



# Evaluation of Waiting Time for Outpatient Prescription Services at the Pharmacy Installation at the Universitas Sumatera Utara Hospital

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**Abstract.** The pharmacy installation is one of the units in the hospital that provides service products and services in the form of prescription services. Prescription service as the front line of pharmacy services to patients must be managed properly because the quality of pharmaceutical prescription service which is generally associated with the speed in giving service. This research is a descriptive type of research with prospective data collection from March-June 2019 to evaluate the waiting time for outpatient prescription services at the Hospital Pharmacy Installation of the Universitas Sumatera Utara. The data taken were 357 outpatient prescriptions. The results of this study indicate the total average length of time waiting for outpatients for the provision of non-fake drugs at the Pharmacy Installation of Outpatients at the University of Sumatera Utara Hospital at 09.00 - 11.00 is 29.10 minutes, at 11.00 - 13.00 is 34.44 minutes and at 13.00 - finished 42.60 minutes. The average length of waiting time for outpatients for the provision of compound drugs at the Outpatient Pharmacy Installation of the University of Sumatera Utara Hospital at 09.00 - 11.00 is 51.67 minutes, 11.00 - 13.00 hours is 62.27 minutes and at 13.00 - completion was 65.71 minutes. The waiting time for prescription services is  $\leq 60$  minutes. Based on the results of research conducted at the Outpatient Pharmacy Installation at the University of Sumatera Utara Hospital, non-concocted prescription drugs meet the requirements if the service time speed is  $\leq 30$  minutes and the concocted drug prescription fulfills the requirements if the service time speed is  $\leq 60$  minutes.

**Keywords:** Waiting time, prescription service, hospital pharmacy installation

**Abstrak.** Instalasi farmasi adalah salah satu unit di rumah sakit yang memberikan layanan produk dan jasa dalam bentuk pelayanan resep. Pelayanan resep sebagai garis depan pelayanan farmasi kepada pasien harus dikelola dengan baik, karena mutu pelayanan resep farmasi yang umumnya dikaitkan dengan kecepatan dalam memberikan pelayanan. Penelitian ini merupakan jenis penelitian deskriptif dengan pengambilan data secara prospektif selama bulan maret-juni 2019 untuk mengevaluasi waktu tunggu pelayanan resep rawat jalan di Instalasi Farmasi Rumah Sakit Universitas Sumatera. Data yang diambil sebanyak 357 resep pasien rawat jalan. Hasil penelitian ini menunjukkan total lama rata-rata waktu tunggu pasien rawat jalan untuk penyediaan obat non rancangan di Instalasi Farmasi Pasien Rawat Jalan Rumah Sakit Universitas Sumatera Utara pada pukul 09.00 – 11.00 adalah 29,10 menit, pada pukul 11.00 – 13.00 adalah 34,44 menit dan pada pukul 13.00 – selesai 42,60 menit. Lama rata-rata waktu tunggu pasien rawat

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*jalan untuk penyediaan obat rancikan di Instalasi Farmasi Pasien Rawat Jalan Rumah Sakit Universitas Sumatera Utara pada pukul 09.00 – 11.00 adalah 51,67 menit, pada pukul 11.00 – 13.00 adalah 62,27 menit dan pada pukul 13.00 – selesai adalah 65,71 menit. Waktu tunggu pelayanan resep yaitu untuk resep racikan  $\leq 60$  menit. Berdasarkan hasil penelitian yang dilaksanakan di Instalasi Farmasi Rawat Jalan Rumah Sakit Universitas Sumatera Utara, bahwa resep obat non racikan, memenuhi persyaratan apabila kecepatan waktu pelayanan  $\leq 30$  menit dan resep obat racikan, memenuhi persyaratan apabila kecepatan waktu pelayanan  $\leq 60$  menit.*

**Kata kunci :** Waktu tunggu, pelayanan resep, instalasi farmasi rumah sakit

Received 12 December 2020 | Revised 8 January 2021 | Accepted 10 January 2021

## 1. Introduction

Health is a state of health, whether physically, mentally, spiritually, or socially, which enables everyone to live productively socially and economically. Therefore, every activity and effort to improve the level of public health as high as possible is carried out based on the principles of non-discrimination, participation, and protection [1].

Hospital, which is one of the public health service facilities, has a very important role in improving the public health status. Hospital according to the Law of the Republic of Indonesia Number 44 of 2009 is a health service institution that provides complete individual health services that provide inpatient, outpatient, and emergency services [2].

Waiting time is one of the minimum standards for pharmacy services in hospital, the waiting time for non-concocted drug services is a grace period starting from the patient submitting the prescription to receiving non-concocted drugs with a minimum standard set by the Ministry of Health, namely  $\leq 30$  minutes, while the waiting time for concocted drug services is the starting time the patient submits the prescription until he receives the concocted drug, which is  $\leq 60$  minutes [3].

The minimum standard of pharmacy service in a hospital is time Wait. The waiting time for finished drug services is the starting period patients submit prescriptions to receive finished drugs, with the minimum standard set by the Ministry of Health is  $\leq 30$  minutes, while the waiting time for concocted drug services is a grace period starting from the patient submitting the prescription to receiving the concocted drug, namely  $\leq 60$  minutes [1]. The waiting time for prescription drug services is getting longer fast compared to the service time of prescription concoction drugs because prescription drug services do not go through a compounding process [4].

Based on the above background, until now there has been no research about the waiting time for outpatient prescription services at the Pharmacy Installation in Universitas Sumatera Utara. Research is needed to know the waiting time for outpatient prescription services at the Pharmacy Installation in Universitas Sumatera Utara Hospital.

## 2. Methods

This research is a descriptive research type with prospective data collection to evaluate the waiting time for outpatient prescription services at the Pharmacy Installation at the University of Sumatera Utara Hospital. The data were obtained from prospective data collection which was carried out at the time the research was carried out by direct observation of the waiting time for prescription services in March-June 2019 at the Pharmacy Installation at the Hospital of Sumatera Utara. The number of samples as a source of research data was calculated based on binominal proportions [5] namely 356 people, and in this study were fulfilled to be 357 samples.

## 3. Results and Discussion

### 3.1 Characteristics of the Recipe

Sample in this study as many as 357 Prescription, consisting of 320 non-concocted Prescription and 37 Prescription., consisting of 320 non-concocted Prescription and 37 Prescription. The percentage of concocted and non-concocted Prescription can be seen in table 1 and figure 1 shows the number of samples based on the type of concoction and non-concoction Prescription served in the hospital pharmacy installation of the Universitas Sumatera Utara Hospital.

**Table 1.** The percentage of concocted and non-concocted Prescription

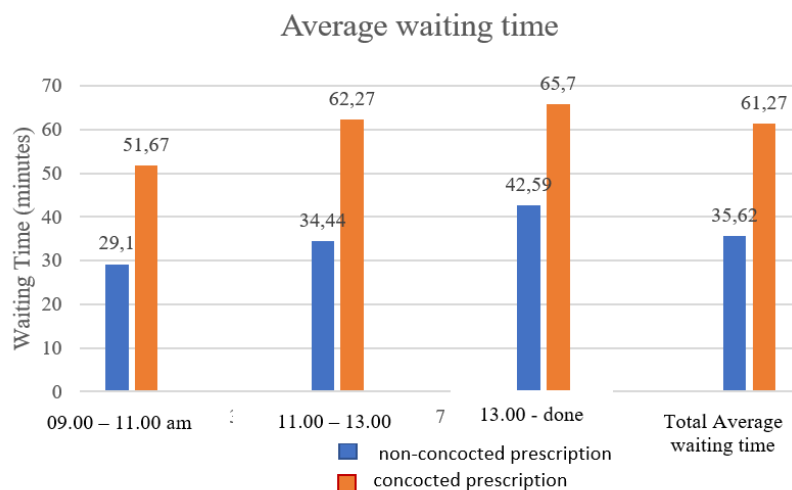
No.	Type of recipe	Number of samples	Percentage
1.	Non-Blend Prescription	320 Prescription	89,6 %
2.	Recipe Mix	37 Prescription	10,4 %
	Total	357 Prescription	100 %

Prescription services, both finished and concocted drugs, are a form of clinical pharmacy service in hospitals. One of the indicators used to evaluate the quality of service is the length of time waiting for prescription services in pharmaceutical installations, as stated in the Regulation of the Minister of Health of the Republic of Indonesia No. 72 of 2016 [6] concerning Standards for Pharmaceutical Services in hospitals. The waiting time for prescription services is a grace period from the time the patient submits the prescription until the patient receives the drug [7] This indicator of the average speed of prescription service aims to illustrate the speed of pharmacy service so that it can produce quality dimensions in the form of effectiveness, continuity of service, and efficiency [1].

The number of samples used was 357 outpatient prescriptions, calculated based on the gameshow formula with a confidence level of 95%. Data were collected prospectively for 2 months at the Hospital Pharmacy Unit of the University of Sumatera Utara. The results of the average waiting time for Prescription as a whole can be seen in Table 4.3.

Based on table 4.3 it can be seen that the average waiting time for non-concocted Prescription (09.00 - 11.00) is 29.10 minutes and concocted Prescription (09.00 - 11.00) is 51.67 minutes. The average waiting time for non-concocted Prescription (11.00 - 13.00) is 34.44 minutes and concoction Prescription (11.00 - 13.00) is 62.27 minutes, while the average waiting time for non-concocted Prescription (13.00 - Finish) is 42, 59 minutes and the concoction recipe (13.00 - End) is 65.27 minutes. So the waiting time for prescription services at the pharmacy installation at the University of Sumatera Utara Hospital at 11.00 - 13.00 and 13.00 - finished still does not meet the minimum hospital service standards according to the Minister of Health Decree No.129 of 2008 which has a minimum service standard for non-concocted prescriptions  $\leq 30$  minutes and recipe concoctions  $\leq 60$  minutes. The waiting time for concoction prescription services is longer than that of non-concocted prescription services because concoction prescriptions not only prepare drugs but also need to calculate the dose of drugs needed, as well as perform drug compounding. This is following previous research that there is a relationship between the type of recipe and the time of prescription service [8]. Prescription received at 11.00-13.00 and 13.00 - finished have a longer waiting time than Prescription received at 09.00-11.00 all poles are complete in providing services so that many Prescription pile up at 11.00 and above.

The Sumatera Utara University Hospital is a teaching hospital that has a pharmaceutical installation and serves outpatients consisting of BPJS, general, and emergency room patients as well as inpatients. Prescription services, both concocted and non-concocted prescriptions, are a form of clinical pharmacy service in hospitals. One of the indicators used to evaluate the quality of service is the length of time waiting for prescription services at pharmaceutical installations, as based on the Regulation of the Minister of Health of the Republic of Indonesia No.72 of 2016 concerning Standards for Pharmaceutical Services in hospitals. The waiting time for prescription services is a grace period from the time the patient submits the prescription until the patient receives the drug [6].



**Figure 1.** Waiting time data

**Table 2.** Average waiting time for prescription services at the hospital outpatient pharmacy installation on weekdays

Day	Types of Prescription	Recipe received at							
		09.00-11.00		11:00-13:00		13:00-Off		Total	
		Total Prescription	Waiting Time (minutes)	Total Prescription	Waiting Time (minutes)	Total Prescription	Waiting Time (minutes)	Total Prescription	Waiting Time (minutes)
Monday	non-concocted recipe	20	640	21	756	23	1035	64	2431
	concoction recipe	2	116	2	126	3	202	7	444
Tuesday	non-concocted recipe	20	560	21	735	23	966	64	2261
	concoction recipe	1	45	2	135	4	260	7	440
Wednesday	non-concocted recipe	20	580	21	672	23	1012	64	2264
	concoction recipe	2	80	2	120	3	195	7	395
Thursday	non-concocted recipe	20	520	23	897	21	966	64	2383
	concoction recipe	2	112	3	180	4	280	9	572
Friday	non-concocted recipe	20	610	22	660	22	792	64	2062
	concoction recipe	2	112	2	124	3	180	7	416
The number of non-concocted Prescription per session		100	2910	108	3720	112	4771	320	11401
The number of concocted Prescription per session		9	465	11	685	17	1117	37	2267
Average non-concoction recipe per session			29.10		34.44		42.59		35.62
Average concoction recipe per session			51.67		62.27		65.70		61.27

The following is a display of waiting time data in the form of a bar graph which can be seen in Figure 1.

The waiting time observation process starts from receiving the prescription, prescription fuses, drug data input, printing labels, taking / packing/compounding until delivery. One of the main factors influencing the length of waiting time for prescription services at USU's pharmaceutical installation, there are three phases, the first of which is the time of receiving the prescription. Admission is carried out by the pharmacist who is concurrently doing the screening. At the time of screening, there were several problems, for example, the incompatibility of the prescription with the patient's medical history so that the pharmacist confirmed it to the clinic or doctor concerned, the computer system/program was limited, at one time there was damage or refilling of the patient's queue number printing paper so that the work for prescription screening became hampered and there are several Prescription that are done without queue numbers, such as prescriptions for general patients and ER.

The second phase is when working on the recipe for the concoction, in case it takes a long time to work on a concoction recipe, starting from crush the drug to wrap the mixture. The third phase is

moment submission, when submission is done, the patient is called through the queue number system. Sometimes, when the medicine has finished working then it is put on the medicine basket is then handed over to the patient by calling accordingly serial number. But at one point in time the finished drug piled up on the drug delivery table, this is due to waiting for processing the prescription with the first queue number to be submitted. Also, the availability of drug vacancies can also delay the waiting time for prescription services because additional time is needed to confirm doctors or provide empty medicines. As conveyed by the informant as follows:

The delay in prescription is one more factor because there is a drug void, so you have to find the medicine first or confirm to the doctor for the substitution of the drug, that will take time to wait, sometimes the prescription is incomplete and you have to confirm the wrong doctor prescribes it" (Informant 2).

Some factors that contribute to the long waiting time for prescription services include the type of prescription, the number and completeness of prescriptions, the availability of sufficient and skilled human resources, the availability of appropriate drugs, and adequate facilities and facilities [9]. The number of prescriptions received at the outpatient pharmacy installation is also a factor that affects the waiting time for prescription services. Also, the number of drug items per prescription, and the number of concoctions in each prescription affect the length of waiting time for prescription services [10].

Workload affects patient waiting time, one of which is the lack of staff or doctors [8]. Doctors often practice late and lack of supervision from the management results in the accumulation of patients. The same thing was stated by [10], namely, the recipe comes together to increase the waiting time for the queue. Doctor service system intervention needs to be considered, namely early examination of patient services. Prescriptions received above 11.00 WIB have a longer waiting time than Prescription received at 09.00-11.00 WIB, because starting at 11.00 WIB all poles are complete in providing their services so that in pharmaceutical installations there is also a buildup of prescriptions [10].

Human resources (HR) in terms of quantity are still inadequate, the number or at least of pharmaceutical technical personnel in the hospital pharmacy greatly affects the speed of prescription services at the installation. The officers consisting of 4 pharmacists who carry out their respective duties include 3 pharmacists and 1 pharmacist in charge of handing over drugs to outpatients as well as 5 pharmaceutical technical personnel on duty in working on non-concocted or concocted Prescription. Based on Permenkes number 56 of 2014 concerning Hospital Classification and Licensing, HR General Hospital class C for pharmaceutical personnel on duty in nursing ward 2 (two) pharmacists assisted by at least 4 (four) staff pharmaceutical technicality [11]. Meanwhile in Permenkes No. 72 years 2016 regarding Standard of Pharmaceutical Services in Hospitals, explained that calculating the need for a pharmacist based on the workload in the

service Outpatient pharmacy which includes managerial pharmacy services and clinical pharmacy services with prescription review activities, drug delivery, Recording of Drug Use (PPP) and counseling, ideally it takes manpower Pharmacist with a ratio of 1 pharmacist to 50 patients [6]. As conveyed by the informant as follows:

“The speed at which drugs are taken is sometimes hampered because there is a vacuum of drugs in the pharmacy installation, so they are taken to the pharmacy warehouse which takes a long time, plus pharmacist assistants who are slightly outpatient. Patients' certain hours increased so that we were unable to take medicine quickly” (Informant 3).

According to research conducted by Wijaya (2012), the length of waiting time is influenced by human resources, type of patient, type of prescription, availability of drugs, doctor's prescription, facilities and infrastructure, drug formularies, standard operating procedures (SOP) for prescription service and factors of prescription service processes. includes receipt of prescriptions, pricing of drugs, payment, taking and compounding of drugs, providing drug labels, and delivering drugs to patients. Total the prescription received at the pharmacy depot is also a factor that affects the waiting time for prescription services. Moreover, the number of medicinal items per recipe and the number of recipe concoctions also affect the length of waiting for time prescription services [12].

#### 4. Conclusion

Based on the results of research conducted at the Outpatient Pharmacy Installation at the University of Sumatera Utara Hospital, non-concocted prescription drugs meet the requirements if the service time speed is  $\leq 30$  minutes and the concocted drug prescription fulfills the requirements if the service time speed is  $\leq 60$  minutes.

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