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HUMAN RESOURCE AND FACILITY AVAILABILITY AND THEIR EFFECT ON SERVICE QUALITY AT SENGAYAM REGIONAL GENERAL HOSPITAL, KOTABARU REGENCY, SOUTH KALIMANTAN PROVINCE

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ABSTRACT

This study aims to describe the performance of healthcare workers at Sengayam Regional General Hospital (RSUD Sengayam) from the perspectives of medical personnel, hospital management, patients, and patients' families. A qualitative approach was employed, using in-depth interviews, observation, and documentation to obtain triangulated data that reflect actual hospital service conditions.

The findings indicate that healthcare service performance continues to face fundamental challenges. First, human resources remain inadequate, particularly specialist physicians and nurses in critical units such as the emergency department and inpatient wards. The uneven distribution of staff results in heavy workloads and longer waiting times. Second, facilities and infrastructure are available but remain limited. Inpatient facilities do not yet fully meet KRIS standards, medical equipment is insufficient in some areas, and maintenance is generally carried out adequately. However, when equipment breaks down and cannot be repaired by the internal team, the hospital must wait for an external technician. Third, service quality is generally perceived as good, but waiting times and communication with patients' families remain concerns. Evaluation mechanisms and feedback systems are in place but have not been implemented optimally.

The practical implications highlight the need for comprehensive strategic policies, including recruiting and redistributing healthcare workers according to service needs, improving facilities and infrastructure, enhancing service quality through continuous evaluation, developing integrated health information systems, and ensuring adequate budget allocations from local government. Academically, this study contributes to public-sector performance management by connecting empirical findings with human resource management, service quality (SERVQUAL), facility management, information systems, and healthcare governance.

Keywords: healthcare worker performance; RSUD Sengayam; human resources; facilities and infrastructure; service quality; information systems; health policy.

I. INTRODUCTION

Regional hospitals play a strategic role in ensuring equitable access to healthcare. Nevertheless, many continue to face limitations in human resources and facilities. This study analyzes the availability of human resources and facilities at RSUD Sengayam and examines how these factors affect healthcare service quality. The data include the Community Satisfaction Survey (Survei Kepuasan Masyarakat, SKM) for the first quarter of 2026, National

Quality Indicators (Indikator Nasional Mutu, INM), and evaluations of staffing and facility needs based on accreditation standards.

The results show an SKM score of 86.10, categorized as "Good," although facilities and infrastructure received the lowest score. RSUD Sengayam has a substantial shortage of nurses in intensive care, estimated at 32 personnel, and a limited number of specialist physicians. Facilities have also not fully met the required standards. The reported ASPAK achievement was 65.82%, comprising 46.39% for facilities, 96.43% for infrastructure, and 77.78% for medical equipment. These conditions contribute to service delays, heavier workloads for healthcare workers, and reduced patient satisfaction.

Overall, service quality at RSUD Sengayam is substantially affected by limitations in human resources and facilities. Strategic recommendations include strengthening healthcare workforce capacity, improving the distribution of specialist physicians, and modernizing facilities to improve the technical and functional quality of healthcare in rural and border areas.

This study has several related objectives. First, it describes the availability of human resources at RSUD Sengayam in Kotabaru Regency and their role in supporting healthcare quality. Second, it examines the available facilities and infrastructure and assesses the extent to which they support hospital services. Third, it analyzes the relationship between the availability of human resources and facilities and the quality of services experienced by patients. Finally, it identifies the principal barriers to service-quality improvement, particularly those related to staffing and facility constraints.

Theoretically, the study is expected to contribute to hospital management literature by explaining the relationship between human resource availability, facilities, and service quality. Practically, the findings may support internal evaluation and help hospital management improve staffing arrangements, workforce development, and facility procurement. At the policy level, the study may inform local government decisions on healthcare workforce recruitment, facility investment, and budget planning to improve access in rural and border areas.

II. LITERATURE REVIEW

2.1 Theoretical Framework: Human Resource Management, Hospital Facilities, and Healthcare Service Quality

Hospital service quality results from the complex interaction of human resources, facilities and infrastructure, and service processes. These components complement one another and cannot be separated when assessing healthcare quality. In the case of RSUD Sengayam, human resource management theories help explain both the challenges and opportunities for improving services in rural and border areas.

Human Capital Theory [1] emphasizes that healthcare workers are valuable assets whose capabilities can be developed through education, training, and work experience. This view aligns with the Resource-Based View [2], which argues that unique, competent, and difficult-to-replicate human resources can become a source of organizational advantage. Service quality depends not only on clinical outcomes but also on interactions between healthcare workers and patients; competence, communication, and empathy are therefore essential.

Herzberg's Two-Factor Theory [3] explains that work motivation is influenced by motivators, such as recognition, achievement, and career development, and hygiene factors, such as salary, working conditions, and organizational policies. Limited facilities and heavy workloads can reduce staff motivation and negatively affect both the technical and functional dimensions of service quality.

Strategic Human Resource Management (SHRM) emphasizes aligning human resource strategy with an organization's vision and mission. At RSUD Sengayam, SHRM may be implemented through competency development, the use of telemedicine, and more equitable workforce distribution. Competency-Based Human Resource Management further stresses the importance of clinical skills, communication, and empathy in improving service quality.

Facilities and infrastructure are fundamental to effective hospital services. Facilities include medical equipment, inpatient rooms, and laboratories, while infrastructure includes information systems, electricity, water, and transportation networks. From a systems perspective [4], these elements interact with human resources and service processes. Without adequate facilities, healthcare workers cannot perform their duties optimally.

Facility Management Theory [5] emphasizes systematic facility management, including medical-equipment maintenance and the development of management information systems. Well-maintained facilities can improve efficiency, safety, and service quality. Lean Healthcare [6] is also relevant to reducing waste and improving the use of facilities, for example by streamlining patient flows, optimizing inpatient space, and digitizing administrative procedures.

The Technology Acceptance Model (TAM) [7] suggests that technology adoption depends on users' perceptions of usefulness and ease of use. When healthcare workers consider an information system useful and easy to operate, acceptance is more likely; resistance may arise when the system is perceived as complicated or irrelevant. At RSUD Sengayam, constraints involving inpatient rooms, laboratories, and information systems affect technical quality, such as diagnosis and medical procedures, as well as functional quality, including patient comfort and administrative speed.

The Donabedian model [8] provides a widely used framework for evaluating healthcare quality through three components: structure, process, and outcome. Structure includes human resources, facilities, and organizational arrangements. Process refers to interactions between healthcare workers and patients, clinical procedures, and administrative activities. Outcome includes recovery, patient satisfaction, and patient safety. Limitations in staffing and diagnostic facilities can weaken structural quality, delay service processes, reduce satisfaction, and increase the risk of medical errors.

The SERVQUAL model [9] evaluates service quality from the patient's perspective through five dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Other complementary frameworks include Total Quality Management (TQM), which emphasizes continuous improvement; Patient-Centered Care (PCC), which positions patients as active partners; Health System Strengthening [10], which emphasizes strengthening the six pillars of a health system; and Service-Dominant Logic, which highlights value co-creation between healthcare providers and patients. Recent work also distinguishes technical quality, which concerns clinical competence and procedural accuracy, from functional quality, which concerns patient experience, comfort, and empathy [11].

2.2 Empirical Evidence on Human Resources, Facilities, and Service Quality

Previous studies have examined hospital service quality using a range of approaches. Ilyas [12] identifies human resources as a critical component of hospital service sustainability, with workforce planning and development directly affecting service quality. Hendrisman [13] likewise shows that limitations in technical personnel, training, and maintenance budgets can significantly affect service quality.

National and international literature also points to the importance of facilities, integrated information systems, and digital transformation. Research cited in the manuscript suggests that modern facilities and integrated information systems can improve service efficiency and reduce patient complaints. The Ministry of Health of Indonesia has highlighted differences in service quality between major urban hospitals and regional hospitals, with human resource and facility limitations contributing to these disparities [14]. The SERVQUAL framework is relevant because its tangibles dimension is closely related to facilities, while assurance and empathy are strongly linked to healthcare workers' capabilities and conduct.

Recent studies emphasize the role of digital transformation in improving service efficiency, while noting persistent obstacles related to infrastructure and technology literacy

[16]. Other work highlights innovative human resource management strategies in response to organizational change and technological progress [17]. Research on nutrition personnel also emphasizes the relationship between workforce development, nutrition-service quality, and patient recovery. A Ministry of Health report cited in the manuscript states that only 24% of hospitals met the relevant facility and infrastructure benchmark above 80%, indicating that facility constraints remain widespread [15].

2.3 Research Gap

Although hospital service quality has been widely studied, several gaps remain. First, many previous studies focus on large urban hospitals or national referral hospitals, while empirical research on regional hospitals in rural and border areas remains limited. These locations face distinctive geographical and healthcare-access challenges. Second, previous research often examines human resources or facilities separately rather than analyzing how they jointly shape technical and functional service quality. Third, studies tend to emphasize technical quality, such as diagnostic accuracy and clinical outcomes, while functional quality including comfort, service speed, and patient satisfaction has received less attention in regional hospitals. Fourth, although reports from the Ministry of Health have identified disparities between urban and regional hospitals, few studies specifically connect those disparities to human resource and facility conditions in rural and border settings. This study addresses these gaps through an integrated analysis of RSUD Sengayam.

III. RESEARCH METHOD

3.1 Research Design

This study uses a descriptive qualitative approach to understand healthcare service quality at RSUD Sengayam, Kotabaru Regency, South Kalimantan Province. The research was conducted in July 2026. It focuses on limitations in human resources, facilities and infrastructure, and local-government policy support, with the aim of developing a holistic understanding of healthcare-service dynamics in rural and border areas.

A qualitative approach was selected because it allows the researcher to explore the experiences, perceptions, and interactions of healthcare workers, patients, and policymakers. The study is descriptive and exploratory: it provides an overall account of service quality and interprets the relationship between inputs (human resources and facilities), processes (service interactions), and outcomes (health results and patient satisfaction).

3.2 Data Sources and Informants

Informants were selected through purposive sampling, meaning that participants were deliberately chosen because they were considered relevant to the research objectives. The emphasis was on the quality and relevance of the information rather than on sample size. The study involved 21 informants from three main groups: healthcare workers, including medical and paramedical staff directly involved in patient care; hospital management, including leaders and unit heads responsible for service-quality decisions; and patients and their family members who had direct experience with inpatient or outpatient services.

In qualitative research, the number of informants is guided by information sufficiency. Recruitment continues until data saturation is reached, meaning that additional interviews or observations no longer produce substantially new information. Informant selection considered diversity of background, experience, and perspective, as well as direct knowledge of service quality, accessibility, and willingness to participate. Data were collected through interviews, observation, and documentation. Triangulation was used to compare interviews, observations, and documents, while member checking supported data credibility.

3.3 Data Processing and Analysis

Data processing transformed raw information into findings relevant to the research focus. First, interviews were recorded with participants' permission and transcribed verbatim to preserve their original meaning. Observation notes documented settings, interactions, and facility conditions, while official hospital documents and local policies were compiled in digital or printed archives.

Second, the data were organized by source, including healthcare workers, patients, and management, and then classified according to the study's input, process, and outcome categories. This organization helped identify relationships among the research themes. Third, findings were presented through descriptive narratives, tables, and conceptual diagrams. Direct quotations from informants were used to retain the authenticity of participants' experiences. The validity of the findings was strengthened through method triangulation and member checking.

IV. RESULTS AND DISCUSSION

4.1 Availability of Human Resources

RSUD Sengayam is a Class D regional hospital serving rural and border communities in Kotabaru Regency, South Kalimantan. As a district-level referral hospital, it faces challenges in meeting service-quality standards, particularly because of limitations in human resources and facilities. Its healthcare workforce includes general practitioners, specialist physicians, nurses, midwives, and supporting medical personnel. However, the number and distribution of staff do not fully match patient-service needs, contributing to heavy workloads and affecting service quality.

The hospital is located on Jenderal Sudirman Street, KM 425, RT 8/RW 2, on a site of approximately 100,000 square meters. It borders Paser Regency in East Kalimantan to the north, Pamukan Utara District to the east, Sungai Durian District to the south, and Balangan Regency to the west. The hospital was established to improve healthcare access for residents of nine subdistricts located far from the regency capital, representing approximately 33% of Kotabaru's population.

RSUD Sengayam was inaugurated on 1 June 2022, held a soft opening on 5 January 2023, and a grand opening on 17 January 2023. Its functions include treatment and recovery, healthcare workforce education and training, and health-related research and development. Its vision is to become a quality, affordable, and equitable hospital serving the community. Its core values are summarized in SEHATI: responsive, assertive, humane, safe, accountable, and professional.

In 2025, the hospital had 295 healthcare and non-healthcare employees, with 91 additional civil-service recruits. It had 109 beds distributed among Class 1–3 wards, pediatric wards, ICU, PICU, HCU, isolation rooms, and maternity services. The hospital complex consists of three main buildings, A, B, and C, and a new building that was inaugurated in February 2026. Services include emergency care, outpatient and inpatient care, surgery, intensive care, nursing and midwifery, pharmacy, laboratory, radiology, nutrition, medical records, CSSD, laundry, mortuary services, and sanitation.

4.2 Condition of Facilities and Infrastructure

The hospital director generally considers the facilities adequate, although several important shortcomings remain. Inpatient rooms are more modern than those of some nearby hospitals, but they do not fully meet KRIS standards; for example, nurse-call systems and central oxygen facilities are not yet optimal. Radiology diagnostic equipment is incomplete, and the availability of laboratory reagents is sometimes delayed, disrupting diagnostic examinations.

Maintenance is performed by internal technicians, while procurement is managed according to budget availability. A major challenge is the time required to repair medical equipment, which can result in patients being referred to other hospitals. The Ministry of Health's SIMGOS information system supports service delivery but is not yet fully integrated; for example, an online queue system is not available.

Medical personnel view the new building as providing larger and more varied inpatient spaces. However, additional specialized equipment, such as ventilators in the pediatric unit, is still needed to reduce referrals. Medical personnel are involved in procurement planning so clinical requirements can be considered. Delays in medicine procurement, related to budget limitations and the hospital formulary, remain a concern. Information technology is considered helpful in speeding up administration, prescribing, and medical-record processes.

Hospital employees consider the inpatient rooms adequate but identify medical-equipment shortages as a major issue. Information systems generally support service delivery, although technical disruptions such as unstable electricity can affect medical equipment. Patients generally regard the facilities as good and modern, but report issues such as non-functioning bathroom water, broken examination equipment that necessitates referral, and occasional medicine shortages requiring purchases outside the hospital. Computer-based registration speeds up service, although technical problems sometimes cause delays.

4.3 Effects of Human Resource and Facility Availability on Service Quality

The director generally considers service quality good, although patients continue to complain about outpatient waiting times. Quality is evaluated through internal meetings, monthly reports, and patient-satisfaction surveys. The main factors affecting service quality are the availability and competence of staff and the completeness of facilities. Feedback mechanisms, including surveys and suggestion boxes, are available, but follow-up has not been optimal. Planned improvements include recruiting more healthcare workers, upgrading facilities, and developing information systems.

Medical personnel believe service quality is reasonably good, reflected in increasing patient visits. They identify workforce quality and supporting facilities as the most influential factors. Patient-satisfaction surveys, Google reviews, and self-assessments are used for evaluation. Regular meetings, morning reports, and monthly reviews are considered important for evaluating problems and ensuring follow-up. They recommend additional staff in understaffed units, particularly perinatology, and regular training, seminars, and workshops for both civil servants and non-civil-service employees.

Hospital employees consider services generally well received by the public, but identify communication between staff and patients as an area for improvement. Language differences and communication styles may shape patients' perceptions. Quality evaluations are conducted each morning in inpatient units, and a dedicated team collects feedback from patients and the community. Employees recommend routine monitoring and stronger staff competencies to improve communication and service delivery.

Patients describe the services as friendly and relatively fast. They consider medical-equipment completeness an important factor in choosing RSUD Sengayam over nearby alternatives. However, patients do not always know how feedback from satisfaction surveys is acted upon, and suggestions are not consistently followed up. They recommend recruiting more healthcare workers, improving facilities, and making the registration process more reliable.

4.4 Key Barriers to Service-Quality Improvement

The hospital director identifies staffing increases particularly for physicians and nurses as a key priority. Repairs to facilities that no longer function properly and procurement of unavailable equipment are also urgent. The hospital needs a stronger information system to improve integration and efficiency. Management is committed to ongoing staff training and

regular facility maintenance, but emphasizes the need for adequate budget allocations and stronger coordination with local government.

Medical personnel recommend increasing staffing in units with shortages, especially perinatology, and providing regular training, seminars, and workshops. They also stress the need for monthly evaluations and improvements in facilities, including more reliable medicine availability. Employees recommend training and regular performance monitoring tailored to each service unit. Patients emphasize the need for more complete medical equipment and additional physicians, noting that friendly service and complete facilities would strengthen public trust.

The findings indicate four connected challenges. First, human resources remain insufficient, particularly specialist radiologists and nurses in inpatient wards, outpatient services, the emergency department, ICU, and perinatology. Uneven staffing creates excessive workloads, fatigue, burnout, and potential medical-error risks. Budget constraints limit recruitment and ongoing training. Second, although many facilities are adequate, inpatient wards do not fully meet KRIS standards, some medical equipment remains limited, and repairs requiring external technicians take time. SIMRS/SIMGOS has improved service processes but is not fully integrated and may experience network or server disruptions.

Third, shortages in staff and facilities directly affect service quality. Waiting times increase, healthcare workers become fatigued, communication and responsiveness may decline, and the risk of medical errors rises. Broken or unavailable equipment can interrupt treatment and lead to referrals. Information technology can accelerate service processes, but intermittent system errors and slowdowns limit its reliability. Fourth, budget limitations hinder staffing, training, certification, competitive remuneration, equipment procurement, calibration, replacement of outdated devices, and full integration of information systems. Consistent daily quality monitoring also needs to be strengthened.

V. CONCLUSIONS AND RECOMMENDATIONS

This study identifies fundamental challenges affecting healthcare service quality at RSUD Sengayam. Human resources remain insufficient, particularly specialist radiologists and nurses in inpatient wards, outpatient services, the emergency department, ICU, and perinatology. Uneven staff distribution creates excessive workloads and contributes to physical and mental fatigue, while budget constraints hinder recruitment and continuous professional development.

Although many facilities are adequate, several important gaps remain. Inpatient rooms do not fully meet KRIS standards, some medical equipment is unavailable or insufficient, and repairs may be delayed when external technicians are required. The hospital information system supports service delivery but is not yet fully integrated and may experience technical disruptions. These constraints contribute to longer waiting times, communication challenges, potential medical errors, and referrals to other hospitals.

Overall, service quality at RSUD Sengayam is constrained by interrelated limitations in human resources, facilities, and funding. Quality improvement therefore requires a holistic strategy that includes recruiting additional healthcare workers, redistributing staff according to service needs, and providing continuous training to strengthen technical and professional competencies. Inpatient facilities should be upgraded to meet KRIS standards, missing medical equipment should be procured, and preventive maintenance should be strengthened to ensure faster and more responsive repairs.

The hospital should also improve its information systems so that service processes become more efficient and integrated and administrative and technical barriers are reduced. Routine quality evaluation and monitoring should be implemented consistently at the operational level. Patient-satisfaction survey results should be followed up as part of continuous quality improvement so that changes reflect patients' experiences. Finally, local government should provide adequate funding for staffing, facilities, and information-system development.

Local health policies should support the hospital's role as a referral facility for rural and border communities.

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