

**POLYCLINIC SERVICE SYSTEM IMPROVEMENT  
TO REDUCE PATIENT WAITING TIME  
USING SIMULATION  
(Case study at dr. Arif Mustafa Clinic, Bekasi)**

**ABSTRACT**

*dr. Arif Mustofa Primary Clinic is a first-level health facility that provides basic medical services to patients. The clinic's service system frequently encounters challenges in managing patient waiting times, notably within the doctor and pharmacy services. The daily average patient visits reach 84, with the longest duration a patient spends in the system being 105 minutes. In addition, due to the high level of patient arrivals, the clinic had to increase operating hours because many patients had not been served with a total working hour of more than 8 hours.*

*The previously mentioned problems contradict the established outpatient service time standard, where the waiting time should not exceed 60 minutes as mentioned in the Minister of Health Regulation No.129/Menkes/SK/II/2008. Therefore, this study was conducted to design improvements to the service system at the polyclinic to reduce patient waiting time by considering the percentage of optimization, utility, and the most optimal waiting time with the help of ProModel simulation software.*

*Improvement recommendations were derived from three scenarios, scenario 1, implementing appointment registration, scenario 2 with restrictions on patient registration hours, and scenario 3 with adding pharmacist assistant staff. The best result of the improvement scenario in shift 1 service is a combination of all the scenarios (scenario G) which succeeded in increasing optimization by 65%, shortening the waiting time from 80,235 minutes to 27,8 minutes. In shift 2 service, the best result is the combination of scenarios 1 and 3 (scenario J) which succeeded in increasing optimization by 57% and shortening the waiting time from 96,51 minutes to 40,48 minutes. Both scenarios effectively lowered the level of worker workload from previously being categorized as high to the medium category.*

**Keywords:** *Simulation; Patient Waiting Time; Service System Improvement; Clinic; ProModel Software*