

# 《质量与效率的平衡术》

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## 内容概要

《质量与效率的平衡术:以医疗与安检服务运营为例(英文版)》内容简介：近年来，流行性疾病、自然或人为灾害频繁暴发，对各国的卫生防御体系和安全防御体系带来了巨大挑战。医疗呼叫中心在应对突发紧急情况分诊分流方面具有有效分配医疗资源的巨大潜力，安检系统（包括海关、机场、签证等）也正积极探索如何采用运营管理有效地准备和响应突发事件，并尽可能减少对公众正常生活的负面影响。在此背景之下，《质量与效率的平衡术：以医疗与安检服务运营为例(英文版)》深入研究了这类特殊服务系统的运营特点和决策优化，重点分析了其特有的质量/效率均衡关系。《质量与效率的平衡术：以医疗与安检服务运营为例(英文版)》将最前沿的服务运营研究成果与实证发现相结合，通过严密的数学分析提供详细、系统化的管理方法，具有很强的现实指导意义。

# 《质量与效率的平衡术》

## 作者简介

王晓芳中国人民大学商学院讲师，硕士生导师。分别于1999年和2001年在清华大学自动化系获得自动化学士和系统工程硕士学位，2008年在美国卡耐基梅隆大学商学院获得运营管理博士学位。2008年8月回国加入中国人民大学商学院，中英文双语讲授收益管理、运营管理、统计质量管理等课程。主要研究服务运营管理、医疗运营管理和收益管理。美国运筹学和管理学研究协会（INFORMS）会员、美国生产与运作管理学会（POMS）会员和POMS中国分会会员、海外华人学者管理科学与工程协会会员。作为负责人主持三项科研课题，其中国家级和教育部的基金项目两项。发表国际国内学术论文十多篇，其中国家自然科学基金支持的论文“Design and Analysis of : Diagnostic Service centers ”以第一作者发表在国际上公认的管理类最高级别学术期刊《Management Science》。其他与本书相关论文见《European Journal of Operational Research》和《AI Communications》等著名国际学术期刊。

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## 章节摘录

版权页：插图：Specifically, we model the service center's accuracy, or service depth as being controlled by a certainty threshold: a nurse's belief about the patient's pathology, obtained through the interview with the patient, should reach this certainty threshold before she terminates the diagnostic process and gives advice. A high certainty threshold implies high accuracy, but also a longer service time (for greater diagnostic depth) and consequently greater system congestion. Due to the trade-off between patients' desire for accuracy but aversion to waiting, we need to analyze how patients will react to this certainty threshold, and consequently how the certainty threshold and staffing level should be jointly set to maximize the service provider's benefit net of staffing costs. Our analysis answers the following types of research questions: What are the optimal staffing level and the optimal service depth the service provider should set? When should the service provider invest in a nurse line? How do nurse skill level, patient population size and other parameters impact these decisions? The main contributions of this chapter are: (1) We develop an analytical model to evaluate cost savings by linking call duration with recommendation accuracy. Our analysis shows the exploration of the impact of staffing and protocol implementation on accuracy of advice and waiting time. With this link, we analyze the benefit / cost for the different nurse line stakeholders in a unified framework. (2) Results we obtain confirm that the tradeoff between accuracy and congestion motivated by diagnostic service centers in the health care domain changes many aspects of traditional call center design and staffing. By linking queueing and hypothesis testing theory, analysis of our model extends these theories and derives new insights which are useful in nurse line design and staffing.

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## 编辑推荐

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