

# Service Quality Improvement through Waiting Time Reduction in a Multi-Facility Healthcare Center Without an Appointment System

*TREO Talk Paper*

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## Abstract

Healthcare is a growing field and there has been a growth in studies concerning the quality of hospital performance. Hospital performance is measured using the wait time and length of visit. Lower wait time and length of visit is desired. This study focuses on the outpatient system without appointment system. This kind of healthcare system is common in developing country. This type of healthcare system commonly uses first-in-first-out mechanism. However, these types of hospitals is facing performance issues since patients have to wait in long queues in front of the registration window through the day time. The service quality is reducing while the waiting time is longer than expectation. This study investigates the multi-facility hospital in a large developing country: China. It uses the real-time data to find the data distribution pattern and then apply simulation to explore the way to service improvement. The targeted healthcare center has following characters: multi-facility, shared resources for service, and non-appointment system. This study aims to improve the service after making the optimization of current workflow by reducing waiting time. In addition to that, this paper also provides means to identify how resources can be better utilized by hospitals in emerging economies to gain higher performances. ARENA simulation software will be used to design the current hospital system and predict the required resources and the outcome.