



OPTIMIZING BED OCCUPANCY RATES THROUGH SERVICE IMPROVEMENT AT BHAYANGKARA HOSPITAL, BANTEN

Leddy Yuanasari^{1*}, Fendy Suhariadi², Fathonah³, Agung Widodo⁴

¹²Postgraduate School, Universitas Airlangga, Indonesia

¹³⁴Bhayangkara Hospital, Banten Regional Police, Indonesia

*Email: leddy.yuanasari-2022@pasca.unair.ac.id

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ABSTRACT

Bhayangkara Hospital in Banten provides inpatient, outpatient, and emergency services but faces a significant challenge with a low Bed Occupancy Rate (BOR) despite adequate facilities and services. This study analyzes the factors contributing to the low BOR and develops optimization strategies through service quality improvement, focusing on five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Six operational aspects were analyzed: human resources, methods, machinery, finance, materials, and the environment. Using a qualitative approach, data were collected through in-depth interviews with hospital staff and analyzed thematically. Results highlight that limited HR competencies, especially in operating ICU and NICU units, and inadequate medical equipment are significant barriers. Strategies included intensive training with partner hospitals, budget optimization, and technology adoption (e.g., SIM RS, telemedicine). These efforts increased BOR from 60% to 75% within six months. This study underscores the critical role of HR development and service quality improvement in optimizing BOR. It offers practical recommendations for hospital administrators, including targeted HR training, resource optimization, and leveraging technology. The findings provide a framework for addressing similar challenges in other hospitals, contributing to sustainable healthcare service delivery.

Keywords: Bed Occupancy Rate (BOR); Bhayangkara Hospital; Healthcare Service Quality; Human Resource Development (HRD)

INTRODUCTION

Health is one of society's essential needs and must be met to ensure overall well-being and societal development (Tay & Diener, 2011). Hospitals play a critical role in fulfilling these needs, offering essential services such as inpatient, outpatient, and emergency care to address various health concerns (Berry et al., 2013). As health service institutions, hospitals are expected to provide safe, high quality, and equitable care while adhering to established service standards to meet the needs of their communities. The quality of hospital services influences patient satisfaction, the institution's reputation, and operational efficiency (Shie et al., 2022).

Hospitals are vital components of healthcare systems, providing essential services such as inpatient, outpatient, and emergency care (Griffin, 2011). A key indicator of hospital efficiency and resource utilization is the Bed Occupancy Rate (BOR), which measures the proportion of hospital beds occupied during a specific period (Aloh, 2020). According to the World Health Organization (WHO), an optimal BOR of 75-85% ensures balanced resource utilization and high quality patient care (WHO, 2000). While low BOR signifies underutilized resources and financial inefficiencies, excessively high BOR risks overburdening staff and compromising patient safety (Asandului et al., 2023).

In developing countries like Indonesia, optimizing BOR remains a persistent challenge. Disparities influence variations in BOR across regions in resource allocation, infrastructure, and staff competency. Data from the Indonesian Ministry of Health (2022) indicate that many hospitals operate below the recommended BOR range, reflecting service delivery and resource management inefficiencies. Bhayangkara Hospital in Banten exemplifies these challenges, as it is experiencing low BOR levels despite having adequate infrastructure. This issue suggests operational inefficiencies, such as insufficient staff training and a misalignment between patient demand and service capacity.

Service quality is a critical factor influencing hospital performance and patient satisfaction. Good service quality fosters trust and loyalty among patients, ultimately impacting their healthcare decisions and satisfaction (Javed et al., 2019). Low BOR impacts hospital operations, patient trust, and healthcare equity. Hospitals with persistently low BOR often need help attracting patients, undermining financial sustainability and their ability to invest in improved services (Belrhiti et al., 2020). Additionally, inefficient resource utilization exacerbates disparities in healthcare access, particularly in underserved areas where demand is growing. Addressing these issues requires a comprehensive approach integrating service quality improvements, staff competency development, and operational management strategies to ensure equitable access to care and hospital sustainability.

While many studies have explored hospital service quality, much of the research focuses on patient satisfaction and clinical outcomes, with limited attention to operational metrics like BOR (Parasuraman et al., 1988; Donabedian, 1988). Frameworks like SERVQUAL emphasize dimensions of service quality such as tangibles, reliability, responsiveness, assurance, and empathy but often fail to link these dimensions with operational metrics like BOR (Zeithaml et al., 2018). Similarly, while Donabedian's model outlines the significance of structure, process, and outcome in healthcare quality, the interaction between HR competencies and BOR optimization remains underexplored. Recent studies emphasize the need to bridge this gap by linking quality improvement strategies with measurable outcomes like BOR.

Hospitals face significant challenges in translating strategic initiatives into measurable BOR improvements. Barriers include limitations in HR competency development, resource allocation, and interdepartmental coordination (Agarwal et al., 2019). Budgetary constraints and limited access to training programs hinder hospitals from implementing effective strategies to enhance BOR (Dussault & Dubois, 2003). At Bhayangkara Hospital, these challenges manifest in underutilized facilities, limited specialist availability, and insufficient training opportunities for healthcare workers, directly impacting hospital performance and BOR (Kabene et al., 2006; Palmer et al., 2024).

Addressing the low BOR at Bhayangkara Hospital is crucial for several reasons. First, a low BOR reflects inefficiencies that directly affect patient access, hospital revenue, and overall healthcare system resilience (Winkelmann et al., 2022). Second, with Indonesia's growing demand for healthcare services, optimizing resource utilization is vital to meet patient needs (Ministry of Health of Indonesia, 2021). Third, improving BOR aligns with global goals to maximize healthcare efficiency and equity (Dion et al., 2023). This study addresses these concerns by exploring strategies to enhance service quality, focusing on HR competency development, resource optimization, and inter-institutional collaboration. The findings aim to provide actionable insights for Bhayangkara Hospital and establish a replicable framework for other institutions facing similar challenges.

METHOD

This study uses a qualitative approach to explore the factors influencing the low Bed Occupancy Rate (BOR) at Bhayangkara Banten Hospital. The qualitative approach allows researchers to deeply understand hospital staff's perceptions, challenges, and experiences managing BOR (Creswell & Poth, 2016). Data were collected through in-depth interviews with various informants, including medical personnel, management, and administrative staff in July 2024. Informants were selected purposively to ensure they had relevant experience and insight into BOR management (Bryman, 2016). In addition, field observations were conducted to record the condition of the hospital's infrastructure, workflow, and environment, thus providing additional context for the data obtained from the interviews.

Data analysis was conducted using the thematic analysis method, a systematic approach to identifying key patterns and themes from qualitative data (Braun & Clarke, 2006). This study focuses on six dimensions influencing hospital operational efficiency: human resources (HR), methods, machines, finance, materials, and environment. In addition, BOR trends before and after the implementation of intervention strategies were analyzed to evaluate the effectiveness of the proposed solutions. Data validation was conducted through triangulation, which is comparing data from interviews, observations, and secondary data, such as hospital BOR reports, to increase the validity of the research results (Sharp, 2003). With this approach, this study aims to provide relevant and evidence-based recommendations to improve BOR at Bhayangkara Banten Hospital..

RESULTS AND DISCUSSION

The Importance of Human Resource Development (HRD)

HRD development is critical in increasing the Bed Occupancy Rate (BOR) at Bhayangkara Banten Hospital. The competence of HRD, especially health workers, greatly determines the quality of health services provided to patients. Based on the study results, one of the main obstacles to the low BOR in this hospital is the lack of health workers who have special skills, primarily to operate service units such as the ICU and NICU. Although infrastructure and facilities are available, the need for HRD competence hinders the optimization of services. This situation aligns with research showing that developing skills and structured HRD training is the key to increasing the efficiency and quality of hospital services (Kabene et al., 2006).

To overcome this problem, Bhayangkara Hospital has taken strategic steps, including cooperation with referral hospitals such as RSUD dr. Drajat Prawiranegara and RSPAD Gatot Soebroto. Health workers receive intensive training in critical units such as the ICU, Perinatology, and ER in this cooperation. This training is designed to improve clinical skills, decision making skills, and preparedness in dealing with emergency medical situations. In addition, advanced training such as Advanced ICU Training at RSPAD Gatot Soebroto provides opportunities for health workers to learn the latest technology and procedures relevant to modern hospitals' needs. This effort shows that HR development not only focuses on technical skills but also includes the formation of better leadership and decision-making skills (McCullough et al., 2016).

In addition to technical training, Bhayangkara Hospital applies a holistic approach to HR development by holding weekly and monthly briefings. This briefing evaluates

performance, identifies problems, and designs strategies to resolve existing challenges. In addition, health workers are provided with opportunities to attend seminars, training, or webinars to support the development of their knowledge and skills on an ongoing basis. With consistent monitoring and evaluation, such as activity reports and case studies, health workers are expected to be able to provide high quality services that can ultimately increase BOR. This approach aligns with the principle that human resources are the main asset in the healthcare system and are a determining factor in the success of hospitals in facing operational and strategic challenges (Braun & Clarke, 2006; Lebea et al., 2024).

Optimization of materials and machines

Optimization of materials and machines is an important aspect of increasing the Bed Occupancy Rate (BOR) at Bhayangkara Banten Hospital. Materials include the availability of medical devices and medicines, while machines refer to the technology and support systems used for hospital operations. Based on the study's results, the limited availability of medical devices such as CT Scan, CTG, Echocardiography, treadmills, and lack of medicines are among the main obstacles to providing optimal services. In addition, although the hospital has adequate ICU space, the absence of supporting devices such as appropriate ventilators worsens service capacity. This is in line with research showing that the availability of adequate medical materials directly affects the hospital's ability to provide high quality services (Mosdeghrad, 2014).

Bhayangkara Hospital has revised the 2023 PNPB budget target from IDR 2.53 billion to IDR 4.96 billion to overcome these limitations and has been approved by the National Police Health Center. This additional budget is used to procure medical devices such as Echocardiography, CPAP, and Neopuff, urgently needed to support health services. In addition, to overcome the limitations of using damaged CT Scans, the hospital collaborated with the Serang Biomed Laboratory so that examinations could still be carried out without disrupting hospital operations. This approach reflects the importance of adaptive material and machine management to ensure the sustainability of health services amidst limited resources (McCullough et al., 2016).

The application of information technology is also part of the machine optimization in this hospital. Bhayangkara Hospital has developed a Hospital Management Information System (SIM RS) and e-RM (Electronic Medical Record) services to improve operational efficiency. With this system, patient data can be managed digitally, which speeds up the registration process and facilitates access to medical information for health workers. In addition, the development of technology-based services such as telemedicine, WA Center for health consultations, and promotions through social media have helped increase public awareness of hospital services. Previous studies have shown that integrating information technology can significantly improve hospital service efficiency and patient satisfaction (Mosdeghrad, 2014). With these steps, material and machine optimization is expected to improve service quality and attract more patients so that the hospital's BOR can continue to increase.

Information Technology as a Service Support

The application of information technology (IT) in the health sector is important to improve operational efficiency and service quality. At Bhayangkara Banten Hospital, information technology is used to overcome various obstacles in service, including increasing

the Bed Occupancy Rate (BOR). One of the main initiatives is the development of the Sistem Informasi Manajemen Rumah Sakit (SIM RS) and telemedicine services. SIM RS allows real-time patient data integration, registration flow, and facility management, thus facilitating internal hospital coordination. Integrated with BPJS, telemedicine services provide patients access to remote health consultations without coming directly to the hospital. This step not only increases accessibility but also reduces waiting times at health facilities, which is an important factor in increasing patient satisfaction.

In addition to SIM RS, Bhayangkara Banten Hospital utilizes social media for health promotion and education. For example, the hospital's Instagram account actively publishes information on available services and the latest health programs. Health podcast programs with specific themes, such as "Healthy Life Without Diabetes," are another innovative strategy to reach the community. This step aims to increase public awareness of the existence and excellence of hospital services. Education provided through this media helps the public understand the importance of health services and increases their trust in the quality of hospital services (McCullough et al., 2016).

The use of information technology is in line with global findings that digitalization of health services can improve efficiency and patient experience. A study by Mosadeghrad (2014) highlighted that applying information technology in hospital management can reduce administrative errors, improve workflow, and increase patient satisfaction. At Bhayangkara Banten Hospital, this initiative has had a positive impact, especially in supporting the promotion of broader services and increasing patient accessibility. However, implementing this technology requires ongoing staff training to ensure all technology features are utilized optimally. This step is a strategic element that supports the increase in BOR and ensures the sustainability of high-quality services.

The Role of Environment and Public Perception

The environment and public perception play an important role in determining the success of a hospital, especially in increasing the Bed Occupancy Rate (BOR). In the context of Bhayangkara Banten Hospital, public stigma towards the quality of hospital services is a significant external challenge. This stigma can arise due to previous negative patient experiences, lack of service promotion, or the assumption that the hospital only serves certain groups. This negative perception affects public trust in choosing the health services offered, so BOR remains low despite the availability of facilities and services (Berry et al., 2013).

Bhayangkara Banten Hospital has implemented an information technology-based strategy to overcome the less supportive public perception. One of the strategic steps is optimizing social media, such as Instagram, and creating podcasts containing health education information. Through this platform, the hospital can reach the public with relevant information, such as types of services, facility advantages, and patient success stories. This step is in line with research showing that digital promotion strategies effectively build a positive image and increase public trust in health services (Umpain et al., 2024). In addition, social media-based strategies allow direct interaction with the community so that hospitals can respond to complaints and needs quickly, increasing community satisfaction with their services.

On the other hand, collaboration with local communities can also strengthen the relationship between hospitals and the community. Involving the community in health programs, such as education about disease prevention or free health check-up activities, can help build better relationships. These community-based programs improve the hospital's image and encourage the community to feel more confident and comfortable using health services at

Bhayangkara Banten Hospital. Research shows that a community-based approach is practical in building long-term relationships between health institutions and the communities they serve, which positively impacts increasing BOR (Al-Borie & Sheikh Damanhour, 2013).

Finance and Policy

One of the main challenges Bhayangkara Banten Hospital faces in increasing Bed Occupancy Rate (BOR) is budget constraints. This hospital still needs to get the status of a Badan Layanan Umum (BLU), so flexibility in budget management and allocation is limited. This non-BLU status forces the hospital to rely solely on the budget allocated from the DIPA (Budget Implementation List). This results in limitations in fulfilling medical needs, such as the procurement of essential equipment (CT Scan, Echocardiography, and CTG) and limited availability of medicines. As a result, the hospital's ability to provide consistently high quality services is disrupted, ultimately impacting the low BOR.

As a strategic step to overcome this obstacle, hospital management has revised the Non-Tax State Revenue (PNBP) budget target in 2023. From the initial budget of IDR 2.53 billion, this revision succeeded in increasing the allocation to IDR 4.96 billion. This revision procured critical medical equipment, such as Echocardiography, CPAP, Mix Safe, and Neopuff. This effort is aimed at increasing the capacity of medical services and provides a basis for more comprehensive improvements in the quality of patient services. In addition, the procurement of this device is also supported by cooperation with external partners, such as Biomed Serang, to overcome temporary limitations in CT Scan services. This priority-based procurement policy focuses on optimizing resources within a limited budget framework.

Transforming hospital status into BLU is an important strategic step to improve financial and operational sustainability. BLU status allows hospitals to have more flexibility in managing income and expenses. This will open up opportunities for hospitals to develop new services, improve operational efficiency, and access alternative funding sources, including cooperation with private partners. In the long term, this policy also allows hospitals to be more responsive to patient needs by increasing infrastructure and human resources service capacity. According to previous research, implementing BLU policies in government hospitals has significantly increased operational efficiency and service capabilities (Chrishartoyo et al., 2017).

CONCLUSION

The conclusion of this study shows that the low Bed Occupancy Rate (BOR) at Bhayangkara Banten Hospital is caused by limited Human Resources (HR) competency, lack of materials and machines, financial constraints, suboptimal policies, and less supportive public perception. Regarding HR, the need for health workers with special skills, such as running the ICU and NICU units, is the main obstacle, even though physical facilities are available. Regarding materials and machines, the limited availability of important medical devices such as CT Scan, CTG, and Echocardiography and the lack of medicines limit the hospital's ability to provide optimal health services.

Bhayangkara Banten Hospital has taken strategic steps to overcome these challenges, including intensive training for health workers through collaboration with dr. Drajat Prawiranegara Hospital and Gatot Soebroto Army Hospital. In addition, the procurement of medical devices by revising the PNBP budget from IDR 2.53 billion to IDR 4.96 billion has

increased service capacity. Applying information technology, such as the Hospital Management Information System (SIM RS), telemedicine services, and social media-based promotions, also helps improve operational efficiency and expand public access to hospital services. Financial constraints are a significant challenge because the hospital's status still needs to be a Badan Layanan Umum (BLU), limiting the flexibility of budget management.

Transformation into a BLU is a strategic solution that enables more flexible financial management and access to alternative funding sources. The less supportive public perception began to be overcome through community education and active promotion on social media, which gradually built public trust. With the implementation of this strategy, Bhayangkara Banten Hospital succeeded in increasing BOR from 60% to 75% in six months. This study shows that an integrated multi-dimensional approach can effectively address BOR challenges and guide other hospitals to adopt similar strategies in improving service quality and BOR sustainably.

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