The purpose of this paper is to present a simulation modeling application to reconfigure the outpatient phlebotomy service of an acute regional and teaching hospital in Hong Kong, with an aim to improve service efficiency, shorten patient queuing time and enhance workforce utilization” Yip et al (2016).

Abstract:

Purpose – The purpose of this paper is to present a simulation modeling application to reconfigure the outpatient phlebotomy service of an acute regional and teaching hospital in Hong Kong, with an aim to improve service efficiency, shorten patient queuing time and enhance workforce utilization.

Design/methodology/approach – The system was modeled as an inhomogeneous Poisson process and a discrete-event simulation model was developed to simulate the current setting, and to evaluate how various performance metrics would change if switched from a decentralized to a centralized model. Variations were then made to the model to test different workforce arrangements for the centralized service, so that managers could decide
on the service’s final configuration via an evidence-based and data-driven approach.

Findings – This paper provides empirical insights about the relationship between staffing arrangement and system performance via a detailed scenario analysis. One particular staffing scenario was chosen by manages as it was considered to strike the best balance between performance and workforce scheduled. The resulting centralized phlebotomy service was successfully commissioned.

Practical implications – This paper demonstrates how analytics could be used for operational planning at the hospital level. The authors show that a transparent and evidence-based scenario analysis, made available through analytics and simulation, greatly facilitates management and clinical stakeholders to arrive at the ideal service configuration.

Originality/value – The authors provide a robust method in evaluating the relationship between workforce investment, queuing reduction and workforce utilization, which is crucial for managers when deciding the delivery model for any outpatient-related service.

Reference:


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