Seminar 1.

Introduction to pharmaceutical logistics. Object, subject, essence of logistics. Main categories of logistics. Logistic flows and logistics systems.

Questions:

1. Definition of logistics, its purpose, objects, meaning.
2. Definition of pharmaceutical logistics, possible directions of development and logistics strategies.
3. The history of the emergence and development of logistics, its role in the modern economy.
4. Basic provisions of the concept of logistics.
5. Functional areas of logistics and their main characteristics.
6. Concepts examining the relationship between marketing and logistics. Seven rules of logistics.
7. Logistics and Finance: The Impact of Logistics on Asset Return.

1.Logistics (from the Greek logistika - the art of reasoning and calculating) is the science of managing and optimizing material, financial and information flows, service flows based on the use of modern technologies and the most progressive economic solutions.

Logistics is the science of organizing, planning, controlling and regulating the movement of material and information flows in space and time from their primary source to the end consumer.

2. Pharmaceutical logistics ensures the formation of the process of goods movement, its effective functioning by establishing the necessary economic links between individual stages and participants of the logistics process and managing the movement of pharmaceutical goods and medical devices.

The main **goal of logistics** is to deliver manufactured products to the right place in time and in the required quantity with minimal costs. The importance of

logistics in a company increases with the increase in the number and intensity of commodity flows, during the expansion of the company's activities or in conditions when the specifics of the products and the market themselves require high efficiency.

In logistics, the following important concepts are distinguished.

A logistics operation is an action associated with the emergence, transformation or absorption of a material flow, limited to the area of a specific logistics task (loading, unloading, packaging, transportation, receipt and release from a warehouse, storage, sorting, marking, etc.).

A logistics function is a set of integrated logistics operations aimed at achieving one of the tasks set for a logistics system or its elements.

Material flow - material resources, work in progress, finished products, to which logistics operations are applied, related to their physical movement in space (loading, unloading), being in motion.

A logistics system is a complex, organized, complete economic system consisting of interconnected links participating in a single process of managing material and related flows and united by internal goals and objectives of a single logistics system of an organization.

The object of research and management in logistics are material flows, which are the main ones. Associated flows are informational, financial and service.

The subject of study of logistics is the optimization of resources in a particular economic system in the management of the main and related flows.

Logistics in theory is considered from different points of view: as a branch of economic knowledge, as a field of economic activity, as a philosophy and way of thinking of a person who perceives the surrounding reality through the prism of flows. All these areas of logistics coexist and complement each other.

The concept of logistics is used in various fields of activity.

3. Logistics is an independent scientific discipline. The concept of logistics was originally associated with the army. In 1905, Major B. Baker wrote: "The instructions in the art of war, relating to the movement and supply of armies, are called logistics." During World War II, troops effectively used logistic models and systems analysis to ensure that materials were delivered to the right place when needed.

During the postwar boom, many of the logistics methods used during World War II were temporarily forgotten. Managers and marketers were preoccupied with meeting demand and saturating the postwar product market. It was not until the economic downturn of the 1950s that managers began to study physical distribution networks. The 1958 recession and shrinking profit margins created an economic environment in which the business world began to look for more effective cost control systems. And at about the same time, many firms realized that physical distribution and logistics were activities for which no one had ever measured their costs.

The fundamental principles of logistics as a scientific discipline were formed in the early 1970s; at the same time, the first companies and companies began to apply them in practice. The goal of logistics is to fully satisfy consumer needs. To achieve this, it is necessary to link together and constantly coordinate the activities of all participants in the process.

The concept of "logistics" is interpreted differently in foreign and domestic literature. Its evolution is closely connected with the history and evolution of market relations in industrially developed countries. With the evolution of market relations, the content of the term has also changed. Logistics (from the Greek word logistike) is the art of calculating, reasoning.

The modern interpretation of logistics from a business perspective is ambiguous and depends on the logistics school (direction) and a specific researcher. The range of opinions is very wide: from the utilitarian idea of logistics as a set of certain functions related to the management of material flow (transportation, warehousing, cargo handling, packaging, customs formalities,

inventory management, etc.) to the scientific (philosophical) concept of understanding logistics as a means of optimizing any economic process on a local or global scale. Among the many definitions, the most complete is the following: logistics is the science of planning, control and management of transportation, warehousing and other material and intangible operations performed in the process of delivering raw materials and materials to a manufacturing enterprise, in-plant processing of raw materials, materials and semi-finished products, delivering finished products to the consumer in accordance with the interests and requirements of the latter, as well as the transfer, storage and processing of relevant information.

4. Basic provisions of the logistics concept:

1. Implementation of the principle of a systemic approach. The maximum effect can be achieved by optimizing the total material flow throughout the entire length from the primary source of raw materials to the end consumer. At the same time, all links in the material supply chain must work as a single, well-coordinated mechanism.

2. Refusal to produce universal technological and lifting and transport equipment. When performing a separate operation, universal equipment is inferior to equipment created specifically for this work. The principle is applicable in conditions of a high level of technical development (mass use of a wide range of means of production).

3. Humanization of technological processes, creation of modern working conditions. Currently, work in the field of material flow management is not prestigious. The logistics approach creates objective prerequisites for attracting personnel to the industry.

4. Accounting for logistics costs throughout the entire logistics chain. One of the tasks of logistics is to minimize the costs of bringing the material flow from the primary source of raw materials to the end consumer. Minimum total costs are an important criterion for choosing the optimal version of the logistics system.

5. Development of services at the modern level. Logistics service becomes a means of increasing competitiveness. Let's assume that there are several suppliers of the same product on the market. The consumer chooses the one who will provide the best service - delivery on time, in convenient packaging, etc.

6. The ability of logistics systems to adapt to the uncertainty of the environment. The principle is due to the emergence of a large number of goods, and therefore the uncertainty of demand for them, and sharp fluctuations in the qualitative and quantitative characteristics of material flows passing through logistics systems.

The goal of logistics activities is considered to be achieved if the six rules of logistics are met:

1) cargo - the required goods;

2) quality - necessary;

3) quantity - specified;

4) time - delivery at the specified time;

5) place - delivery to the specified place;

6) costs - with minimal costs.

Logistics in the economic sphere is a means of reducing costs in purchasing, producing and selling goods. The use of the logistics concept in production and trade is aimed at improving the processes of goods movement, optimizing stocks and costs, and ensuring high quality customer service.

For educational purposes, logistics is divided into **types** at the macro and micro levels.

Logistics management at an enterprise is the implementation of basic management functions to achieve the goals of the logistics system.

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From all of the above, we can conclude that logistics is the science of optimizing and systematizing the process of delivery and processing of products from the manufacturer to the end consumer.

5. Key **functions** may include the following.

✓ *Purchasing of material resources* to ensure production. This is a set of tasks such as selecting suppliers, planning the need for materials, determining rational time periods and volumes of resource supplies, organizing contractual work, etc.

✓ *Transportation* . The transportation process needs to be considered in a broader sense than

✓ The actual transportation of goods, namely: as a combination of transportation, loading and unloading, forwarding and other related logistics operations.

✓ *Inventory management* is the process of creating, controlling and regulating inventory levels in the supply, production and distribution of products.

✓ *Order procedure management.* This function defines the procedures for receiving and processing orders, the time of sending finished products to customers. The importance of this function is extremely high in modern business, as it directly determines the quality of customer service.

✓ *Support for manufacturing operations.*

✓ *Maintaining quality standards for finished product manufacturing and related services.* Ensuring and maintaining quality of product manufacturing and after-sales service.

✓ *Information and computer support.*

Supporting functions include:

✓ *Warehousing.* Determining the storage volume of material resources and finished products, planning warehouse areas, the amount of labor and loading and unloading equipment.

✓ *Forecasting* demand for finished products and consumption of material resources.

✓ *Support for* product returns from customers.

✓ *Providing* customers or our own production with spare parts.

✓ Collection and disposal of production waste (management of secondary material resources) and others. The material flow at certain points in time can be a stock of material resources, unfinished production or finished products. Material flows occur both between enterprises and within one enterprise.

The logistics service in an organization manages all flows of goods, as well as the information flows that belong to them: to the enterprise (from suppliers), within the enterprise, and from the enterprise (to customers).

Thus, ***material* flows** include: transportation of raw materials and semi-finished products from suppliers and unfinished products within the enterprise; activities related to the reloading of goods from one vehicle to another; placement and storage of goods; selection, packaging and warehousing; further transportation to customers (operational sales work).

Information flows– is a flow of messages in oral and documentary (paper and electronic) form, corresponding to the material or service flow in the logistics system under consideration, and intended primarily for the implementation of control actions.

The increasing role of information in modern production, trade and transport systems is due to the following reasons: the consumer needs information about the order status, availability of goods in stock, delivery times, i.e. information support is a necessary element of customer service; the availability of complete and reliable information allows to reduce the need for stocks by reducing uncertainty in demand; timely information increases the flexibility of the logistics system to achieve competitive advantages.

Financial flows– is a directed movement of financial resources associated with material, information and service flows both within the logistics system and outside it.

The main goal of financial servicing of material flows in logistics is to ensure their movement with financial resources in the required volumes, at the required time and using the most effective sources of financing.

The volume of the flow is indicated in monetary units for a period of time. The cost of the financial flow is determined by the costs of its organization. The direction of the financial flow is determined in relation to enterprises.

There are **incoming, internal and outgoing financial flows** . For example, the moment of payment for supplies by the buyer is an outgoing flow, and the receipt of money by the seller is an incoming flow.

Internal financial flow is the cash “frozen” in stocks and the costs of organizing the movement of material flows in the enterprise.

Impacts on the characteristics of financial flows lead to changes in the patterns of movement of material and information flows. And, conversely, the cost and volume of transferred material resources affect financial indicators. For example, the impact of prepayment on the time of shipment of goods from the

supplier or the impact of the size of material stocks on the financial indicators of the enterprise.

Service flows are flows of services generated by the logistics system as a whole or its subsystem (link, element) in order to satisfy external or internal consumers of the organization. Service services can be provided, for example, by some companies participating in the logistics system to others in the process of moving material flows from the manufacturer to consumers. Here it is appropriate to talk about the so-called "three sides" in logistics.

Logistics activities have an ultimate goal, which is called the “seven rules of logistics - 7R”:

1. Product (right product).
2. Quality (right quality).
3. Quantity (in the right quantity).
4. Time (right time).
5. Place (right place).
6. Price (at the right price - right cost)
7. Consumer (to the right consumer - right customer).

6. Logistics and marketing

In most cases, logistics interacts with marketing and finance departments in practice. Currently, there are three concepts that consider the interaction of logistics and marketing:

1. Logistics is a direction of marketing.

2. Marketing is a subdivision of logistics.

3. These are two separate scientific concepts that have many points of contact.

These scientific disciplines are similar in that both are aimed at

to meet the needs of end consumers. The greatest results can be achieved through mutual integration

logistics and marketing. Let's consider the interaction of these sciences through the marketing complex 4P, and when interacting with logistics it is called 4Ps.

1P — Place

2P — Price

3P - Product

4P — Promotion

1P — Place — the distribution system that a company chooses to bring its products to the consumer. This includes not only stores and supermarkets, direct delivery to consumers, but also methods of transmitting information, using magnetic cards to receive money, etc. This also includes a storage system, delivery means, wholesale trade.

2P — Price (Price) — is the monetary equivalent of the consumer value of a product. Consumer value is the result of comparing the benefits that the consumer receives from purchasing and using a product and the costs of purchasing this product.

Customer satisfaction is the degree of coincidence of the characteristics (properties) of a product, subjectively perceived by the client, with the expectations associated with this product. If the merits of a product are lower than the expectations associated with it, the consumer will remain dissatisfied; if the merits coincide with the expectations, the consumer is satisfied; if they exceed the expectations, the consumer is delighted. Depending on the satisfaction and dissatisfaction of the buyer, the consumer value is determined, and therefore the price of the product.

3P — Product — is anything that can satisfy a need or want and is offered to the market for the purpose of attracting attention, acquisition, use or consumption. The concept of a product is not limited to physical objects. A product can be anything that can provide a service, i.e. satisfy a need. In addition to products and services, these can be people, places, organizations, activities and

ideas. The consumer decides which entertainment program to watch on television, where to go on vacation, which organizations to help, which ideas to support. And if the use of the term “product” sometimes seems unnatural, it can be replaced by others — “satisfier of a need,” “means of compensation” or “offer.” All these words have a certain value meaning for different people.

4P — Promotion. Product promotion is the activity of planning, implementing and controlling the physical movement of materials and finished products from their production sites to their consumption sites in order to satisfy consumer needs and benefit oneself.

Product promotion is an integral part of marketing. The content of this activity includes:

– formation of policies in the field of sales promotion and product promotion;

– selection, planning and management of sales promotion tools (pre-order sales, advertising and information activities, sales art, packaging);

– sales data analysis, sales budget quotas and setting corresponding goals, coordination of activities

sales agents; advertising activities and defining advertising objectives;

– selection of advertising media (television, radio, print, etc.) and management of work in this area;

– establishing contacts with the media, advertising agencies; development of samples, exhibition materials;

- establishing links between the campaign and individuals, public organizations, information exchange; packaging, packaging development; product sales activities;

– planning and implementation of product promotion (food coupons, etc.);

– development of measures aimed at increasing sales.

The product promotion function has a number of basic sub-functions:

– personal selling;

– advertising using mass media;

- sales promotion.

Place-Related Decisions (1P)

One of the important marketing issues is the problem of location. Location decisions involve logistics and the marketing channel. Logistics decisions consider how to move a product most efficiently between the place where it is made and where it is sold, and how to store the product at these locations. An efficient logistics system can support a firm by providing it with the most productive channel members and supply chain members. Channel members often choose which of a manufacturer's products they will sell.

If a manufacturer is unable to consistently provide a certain product at the right time, in the right quantity, and in good condition (without damage), then channel members may terminate their relationship with that supplier or stop actively promoting its products to the market.

Price Related Decisions (2P)

It only takes common sense to understand that a company cannot be profitable and grow if it does not control its logistics costs. In this case, it is most likely doomed. It is obvious that the price of a product must cover all costs associated with its production. And if a company has serious logistics costs, it is forced to either shift them onto the shoulders of consumers, i.e. make prices higher than those of competitors, or reduce quality with the risk of losing the trust of buyers.

Product decisions (3P).

The main goal of the interaction between the production and logistics departments of the company is to ensure that a specific product is delivered to where it is needed and when it is needed in a safe and sound manner. If this goal is not achieved, the consequence is a shortage of goods.

The production and logistics departments must agree on protective packaging and all material handling procedures that will minimize damage to the goods.

The logistics department employees also participate in the development of new products. They prepare data on the distribution costs (packaging, warehousing, transportation, etc.) of new products being developed for production.

The logistics department staff provides recommendations on how to reduce the costs of supply chain management, as well as the maintenance and repair of new products being created.

Product Promotion Decisions (4Ps)

In many situations, precise coordination between the advertising and logistics departments is necessary. One of the important functions of logistics support concerns the availability of sales of actively advertised products. For example, goods sold at a noticeably reduced price. Marketing specialists claim that the shortage of these goods is more destructive to the company's reputation than the shortage of goods that are widely advertised and in high demand.

5. Logistics and finance

Logistics interacts very closely with finance and accounting of any enterprise. Firstly, since logistics costs occupy a significant share in the cost of goods, any change in the logistics chain must be calculated by financiers. In addition, logistics affects financial indicators, such as, for example, the turnover of goods or cash, accounts receivable and accounts payable.

Let us consider in more detail the influence of logistics on these factors:

1. *Working capital.* Logistics reduces working capital by reducing inventory levels. Reducing investment in inventory can also free up cash, which can then be used more productively, and reduce the need for borrowing.

2. Long-term assets. Long-term assets include property, buildings, and equipment. Logistics makes extensive use of these resources: warehouses, rolling

stock, material handling equipment, and other facilities needed to move materials through the supply chain make up a significant portion of long-term assets.

3. Sales: By making the product more attractive or making it more available and convenient to receive, logistics can increase sales and ensure a higher market share.

4. *Profit Margins:* More efficient logistics results in lower operating costs, which in turn leads to higher profit margins.

5. *Value.* Logistics can increase the perceived value of products, perhaps by making them more convenient to receive, speeding up delivery, or reducing order fulfillment time. More attractive products allow for a premium to be placed on them.

The first two points work to reduce the required assets, and the last three - to increase profits. All this together leads to an increase in the **return on assets indicator** and accordingly affects other performance parameters, such as share price, return on investment and borrowings