THESIS TITLE : THE SIMULATION OF OUTPATIENT QUEUEING SYSTEM IN CHAINGYUN HOSPITAL, MAHASALAKHAM

AUTHOR : MISS YUPIN SRILAKHORNTHAI

THESIS ADVISORY COMMITTEE

Yupa Thavornpitak .....Chairman

(Assistant Professor Yupa Tavornpitak)

A. Chirawatkul .....Member

(Associate Professor Aroon Chirawatkul)

Yupaporn Tongprasit .....Member

(Miss Yupaporn Tongprasit)

ABSTRACT

The simulation of outpatient queueing system in Chaingyun hospital, Mahasalakham is a descriptive study. The objective of this study are to 1) analysis current outpatient queueing system, and 2) determine policies which give the least waiting time in system. Parameters used to explain current outpatient queueing system are : an average service time of each service unit, an average waiting time in queue at each service unit, and an average waiting time in system. The study was conducted in outpatient department of Chaingyun hospital, Mahasalakham in March 1999. The method applied for data collecting was observation. The tool applied for data collecting was a set of record forms. There are 2 models explained characteristic of queueing system in Chaingyun hospital. The first model explains characteristic of queueing system when only General medicine clinic is available. The second model explains characteristic of queueing system when Diabetic clinic and General medicine clinic are available.

When only General medicine clinic is available, the waiting time in system was 98.30 minutes on average (95% CI : 95.42 , 101.18). The waiting time in queue was 57.18 minutes (95% CI : 54.39 , 59.96). In other word, 60 percent of time spent in outpatient department was devoted to waiting for services. The longest waiting time in queue was detected at Diagnosis & Treatment unit.

When Diabetic clinic is available with General medicine clinic, the waiting time in system was 117.31 minutes on average (95% CI : 114.92 , 119.70). The waiting time in queue was 88.22 minutes(95% CI : 85.94 , 90.50) In other word 75 percent of the time spent in outpatient department was devoted to waiting for services. The longest waiting time in queue was detected at Registry unit.

The waiting time in system of days when Diabetic clinic is available with General medicine clinic was 20 minutes longer than that of days when only General medicine clinic is available.

8 policies had been tested on days without Diabetic clinic. A policy which gives the least waiting time in system is a policy suggesting of adding 1 triage nurse together with changing the starting time of work of nurses from 08:30 to 08:15 and changing the starting time of work of doctors from 09:00 to 08:30 . This policy can reduce waiting time in system by 27.37 minutes (95% CI : -31.18 , -23.56).

6 policies had been tested on days with Diabetic Clinic. A policy which gives the least waiting time in system is a policy suggesting a change of working process and a change of starting time of work. According to this policy , in the evening of a day before an appointment, patient profiles (OPD card) of diabetic patients were searched and placed at triage unit. In addition, the starting time of work of triage nurses was changed from 08:30 to 08:00, and of doctors was changed from 09:00 to 08:30. This policy can reduce waiting time in system by 43.66 minutes (95% CI : -46.81 , -40.57).