

## Logistics Management at the Helvetia Health Center in Medan City

Alisa Ariani Sagala<sup>1\*</sup>, Anna Kholijah<sup>2</sup>, Mutiara Sofi<sup>3</sup>, Yasmine Anta Syahrih<sup>4</sup>, Ismi Larasati Hasibuan<sup>5</sup>, Muhammad Rizky Ramadhan<sup>6</sup>, Rapotan Hasibuan<sup>7</sup>

<sup>1-7</sup>Fakultas Kesehatan Masyarakat, Universitas Islam Negeri Sumatera Utara

---

### Article Info

#### Article history:

Received, 06 Dec, 2024

Revised, 14 Feb, 2025

Accepted, 17 Mar, 2025

---

#### Keywords:

Logistics Management, Health Center, Distribution, Medan City, Health Services

---

### ABSTRACT

Logistics management in Community Health Centers plays an important role in ensuring the availability of medicines and medical devices that support health services to the community. This study aims to analyze the logistics management system in Helvetia Community Health Center, Medan City, with a focus on efficiency, stock availability, and distribution. The research method used is a descriptive approach with data collection through interviews, observations, and document analysis. The results of the study indicate that although there is a structured logistics management system, there are still challenges in terms of distribution delays and lack of real-time stock monitoring. To overcome this problem, it is necessary to implement a more modern logistics information system and increase human resource capacity. These findings are expected to provide strategic recommendations in improving the effectiveness of logistics management in Helvetia Community Health Center, so that it can support more optimal health services.

---

#### \*Corresponding Author:

Alisa Ariani Sagala

Fakultas Kesehatan Masyarakat, Universitas Islam Negeri Sumatera Utara

Email: [alisaariani.s04@gmail.com](mailto:alisaariani.s04@gmail.com)

---

## INTRODUCTION

Optimal health services in first-level health facilities, such as health centers, are highly dependent on the availability of adequate logistics. The logistics in question include medicines, medical devices, and consumables needed to support health service activities. Good logistics management is one of the important components in ensuring the sustainability of quality services to the community.(Rahmadhanty, 2023)

Helvetia Health Center, Medan City, logistics management is a significant challenge, especially in terms of procurement, storage, and distribution of goods. Some of the problems that often occur include mismatches between the need and availability of stock, delays in distribution, and the lack of a technology-based stock monitoring system. This can lead to disruption of health services, especially in emergency situations or when demand increases suddenly.(Medan City Health Office, 2021).

This study was conducted to evaluate the logistics management system implemented in the Helvetia Health Center, including the factors that affect its efficiency and effectiveness. Using a descriptive approach, this study aims to identify existing obstacles and provide strategic recommendations to improve the quality of logistics management at the Helvetia Health Center.(Ariska Putri et al., 2023)

The results of this study are expected to be an input for Puskesmas managers, local governments, and other related parties in developing more effective policies or strategies to support the availability of health logistics.(Sipayung et al., 2024) With better logistics management, it is hoped that the Health Center can provide maximum health services to the people of Medan City, especially the Helvetia area.(Medan Helvetia District Strategic Plan, 2021)

Effective logistics management not only affects the quality of health services, but also the efficiency of using available resources. The availability of adequate medicines and medical devices is the main factor that determines the success of a health service, especially in addressing the growing health needs of the community.(Shafa et al., 2021) The imbalance between demand and supply can have serious impacts, including a decrease in the level of public trust in health facilities. Therefore, a technology-based and data-oriented logistics management system is an urgent need to answer these challenges.(Pasaribu, 2019).

In today's digital era, many first-level healthcare facilities are beginning to adopt technology-based systems to optimize logistics management. However, the implementation of the system is often hit by obstacles such as a lack of skilled human resources, limited budgets, and inadequate technological infrastructure.(Shafa et al., 2021) In the context of the Helvetia Health Center, these challenges are further exacerbated by the complexity of the diverse needs of the community. Therefore, an in-depth analysis of the existing logistics management system is needed to identify the root cause of the problem and propose innovative and sustainable strategic solutions.(Arfanti, 2021).

## LITERATURE REVIEW

**HEAD OF THE HEALTH OFFICE** (Sari et al., 2024) The RKO is compiled based on a summary of the number of drugs available at the health center and is calculated using the consumption method. The control of pharmaceutical preparations aims to ensure the availability of drugs as needed so that there is no excess or vacancy in the basic health service unit (Ginting et al., n.d.). The process of destroying and withdrawing drugs at the Helvetia Health Center has been in accordance with the SOPs and provisions of the 2016 Permenkes, by reporting damaged or expired drugs regularly to the Health Office (Perbekkes, 2017). Distribution permit holders also have the responsibility to ensure that the recall process is carried out in accordance with the provisions, both mandatory and voluntary, in order to support safe and standard drug management.(Rahmatullah et al., 2020).

## METHODOLOGY

This study uses a qualitative type of research. Qualitative research methods are based on philosophy that aims to understand phenomena in depth in scientific conditions, in which the researcher plays the role of the main instrument. The data were collected and analyzed qualitatively, with an emphasis on the meaning contained in the observed phenomenon.(Ramadan, 2020)

The qualitative approach was chosen because it was able to explore and understand phenomena related to the logistics process at the Helvetia Health Center, including drug distribution, medical device management, and operational constraints faced.(Syahputra, 2019) This research is descriptive, focusing on the exploration of data obtained through in-depth interview techniques, observation, and document studies. This approach allows researchers to comprehensively identify problems and explore relevant solutions based on empirical data collected in the field.(Utami, 2019).

## RESULTS

### Overview of Helvetia Health Center in Medan City

#### Brief Information on the Medan City Helvetia Health Center



**Picture 1.** Helvetia Health Center of Medan City

The Helvetia Health Center, located on Jl. Kemuning No. 1, Medan, Indonesia 20124, was inaugurated in 1979 by the Mayor of Medan at that time, AS Rangkuti. This health center provides health services to seven villages in Medan Helvetia District. The services provided include general examinations, maternal and child services, immunizations, and other public health programs. In addition, the Helvetia Health Center also collaborates with various institutions, such as the Correctional Institution (Lapas) and the

Class I Detention Center (Rutan) in Medan, to provide health services to the inmates. The current Head of the Helvetia Health Center is dr. Heva Julietta Sinaga.

### **Planning**

The drug planning process at the Medan City Helvetia Health Center is carried out every year by proposing a Drug Needs Plan (RKO) based on a summary of the number of drugs available. The calculation of drug needs is carried out using the consumption method, which is based on data on drug use in the previous period. After the RKO is submitted to the Health Office, the management of drug logistics needs is continued every month using the LPLPO report (Drug Usage Report and Request Sheet). The drug planning process at the Medan City Helvetia Health Center is carried out in a structured manner every year by proposing an RKO (Drug Needs Plan) to the Health Office (Sari et al., 2024). The RKO is compiled based on a summary of the number of drugs available at the health center and is calculated using the consumption method. This method involves analyzing data on drug use in previous periods to estimate future needs. After the RKO is submitted and approved by the Health Office, the management of drug logistics is continued with monthly reporting using the LPLPO format (Drug Usage Report and Request Sheet). This approach is designed to ensure the smooth process of drug planning and management at the Medan City Helvetia Health Center to suit the needs of the local community (Health et al., 2024).

### **Control**

Drug control at the Medan City Helvetia Health Center is carried out by referring to previous stock and stock available in drug warehouses. One of the ways implemented is to use buffer stock, which is to exceed the number of drug requests in addition to the estimated amount based on usage. This step was taken to anticipate possible drug shortages. However, the results of the study show that despite these efforts, drug shortages still sometimes occur. The control of pharmaceutical preparations aims to ensure the availability of drugs as needed so that there is no excess or vacancy in the basic health service unit (Ginting et al., n.d.).

### **Demand**

The drug request process at the Medan City Helvetia Health Center is carried out every month using the LPLPO format based on previous drug use data. Fulfillment of requests by the Health Office usually takes less than 10 days, but the amount of medication received depends on the stock available at the Health Office. If the requested drugs cannot be fulfilled due to empty stock, the Health Center implements an alternative policy to overcome the vacancy. One of them is by looking for drugs that have similar efficacy or suggesting patients to buy drugs outside the health center using a copy of the doctor's prescription given (Jumriah et al., 2023).

### **Acceptance**

The process of receiving drugs at the Helvetia Health Center is carried out every month by ensuring the conformity of the drugs received with the data listed in the minutes of the handover of goods. When the goods arrive, the officer will check the quantity and type of medication to ensure there is no discrepancy between the data and the medication received. After the checking process is complete, the minutes of the handover of goods are signed as a form of confirmation and documentation. This process ensures that the medication received matches the previously submitted requests and needs.

### **Storage**

The drug storage process at the Medan City Helvetia Health Center is carried out systematically by paying attention to various aspects to maintain the quality and safety of drugs. Storage is carried out based on alphabet, dosage form, and priority on drugs that are nearing the expiration date. Medicines are stored in a room equipped with air conditioning to maintain a temperature between 15°C and 25°C, except for certain medicines such as vaccines and insulin that require storage at a special temperature between 2°C and 8°C in a refrigerator. In addition, the recording of drug entry and exit is carried out by all medical personnel in the pharmaceutical installation to ensure accurate logistics control.

Even though the storage system has been regulated, the storage facilities and infrastructure at the Helvetia Health Center are still inadequate. The limited storage warehouse caused some medicines to be stacked on the floor. Medicines are stored in a clean, dry room, away from moisture and direct sunlight, and well ventilated to prevent the accumulation of vapors or harmful chemicals. In addition, the cleanliness of the room is always maintained to avoid cross-contamination (Perbekkes, 2017)

### **Destruction and withdrawal**

The treatment of damaged drugs at the Medan City Helvetia Health Center is carried out by recording the type and amount of drugs, then reporting them to the Health Office. The process of destroying and withdrawing drugs is carried out by the Health Office, where damaged or expired drugs will be sent to the

Health Office to be destroyed. If there is no notification from the Health Office, the drug is stored first in the warehouse of the Health Center. However, the main obstacle faced is the limited storage space for drugs awaiting destruction, causing accumulation in warehouses (Indonesia, 2025)

The destruction and withdrawal of pharmaceutical preparations are carried out in accordance with the provisions of laws and regulations. Recall of drugs that do not meet the standards is carried out through a mandatory recall based on the BPOM order or a voluntary recall on the initiative of the distribution permit owner, while still providing a report to the Head of BPOM. Based on the results of the research, the process of destroying and withdrawing drugs at the Helvetia Health Center has been in accordance with the SOPs and provisions of the 2016 Permenkes Regulation, by reporting damaged or expired drugs regularly to the Health Office (Perbekkes, 2017)

Aspects	Research Findings
Logistics Procurement	<ul style="list-style-type: none"> <li>• The procurement process often does not match the real-time needs of the health center.</li> <li>• The reliance on manual processes causes delays in fulfilling logistics needs.</li> </ul>
Logistics Storage	<ul style="list-style-type: none"> <li>• The storage system has not been properly standardized, so it is prone to damage or expiration of drugs and medical devices.</li> <li>• Storage facilities such as logistics warehouses have limited space and suboptimal temperature management.</li> </ul>
Logistics Distribution	<ul style="list-style-type: none"> <li>• Delays in logistics distribution, especially during emergency situations or sudden increases in needs.</li> <li>• Logistics distribution is not integrated with the needs recording system of each service unit in the Puskesmas.</li> </ul>
Logistics Monitoring	<ul style="list-style-type: none"> <li>• The lack of use of technology to monitor stock in real-time, so there are often stock vacancies or excess of certain goods.</li> <li>• Stock data is not well documented, making it difficult to predict future needs.</li> </ul>
Inhibiting Factors	<ul style="list-style-type: none"> <li>• Lack of training for logistics management personnel regarding the use of technology-based logistics management systems.</li> <li>• Limited budgets hinder the adoption of digital systems and the renewal of logistics storage facilities.</li> </ul>
Strategic Recommendations	<ul style="list-style-type: none"> <li>• Implement a technology-based logistics management system for stock, procurement, and distribution monitoring.</li> <li>• Providing training to improve the competence of logistics management personnel at the Health Center.</li> <li>• Planning logistics needs based on historical data and demand projections.</li> <li>• Improve storage facilities with standards that support the safety and quality of medicines and medical devices.</li> </ul>

## DISCUSSION

### Planning

The drug planning process at the Medan City Helvetia Health Center has been prepared in accordance with the standard operating procedures (SOP) set by the health center, with direction and supervision from the Health Office. The consumption method used to calculate drug needs is an effective approach because it is based on previous usage data. This approach provides a realistic estimate of drug needs so that it can minimize the risk of excess or understock. Once the annual planning process is complete, monthly reporting using the LPLPO format ensures that drug usage data can be monitored on a regular basis. This process reflects integrated and efficient drug logistics management, which aims to optimally meet public health needs. Thus, this system not only supports the sustainability of health services, but also maintains the stability of drug availability at the Medan City Helvetia Health Center (Cannon, 2022)

### Control

Drug control at the Medan City Helvetia Health Center is part of efforts to ensure the availability of adequate drugs for public health services. The buffer stock system used aims to provide additional reserves to avoid drug shortages. However, the main obstacle faced is the limited supply from the Health Office, which sometimes leads to drug shortages even though planning has been carried out. In accordance with the Minister of Health Regulation (2016), the purpose of drug control is to prevent excess and shortage of drugs in basic health service units. However, the obstacles of drug shortages that still occur show that the drug control process at the Helvetia Health Center in Medan City has not been fully optimal. This requires further evaluation of the distribution system and communication with the Health Office to ensure better and more

### **Demand**

The demand for drugs at the Medan City Helvetia Health Center aims to meet the needs of pharmaceutical preparations in accordance with the plan that has been set. The submission process is carried out routinely every month to the Regency/City Health Office by referring to the provisions of laws and regulations and local government policies. However, the obstacle that is often faced is the availability of drug stocks at the Health Office, which causes not all requests to be met. In the face of this situation, alternative policies such as finding drugs with similar efficacy or providing prescriptions for self-purchase are the solutions that are applied. However, the shortage of drugs remains a challenge in an effort to ensure optimal availability of pharmaceutical preparations in Puskesmas. This process requires better coordination between the Health Center and the Health Office to increase the efficiency of meeting drug needs in accordance with the planning and needs of the community (Ariska Putri et al., 2023)

### **Acceptance**

Drug acceptance at the Helvetia Health Center is an important stage in drug logistics management. This process not only involves physical examination of drugs but also data verification based on the minutes received from the Regency/City Pharmaceutical Installation or the results of independent procurement. The purpose of this acceptance process is to ensure that the pharmaceutical preparations received are in accordance with the planned needs. In addition, the medicines received must meet the requirements of safety, efficacy, and quality to support health services at the Health Center. The implementation of a structured and documented receipt process through the minutes of the handover of goods reflects the efforts of the Puskesmas in maintaining accountability and efficiency in the management of pharmaceutical preparations. This is important to ensure that the stock of medicines is always available and can be used according to the needs of the community (Rahmadhanty, 2023).

### **Storage**

The storage of drugs at the Helvetia Health Center aims to ensure that the quality of drugs is maintained until use. Each form of medication gets the appropriate storage treatment, such as tablets or capsules stored in sealed bottles, and liquids or ointments placed in special containers. Medications that require special temperature controls, such as vaccines and insulin, are closely monitored in the refrigerator. The temperature and humidity of the room are monitored regularly to ensure optimal storage conditions. Each drug also comes with a label that lists important information, such as the name of the drug, dosage, expiration date, and specific instructions.

Supervision by pharmacists and medical staff is necessary to maintain effective control over the use and storage of medications. Drug segregation based on type and characteristics is carried out to avoid interactions that can affect drug effectiveness. Medications that pass the expiration date are immediately separated and disposed of as per procedures to prevent misuse. However, the main obstacle in the storage of medicines is the limited capacity of the warehouse, so efforts are needed to improve storage facilities to support the smooth running of health services at the Helvetia Health Center (Jumriah et al., 2023).

### **Destruction and Withdrawal**

The process of destroying and withdrawing drugs at the Helvetia Health Center aims to ensure that medicines that are no longer suitable for use do not pose a risk to the community. Destruction is carried out on a monthly basis by sending drugs to the Health Office. This process follows the standards set out in the 2016 Permenkes Regulation, where all damaged or expired drugs must be recorded and reported before being destroyed. However, before the destruction is carried out, the medicine is stored first in the warehouse of the Health Center (Ramadhika Dwi Poetra, 2019)

The main obstacle faced is the limited capacity of the warehouse, resulting in a buildup of drugs waiting to be destroyed. This situation is exacerbated by the lack of dedicated storage space for damaged or expired drugs. To overcome this problem, efforts are needed to improve warehouse facilities and coordinate more effectively with the Health Office so that the destruction schedule can be carried out more efficiently. In addition, distribution permit owners also have the responsibility to ensure that the recall process is carried out in accordance with the provisions, both mandatory and voluntary, in order to support safe and standard drug management. (Rahmatullah et al., 2020).

Drug logistics management at the Medan City Helvetia Health Center covers various important aspects that aim to ensure the availability, distribution, and efficient management of drugs. The planning process is carried out annually by the consumption method, where previous usage data is the basis for compiling the Drug Needs Plan (RKO). Drug requests are implemented monthly through LPLPO, with fulfillment dependent on stock available at the Health Office.

Drug receipt is carried out by checking the conformity of the drugs received with the data of the news

of events, while the storage of drugs is carried out systematically based on the alphabet, dosage form, and expiration date, as well as paying attention to temperature conditions and room cleanliness. The main obstacle in storage is the limited space that leads to the accumulation of drugs.

The destruction and withdrawal of damaged or expired drugs has been carried out in accordance with the SOP and provisions of the 2016 Permenkes Regulation. However, the constraints of warehouse capacity and coordination that are not optimal with the Health Office are challenges in maintaining the smooth running of this process. Overall, the management of drug logistics at the Helvetia Health Center in Medan City has been running according to standards, but it requires improvements in terms of infrastructure and coordination efficiency to overcome existing operational constraints.

With the strengthening of logistics management, including more accurate planning, efficient storage management, and improved facilities and coordination, it is hoped that the availability of drugs can be more guaranteed, supporting optimal health services for the community.

## CONCLUSION

The suggestion for logistics management at the Medan City Helvetia Health Center is to make the logistics management system more integrated with information technology, such as using a special application for real-time recording and monitoring of drug and medical device stocks. Puskesmas are also advised to strengthen logistics needs planning based on historical data and consumption patterns, so as to minimize the risk of shortages or overstocking. In addition, there is a need for regular training for logistics officers to improve their competence in managing logistics according to standards. Periodic evaluations are also important to ensure that the procurement, storage, and distribution of logistics runs efficiently and supports optimal health services.

## REFERENCES

- Arfanti, N. F. (2021). Management of Medical Device Logistics Management at the Makassar City Layang Health Center in 2020. Hasanuddin University of Makassar, 1–62.
- Ariska Putri, U., Budi Prasetyo, A., & Tri Purnami, C. (2023). Drug Logistics Management Information System in Pharmacy Services of Health Centers: Literature Review. Indonesian Health Promotion Publication Media (MPPKI), 6(6), 1016–1024. <https://doi.org/10.56338/mppki.v6i7.3447>
- Medan City Health Office. (2021). Strategic Plan (Renstra) of the Medan City Health Office. Medan City Health Office, 1–39.
- Ginting, R., Simanjuntak, M., Riani, L., & Ginting, B. (n.d.). Evaluation Of Medicine Logistics Management In Pharmacy Installations. c, 80–86.
- Health, J., Health, G. J., & Community, S. (2024). Analysis of Health Logistics Management in Procurement.
- Indonesia, L. P. K. M. (2025). Hospital Logistics Management Training. [https://lpkmi.com/manajemen-logistik-rumah-sakit/?utm\\_source=chatgpt.com](https://lpkmi.com/manajemen-logistik-rumah-sakit/?utm_source=chatgpt.com)
- Jumriah, Alwi, M. K., & Rusydi, A. R. (2023). Analysis of Drug Logistics Management in Health Centers. Permas Scientific Journal: STIKES Kendal Scientific Journal, 13(4), 1553–1564.
- Meriam, A. (2022). Overview of the Implementation of Medical Device Logistics Management at the Makassar Haji Regional General Hospital in 2021. 113.
- Pasaribu, A. (2019). Overview of Drug Logistics Management at the Batang Beruh Health Center, Dairi Regency. 1–49. <http://repository.helvetia.ac.id/id/eprint/2008/>
- Perbekkes, D. T. K. O. P. and. (2017). Guidelines for the Use of Logistics Management Information System in Government Pharmaceutical Installations. FarmalkesKemkes. [https://farmalkes.kemkes.go.id/2017/09/panduan-penggunaan-sistem-informasi-manajemen-logistik-instalasi-farmasi-pemerintah/?utm\\_source=chatgpt.com](https://farmalkes.kemkes.go.id/2017/09/panduan-penggunaan-sistem-informasi-manajemen-logistik-instalasi-farmasi-pemerintah/?utm_source=chatgpt.com)
- Rahmadhanty, et al. (2023). Analysis of Drug Management Management in Health Services in North Sumatra. Journal of PGMI Study Program, 10(3), 1–10. <https://jurnal.stitnualhikmah.ac.id/index.php/modeling/article/view/1434>
- Rahmatullah, M., Mahsyar, A., & Rahim, S. (2020). Non-Medical Logistics Management at Salewangan Maros Regional General Hospital. Scientific Study of Public Administration Students (KIMAP), 1, 3. <https://journal.unismuh.ac.id/index.php/kimap/index>
- Ramadhan, F. (2020). Logistics Management of Medical Devices in Puskesmas. Higeia Journal of Public Health Research and Development, 4(2), 212–222.
- Ramadhika Dwi Poetra. (2019). Logistics management of rs. Gastronomía ecuatoriana y turismo local., 1(69), 5–24.
- Medan Helvetia District Strategic Plan, 2021 -2026. (2021). Medan Helvetia District Strategic Plan 2021-2026 Medan City Government.
- Sari, A., Yuniar, N., & Meilahsari, R. (2024). Analysis of Drug Logistics Management at the Kolaka Regency Health Office in 2023. 2(6).

- Shafa, Noorhidayah, & Suryanto, D. (2021). Analysis of Drug Logistics Management at the Wasah Health Center, Kandangan City, South Hulu Sungai Regency in 2021. *Journal of Management*, 1(1), 1–8.
- Sipayung, F., Efendy, I., Study, P., Science, S., Society, K., Society, F. K., Helvetia, K., Jl, A., Sumarsono, K., & Medan, N. (2024). Analysis of the Management of Pharmaceutical Preparations in Hospital Pharmacy Installations in Medan City in 2023 is the responsibility of the central government, but it is the responsibility of the government. 6.
- Syahputra, A. (2019). Overview of drug storage in the warehouse uptd