

Factors contributing to delay in medication supply: A time and motion study

Rosamund Wei Xin Koo, Nurul Shahira Ashikin Mohd Redda Udin, Kah Seng Lee, Hasanah Ambaras Khan

Department of Pharmacy, Hospital Ampang, Selangor, Malaysia

ABSTRACT

Introduction: The outpatient pharmacy plays a crucial role as a vital link between healthcare professionals and patients, to ensure that prescribed medications are dispensed accurately and promptly. The Key Performance Indicator (KPI) set by the Malaysian Ministry of Health (MOH) mandates that medication supply should be completed within 30 minutes. However, the average waiting time in an outpatient pharmacy ranges from 90–120 minutes. Inefficiencies in medication supply, which involves multiple operating stages, can significantly impact healthcare delivery quality. **Objective:** This study aimed to determine factors that contribute to delays in meeting the MOH KPI. **Materials and Methods:** A cross-sectional study was conducted at the outpatient pharmacy of Hospital Ampang from July 6 to July 10, 2023. The time involved in each outpatient process—registration, verification, allocation, filling, counterchecking, and dispensing, as well as prescription characteristics were determined. **Results:** The medication supply process for 277 prescriptions were tracked. More than half (58.8%) of the reviewed prescriptions exceeded the medication supply KPI of 30 minutes (mean=34.8 ± SD 16.8 minutes). Factors associated with delays in the filling stage were prescriptions involving ≥ 3 medications or controlled items such as psychotropic substances. Factors associated with delays in the verification stage were often linked to pending specialist authorization, whereas delays in the allocation stage were associated with errors in information technology (IT). **Conclusions:** This time and motion study determined that the bottleneck in the medication supply process of filling, verification and allocation stages were associated with the nature of the prescription, system delays and errors related to IT. Identifying the points of delay and the factors resulting in those delays are important to determine the areas requiring specific focus for active intervention, in order to rectify inefficiencies in medication supply.