

Analysis of Systems and Applications For Registration of Independent Practical Health Service Facilities at the Karawang District Health Office in 2024

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Article Info	ABSTRACT
<p>Keywords: Registration system, health facilities, data management, verification, health administration.</p>	<p>The advancement of information technology within the health sector in Indonesia, including the administration and management of health facilities, is undergoing significant changes. The Karawang District Health Office, which is responsible for health facility management, has implemented a registration system for independent practicing health facilities. The study aimed to identify and evaluate the input, process, and output aspects of the existing registration system. The research method used a qualitative approach with in-depth interviews with relevant parties and direct observation of the health facility registration flow. The results showed that the existing registration system has been quite effective in improving administrative transparency and efficiency. In the input aspect, the digital-based registration system makes it easier for applicants to upload important documents such as Practice License (SIP) and Registration Certificate (STR). Technical constraints such as internet network problems and large file sizes are still an obstacle. On the process aspect, the registration flow involving several related parties such as the verification team and licensing manager has been running quite well, although there is a need to improve access rights management to protect sensitive data. On the output side, the system provides results in the form of registration numbers and status notifications that support monitoring and supervision by the Health Office and the Ministry of Health, but there are still potential errors in data input that need to be addressed. Suggestions The Karawang District Health Office made improvements to the technical infrastructure, as well as strengthening data management and verification to improve the quality and accuracy of the registration system such as training and socialization of registration demonstrations.</p>
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INTRODUCTION

Law Number 17 of 2007 concerning the 2005-2025 RPJPN emphasizes that health development aims to increase awareness, willingness, and ability to live a healthy life for the community to achieve optimal health status as an investment in the development of socially and economically productive human resources (Ministry of Health of the Republic

of Indonesia, 2022) . This is supported by Law No. 36/2009 on Health, which underlines promotive, preventive, curative, and rehabilitative approaches to create a physically, mentally, and socially healthy society (Ministry of Law and Human Rights., 2023) . Government policies that encourage decentralization of health services and improve the quality of life of the community have provided great opportunities for health workers, such as doctors and midwives, to open independent practices. This step aims to support the government's efforts to improve the coverage and quality of health services, especially in areas that are difficult to reach by large health facilities.

The implications of this policy have proven to be able to increase the participation of health workers in Indonesia to open health services in an independent practice model. This statement is reinforced by data in 2020, there were 4,704 independent practices of general practitioners and 1,158 independent practices of dentists in collaboration with BPJS (Social Security Organizing Agency) Health. The province that has the highest number of independent practicing doctors and dentists in collaboration with BPJS is Central Java Province, namely 1,059 independent practicing doctors and 303 independent practicing dentists, while West Java has 465 independent practicing doctors and 63 independent dentists (Ministry of Health of the Republic of Indonesia, 2020).

The process and development of decentralization of governance has been ongoing since 2000 through the mandate of Law No. 22 of 1999 and Law No. 25 of 1999 which was updated to Law No. 23 of 2014. Various regulatory products followed the amendment of the Law such as PP No.18 of 2016 on the organization of regional apparatus, PP No. 2 of 2018 on SPM and Law No. 1 of 2022 on Financial Relations between the Central Government and Regional Governments. In its implementation, decentralization affects the running of the health system. However, the development of decentralized governance has not been accommodated in the SKN. In certain situations, central to regional intervention is needed in decentralization to solve chronic problems of health development and health emergencies (Acobat, 2023)

As a step in the government's efforts to map data on health service facilities, (Ministry of Health of the Republic of Indonesia, 2021) , the government issued a circular letter number HK.02.02

/II/4406/2021 which regulates the Registration of Independent Practitioners of Health Workers, with this circular letter, the output expected by the government, especially the Ministry of Health of the Republic of Indonesia, is that it is hoped that all independent practice places for health workers can be recorded properly and completely.

The registration of independent practice places of health workers will ensure the availability of data and information quickly, accurately, up-to-date, sustainable and accountable. With this process carried out, the distribution of health service facilities can be known according to the conditions in the field and can be a form of guidance and supervision of health service facilities in providing services according to standards (Ministry of Health of the Republic of Indonesia, 2022).

Overall, these problems can reduce the effectiveness of the application in achieving its main goal, which is to simplify and speed up the registration process of independent practice

places for health workers. The Karawang District Health Office as a representation of the Central Government organizes supervision and monitoring in the registration process of Independent Practitioner Health Service Facilities. From the results of internal data in 2023, it was found that the total registrants of Independent Practitioner Health Service Facilities were 766, which passed registration or met the requirements there were 235 or 31% of the total who registered and 531 (69%) had not passed verification.

The problems mentioned above will hinder the objectives of Circular Letter Number HK.02.02/II/4406/2021, which aims to regulate the registration of independent practice places for health workers with the output of providing data on the distribution of independent practice health service facilities. This data is expected to facilitate guidance and supervision of health service facilities, so that the services provided are in accordance with standards to the community (BPJS Kesehatan, 2020) . Obstacles in this registration process have a significant impact (Delayed Re-registration Process is hampered, patient confidence is reduced, Influence on Professionalism) on doctors and midwives as the main actors of independent practice. Research by (Hermawati, A., Suryani, D., & Nugraha, 2022) shows that the lack of complete registration documents often leads to delays in operational licenses, which limits the ability of doctors and midwives to legally provide health services. This can affect their income stability, professional reputation, and sustainability of practice.

Registration of independent practice sites for health workers, especially general practitioners and midwives, is a vital activity to ensure the availability of information on the distribution of independent practice sites in Indonesia, including in the Karawang District Health Office working area. This registration process is important to support the local government in conducting guidance and supervision so that every health service provided is in accordance with established standards.

However, in practice, the implementation of registration often encounters various obstacles. One of the main problems is the incompleteness of administrative requirements that must be met by health workers, as regulated by the Ministry of Health of the Republic of Indonesia. This incompleteness was the main cause of not passing the verification conducted by supervisors at the Karawang District Health Office in 2024. As a result, the registration process was hampered, leading to a lack of accurate data on the distribution of health workers' independent practices in the region. This condition may hamper the government's efforts to map the needs and optimize the distribution of health services for the community.

Knowing the Independent Practitioner Health Service Registration System in the Input aspect in the form of health facility data, administrative documents, and application usage data. Knowing the Independent Practitioner Health Service Registration System in aspects of the Process which includes data verification, license validation, storage, generation of registration numbers, and management of access rights. Knowing the Independent Practitioner Health Service Registration System in terms of the resulting output, such as registration numbers, facility reports, status notifications, stored data, and user access.

METHOD

This research uses a qualitative method with a descriptive approach. The qualitative approach allows researchers to understand the problem in depth and focuses not on generalization but on understanding a particular context. With a case study approach, this research explores the registration system of independent practice health service facilities at the Karawang District Health Office in detail to get a comprehensive view from relevant informants. (Merriam, S. B., & Tisdell, 2016) Case studies as part of qualitative research allow for in-depth exploration of "bounded systems" or specific cases, as stated by (Yin, 2017) . These studies are conducted to gain holistic insights from phenomena in a specific environment and are relevant when researchers want to understand how and why a process or system works under natural conditions without manipulation.

In qualitative research, research subjects are called informants, who are selected based on relevant knowledge of the topic. The informants in this study consisted of 1 Health Office employee, 3 health workers who run independent practices, 3 general practitioners, 3 midwives, and 1 related administrative staff. The main data collection technique was in-depth interviews, where researchers interacted directly with informants to explore in-depth information related to the registration system and application. (Roulston & Shelton, 2022) .

Data Type

1. Primary Data

Direct data from informants through interviews or observations related to the registration system used at the Health Office.

2. Secondary Data

Data obtained from internal documents such as independent practice archives, regulations, and application usage guides.

Data Collection Techniques

The data collection techniques in this study include several methods used to collect information, including:

- a. In-depth Interview

In-depth interviews were conducted with officials and staff at the Karawang District Health Office, as well as health workers in health facilities. The purpose of the interviews was to gather information about the registration policy, challenges in system implementation, and user experience related to the health facility registration application.

- b. Direct Observation

The researcher made direct observations of the health facility registration process. This included the use of the registration application and the management of administrative documents. This observation aims to see the interaction between the applicant and the verification officer, the time required in each stage of registration, as well as the technical obstacles that arise during the process.

- c. Documentation

Researchers collected data from various administrative documents related to health facility registration. The documents collected included official regulations, internal

policies of the Health Office, as well as application usage reports. This documentation was used to assess the extent of compliance with regulations and the effectiveness of the implemented system.

RESULTS AND DISCUSSION

Research Results

Analysis of Registration System in Input Aspect

In this study, an analysis of the registration system for independent practice health care facilities at the Karawang District Health Office was conducted, with a focus on the data input aspect. Based on interviews with several informants consisting of Dr. D.E., Dr. A., and R.H. (midwife), various findings were obtained that reflect the process and challenges faced during registration.

1. Data Collection Process

According to (Dr. D.E., January 14, 2025) the *registration process is conducted online through the official website <https://registrasifasyankes.kemkes.go.id>. In addition to basic data, health facilities are also required to upload various supporting documents such as Practice License (SIP), Registration Certificate (STR), and other administrative documents . This process also includes uploading standard operating procedure (SPO) documents and photos of practice rooms, as stated by R.H., who emphasized the importance of complete documentation to fulfill system requirements.*

The data input process begins with the health facility filling in basic information about the facility. The information inputted includes the facility name, address, type of services provided, ownership status, and practice location.

2. Constraints in Data Collection

Several obstacles arose during the registration data collection process. Dr. D.E. revealed that often the requested documents were not uploaded by the applicant, so the verifier had to communicate directly with the applicant to ensure the completeness of the documents. In addition, another obstacle encountered was the length of time required for verification due to the large number of applications queued. Dr. A. added that network problems and file sizes that are too large also often hamper the document upload process, which can be overcome by uploading outside peak hours and adjusting file sizes.

3. Handling Invalid or Incomplete Data

The registration system is also equipped with a mechanism to handle invalid or incomplete data. Based on Dr. D.E.'s explanation, *if the data entered is incorrect or incomplete, the system will provide a notification to inform the applicant to make immediate corrections.* The same applies if there are errors in uploading documents. Dr. A. and R.H. added that the applicant will be contacted via email or WhatsApp to correct the inappropriate files.

4. Data Security

Data security is one aspect that is highly considered in this system. Both (Dr. D.E., Dr. A., January 14, 2025) and R.H. agreed that maintaining data confidentiality is crucial.

Dr. D.E. "emphasized the importance of the applicant to keep the password confidential so that the data does not fall into unauthorized hands". Similarly, Dr. A. and R.H. "suggested that users should not share the informant's user and password with others."

5. High Workload Handling

Regarding the high workload of the server, especially when many health facilities register simultaneously, (Dr. D.E. January 14, 2025) explained "that the system will not experience interruptions as long as it is not under maintenance".

(Dr. A. January 14, 2025) stated 'that if there are too many applications, there will be system improvements to handle the surge in applications.

(R.H. January 14, 2025) also 'added that system maintenance is carried out regularly to ensure that the registration process runs smoothly despite the high volume of applications.'

Based on the findings, the registration system for independent practical health care facilities at the Karawang District Health Office has been running well although there are some challenges that must be faced, such as technical obstacles related to uploading documents and network problems. The existing system already has a mechanism to handle invalid and incomplete data, and maintain data security through strict access management. However, one problem that still arises is the low level of technological skills (gaptek) in some parties, which causes errors in uploading documents or difficulties in following digital registration procedures.

To address this issue, it is suggested that a vertical consulship with the Ministry of Health is needed to obtain further support and guidance on improving the national registration system. In addition, to reduce errors in uploading documents, a horizontal approach should also be taken by conducting registration training workshops and socialization to relevant parties, to improve understanding and technical skills in using the system. This is expected to smoothen the registration process and minimize errors due to a lack of understanding of the technology.

Analysis of Registration System in Process Aspect

The registration process for independent practicing health care facilities at the Karawang District Health Office begins with the creation of a user account (user login) for health facilities that wish to register. After the applicant has successfully created an account and filled in the required data, the verification team from the Health Office and the Ministry of Health will check the completeness of the data and documents uploaded by the applicant.

1. Registration Process Flow

The flow of the registration process begins with the applicant accessing the official website at <https://registrasifasyankes.kemkes.go.id/> and downloading the registration technical guidelines. The applicant then creates an account by filling in basic information, selecting a username and password, and submitting the registration form. After the registration data is sent, a verifier from the Health Office will check the completeness and validity of the data entered. If the data is valid, the applicant will

receive a confirmation email and a link to continue the registration process.

After entering the system, the applicant is asked to fill in complete data about the health facility, such as data on infrastructure (sarpras) and human resources (HR), as well as other supporting documents. After the data is complete, the applicant sends the registration form for further verification by the District Health Office. If the data is in accordance with the established standards, the applicant will receive a registration code via email, indicating that the registration process has been successful. If there are data that do not match or are incomplete, the Health Office will send a link and a correction note to the applicant to correct the data that does not match.

2. Parties Involved in the Process

At each stage of the registration process, there are several parties involved. The first party is the applicant, who is in charge of filling in the registration data and uploading the required documents. The second party is the Health Office verification team, which is responsible for checking the completeness and validity of the data submitted by the applicant. The third party is the health facility licensing manager, who ensures that the registered health facility actually exists and meets the set requirements. The last party is the head of the Health Office, who needs to know which health facilities have registered and ensure that the registration procedure is running properly.

According to (Dr. D.E., January 14, 2025) "*The applicant must fill in the registration data completely, then the Health Office verification team will check the completeness before giving the registration number.*"

3. Permit Verification and Validation Mechanism

The license verification and validation mechanism is carried out by checking the data submitted by the applicant. Verifiers will check the completeness of documents, such as the Practice License (SIP), Registration Certificate (STR), and other supporting documents. This process is carried out in accordance with applicable regulations, such as Permenkes (Minister of Health Regulation). If any documents are missing or invalid, the applicant will be asked to correct them.

(O.Y. January 14, 2025) added, "*Verification is done without any special policy, but we follow the existing regulations, and applicants are given the opportunity to correct any inappropriate documents.*"

4. Data Storage and Registration Number Generation Process

After the applicant fills in the registration data and submits the form, the data will be stored in a secure system. The process of generating a registration number is done after the verifier checks and approves the completeness of the data. The registration number will be sent to the applicant via email after the verification process is complete and the data is declared complete and valid.

According to (Dr. D.A. January 14, 2025), "*Data that has been received and verified will be processed further, then the applicant will receive a registration number via email if it meets the requirements.*"

5. User Access Rights Management

The user access rights management system limits access to information only to registered health facility owners. The facility owner is the only party that has the right to manage the informant's health facility data. This access right is granted to ensure that sensitive information remains protected and can only be accessed by authorized parties.

(R.H, January 14, 2025) explained, "*User access rights are only given to independent practice owners, who can manage data in accordance with existing procedures. This is to ensure the security of existing information.*"

Based on the analysis of the registration system of independent practical health service facilities at the Karawang District Health Office, it can be concluded that this registration process is designed to ensure that the data of each registered health facility is valid and complete. The process starts with the applicant creating an account and filling in the required data, followed by verification by the Health Office verification team. Once the data is declared complete and valid, the applicant will receive a registration number and health facility code via email.

However, during the registration process, several problems were encountered. One of them is the high error rate in uploading documents caused by the technical incompetence (gaptek) of some applicants. Many of them had difficulty uploading documents or filling in data correctly, which resulted in incomplete or incorrect data. In addition, technical constraints such as network problems also often hamper the smoothness of the registration process.

However, the system is equipped with mechanisms to handle invalid or incomplete data, as well as maintain data security by restricting access to health facility owners only. The license verification and validation process follows the prevailing regulations, without any special policies, but still in accordance with the standards set by the Permenkes.

To overcome this problem, it is recommended that there be vertical consul with the Ministry of Health to obtain support and system improvements. In addition, the Karawang District Health Office needs to conduct workshops and socialization to related parties to improve understanding and technical skills, so that the registration process can run more effectively and efficiently.

Analysis of Registration System in Output Aspect

Based on interviews with informants related to the registration system of independent practice health service facilities at the Karawang District Health Office Based on the results of interviews with Mrs. T and Mrs. E, the output aspect of the health service facility registration system (fasyankes) shows several important results that play a role in the smooth and effective operation of the system. (Mrs. T January 15, 2025) "*explained that the main output of the registration system is the registration number given to each registered health facility. Each health facility will receive a unique registration number, which is also accompanied by other documents such as monitoring reports and recapitulation data.*" These outputs are essential in ensuring a neat and organized administration, as well as supporting further monitoring needs.

Meanwhile, (Mrs. E January 15, 2025) "*added that in addition to the registration*

number, notification of registration status is also part of the output of this system. The notification is usually delivered via email or WhatsApp to the applicant. An obstacle that is often encountered in this process is problems with invalid numbers or emails, which can cause the notification delivery process to be hampered". Therefore, it is important to ensure the accuracy of the data entered, as well as conduct regular system testing to minimize errors that may occur. (Mrs. T January 15, 2025) "*revealed that the data stored in the system is not only used by the health facilities themselves, but also accessed by the Health Office and the Ministry of Health for various operational purposes. This data is used for verification, monitoring, and planning of health programs that are more structured and efficient.*"

In terms of data access by authorities, (Mrs. E January 15, 2025) "*explained that the registration number and status notification can be accessed by the District Health Office as well as the Ministry of Health. This allows for better supervision of registered health facilities, and ensures that the recorded data is in accordance with applicable regulations*". Regarding the effectiveness of the outputs produced, (Mrs. T January 15, 2025) stated "*that the evaluation is conducted by measuring several indicators, including data completeness, speed of registration process, and user satisfaction.*

This evaluation aims to ensure that the registration system is running as expected and can be continuously improved."

Finally, (Mrs. E, January 15, 2025) *suggested that "feedback from users on the outputs received, which can be submitted through the website, be used as material for continuous improvement and development of the health facility registration system. This feedback is expected to be the basis for improving the quality and efficiency of the system in the future."*

Thus, the output of the health facility registration system has a very important role in supporting the smooth operation and supervision of health facilities, but it still needs continuous evaluation and improvement to minimize the obstacles that arise.

Specific Findings and Research Implications

Specific findings from this study indicate that although the registration system is working well, there are still some challenges faced, particularly in terms of data entry errors by health facilities, such as uploading incorrect documents or filling out forms incompletely. R.K noted that officers often have to contact health facilities to correct these errors, which can slow down the registration process. The implication of this finding is that there is a need for increased socialization to fasyankes on proper filling procedures and additional training for officers to speed up data verification and validation. In addition, with a more efficient registration system, it is hoped that the licensing process for health service facilities can be faster, more transparent, and in accordance with the standards set by the government.

Discussion

Research on the registration system of independent practical health care facilities at the Karawang District Health Office shows a number of important findings that can be linked to several related literatures. This analysis consists of input, process, and output aspects of the system that are integrated in supporting the efficiency of health administration.

Discussion of Registration System Analysis in Input Aspects

Interview results show that registration applicants are required to upload important documents such as the Practice License (SIP) and Registration Certificate (STR). Most informants from the Karawang District Health Office stated that uploading these documents has accelerated the verification process, although some technical issues such as network problems and large files often occur, causing delays in data processing. This problem is faced by various parties involved, both applicants and verification officers.

In addition, health facilities applying for registration also experience challenges in managing administrative documents that must be adjusted to the applicable provisions. Application usage data shows that there are still gaps in the utilization of system features by applicants, especially in terms of document completeness and the use of available upload features.

These findings are reminiscent of research conducted by (Bower, A., Norris, M., & Thompson, 2022) which emphasized the importance of using technology-based systems to manage health data more accurately and efficiently. However, (Tarrant, M., Webb, R., & Pearson, 2021) also noted that although the use of web-based systems improves data accessibility, technical constraints remain a challenge, as found in this study. Research by (Smith, D., James, E., & Thompson, 2019) further highlights the need for automated verification mechanisms to deal with incomplete or invalid data, a point also raised by informants in the interviews. According to informants, constraints on document uploading sometimes result in inappropriate or incomplete data.

The research assumes that the online data input process can reduce manual errors and speed up registration, but it is still vulnerable to technical constraints such as unstable networks or file sizes that are too large. The success of the registration system relies heavily on the accuracy of the data entered, and automated verification mechanisms can help minimize errors in the data. Handling of incomplete or invalid data is done in an effective manner, but there will be delays in processing if the uploaded documents are incorrect or incomplete. In addition, data security relies heavily on strict access management, including password management and user access rights. The implications of this study can be divided into several aspects relevant to technology-based registration systems in health data management:

Benruk-shapes of improvement in the Karawang district health department in the Registration System in the Input Aspect:

1. Infrastructure and Technology Improvement

This research shows that technical constraints, such as unstable networks and large file sizes, can slow down the document verification process. Therefore, it is important to improve the technological infrastructure, including a more stable network connection and larger storage capacity, so that the registration process can run more efficiently.

2. User Training and Socialization

It was found that there were still gaps in the utilization of system features by applicants, particularly in relation to document completeness and use of the upload

feature. The implication of this finding is the need for further training and socialization programs for applicants and verification officers on how to use the system effectively. This can speed up the registration process and reduce errors caused by ignorance of system users.

3. Development of Automated Verification System

Referring to research by Smith, D., James, E., & Thompson (2019), the need for an automated verification mechanism to handle incomplete or invalid data can be a solution to overcome the problem of inappropriate or incomplete data. The implementation of automatic verification can speed up the verification process and reduce the workload of verification officers.

4. Adjustment of Online Data Input Process

Although the use of online data input can reduce manual errors, the results of this study show that the registration system is still vulnerable to technical constraints, such as internet connection problems and file sizes that are too large. Therefore, there is a need for adjustments in the document upload process, for example by adding a file compression feature or providing alternative document upload methods to reduce dependence on internet network quality.

5. Data Security

The findings also underscore the importance of strict access management to ensure data security. Secure password management and restrictions on user access rights need to be improved to ensure that health data stored in the system remains safe and protected from potential leakage or misuse.

Analysis of Registration System in Process Aspect

The registration process at the Karawang District Health Office starts with account creation by the applicant, followed by document uploading and verification by the relevant team. The results of interviews with verification officers show that this process flow is quite clear and structured. However, despite this, there are still shortcomings in terms of managing user access rights that could potentially jeopardize the security of sensitive data. This issue reflects the importance of strict access rights management to maintain confidentiality and prevent unauthorized access.

This finding is related to research conducted by Johns, K., Patel, R., & Lee (2021), who emphasized that a structured process flow is essential to ensure smooth administration and transparency in health facility registration. In addition, Lopez, L., Reyes, C., & Shaw (2021) also underlined the importance of involving various parties in the verification process to ensure data validity. Informants in this study acknowledged that although the process flow is well-organized, difficulties still arise in managing data access rights that can only be accessed by authorized parties.

System-based verification mechanisms can reduce human error in data management, as suggested by Johns, K., Patel, R., & Lee (2021), but one of the complaints is that there are human errors in document verification, especially in checking the completeness of uploaded documents. This shows that while technology can reduce manual errors, human involvement is still needed in the verification process to ensure data completeness and validity.

The assumption in this study is that a structured registration process flow involving various parties, such as the applicant, verification team, and license manager, will ensure smoothness and efficiency in health facility registration. In addition, a license verification and validation mechanism that carefully examines documents will play an important role in ensuring that the data entered meets the requirements and is in accordance with applicable regulations. In this case, an access rights management system that is only granted to health facility owners is expected to maintain data confidentiality and prevent unauthorized access. Furthermore, the management of the registration process can run well as long as the registration flow is followed correctly and the completeness of data and documents can be verified quickly and accurately by the verification team involved.

Benruk-shapes of improvement in the Karawang district health department in the Registration System in the process aspect:

1. Improved Access Rights Management

To overcome problems related to access rights management that can jeopardize data security, improvements need to be made in the access management system. The use of stricter access controls, such as multi-factor authentication and role-based access rights restrictions, will help maintain data confidentiality and prevent unauthorized access.

2. Improved Automated Verification Mechanism

Integrate an automated verification system that can check the completeness and validity of uploaded documents. This can reduce the burden of manual verification and minimize human error in checking documents. This mechanism can also notify the applicant if the uploaded documents are incomplete or incorrect, thus speeding up the registration process.

3. Training and Socialization for Verification Officers

Conduct periodic training for verification officers to improve their understanding of proper verification procedures and how to securely manage data. This will help reduce errors caused by lack of understanding or inaccuracies in checking documents.

4. Improvement of Registration Process Flow

Although the flow of the registration process is already quite structured, further refinement is needed to ensure that all parties involved in the process have the same understanding and can follow the steps systematically. The addition of a help feature or interactive guide within the system for applicants and verification officers could facilitate this process.

5. Technology Infrastructure Improvement

Overcoming the problem of unstable networks and oversized files by increasing server capacity and network quality at the Karawang District Health Office. This will ensure that the document upload process can be carried out smoothly and without technical obstacles that interfere with the smooth registration process.

6. Periodic Evaluation and Monitoring

Conduct regular evaluation and monitoring of the registration system to ensure that problems are identified and corrected in a timely manner. Monitoring the use of the

system will also help in spotting potential problems that arise in the future.

Analysis of Registration System in Output Aspect

Based on the interviews, it was found that the outputs generated from the registration system, such as registration numbers and status notifications, provide great benefits in the administration and supervision of health facilities. These outputs allow authorities to monitor registered health facilities more effectively. However, there are some issues that arise related to data input errors, such as invalid numbers or emails, which interfere with the smooth management of the outputs. For example, often unregistered mobile phone numbers prevent applicants from receiving registration status notifications.

Research by Williams, T., White, G., & Clark (2022) emphasizes the importance of clear and timely outputs in the registration system to ensure smooth administration. Valid output results are essential for authorities to monitor and supervise registered healthcare facilities. In addition, Lee, H., Foster, M., & Green (2020) added that effective data access is crucial in the supervision process, which corresponds with informants' recognition that accurate notifications are helpful in monitoring health facilities by the Health Office and the Ministry of Health.

However, findings from Hill, J., Wilson, P., & Taylor (2021) on data input errors are also reflected in this study. Errors in filling in personal or contact data often prevent the system from providing valid output, which impacts the registration and supervision process. Therefore, it is important to improve the quality of data input and conduct regular system testing to minimize these errors.

Benruk-shapes of improvement at the Karawang district health office Registration System in the Aspect of Input :

1. Data Input Quality Improvement

To reduce data input errors such as invalid cell phone numbers or emails, it is necessary to improve the data input system. One of them is to implement an automatic validation feature in the input field, such as checking that the mobile number or email is in the right format and registered. This will reduce errors in data entry that can disrupt the smooth running of the registration system.

2. Periodic System Testing and Maintenance

Conduct regular system testing to ensure that the data input and output features are functioning properly. This can be done by simulating various data input scenarios, including frequent errors, to ensure that the system can handle errors and provide the right output.

3. Provision of Data Entry Guide for Applicants

Provide clear and easy-to-understand guidance or tutorials for applicants on how to fill in data correctly. This could be in the form of instructions accompanying the input fields or short video tutorials explaining the registration process, thereby reducing human error in data entry.

4. Implementation of Reminder Notification Feature

Implement a reminder notification feature that automatically informs the applicant if there are errors or discrepancies in the data entered. For example, if the entered mobile

number is not registered or the email format is incorrect, the system can send a notification to the applicant to correct the data before continuing the process.

5. Improved Output Management and Notification

Optimize output management by ensuring that registration status notifications are sent accurately and on time. In addition, set up the system so that notifications not only cover the registration status, but also notify applicants if there are any errors in their data that need to be corrected to continue the process.

6. Periodic Evaluation and Monitoring of System Output Conduct periodic evaluation and monitoring of the outputs generated by the registration system to ensure that the notifications and registration numbers provided match the data that has been entered and assist in supervision. This monitoring is important to detect and address issues if there are discrepancies in the outputs provided by the system.

7. Improved Communication between Applicant and Verification Officer Improve communication between applicants and verification officers to address issues related to data errors. This can be done by providing more open communication channels, such as help centers or customer service, to help applicants correct incorrect or incomplete data.

CONCLUSION

Based on the results of research on the registration system of independent practice health service facilities at the Karawang District Health Office, there are several conclusions that can be drawn related to the analysis of the registration system involving input, process, and output aspects. The health facility registration system at the Karawang District Health Office requires applicants to upload important documents such as the Practice License (SIP) and Registration Certificate (STR). This data collection process is supported by the use of electronic systems that allow for more accurate and efficient data management, despite technical challenges such as unstable networks and large file sizes. These technical constraints impacted the smoothness of the registration process, which necessitated improvements to the technical infrastructure, such as the network and servers, to improve system reliability. The structured registration process involving various parties, such as the applicant, verification team, and license manager, has created a clear flow in the system. The document verification process is important to ensure data completeness and compliance with applicable regulations. In addition, strict management of user access rights is an important step in maintaining data confidentiality and preventing unauthorized access. However, access rights management still needs to be improved to maximize the protection of sensitive data. System outputs, such as registration numbers and status notifications, have shown effective results in facilitating supervision and monitoring of health facilities. The data generated from the registration system can be used for various operational purposes by health facilities and authorities, such as the Health Office and the Ministry of Health. However, there is still potential for errors in notification delivery or data input errors that could slow down the process or confuse applicants. Periodic evaluation of the system output is needed to maintain efficiency and improve the reliability of expected results.

Overall, the existing registration system in Kabupaten Karawang has implemented various best practices in terms of data management, verification, and access control, although there are some technical and operational challenges that need to be improved for the system to run more optimally. Future research can more deeply explore the influence of technological infrastructure on the effectiveness and efficiency of the health facility registration system. Technical aspects such as network, server capacity, and system speed can be further analyzed to provide a more complete picture of the technical challenges faced, involving a comparative study between the registration system in Karawang Regency and other regions, to identify best practices that can be applied to improve the existing system. This could provide new insights into better management of health facility registration and licensing.

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