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ANALYSIS OF THE MANAGEMENT SYSTEM OF THE ACUTE RESPIRATORY INFECTIOUS DISEASE ERADICATION PROGRAM AT PASAR MERAH PUBLIC HEALTH CENTER

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Abstract

Acute Respiratory Infection (ARI) is a major health problem in Indonesian primary healthcare facilities. Pasar Merah Public Health Center has successfully achieved ARI program targets despite limited healthcare personnel and suboptimal Electronic Medical Record (EMR) implementation. To analyze the management system of ARI Prevention and Control Program (P2 ISPA) at Pasar Merah Public Health Center, including planning, budgeting, organizing, implementation, recording, reporting, monitoring, and evaluation aspects. A descriptive qualitative study was conducted in July 2024 using purposive sampling technique. Informants included the Head of Public Health Center, ARI program coordinator, and EMR staff. Data were collected through in-depth interviews, non-participatory observation, and documentation study. The P2 ISPA program does not have specific numerical targets but focuses on service quality and rapid response with 100% case management achievement. No specific budget is allocated for the ARI program, making activities dependent on general health center resources. Task distribution is clearly structured without overlap, and inter-staff communication runs effectively through routine briefings. Recording is performed real-time using EMR with timely follow-up. The P2 ISPA management system at Pasar Merah Public Health Center operates effectively in organizational and communication aspects, but is constrained by the absence of specific budget allocation that limits program development activities such as health promotion and training.

Keywords: ARI, Program Management, Public Health Center, Electronic Medical Record, Health System

INTRODUCTION

The Acute Respiratory Infection Prevention and Control Program (P2 ISPA) management system at the community health center level is a series of coordinated processes encompassing planning, organization, resource preparation, implementation of promotive and preventive

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interventions, recording, reporting, monitoring, and evaluation to reduce the burden of ARI morbidity and mortality, especially in vulnerable groups such as toddlers (Maumude, 2023).

Acute Respiratory Infections (ARI) remain one of the most common health problems at the primary health care level, particularly in Indonesia. The Pasaran Merah Community Health Center (Puskesmas) has successfully achieved its annual ARI program targets despite limited healthcare personnel. One contributing factor is the use of Electronic Medical Records (EMR) as the primary source of ARI data. The implementation of EMR at the community health center has been shown to improve service effectiveness and efficiency, including accelerated data access and timely reporting (Setiawan Nathan & Rostiaty, 2024).

However, despite smooth recording and reporting, some staff have not utilized the full potential of the RME system due to limited technological training. The lack of RME training for staff is a major obstacle to the system's implementation in primary healthcare facilities (Faida & Ali, 2021). Limited infrastructure, a lack of human resources familiar with technology, and network constraints also impact the quality of health program management in community health centers (Juliansyah et al., 2024). Minister of Health Regulation No. 24/2022 requires all community health centers to implement RME by the end of 2023, making human resource readiness and training crucial for successful implementation (Hapsari & Mubarokah, 2023).

Therefore, this study was conducted to analyze the management issues of the ISPA program at the Pasaran Merah Community Health Center, specifically related to the limited number of health workers and optimal utilization of the RME system.

Within the primary care framework, the effectiveness of the management system is largely determined by the adequacy of inputs (human resources, facilities, logistics, and financing), clarity of processes (service standard operating procedures, surveillance flows, referral networks, and cross-program coordination), and the quality of outputs and outcomes (case finding coverage, treatment compliance, and pneumonia incidence/incidence trends) aligned with national guidelines (Suryani, 2024). This principle demands integration between curative activities and public health functions—extension, early detection, real-time reporting, and data utilization for decision-making—so that P2 ARI management does not stop at routine clinical services but moves to evidence-based control in the work area (Nurhasanah, 2025).

Recurring challenges at the program management level, particularly the limited budget allocation specifically for P2 ARI, have resulted in low outreach intensity, minimal staff training, and hampered innovation in recording and reporting, even though basic clinical services continue to operate (Ardhiah, 2024). In a number of community health centers, the pneumonia surveillance system was assessed as “quite adequate” but was not fully aligned with the guidelines and was not accompanied by systematic data analysis for program feedback, indicating room for improvement in the process and evaluation aspects (Nurhasanah, 2025).

This study aims to conduct a comprehensive analysis of the management system of the Acute Respiratory Infection Prevention and Control Program (P2 ISPA) at the Pasar Merah Community Health Center in Medan City. This analysis covers all management components, from planning, budgeting, organization, service implementation, recording and reporting systems, to monitoring and evaluation mechanisms, taking into account the real-world context, including limited resources.

RESEARCH METHODS

This research method uses a qualitative descriptive design that aims to obtain an in-depth overview of the management problems of the Acute Respiratory Infection (ARI) Program at the Pasar Merah Community Health Center, particularly related to the limited number of health workers and the implementation of the Electronic Medical Record (EMR) system. A qualitative approach was chosen because it allows researchers to gather comprehensive information based on the experiences, perceptions, and views of informants in the field. The research was conducted at the Pasar Merah Community Health Center, Jalan HM. Joni No. 90, Teladan Timur Village, Medan Kota District, Medan City, North Sumatra, on July 23–25, 2024, adjusting to the availability of time and access to informants.

Informants were selected using purposive sampling, which involves intentionally selecting subjects based on specific criteria relevant to the research focus. Informants included the Head of the Community Health Center, the person in charge of the ISPA program, and health workers using EMR who were directly involved in the planning, implementation, and evaluation of the program. Data were collected through in-depth interviews using a semi-structured guide, non-participatory observation of the implementation of the ISPA program and the use of EMR, and documentation studies of activity reports, EMR data, and internal policies of the community health center.

RESULTS

Interviews with the Head of the Community Health Center, the person in charge of the ISPA program, and the Health and Medical Emergency Management (RME) officers revealed that the ISPA program at Pasar Merah Community Health Center emphasizes quality service and rapid response over specific numerical targets. All cases detected are handled according to procedure. The program has no dedicated budget, so all activities rely on the community health center's general resources. However, the division of tasks among officers is clear and there is no overlap, while communication is effective through regular briefings and real-time recording with the RME.

> *"While you were developing the ISPA program plan, did you think the targets and strategies were appropriate for the conditions on the ground? Or did they feel too high and too difficult to achieve?"*
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> *"From the health center management perspective, the ISPA program doesn't have a specific target number in its work plan, as cases are situational and highly dependent on findings in the field. However, the strategies we've implemented so far have been relevant to the community's situation. Our primary focus is ensuring that every patient presenting with ISPA symptoms receives standardized care. While there's no target percentage to be achieved, we can say that implementation in the field has consistently been optimal, as all cases detected are handled effectively. Therefore, our strategy isn't to chase numbers, but to ensure the quality of care and the team's readiness to respond to cases."* (health center head)
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> *"For the ISPA program I run, there are no officially set targets. So, there are no benchmarks like 'must reduce a certain percentage of cases' or 'serve a certain number of patients.' However, every case that arises is handled immediately according to procedure. It's safe to say that the achievement in the field is 100% because all patients identified with ISPA are treated. The strategy is adjusted to the conditions on the ground to be realistic and not burden the team. So*

even though the planning document doesn't specify a target number, in reality, services are running optimally." (Person in charge of the ISPA program)

"In terms of recording at the RME, there is no set target number for ISPA. Data is received in real time based on incoming cases. Therefore, the service strategy prioritizes a rapid response over achieving quantitative results. Based on the data I've seen, all ISPA cases reported in the system receive immediate follow-up by officers, so it's safe to say that 100% of the cases are being handled. This strategy is quite appropriate for conditions on the ground, as it's flexible and focuses on patients who truly need treatment, rather than simply meeting the numbers on the report." (RME Officer)

Interviews with the Head of the Community Health Center, the Person in Charge of the ISPA Program, and the Electronic Medical Records Officer revealed that the ISPA program targets are not set in specific numbers, but rather focus on service quality and rapid response to cases. The Head of the Community Health Center explained that the strategy used is adaptive to field conditions, with a focus on ensuring that every patient presenting with ISPA symptoms receives standardized care. The Person in Charge of the ISPA Program emphasized that although there is no target percentage reduction or number of patients to be served, all cases encountered in the field are always handled according to procedure. Meanwhile, the EMR Officer stated that case recording is carried out in real time, and all incoming data is immediately followed up by officers. These findings align with Performance-Based Management theory, which emphasizes service quality over quantitative achievements, the SMART Objectives principle, which demands that targets align with field conditions, and the function of the WHO Health Information System (2008) which supports decision-making based on actual data.

"Have you ever had difficulty adjusting the ISPA program plan to a very limited budget?"

"For the ISPA program, we don't have a dedicated budget allocated from the community health center or the local government. Therefore, all ISPA-related activities are carried out using existing resources, such as medical personnel, equipment, and medicines from public supplies. Of course, this lack of funding presents a challenge, especially when it comes to activities outside of routine services, such as community outreach or staff training. So, while patient care can continue, program development is severely limited." (Head of the Community Health Center)

"To be honest, there's no dedicated budget for the ISPA program at all. So, if there's an ISPA-related activity, I usually combine it with other activities or utilize existing facilities at the community health center. While day-to-day patient care isn't a problem, as we can still use the available facilities, prevention, outreach, or staff capacity building are difficult to implement without funding. So, existing plans often have to be adjusted to remain realistic in the face of a budget-free environment." (person in charge of the ISPA program)

"In terms of recording at the RME, there is no specific budget allocated for the ISPA program. We can still manage and record ISPA patient data entered into the system using existing facilities, because the RME is used for all types of cases, not just ISPA. However, when it comes to developing a recording or reporting system specifically for ISPA, that's nearly impossible without a budget. So, administrative and reporting activities do continue, but they only utilize what's already available." (RME officer)

Based on observations at the Community Health Center (Puskesmas), the implementation of the ISPA program lacks a dedicated budget, either from the center's internal funds or from the local government. All program-related activities are carried out utilizing existing resources, such as medical personnel, medical equipment, general supplies of medicines, and recording and reporting facilities used universally for all types of cases. Routine services for ISPA patients continue, but program development activities, such as community outreach, staff training, or the development of a dedicated recording system, appear to be severely limited.

Interviews revealed that all three informants agreed on the lack of a dedicated budget for the ISPA program. This situation forces the team to rely on existing resources for medical services, recording, and reporting. Routine services for ISPA patients continue to operate effectively, but development activities such as outreach, training, and innovations in ISPA-specific data recording are severely limited. This aligns with Health Program Management theory, which states that program success is heavily influenced by the availability of resources, including budgets (Green & Kreuter, 2005).

> *"Ma'am, how is the division of tasks within the ISPA program implementation team usually? Is it clearly defined who does what, or is there often overlapping tasks? Sometimes, that happens, with people taking on double work or even parts of a project going unfinished because no one feels it's their responsibility. So, how is the situation here? Is the division of work effective so far?"*
> *"Here, the division of duties has been clear from the start. Each officer has their own responsibilities within their field, so there's no overlapping work. For the ISPA program, we've already determined who's responsible for surveillance, who's responsible for services, and who's responsible for record-keeping. We also coordinate regularly to ensure no part is overlooked."* (Head of Community Health Center)
> *"So far, I've been doing the recording and reporting myself, so there's no overlap with other officers. I process data directly from the field and report the results to the Head of the Community Health Center. So the flow is clear: from the surveillance team to me, and then I handle the administration and reporting."* (Person in Charge of the ISPA Program)
> *"From the RME side, the division of duties is clear. The ISPA patient data from the service is entered into the system, and I record it and ensure it's complete. There's no duplication of work, as each officer understands who is inputting and who is verifying. So far, it's been effective and there have been no issues."* (RME Officer)

Based on observations at the Community Health Center (Puskesmas), the division of tasks within the ISPA program implementation team was clearly structured. Each officer had a specific role, such as the surveillance team responsible for detecting and reporting early cases, the service team responsible for direct patient care, and the recording and reporting officer responsible for managing case data. No overlapping tasks or neglected areas of responsibility were found. Routine coordination mechanisms were also evident, both through meetings and informal communication between officers, resulting in a more effective and efficient workflow. Findings from observations and interviews indicated that the division of tasks in the ISPA program at the Community Health Center was effective, with a clear workflow.

Each officer understood their respective roles and responsibilities, preventing overlapping tasks or neglecting areas of responsibility. This aligns with Human Resource Management theory

(Dessler, 2017), which emphasizes the importance of clear job descriptions and job allocation to improve team performance. The implemented routine coordination mechanisms also support the Teamwork in Healthcare theory (Salas et al., 2005), which states that good communication and coordination can prevent miscommunication and ensure smooth program implementation.

> *"How is communication between officers during program implementation? Have there been any miscommunications or a lack of synchronization between the surveillance and service teams?"*
> *"Communication between staff has been good so far. We always hold weekly briefings and daily communication if there are any ARI cases. The surveillance and service teams also keep each other informed of case developments, so so far there have been no miscommunications."* (Head of the community health center)
> *"Regarding the ARI program, communication with the surveillance and service teams has been smooth. Every case found is immediately reported to me and followed up on. So there is no missing data or missed information."* (Person in charge of the ARI program)
> *"In terms of record-keeping, communication is also going well. If there's any unclear data from the service, I immediately confirm it. Likewise, they quickly provide information when new cases arise. There's never been any data out of sync."* (RME officer)

Based on interviews with three respondents, it was found that communication between officers in the implementation of the ISPA program at the Community Health Center was effective. No miscommunication or lack of information was found between the surveillance and service teams. This was due to the existence of routine coordination mechanisms, both through weekly briefings and daily communication, as well as the existence of clear reporting channels. This finding aligns with the organizational communication theory proposed by Robbins & Judge (2017), which states that effective communication in health organizations requires clear information channels, frequency of interaction, and rapid feedback. In this context, communication practices at the Community Health Center have met all three aspects, thus maintaining data synchronization and smooth ISPA program services.

DISCUSSION

Research at the Pasar Merah Community Health Center (Puskesmas) indicates that the implementation of the ISPA P2 program places greater emphasis on service quality and rapid response to each identified case. This strategy assesses program success not by the quantity of output, but by the quality of service provided, compliance with standards, and the effectiveness of field responses (Suryani et al., 2024). Key indicators of success in primary care are adherence to management guidelines and speed of intervention, not just reporting figures (Nurhasanah et al., 2025).

Financing at the Pasar Merah Community Health Center presents a significant obstacle due to the lack of a dedicated ISPA P2 budget, which hinders the optimal implementation of program development activities such as outreach, health worker training, and digital-based record-keeping innovations. Complete reliance on general funds often results in health promotion stalling midway through the fiscal year, making long-term targets difficult to achieve (Fauziah, 2022).

The division of tasks at the Pasar Merah Community Health Center has been effective, with clear assignments for each team member, from surveillance and service delivery to recording and reporting. This clear division of tasks contributes to accelerated case handling and accurate reporting data. Another contributing factor is effective internal communication; interviews indicate smooth coordination, both through weekly briefings and daily communication. Clarity of information channels, frequency of interaction, and rapid feedback mechanisms are crucial components in ensuring data synchronization and smooth implementation of health programs (Suryani et al., 2024).

Intensive coordination between staff can prevent data loss and expedite case follow-up. However, budget constraints remain a strategic issue affecting overall program development. Reducing the incidence of acute respiratory infections (ARI) in toddlers, which remains the group with the highest prevalence, requires continuous promotive and preventive interventions supported by adequate funding (Dahlan, 2025).

In addition to planning, budgeting, task allocation, and communication, the success and challenges of implementing P2 ISPA at the Pasar Merah Community Health Center can also be analyzed from the perspective of health information system utilization, community involvement, and regional policy support. Interviews revealed that ISPA case recording at the Pasar Merah Community Health Center is conducted in real time through Electronic Medical Records (EMR), allowing immediate follow-up on any case findings. Real-time case reporting can accelerate decision-making and enable adjustments to intervention strategies in the field (Nurhasanah et al., 2025).

CONCLUSIONS

Based on research conducted at the Pasar Merah Community Health Center (Puskesmas), it can be concluded that the Acute Respiratory Infection Prevention and Control Program (P2 ISPA) management system demonstrated effective performance in several management aspects, but faced significant challenges in terms of funding. The P2 ISPA program successfully achieved 100% of identified cases, focusing on quality service and a rapid response to each case, despite not having a formally established target number. This success was supported by a structured and clear division of tasks among staff, with each team member having a specific role in surveillance, service delivery, and record-keeping, eliminating overlapping work.

Communication between staff during program implementation was highly effective through weekly briefings and daily communication, preventing miscommunication or data loss that could hamper service delivery. The use of Electronic Medical Records (EMRE) technology also contributed positively by enabling real-time case recording and reporting, supporting timely decision-making and follow-up. However, the lack of a dedicated budget for the P2 ISPA program remains a major obstacle to program development, particularly for community outreach activities, staff training, and innovation in a more sophisticated recording system.

Complete reliance on general community health center resources limits the scope for program development and innovation, preventing optimal implementation of promotive and preventive activities. Despite facing significant budget constraints, Pasar Merah Community Health Center has demonstrated that a sound management system, effective communication between teams, and the use of information technology can support the success of health programs at the primary care level.

To improve the program's effectiveness going forward, advocacy is needed to local governments to allocate dedicated budgets, optimize the use of EMR through advanced training, and develop partnerships with various parties to support sustainable ARI prevention and control activities.

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