

SOCIALIZATION OF IMPROVING THE QUALITY OF HEALTH ADMINISTRATION SERVICES THROUGH THE USE OF DIGITAL TECHNOLOGY

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Abstract

The rapid development of digital technology has influenced the management of health services, particularly in financial administration at primary health centers. This study focuses on Segiri Public Health Center Samarinda, which still relies heavily on manual processes in managing the Health Operational Assistance (BOK) fund. Field observations revealed challenges such as delays in reporting, limited human resources, weak coordination, and inadequate use of information technology, all of which hinder service quality. Problem identification using a Fishbone Diagram indicated that the main issue lies in the suboptimal use of digital systems influenced by human, financial, procedural, and infrastructural factors. Alternative solutions were analyzed using the Reinke Method, with the development of a digital application integrated with Google Workspace identified as the top priority, supported by hybrid SOPs, staff training, archive digitization, and budget optimization. The internship findings conclude that strengthening digital-based financial administration is essential to improve efficiency, accountability, and reporting quality, thereby supporting better health services for the community.

Keywords: Digital Technology, Financial Administration, BOK Fund, Public Health Center, Service Quality

INTRODUCTION

Rapid advances in science and technology in the modern era have impacted various aspects of human life, including the health sector. Healthcare services, both in terms of medical care and administrative management, are increasingly required to adapt to social, economic, and cultural changes in society. The integration of digital technology into healthcare management has created both opportunities and challenges for healthcare institutions, particularly in efforts to improve service quality and administrative governance. Community Health Centers (Puskesmas), as primary healthcare facilities, play a strategic role at the forefront of providing promotive, preventive, curative, and rehabilitative services to the community. The effectiveness of this function depends heavily on appropriate, transparent, efficient, and accountable administrative and financial management.

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In practice, Puskesmas are responsible not only for providing medical services but also for managing financial resources to ensure operational sustainability. Fund management, particularly the Health Operational Assistance (BOK), is crucial because nearly every activity, from disease prevention and public health promotion to service provision and healthcare worker incentives, relies heavily on accurate budget planning and financial reporting. Ineffective financial management, delays in reporting, or misallocation of resources can directly impact the quality of services which in turn impacts the community as the primary beneficiary.

Previous studies have shown that although financial management practices at several community health centers (Puskesmas) align with public management standards, challenges remain. These challenges include staff's limited understanding of accounting procedures, lack of digital technology training, and difficulty prioritizing fund allocations. These findings point to an urgent need to strengthen human resource capacity and improve internal control systems to ensure effective use of funds. Furthermore, the implementation of digital-based accounting systems has been shown to reduce errors and expedite reporting. However, implementation is often hampered by limited infrastructure and a lack of technical training.

The case of the Segiri Community Health Center in Samarinda illustrates how these issues emerge at the local level. Through community service activities conducted by the Mutiara Mahakam Health College (STIKES) Samarinda, direct observation of financial and administrative processes, including budget planning, bookkeeping, reporting, and internal oversight, was conducted. This community service activity revealed real-world challenges faced by administrative staff and healthcare workers, such as the complexity of regulatory procedures, limited human resources, and technical obstacles in implementing digital systems. This hands-on experience provided valuable insights not only for academic reflection but also as a basis for practical recommendations aimed at strengthening management in primary healthcare facilities.

The authenticity of this community service lies in its approach. Unlike many previous community service projects that focused more on evaluating normative policies, this community service project focused on actual practices observed through direct fieldwork at the Segiri Community Health Center. By analyzing field experiences, this community service project offers a more comprehensive understanding of how administrative and financial management is implemented at the primary healthcare level. Therefore, the resulting recommendations are not only theoretical but also practical and contextually relevant, reflecting the real conditions faced by healthcare workers and administrative staff in the field.

The identified issues emphasize the importance of strengthening digital-based administrative systems, providing ongoing training for staff, and simplifying administrative procedures to improve financial efficiency. At the same time, increasing public demand for quality healthcare services underscores the urgency of these reforms. Optimizing the use of digital technology in managing BOK funds at the Segiri Community Health Center is expected to increase the effectiveness of budget utilization, improve reporting quality, and ensure the sustainability of essential health programs.

Based on this background, the objective of this community service project is to identify key issues in the administrative and managerial processes at the Segiri Community Health Center in Samarinda, analyze their causes and impact on service quality, and propose solutions to support the effectiveness of healthcare workers and administrative staff. Ultimately, this

effort aims to contribute to improving the overall quality of healthcare services for the community. Furthermore, this community service seeks to strengthen the institutional capacity of primary healthcare services to better respond to the challenges of change in the digital era.

IMPLEMENTATION METHOD

This outreach program is designed to integrate classroom knowledge with field practice, specifically in the administration and management of health services at the Segiri Community Health Center in Samarinda. The implementation method combines direct observation, document analysis, informal interviews with health workers and administrative staff, and active participation in daily operational activities. Through this approach, the community is positioned not only as observers but also as participants directly involved in the administrative and managerial processes.

This program will run for one month, from August 25 to September 20, 2025, according to the community health center's operating hours. Activities are held Monday through Thursday from 8:00 a.m. to 2:30 p.m. Central Indonesian Time (WITA), Friday from 8:00 a.m. to 11:30 a.m. Central Indonesian Time (WITA), and Saturday from 8:00 a.m. to 1:00 p.m. Central Indonesian Time (WITA). The community service program takes place at the Segiri Community Health Center, located at Jalan Ramania 2, RT 47 No. 12, Sidodadi Village, Samarinda Ulu District, Samarinda City.

The program consists of several stages. The first stage involved an initial observation of the organizational structure, administrative systems, and financial management procedures, including the handling of BOK funds. The second stage involved participation in financial recording and reporting, where the community members engaged in both manual and digital processes to understand the strengths and weaknesses of each. The third stage involved reflective discussions with administrative staff and healthcare workers to explore challenges faced in daily operations, such as infrastructure limitations, workload allocation, and administrative procedures.

To ensure systematic implementation, activities were aligned with the community health center's workflow and tasks assigned to the community members during community service. This method emphasized experiential learning, allowing the community members to gain direct exposure to real-world practices, analyze problems encountered, and propose practical solutions relevant to the community health center's needs. The results of this implementation are expected to provide academic insights as well as practical recommendations for strengthening administrative governance and improving the quality of healthcare services at the Segiri Community Health Center.

RESULTS AND DISCUSSION

Situation Analysis

Socialization was carried out in the Administration department, specifically the Finance department, which is responsible for managing Health Operational Assistance (BOK) funds. Daily activities include preparing Accountability Letters (SPJ), Expenditure Responsibility Statements (SPTJB), assignment letters, transportation receipts, attendance lists, invoices, contracts, activity consumption orders, consumption schedules, and calculating BOK fund realization. This process is still carried out manually using Microsoft Word and Microsoft Excel separately. As a result, employee data, job titles, and activity details must be re-entered into several different documents, slowing task completion and increasing the risk of reporting delays.

In terms of facilities, the Finance office provides a comfortable work environment but is relatively cramped due to the large number of administrative files, especially SP2B documents. This situation occasionally disrupts work activities, although this is considered normal considering the significant paperwork burden in the Finance department. In terms of human resources, the General Administration department consists of seven staff. However, BOK financial management is handled by only one treasurer, assisted by one other staff member. This staff is not fully available due to their responsibility for registration, so the BOK treasurer often works alone. Overall, the Segiri Community Health Center employs 47 staff.

The finance department continues to face several challenges, including delays in document preparation and low absorption of BOK funds. These problems are caused by weak activity planning, concurrent employee positions, delays in document issuance, and slow disbursement. According to the BOK treasurer, limited human resources are the primary factor contributing to the slow completion of financial administration tasks. Through this community service experience, the author gained a deeper understanding of the financial and administrative workflow at the Segiri Community Health Center. In addition to enhancing practical skills, this experience also provided valuable insights into the challenges in managing financial administration at the community health center, which then served as the basis for identifying the problems discussed in the next chapter.

Problem Identification

Administration and financial management at the Segiri Community Health Center in Samarinda still face various complex challenges. Document management processes, from preparing Accountability Letters (SPJ) to reporting Health Operational Assistance (BOK) funds, are largely manual. This situation causes delays in the workflow, both in document issuance and fund disbursement. Previous community service studies have shown that implementing a digital-based health management information system can accelerate administrative processes, although employee adaptation remains a challenge (Alawi and Ariyani 2024).



Figure 1. Piled up and scattered SPJ documents

In addition to delays in document issuance, human resources in the administration department are also limited. Some employees must handle multiple tasks simultaneously, reducing focus on primary tasks. As a result, work targets are often difficult to achieve on time. This situation aligns with findings from community service programs, which stated that administrative management in community health centers is often hampered by limited administrative staff and a lack of training in the use of technology-based systems (Suhermawan and Oktariyanda 2025).

Table 1. Percentage of Workload on BOK Financial Administration at Segiri Health Center

Employees	Number of Documents Processed per Month	Workload Status
BOK Treasurer	50	Overload
BOK Assistant Treasurer	40	Overload
Kepala Subbagian Tata Usaha	30	Sesuai

In terms of competency, some employees do not fully understand the regulations and procedures for preparing financial reports. Some still rely on previous work habits rather than following standard operating procedures (SOPs). This results in a higher risk of errors in recording and reporting. Previous community service projects have emphasized that developing cloud computing-based administrative applications can be an effective solution because it facilitates cross-unit data entry and improves reporting accuracy (Honni 2013).

Coordination between units within community health centers is also a recurring challenge. The finance unit does not always receive information from other divisions in a timely manner, hampering administrative processes. This lack of effective communication often delays report preparation and potentially delays the implementation of health programs. Previous community service projects have demonstrated that integrating digital systems into administrative management at health facilities can improve coordination, strengthen transparency, and reduce the likelihood of miscommunication (Fauzi et al. 2024).

From a health service perspective, these administrative obstacles directly impact service quality. Delays in disbursement of funds, for example, can disrupt the provision of facilities and infrastructure and the implementation of promotive and preventive programs such as immunizations or health education. This condition aligns with findings showing that the use of e-government-based e-health systems can accelerate services and improve public

accountability, although digital literacy among employees remains a major challenge (Suhermawan and Oktariyanda 2025).

Based on observations during community service at the Segiri Community Health Center in Samarinda, it was identified that the primary problem in managing BOK funds lies in the suboptimal use of digital technology. This problem is not isolated but is influenced by various interrelated factors.

Problem Analysis

This problem analysis uses the Fishbone Diagram method, an approach designed to systematically identify, group, and describe the various causal factors behind the suboptimal utilization of digital technology in BOK administration at the Segiri Community Health Center in Samarinda. This method allows for root causes to be identified by grouping them into six main categories: human resources, machines or devices and applications, work methods or procedures, materials in the form of documents and data, money or budget, and organizational or environmental dimensions, including coordination and policies. Using the Fishbone Diagram, the problem analysis can be presented in a more structured manner, facilitating the formulation of appropriate solutions tailored to the specific circumstances of the community health center.

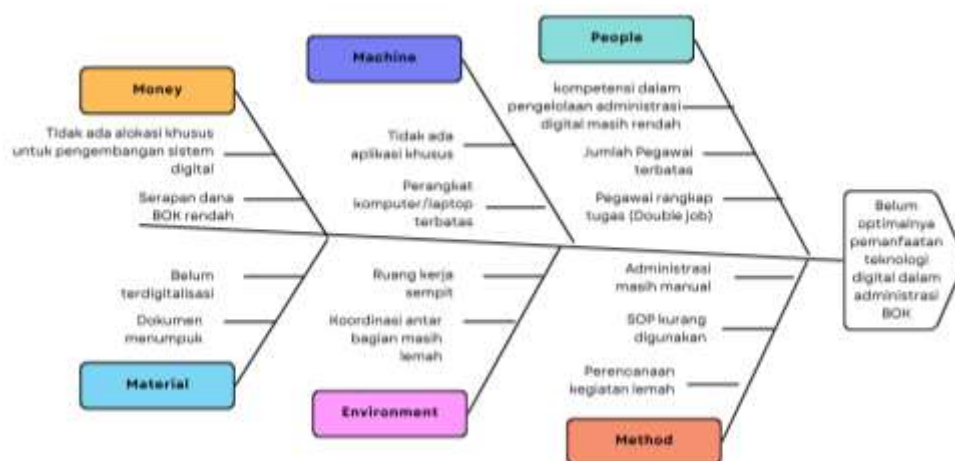


Figure 2. Fishbone Diagram of Segiri Community Health Center, Samarinda

The figure above shows that, from a human resources perspective, the number of administrative staff is still limited, creating an excessive workload and often resulting in delays in managing BOK reports. Furthermore, not all employees have adequate digital literacy or application proficiency. This situation is exacerbated by a lack of structured training opportunities and an ineffective redistribution of workload among employees.

From a material perspective, including documents and data, it is apparent that BOK activity documents are often submitted late by relevant units and, in some cases, remain incomplete. This hampers the input process and report preparation, as employees must repeatedly verify the information to ensure accuracy.

From a financial perspective, the budget allocated to support BOK digitalization remains very limited. As a result, most administrative processes are still performed manually. These

financial limitations have a direct impact on the slow adoption of digital applications and inadequate supporting infrastructure.

In terms of work methods and procedures, the Standard Operating Procedures (SOPs) for BOK report management have not been fully documented. Many processes still use a hybrid system that combines manual and digital methods. Furthermore, the document distribution process remains lengthy and inefficient, while duplicate recording within the system creates data inconsistencies that potentially weaken report reliability.

From a technological or machine perspective, digital applications have not been optimally integrated, and the reporting system still relies on manual use of Excel. Limited hardware, such as computers and laptops, coupled with inadequate internet connectivity, further limit the efficiency of data input and processing.

Finally, from an organizational and environmental perspective, coordination between units is suboptimal, and a disciplined work culture has not yet been fully established. Furthermore, the lack of consistent monitoring and evaluation activities results in late reporting rarely being followed up with corrective measures.

Based on the detailed description of each factor in the Fishbone Diagram, it can be concluded that the delays and irregularities in the management of BOK reports at the Segiri Samarinda Community Health Center are not caused by a single factor, but rather by the interaction of various interrelated aspects. The problem is multidimensional, encompassing human resources, work procedures, documents and data, technology, financial constraints, and the organizational environment. Therefore, solutions must be implemented comprehensively, including by increasing human resource capacity through digital literacy training, developing standardized SOPs, utilizing and integrating digital applications, digitizing archives with a cloud-based document management system, optimizing the budget to support information technology systems, and strengthening a disciplined work culture supported by consistent monitoring and periodic evaluation.

Alternative Problem-Solving

After the problem is identified through Fishbone Diagram analysis, the next step is to formulate an appropriate solution or intervention. One approach used is the Reinke Method, which emphasizes effectiveness and efficiency in determining solutions. With this method, each intervention option is evaluated based on its ability to optimally achieve the goal using available resources, ensuring that the decision made produces maximum results while remaining efficient.

The calculation formula is as follows:

$$P = M \times V \times I / C$$

With the following explanation: **M** (Magnitude) indicates the scale of the problem, **I** (Importance) describes the level of importance in resolving the problem, **V** (Vulnerability) assesses the appropriateness of the chosen solution, and **C** (Cost) represents the costs incurred.

Based on the Reinke Method analysis, several alternative solutions have been identified for implementation at the Segiri Samarinda Community Health Center, as presented in the following table:

Table 2. Alternative Solutions

No.	Alternative	Effective		Efficient		Score	Priority
		M	I	V	C		
1	HR training in the use of digital applications (increasing IT literacy and redistribution of workload)	4	5	4	3	27	3
2	Digital application development (automatic Excel/Google Workspace integration for BOK reports)	4	5	5	3	42	1
3	Preparation of hybrid SOPs (combination of manual and digital processes)	5	5	4	3	33	2
4	Digitization of archives and document classification (PDF scanning, cloud storage, online foldering)	3	4	4	2	24	4
5	Optimizing BOK budget allocation for IT	3	4	3	2	18	5

The analysis results showed that the alternative with the highest score was developing digital applications through automatic integration with Excel or Google Workspace, with a total score of 42. This solution was the top priority because it was deemed the most effective, efficient, and relevant for improving the quality of administration and reporting. The second priority was developing hybrid SOPs (score 33), which are crucial for ensuring consistent administrative processes through a combination of manual and digital systems, minimizing errors, and facilitating staff adaptation to system changes.

The third priority was staff training in the use of digital applications (score 27). Improving information technology literacy and redistributing workloads is necessary so that staff can operate the system effectively without feeling overwhelmed. Furthermore, digitizing archives and document classification came in fourth place (score 24), which supports administrative efficiency through more structured, secure, and easily accessible document storage. Finally, optimizing the BOK budget for information technology was the fifth priority (score 18), as its urgency was deemed lower and could be implemented gradually once the digital system and human resources were more ready.

Thus, it can be concluded that the main problem lies in the lack of an integrated digitalization system. Therefore, the priority solution is the development of digital applications, supported by the development of hybrid standard operating procedures (SOPs), human resource training, archive digitization, and budget optimization as follow-up measures.

As a follow-up to these alternative solutions, the following Plan of Action (POA) has been prepared.

Table 3. Plan of Action (POA)

No.	Activity	Output	Person responsible	Resource
1	Application requirements analysis (BOK reporting workflow)	Draft digital workflow	Administration and treasurer team	Week-1 Internal HR
2	System design using automated Excel/Google Workspace (Forms for input, Sheets for recap, Drive for storage)	Digital application prototype	IT Team of the Health Service/Human Resources of the Community Health Center	Week 2–3 Laptop, internet
3	System trial with input of current month's BOK activity data	Trial system	Treasurer and administrative staff	Week 4 Activity data
4	Socialization and training on the use of digital applications	Staff are able to use the system	Head of Administration Sub-section, Treasurer	Week 5 Training materials, instructors
5	Implementation of digital applications for BOK reporting	Effective digital reporting system	All related units	2nd month Google Workspace/Excel
6	Monitoring and evaluation of application usage	Evaluation report and recommendations	Head of Health Center and Treasurer	Every 3 months Internal evaluation team

CONCLUSION

The findings indicate that the system still relies heavily on manual processes, resulting in delays, repeated data input, and potential errors. This situation is exacerbated by limited human resources, weak coordination, and a lack of information technology support. This situation indirectly impacts the quality of health services through delays in fund disbursement. Therefore, strengthening digital-based administration supported by clear SOPs, staff training, redistribution of workload, and a dedicated budget allocation for information technology development is crucial. These efforts are expected to improve accountability, efficiency, and service quality, while emphasizing the importance of technology integration in primary health care administration as a direction for future development.

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