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EFFECTIVENESS OF USING THE TUBERCULOSIS INFORMATION SYSTEM (SITB) APPLICATION AND ITS IMPACT ON TB CASE DATA AT THE MERAUKE HEALTH OFFICE

(Case Study at The Merauke Health Office)

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Abstract

This study aims to analyze the problem of utilizing the Tuberculosis Information System (SITB) application and its impact on tuberculosis (TB) case data in the working area of the Merauke Health Office. Using a qualitative approach, the main objectives of this research are to measure the effectiveness of the SITB application in recording and reporting TB cases, identify the challenges faced by health workers in using this application, analyze the impact of using the SITB application on the accuracy of TB case data, and evaluate the effect of timely data input on the quality of TB case reports submitted through SITB. Data were collected through in-depth interviews with the P2P division of the Merauke Health Office, heads of health centers, TB nurses, laboratory analysts, and TB patients, as well as direct observation of the application's use in the field. The results of this study are expected to provide valuable insights for the Merauke Health Office in improving the use of the SITB application, thereby enhancing the accuracy and quality of reported TB case data, and to offer recommendations to overcome the challenges encountered in the application's use.

Keywords: *Tuberculosis, Information System, Effectiveness and Accuracy of data*

1. INTRODUCTION

Tuberculosis (TB) is one of the most deadly, infectious diseases in the world, especially in developing countries such as Indonesia. TB poses a serious public health challenge due to its contagious nature and requires a long and structured course of treatment. As one of the countries with the highest TB burden, Indonesia is committed to accelerating the reduction of TB cases through focused and comprehensive control programs. This effort requires the support of a surveillance system that is able to effectively identify, monitor, and follow up on TB cases (Kementrian Kesehatan RI, 2023). Pulmonary TB germs spread to others through transmission or airflow (sputum droplets of BTA-positive pulmonary TB patients) when the patient coughs or sneezes (WHO, 2021). Pulmonary TB can cause death if the patient does not take medication regularly for up to 6 months (World Health Organization, 2021). In addition to affecting individuals, pulmonary TB also affects the families of patients, with psychological impacts in the form of anxiety, decreased support, and low self-confidence (Centers for Disease Control and Prevention, 2023). Indonesia's commitment to tackling tuberculosis (TB) is evidenced by improving the detection and reporting system to achieve the highest case notification in history in 2022 and 2023.

More than 724,000 new TB cases were found in 2022, Tuberculosis (TB) disease in Indonesia ranks second after India, with 969 thousand cases and 93 thousand deaths per year or equivalent to 11 deaths per hour. Based on the Global TB Report in 2022, the highest number of TB cases in the world in the productive age group, especially at the age of 25 to 34 years. In Indonesia, the highest number of TB cases is in the productive age group, especially at the age of 45 to 54 years, this figure is the highest figure since TB became a national priority program and the number increased to 809,000 cases in 2023. This number is much higher when compared to cases before the pandemic, where the average discovery was below 600,000 per year (Kementrian Kesehatan RI, 2023). The Ministry of Health has accelerated massively to record a number of successes. First, the Ministry of Health managed to find 90% of new cases. Of these new cases, patients who received treatment reached 100%, including 90% of patients who had received complete treatment. Another achievement is that 58% of people with close contact with tuberculosis have received TB preventive therapy (TPT) (Kementrian Kesehatan RI, 2023). The improvement of the data reporting system was carried out by establishing a special reporting system for TB, namely the Tuberculosis Information System which can be accessed by all health workers at health service facilities. Improvements have also been made through the implementation of the Public Private Mix (PPM) program to increase the involvement of both public and private health facilities in TB control (Kementrian Kesehatan Republik Indonesia, 2019).

As a result of the intervention, health service facilities were able to report TB suspects found through the Tuberculosis Information System (SITB). This ease of reporting has resulted in increased TB case finding data. An increase in cases also means that more people with TB can be detected and treated (Kementrian Kesehatan RI, 2024). The increase in TB incidence in Indonesia in 2020 and 2021 is about 14.9 percent per year, while in 2021 and 2022, the increase in incidence reaches 42.3 percent per year. TB incidence increased in 2023, but is expected to decline in 2024. If TB case finding and treatment continue, it is expected that the number of TB cases in Indonesia will decrease further in the coming years (Kementrian Kesehatan RI, 2024).

Data from the Merauke District Health Office for Disease Prevention and Control (P2P) from SITB in June 2024, recorded 1,571 TB cases spread across 25 health centers. However, only 1,277 patients underwent treatment, showing a significant gap between notified cases and treated patients (Dinkes Kabupaten Merauke, 2024). Data discrepancies between the number of notified cases and treated patients can have several negative impacts, such as: (1). providing an inaccurate picture of the burden of TB disease in Merauke District, (2). hindering appropriate decision-making regarding TB control programs including OAT availability, (3). Leads to inefficiencies in the use of resources, (3) decreases public confidence in the TB control program.

Based on the above reasons, the utilization of the Tuberculosis Information System (TIT) is very important in TB control efforts, especially in the working area of the Merauke District Health Office. Although there have been significant improvements in the reporting and handling of TB cases, there are still obstacles such as delays in data entry that impact the accuracy of data and the effectiveness of interventions. An in-depth analysis of the use of the SITB application and its impact on TB case data is highly relevant. This study is expected to provide recommendations for improving the TB

reporting and data management system, so as to support more effective and efficient TB control efforts in the future.

2. LITERATURE REVIEW

2.1. Tuberculosis (TB)

Tuberculosis (TB) is an infectious disease caused by the bacteria mycobacterium tuberculosis. The disease commonly affects the lungs, but can also affect other organs such as the kidneys, bones and brain. TB is one of the world's major infectious diseases, with significant morbidity and mortality rates especially in developing countries (World Health Organization, 2021). According to the WHO's Global Tuberculosis Report 2021, about 10 million people fall ill with TB each year, with about 1.5 million deaths caused by the disease. Although there has been progress in TB control, major challenges remain especially related to early diagnosis, appropriate treatment, and effective TB case management (World Health Organization, 2021).

TB is transmitted through the air when a person infected with TB actively coughs, sneezes, or talks, and releases droplets containing bacteria. Other people who breathe in these droplets can become infected. The risk of transmission increases in crowded living conditions and poor ventilation (Centers for Disease Control and Prevention, 2023; Kumar et al., 2018). TB symptoms may vary depending on the organ infected. In pulmonary tuberculosis, symptoms generally include a cough lasting more than three weeks, chest pain, coughing up blood, unexplained weight loss, fever, night sweats, and fatigue (Frieden et al., 2023). TB management involves various strategies, including early detection, appropriate treatment, and prevention of transmission. TB treatment usually uses a combination of antibiotics for a long period of time. Adherence to treatment is essential to prevent drug resistance. Prevention of transmission can be done by BCG vaccination, use of masks, and improved ventilation (Lönnroth & Raviglione, 2008; World Health Organization, 2023).

2.2. Use of Information Systems in Health Management

Health Information Systems (HIS) play an important role in improving the efficiency and effectiveness of healthcare services. According to Laudon et al. (2021), information systems assist organizations in managing data more effectively, enable better decision-making, and improve coordination between sections. In the context of health, ICT can be used to manage patient data, monitor diseases, and support various public health programs (Laudon et al., 2021). The Tuberculosis Information System (SITB) application is one example of an ICT application that aims to monitor and manage TB cases. SITB is designed to record TB patient data, track treatment, and report the results to health authorities. The use of SITB is expected to improve data accuracy and accelerate responses to TB cases. However, SITB implementation often faces various challenges, including technical and operational limitations (Kementrian Kesehatan Republik Indonesia, 2019; Meiliana et al., 2019).

2.3. Effectiveness and constraints in using the SITB application

The effectiveness of using the SITB application is expected to provide several benefits, such as improving the accuracy of TB case data and speeding up the reporting process. According to research by Dewi and Wijaya (2019), the implementation of SITB has successfully improved data quality and accelerated response time in TB case management. However, the study also found that several factors, such as limited human resources and technical issues, can hinder the effective use of this application (Dewi & Wijaya, 2019).

Constraints in the use of SITB applications often involve technical issues, such as network disruptions and inadequate hardware, as well as non-technical issues, such as lack of training for users and low motivation of health workers to use the application. According to the Ministry of Health of the Republic of Indonesia (2019), these factors can reduce the effectiveness of SITB application use and hinder the achievement of TB control program goals (Kementrian Kesehatan Republik Indonesia, 2019).

2.4. Impact of SITB Application Use on TB Case Data

The use of the SITB application is expected to have a positive impact on the quality of TB case data. By recording more accurate and structured data, the application can help health authorities monitor the spread of TB and respond more quickly. However, research shows that there are still discrepancies between the data recorded in SITB and the reality in the field, which can be caused by various factors, such as negligence in inputting data and frequent movement of health workers (Dewi & Wijaya, 2019; Kementrian Kesehatan Republik Indonesia, 2019). The impact of using the SITB application on TB case data management in the working area of the Merauke District Health Office has been largely positive, especially in terms of improved data accuracy and patient tracking efficiency. However, challenges related to infrastructure, training, and technical factors such as internet connectivity remain obstacles that need to be overcome to improve effectiveness and optimize data accuracy. This study reinforces the view that digital health technologies, such as SITB, have great potential in the management of infectious diseases such as TB, but their implementation and sustainability are highly dependent on technical support and human resource readiness in the field.

3. RESEARCH METHODS

When conducting research, it is certainly important to have a method used as a reference in carrying out research (Patmasari, 2022; Tokang & Yumame, 2023). This type of research is descriptive using qualitative methods. Qualitative research does not recognize samples and populations because this research does not aim to generalize to the population. The result of qualitative research is to obtain in-depth information from the selected research problem. The number of informants or participants in qualitative research is flexible. According to Creswell (2016), the number of participants is between 5-10 people, but if data saturation has not been achieved, the number of participants can be increased until there is repetition of information from participants. Researchers can add or reduce, even replace informants as the research progresses depending on the adequacy and suitability of the data obtained. This research method is qualitative which

is not random/random so that it uses a non-probability method or is determined by the researcher (purposive sampling). The research design used is a case study, which is a study that explores a problem with detailed limitations, has in-depth data collection and includes various sources of information). The informants to be involved in this study were taken by purposive sampling (selected directly by the researcher) with a specific purpose. The informants who will be involved in this study total 13 informants, representing very remote and remote health centers, rural health centers and urban health centers (4 Puskesmas/ health center), and there are also informants taken from the P2P field (Wasor TB) at the Merauke District Health Office. The number of informants may increase or decrease according to the researcher's needs in answering the research objectives.

Data obtained from in-depth interviews will be analyzed using thematic analysis techniques, which include the following steps: 1) Transcribing: All interviews conducted will be transcribed verbatim to ensure the accuracy of the information. 2) Coding: The coding process is done to identify themes or patterns in the data. These codes will help the researcher categorize the information according to relevant topics. 3) Theme Identification: After coding, the researcher will identify the main themes that emerge from the data. These themes reflect the problems and solutions encountered in the use of SITB applications. 4) Interpretation: The researcher will analyze the identified themes to draw conclusions and provide insights into the use of the SITB application and its impact on data entry. Data triangulation was conducted to increase the validity and reliability of the research results. By using thematic analysis and data triangulation, this study is expected to provide more valid and in-depth results regarding issues related to the use of the SITB application and its impact on TB data entry in the work area of the Merauke District Health Office.

4. RESULTS AND DISCUSSION

4.1. Effectiveness of use and utilization of the Tuberculosis Information System Application (SITB) application in recording and reporting TB cases in the working area of the Merauke District Health Office, Merauke Regency

From the interviews conducted, the majority of respondents considered that the Tuberculosis Information System (SITB) application was very effective in assisting the reporting, diagnosis, treatment, and evaluation of TB patients. The following are some important points that can be elaborated from these findings:

a) Ease of Use and Full Features. Many respondents stated that the SITB application is very good and complete in the features provided. As stated by respondent informant 13, SITB facilitates processes ranging from reporting, diagnosis, treatment, to evaluation of patient treatment results. The application allows for quick data retrieval so that health workers can access information more easily and efficiently. This is also in line with the opinion of informant 11, who felt helped by the system that saves data automatically after one input, including the laboratory feature which is considered very supportive of reporting to the Health Office.

b) Effectiveness in Data Tracking. The SITB Reporting process is considered to facilitate the tracking of patient data, drugs, and sample submissions, as mentioned by informant 10 and informant 3. Not only does the application speed up the reporting process, but it also makes the results accessible faster to the health

workers who submitted the samples. informant 7 also highlighted that with SITB, expired medicines can be easily tracked, making drug management at the health center more efficient.

c) Internet Access Constraints. While many respondents found SITB effective and useful, most also noted constraints related to the internet network. Respondents, informant 10, informant 6, and informant.5 emphasized that although the application is easy to use and better than manual reporting, network constraints are an obstacle to smooth data entry. Some health centers have tried to overcome this problem by installing technology such as Starlink to improve internet access, as stated by informant 6.

d) Limited Training for Users. Regarding training, one respondent (informant 8) revealed that he had never attended any official training related to the use of SITB and had only learned independently at the Health Office. Although the application is considered easy to use, limited training can be a challenge for some health workers in maximizing SITB features, especially for those who are not familiar with digital-based applications.

e) Service Efficiency and Decision Making. The use of SITB is also recognized as very helpful in speeding up services and decision-making. Respondent In.2 revealed that with SITB, they no longer need to ask patients directly about information that has been recorded in the system. This shows that SITB not only facilitates administrative processes, but also increases the efficiency of services to patients.

f) Role of SITB in Inter-Health Collaboration. Several respondents also appreciated SITB's role in facilitating collaboration between the health center and the district health office. In.1 mentioned that data requests or reporting done through SITB can be read immediately by the Health Office, resulting in a faster and more structured inter-agency coordination process.

Research conducted by Utami et al. (2021) published in the Journal of Public Health Research highlighted that digital-based information systems, such as SITB, are helpful in TB data management in Indonesia. The study found that the use of integrated information systems can improve reporting accuracy and minimize reporting delays, ultimately accelerating public health interventions to control the spread of TB. The main barrier faced is uneven technological infrastructure, especially in remote areas, which is similar to the findings in this study regarding internet network constraints in Merauke district (Utami et al., 2021). The Technology Acceptance Model (TAM) theory from Davis et al. (1989) explains that user acceptance of technology is influenced by two main factors: perceived usefulness and perceived ease of use. From the results of this study, it appears that the majority of users find SITB useful and easy to use, which is in line with this theory. Users feel that the application speeds up the reporting process and makes it easier for them to do their work (Davis et al., 1989).

Research by Wagstaff and Neelsen (2020), shows that the implementation of health information systems in remote areas is often hampered by infrastructure issues, including unstable internet networks. The study suggests that health information systems in areas such as Papua should be equipped with adequate technical support, including improved

internet access and training for health workers who use them. The results of this study are highly relevant to the finding that the main obstacle to using SITB in Merauke is a slow or unavailable internet network.

4.2. Constraints Faced by Health Workers in Using the SITB Application

Based on the results of the in-depth interviews, the constraints faced by health workers in using the Tuberculosis Information System (SITB) reflect common operational challenges in areas with limited infrastructure. Some of the main issues include limited internet network, unstable electricity supply, lack of computer equipment, and limited training. These issues can affect the effectiveness of TB data reporting, as well as the overall smooth running of health services. The following are some of the constraints found along with a discussion based on theory and previous research.

a) Internet Network Limitations

Many respondents emphasized that the main obstacle in using SITB is the unstable internet network. In rural areas, internet signals are often not consistently accessible, and it can take hours to input data (In. 7, In. 2, In. 11). These network issues cause delays in reporting and data entry, potentially interfering with TB epidemiologic analysis and case follow-up. The Digital Divide theory describes unequal access to technology and information, especially in rural areas. According to Hilbert (2011), the digital divide remains a major obstacle to the application of information technology in health, especially in developing countries and remote areas. Hilbert emphasizes the importance of improving telecommunications infrastructure to narrow this gap and increase the effectiveness of health information systems.

b) Limited Electricity Supply

In addition to the internet network, limited electricity supply is also a serious obstacle, especially in rural areas that still rely on generators and electricity is only available during certain hours (In. 13). Although the internet is available, without electricity, the use of SITB is still not possible. This reflects broader infrastructure challenges, as described in Scott et al. (2018) study, which found that limited basic infrastructure, including electricity, is one of the biggest barriers to health information system implementation in remote areas of Africa. Scott suggests the integration of renewable energy solutions to support the implementation of health technologies in areas where electricity infrastructure is lacking.

c) Lack of Training and Turnover of Personnel

Another frequently mentioned constraint is the lack of formal training for health workers on the use of SITB, especially when job transfers occur (In. 13, In. 2, In. 5). Personnel changes are often not followed by training for new users, resulting in delays in data entry. This creates gaps in reporting and affects the smooth workflow in healthcare facilities. According to Nguyen et al. (2017), inadequate training can limit the effectiveness of health information systems. Without comprehensive training support, health workers will find it difficult to utilize the system optimally. This study also emphasizes the importance of ongoing technical support to ensure successful implementation of health information technology.

d) Lack of Computer and Laptop Devices

Some health workers reported that they do not have devices such as computers or laptops to operate SITB, which results in work having to be taken home or done outside of working hours (In. 2). This suggests that hardware limitations are also a significant barrier to the use of SITB applications. Drechsler et al., (2018), in their study of the DeLone and McLean model, emphasize the relevance of hardware presence, particularly in cloud-based systems and modern distributed networks. They point out that even in a cloud environment, local hardware such as reliable internet infrastructure and user devices still influence the overall success of the information system. Chen et al. (2020) extend this discussion by noting that with the increasing complexity of health information systems, especially in resource-constrained regions, adequate hardware and stable internet infrastructure remain critical factors for system success. Without these factors, even the most sophisticated systems will experience suboptimal performance, leading to inefficiencies in data collection and use.

e) Obstacles Related to Patient Data

Several other obstacles were found to be related to data errors, such as patients not having a Population Identification Number (NIK) or using someone else's identity to access services (In. 10, In. 3, In. 8). This causes difficulties in reporting and tracking patients, as well as discrepancies between the data on drugs used and the number of patients inputted. Research conducted by Gupta-Wright et al. (2020) shows that accuracy of patient data is critical in the management of infectious diseases such as TB. Incorrect or incomplete data can interfere with the process of public health assessment and clinical intervention. There is a need for more rigorous data validation and education to patients about the importance of using the correct identity when receiving health services.

4.3. Impact of SITB Application Use on TB Case Data Accuracy

The use of the Tuberculosis Information System (SITB) application has generally had a positive impact on the accuracy of TB case data in the working areas. Based on the results of interviews, many health workers recognize that this application is very helpful in improving the accuracy and speed of data management.

a) Improved Coordination and Rapid Detection. The SITB application facilitates coordination between health workers at puskesmas (health center) and laboratories, especially in detecting patients who move between health services. As stated by one informant (In.8), the application allows officers to easily track patient coverage and speed up case evaluation. The app also provides the ability for health workers to quickly detect patients even if they receive services at different health facilities.

b) Accuracy of Data from the Laboratory. Laboratory staff stated that patient examination results entered into SITB have high accuracy because the data comes directly from laboratory examination results. For example, Mar (In.7) revealed that requests from mantri or TB officers are received by the laboratory and the results are immediately entered into the system so the accuracy of the data is very high.

c) Potential Inaccuracy due to Human Error. Although this application has provided great benefits, the potential for human error remains. For example, a tired officer can make mistakes in data entry (In.13). This shows that the constraints on data accuracy lie not only in the system, but also in how the data is entered by the user.

d) Obstacles for Patients Who Do Not Have a NIK. One of the significant challenges is patients who do not have a Population Identification Number (NIK) or Family Card (KK), especially patients who come from abroad. The informant (In.13) explained that in cases like this, patient data cannot be inputted correctly, resulting in inaccurate data in the system.

e) Gaps in Data Entry Process. Several gaps in data input were also reported, especially when patients referred from other health facilities were not yet registered in the application. This resulted in a discrepancy between the number of patients reported and the number of drugs used. For example, informant (In.3) explained that there was a data discrepancy because the referred patients had not been entered by the previous officer, which caused the report to be inaccurate.

f) Supporting Factors and Technical Constraints. SITB, although it has a positive impact on data accuracy, still depends on external factors such as the availability of internet networks and computer devices. Several informants stated that unstable networks often hamper the data entry process, which ultimately reduces the accuracy of reports (In.4). In addition, the lack of adequate hardware is also an obstacle in ensuring smooth data input.

The use of the Tuberculosis Information System (SITB) application has a significant impact on the accuracy of TB case data in health centers. Based on interviews with various health workers, it was revealed that this application facilitates coordination between health center workers, speeds up the evaluation process, and facilitates the detection of TB patients, even when they visit other health services. Wrong one statement that confirms this is: "Basically this application is good and very helpful in improving data accuracy... can see patient coverage." (In.8). This statement shows that SITB not only functions as a recording tool, but also as a means to improve collaboration in handling TB.

The constraints that faced, such as unstable networks, can hinder data input, but the existence of this application is still considered useful. As stated, "SITB helps improve data accuracy, as long as the data flow is input correctly from the beginning" (In.3). This shows that data accuracy is highly dependent on the quality of data input and good connectivity. Recent research by Shamma et al. (2022) confirms that health information technology can improve accuracy and efficiency in patient data management, in line with findings from interviews conducted. In line with the results of this study, Verma et al. (2022), stated how the use of mobile applications in TB management can improve data collection. With SITB, patient data is integrated and stored properly, making it easier for officers to view history and examination results, as stated in the interview that data from lab results can be directly inputted and viewed by officers (In.7). Study conducted by Sharma et al. (2021) shows that the acceptance of electronic health applications is strongly influenced by ease of use and perceived benefits. This finding supports the view that the SITB application is very useful and facilitates the data collection process, as stated in several interview quotes. For example, officers often remind their colleagues to fill in the data immediately to improve accuracy (In.13).

4.4. Impact of Timeliness of Input on TB Data Quality via SITB

The timeliness of data input by health workers directly affects the quality of TB case data reported through the Tuberculosis Information System (SITB) application. Interview results showed that timely data input allows health centers to monitor and evaluate patient coverage accurately. For example, when data on new patients diagnosed positive is inputted immediately, the treatment process can be carried out more quickly (In.11). This shows that the SITB application is not only a recording tool, but also a system that supports rapid decision-making in health services.

Several officers noted that technical constraints, such as network problems and limited facilities, often hampered the timeliness of data input. "If one of us is absent, then data input is disrupted" (In.3). This shows that collaboration between officers and the readiness of technological infrastructure are very important to ensure smooth data input. The positive impact of punctuality of input is very visible in the quality of reports. Most officers admitted that reminders from colleagues helped maintain punctuality of input. "Data is usually on time because reminded by friends" (In.12). Providing incentives based on punctuality of input is also considered to be able to motivate officers to be more disciplined in entering data (In.3).

Results this research is supported by research conducted by Liang et al. (2018) who found that timely input of health data can improve efficiency in case management. The results are in line with the findings in the interview, where timely input accelerates the treatment process and improves the response to new patients (Liang et al., 2018). Rahman et al. (2022) in their study, emphasized the importance of adequate training and facilities to improve the timeliness of data input in health facilities. This finding is in line with recommendations from field officers who mentioned the need for training and infrastructure improvements to overcome obstacles in data input (In.17).

5. CONCLUSION

The effectiveness of using the Tuberculosis Information System (SITB) Application in recording and reporting TB cases at the Merauke District Health Office is very significant. Most informants admitted that SITB helps in reporting, diagnosing, treating, and evaluating TB patients. This application facilitates data access and processing, and improves health services thanks to its complete features and ease of use. The main problem that is often mentioned is the limited availability of electricity in remote areas, especially due to the use of generators that depend on fuel supplies. Poor or unstable internet network quality is also a major obstacle in operating SITB, especially for inputting data in a timely manner. Many officers do not have adequate devices, such as laptops or PCs, so they have to borrow from colleagues to be able to access SITB. Some officers are forced to work on data entry at home at night or early morning when the network is more stable. Changes in officers or job transfers often result in replacements not being trained in using SITB, which results in delays in data input. There are also officers who have never received formal training on the application and have only learned informally from colleagues. Health facilities, especially hospitals, still use manual recording, which creates a gap between data in SITB and drug use or patient status. Patients from abroad who do not have a NIK (Population Identification Number)

are also a problem in data input. Several officers found errors in data entry, such as differences in patient names, duplicate NIKs, or patients using other people's BPJS. There is also a gap between patient data received by health centers and hospitals, resulting in differences in the number of patients with drug use recorded in the SITB. Officers face challenges in asking patients to undergo re-examination, especially sputum, after treatment. Some patients refuse on the grounds that they no longer have sputum, making it difficult to determine their recovery status in the SITB.

The use of the Tuberculosis Information System (SITB) Application on the accuracy of TB case data in the Merauke District Health Office work area shows various views that are generally positive, but there are still several obstacles that affect the accuracy of the data as follows; (1). Increasing Data Accuracy, health workers can more easily coordinate with health center officers and can detect patients more quickly even though the patient is in another health service. This also simplifies the process of evaluating patient coverage. Data entered into SITB from laboratory results is considered accurate because it comes directly from laboratory examination results. SITB also facilitates better data search and storage, as long as the data is entered completely and in accordance with the procedure. (2) Data gaps and technical constraints: Fatigue and Human Error Factors: Although the data is generally accurate, human error in the data entry process, especially when officers feel tired, can cause inaccuracies, (3) Loss of Patients, due to network problems that result in delays in inputting data. As well as post-therapy problems because some patients do not want to do sputum examinations again. (4) Connectivity and Infrastructure; unavailability of networks and PCs or laptops in some health centers.

The impact of timely data input by health workers on the quality of TB data reported through the Tuberculosis Information System (SITB) application can improve the efficiency and speed of service. Data that is inputted on time allows patients to immediately receive further treatment, and evaluation of patient coverage and logistics availability can be done in real-time. Conversely, data that is inputted not on time has an impact on reporting delays, and this affects patient evaluation and the quality of TB program management in the work area.

Here are some important suggestions to consider are: Improving Training and Education, Improving Technology Infrastructure, Developing Feedback Systems, Cross-Sector Collaboration, Adjusting Local Context, Routine Monitoring and Evaluation, Strong Managerial Support, Promoting Public Awareness and Education. In addition, recommendations to overcome obstacles in the use of the SITB application and improve the accuracy and quality of TB case data in the Merauke District Health Office work area: Short Term (SITB Application Training and Orientation, Provision of Supporting Facilities, Periodic Supervision), Medium Term (Improving Infrastructure and Networks, Creating SITB Operational Guidelines, Evaluation of the Effectiveness of Application Use), Long Term (Development and Integration of Advanced Applications, Continuous Capacity Building Program, Optimization of Integrated Health Data Management).

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