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The perception of management information recording and reporting system at first level health facility: Tambakaji and Ngaliyan Semarang-Central Java

Arif Kurniadi[1], Widiyarto Adi Nugroho[1] , Jaka Prasetya[1], Slamet Isworo[2*]
[1]Departemet of Medical Record and Health Information System Dian Nuswantoro University, Jl. Imam Bonjol No.207, Pendrikan Kidul, Kec. Semarang Tengah, Kota Semarang, Jawa Tengah 50131, Indonesia
[2]Department of Health Environment, Dian Nuswantoro University, Jl. Imam Bonjol No.207, Pendrikan Kidul, Kec. Semarang Tengah, Kota Semarang, Jawa Tengah 50131, Indonesia

***Corresponding author:** Slamet Isworo
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DOI:10.21276/sb.2019.5.5.9 **Email:** slamet.isworo@dsn.dinus,ac,id

Abstract

The first level health facility is the spearhead of the first level health data collector for the health office in the territory of Indonesia, in supporting the National Information System development strategy. The management information recording and reporting system as a means of supporting the processing of health data in first level health facility will be useful in producing quality information that is used as a basis in making decisions to establish health programs. This research is a descriptive study with a quantitative approach to measure the description of perceptions and implementation constraints faced by users of the management information recording and reporting system. The survey was conducted on 59 respondents by answering questionnaire questions. Based on the results of the study, the perception of the use of the management information recording and reporting system produces a good perception. While based on perceptions of acceptance: officers aged 36-45 years at tambakaji health centers are better than Ngaliyan health centers. Officers with female gender are the least likely to encounter obstacles, while officers with <5 years of work are most vulnerable to problems. The management information recording and reporting system is very supportive in operational activities in first level health facility.

Keywords: management information recording and reporting system, Patient perception, Patient service, Public health information system, First level health facility.

PRELIMINARY

The first level health facilityis a health service facility that organizes first-rate public health and individual health efforts, which prioritize promotive and preventive efforts [1].

First level health facility spearhead the first level health data collector for the health office in order to support the national development strategy online. First level health facility are also the foundation of health data that is expected to create appropriate, accurate and relevant information so that it can be used as a guide in preparing a health plan [2]. Information about the distribution of disease and its prevention, use of health services, data on deaths, morbidity and various other health information that is useful for decision making in policy making at the sub-district and district / city levels. The use of information technology in health service facilities such as the use of electronic medical records and decision support systems can be used in improving the quality and efficiency of patient services [3]. Implementation of electronic-based information systems in health care facilities can improve performance, save operational costs, and improve patient satisfaction [4]. Nevertheless, success in implementing information systems in health care facilities is a difficult thing to do [5]. There are many factors that influence the successful implementation of information systems in health care facilities. Therefore to support the availability of information, a service-based management information system is needed to create effective and efficient management. This form of implementation was outlined in the use of the management information system of the first level health facility which functions to manage patient data from patient registration to treatment of patients [6].

The management Information System is a regional health information system that provides various information about the state of public health at the first level health facility level starting from data on

people who are sick, availability of medicines to public health education data [7].

The benefits of Management Information Recording and Reporting System are to facilitate and accelerate services, reduce the workload of officers and can produce valid / valid information. Management information recording and reporting system is also expected to improve the management of the first level health facility by processing data based o n information technology that is appropriate, accurate, complete and effective to support the decision-making process [2].

Semarang City in order to realize a smart living program involving community health aspects, the local government is committed to creating a healthy city with excellent service supported by quality data with an integrated information system [8] Semarang city health office as duty bearer at the primary health service level builds an adequate health center information system, one of which is the Puskesmas Information System

The use of the management information recording and reporting system in Semarang began in 2005, but only a small number of puskesmas were able to use it, and only half of the 37 first level health facility in Semarang began to be felt in 2008. Management information recording and reporting system began to be required for all first level health facility in the City Semarang after 2009-2010.

The health office has made efforts to mediate and brief staff skills in the implementation of the management information recording and reporting system, but it still raises a variety of responses and perceptions from various groups of users, especially health center officers. There are several factors that influence this in terms of age, skills and experience or length of work [9].

First level health facility : Tambakaji and Ngaliyan are first level health facility in the working area of the Semarang City with the largest population density in the Tambakaji village which will have an impact on public health problems in the region. These two first level health facility have used a health information system that began in 2010 [10]. For this reason, the researcher will reveal the perception of the use of the Management Information Recording and Reporting System application in the first level health facility as seen from the characteristics of age, sex and length of work.

METHOD

This research is descriptive with a quantitative approach to measure the description of perceptions and constraints faced by users in using the application of the management information recording and reporting system through surveys. The survey was conducted on the total population of users of the management information recording and reporting system at the first level health facility: Ngaliyan and Tambakaji, which were 59 respondents consisting of 10 doctors, 14 nurses, 7 registration officers, 9 midwives, 4 pharmacists, 2 nutritionists, 4 officers laborat, 3 sanitarian officers, and 6 administrative officers.

RESULTS

Information system first level health facility in the Tambakaji and Ngaliyan first level health facility have been used since 2010 which are used to help produce visit reports, disease reports, referral reports and drug use reports.

An overview of the characteristics of the users of the Management Information Recording and Reporting System as in Table-1.

Table-1: Characteristics of users of the management information recording and reporting system at the Tambakaji and Ngaliyan first level health facility

Sampling Characteristics		Tambakaji First level health facility		Ngaliyan First level health facility	
		F	**%**	**F**	**%**
AGE (years)	17 - 25	3	12%	0	0%
	26 - 35	6	24%	2	6%
	36 - 45	7	28%	16	47%
	46 - 55	6	24%	13	38%
	56 - 65	3	12%	3	9%
	Total	25	100%	34	100%
Gender	Male	4	16%	10	29%
	Female	21	84%	24	71%
	Total	25	100%	34	100%
Length of work (years)	≤ 5	6	24%	2	6%
	5 - 10	2	8%	4	12%
	> 10	17	68%	28	82%
	Jumlah	25	100%	**34**	100%

Source: Primary Data, 2018

In Table-1, based on the age variable dominated by age 36-45 years 28% in the Tambakaji first level health facility while the Ngaliyan first level health facility is 47%, But there are also 56% - 65 years old at 12% at the Tambakaji First level health facility and 9% at the Ngaliyan First level health facility.

Whereas in the sex variable, the two First level health facility were dominated by female officers, namely 84% in Tambakaji first level health facility and 71% in Ngaliyan first level health facility, while in the old working variable all First level health facility were also dominated by officers who worked for more than 10 years at 68% in Tambakaji and 82% in Ngaliyan. The following is a description of the perceptions of sampling officers in using management information recording and reporting system :

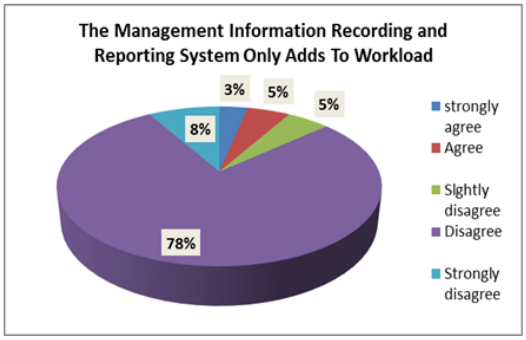

Fig-1: The officer perceptions about management information recording and reporting system: only adds workload

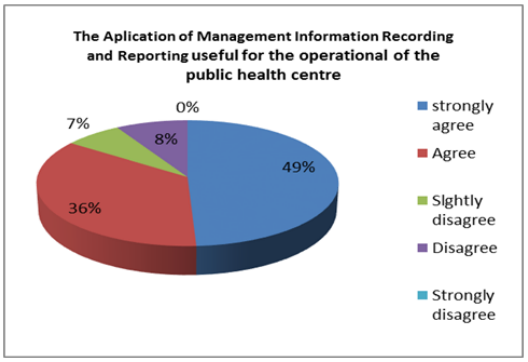

Fig-2: Officer perceptions about management information recording and reporting system: beneficial to first level health facility

Based on the perception of health workers, the use of management information recording and reporting system, based on Figure 1 & 2, 78% of respondents disagree and 8% strongly disagree that management information recording and reporting system only adds to the workload for them, and more than 87% of respondents agree and strongly agree that management information recording and reporting system is very useful for first level health facility in carrying out their functions.

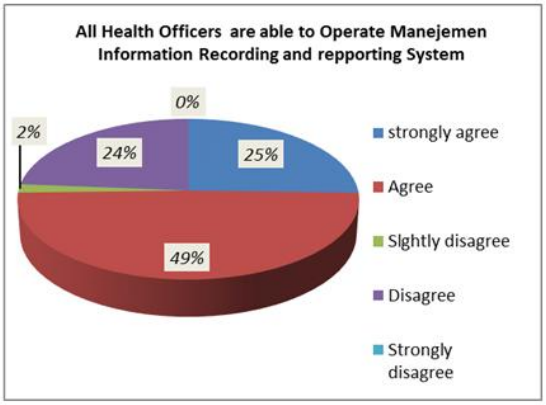

Fig-3: Perception of health workers about the need to be able to operate the management information recording and reporting system

In Figure-3, the respondents stated that 49% agreed and 25% strongly agreed that officers should be able to operate management information recording and reporting system.

Fig-4: Perception of health workers about: the number of officers who operate the management information recording and reporting system

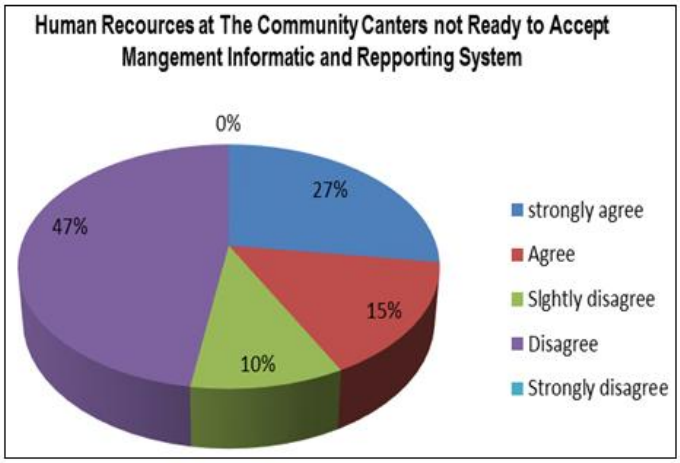

Fig-5: Perception of health workers about the readiness of human resources in operating the management information recording and reporting system

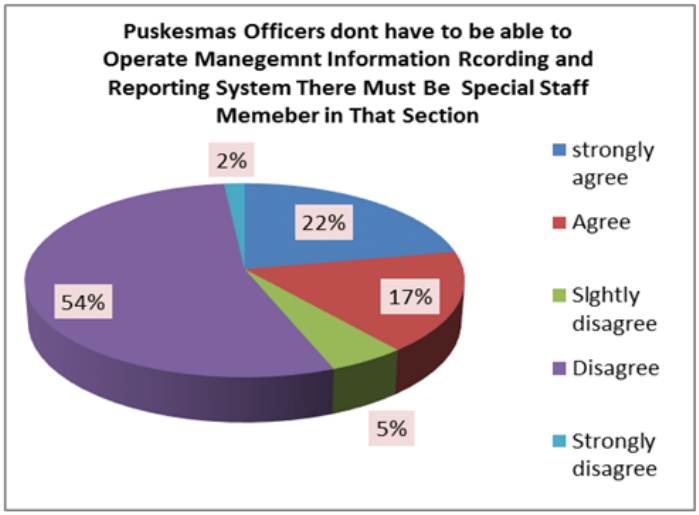

Fig-6: Perception of health workers about the presence of special officers who operate management information recording and reporting system

Most health workers also feel that they do not agree that human resources are considered not ready for recording and reporting system implementation, namely 47% disagree and 27% strongly disagree as in Figure-5. They actually feel they have to be able to operate Management Information recording and reporting system. themselves and disagree if there are officers specifically (health workers must be able to operate management information recording and reporting system as shown in figure-6.

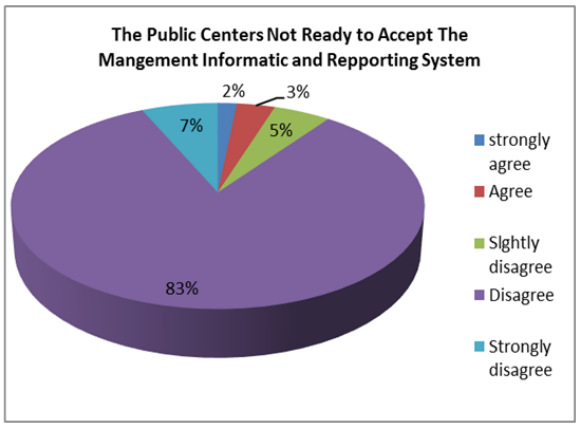

Fig-7: Perception of health workers about the readiness of first level health facility in implementing management information recording and reporting system

More than 80% of respondents stated that they did not agree that the first level health facility was still considered not ready for management information recording and reporting system implementation as shown in Figure-7.

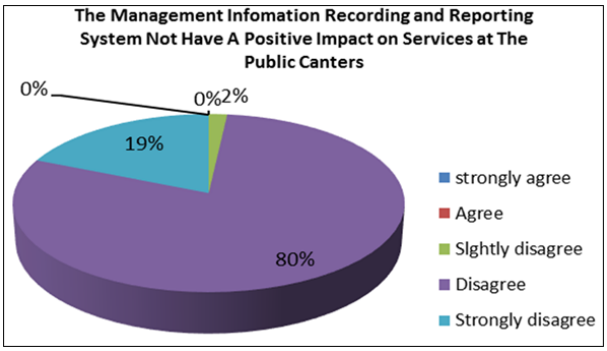

Fig-8: The officer perceptions about the positive impact of management information recording and reporting system on first level health facility services

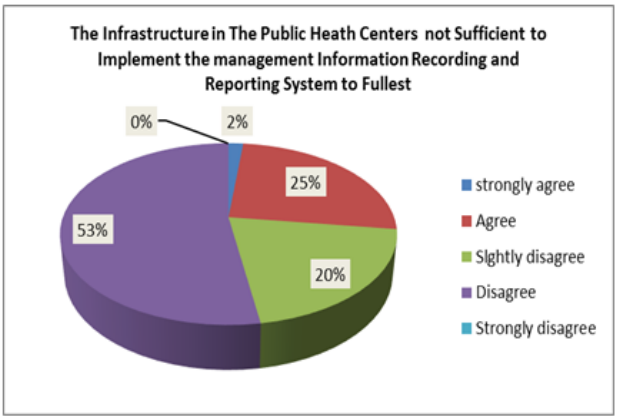

Fig-9: Perception of officers regarding the infrastructure of management information recording and reporting system

In Figure-8, the respondents' perceptions related to the statement that the Management Information Recording and Reporting System did not have a positive impact on services at the public health center, more than 90% of them expressed disagreement and strongly disagreed. While related to the First level

health facility infrastructure that is considered inadequate to implement the management information recording and reporting system, respondents stated that more than 50% stated that they did not agree with 53% of the answers did not agree. But there are still doubts as much as 20% and even 25% agree that infrastructure is inadequate as shown in figure-9. The perceptions related to the obstacles in implementing the management information recording and reporting system can be explained in Figure-10.

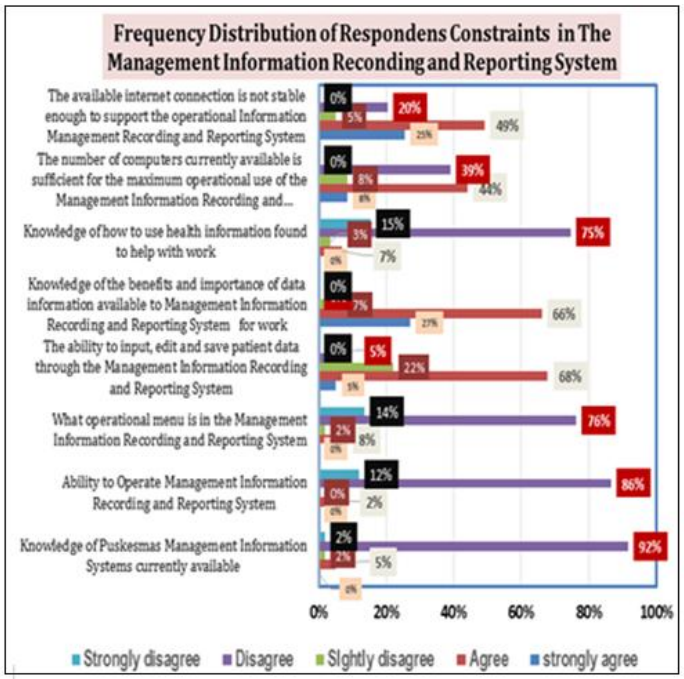

Fig-10: Obstacles of staff in using management information recording and reporting system

Based on Figure-10 above more than 90% of officers disagree if they are deemed not to know recording and reporting system, more than 85% of officers disagree that they cannot operate computers/management information recording and reporting system. More than 68% of respondents agreed that they could input, edit and save patient data using recording and reporting system, 66% agreed and 27% of respondents strongly agreed that they knew the benefits of health information on their work. Computers are sufficient for management information recording and reporting system operations and respondents also say 44% agree and 8% agree strongly. 49% of respondents agreed and 25% stated strongly agree that the available internet connection is still not stable to support the operational use of management information recording and reporting system .

The following is a calculation of perceptual scores with obstacle scores where this score is calculated based on respondents' answers as follows: Strongly Agree = 1, Agree = 2, Doubt = 3, Disagree = 4, and Strongly Agree = 5. Calculation of scores is categorized based on respondents from second First level health facility to find out assessments and assessments at each First level health facility to then compare these scores to find out comparing perceptions and encouraging both first level health facility

Table-2: Analysis of cross table score from perception management information recording and reporting system with respondents' obstacles from tambakaji first level health facility

Characteristic		Precection			Obstacles		
		min	max	∑	min	max	∑
Age (years)	17-25	36	36	36.0	25	32	28.3
	26-35	34	40	37.3	26	30	27.8
	36-45	35	42	37.8	26	32	29.4
	46-55	33	37	35.0	23	35	30
	56-65	32	39	36.0	28	32	29.6
Length of working (years)	≤ 5	34	39	36.5	29	32	31
	5 - 10	34	38	36.0	28	30	29
	> 10	32	40	35.9	21	31	28.2
Gender	Male	34	39	35.9	25	30	28.5
	Female	32	40	35.9	21	32	28.9

Table-3: Analysis of perception cross table score with respondent constraints from ngaliyan first level health facility

Characteristic		Preception			Obstacles		
		min	max	∑	min	max	∑
Age (Years)	17-25	0	0	0	0	0	0
	26-35	34	36	35	31	32	31,5
	36-45	28	28	35.2	23	35	29,4
	46-55	32	39	35.7	26	33	29,3
	56-65	30	36	33.7	21	28	25,7
Length of work ing (years)	≤ 5	35	38	37	30	31	30,5
	5 - 10	34	40	37	23	32	29,5
	> 10	28	41	35	23	32	29,0
Gender	Male	30	41	34.8	21	35	28,3
	Female	28	40	32.5	26	33	29,5

Based on the results of Table 2 & 3 above, it can be found that based on age characteristics: Tambakaji first level health facility officers in the 36-45 year age range were the best in accepting the existence of management information recording and reporting system, in both puskesmas with an average score of 37.8. In relation to the constraints on the use of management information recording and reporting system, Ngaliyan first level health facility officers with a age range of 56-65 years were the lowest and prone to having problems in the use of management information recording and reporting system (SIMPUS) in both puskesmas with an average score of 25.7

Based on the old work characteristics, the Ngaliyan first level health facility staff with a working period of> 10 years had a good perception in the use of management information recording and reporting system (SIMPUS) in the two first level health facility with an average score of 41. On the other hand, staff with kerja 5years of work were both officers who rarely encountered obstacles in the use of management information recording and reporting system with an average score of 30.7. Whereas according to sex characteristics, male officers in the Tambakaji first level health facility were superior in receiving management information recording and reporting system use with an average score of 36.75. However, officers in the Ngaliyan first level health facility with female gender were better at Management Information Recording and Reporting System operations at the two First level health facility because they rarely found significant obstacles with an average score of 29.5.

DISCUSSION

Based on the frequency distribution table about the perceptions of respondents to the Recording And Reporting System Management Information, it was found that 78% of respondents disagreed and 8% strongly disagreed if the management information recording and reporting system only added to their workload, respondents felt that the management information recording and reporting system was very beneficial to First level health facility with 36% of the answers agreed and 36% strongly agree. In addition, more than 80% of officers disagree if the management information recording and reporting system is considered not to have a positive impact on services at the First level health facility , this can be concluded that the presence of the management information recording and reporting system is very beneficial for the smooth service of patients. Respondents did not mind at all in the implementation of the management information recording and reporting system they stated their readiness for the application of the management information recording and reporting system. This is reflected in the perceptions of officers who stated that more than 50% agreed that in the future all first level health facility officers would be required to operate the management information recording and reporting system and there was no need for special officers to operate it. In Table-1, based on the age variable dominated by productive age, which is 36-45 years old, 28% in the Tambakaji first level health facility and 47% in the ngaliyan first level health facility, there are also age groups that are elderly / less productive, aged 56-65 years, 12 % in the Tambakaji First level health facility and 9% in the Ngaliyan first level health facility [11].

In terms of perceptions of reception the Tambakaji first level health facility is slightly better than the Ngaliyan First level health facility seen from the score on crosstable, this is due to the large number of health workers who are still in their productive age. On the other hand, with an average score of 37.8 officers with a 36-45 year age range owned by the Tambakaji first level health facility, they tend to have good performance and easily adapt to work, especially related to the use of management information recording and reporting system. Whereas in the Ngaliyan first level health facility, health workers ranging in age from 26-35 years old are prone to problems, so one of the factors makes the Ngaliyan First level health facility slightly less than the Tambakaji first level health facility in terms of accepting the use of management information recording and reporting system, although the second perception of First level health facility shows a fairly good perception.

Based on the length of work of the staff with a length of work > 10 in the Tambakaji first level health facility , the ones who rarely encounter problems are related to the use of Management Information Recording And Reporting System with an average score of 28.2.

Based on gender, officers with male gender at the Tambakaji First level health facility had a fairly good perception with an average score of 36.8. On the other hand, the officers agreed that the use of this management information recording and reporting system had a positive impact on continuous patient service and that the existing infrastructure in the First level health facility was sufficient to operate the management information recording and reporting system optimally. Based on the results of the questionnaire related to the constraints of officers on the use of the Management Information Recording And Reporting System at the Tambakaji first level health facility and the Ngaliyan first level health facility, there were no significant obstacles related to the use of the management information recording and reporting system at the Tambakaji First level health facility and the Ngaliyan Semarang first level health facility. This is evidenced by the knowledge of officers in both First level health facility about management information recording and reporting system supported by the ability of officers related to computer use and the operation of management information recording and reporting system. Where officers can input, edit, and save data on patients entering through the management information recording and reporting system. From this it can be concluded that related to the operational management information recording and reporting System in both first level health facility there are currently no significant problems and this indicates that the use of the management information recording system and reporting system has been carried out quite optimally with the support of First level health facility staff knowledge. the benefits and importance of the information contained in the management information recording and reporting system for their work. Whereas related to infrastructure facilities there are problems related to an internet connection trouble however, this does not become an obstacle for officers in operating management information recording and reporting system

CONCLUSION

After conducting a data analysis process on the perceptions of the health center staff regarding the use of the management information recording and reporting system, it can be concluded that:

- Based on the age characteristics of the Tambakaji First level health facility and Ngaliyan First level health facility staff, officers aged 36-45 years at the Tambakaji First level health facility have the best perception among other age groups. The sexes of both of them are also dominated by female sex, who are the least likely to encounter obstacles related to the use of the management information recording and reporting system, and the length of work of the officers in both first level health facility on average ≤ 5 years is the most vulnerable to having problems. While officers with a working period of > 10 years are the best perception and acceptance of the management information recording and reporting system in both first level health facility with an average score of 37
- Regarding the use of the Tambakaji first level health facility and the ngaliyan first level health facility, the officers felt that the use of the management information recording and reporting system provided a good perception. However, in terms of receiving first level health facility Tambakaji it is slightly better than the Ngaliyan first level health facility where it is based on the average score obtained at the Tambakaji first level health facility of various characteristics having an average score of 37.8 resulting from 36-45 years of age.
- Regarding the obstacle of officers in the use of the management information recording and reporting system, there are no significant obstacles related to the use of the Management Information Recording and Reporting System at the Tambakaji First level health facility and the Ngaliyan first level health facility. Although there are few obstacles in terms of internet connection, this is not a problem for officers in operating the management information recording and reporting system

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