

## **KORESPONDENSI JURNAL**

Judul Artikel : Implementation of Patient Drug Prescription Services in Hospital  
Pharmacy Installations: Has it Been Manged Properly to Reduce  
Waiting Time?

Nama Jurnal : CONTAGION Scientific Periodical Journal of Public Health and  
Coastal Health

Penulis : 1. Eka Kristia Ayu Astuti  
2. Ayun Sriatmi  
3. **Farid Agushybana**

No	Kegiatan	Tanggal	Keterangan	Halaman
1	Submission Acknowledgement	16 Maret 2023	OJS	2
2	Permintaan Revisi	20 Maret 2023	e-mail	3-18
3	Editor Decision: Accepted	22 Maret 2023	e-mail dan OJS	19-20



## #14993 SUMMARY

SUMMARY REVIEW EDITING

### SUBMISSION

Authors	Eka Kristia Ayu Astuti, Ayun Sriatmi, Farid Agushybana
Title	Implementation of Patient Drug Prescription Services in Hospital Pharmacy Installations: Has It Been Managed Properly to Reduce Waiting Time?
Original file	14993-35555-1-SM.DOC 2023-03-16
Supp. files	14993-35555-1-SP.PDF 2023-03-16
Submitter	Eka Kristia Ayu Astuti
Date submitted	March 16, 2023 - 12:48 PM
Section	Articles
Editor	Putra Siregar
Author comments	Mohon bantuannya untuk bisa segera di proses, terimakasih
Abstract Views	81

### STATUS

Status	Published Vol 5, No 1 (2023): CONTAGION
Initiated	2023-03-22
Last modified	2023-04-01

### SUBMISSION METADATA

#### AUTHORS

Name	Eka Kristia Ayu Astuti
URL	https://scholar.google.co.id/citations?hl=en&user=wBUR294AAAAJ
Affiliation	Universitas Diponegoro
Country	Indonesia
Competing interests	—
CI POLICY	—
Bio Statement	—
Name	Ayun Sriatmi
URL	https://scholar.google.co.id/citations?user=KHM68MAAAJ&hl=id
Affiliation	Universitas Diponegoro
Country	Indonesia
Competing interests	—
CI POLICY	—
Bio Statement	—
Name	Farid Agushybana
URL	https://scholar.google.co.id/citations?user=bxDMQSM5AAAJ&hl=id
Affiliation	Universitas Diponegoro
Country	Indonesia
Competing interests	—
CI POLICY	—
Bio Statement	—

Principal contact for editorial correspondence.

### TITLE AND ABSTRACT

Title	Implementation of Patient Drug Prescription Services in Hospital Pharmacy Installations: Has It Been Managed Properly to Reduce
-------	---

#### FOCUS AND SCOPE

#### EDITORIAL TEAM

#### REVIEWER

#### PEER REVIEW PROCESS

#### PUBLICATION ETHICS

#### AUTHOR GUIDELINES

#### SUBMISSION GUIDELINES

#### COPYRIGHT NOTICE

#### OPEN ACCESS POLICY

#### INDEXING

#### AUTHOR FEES

#### CONTACT

#### USER

You are logged in as...  
ekakristiaayuastuti28

- My Journals
- My Profile
- Log Out

#### JOURNAL TEMPLATE



#### SUPPORT AND TOOLS

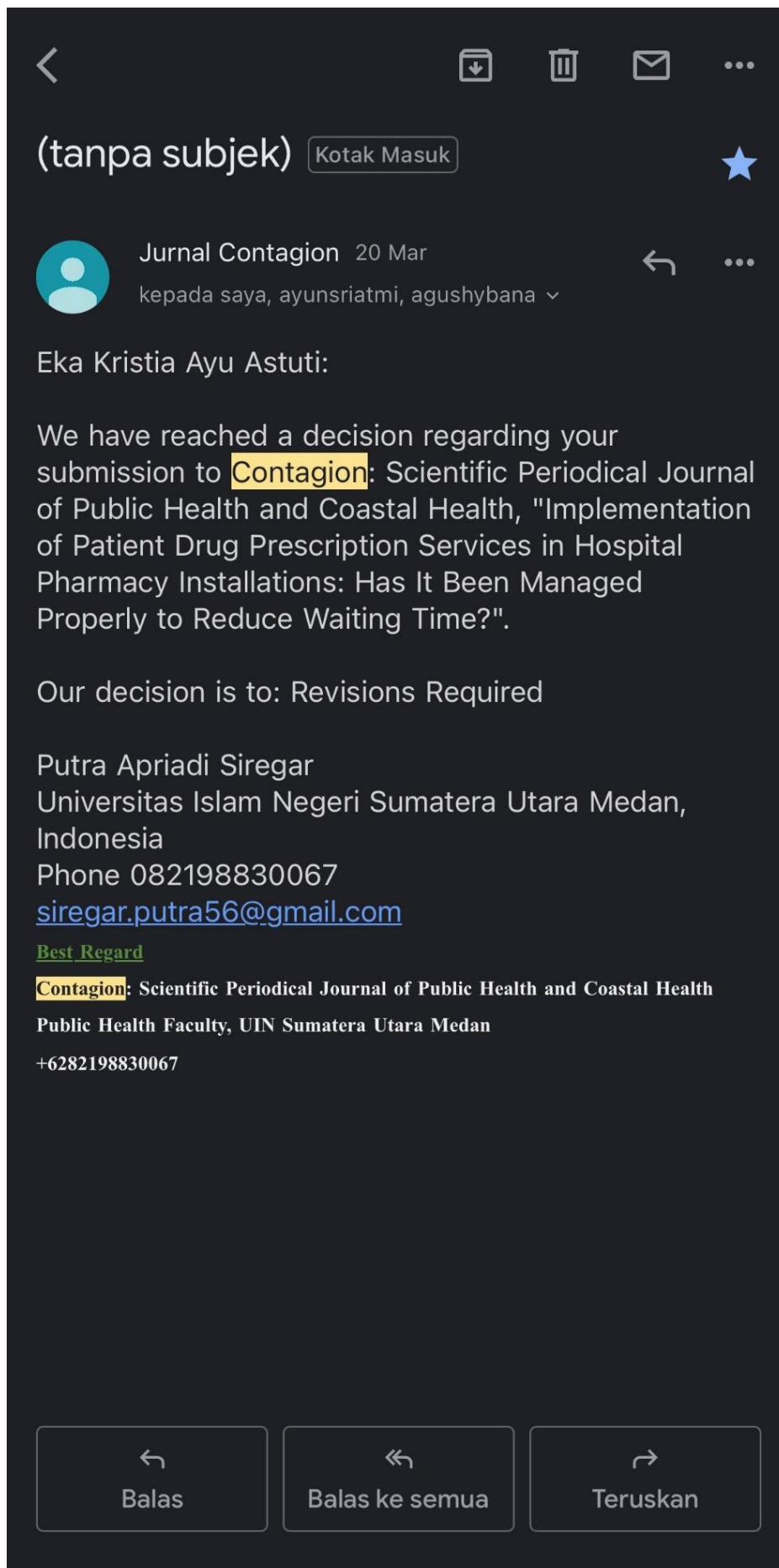


#### VISITORS



#### LICENSES







## Implementation of Patient Drug Prescription Services in Hospital Pharmacy Installations: Has It Been Managed Properly to Reduce Waiting Time?

Eka Kristia Ayu Astuti<sup>1\*</sup>, Ayun Sriatmi<sup>2</sup>, Farid Agushybana<sup>3\*</sup>

<sup>1\*</sup>Department of Master Public Health, Faculty of Public Health, Diponegoro University, Semarang

<sup>2</sup>Department of Health Policy and Administration, Faculty of Public Health, Diponegoro University, Semarang

<sup>3\*</sup>Department of Biostatistics and Demography, Faculty of Public Health, Diponegoro University, Semarang

Email correspondensi : [agushybana@lecturer.undip.ac.id](mailto:agushybana@lecturer.undip.ac.id)

<p><b>Track Record Article</b></p> <p>Accepted:</p> <p>Published:</p>	<p style="text-align: center;"><b>Abstract</b></p> <p>The hospital pharmacy installation plays an essential role in the hospital, where the hospital pharmacy installation manages the management and distribution of drugs. The achievement of quality indicators related to the waiting time for concoction and non-concoction drug services at the Outpatient Pharmacy Installation of X Kendal Hospital still needs to be consistent. Patients also complain about long waiting times. This study aims to determine whether the implementation of patient drug prescription services in the Hospital Outpatient Pharmacy Installation has been appropriately managed or needs improvement. This research is qualitative research with a phenomenological approach. Purposive sampling researchers selected the research subjects. The subjects in this study consisted of four primary informants and two triangulation informants. The results of the in-depth interviews found that during no initial check was made on the identity of the patient or the prescription received because due to the habit of piling up prescriptions, the dose given by the doctor was not correct. Hence, it had to be recalculated, the amount of drug stock in the system was not correct always the same as the available physical stock, lack of pharmaceutical staff during the drug preparation process, and there were medication errors in the drugs that had been prepared so that the staff had to re-prepare them, and errors in the drug delivery process due to staff negligence, causing longer waiting times for prescription services. Therefore, it was concluded that the implementation of prescription services at hospital X in Kendal district had not been managed optimally or appropriately. Hospitals still need to evaluate and improve the process of implementing prescription services to reduce waiting times.</p> <p><b>Keyword: Drug Prescription, Pharmacy Installation, Service</b></p>
---	---

Commented [Reviewer21]: More specific suggestions, adjust to the problems that occur

## INTRODUCTION

The hospital pharmacy installation has an essential role for the hospital because the pharmacy installation is the place for all pharmaceutical work activities used to meet the needs of services in the hospital. The services in pharmaceutical installations must be distinct from the hospital health care system because pharmacy services are also oriented towards patient care, providing quality medicines, and carrying out clinical pharmacy services for all levels of society. That means that pharmaceutical installations manage and distribute drugs in hospitals, which are also known as revenue centers for hospitals. Therefore, the quality of service in pharmaceutical installations is an essential issue for every hospital (Citraningtyas et al., 2022; Nina & Hakim, 2020).

One indicator of the quality of pharmaceutical services in hospitals is the waiting time for patient prescription services. Long drug waiting times can have an impact on patient satisfaction and can cause patient fatigue (Amirudin & Koesnadi, 2021). Minimum service standards for waiting time for prescription services stipulated by the Decree of the Minister of Health are grouped into two, namely waiting time for non-concoction drug services 30 minutes and mixed drugs 60 minutes (Keputusan Menteri Kesehatan Republik Indonesia Nomor 129/Menkes/SK/II/2008 Tentang Standar Pelayanan Minimal Rumah Sakit., 2008). Patient prescription services in pharmaceutical installations must be carried out as optimally as possible, considering that hospital revenue from the pharmacy can be increased through prescriptions served, where <90% of services in the hospital use pharmaceutical supplies and 50% of hospital revenue comes from pharmaceutical supplies (Misi et al., 2020).

The management of the patient prescription service process at the hospital pharmacy installation consists of receiving prescriptions, reviewing prescriptions, checking availability, preparing drugs, reviewing drugs, and hand over the drugs (*Petunjuk Teknis Standar Pelayanan Kefarmasian Di Rumah Sakit*, 2019). Prescription services are not only related to how to provide fast prescription services to patients according to standards but also how to ensure that the drugs given to patients are appropriate and safe to use. According to the World Health Organization (WHO), from the findings of 10 facts related to patient safety in developing countries, 1 in 10 patients who take treatment in hospitals have the potential to experience medical errors and adverse drug errors. (World Health Organization, 2017). Medication errors are defined as events that lead to inappropriate drug use that can be prevented (Dalmolin, Rotta, & Goldim, 2013).

The beginning of medication errors stems from an inappropriate prescription service process starting from drug selection errors and inappropriate dosages, frequencies, strengths, dosage forms, routes of administration, and inadequate drug use procedures. (Anzan, Alwhaibi, Almetwazi, & Alhawassi, 2021). The occurrence of medication errors can occur at any stage when an action that should be anticipated is not carried out due to a lack of knowledge, poor performance of officers, and psychological deviations (Eisa-Zaei, Rani Hiremath, & Prasad, 2018). Quoting Dwiprahasto's research results in Handayani's 2018 study, it was found that 11% of medication errors were found in the process of administering drugs to patients, either in the form of dosage errors or drugs being handed over to patients (Handayani, 2018). Medication errors can have implications for lawsuits and end up in court, considering the most dangerous impact that can be caused is the loss of the patient's life. The

fact is that medication errors are pretty common but are underreported because the reporting system could be more optimal (Anggraini & Fatimah, 2016; Tampubolon, 2018). Patient medication errors are most often found in outpatient pharmacy services (Hestiarini, Amalia, & Margayani, 2017).

Based on these findings, paying attention to managing patient prescription services in hospitals is necessary to prevent patient dissatisfaction and medication errors. This research was conducted at one of the X Hospitals in Kendal, with a relatively complete provision of health services. Based on prescription acceptance data at the X Kendal Hospital Outpatient Pharmacy Installation from January to March 2022, most patient prescriptions that enter the outpatient pharmacy installation are BPJS patient prescriptions with a difference of up to 59.4% compared to general patient prescriptions. Based on the achievement of the standard waiting time for prescription services from January - March 2022, it shows inconsistent results where the lowest achievement is 80.77% and the highest is 91.82% for non-concoction recipes, while the lowest concoction is 92.31%, and the highest is 94.55%. In addition, based on the results of a preliminary study of 6 BPJS patients, five patients stated that the waiting time for prescription services was long. The results of an interview with one of the pharmacy officers stated that medical incidents could occur due to human error in the implementation of prescription services, especially when the intensity of prescriptions received was high.

Therefore, based on the abovementioned problems, this research focuses on analyzing the implementation of BPJS patient prescription services in hospital outpatient pharmacy installations. The aim is to describe how the implementation of the prescription service process is running at the Outpatient Pharmacy Installation at X Kendal Hospital.

## METHODS

This research is qualitative research with a phenomenological approach. Collecting research data through in-depth interviews with research subjects using interview guidelines. Purposive sampling researchers selected the research subjects. The subjects in this study consisted of four primary informants and two triangulation informants. The main informants for this study consisted of two pharmacists and two pharmacy technicians, while the triangulation informants consisted of one head of pharmacy installation and one outpatient pharmacy coordinator. This research was carried out in September-October 2022 at X Hospital in Kendal Regency. The variables analyzed in this study focused on aspects of the



prescription service process, which consisted of receiving prescriptions, reviewing prescriptions, checking availability, preparing drugs, reviewing drugs, and delivering drugs.

## RESULTS AND DISCUSSION

As supporting data, the researchers observed the long waiting time for prescription services using a stopwatch on 62 non-concoction BPJS patient prescriptions and 38 concoction recipes. Based on the analysis of calculating the average waiting time for patient prescription services, the average waiting time for non-concoction prescription services was 41.03 minutes and 50.42 minutes for concoctions. These results indicate that non-concoction prescription services for BPJS patients still exceed 11.03 minutes from the standard set by the Ministry of Health. Therefore, the discussion aspect in this study was carried out to provide a complete description regarding the implementation of the prescription service process at the Outpatient Pharmacy Installation of Hospital X, Kendal Regency. The recipe service process consists of the following:

### 1. Acceptance of Prescription

The process of receiving prescriptions is limited to receiving files from patients. X Hospital in Kendal Regency has implemented electronic prescribing, so patients only need to come to the pharmacy to submit documents such as participant eligibility letters or payment receipts. Based on the results of interviews with research informants, prescriptions can be received by both pharmacists and pharmaceutical technical personnel directly or stacked in advance. At the time of receipt of this prescription, an initial check of the patient's identity or the prescription was not carried out because of the habit of piling up prescriptions, especially during peak hours.

"...the patient came from the polyclinic and then they put the participant's eligibility letter, that's it..." (Main Informant 3, Pharmacy Technical Personnel)

The pharmacist who receives the prescription has the responsibility of identifying the patient and must confirm the correctness of the patient's identity (Rasool et al., 2020). Checking the patient's identity when receiving a prescription from a patient is essential for staff to carry out because it is not sure that the prescription owner is the one submitting the prescription, and the prescription officer should have ensured the correct patient treatment profile (Manias et al., 2021). Ensuring the correctness of the patient's identity on the prescription received is important to avoid medication errors (Ratu, Mongi, Pareta, & Hariyadi, 2022)

Commented [Reviewer22]: Results and discussion are separated. The results are explained in the form of a matrix table between the informants' answers

The results of in-depth interviews with research informants also found that the order in which patient prescriptions were collected differed from when patients arrived because one pile was divided by two prescription review officers. Meanwhile, the speed at which officers process prescriptions during the prescription review process varies. This is what causes complaints in patients.

“...from above, it means that he was the last to stick it, that is the latest order, but the problem is that when we divide it in two, it becomes confusing because there is only one place for the medicine to be stacked there. Just share it without seeing which one is in the middle. Did you ever complain that he came first even though he came together...” (Main Informant 2, Pharmacist)

The findings regarding the pattern of taking patient prescriptions show that this pattern is different from the theoretical basis of the prescription service queuing system adopted by pharmacy installations. The prescription service queue system at the X Hospital Outpatient Pharmacy Installation uses a queuing discipline system approach with the First Come First Served (FCFS) method, which mean customers who come first will be served first (Nengsih, 2017). The queuing system is implemented for patient convenience and to avoid complaints from patients regarding the queuing system in the hospital (Rohim, Fitriansyah, & Sarwandianto, 2020). Patients who queue for too long at the pharmacy can reduce the patient's opportunity to take advantage of the drug so that the health complaints suffered by the patient are reduced (Lesmana et al., 2021). Psychologically, giving a queue number can provide certainty how long to be provided for waiting and reduce frustration (Furnham, Treglown, & Horne, 2020).

Based on the results of the observations of this study, officers are accustomed to piling up the prescriptions they receive so that officers wait to follow them up to the next process. This causes a long lag time, so it lengthens the waiting time. The cause of the accumulation of patient prescriptions in the pharmacy is due to the doctors' practice not being on time. In contrast, the speed at which the officers enter prescriptions varies.

“... because the drug prescriptions came at the same time, which was due to the doctor's practice at the same time all started and it should have started at 16.00, but some were late...” (Triangulation 1 Informant, Outpatient Pharmacy Coordinator)

This is in line with research at the Roemani Hospital in Semarang in 2020, which states that process delays can occur, one of which is because too many prescriptions go to the pharmacy, so the prescriptions pile up. The accumulation of prescriptions can lead to long



waiting times for prescription services at the hospital pharmacy (Suwarni, Nimah, & Wulandari, 2020).

## 2. Prescription Review

Reviewing prescriptions in this study was intended as a process for officers reviewing prescriptions received, starting from checking administrative, pharmaceutical, and clinical prescriptions. Based on the results of in-depth interviews with research informants, the process of reviewing non-concoction and concoction recipes is no different. It is just that the process of reviewing concoction recipes is longer than non-concoction recipes because there is a calculation of the concoction dosage. The dosage given by the doctor is sometimes inaccurate, so the pharmacist must recalculate and re-edit it. Cases like that make the recipe service process even longer.

"... concoction and non-concoction drugs have the same process, but for concoction drugs, the dose will be recalculated, especially for children, because sometimes the doctor forgets or mistypes the name of the e-prescription, maybe it is a rush..." (Main Informant 1, Pharmacist).

Dissonant drug dosages lead to long waiting times (Yani, Maraiyuna, & Vonna, 2022). The inaccuracy of dosing causes the prescription service process to be delayed (Suwarni et al., 2020). Reviewing prescriptions is considered an important stage because if an error occurs, the resulting impact can be detrimental to the patient due to medication errors or therapy failure caused by drug interactions. (Peraturan Menteri Kesehatan Republik Indonesia Nomor 72 Tahun 2016 Tentang Standar Pelayanan Kefarmasian Di Rumah Sakit, n.d.). A medication error can be fatal, ranging from disability and even death to the patient. Therefore the recipe review process aims to prevent omissions in the inclusion of information, poor prescription writing, and inappropriate writing (Anna Yusuf, Nugraha, & Mentari, 2020).

The informants of this study also said that the pharmacist should have carried out the prescription review because the prescription review was prone to medication errors. However, this process is still assisted by one pharmaceutical technical staff because in 1 shift, there are only three pharmacists, of which two pharmacists are in charge of drug delivery. Pharmacists must carry out even the stages of verification and review of prescriptions because they prevent medication errors from occurring (Anwar, Sinala, Nurisyah, Adhayanti, & Dewi, 2022). The process of reviewing prescriptions must be carried out by pharmacists

because reviewing prescriptions is the stage of assessing the conformity of prescriptions with pharmaceutical, administrative, and even clinical drug provisions (Putri & Nilansari, 2021). One of the studies at the Pertamina Dumai Hospital in 2019 found a high probability of medication errors occurring due to the error of the pharmacist assistant in interpreting the doctor's prescription, causing fatal consequences for the patient (Mulac, Taxis, Hagesaether, & Gerd Granas, 2021). If something like that happens, the pharmacist is should took the responsibility (Oktarima, Deliana, & Hasanah, 2019). Pharmacists have an important role in pharmaceutical services, namely prescription review, drug preparation, patient education, and drug management (Shao et al., 2020).

### 3. Availability Check

Availability check checks the stock of drugs the doctor requests in the patient's prescription. Based on the results of in-depth interviews regarding the process of checking availability, research informants stated that the same officer carried out the process of checking drug stocks using a pharmaceutical information system when reviewing prescriptions. Officers can see the availability of drug stock in outpatient care, inpatient care, and warehouses through the system. The amount of stock in the system sometimes differs from the amount of physical stock in the outpatient pharmacy. As a result, the officer had to check manually by asking the drug preparation officer in the drug preparation room, thus wasting time. After the officer has finished checking the availability of drug stock, the officer will print the queue number, label, print doctor's order, and medicine receipt.

"... there is a difference between the drug stock here and what is available in the system, and that is almost always a routine problem, miss..." (Main Informant 2, Pharmacist)

Checking the availability of drugs must be done every period because it involves excellent service to ensure the availability of drugs for patients to achieve quality health services. (Pratomo, Umaternate, & Febriani, 2018). The benefits of advances in computer technology can also be implemented in the field of information systems, one of which is in the drug industry (Rasool et al., 2020). The use of information systems in checking drug stocks can also have a negative value if it is not managed correctly, one of which is a difference between the drug stocks recorded by the system and the available physical stock. (Purwaningtias, 2016).

The informants of this study also stated that the reason for the vacancy in outpatient drug stocks was due to the lack of availability of drug buffer stocks for reasons of limited

storage space, hospital employees' drug purchases that were not recorded immediately, the number of patients was unpredictable, delivery from distributors late, and the warehouse sets a budget.

“...Medicine stocks are often empty, especially in the outpatient department because there is not much stock because there is a maximum standard for buying drugs, delivery delays, distributors who do not have stock, employees who take medicines but have not yet entered them, medicines that are often empty such as ISDN or other medicines...” (Key Informant 4, Pharmacy Technical Personnel)

The problem of drug shortages is a common thing that often occurs in hospitals. The occurrence of drug shortages indicates that the hospital has not optimally controlled drug supplies (Pratomo et al., 2018). The problem of drug supply must be addressed immediately, because it affects the ease of patients to get medicine (Hanjaya, Fitriani, & Syamsul, 2021). Patients who do not receive complete medication are dissatisfied with pharmaceutical services. Therefore, pharmaceutical installations are advised to procure drugs routinely or frequently consumed by patients in sufficient quantities, especially for patients with chronic disease conditions (Kalungia & Kamanga, 2016).

#### 4. Drug Preparation

Drug preparation is the process of preparing the drug requested by the doctor. Based on the results of in-depth interviews with research informants, the officers responsible for drug preparation are pharmaceutical technical staff. The research informants felt a shortage of pharmacy technicians, especially during the afternoon shift when patient prescription services started to get crowded. The number of pharmaceutical technical staff on duty in the afternoon shift is five people. This shortage was felt because one of the pharmaceutical technical staff assisted with the prescription review process when the intensity of receiving prescriptions was high, so the composition of the preparation staff was reduced. As a result of the shortage of officers during the preparation of the drug, only one officer carried out the preparation of one prescription, and the double check process was not carried out by the officer in the preparation of the drug, which resulted in frequent drug errors being found that had been prepared.

"... there is a shortage of pharmacy technicians at busy times, so the person taking medicine and checking the medicine are the same person, sometimes when taking medicine

they are not careful, so after arriving at the delivery it is not checked properly, so they go back and forth..." (Main informant 1, Pharmacist)

According to research conducted at Anwar Medika Hospital, it was stated that officers who screened prescriptions, took drugs, wrote labels, and handed over drugs should be done by different people so that service was faster and avoided the possibility of drug errors (Sari, Wahyuni, & Anindita, 2020). Salmasi's research stated that the forms of medication errors at the drug preparation stage varied, such as labeling errors, wrong drug prepared when not prescribed, wrong dosage/form/amount of drug prepared, wrong diluent or wrong amount of diluent, and incorrect compounding. appropriate (Salmasi, Khan, Hong, Ming, & Wong, 2015).

In addition, during the drug preparation process, research informants stated that the officers' adherence to drug preparation procedures was still lacking, such as not using gloves during the drug preparation process, the process of weighing concoction drugs was not carried out properly, and the blender tool for dispensing was not cleaned when transferring preparations between drugs. These things can happen because of habits and time constraints. The following is a statement by one of the research informants:

"...the officers should have reviewed it again when preparing the medicine, but here most of it only reads the name and the amount so it depends on the person, so there are many mistakes. Continue to mix the medicine less hygienic because they still do not use a hand scoon. Then some individuals are lazy to clean their blenders after use...." (Key informant 4, Pharmacy Technical Personnel)

Even though the application of strict procedures not only protects patients but also maintains the safety of workers. Therefore it is necessary to give firmness to the attitude of pharmacists who violate the rules (Thomas, Phipps, & Ashcroft, 2016). At the time of drug preparation, the calculation process should be carried out with a scale, double check to ensure the correct identity of the drug being mixed, and must use complete Personal Protective Equipment (PPE) when compounding to maintain the quality of the resulting preparations such as protective clothing, gloves, masks, and protective glasses (*Petunjuk Teknis Standar Pelayanan Kefarmasian Di Rumah Sakit*, 2019; Satibi, Rokhman, & Aditama, 2018) he process of calculating drug formulations must be carried out accurately because if the calculation is insufficient, it can lead to the potential for drug therapy failure. If the calculation is excessive, pharmaceutical installations will lose significant revenue (Siregar & Amalia, 2004). The use of blenders that are not cleaned after use can cause cross-

contamination, which is harmful to patients due to the presence of potent drugs left behind (Thong, Manrique, & Steadman, 2018).

Furthermore, in-depth interviews with research informants also found that the storage of Like similar to Sound Alike (LASA) drugs was still poorly organized. The Outpatient Pharmacy Installation at X Kendal Hospital uses an alphabetic storage system so that LASA drug storage is still close together, causing medication errors when the staff is not careful. This is exacerbated by the fact that drug labeling classified as LASA has not been carried out optimally. The following is evidence of one informant's statement:

“...the method of storing alphabets is to keep the LASA separated, ME is often because of the LASA, now LASA/HIGH ALERT labeling is not maximized, some are good, some are not good. So the preparation is often ME...” (Triangulation 1 informant, Outpatient Pharmacy Installation Coordinator)

According to the Regulation of the Minister of Health, Number 72 of 2016 concerning Pharmaceutical Service Standards in Hospitals, drugs that are classified as LASA (similar in appearance and name) are prohibited from being placed close together and must be given a special label "LASA" to avoid drug taking errors (Peraturan Menteri Kesehatan Republik Indonesia Nomor 72 Tahun 2016 Tentang Standar Pelayanan Kefarmasian Di Rumah Sakit, n.d.). Factors that cause errors in drug preparation include drugs with similar packaging, LASA drugs, LASA drug storage systems, high workload, lack of staff, and distraction from the environment (Aldhwaihi, Schifano, Pezzolesi, & Umaru, 2016). Incorrect storage of LASA drugs can cause severe losses, especially for high-alert drugs. The alphabetic storage method is riskier for LASA drugs because of the difficulty in determining the difference between generic and patented drug products (Ruutiainen, Kallio, & Kuitunen, 2021).

## 5. Drug Review

Drug review in this study is intended to re-examine the drugs that have been prepared before being handed over to patients. Based on information from research informants, drug reviews were carried out by pharmacists. The drug preparation department should have conducted the drug review process. However, due to a lack of preparation staff, it was handed over to the pharmacist who also doubles as the drug delivery officer. The process starts with the pharmacist calling the patient's queue number, checking the correctness and accuracy of the drug, and filling out the prescription review checklist, which should be done during the prescription review process. At the time of this drug review, pharmacists still quite often

found errors in the drugs that had been prepared, which could be in the wrong drug form, wrong dosage, or wrong label. The occurrence of medication errors in the prepared medicines also contributed to the long waiting time for prescription services because the medicines had to be re-prepared.

"...the experience of an error usually occurring during the preparation of the drug, sis, if the prescription review mistake is on the drug label, so all you have to do is print the label and take the appropriate drug..." (Main informant 1, Pharmacist)

This phenomenon may occur because medication errors can occur at any stage, starting from prescribing the doctor, reading the prescription, preparing the drug, dispensing the drug, or when using the drug. Medication errors most often occur at the prescribing and preparation stage. Medication errors on labels usually occur when the number of prescriptions received exceeds the capacity of the pharmacy, so pharmacy staff pays less attention to making labels properly (Maalangen, Citraningtyas, & Wiyono, 2019). Therefore, it is highly recommended that drug reviews be carried out three times, namely during drug preparation, drug delivery, and when providing drug information to prevent dispensing errors from occurring (Okyaviani, Andayani, & Pamudji, 2019).

## 6. Drug Delivery

Drug delivery is carried out by educating patients about drug use. Based on the results of interviews with research informants, the education provided by pharmacists when handing over drugs was in the form of information regarding drinking rules, frequency of drug use, drug functions, and drug side effects. The educational process is not limited by time because the level of patient acceptance is different. Medication errors were still found in the drug delivery process due to the negligence of the delivery officer. These things also cause the waiting time for prescription services to be extended.

"... there was an error in administering the drug in terms of delivery, that was because the LASA was in the medicine and I did not notice because it was too busy too, because it turned out that it was the father who took it and the father was in a hurry because it is asthma medicine..." (Main informant 2, Pharmacist)

Delivery of drugs is one of the crucial stages in pharmaceutical services, where pharmacists must explain information about drugs comprehensively and precisely. If the pharmacist conveys information about the drug too quickly, it causes the patient not to pay attention to the information provided by the pharmacist. Patients assume they can read the



directions for use on the drug label. The purpose of educating patients is that patients have knowledge related to drug use to prevent drug use errors and improve patient self-management behavior. Pharmacists are essential in ensuring the success of rational, safe, and effective treatment. Educating patients will make it easier for pharmacists to identify drug-related problems and provide alternatives to patients, with the aim that patients have compliance when taking drugs safely and correctly (Artini, Effendi, & Veranita, 2020; Saiful, Nugraheni, & Medisa, 2019).

## CONCLUSIONS

The length of time for prescription service for BPJS patients, both for concoction and non-concoction prescriptions, is made possible because of the implementation of the prescription service process itself, where each executor of the prescription service process has its constraints and complexities. Negligence by pharmacists or pharmaceutical technical personnel when carrying out the service process also contributes to a longer service process, for example, such as errors in drug preparation. Therefore, it can be concluded that the implementation of the patient prescription service process at the Pharmacy Installation of Hospital X in Kendal Regency is not optimal, so it impacts a long process. Hospitals need to evaluate and improve the implementation of the prescription service process for patients in pharmaceutical installations, considering that the pharmacy has an essential role in hospitals.

Commented [Reviewer23]: More specific suggestions, adjust to the problems that occur

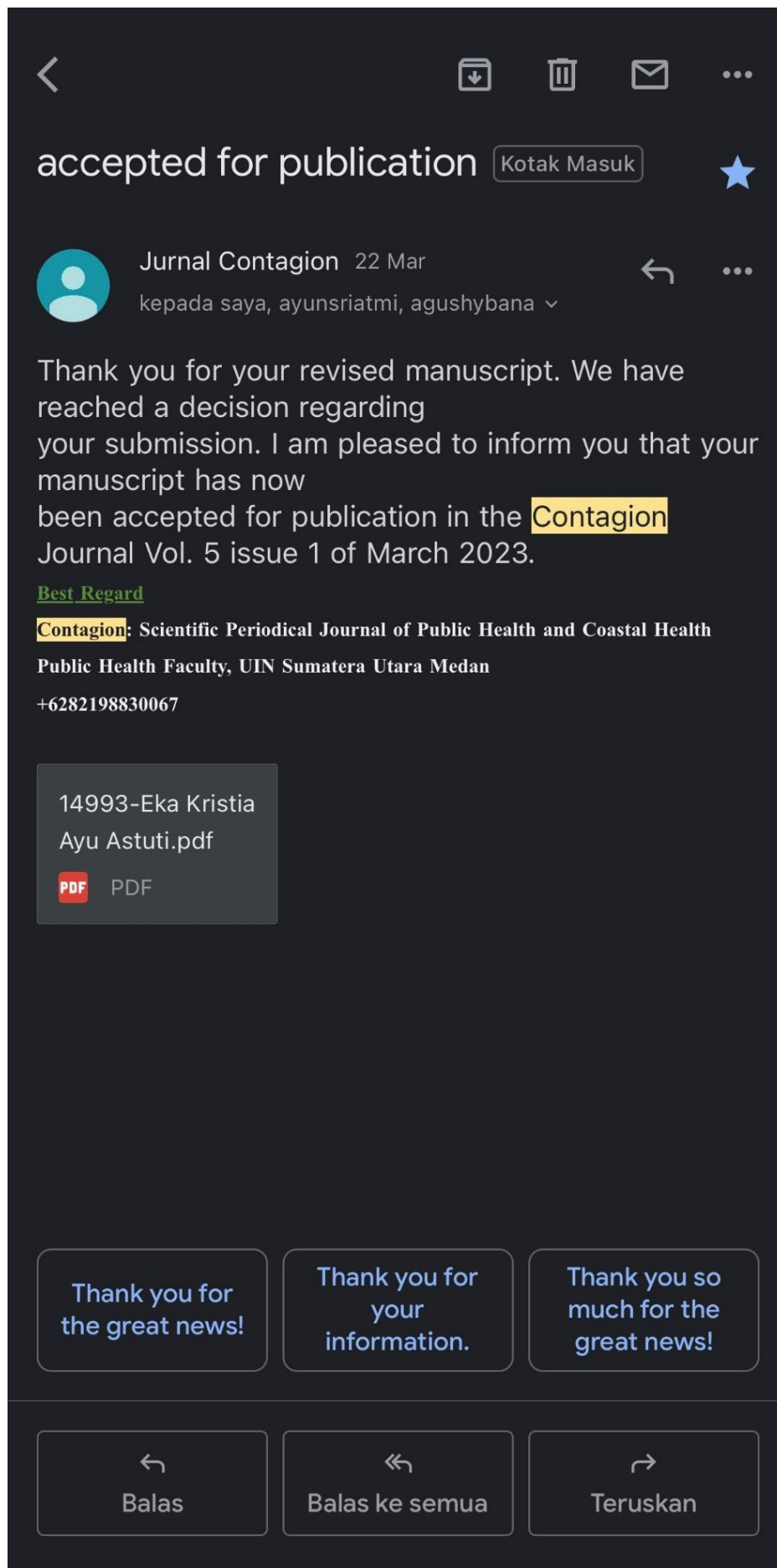
## REFERENCE

- Aldhwhaihi, K., Schifano, F., Pezzolesi, C., & Umaru, N. (2016). Systematic Review of the Nature of Dispensing Errors in Hospital Pharmacies. *Integrated Pharmacy Research and Practice*, 5, 1–10. <https://doi.org/10.2147/IPRP.S95733>.
- Amirudin, F., & Koesnadi, K. (2021). The Effect of Drug Types, Facility, and Infrastructure against the Waiting Times at the Pharmacy Installation of Caruban General Hospital. *Journal for Quality in Public Health*, 4(2), 204–210. <https://doi.org/10.30994/jqph.v4i2.211>
- Anggraini, A. N., & Fatimah, F. S. (2016). Evaluasi Penerapan Patient Safety dalam Pemberian Obat di Wilayah Kerja Puskesmas Kasihan II Kabupaten Bantul Yogyakarta. *Jurnal Ners Dan Kebidanan Indonesia*, 3(3), 162. [https://doi.org/10.21927/jnki.2015.3\(3\).162-168](https://doi.org/10.21927/jnki.2015.3(3).162-168)
- Anna Yusuf, V. F., Nugraha, D., & Mentari, N. (2020). Kajian Resep Secara Administrasi dan Farmasetik Pada Pasien Rawat Jalan Di RSUD dr. Soekardjo Kota Tasikmalaya Periode 10 Maret-10 April 2017. *Journal Farmasi Dan Sains Indonesia*, 3(2), 1–16. Retrieved from <https://journal.stifera.ac.id/index.php/jfsi/article/view/54>
- Anwar, I., Sinala, S., Nurisyah, N., Adhayanti, I., & Dewi, S. T. R. (2022). Review: Medication Error in Prescribing and Dispensing Phases on Outpatient. *Jurnal Farmasi*

- Galenika (Galenika Journal of Pharmacy) (e-Journal)*, 8(1), 52–64.  
<https://doi.org/10.22487/j24428744.2022.v8.i1.15800>
- Anzan, M., Alwhaibi, M., Almetwazi, M., & Alhawassi, T. M. (2021). Prescribing Errors and Associated Factors in Discharge Prescriptions in the Emergency Department: A prospective Cross-Sectional Study. *PLoS ONE*.  
<https://doi.org/10.1371/journal.pone.0245321>
- Artini, K. S., Effendi, T. J. B., & Veranita, W. (2020). Drug Information Services by Pharmacist and Patient Compliance in Drug Use. *International Proceedings the 2nd International Scientific Meeting on Health Information Management (ISMohIM)*, 5(Query date: 2022-10-01 10:26:38), 641–648. Retrieved from <https://publikasi.apfirmik.or.id/index.php/ismohim2020/article/view/192/189>
- Citraningtyas, G., Astuty Lolo, W., Jayanto, I., Pratasik, A., Wijaya, H., & Gousuddin, M. (2022). Development Strategy for Pharmacy Installation at a Hospital in Bitung City Using Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis Method. *Malaysian Journal of Medicine and Health Sciences*, 18(SUPP2), 92–97.
- Dalmolin, G. R. dos S., Rotta, E. T., & Goldim, J. R. (2013). Medication errors: Classification of seriousness, type, and of medications involved in the reports from a university teaching hospital. *Brazilian Journal of Pharmaceutical Sciences*, 49(4), 793–802. <https://doi.org/10.1590/S1984-82502013000400019>
- Eisa-Zaei, A., Rani Hiremath, S. R., & Prasad, S. (2018). Comprehensive Evaluation of Medication Errors Incidence At a Tertiary Care Hospital. *International Journal of Pharmaceutical Sciences and Research*, 9(12), 5315. Retrieved from <http://dx.doi.org/10.13040/IJPSR.0975-8232.9>
- Furnham, A., Treglown, L., & Horne, G. (2020). The Psychology of Queuing. *Psychology*, 11(03), 480–498. <https://doi.org/10.4236/psych.2020.113033>
- Handayani, T. W. (2018). Analisis Faktor Penyebab Medication Error Di Rumah Sakit Undata Kota Palu. *Farmakologika Jurnal Farmasi*, 15(2).
- Hanjaya, Fitriani, A. D., & Syamsul, D. (2021). Faktor-Faktor Yang Mempengaruhi Sakit Umum Daerah Dr . Pirngadi Kota Medan Tahun 2020. *Journal of Healthcare Technology and Medicine*, 7(1), 14–24.
- Hestiarini, V., Amalia, L., & Margayani, E. (2017). Studi Observasional Kesalahan Pengobatan di DepoFarmasi Rawat Jalan RSUP Dr. Hasan Sadikin Bandung. *Jurnal Ilmu Kefarmasian Indonesia*, 15(2), 213.
- Kalungia, A., & Kamanga, T. (2016). Patients' Satisfaction with Outpatient Pharmacy Services at the University Teaching Hospital and Ndola Central Hospital in Zambia. *Journal of Preventive and Rehabilitative Medicine*, 1(1), 13–18. <https://doi.org/10.21617/jprm.2016.0101.3>
- Keputusan Menteri Kesehatan Republik Indonesia Nomor 129/Menkes/SK/II/2008 Tentang Standar Pelayanan Minimal Rumah Sakit*. (2008). Jakarta.
- Lesmana, T. C., Studi, P., Kesehatan, I., Tinggi, S., Kesehatan, I., Husada, W., ... Husada, W. (2021). Keluhan Dengan Kepuasan Pasien Rawat Jalan Jaminan Kesehatan Nasional Di Rumah Sakit Ludira Husada Tama. *Jurnal Endurance*, 6(1), 70–83. <https://doi.org/10.22216/jen.v6i1.141>
- Maalangen, T., Citraningtyas, G., & Wiyono, W. I. (2019). Identifikasi Medication Error pada Resep Pasien Poli Interna di Instalasi Farmasi Rumah Sakit Bhayangkara Tk. Manado. *Pharmacon*, 8(2), 434. <https://doi.org/10.35799/pha.8.2019.29310>
- Manias, E., Street, M., Lowe, G., Low, J. K., Gray, K., & Botti, M. (2021). Associations of person-related, environment-related and communication-related factors on medication errors in public and private hospitals: a retrospective clinical audit. *BMC Health*

- Services Research*, 21(1), 1–13. <https://doi.org/10.1186/s12913-021-07033-8>
- Misi, M. A., Arifin, M. A., Palutturi, S., Indar, Thaha, R. M., Naiem, F., & Abadi, M. Y. (2020). Evaluation of Drug Planning and Procurement at the Pharmacy Installation of Regional General Hospital Dr. M. Haulussy Ambon. *Medico-Legal Update*, 20(4), 1150–1156. <https://doi.org/10.37506/mlu.v20i4.1981>
- Mulac, A., Taxis, K., Hagesaether, E., & Gerd Granas, A. (2021). Severe and fatal medication errors in hospitals: findings from the Norwegian Incident Reporting System. *European Journal of Hospital Pharmacy*, 28(e1), E56–E61. <https://doi.org/10.1136/ejhpharm-2020-002298>
- Nengsih, M. K. (2017). Analisis Sistem Antrian Pelayanan Administrasi Pasien rawat Jalan Pada Rumah Sakit Padmalalita Muntian. *Management Insight*, 12(1), 68–78. <https://doi.org/10.33369/insight.12.1.68-78>
- Nina, Y., & Hakim, I. M. (2020). Lean Hospital Approach for Improving the Process of Taking Drug Services in Outpatient Pharmacy Installations. *IOP Conference Series: Materials Science and Engineering*, 1003(1). <https://doi.org/10.1088/1757-899X/1003/1/012105>
- Oktarima, S., Deliana, E., & Hasanah, U. (2019). Tanggung Jawab Apoteker Terhadap Kesalahan Asisten Apoteker Di Luar Jam Praktek Apoteker Di Rumah Sakit Pertamina Dumai. *JOM Fakultas Hukum*, 6(2), 1–15. Retrieved from <https://jom.unri.ac.id/index.php/JOMFHUKUM/article/view/26156>
- Okaviani, D., Andayani, T. M., & Pamudji, G. W. (2019). Analisis Pelaksanaan Standar Pelayanan Minimal Rumah Sakit Bidang Farmasi Di Instalasi Farmasi Rumah Sakit Umum Daerah Dr Abdul Aziz Singkawang. *Jurnal Farmasi & Sains*, 2(2). Retrieved from <https://journal.stifera.ac.id/index.php/jfsi/article/view/25/26>
- Peraturan Menteri Kesehatan Republik Indonesia Nomor 72 Tahun 2016 Tentang Standar Pelayanan Kefarmasian Di Rumah Sakit.
- Petunjuk Teknis Standar Pelayanan Kefarmasian di Rumah Sakit. (2019). Jakarta: Kementerian Kesehatan Republik Indonesia.
- Pratomo, G. S., Umaternate, A., & Febriani, T. (2018). Evaluasi Ketersediaan Obat Instalasi Farmasi Rumah Sakit Islam PKU Muhammadiyah Palangka Raya. *Borneo Journal of Pharmacy*, 1(1), 51–55. <https://doi.org/10.33084/bjop.v1i1.400>
- Purwaningtias, F. (2016). Sistem Informasi Apotek Menggunakan Metode First Expiry First Out (FEFO) Pada Rumah Sakit Muhammadiyah Palembang. *Jurnal Informatika*, 2(1), 1–23.
- Putri, P. H., & Nilansari, A. F. (2021). The Information System Development of Prescription Screening Management in Public Health Center i Kotagede Yogyakarta. *Journal of Physics: Conference Series*, 1823(1). <https://doi.org/10.1088/1742-6596/1823/1/012003>
- Rasool, M. F., Rehman, A. ur, Imran, I., Abbas, S., Shah, S., Abbas, G., ... Hayat, K. (2020). Risk Factors Associated With Medication Errors Among Patients Suffering From Chronic Disorders. *Frontiers in Public Health*, 8(November), 1–7. <https://doi.org/10.3389/fpubh.2020.531038>
- Ratu, A., Mongi, J., Pareta, D. N., & Hariyadi. (2022). Identifikasi Medication Error Fase Prescribing Resep Poli dan Resep Operasi di Rumah Sakit Mata Provinsi Sulawesi Utara Bulan Januari Tahun 2022. *The Tropical Journal of Biopharmaceutical*, 5(2), 103–107. <https://doi.org/10.55724/jbt.v5i2.394>
- Rohim, D. A., Fitriansyah, A., & Sarwandianto, A. (2020). Sistem Antrean Rumah Sakit Terpadu di RSUD Palabuhanratu Berbasis Java dan Mysql. *Jurnal Riset Dan Aplikasi Mahasiswa Informatika (JRAMI)*, 1(02), 288–295. <https://doi.org/10.30998/jrami.v1i02.146>

- Ruutinen, H. K., Kallio, M. M., & Kuitunen, S. K. (2021). Identification and Safe Storage of Look-Alike, Sound-Alike Medicines in Automated Dispensing Cabinets. *European Journal of Hospital Pharmacy*, 28(e1), E151–E156. <https://doi.org/10.1136/ejhpharm-2020-002531>
- Saiful, A., Nugraheni, A., & Medisa, D. (2019). Evaluasi Pelayanan Kefarmasian pada Pasien Rawat Jalan di Rumah Sakit Swasta. *Jurnal Ilmiah Farmasi*, 15(1), 20–27. Retrieved from <http://journal.uui.ac.id/index.php/JIF>
- Salmasi, S., Khan, T. M., Hong, Y. H., Ming, L. C., & Wong, T. W. (2015). Medication errors in the Southeast Asian countries: A systematic review. *PLoS ONE*, 10(9), 1–19. <https://doi.org/10.1371/journal.pone.0136545>
- Sari, E. D. M., Wahyuni, K. I., & Anindita, P. P. (2020). Evaluasi Waktu Tunggu Pelayanan Resep Pasien Rawat Jalan di Rumah Sakit Anwar Medika. *Journal Of Pharmacy Science And Technology*, 2(1), 68–79. <https://doi.org/10.30649/pst.v2i1.100>
- Satibi, Rokhman, M. R., & Aditama, H. (2018). *Manajemen Apotek*. Yogyakarta: Gajah Mada University Press.
- Shao, S. C., Chan, Y. Y., Lin, S. J., Li, C. Y., Yang, Y. H. K., Chen, Y. H., ... Lai, E. C. C. (2020). Workload of Pharmacists and the Performance of Pharmacy Services. *PLoS ONE*, 15(4), 1–12. <https://doi.org/10.1371/journal.pone.0231482>
- Siregar, C. J. ., & Amalia, L. (2004). *Farmasi Rumah Sakit: Teori dan Penerapan* (1st ed.). Bandung: Widina Bhakti Persada Bandung.
- Suwarni, S., Nimah, Q. A., & Wulandari, A. R. (2020). Implementasi Metode Kaizen Terhadap Waktu Tunggu Pelayanan Resep Di Instalasi Farmasi Rumah Sakit Roemani Muhammadiyah Semarang. *Jurnal Farmasi Dan Sains Indonesia*, 3(1).
- Tampubolon, L. (2018). Analisis Penerapan Prinsip Keselamatan Pasien Dalam Pemberian Obat Terhadap Terjadinya Medication Error di Rawat Inap Rumah Sakit X Tahun 2018. *Jurnal Administrasi Rumah Sakit Indonesia*, 4(3), 173–183. <https://doi.org/10.7454/arsi.v4i3.2494>
- Thomas, C. E. L., Phipps, D. L., & Ashcroft, D. M. (2016). When Procedures Meet Practice in Community Pharmacies: Qualitative Insights from Pharmacists and Pharmacy Support Staff. *BMJ Open*, 6(6), 1–8. <https://doi.org/10.1136/bmjopen-2015-010851>
- Thong, M. Y., Manrique, Y. J., & Steadman, K. J. (2018). Drug Loss While Crushing Tablets: Comparison of 24 Tablet Crushing Devices. *PLoS ONE*, 13(3). <https://doi.org/10.1371/journal.pone.0193683>
- World Health Organization. (2017). Patient Safety. Retrieved from <http://www.who.int/patientsafety/en/%0A>
- Yani, F., Maraiyuna, S., & Vonna, A. (2022). Evaluasi Waktu Tunggu Setelah Redesign dan Penerapan Lean Pharmacy Pada Pelayanan Farmasi Rawat Jalan. *Journal of Medical Science*, 3(1), 19–30. <https://doi.org/10.55572/jms.v3i1.61>







HOME

ABOUT

USER HOME

SEARCH

CURRENT

ARCHIVES

ANNOUNCEMENTS

PUBLICATION ETHICS

Home > User > Author > Submissions > #14993 > Summary

#14993 SUMMARY

SUMMARYREVIEWEDITING

SUBMISSION

Authors

Title

Original file

Supp. files

Submitter

Date submitted

Section

Editor

Author comments

Abstract Views

Eka Kristia Ayu Astuti, Ayun Sariatmi, Farid Agushybana

Implementation of Patient Drug Prescription Services in Hospital Pharmacy Installations: Has It Been Managed Properly to Reduce Waiting Time?

14993-35555-1-SM.DOC 2023-03-16

14993-35555-1-SP.PDF 2023-03-16

Eka Kristia Ayu Astuti

March 16, 2023 - 12:48 PM

Articles

Putra Siregar

Mohon bantuannya untuk bisa segera di proses, terimakasih

81

STATUS

Status

Initiated

Last modified

Published

Vol 5, No 1 (2023): CONTAGION

2023-03-22

2023-04-01

SUBMISSION METADATA

AUTHORS

Name

URL

Affiliation

Country

Competing interests

C POLICY

Bio Statement

Eka Kristia Ayu Astuti

https://scholar.google.co.id/citations?hl=en&user=wBUR294AAAAJ

Universitas Diponegoro

Indonesia

—

—

—

Name

URL

Affiliation

Country

Competing interests

C POLICY

Bio Statement

Ayun Sariatmi

https://scholar.google.co.id/citations?user=KHM68MAAAJ&hl=id

Universitas Diponegoro

Indonesia

—

—

—

Name

URL

Affiliation

Country

Competing interests

C POLICY

Bio Statement

Farid Agushybana

https://scholar.google.co.id/citations?user=bxDMQSMMAAAJ&hl=id

Universitas Diponegoro

Indonesia

—

—

—

Principal contact for editorial correspondence.

TITLE AND ABSTRACT

Title

Implementation of Patient Drug Prescription Services in Hospital Pharmacy Installations: Has It Been Managed Properly to Reduce

FOCUS AND SCOPE

EDITORIAL TEAM

REVIEWER

PEER REVIEW PROCESS

PUBLICATION ETHICS

AUTHOR GUIDELINES

SUBMISSION GUIDELINES

COPYRIGHT NOTICE

OPEN ACCESS POLICY

INDEXING

AUTHOR FEES

CONTACT

USER

You are logged in as...  
ekakristiaayuastuti28

My Journals

My Profile

Log Out

JOURNAL TEMPLATE

Journal Template

SUPPORT AND TOOLS

RELAWAN JURNAL INDONESIA

We Use Plagiarism Detection  
iThenticate

MEMBER OF  
Crossref doi

VISITORS

Visitors

27,092

835

81

65

60

38

36

31

23

22

FLAG Counter

LICENSES

9 772665 038012