

# Supply Chain Management in the Hospital Pharmacy

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## Abstract

The article considers peculiarities of organizing the work of a hospital pharmacy and suppliers in case there are/there are no errors in supporting documents when delivering medicines. Using the system method, flow charts for organizing the work of the hospital pharmacy subject to the absence or detecting of technical/professional errors when supplying products have been developed and offered. These flow charts are compiled taking into account the Russian legislation, and quite clearly show the algorithm of hospital actions when revealing the most common errors in the documents.

**Key words:** supply chain management, hospital pharmacy, flow charts, medicine assistance.

## INTRODUCTION

The state's priority task is to improve the quality of medical care. The solution of this task largely depends on the organization of medicines' supply and the operation of hospital pharmacies.

In the system of medical products' circulation, the provision of consumers with medicines is one of the most important aspects. This is the main task of the pharmacies that include not only the retailers that sell medicines to the population, but also the hospital pharmacies that provide medicines and health care products in the hospitals [1, 2].

The medicine assistance of the hospital pharmacy starts with requests for purchasing medical and other pharmaceutical products.

Annual, unscheduled requests are based on the needs of the hospital departments, taking into account the expenditures for the previous periods and the remaining balance, as well as financial plans and tasks of the hospital at the current stage [3].

Products from suppliers are received daily according to the schedule of supplies. When supplied, all medicines undergo the acceptance control to prevent the receipt of low quality products by the pharmacy. The acceptance control includes checking the compliance of the incoming medicines to the requirements for such indicators as *Description*, *Packaging*, and *Marking*.

The *Description* control includes checking the external view, color, and smell. When checking a product according to the *Packaging* indicator, special attention is paid to its integrity and compliance with the physico-chemical properties of medicines. When checking a product according to the *Marking* indicator, the attention is paid to the compliance of medicines design with the current requirements [4].

In addition, the acceptance control includes checking the correctness of supporting documents (cash accounts, invoices, consignment notes), as well as manufacturer's certificates of conformity and other documents that confirm the quality of medicines in accordance with the applicable regulatory documents [5, 6].

If there is a discrepancy in the incoming products at least for one of the above indicators, the *Certificate on the detected quantity and quality discrepancy when receiving goods and materials* is executed.

If all documents are issued correctly, they are entered in the computer program as the receiving reports with the indication of the sender (supplier), the recipient (pharmacy), the product (a medicine, wound closure materials, etc.), its unit of measure, quantity, price, amount, series and expiry date, purchase agreement/contract, specification under the agreement/contract (entered in advance by the contract department), number and date of the invoice, and number and date of the consignment note. The accounting and the planning departments accept only original documents provided as the whole package [7, 8].

When checking suppliers' documents, hospitals rather often detect various errors.

The authors have developed and offered flow charts on organizing the hospital pharmacy work when there are/there are no errors in suppliers' supporting documents when supplying medicines.

## METHODS

Based on the system research method, in accordance with the legislative acts of the Russian Federation, flow charts for organizing the work of the hospital pharmacy when there are/there are no errors in suppliers' supporting documents when supplying products were developed and offered.

## RESULTS

The hospital starts working with the documents from suppliers since receiving a medicine in the pharmacy.

When a medicine arrives, it must contain a package of documents, including an accounting form, 2 consignment note copies, 2 invoice copies, the manufacturer's compliance certificates or declarations confirming the medicine authenticity.

Errors in documents from suppliers can be classified into technical and professional. Depending on the type of error, the medicine is returned to the supplier or placed in the stay indoors zone.

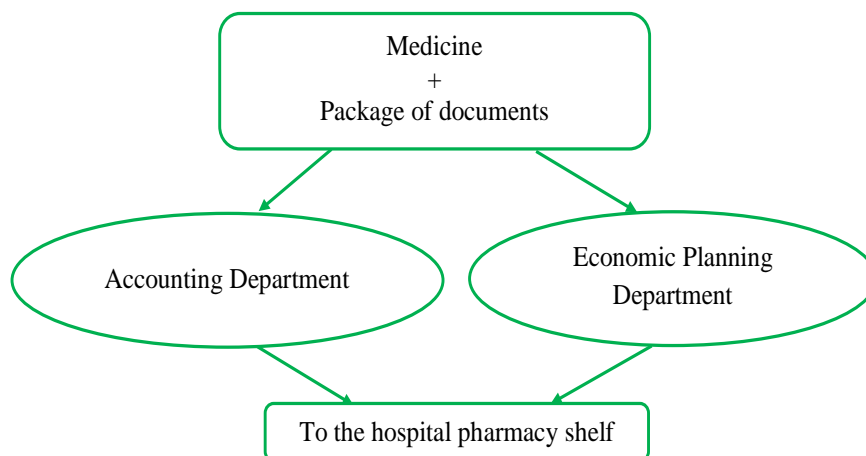
The following technical errors are the most frequent ones:

- No grounds in the invoice or in the consignment note (the ground line specifies the contract or agreement to ship the medicine),
  - No date in the grounds (the contract/agreement date),
  - Errors in the hospital details as specified in the consignment note,
  - Incorrect date on documents (very rare),
  - If the medicine is supplied under the agreement (there is no agreement for the medicine, or it contains errors), and
  - Prices in the invoice/consignment note differ.
- The most common professional errors include the following:
- No documents confirming the authenticity of the medical product,
  - Incorrect name of the medicine/dosage/amount of the medicine,
  - Noncompliance of the name in the medicine authenticity declaration with the name of the actually shipped medicine,
  - No signatures/seals on documents,
  - Lack of some documents for the medicine, i.e. the package of documents is not complete (most often there is no invoice),
  - The medicine price does not comply with the price under the contract (or no additional agreement), and

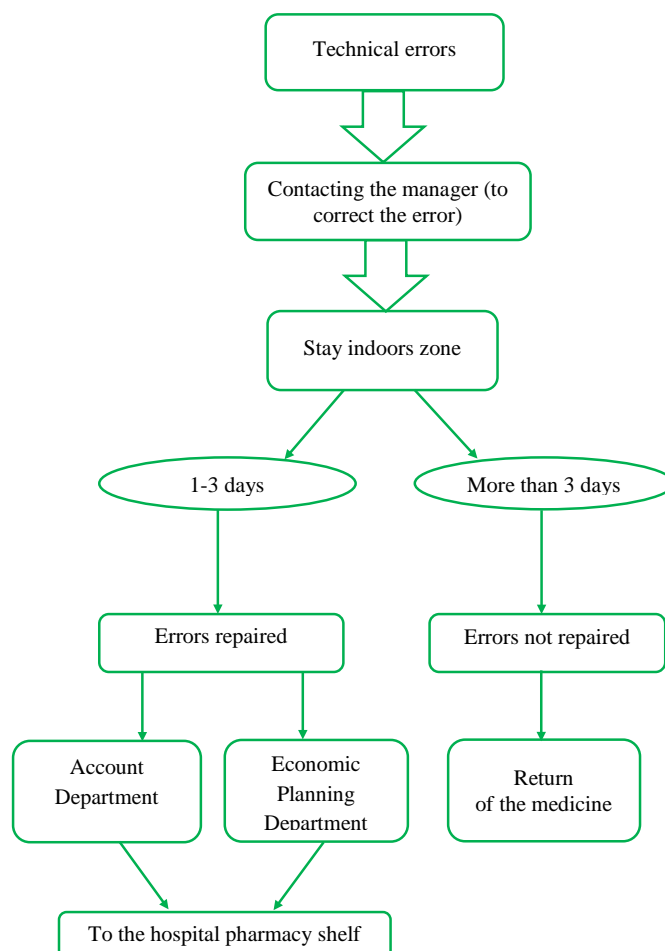
— When checking the series on the RosZdravNadzor website, it is detected that the medicine is withdrawn from circulation, or its sale is suspended.

Russian Federation on organizing the hospital pharmacy work when detecting errors/no errors in suppliers' supporting documents when supplying medicines.

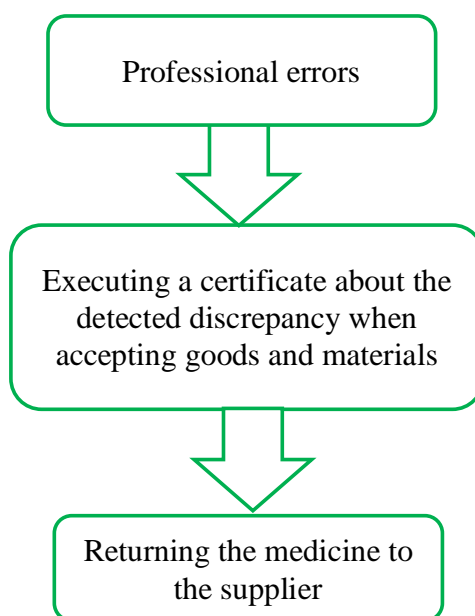
The authors have developed and offered flow charts (Flow charts 1-3) in accordance with the legislative acts of the



**Flow chart 1. Organization of the hospital work when there are no errors in supporting documents for medicines from suppliers**



**Flow chart 2. Organization of the hospital work when detecting a technical error in supporting documents for medicines from suppliers**



**Flow chart 3. Organization of the hospital work when detecting a professional error in supporting documents for medicines from suppliers**

#### CONCLUSION

The hospital pharmacy as an integral part of the hospital unit contributes to the organization of high quality medicine assistance, safety of drug therapy, and optimization of the budget spending.

To provide medical support for the hospital departments and laboratories, it is necessary to timely carry out planning and acceptance, and strictly follow the correctness of issuing documents because this is the only way for the pharmacy to completely perform its main function – to provide patients with the required medicines.

#### REFERENCES

- [1] Chuchalin, A.I. Bolnichnaya apteka: nastoyashcheye i budushcheye [Hospital pharmacy: the present and the future]. Krasnoyarsk Medical Journal, 2016; 4.
- [2] Federal Law of November 21, 2011 No. 323-FZ “On the Fundamentals of Protecting the Health of Citizens in the Russian Federation”.
- [3] Order of the Ministry of Health and Social Development of the Russian Federation No. 553n “On approving types of pharmacy organizations” dated July 27, 2010.
- [4] Order of the Ministry of Health of the Russian Federation No. 214 “On the quality control of medicines manufactured in pharmacy organizations (pharmacies)” dated 16.07.1997.
- [5] Order of the Ministry of Health and Social Development of the Russian Federation No. 1222n “On Approval of the Rules of wholesale trade in medicinal products for medical use” dated December 28, 2010.
- [6] Federal Law “On the circulation of medicinal products” No. 61-FZ dated 12.04.2010.
- [7] Order of the Ministry of Health of Russia No. 647n “On approving the rules for the proper pharmacy practice of medicinal products for medical use” dated August 31, 2016.
- [8] Order of the Ministry of Health and Social Development of Russia “On the procedure for the release of medicinal products” dated 14.12.2005 No. 785 (as amended on April 22, 2014).