to persuade, convince;
- impersonality (compared to personal selling, advertising is only capable of a monologue (with the exception of electronic "direct mail"), and not a dialogue with the audience);
- some of its types require large allocations (television advertising), others are much cheaper (newspaper advertising).

**"Public relations"** (literally "relations with the public") is an activity aimed at forming a positive image of the company, a favorable attitude towards it and its medicines. A feature is: high reliability of information in the eyes of consumers, since it is presented in the form of news, not an advertisement; wide audience coverage; long-term effect of "public relations"; the pharmaceutical company does not always control the content of the information; often serves as a supplement to advertising.

**Personal selling** is the oral presentation of medicinal products during a conversation with one or more potential buyers for sale. It is characterized by: personal character; direct, live communication with the audience in the form of a dialogue; incitement to reverse reaction; the highest cost among all means of promotion (per contact).

**Stimulating the sale of medicinal products** is a short-term incentive to encourage intermediaries and consumers to purchase medicinal products (discounts, product credits, support for regular customers, etc.). A special feature is: attractiveness of sales promotion measures in the eyes of intermediaries and consumers; motivation to make a purchase; impulsive character; short-term effect (these measures are not suitable for the formation of permanent loyalty to a certain brand of medicinal product); effectiveness in conjunction with advertising.

#### ***Factors determining the structure of the marketing communications system:***

↗ *x characteristics of the medicinal product or the market* . The effectiveness of drug promotion in the consumer market, the market of intermediaries and the market of government institutions is different. Manufacturers of over-the-counter medicines, as a rule, spend more money on advertising for the general public, primarily on television. Companies that produce prescription drugs, especially innovative ones, often allocate significant funds to the organization of personal sales ;

↗ *e tap of the life cycle of medicinal products* . At the stage of bringing the medicinal product to the market, communication efforts should be maximal. Formation of awareness of the drug and the pharmaceutical company takes place primarily with the help of advertising and "public relations". Sales promotion methods are useful for "pushing" doctors to approve the drug, and personal selling can be used to convince doctors of the feasibility of prescribing this drug to patients with a certain pathology and to encourage pharmacy specialists to undertake its implementation. *At the growth stage*, advertising and public relations continue to be important, and sales promotion can be reduced, as less incentives are needed at this stage. *At the stage of maturity*, the advertising campaign is carried out less intensively, and it has a reminder character, since the company's medicinal products are already well known to consumers. *At the stage of decline* , only sales promotion is actively used, and other components of the drug promotion system are sharply reduced, while sales promotion measures sometimes help to avoid a complete decrease in demand and even bring the drug to the stage of second maturity, but already at a lower level, which can be maintained for many years years In this case, we are talking about *the stage of revival* ;

↗ **drug promotion strategies.** The composition of the pharmaceutical company's communication complex largely depends on the choice of one of the two strategies for drug promotion. *The strategy of "pushing" drugs* (push strategy) involves intensive stimulation of the sphere of circulation for the promotion of medicinal products through sales channels. The pharmaceutical manufacturer actively imposes medicines on wholesale pharmaceutical companies. Those, in turn, actively work with the pharmacy network, the latter actively stimulate the sale of drugs to consumers. That is, in this case, personal selling and sales promotion measures aimed at intermediaries are most often used. *The strategy of "attracting" consumers to medicines* (pull strategy) involves significant spending on advertising and stimulating consumers to form their demand for specific medicines. If successful, consumers will begin to request these drugs from pharmacies, pharmacies - from wholesale pharmaceutical companies, and those, in turn - from drug manufacturers. That is, in this case, various advertising means, sales promotion measures aimed at consumers and a set of measures - merchandising - are most often used.

### **Advertising of medicines**

The most popular and widely used component of the marketing communications system is advertising. The advertising activity of a pharmaceutical company must be planned, and for this a number of decisions must be made, the main ones of which are the definition of the goals and objectives of advertising, the formation of its budget, the development of a strategy and the implementation of an advertising campaign, and the evaluation of its effectiveness.

#### ***Determination of goals, tasks and development of advertising strategy***

*The main goals* of advertising, as well as of the communication complex in general, are the formation of demand for a medicinal product and the stimulation of its sales.

#### ***The main tasks of advertising :***

- *informing* consumers (mainly at the stage of bringing the medicinal product to the market);
- creation of consumer *confidence* in the properties of the company's drugs (they acquire the greatest importance at the stage of growth);
- *a reminder* about drugs (expedient at the stage of maturity);
- *image formation* (corporate advertising).

***Advertising budget*** determined using various methods. Advertising costs vary significantly depending on the specifics of the advertised medicinal product.

The development of an advertising strategy involves: definition of the target audience; development of the medicinal product concept; choice of means of distribution of advertising; creating an advertisement.

*The target audience* is the addressee of advertising communication. Based on the difference between prescription and over-the-counter drugs, the target audience of advertising for the former is doctors and pharmacy specialists, and for the latter, end consumers.

The formation of an advertising strategy involves the development of *a clear concept of the medicinal product*, which will depend on both the choice of advertising means and the motives and arguments of the advertising appeal. At the same time, you need to answer the following questions: how is the medicine positioned on the market, at what stage of its life cycle is it, what is the main benefit from its use, what is its brand, packaging?

#### ***Selection of means of distribution of advertising of medicinal products***

In each case, the distribution of advertising is carried out taking into account different criteria. Let's consider the most important of them.

*Commitment of the target audience to the appropriate means of distribution of advertising.* For example, it is more effective to advertise an over-the-counter drug for pensioners in public transport, rather than in general business publications such as "Business", "Capital", etc.

When using television and radio, the time of contact with the mass media and the type of programs that attract the attention of the target audience are important. Yes, the majority of visitors to pharmacies of respectable age listen to the radio in the morning and watch TV programs in the

evening. Among the programs they watch, feature films and news programs have the highest rating. In turn, teenage drugstore visitors, in addition to feature films, prefer music and entertainment programs.

*Specificity of the medicinal product* . Thus, it is advisable to advertise medicinal products for the treatment of oncological diseases in specialized trade publications or using "direct mail", and medicinal cosmetics, over-the-counter contraceptives - in color magazines intended for women. In addition, it is taken into account whether the medicinal product belongs to prescription or non-prescription drugs, since advertising of the former should be carried out only in specialized printed media aimed at medical and pharmaceutical specialists, at medical (pharmaceutical) conferences, seminars, etc., and the latter - through the mass media.

*The cost of advertising* . If the firm has limited financial resources, this indicator can be decisive. It should be remembered that an important indicator when choosing an advertising medium is not the absolute, but the comparative cost of the address in it. Tariff rates per unit of advertising space do not characterize it sufficiently. The indicators of specific costs per 1000 copies of the advertising medium ( $E_{cir}$ ) and per 1000 people of the target audience ( $E_{sk}$ ), which are calculated according to the formulas, have a much greater analytical value :

$$E_{cir} = \frac{Tua}{Cir}, \quad E_{sk} = \frac{Tua}{Cir \cdot Sk},$$

where  $Tua$  is the rate per unit of advertising space, hryvnias;

$Cir$  – circulation, thousands of copies;

$Sk$  is the advertising circulation rate, which shows the average number of readers through whose hands one copy of a given advertising medium passes.

The advertising circulation rate  $Sk$  can be determined based on the results of a sample survey of the target audience using the formula:

$$Sk = \frac{\sum_{i=1}^m e_i}{k},$$

where  $\sum_{i=1}^m e_i$  is the sum of issues of a certain advertising medium read by  $m$  respondents during the researched period of time (for example, a month);

$k$  is the number of releases of the advertising medium for the same period.

## **Characteristics of individual means of advertising distribution**

### ***Advertising on television***

Advertising information broadcast on television channels plays an important role in the promotion of over-the-counter drugs on the market. In today's conditions, foreign pharmaceutical companies are the leaders in terms of investments in television advertising. However, large domestic manufacturers in the conditions of competition with foreign firms are also beginning to use this means of advertising, other, less powerful, companies are betting on the availability of drug prices for the Ukrainian consumer.

Advertising on television has a high level of perception and has a strong emotional impact on addressees due to the combination of image, sound, movement and colors; makes it possible to reach a wide audience. Disadvantages can be considered overloaded with advertising, fleetingness of advertising contact, rather low selectivity of the audience, high absolute cost (at the same time, the cost of one advertising contact is quite low due to a very large audience). It is also worth noting that, according to the survey of pharmacy visitors, a tenth of them, sometimes two-thirds, constantly watch TV advertisements, and the rest ignore the advertisements.

### ***Advertising on the radio***

Currently, this advertising is gaining popularity due to the appearance of a number of radio stations in the FM band, which compete with each other for advertisers. The positive properties of this advertisement include the mass audience, efficiency, low cost, and the ability to listen during

working hours, in the car. But at the same time, we note the limitation of only the sound presentation of information, the low degree of attracting attention, the fleetingness of advertising contact.

### ***Advertising in the press***

#### ***a) Newspaper advertisement***

It is characterized by high flexibility, efficiency, a large audience, good coverage of the local audience, a fairly low cost of one contact, etc. There are publications for the general public ("Postup", "Vysoky Zamok", "Fakty", etc.), general business (for example, the newspapers "Business", "Posrednyk", "Halytskyi Kontrakty") and professional ones (the weekly "Apteka", "Vash Aptekar", "Medychna Gazeta Ukrainy", etc.). Short-term existence, low polygraphic quality of reproduction of advertising material, insignificant audience of "secondary readers", placement of advertising information next to advertisements of other manufacturers can be attributed to disadvantages.

#### ***b) Magazine advertising***

For the general public of readers, it is used much less than newspapers, since a fourth of pharmacy visitors do not read magazines at all. Among popular magazines, publications aimed at a female audience have an advantage.

Advertisers prefer specialized trade magazines. Among them, publications of a scientific (for example, "Pharmaceutical Journal", "Lyky") and commercial nature are distinguished, which contain price lists of pharmaceutical enterprises along with scientific and informational materials. The latter include the magazine "Provizor", "Apteka Halytska", etc.

The positive properties of magazine advertising include high quality reproduction of advertising material, longevity of existence and a significant number of "secondary readers", prestige, credibility, high demographic and professional selectivity. The disadvantages are a rather high cost and a long time gap between the purchase of space in the magazine and the appearance of an advertisement.

### ***Direct advertising***

These are postcards, booklets, catalogs, branded publications that are delivered by courier or sent by mail ("direct mail") according to a specially compiled list. The main advantages are the highest selectivity of the audience, flexibility, the personal nature of the appeal, the absence of competitors' advertising in the addressed mailing, and the possibility of feedback. Disadvantages: relatively high cost, low efficiency of obtaining a positive reaction, lack of direct contact and stimulation of interest, mundane perception, difficulties associated with compiling accurate lists of recipients; a certain image of "waste" inherent in this advertisement.

***Outdoor advertising*** ( *advertising banners and billboards ; advertising on transport ; illuminated advertising ; advertising on balloons or aerostats* ).

Outdoor advertising is characterized by flexibility, high frequency of repeated contacts, moderate cost, low level of competition, specificity. Disadvantages include the lack of selectivity of the audience, limitations of creative nature, in particular the conciseness of the text, which makes it suitable mostly as a reminder advertisement.

### ***Advertising at the point of sale***

These are signs, shop windows, inscriptions, signs, attention-grabbing objects, advertising tablets, packaging, annotations, branded clothing, etc. The main task of such advertising is to stimulate "impulse" purchase. It requires special knowledge and skills in the design of shop windows and internal pharmacy displays .

### ***Print advertising***

***a) Advertising and catalog publications*** . These include advertising brochures, catalogs, booklets, postcards, posters, monographic and reference literature for medical and pharmaceutical specialists, theses and collections of works of scientific congresses, conferences, etc.

***b) Advertising and gift editions***. These are different types of calendars, notebooks, stickers, greeting cards, etc.

Print advertising serves as a reminder of the pharmaceutical company and its drugs. The main advantages of advertising and catalog publications are high selectivity of the audience, flexibility, specificity, personal character, completeness of information. Disadvantages include the need to use

graphics specialists, journalists and artists, as well as the fact that some collections of scientific works or theses of scientific and practical conferences are not always read even by their authors.

### ***Souvenir advertising***

These are various overprinted products (pens, folders, lighters, keychains, etc.) that remind potential consumers of the pharmaceutical company. A separate group of souvenir advertising consists of business gifts (cases, telephone sets, etc.) intended for the management of intermediary pharmaceutical companies and consumer organizations; they are delivered personally.

The positive properties of souvenir advertising include direct contact with customers, selectivity of the audience, assessment of immediate reaction. Disadvantages are the secondary nature, maintenance of the main purchase, unpredictability of the contact result.

### ***Advertising on the Internet***

An electronic version of the advertisement. Web pages are used for its placement, that is, any hypertext pages placed on the Internet by any user to attract the attention of the public with certain information.

A separate direction of Internet advertising is *electronic "direct mail"* with the use of special advertising and orientation mailing lists or teleconferences - a means of communication between network users interested in a common topic. If a small number of domestic pharmaceutical enterprises and educational institutions of higher education in the medical (pharmaceutical) direction have so far placed their Web pages on the computer network, then most subjects of the domestic pharmaceutical market have e-mail, which opens up new opportunities for advertisers.

The advantages of Internet advertising include the ability to work with the target audience, the likelihood of feedback, global nature (the ability to simultaneously communicate with potential partners and consumers not only on the domestic market, but also on the foreign market), cheapness, efficiency, minimal labor intensity at preparation of advertising materials.

The main drawback is the slowly growing number of contacts, high professional training and associated costs, a relatively narrow circle of advertising consumers, insufficient confidentiality of electronic "direct mail".

### ***Decision on the advertising request***

The mechanism of ideal perception of an advertising appeal is based on an algorithm: **attention** ⇒ **interest** ⇒ **impulse**, ⇒ **desire**, ⇒ **action**. An advertising appeal should, by inducing a need for a medicinal product, lead a potential consumer out of a state of equilibrium, to which return is possible only if the need is satisfied. Therefore, the effectiveness of advertising communication and the quality of feedback from potential consumers depend on the information contained in the advertising message. The complex of solutions regarding the advertising appeal covers a wide range of issues related to the creative process, namely: finding a form, deciding the structure and content of the appeal.

One of the tools used to attract the attention of the target audience is **the form of an advertising appeal**.

Depending on *the use of various combinations of elements*, the application form can be: *simple* - contains only the name of the company and the drug with a brief description of the properties of the latter; *artistic* - created using creative artistic elements; *popular science* - involving special terms or a scientist or demonstrating the effect of the advertised drug and its properties before, during and after its use; *mixed* - simultaneous use of the previously indicated forms in one appeal.

Depending on *the development methods*: *standard* - template, usual for the perception of the appeal, which does not require the use of any new techniques of creation and design; *non-standard* - the presence of factors of psychological action that have an additional impact on the addressees of advertising communication and ensure the necessary attention.

There can be very different stylistic solutions for a specific advertising appeal: the testimony of an average character in favor of the medicinal product; scenes from life; use of a symbolic character; "repulsion" from negative phenomena; the use of a hyperbolized sense of collectivism; a call to commit an act, etc.

Each advertising request has a certain **structure** , which, as a rule, consists of three main components: the title, the main text and background information.

*The title* is extremely important. It should attract the reader's attention with a true promise and stimulate the desire to read the main text. Quite often, the title is presented in the form of a slogan - a short advertising slogan, appeal, aphorism.

*The main text* bears the main burden in motivating the consumer and providing him with the necessary information. It is desirable that the text of the appeal be specific and complete. People are willing to read quite long texts if they contain the information they need, especially about medicines.

*Reference information* includes the address of the advertising company, its phone, fax, as well as fundamentally important conditions for purchasing the advertised drug.

*The effectiveness* of advertising communication and the quality of the addressee's feedback *depends* on its **content** , in which it is necessary to indicate:

- the full (including international pharmacological) name of the medicinal product and the name of the manufacturer;
- information on the use or application of the medicinal product;
- information on the conditions of storage of the medicinal product with the mandatory marking: "in places inaccessible to children".

To *achieve the maximum communication effect* in the content of the announcement, it is advisable to submit: data on the novelty of the medicinal product; selection of various items in its assortment; motivational relationship between the needs that the drug is designed to satisfy and its properties.

**Motives** that can be used *in advertising* are divided into three large groups:

- rational motives (motives to preserve or improve health, quality, validity , guarantees, benefits, etc.);
- emotional motives (motives of joy, freedom, pride, humor, self-realization, etc.);
- moral and social motives (appeal to a sense of justice and decency, protection of the environment).

Some experts use several motives in one appeal, others consider it appropriate to emphasize one most important motive.

### **Assessment of advertising effectiveness**

It can be done in two interrelated directions: assessment of communication effectiveness; evaluation of commercial efficiency.

The first involves measuring the number of consumers who received and remembered information about a pharmaceutical company's drug as a result of an advertising campaign. For this purpose, various consumer testing methods are used (regarding the quality and effectiveness of the advertising appeal, verbal associations that the appeal evokes, recognition of advertising, its memorization, etc.).

The assessment of commercial efficiency is aimed at establishing the relationship between the costs of advertising and the increase in the volume of sales of the medicinal product. One of the indicators is the advertising *payback ratio* (  $g$  ), which is determined by the formula:

$$g = M/L ,$$

where  $M$  is the profit received as a result of advertising activities;  $L$  - advertising costs.

In general, evaluating the effectiveness of an advertising campaign is a complex process, since the market success of a medicinal product is influenced by all four components of the enterprise's marketing mix.

### **Regulation of advertising of medicinal products for the population in Ukraine**

Article 21 of the Law of Ukraine "On Advertising" (edition of 2003) defines the peculiarities of advertising of medicines and medical products.

The provision of this article applies to advertising intended for end consumers.

*According to the Law, advertising is allowed only :*

- medicinal products that are approved for use in Ukraine;

- medicines that are dispensed without a doctor's prescription;
- medical products, the use of which does not require special knowledge and training.

It is prohibited to advertise medicinal products that are dispensed according to a doctor's prescription.

*Advertising of medicines and medical products must contain :*

- objective information about the medicinal product, presented in such a way that it is clear that the given message is an advertisement of the medicinal product;
- the full pharmacological name of the medicinal product and the name of the manufacturer;
- general precautions regarding the use of medicines and medical products;
- a recommendation on mandatory familiarization with the instructions for use attached to medicinal products.

*It is forbidden to indicate in advertisements about medicinal products and medical products :*

- data on therapeutic effects for diseases that are not amenable or difficult to treat;
- data that may give the impression that, under the condition of its use, consultation with a specialist is not necessary;
- data that the effect of its use is guaranteed;
- images of changes in the human body or its parts due to illness, injuries;
- statements that contribute to the emergence or development of the fear of getting sick or worsening one's health due to non-use of advertised medicines and medical products;
- statements that contribute to the possibility of self-diagnosis of human diseases, pathological conditions and their self-treatment using advertised medicines and medical products;
- references to medicines and medical products as the most effective, safest, exceptional in the absence of side effects;
- comparisons with other medicinal products and medical products in order to enhance the advertising effect;
- references to specific cases of successful use of medicines and medical devices;
- recommendations or references to the recommendations of medical professionals, scientists, medical institutions and organizations regarding advertised medicinal products and medical devices;
- special expressions of thanks, gratitude, letters, excerpts from them with recommendations, stories about the use and results of the advertised medicines and medical products from individuals;
- images and mentions of the names of popular people, heroes of cinema, television and animated films, authoritative organizations, information that may mislead the consumer regarding the composition, origin, effectiveness, patent protection of the medicinal product.

The participation of doctors and other professional medical workers, as well as persons whose appearance imitates the appearance of doctors, is prohibited in the advertising of medicines and medical products.

It is prohibited to include in the advertisement of medicinal products information that suggests that the medicinal product is a food, cosmetic or other consumer product, or that the safety or effectiveness of this product is due to its natural origin.

It is prohibited to refer to the fact that they have medicinal properties in advertising of cosmetics, food products, vitamin and other food additives, unless such properties are confirmed in accordance with the procedure established by law.

### **"Public relations" of a pharmaceutical company, personal sales and sales promotion of medicinal products**

#### ***"Public relations" (PR activity) of a pharmaceutical company***

This activity, aimed at creating a positive image of the pharmaceutical company in the eyes of the public, complements advertising and can be very effective. Despite the fact that "public relations" contains signs of advertising, there are differences from ordinary advertising activity and from the activity of a pharmaceutical enterprise in relation to public relations. The latter is not related



to immediate sale of medicines, it prepares future buyers with information, as it is focused on promoting not medicines, but the actual pharmaceutical company. And not on the market, but in society. For purposeful "public relations" activities public relations departments are created at large pharmaceutical enterprises.

" *Public relations*" functions are as follows:

- informative – information about the activities of the pharmaceutical enterprise, its capabilities, medicinal products;
- prestigious – creating a favorable impression about the company and its products;
- barrier - making it difficult for competitors to advertise their medicines, to enter the company's markets (without violating the law on unfair competition);
- pre-advertising – creating conditions and situations that facilitate advertising of the company's medicines;
- reminder – promotion of the company's trademarks, other elements of corporate style.

"Public relations" consists of two relatively independent areas: publicity (propaganda) and sponsorship.

**Publicity** is various unpaid, non-commercial forms of spreading positive information about a pharmaceutical company and its products through mass media or directly from the stage. The main publicity measures are as follows:

*in establishing and maintaining relations with mass media ;*

*on the part of company representatives in the work of congresses, conferences and seminars of professional or public organizations ;*

*Organization of various events by the company ;*

*Product promotion* is an activity aimed at popularizing a certain type of medicine or medical product, which for various reasons is not sufficiently recognized by the market, despite its positive properties (without specifying specific brands) ;

*lobbying* is a process of targeted search and establishment of relations with officials in order to influence the adoption of favorable decisions for interested pharmaceutical companies.

The second area of "public relations" activity is **sponsorship** , which can be considered as a system of mutually beneficial contractual relations between the sponsor and the subsidized party.

*Medicine and the social sphere* belong to the most popular objects of pharmaceutical sponsoring . Its directions:

- provision of humanitarian aid in the form of medicines to medical and prophylactic institutions, orphanages and homes for the elderly;
- financing the trip of medical and pharmaceutical specialists to European and world congresses;
- organization of subscriptions to specialized periodic medical and pharmaceutical publications for specialists;
- financial support of the mentioned publications;
- support of popular scientific television programs about health;
- support for student youth, etc.

Sponsorship is quite popular in the *entertainment industry*. Thus, the sponsorship of the intellectual television game "Brain-ring" by the Horli concern "Styrol" made it well known not only in Ukraine, but also in the near abroad.

Sponsorship is popular in the field of *sports*, which is connected with the mass audience of some of its sports. For example, the Bayer company is the owner of the well-known football club of the same name, and the GlaxoSmithKline company concluded a sponsorship agreement with the BMW Williams F1 team, which is a participant in the "Formula- 1".

Sponsorship in the field of *culture is also gaining popularity* - the same company Boehringer Ingelheim helps Ukrainian artists organize exhibitions of paintings abroad, finances the publication of calendars with illustrations from these paintings. In turn, the national pharmaceutical manufacturer "Darnytsia", CJSC "Hanza", the wholesale company "Darnytsia" and others act as patrons of theater projects.

***Personal selling***

This component of the drug promotion system simultaneously performs two *functions* : on the one hand, it is a means of communication, informing consumers about medicines and the company , on the other hand, it is the direct implementation of sales operations (if communication with the consumer ends with the sale of medicines).

*Subjects of personal sales are* : pharmacy specialists; sales staff of a pharmaceutical enterprise; medical or sales representatives of a pharmaceutical company.

*In organizational terms*, personal selling can be carried out in the following forms:

- a medical representative or a pharmacy specialist contacts one doctor;
- a medical representative conducts a presentation for a group of doctors;
- the sales representative contacts one buyer;
- the sales representative conducts presentations for a group of buyers;
- the sales group contacts the group of buyers (commercial negotiations);
- conducting training seminars by representatives for doctors of one or more specialties, pharmacy specialists or employees of the pharmaceutical company-buyer on issues of application and progressive methods of promotion of medicines of the manufacturer-company.

*The work of pharmaceutical company representatives* is organized according to the following principles:

1. *Territorial* - the easiest way to build work. A representative with exclusive service rights is assigned to a certain territory.
2. *Product* - specialization of representatives in certain groups of medicines.
3. *Consumer* - specialization of the work of representatives for individual clients (wholesale firms, pharmacies, medical and preventive institutions, patients).

#### ***Stimulation of sales of medicinal products***

This component of the company's marketing communications system, aimed at *accelerating and strengthening the feedback of the pharmaceutical market* , usually has a short-term effect. Sales promotion (SP) can be used at any level of the drug distribution channel, that is, it can be *aimed at*: consumers; pharmaceutical intermediaries; the company's own sales staff.

The choice of the addressee of SZ measures depends on the chosen *strategy promotion of medicines* . If they use the "attraction" strategy, they stimulate consumers; if the "push" strategy is chosen, intermediaries are most actively stimulated.

#### ***Sales promotion measures aimed at consumers (treatment and prevention facilities and the population)***

- provision of free drug samples for an in-depth clinical study for doctors to evaluate their effectiveness, safety, advantages over analogues;
- presentation of new medicines (carried out by medical / sales / representatives) ;
- lotteries , contests, quizzes , the terms of participation in which are announced in specialized magazines or at exhibitions ;
- various price discounts (on the occasion of significant events, holidays; pensioners and other socially vulnerable groups; depending on the value of the remaining shelf life of the medicinal product; discounts for newspaper coupons , etc. );
- n support of regular customers ( in the form of providing a discount on the checks of this pharmacy, if they are collected for a certain amount , discounting) .

#### ***Discounting as a measure to stimulate pharmacy visitors***

To attract the attention of consumers, pharmacy chains (rarely individual pharmacies) use a **discounting system** . A discount card (or loyalty card ) in a certain way "ties" the consumer to the place of purchase, since its owner receives regular discounts on purchased medicines from the pharmacy. In addition, some discount systems provide small bonuses and gifts.

You can become the owner of a discount card as a result of:

- obtaining it during the opening of a new pharmacy or its separate structural unit;
- purchase of medicines for a certain amount (for example, 100 UAH) at once or for a certain period of time (for the amount of pharmacy receipts);
- cash purchase of the actual discount card.

It is worth noting that the discount system can become useless when it does not constantly maintain the consumer's interest in the place of purchase, does not improve and dynamically develop, since the constant level of the discount causes getting used to it and over time enables the consumer to switch to another pharmacy (provided that the discount rate will be higher in it).

In order to maintain the consumer's interest, cumulative discounts are more progressive.

According to one approach, this can be implemented through the "Regular pharmacy visitor" contest. At the same time, once a quarter in a pharmacy (pharmacy chain) among consumers who regularly bought medicines, winners are determined and prizes are awarded. Then, once a year, the "best buyer" is chosen among them, who receives a VIP card, for example, with a 10 percent discount on all medicines offered by the pharmacy chain. In addition, by agreement, other enterprises in the service sector can participate in the discount program of the pharmacy network, in which cardholders will also receive discounts for their services.

Another approach starts with an introductory discount (for example, two percent) that increases with each subsequent purchase. The higher the amount paid for the medicine during the calendar year, the bigger the discounts (3, 5, 7 percent, etc.) With the beginning of the new calendar year, the amount of the consumer's savings account is reset, but the discount percentage of the previous year is transferred to the current one.

***Sales promotion measures aimed at pharmaceutical intermediaries :***

- discounts on wholesale prices for large batches of purchased drugs;
- discounts for a larger quantity of purchased drugs (buying a large batch of drugs, the intermediary receives additional drugs for a certain amount for free);
- dispensing of medicines with deferred payment (commodity credits);
- premiums in the form of valuable prizes, trips abroad for the achieved level of drug sales ;
- contests and quizzes for pharmacy specialists, the terms of participation of which are reported in specialized magazines. It can also be a cut-off coupon, where the number of the invoice, according to which the drugs were received from the company, is indicated;
- joint advertising (cooperative advertising);
- increase in commission payments with long-term effective cooperation;
- assistance to pharmacies in the design of service halls, provision of free branded advertising media (posters, tablets, pennants, etc.).

***Measures to stimulate own sales staff:***

- rewarding the best employees;
- rewarding them with valuable gifts;
- granting additional vacation days to the best employees;
- allocation of vacation tickets, organization of tourist trips at the expense of the company;
- organization of specialist competitions with awarding of winners;
- expansion of the participation of the leaders in the profits of the pharmaceutical company;
- use of a wide arsenal of moral incentives (honorary titles, congratulations and thanks from management, etc.).

**Merchandising in pharmacies and specialized medical exhibitions**

These types of marketing communications allow *pharmaceutical companies to combine different methods of drug promotion* in a specific place for a certain period of time .

***General provisions of merchandising***

*Merchandising* is a set of communication measures aimed at increasing sales volumes by pharmacies and their separate structural subdivisions of drugs of a specific manufacturer, primarily over-the-counter drugs.

*The main goal of merchandising is* to increase the volume of sales of specific brands of over-the-counter drugs through their popularization on the basis of special measures for the placement and display of drugs, the design of sales points in pharmacies and their separate structural subdivisions.

***Subordinate goals of merchandising :***

- improving the positive image of the pharmaceutical manufacturing company;

- simplification of the purchase process;
- provision of amenities for pharmacy visitors;
- retention of regular customers and attraction of new ones.

### ***Basic principles of merchandising***

Merchandising begins with the design of the pharmacy's facade and its front showcase. At the same time, the fact that consumers walk mainly on the right side of the footpath (sidewalk) is taken into account. Therefore, it is necessary to determine which side, from the point of view of pedestrians, is the right. To do this, the prevailing pedestrian flows, the location of city transport stops, car parking spaces, large shopping and cultural centers, offices and enterprises are analyzed.

An important component of merchandising is the display of over-the-counter drugs in the service hall. The layout is the number of packages of the drug in the first row of the horizontal shelf. Particular attention should be paid to determining the volume of the layout, the length of which in each point of sale should be at least a third of a linear meter.

Laying out (placement) means:

- a) placement of trade marks of medicinal products on display shelves and racks depending on the type of pharmacy and location in the service hall;
- b) maintaining the volume and assortment of over-the-counter drugs;
- c) horizontal and vertical arrangement of production blocks;
- d) placing by borrowing the popularity of other brands (own drugs or competitor drugs);
- e) rotation of drugs depending on the expiration date.

When placing non-prescription drugs, the form of their implementation plays an important role: traditional sale over the counter or open form of sale, that is, self-service supported by professional consulting services. Merchandising works better in the case of the second form of sale of over-the-counter drugs.

When planning merchandising activities, it is necessary to remember that the majority of visitors to a pharmacy with an open form of sale:

- prefer to walk straight without turning to the right or left, but tend to look and take medicine on the right;
- stop after passing a third of the pharmacy;
- want to find the necessary medicine without traveling long distances and without turning back;
- when bypassing the pharmacy, turn left - counter-clockwise;
- avoid dark and poorly lit places.

The route by which customers bypass the pharmacy can and should be adjusted so that all areas of the service hall are visited with high frequency. This is achieved with the help of so-called charms, or "magnet drugs" (drugs that are most often bought by consumers).

### ***Characteristics of the locations of medicines in the pharmacy service hall***

Locations of drugs in the hall of open sales of drugs can be divided into two main categories - strong points and weak points.

*Strong points:* shelves on the right side in the direction of movement of customers; crossing rows of shelves; places with a good front view; space near the cash register; the extreme areas of a separately placed counter with shelves.

*Weaknesses:* shelves on the left side following the flow of customers; corners of the service hall; places near the entrance to the pharmacy.

Layout and decoration of the service hall depend on the type of pharmacy and its location and turnover, the possibilities of the hall itself, the corporate style of the drug manufacturer and its promotions, the activity of competitors and the attitude of consumers.

### ***Criteria for placing medicines on the shelves of the service hall***

Taking into account the behavior of buyers, the following areas on the shelves can be distinguished:

- strong horizontal areas: in the center of the shelf or in the center of the drug group, closer to the right edge;
- weak horizontal areas: to the left of the center of the shelf or side section of the drug group;

- strong vertical sections: at eye level and at chest level;
- weak vertical areas: at the level of the waist and below, above the head (to take the medicine, the buyer must bend down or reach to the location of the medicine). Over-the-counter drugs that are easy to see, easy and convenient to take off the shelf are the most attractive to the buyer.

*Among the basic rules, it is customary to single out the following criteria for placing medicines on the shelves:*

*by level* - in the form of vertical blocks, at eye level, one level below or above the eyes, the lowest level is better not to use ;

*level (on the shelf)* - at arm's length , from left to right by package size and color : from small to large , from light to dark ; less well-known drugs are placed inside the descriptions of popular brands of analogue drugs ;

*according to the size of the packages* - small ones at the top, large ones at the bottom ;

*among competing drugs* - next to drugs that are in high demand (to borrow popularity); away from drugs that are characterized by low demand; by themselves ;

*duplication* - repetition of the same position of the medicinal product in a merged series ;

*availability* - according to the expiration date, according to the integrity of the packaging.

Placing advertising materials at points of sale is an equally important part of drug promotion in the pharmacy. Advertising materials must:

- a) be located directly near the places of sale of the drug or on the way to it;
- b) be appropriate and not cause surprise or irritation to visitors to pharmacies;
- c) be clearly visible to a potential buyer;
- d) be relevant, because the materials of a certain advertising campaign work only for a limited time.

#### ***Procedure for preparing for participation in a specialized medical exhibition***

Participation in specialized medical exhibitions ensures the formation of the image of the pharmaceutical company, public opinion about it, as well as the possibility of mass contacts with potential consumers in a short period of time. Preparation for participation in the exhibition is a complex, multi-stage process.

*The first stage of preparation* for the exhibition includes: selection of the level of conduct ( capital or regional ) ; analysis of the time and place of the medical exhibition, rating of its organizers and information sponsors; determining the goals to be achieved at the medical exhibition: does it represent the market in which the company is interested.

The goals of a pharmaceutical company's participation in a medical exhibition can be: increase in the volume of sales as a result of attracting new and retaining existing customers; promotion of new medicines; maintaining the image of the pharmaceutical company on the market; supporting local intermediaries by including their materials in the exhibition; marketing research - study of buyers and competitors; motivation of own staff, acquaintance with new or possible employees, etc.

*The next stage is the planning of participation* , namely: determination of the exposition of the exhibition and the plan of the stand, the selection of an advertising agency for its design; preparation of a list of partners who should be invited to the exhibition on behalf of the company ; distribution of duties between performers.

*The most important stage* of preparation is *the drawing up of an estimate* , in which the following cost items must be taken into account: the cost of renting an exhibition space; costs for the production, installation and design of the stand; the cost of purchasing (renting) exhibition equipment; expenses for work with exhibition visitors; costs of personnel training and maintenance; Other expenses.

When *selecting and preparing personnel* for a medical exhibition, considerations of both professional qualifications and personal qualities of employees are guided, namely: high professionalism, ability to communicate and adapt to circumstances, resourcefulness, well-spoken language, experience of working at exhibitions, good health. It is necessary to remember that the appearance and behavior of employees is a direct advertisement of a pharmaceutical company, a means of forming public opinion about it. Therefore, if there are sufficient funds, it is worth inviting an image maker to implement this stage.

*The final stage* of preparation for a medical exhibition is *the selection of means* of attracting the attention of visitors. Including:

- direct address advertising (invitation cards, invitation brochures, entrance tickets);
- external advertising (advertising boards, banners, balloons at the entrance to the betting complex and inside it);
- advertising at the point of sale (stand design, inscriptions, signs, objects that attract attention, advertising tablets, packaging, annotations, branded clothing, etc.);
- printed advertising (advertising brochures, catalogs, booklets, postcards, calendars, notebooks, stickers, etc.);
- souvenir advertising (various products with branded overprint, business gifts);
- "public relations" (showing a video film about a pharmaceutical company and its drugs, conducting press conferences, scientific seminars by the company during the exhibition, sending out press releases, preparing articles about the company and its drugs in specialized periodicals that are planned to be published, information sponsors or exhibition organizers, etc.);
- personal selling (providing consultations, conducting negotiations, concluding agreements);
- sales promotion (presentation of a new medicinal product, lotteries, contests, quizzes, theatrical performances, free distribution of self-produced over-the-counter drugs).

*Control of the results of participation* in the exhibition covers the following components: determining the amount of expenses; determination of the amount of concluded agreements; summarization of data on visitors' record sheets (records of conversations); comparison of the composition of visitors to the stand with the target groups of the company's medicines, with data from last year's exhibitions, with the results provided by the organizers of the exhibition; summarizing the results of the survey of exhibitors conducted by the compilers; analysis of competitors' behavior; analysis of one's own exhibition participation (estimation of stand placement, qualification and level of staff, discussion of the exhibition with staff, exchange of impressions); summarizing media materials devoted to the exhibition.

*The effectiveness* of participation in a medical exhibition can be evaluated by analogy with the evaluation of the effectiveness of advertising.

### **Materials on the activation of students of higher education during the lecture:**

#### **question:**

1. Communications in management.
2. The procedure for advertising over-the-counter drugs.
3. The most popular TV commercials for medicinal products.
4. The main specialized medical exhibitions in Ukraine.

#### **General material and educational and methodological support of the lecture:**

- multimedia projector;
- educational platform ( MS Teams) ;
- presentation;
- illustrative material on the topic;

#### **Questions for self-training:**

1. What are the goals of the communication policy of pharmaceutical enterprises?
2. What are the characteristic features of the components of the marketing communications system?
3. What are the factors that determine the structure of the marketing communications system?
4. How are goals, objectives and strategy developed?
5. How are the means of distribution of advertising of medicinal products chosen?
6. What are the characteristics of advertising on television and radio?

7. What are the characteristics of advertising in the press?
8. What are the characteristics of other means of advertising (direct address, outdoor, point of sale, print and Internet advertising)?
9. What is the essence of the decision regarding the advertising request?
10. How is the effectiveness of advertising evaluated?
11. What are the peculiarities of regulating the advertising of medicinal products for the population in Ukraine?
12. What is the essence of "public relations" of a pharmaceutical company?
13. What are the main directions of publicity in pharmacy?
14. What are the main directions of sponsoring in pharmacy?
15. What is the essence of personal selling?
16. What sales promotion measures are aimed at consumers?
17. What are the features of discounting as a measure to stimulate pharmacy visitors?
18. What sales promotion measures are aimed at pharmaceutical intermediaries?
19. What are the measures to stimulate your own sales staff?
20. What is the essence of merchandising? Its basic principles.
21. What are the characteristics of drug locations in the pharmacy service hall?
22. What are the criteria for placing medicines on the shelves of the service hall?
23. What is the procedure for preparing for participation in a medical exhibition?

**List of used sources:**

1. Basics of management and marketing in pharmacy: Teaching method. manual for higher med. (Pharm.) Institutions / Comp. N.M. Kosyachenko, V.P. Gorkusha et al. — K., 2018. — 49 p.
2. Management and marketing in pharmacy. Educational method. manual / comp. O.H. Chirva, O.V. Harmatyuk; MES of Ukraine, UDPU. – Uman: Visavy, 2018. – 217 p.

**Lecture #10**

**Topic: Marketing research and information. Marketing control.**

**Relevance of the topic:** In order to determine its place in the market, a pharmaceutical company must carefully analyze it, which will allow an effective management decision to be made. Therefore, studying the principles of marketing research of the pharmaceutical market and the behavior of drug consumers is important for the formation of a pharmacist and his practical work.

Without information, the process of managing an enterprise or firm is impossible; information is a means of reducing the uncertainty inherent in market processes. Information is the most important resource in marketing, which provides a strategic advantage of the company over competitors. When it comes to marketing, the division of information into "marketing information" and "information used in marketing" is inappropriate for the simple reason that for a marketer any information and messages, starting from statistically based data on the development of a particular market, are valuable and ending with various rumors that may affect the sale of a certain product.

**Purpose:** to reveal the essence of marketing research and the study of consumer behavior as, first of all, the intellectual activity of an energetic and proactive person; to form a professional view of marketing research technology; highlight the socio-ethical aspects of studying drug users and modeling their purchasing behavior on the pharmaceutical market.

**Basic concepts:** research, information, office research, field research, secondary information, primary information.

**Plan and organizational structure of the lecture**

1. Organization of the marketing research process.
2. Technology of marketing research of drug consumers.

3. Study of buyer behavior in the consumer segment of the pharmaceutical market.
4. Modeling the purchasing behavior of a consumer organization on the pharmaceutical market.

### **Content of lecture material (lecture text):**

#### **Organization of the marketing research process**

*Marketing research* is a system of collecting, processing and analyzing informative data about the situation on the market with the aim of reducing the risk of entrepreneurial activity and making accordingly justified marketing decisions.

#### **Classification of marketing research**

According to **the purpose of conducting** marketing research, they are divided into those aimed at solving an existing problem, and those related to issues of forecasting, planning or analysis of current activities. Marketing research to solve the existing problem is research related to solving the issues of sales of medicinal products, insufficient demand for medicinal products and medical products, etc. If the goal is forecasting, then this is marketing research aimed at determining the level of demand, prices, etc. Planning is understood as marketing research related to such an aspect of activity as the development of the concept of a new drug or medical product. The analysis of current activities involves the study of the image of the pharmaceutical enterprise, its position on the market, market opportunities, etc.

According to **the direction of conducting** marketing research, it can refer to market research, consumer behavior research, drug research, research of environmental factors, etc.

By **subject** - marketing research, which is conducted either by the marketing service of a pharmaceutical enterprise, or by specialized marketing (consulting) organizations. Among the latter: marketing research firms specializing mainly in the collection of market information; research economic institutes; advertising agencies; industrial and trade unions, national professional associations (for example, the Association of Pharmacists of Ukraine); Chamber of Commerce and Industry of Ukraine and its regional branches. Collect important market information, which belongs primarily to international trade; market research consultants (experts); information brokers are specialists who search for, buy and analyze market information for interested enterprises.

By **subject of** research (depending on the chosen direction) – marketing research of advertising, price, distribution channels, company image, competitors, suppliers, market share, market opportunities, study of the concept of a new drug or medical product, etc.

According to **the frequency of conducting** - one-time marketing research, repeated, that is, when the first research reveals new opportunities for the pharmaceutical company or if it is necessary to solve a new problem that has arisen before the pharmaceutical company, as well as repeated research (for example, panel research), which can be both periodic and non-periodic.

**The duration of the event** is up to one week, from one week to one month; one or two months; two to six months; more than six months.

By **type of research** – exploratory, descriptive or experimental (causal) research. Exploratory research is marketing research that is conducted when little is known about the problem that has arisen and it is necessary to specify the goals of the research, as a result of which hypotheses are formed, which can be verified by conducting descriptive research, after which, if necessary, cause-and-effect relationships are studied connections between the factors under investigation.

Marketing research is also divided by **methods of conducting**, in particular:

- *by applying methodological techniques* from various fields of knowledge: *general scientific* (system analysis, complex approach, program-target planning; economic-statistical; economic-mathematical); *analytical* (linear programming, network planning, mass service theory, probability theory, expertise); *sociological*; *psychological*; *design*; *ecological*;

- *according to the nature of conducting* marketing research is divided into qualitative and quantitative. *Qualitative* implies that the approaches used in the research process are not set out in digital form and are not separate from the person conducting the research, when intuition, previous experience, creativity and imagination dominate, that is, they are subjective. Qualitative methods include the method of sociological research, the method of document analysis, and expert methods.



With *quantitative methods of* (economic-mathematical) research use a representative sample of the population or target group;

- *by the method of conducting* (conducted only by a person without the use of technical means, only with the use of special devices or those conducted by a person using certain technical means);
- *by stages of implementation* (in particular, methods of data collection, methods of analysis of the received information);
- *by technology* (development of tools for data collection, organization of sampling, development of measurement methods, forecasting methods).

### **Basic principles and stages of the marketing research process**

Conducting marketing research requires compliance with certain principles, which will guarantee the effectiveness of its conduct. Such basic principles include: systematicity; complexity; economy; efficiency; reality; precision; objectivity; regularity.

Defining the problem and formulating research goals is of primary importance in the process of marketing research. **Research goals** can be:

- *exploratory*, that is, they should involve the collection of certain preliminary data, on the basis of which a hypothesis can be developed;
- *descriptive*, i.e. should include a description of a certain problem (phenomenon);
- *experimental*, i.e. should involve testing the hypothesis about a certain cause-and-effect relationship between the studied phenomena.

In the vast majority of marketing research, after processing and analyzing secondary information, they proceed to *the collection of primary data*.

Secondary and primary information have certain positive and negative properties: At the second stage, analysis of marketing information collected from internal and external sources is carried out. There are two types of such information:

- **secondary** - information that is the result of other research or collected for the implementation of some other tasks. Its advantages: low price; accessibility; promptness of receipt; the ability to compare data from these sources; availability of data that sometimes cannot be obtained independently. Its disadvantages: incompleteness of data; non-guaranteed reliability of information from some sources; the presence of outdated data is possible; possible inconsistency of data from different sources; the methodology of data collection and processing is often unknown;

- **primary** – collected specifically to achieve the specific goal of this research. Its advantages: it is collected for the specific purposes of this study; the data is not out of date; the data collection methodology is controlled by the pharmaceutical company; access to research results for competitors is limited. Its disadvantages: data collection takes a lot of time; requires significant expenses; not all information can be collected in this way; in case of insufficient level of qualification of researchers, the information may be inaccurate.

Research usually begins with the collection of secondary information. This stage is called "office" research. Secondary information can be collected from *internal* and *external sources* .

*Sources of internal secondary information:* financial and statistical reporting of the pharmaceutical enterprise; sales data on drugs and markets; customer accounts; data from previous studies, etc. *Sources of external secondary information :* publications of state institutions, in particular directories, statistical reviews; periodicals, books; commercial information sold by commercial research firms.

Today, secondary marketing information can be obtained, in particular, from the following sources: statistical directories "Ukraine in Figures" and "Statistical Yearbook of Ukraine"; periodicals "Provizor", "Ezhenedelnyk "Apteka", "Apteka Halytska"; data of the pharmaceutical marketing group of the company "Business Credit", Kyiv; a series of reference catalogs of the countries of Western and Eastern Europe, the Baltic States, the CIS, the series "Business Ukraine", "Western Ukraine business"; the "Golden Pages of Ukraine" series; reference and information fund of the Chamber of Commerce and Industry of Ukraine; "Internet" system.

When studying *secondary information*, it is necessary to make sure of its relevance (relevance to the goals of the study), reliability (that is, that it was properly collected and processed), relevance

(that is, that the information is modern enough to make a management decision) and objectivity (that is, the principle of impartiality was observed during its collection and processing. Secondary data are often the starting point for research and help to clarify the problem and determine the goals of the study. However, in most cases, secondary data cannot provide all the necessary information and the pharmaceutical company must collect primary data.

In the process of collecting primary information, *the object of research, costs and its duration are determined*, as well as *who will conduct marketing research, methods and methods of collecting information and presenting current data*.

The high complexity of primary data collection requires careful preparation. *The primary information collection plan should at least define*: research method; the principle of sample formation; research tools; a way of communicating with the audience.

The stage of analysis of the received and grouped information involves the implementation of its distribution and systematization according to certain characteristic features and the analysis of data according to individual elements of the "horizontal" study of the problem using statistical, logical and sociological approaches.

Summarized summaries and results of analytical studies of individual elements and sections of the investigated problem are combined by spheres and directions. The results of marketing research are drawn up in the form of a report. On the basis of the obtained results, proposals are developed for the improvement of the sales system, product flow, drug pricing, trade, advertising, expansion of the product range, after-sales service and other measures that are included in the package of documents aimed at improving and increasing the efficiency of the production and commercial activities of the pharmaceutical company.

### **Technology of marketing research of drug consumers**

Primary information is the most valuable for setting up a marketing research system. The main **methods of collecting primary information**:

**The survey** is the most important method of collecting, grouping and delimiting an informative data bank. It involves clarifying the positions of people, their views on certain problems based on their answers to previously prepared questions. Types of survey are:

- *in-depth interview* – an informal personal conversation to reveal the hidden, true attitude of the respondents to the chosen topic (to study the consumer's behavior, his reaction to the design or advertising of the product through the consumer's answers to a number of questions on the researched topic);
- *the focus group method* is a one-time survey of several experts to discuss a specific problem;
- *the "Delphi" method* is a group expert assessment carried out in several stages.

Sometimes it is not enough to conduct a market study once. Then apply:

**"Omnibus"** is a regular study of the opinions of a large number of respondents, conducted, as usual, once a month (sometimes less often);

**"Panel"** is repeated collection of data in one group of subjects at equal time intervals. Most often they use: a) trade panel (especially the retail panel); b) consumer panel (end consumers or consumer organizations).

The *advantages* of the survey include: direct contact with the consumer, flexibility of the communication system and influence on the communicator, the possibility of variation, adjustment of the depth and importance of individual elements of the survey, low costs. *Disadvantages* include: large expenditures of time and money for the training of interviewers, limited amount of information transmission (mail, telephone, "Internet"), lack of influence on the reaction (electronic-computer network), relatively low effectiveness of measures.

**Observation** — an analytical method by which the researcher studies the behavior of consumers and sales personnel; sometimes he behaves as a participant in events (active observation). Observation can be *natural*, conducted in real conditions, and *laboratory*, conducted in artificially created conditions; *overt*, when the subject of observation knows that it is being observed, and *covert*

, when the subject does not know that it is being observed. The latter is divided into *direct* - the observer simulates entering the environment under investigation and observes as if from the inside, and *indirect* - the observer registers events "from the outside" and does not take a direct part in the observation process.

**An experiment** is a method by which it is possible to find out the response of the studied group of people to certain factors or their change. The purpose of the experiment is to establish cause-and-effect relationships between the studied variables by testing the working hypothesis. An experiment is one of the most important ways to obtain information from a drug trial in the market environment among potential consumers. For this purpose, a socially homogeneous group that models a certain segment of the market is selectively selected, changes are monitored, and the degree of significance of the observed differences is established. With proper control, this method gives the most reliable results.

One of the varieties of the experiment is **simulation modeling** - a special method of gathering information using a computer, in which a simulator model is formed and exposed to various factors of influence not in real market conditions, but in the electronic "brain" memory of the machine.

Observation is best suited for exploratory research, experiment and simulation are used to identify cause-and-effect relationships, and surveys are used for descriptive research.

The most common method is *a survey*, which is used in approximately 90% of marketing research.

When preparing a survey, it is very important to correctly determine the *sample of respondents*. The application of a questionnaire involves the organization of a sample of respondents. The required sample size *n* is determined by:

*at re-selection* :

$$n = \frac{t^2 \delta^2}{\Delta x^2} ;$$

*with unrepeatable selection:*

$$n = \frac{t^2 \delta^2 N}{\Delta x^2 N + t^2 \delta^2} ;$$

where *t* is the confidence coefficient, according to a certain level of probability;

*N* is the volume of the general population;

$\Delta x$  is the maximum permissible sampling error (defined as the product of the average sampling error by the confidence coefficient);

$\delta^2$  - the value of dispersion (can be borrowed from previous similar studies or a special survey of a small number of units of the population must be conducted).

The most common tool for collecting primary data is **a questionnaire**. In a broad sense, a questionnaire is a list of questions ordered in terms of content and form, to which the respondent must give answers. A questionnaire is a fairly flexible tool for data collection, as questions can be asked in different ways, but it needs to be carefully designed.

Questionnaires use *two types of questions* : open and closed. *An open question* gives the respondent the opportunity to answer in his own words. The answers to them contain more information, but are more difficult to process. Open-ended questions are especially valuable when they are exploratory. *Closed question* contains all possible answer options and the respondent simply chooses one of them. Answers to closed questions are given that are easier to interpret and tabulate.

Forms of closed questions can be different. The most common of them are *alternative questions* (assuming the answer "yes" or "no") and *questions with a selective answer*. Quite often, researchers use all kinds of scales, in particular, *rating scales* (ordinary, special, and rating scales).

**Common scales** include : *nominal* (take into account only the simplest relations between objects), *ordinal* (take into account the ratio of the type "more" - "less"), *interval* (when the ratio between the numerical values of the indicators corresponds to the same ratio of differences between real objects) and *relative* (similar to interval, and in addition, also have a zero value of the indicator)

scales.

**special** : *Likert scale* (the respondent determines the degree of agreement with the proposed statement and dials a value from 1 to 5), *semantic differential* (the respondent determines his position on the scale from a set of polar statements).

The **rating scales** include: a *graphic rating scale* (respondents indicate their ratings by marking the necessary point on the line connecting the two extreme values of the studied parameter), a *dotted rating scale* (respondents choose their ratings from a finite number of categories of the studied parameters) and a *comparative rating scale* (research participants present theirs as a series of relative, rather than independent, separate assessments).

#### **The method of communication with the audience**

When drawing up a plan for collecting primary data, you should determine **the method of communication with the audience** . It may be:

- *Telephone survey* –the most efficient and cheapest way of collecting information. However, you can interview only those people who have a phone. In addition, the telephone interview should be short and not too personal.

- *A postal survey* –is the best method of contact with a respondent who does not agree to personal contact or whose answer can be influenced by the interviewer. A postal questionnaire needs simple, clearly stated questions. Her return rate is, as usual, low, and these questionnaires are coming in slowly.

- *Personal survey* –the most versatile, but also the most expensive of the three survey methods. If necessary, the interviewer can ask more questions than provided by the questionnaire and supplement the interview with personal observations.

- *Internet sites* are the most modern and relatively inexpensive method of gathering information. The main part of the population does not use Web services. Users of computer networks are more educated, wealthier and younger than average consumers. Surveys in dialogue mode and in chat rooms (or interactive focus groups) are successful in finding approaches to "elusive" people: teenagers, singles, wealthy and highly educated audiences.

None of the contact methods is optimal. The choice depends on the required information, costs, urgency, etc.

#### **Study of buyer behavior in the consumer segment of the pharmaceutical market**

Individual consumers mainly differ from each other in taste, level of education and income, age, gender. Of course, it is impossible to analyze the behavior of all buyers of the consumer market separately.

*The task of pharmaceutical marketing consists in studying the influence of factors on narrow market segments and creating the most typical picture of such influence* . Consumer behavior is influenced by psychological, personal, socio-cultural factors, factors of situational influence, as well as the marketing complex of the manufacturer of a certain medicinal product.

**Psychological factors** take into account the fact that a person is not a machine, and it is impossible to expect an unequivocal response from him. Therefore, it is necessary to take into account her *motivation, perception, assimilation of information, development of certain beliefs and attitude* towards the purchase.

**A motive** is an immediate reason that prompts a buyer to take action. Motives are of two types: rational and emotional.

*Rational motives* include : the motive of economy (the desire to save money when buying); motive of medicinal product quality; motive of health, safety and security, etc.

*Emotional motives* include the following: the motive of joy, fantasy, sensuality; the motive of superiority over others; striving for individuality and self-realization, etc.

**Personal factors** significantly influence consumer behavior . A person's tastes can change during life. Therefore, it is important for marketing specialists to consider *the average age* of the target group of consumers and their *family status*. *The profession and level of education* also influence the needs of the consumer . *The level of income* determines the consumer's ability to purchase the

drug.

Personal factors also include a person's *way of life*, which to some extent is determined by his belonging to a certain *type of personality*. The division of people by personality types into choleric, sanguine, phlegmatic and melancholic is widely known.

The consumer's behavior when buying a medicinal product is mainly determined by factors of **socio-cultural influence**. In particular, medical and pharmaceutical specialists have a significant influence due to the trust of consumers in their professional experience, as well as reference groups. **Reference groups** are groups of people who directly or indirectly influence consumer behavior.

The so-called *member or primary collectives*, which include friends, neighbors, colleagues at work, influence a person through personal contact or direct influence. Different types of social organizations belong to *the secondary collectives* and indirectly influence consumer behavior.

A person is a member of a large number of social groups. Her position in each of them is evaluated from the point of view of *role and status*. For example, a forty-year-old man can be a son and a father, be in a chess club, be a member of the Prosvita society, hold the position of deputy director of an enterprise, etc. Intertwining, these roles determine a certain status of a person in society.

It is also important to find out to which social classes the representatives of the target market belong. **Social classes** are fairly stable groups within society, which are characterized by the presence of homogeneous values, interests, and behavior patterns among their members. Representatives of a certain social class prefer certain drugs, means of information for their advertising and a certain type of advertising.

The purchasing behavior of the consumer is also determined by the level of cultural development in the society. **Culture** is the root cause that determines human needs and behavior. The behavior of an individual is the property and result of education. The child learns a basic set of values, perceptions, priorities, and manners inherent in his family and society in general.

Causative factors that determine consumer behavior include **factors of situational influence** :

*changes in the macro environment*, in particular the economic situation in the country, the level of scientific and technical progress, changes in forms of ownership, etc.;

*changes in the circumstances of the consumer*, in particular changes in his financial condition, changes in the price of this medicinal product, the need for another purchase, changes in the consumer's mood, etc.;

*the atmosphere in the pharmacy, the actions of other consumers*, which can both stimulate the act of purchase and oppose its implementation.

In general, the factors that influence the purchasing behavior of the consumer can be divided into two groups: **controlled and uncontrolled** by the pharmaceutical company. Psychological, personal, socio-cultural factors and factors of situational influence are beyond the control of the pharmaceutical company. They must be constantly researched and taken into account in the enterprise's marketing program. When developing a **marketing mix**, marketing managers adapt it to the needs of the target group of consumers.

### **The process of making a decision to buy an over-the-counter drug**

The initial stage of this process is **the awareness of the need** and the transformation of a person's desire into a motivating motive for his future action. The greater the intensity of the need (severe headache, high fever, etc.), the stronger the consumer's desire to satisfy it.

At the stage of **gathering information**, the consumer becomes more attentive to the information that is related to the satisfaction of his needs: purchases made by friends, newspaper ads, conversations about medicine, etc. If the need becomes more intense, a person turns to active searches for information. For a marketing manager, it is extremely important to identify those sources of information that a potential consumer will turn to. Such sources can be mass media, recommendations from doctors, pharmacy specialists, friends, neighbors, acquaintances, etc. This stage of the process of making a decision on the purchase of a medicinal product is cognitive in nature. Next, taking into account the consumer's own knowledge and experience, the emotional and psychological perception

of information takes place.

The decision to purchase is preceded by a comparative **evaluation of options** . It contains an assessment of the properties of an over-the-counter drug and identification of the primary importance of beneficial properties for the buyer. Preference is given to the medicine that best meets the specific needs of the consumer. At the same time, the decision to purchase a medicinal product can be *adjusted by unforeseen factors of situational influence* , which were considered earlier.

The study of the purchase decision-making process does not end with the analysis of the drug purchase stage. The marketing manager is interested in the subsequent **reaction of the buyer** to the purchase. After purchasing an over-the-counter drug, the consumer either feels satisfied or not. It depends on how well the purchased medicine meets the buyer's expectations. A satisfied consumer will continue to buy this drug. In addition, a satisfied consumer plays the role of excellent advertising for both the individual drug and the company in general.

In addition, when studying the behavior of consumers on the pharmaceutical market, it is worth studying the state of consumer activity in relation to specific drugs. To quantify this phenomenon, an indirect coefficient of consumer activity is proposed. It is understood as the ratio of the frequency of mention of a separate indicator of activity to the total sum of mentions of all indicators of this group (determined on the basis of a survey of expert pharmacists who order and sell drugs to the public).

The mathematical interpretation of the coefficient has the following form:

$$Kca = \frac{fm_i}{\sum_{i=1}^n fm_i}, \text{ where}$$

$Kca$  - coefficient of consumer activity;

$fm_i$  – the frequency of mention of a separate activity indicator;

$\sum_{i=1}^n fm_i$  - the sum of mentions of all indicators of this group.

### **The process of making a decision on the prescription of prescription drugs by a doctor to end users**

Although the consumers of medicines are patients, doctors are of decisive importance in the formation of demand for them, since most of the medicines belong to prescription drugs. Therefore, it is important for marketing managers to understand what stages the process of prescribing drugs to the end user consists of.

**Awareness of the need** for medicines begins with establishing (confirming) the diagnosis and studying the medical history. Information about the patient comes to the doctor through an interview and in the form of clinical and laboratory data, as well as medical history data. The doctor analyzes and evaluates the indicated information array, plans the diagnostic and treatment process. Material and technical support of the diagnostic process and, especially, the qualification of the doctor, his ability to turn the patient's subjective feelings into reliable information about his health are of great importance here.

**Information search** . During the treatment process, the doctor adheres to the standards of medical care for patients with a specific nosology of the disease, which requires the inclusion of long-known drugs that have been tested by medical practice. However, the pharmaceutical market, in particular the domestic one, is developing at the expense of new original drugs and information about them to the doctor and the formation of new technologies of the treatment process. The sources of information are the means of the system of scientific information about medicinal products and systems of marketing communications.

The next stage of decision-making is **the evaluation of the possibilities of satisfying the treatment process** . When selecting drugs, the doctor takes into account the stage of the disease, its complications, individual susceptibility to individual drugs, the patient's presence and nature of concomitant diseases and risk factors. During the stay of the patient in inpatient treatment, the doctor

establishes the availability in the medical and preventive institution of the drugs planned for the appointment. In case of lack of necessary medicines in the hospital, the issue of their purchase is resolved. At the same time, the presence of the specified drugs is established in the List of drugs of domestic and foreign production that can be purchased by health care institutions, fully or partially financed from the state or local budgets, or in the formulary list, if it is prepared in a hospital.

The volume of budget allocations is also important for the medical support of the treatment process in the hospital, the limitation of which leads to a situation where the patient (or his relatives) is forced to buy the necessary medicines at his own expense, despite state guarantees for providing medical care free of charge. The level of the patient's (his family's) ability to pay is of great importance when the doctor assesses the possibility of satisfying the treatment process in outpatient clinic conditions. The patient's psychological and personal factors play not the least role, since many diseases require long-term and persistent treatment and, accordingly, are accompanied by the patient's addiction to certain medications.

After weighing all the factors, the doctor **makes a decision to prescribe a medicinal product**, which may be associated with both the risk of side effects and complications for the patient, and the risk for the doctor's authority among patients and colleagues. **Psychological factors of the doctor** are important when making a decision. In order to understand the motives of the doctor's behavior, it is necessary to find out which group he belongs to according to the time of drug reception: pioneers (pioneers), adepts (early followers), early imitators (early majority), late imitators (late majority), outsiders (laggards).

Pioneers are doctors who know as much about a new drug as their colleagues, but due to the nature of the innovator, they are the first to prescribe this drug. Adepts or early followers are doctors who start prescribing a new drug under the pressure of their own ego after careful analysis of advertising and informational data and the results of the use of the drug by the innovator doctor. Early imitators (the early majority) are physicians who prescribe a drug after several years of persuasion, and late imitators (the late majority) are physicians who begin using the drug after years of successful use by colleagues. Outsiders (laggards) are doctors who are characterized by stereotypical thinking and start prescribing a medicine after it becomes traditional.

The next step in the decision-making process on the part of the doctor is **to write a prescription and consult the patient**. The final stage is **the evaluation of the effectiveness of the treatment process**, as a result of which it is possible to cancel the appointment of one drug and prescribe another.

### **Modeling the purchasing behavior of a consumer organization on the pharmaceutical market.**

#### **The process of making a decision on the purchase of drugs by wholesale pharmaceutical companies**

The first stage is *awareness of the need for medicinal products in terms of range, quantity and quality*. After that, *a package of requirements for a potential supplier is formed*, which covers a number of indicators: reputation (reliability, image, mutual relations with counterparties), range of medicines, price level, terms of delivery, payment forms, additional services.

Having decided on the requirements for the supplier, the intermediary *searches for him*. At the same time, they use the tools of the marketing communications system. The next step is *to request a commercial offer* from the selected pharmaceutical supplier. After analyzing the offer according to the package of requirements, the intermediary reacts accordingly. In the event of a neutral or negative response, the intermediary continues the search for another supplier (suppliers). If the reaction is positive, then in the presence of some differences in the approaches to cooperation, *the positions of the parties are agreed*, which, with mutual concessions, can end with *the conclusion of a contract*.

After *the implementation of the contract*, the obtained results are analyzed and *a decision is made on the feasibility of further cooperation*. The choice of suppliers is a difficult and responsible task, and their change is a painful procedure with negative consequences. However, if the connections are broken or the supplier is unable to fulfill the agreements, then a new partner must be chosen. This step must be carefully justified, because it is easy to lose a supplier, more difficult to find a new one.

#### **The decision-making process regarding the selection of drugs for purchase by health**

## care institutions

The market of consumer organizations is a set of legal entities that buy medical equipment and personal protective equipment for subsequent use by those who need them. Allocate:

- a segment of publicly accessible medical and preventive facilities controlled by the Ministry of Health of Ukraine (**hospital segment**);
- segment of medical and preventive institutions of other ministries and departments (**hospital departmental segment**);
- a segment of centralized procurement, intended for the centralized supply of socially significant pharmaceuticals.

The basis of the effective operation of the entire health care system is the rationalization of the selection, purchase and use of drugs by medical and preventive institutions, since the modern pharmaceutical market is characterized by a large number of names of drugs, both original and generic, produced by different companies and with different levels of quality, efficiency and safety. Two approaches are used to rationalize the selection and use of drugs.

*Centralized* (administrative-command principle), characteristic of health care institutions that are fully or partially financed from the state or local budgets, the Decree of the Cabinet of Ministers of Ukraine approved the List of drugs of domestic and foreign production that they can purchase. The list has a restrictive nature and is characterized by a shortened nomenclature of medicines that are purchased in case of limited budgetary financial resources. Along with the positive points, the centralized approach to the formation of the restrictive List of drugs has a number of disadvantages, as it limits the creative approach to the management of the treatment process, reduces its effectiveness, does not take into account the regional features of morbidity, pharmacotherapy, etc.

Another — *a logistic approach* to the selection of medicines can be recommended to non-state medical and preventive institutions, and when switching to insurance medicine — to all health care institutions. It makes it possible to optimize the selection of the most effective drugs according to the regional-epidemiological principle, taking into account their cost, and is called **the process of "developing a formulary"**, which is understood as a list of drugs that has a restrictive nature: only those drugs that are included in this list are used. The creation of the formulary begins with a separate department and for each type of medical and preventive institution, and a regional formulary is formed on their basis. To develop the formulary, a formulary and therapeutic committee is created consisting of the deputy chief physician, the head of the pharmacy of the medical and preventive institution (hospital pharmacist or clinical pharmacist), heads of departments, doctors — leaders of collective opinion.

The development of a formulary begins *with the selection of an anatomic-therapeutic-chemical (ATC) system or the development of an acceptable type of drug classification*. There are four main classification types:

- according to the anatomical and nosological principle (means that affect the musculoskeletal system, the cardiovascular system, for the treatment of infections, etc.);
- by therapeutic use (e.g., analgesics, antibiotics, hypotensive agents);
- by pharmacological action (anticoagulants, diuretics, vasodilators, etc.);
- by chemical structure (eg, alkaloids, cardiac glycosides, steroid drugs).

A treatment and prevention institution can develop its own type of classification by combining the above.

The next stage is *the collection and analysis of statistical data on morbidity* and categories of patients for the past 12 months. Analysis of morbidity consists in ranking the number of cases of each nosology, calculating their specific weights. At the same time, the list of used medicines, spent on the treatment of each nosology of the disease, is analyzed through the ranking of their cost and the calculation of specific weights. A comparison of the two received lists provides a vision of the correspondence of the costs of pharmacotherapy in a specific hospital to the needs of treatment, that is, it makes it possible to determine which forms of the disease did not receive due attention, how much circulating funds for the purchase of medicines were used irrationally.

The results *of the analysis of the compliance of the costs of allocations for pharmacotherapy with the needs of the treatment process* further contribute to the adjustment of purchasing decisions.



*ABC and VEN analyzes* are performed to determine the volume of purchase of specific medicines, to identify vital and important ones .

ABC analysis means the distribution of medicines into three groups according to annual consumption. The used medicines are distributed according to the order of decreasing cost of purchases, the specific weight of the costs for the purchase of each medicine is calculated. At the same time, class A is 10 — 20% of medicines on which 70 — 80% of circulating funds are spent, class B — 20 — 30% and 5 — 10%, respectively, class C — 40 — 60% and 10 — 15%.

In parallel with the ABC analysis, a VEN analysis is carried out, which makes it possible to establish priorities for the selection and purchase of medicines according to their classification into vital (Vital — V), essential (E) and secondary (Non-essential — N). Assigning drugs to the appropriate classes is carried out on the basis of the assessment of highly qualified expert doctors. Experts are allowed to introduce additional drugs that were not included in the list of purchased drugs and were not used in hospital conditions, but, in their opinion, they are necessary for optimal pharmacotherapy.

*The integration of ABC and VEN-analysis* is the basis for making a decision on the inclusion of drugs in the list for future purchases, removal from the initial list of secondary drugs and analogues of high cost.

*A pharmacoeconomic analysis* based on the classic method of economic analysis - functional cost analysis is conducted on the basis of the research results obtained above on the structure of morbidity and the structure of purchased drugs, as well as standards of medical care and recommendations of experts . When conducting a pharmacoeconomic analysis:

- determine financial costs for treatment in a hospital and for rehabilitation or outpatient treatment of certain groups of diseases;
- evaluate costs when using alternative methods of treatment that provide the same results;
- evaluate costs and benefits resulting from the use of financial resources for various medical projects;
- compare the cost of various alternative treatment methods that differ in effectiveness;
- evaluate the costs of the additional benefit, which can provide a new method of therapy, which is characterized by additional effects.

Thus, pharmacoeconomic analysis is a mathematical tool for optimizing the relationship between the medical and economic efficiency of both a specific institution and the health care system as a whole. Medical effectiveness is manifested in shortening the duration and increasing the effectiveness of treatment, reducing the number of repeated hospitalizations and outpatient visits when using new technologies and methods of treatment, as well as innovative medicines. Economic efficiency is characterized by the reduction of treatment costs when using effective drugs, the prevention of costs associated with the loss of the patient's working capacity and its compensation, the prevention of production losses that will be borne by relatives or friends when visiting the patient. This relationship is proposed to be considered in the form of a matrix of pharmacoeconomic analysis according to the "cost-effectiveness" criterion.

When evaluating alternative methods of treatment, nine main options are possible. Four options are most favorable for the logistical selection of drugs for the formulary list, i.e. when:

- 1) the drug does not change the therapeutic effect, but reduces the costs of treatment (the cost of the course of treatment, food, maintenance, etc.);
- 2) the drug improves the outcome of therapy and does not reduce treatment costs;
- 3) the medicine improves the result of therapy and does not change the costs of treatment;
- 4) the drug has a high cost, but its use reduces the need to prescribe other drugs, reduces the frequency of side effects and other costs of the treatment process.

The last option is based on the so-called "pharmacoeconomic paradox": the use of expensive (but effective) drugs is often more beneficial than the use of cheaper drugs due to the reduction of hospital costs, which account for up to 80% of the total cost of treatment.

When the medicinal product does not change the costs and effectiveness of the treatment process, its use is possible depending on its availability on the market, the country of manufacture (domestic or imported), etc.

Pharmacoeconomic analysis is closely related to evidence-based medicine (evidence-based medicine), which is a guarantee of the safest and most economical treatment based on the collection, interpretation and integration of reliable clinical data obtained as a result of patient reports, observations of specialists and conducting tests. At the same time, a scientifically-systematized approach is used, which is called a meta-analysis and includes six stages recorded in the protocol, as in any scientific study.

Meta-analysis allows you to summarize information obtained from different sources in a scientifically sound and reproducible way, which provides a number of advantages. For example, combining studies whose data are statistically unreliable can provide a reliable aggregate result. In the process of generalization, heterogeneity of results may appear, the study of the causes of which will reveal unexpected clinical problems.

The final stage of cost-effective selection is the formation of a restrictive list of medicinal products. After drawing up the form, by order of the chief doctor of the health care institution, it is entered as mandatory for use. Non-formulary drugs can be purchased in case of extreme necessity for individual patients based on the written justification of the attending physician. In the process of activity of a medical and preventive institution and with the appearance of more effective drugs, some of them may be included in the formulary, and others may be withdrawn.

After *the list of medicines is formed* by the order of the chief doctor of the health care institution, it is introduced as mandatory for use. Non-formulary drugs can be purchased in case of extreme necessity for individual patients on the basis of a written justification of the doctor treating them. In the course of the activity of a medical and preventive institution and with the appearance of more effective drugs, some of them can be added to the formulary, and others can be removed.

**Materials on the activation of students of higher education during the lecture:  
question:**

1. The essence of marketing research.
2. Pharmaceutical periodicals as sources of secondary information.
3. Factors influencing consumer behavior in the pharmaceutical market.
4. Groups of doctors depending on the time they took medicines.
5. The essence of pharmacoeconomic analysis.

**General material and educational and methodological support of the lecture:**

- multimedia projector;
- educational platform ( MS Teams ) ;
- presentation;
- illustrative material on the topic;
- 

**Questions for self-training:**

1. What is the essence of marketing research?
2. What tasks can be solved on the basis of the conducted marketing research?
3. What is the sequence of the marketing research process?
4. What are the advantages and disadvantages of secondary and primary information?
5. What are the methods of collecting primary information? Their characteristics.
6. What are the principles of sample formation?
7. What role does a questionnaire play in gathering information?
8. What scales are used when developing questionnaires? Their characteristics.
9. What are the methods of communication with the audience?
10. What factors affect the buyer's behavior in the consumer market?
11. Which factors influencing the consumer are controlled and which are uncontrolled by the pharmaceutical company?

12. What stages does the process of making a decision to buy an over-the-counter drug consist of??
13. How is the process of a doctor making a decision to prescribe a medicinal product to the end user?
14. Into which groups are doctors divided depending on the time they take medicines?
15. Who makes up the market of consumer organizations?
16. What stages does the process of making a decision on the purchase of drugs by wholesale pharmaceutical companies consist of??
17. What is the difference between centralized and logistic approaches to the selection of medicines by healthcare institutions?
18. How to select medicines for a medical and preventive institution?
19. What are ABC and VEN analyses?
20. What is the essence of pharmacoeconomic analysis?
21. What are the stages of meta-analysis??

**List of used sources:**

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3. Nazarchuk, T. V. Management of organizations: teaching. manual for university students / T. V. Nazarchuk, O. M. Kosiyuk. — Kyiv: Center for Education. 1-ry, 2018. — 560 p.