

ABSTRACT

Analysis of Inpatient Discharge Waiting Time in Premier Surabaya Hospital by Queuing Theory and Six Sigma Method

Patient discharge process is the final step of patient care during hospitalization. Improving the quality of discharge process will improve the patient satisfaction. The objective of this research is to arrange the service design to reduce the discharge process time by queuing system analysis and six sigma methods. This was an observational analytic research conducted cross-sectional in May 2014. The technique for collecting data was observational form. The data utilized were primary and secondary data. The population was discharge process within the period of 5-18 May 2014. The sample was taken by proportional random sampling, five discharge processes for each day. The strategic issues in this research were defined in (1) Unit Dose Dispensing method has not been implemented well, (2) home medication management has not been implemented, (3) waiting time between departments is critical to quality, (4) waiting time and service time in pharmacy are critical to quality, (5) waiting time for cashier confirmation is critical to quality, (6) waiting time for patient payment is critical to quality, and (7) No standard for discharge pathway and discharge process time. To overcome these strategic issues, it is recommended to improve the unit dose dispensing method in pharmacy and nursing department, apply discharge planning process, improve transportation system between departments by using facsimile or pneumatic tube, use netwriter to give active confirmation from pharmacy and medical store and apply standard pathway and standard discharge process time. These recommendations have shown to successfully increase the sigma position of inpatient discharge process from 1,15 to 1,93 and reduce the defect per million opportunities from 638.623,3 to 333.763,9.

Keywords: discharge process, queuing theory, six sigma