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Evaluation of the Health Information System in Teladan Public Health Center in 2020 Using the Health Metrics Network Instrument Approach

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ABSTRACT

The Health Information System is an integrated system that systematically manages public data and information (Government, community and private) at all levels of government to support health development in a health facility. This description can be known by conducting a Health Information System (HIS) evaluation activity. This study aims to determine the description of the health information system at the Teladan Health Center in Medan City. The research was conducted at the Medan City Teladan Public Health Center, North Sumatra, in June 2019. The subject in this study was the Head of the Administrative Subdivision of the Teladan Public Health Center, which was taken based on purposive sampling. The data were gathered through direct interviews and observations. We are using the triangulation method to determine the data's validity. With a percentage of 73%, health information system resources are classified as "adequate."This is because the Utilization and Dissemination component is included in the adequate category (63%); this is because the public health centres have implemented health information systems based on the latest Law and are carried out in full and regularly. The overall Data Source component is included in the adequate category (64%). Evaluation of Indicator components is included in the very adequate category (78%). The performance evaluation of the health information system at the Medan City Model Health Center was carried out using the Health Metrics Network (HMN) version 4.0 instrument approach by assessing various components of the health information system. According to the evaluation results conducted at the Teladan Public Health Center, only one of the six HIS components scored "adequate" on the HMN instrument, with the highest score on the Indicator Component and the lowest score on the Information Product Component.

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1. INTRODUCTION

The Ministry of Health of the Republic of Indonesia seeks to achieve Indonesia's health development goals by establishing a national health information system; this program is carried out to provide useful information to support decision making in implementing health programs. The national health information system has seven interconnected and interdependent components: manual data sources, computerized data sources, health service information systems, stakeholder information systems, national health data banks, data users by the ministry of health and data users. The classic problem that occurs today is that the management of data and information is not well-coordinated; there is much overlap in activities and data management, where each unit collects its data with different instruments at various levels. In addition, data collection has not been carried out efficiently and sometimes the data collected is redundant, not even necessary. A fragmented health information system causes this. The health information system currently being built is only for one unit and for one function in that section, but other units cannot use it for other functions (Kementerian Kesehatan RI, 2011).

The development of health in a country needs to be considered. However, in reality, the health information system, one of the goals of health development in Indonesia, still does not provide accurate, complete and timely results. This is due to the many challenges faced in undergoing a health information system, especially on the health information system organizers who still do not understand the health information system itself. The health information system has not been implemented efficiently and produces poor quality data. Health information systems need to be implemented in all health efforts to support health development (Kementerian Kesehatan RI, 2011).

The requirements for quality information are available, easy to understand, relevant, useful, timely, reliable, accurate and consistent information. The public health centres management information system by application is very easy to use by officers at the public health centres. However, other requirements for information to be of quality if useful, timely, reliable, accurate, and consistent have not been fulfilled. The public health centres management information system's information system only contains services at the main health centre. Technological sophistication is not a guarantee of the fulfilment of information, but a structured system that is reliable and able to accommodate all the information needed can answer the challenges faced (Adiguna, 2018). According to García-valls (2018), the first step in selecting hardware is to identify the personnel responsible for hardware selection and evaluation; the personnel responsible is tasked with reducing reliance on third parties and mitigating any negative consequences that may arise.

Electronic public health centres applications require application updates to comply with standards, and there is supervision and monitoring in the implementation of electronic public health centres. The completeness of electronic public health centres data is categorized as incomplete—meanwhile, the supporting network for the implementation of electronic public health centres (Dona, 2019). According to Sahay et al. (2018) that to improve the work of the health information system, it takes a role in policymakers considering other challenges that must be overcome and faced to determine the success and support of the health information system. According to Sahay (2018) that to improve the work of the health information system, it takes a role in policymakers considering other challenges that must be overcome and faced to determine the success and support of the health information system.

The information obtained from the public health centres management information system officer stated that the use of the electronic the public health centres were good; it was

just that there were problems with the network. The information system in the electronic the public health centres regarding the accuracy and suitability of information can be said to be accurate and appropriate if the information that has been collected is previously complete. While the implementation of the e- the public health centre application has been optimally run at the public health centre and has been integrated into all polyclinics, sometimes there are still problems related to the network where patient data has been registered at the registration counter is sometimes not synchronized at the poly (Putra, 2020). Information systems are a means to provide useful information in organizational decision making and increase knowledge to reduce uncertainty for information users (Oktamianiza, 2019).

The health information system using an assessment tool from the Health Metric Network (HMN) conducted in 2012 shows that the six components of the health information system implementation are insufficient, especially for the data management component, which is still lacking. However, compared to 2007 in general, there was an improvement, especially in the resource component. Based on the 2015 Regulation of the Minister of Health that the results of the assessment of the health information system using an assessment in the form of an HMN approach instrument in 2012, the results of the six components of the implementation of the health information system were not sufficient, one of which was the data management component which was still inadequate, but when compared with the results of the assessment the health information system in 2007, in general, has had an increase, especially in the resource component (Kementerian Kesehatan RI, 2011).

According to the Indonesian Ministry of Health (2012), in 2007, the data and information center has evaluated the health information system using the HMN guideline instrument and obtained results from the six components of the health information system, namely "there is but not adequate". However, these results are better when compared to the implementation of the health information system in 2004, which some hospitals and health centres carried out without using guidelines or implementation guidelines. According to Alkhatlan (2018), bad data affects the quality of the information received; besides that, data is like raw material; it can produce information.

The results of Siregar (2019) research show that implementing a system depends on the resources that support the system. HIS resources at the Kota Matsum public health center are included in the "adequate" category (75%). Based on the evaluation results, it is known that the component of the HIS data source at the Kota Matsum public health center is "adequate" (58%). The results of Damayati (2015) and Putri (2020)show that the completeness of the data still lacks even though the budget for the implementation of electronic the public health centre is sufficient. This can be seen from each of the public health centres having a budget for operating a web-based health management information system that is budgeted regularly. The budget is used to maintain hardware (hardware), software (software) and costs for internet connection. According to Azis (2019), constraints and user expectations, the adolescent health information system will be made web-based to be accessed anytime and anywhere. Weaknesses found during the adolescent health information system evaluation, especially in the recording of screening results, were immediately corrected and refined. According Tohirin (2020), in the practice of developing an e- the public health centre information system, not all Scrum artefacts can be adopted, such as system users not participating in the sprint review and the absence of a burndown chart.

The development of information systems with old methodologies, such as Waterfall, is considered inefficient and has many weaknesses, such as the mandatory sequential phase and integration at the end of the system(Kannan, 2015). This does not match the characteristics of the e- the public health centre information system, which requires

continuous, fast and flexible release with unexpected changing demands from users. Agile is a project management methodology that divides features into smaller tasks. Agile focuses on continuous-release, highly collaborative, high-quality results, team effectiveness, and time and cost efficiency (Flora, 2015). Agile principles focus on satisfying customers through the rapid distribution of information systems; accept changes in deliverability requirements, the collaboration between businesses and developers; information system function as a measure of progress; keep the design simple, and regularly have the team discuss how to be more effective during the development of information systems (Ependi, 2017).

The development of a health information system, according to HMN, requires 6 (six) components that interact with each other to produce better information for better health. 6 components of the health information system. Determination of 6 components which are the standards for the assessment of the Health Information System, including health information system resources, indicators, data sources, data management, information products and utilization and dissemination. Then based on the situation and problems faced by the health information system in Indonesia, seven components of the health information system in Indonesia were compiled, including health information system managers, indicators, data sources, data management, health information system resources, health information system development, utilization and dissemination (Kementerian Kesehatan RI, 2011). Human factors, the use of the system is still lacking, because the main the public health centre only uses it, lack of training and there is no procedure for using the public health centres management information system. Data operator officers only feel user satisfaction at the main health centre; on the other hand, users of the middle and upper level of the public health centres management information system are not satisfied (Thenu, 2016).

The verse that should be used as a reference for performance appraisal is in the Qur'an in the letter At-Taubah verse 105, which means and, say: "work ye, then, Allah and his messenger, and the believers will see your work, and you will be returned to Allah, who knows the unseen and the real, and he will inform you of what you have done." This verse is written, "work you, then, Allah and his messenger, and the believers will see your work". We, as believers, are ordered to do work and evaluate every work that has been done. The same is the case with the Health Information System (HIS). It is necessary to conduct a health evaluation in order to correct deficiencies to achieve the goals that have been set previously. Based on the description above, it is necessary to evaluate the health information system at the public health centres to improve and strengthen the existing health in the public health centres. These efforts are expected to be an important step to improve the quality of public health services. This is the reason for later evaluating the health information system at the Teladan public health centre.

2. RESEARCH METHODE

The type of research used in this research is research with a qualitative descriptive approach. This research was conducted in 2019 at the Teladan public health centre in Medan City. The selected informants in this study were the head of the Teladan public health center, the Head of the sub-division of administration for the Teladan public health center and the model public health center and made observations using observation sheets based on the Health Metric Network (HMN) guidelines and conducted a document review. This research was conducted by evaluating the performance of the health information system based on interview and observation guidelines, namely the Health Metric Network (HMN) guideline. For data processing, researchers used manual processing. The results of the data collected are then processed using reduction, display, analysis and decision making. This

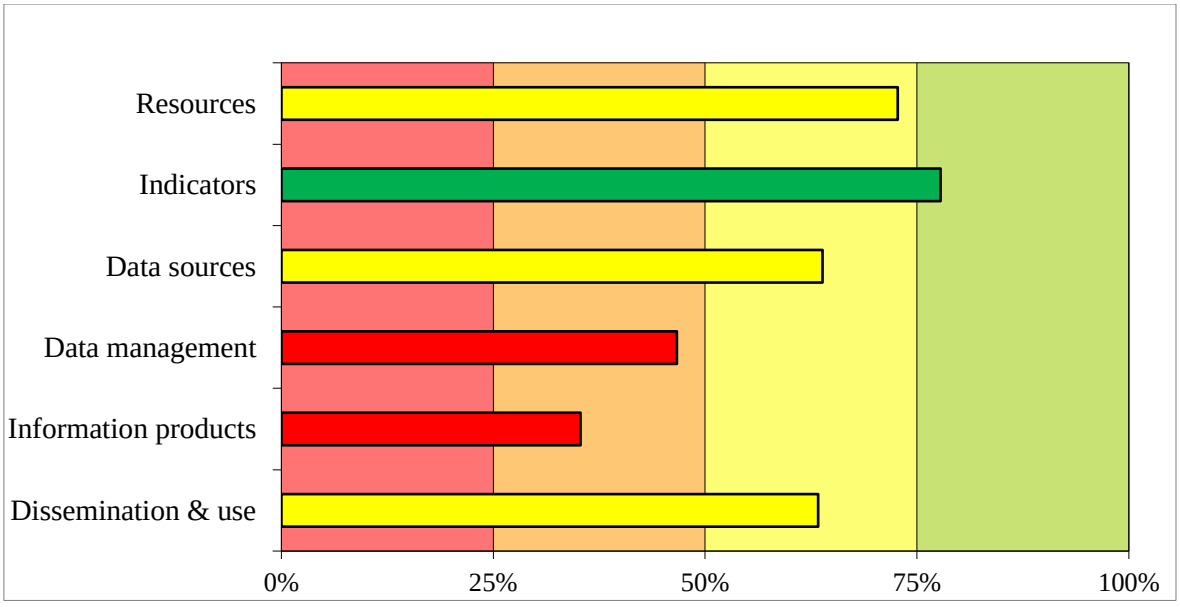
research was conducted at the Teladan public health centre of North Sumatra Province, which began in July-September 2018.

Primary data was conducted on employees at the Teladan public health center. Secondary data in this study were obtained from documents and literature studies related to evaluating the health information system at the Teladan public health centre. The researcher triangulated the data in this study, namely triangulation of sources by conducting in-depth interviews with the head of Teladan public health centre, the head of the administrative sub-section of the Teladan public health centre and the Teladan public health centre. Triangulation of methods is carried out by using in-depth interviews, in-depth observations and document studies.

For data processing, researchers used manual processing. The results of the data collected are then processed using reduction, display, analysis and decision making. In this qualitative research, the validity check uses the triangulation method, which compares information or data in different ways. As is well known, in qualitative research, the researcher uses the interview method using interview guidelines and observations by using observation sheets and conducting document reviews.

3. RESULT AND ANALYSIS

Graph 1. Distribution of Health Information System Components at the Telada Public Health Center



Based on graph 1.1, it is known that indicators (indicators) are the highest data and are included in the category of very adequate (highly adequate), while information products are the lowest data and are included in the category of sufficient but not adequate (present but not adequate). In the diagram above, it can be seen that only one has achieved highly adequate, namely, indicators, while those who have reached the adequate category are three, namely resources, data sources, dissemination and use, and the other two have only reached the good but inadequate category.

Table 1.1 Evaluation Results of HIS Components at the Medan City Model Health Center

No	Category	Maximum Total Score	Average Score	%	Category
1.	**Resource**	**33**	**24,0**	**73%**	**Adequate**
	- Policy and Planning	9	7,0	78%	Very Adequate
	- Institutions, Human Resources, and Financing of health information systems	15	8.0	53%	Adequate
	- Health information system infrastructure	9	9,0	100%	Very Adequate
2	**Indicator**	**9**	**7,00**	**78%**	**Sangat Memadai**
3	**Data source**			**64%**	**Adequate**
	- Census			44%\	Enough, but Not Adequate
	- Vital Vital Stats			42%	Enough, but Not Adequate
	- Population Based Survey			78%	Very Adequate
	- Health and Disease Registration			96%	Very Adequate
	- Recording of Health Services			81%	Very Adequate
	- Resource Logging			42%	Enough, but Not Adequate
4	**Data Management**	**15**	**7,0**	**47%**	**Enough, but Not Adequate**
5	**Product Information**	**102**	**36,0**	**35%**	**Enough, but Not Adequate**
6	**Utilization and Dissemination**	**30**	**19,0**	**63%**	**Adequate**
	- Analysis and Use of Information	9	5,0	56%	Adequate
	- Policy and Advocacy	3	2,0	67%	Adequate
	- Priority Planning and Setting	3	2,0	67%	Adequate
	- Resource Allocation	6	4,0	67%	Adequate
	- Implementation and Action	9	6,0	67%	Adequate

Based on Table 1. it is known that the results of the evaluation of the components of the Health Information System (HIS) at the Teladan public health center for the resource component are in the adequate category (73%) with the value of policy and planning in the very adequate category (78%) HIS institutions, human resources and financing are in the adequate category (53 %) HIS Infrastructure category is very adequate (100%). Evaluation of Indicator components is included in the very adequate category (78%). The overall data source component is included in the adequate category (64%) with the census results in the sufficient but not adequate category (44%) vital statistics in the sufficient but inadequate category (42%) population-based surveys in the very adequate category (78%) health & disease very adequate category records (96%) health service records very adequate category (81%) and resource records category very adequate but inadequate (42%). The next component, namely data management, is included in the sufficient but not adequate category (47%). The evaluation carried out on information products showed sufficient but not adequate (35%). The overall utilization and dissemination component is included in the adequate category (63%) with the results of the assessment of the analysis and use of

information in the adequate category (56%), information used for policy and advocacy is in the adequate category (67%) Information use for planning and priority setting in adequate category (67%) Information use for resource allocation is in adequate category (67%) and Information use for implementation and action in adequate category (67%).

4. DISCUSS

Public Health Center (PHC), the lowest healthcare operational units, have difficulties in reporting things due to enormous number of reports to be completed based on the requirements of various programs available in the ministry of health (Isnawati1, 2016). Public health center information is useful for the community, especially in emergencies such as work accidents, traffic accidents and others. Based on the results of observations with the community or residents of East Lampung, they do not know the location of the public health center other than the one closest to their home (Darwis, 2020). Availability of health information is very much needed in the implementation of effective and efficient health efforts. Health information is also needed to monitor progress in implementing health programs, evaluate intervention outcomes as a basis for program design, and resource allocation in health development (WHO, 2014). However, each of these systems has not been integrated properly and perfectly (Kementerian Kesehatan RI, 2015). Aziz (2017) mentions that electronic reporting systems have a high role in improving public health by reducing overall costs.

The health information system is a set of arrangements that involve or use data, information, indicators, procedures, devices and technology, and human resources related to each other and managed to direct user actions or decisions in achieving health development goals. One of the standards for assessing health information system is the Health Metrics Network (HMN) instrument approach established by WHO based on a global agreement. This research was conducted at the health center. North Sumatra Province by conducting a survey of health information system needs in the field based on interview guidelines to officers who have the knowledge and ability to answer using the Health Metrics Network (HMN) instrument approach (Siregar, 2019).

After conducting research at the Teladan public health center in North Sumatra in 2018 and conducting direct observations of the research location, this study used one informant who had very much reliable information about the Health Information System at the Teladan public health center . It observed documents and the completeness of equipment Health Information System tools at the Teladan public health center. The assessment results of health information system resources are included in the "adequate" category, with a percentage of 72%. In this resource component, the policy and planning sub-component has a percentage (86%) classified as adequate because the public health centres have implemented Health information system based on the latest law and are carried out in full and regularly. In the sub-components of management institutions, human resources and health information system financing, the percentage (56%) is quite adequate because the health information system unit has functioned at the Teladan public health center . However, there is still a lack of health information system resources and facilities. Then for the availability of health information system infrastructure, it is available for basic health information system needs sourcing from the Health Office, which has a percentage (93%) classified as very adequate. The health information system resources at the Teladan public health center are under Presidential Regulation Number 46 of 2014 concerning health information system. However, the public health center still needs to improve, especially in the resource section or health information system personnel who have experience in their field and can wisely address health information system problems in the public health centre.

The results of the health information system indicator assessment are included in the "highly adequate" category, with a percentage of 80%. This is because in this indicator component, reporting on the minimum set of indicators is regularly reported, i.e. once a year. National minimum core indicators have been identified to national and subnational levels, covering all health indicators (health determinants; health system inputs, outputs and outcomes; and health status). The selection and determination of health information system indicators at the Teladan public health center are under PP No. 46 of 2014 and the HMN framework.

The results of Lestari (2016) research show that the results of the evaluation of the seven components of health information system in Central Java Province indicate that four components are in the "existing but not adequate" category, namely the components of CIS management, health information system resources, CIS data sources and CIS data management. Meanwhile, the other three components are in the "adequate" category, namely the components of health information system Indicators, health information system products and information dissemination and use. The results of Jakti (2016) show that the results of the SIJARIEMAS assessment using HMN assessment tools show a score of 84% on resources, 33% on indicators, 64% of data sources, 25% on data management, 73% on information products and 39% on dissemination and use of information.

Assessment of the data source component is included in the good category. Referring to the HMN Questionnaire, the data obtained from the census aspect, vital statistics, population-based surveys, health and disease records, and resource records the average value is 58% so that the data source at the Teladan public health center is classified as adequate. However, it still needs improvement because the assessment is still low even though it is considered adequate. Average aspects still need improvement or improvement, especially on vital statistics and census data, because they are still present but not adequate (present but not adequate). These data are not expected for a state-owned health service, so significant improvement is still needed in each aspect to become an adequate health service place. According to Perez (2017), developing an information system model can improve processes, products, and services to easily get the help and information they need.

Management data has an average value that is adequate (53%). Even though it is adequate, data management is still far from adequate; therefore, there is a need for encouragement to improve services in data management, especially on health information system data. This is due to the lack of data collection collected and stored in the health reporting warehouse. If data management can run well, it will produce useful and more meaningful information for the recipient that describes an event to be useful for decision making. Health workers generally carry out systematic data collection. The sistem informasi kesehatan data management component at the Teladan public health center is still adequate. This is because the Teladan public health center lacks in carrying out the procedures regarding data management related to data collection, which is collected and stored in a health reporting warehouse containing information such as health indicator reports, health data collection methods, data collection time, data analysis techniques used and demographics. If data management is processed properly, it will produce quality data and information population. However, systematic data collection can also be done by the community (health cadres). Another form of systematic data collection is vital registration.

Meanwhile, non-routine data collection is generally done through surveys, censuses, rapid evaluations (quantitative or qualitative), and special studies/researches. Health interventions are ineffective and not well targeted without accurate and timely information

and data. If the data collection is carried out regularly and under the guidelines, data management at the Teladan public health center can be included in the Adequate category.

The results of Damayati (2015) research show that the completeness of the data in the pilot health centre of the e-public health centre is categorized as lacking; this is inseparable from the number of operators in the pilot health centre of the e- the public health centre, which is categorized as lacking so that it has an impact on the completeness of the data. All public health centre heads at thee-public health centre pilot support the implementation of electronic public health centre, and each public health centre has a budget for the operational costs of implementing the electronic public health centre, which is budgeted regularly. The existence of this information system helps officers to collect data, and data can be stored properly. This information system can assist in registering for treatment and taking queue numbers online (Syifani, 2018). According to Herdiyanti (2018), the increase in productivity is influenced by good service quality, which impacts the development of users in the application of information technology. According to Wuri (2018), countries that provide adequate health facilities and services can increase the productivity of their citizens.

The assessment results on the Information Product component of the health information system at the Teladan public health centre have an average (78%) classified as very adequate. This component takes data from data on mortality, morbidity and risk factors. Mortality data less than five years An example of a public health centre that meets quality assessment criteria, namely the data collection method is based on the birth history and sample registration system, the timeliness is less than two years, the periodicity has occurred more than three times in the last ten years, and the consistency of the data owned does not differ significantly over the last ten years. Maternal mortality is the same as under five years of age. HIV prevalence, health status indicators, measles vaccine coverage, evaluation of professional health workers and health administration completeness, coverage of TB treatment success rates, health budget expenditures by the government and related institutions, personal budget expenditures for health service needs, number of health workers working in facilities, and smoking prevalence is very adequate because it is under government regulations. Information product data has an average value of 78% (highly adequate). This is quite good for a state health service because it can be understood that processing data into information for planning and decision-making is quite relevant. These results can create a view that information has or plays an important role in an organization.

The ultimate goal of developing an information system is to present data and information to support decision-making and policy-making activities. Every management of the health information system, whether manual or computerized, must report under the minimum dataset standards set by the Ministry of Health. The assessment results on the dissemination and use of health information systems at the Teladan public health centre have an average (90%) classified as very adequate. This is because, within the component of dissemination and use of this health information system, the sub-component of analysis and use of information (100%) is classified as very adequate due to the critical nature of the information applied to the health centre, such as the presence of clear and relevant information to facilitate the information system policy and advocacy (67%) is considered adequate because the reporting system is effective, but it has not been distributed to the entire community, only to the health office; priority planning and setting (100%) is considered adequate because the planning and process of resource allocation in the public health centre is beneficial for planning annual integrated development; resource allocation (83%) is considered very adequate because the planning and process of resource allocation in the public health centre is useful for planning annual integrated development. Implementation and action (89%) is classified as very adequate because health information

has been provided to public health centre managers, and the information is used for the public health centre profile and to anticipate risks by taking into account the existing risk factors. This shows that the distribution and use of data at Teladan public health centre are very adequate, but one aspect is still adequate and far from being classified as highly adequate, namely the information for the policy and advocacy aspect is still 67% (adequate). So it is still necessary to improve the implementation of policies and their advocacy.

The Teladan public health center has a health information systems component with an adequate average, indicating that the health information systems at the Teladan public health center is already running. If each component is improved, especially in the performance section of the implementation of the health information systems, the data obtained can be processed into information and use. They can create a health information system that can support the health development process towards an independent, healthy society. The better the quality of the health information system at public health centres will describe the degree of public health; this is because the development of public health can be measured or monitored so that it is easier to handle and improve health in the community. The collection of data obtained, if collected and reported promptly to the data bank, will make the public health condition optimally considered so that in the event of an unwanted event such as an outbreak/outbreak, the cause can be identified and how to control the disease using data. Data has been collected in the form of up-to-date information so that there is no need for an investigation to be carried out from the start; this makes the process of handling disease cases run efficiently and effectively.

The health information systems evaluation conducted by Lestari (2016) in their research on the evaluation of health information systems in Central Java Province in the context of strengthening the national health information system, the results obtained that overall evaluations of each of the 7 components of the CIS are among others the CIS manager, indicators, sources data, data management, health information systems resources, health information systems development, utilization and dissemination in Central Java Province are in the "adequate" category. The four components, namely management, resource, data source, and data management, are in the "available but inadequate" category. Meanwhile, the other three components, such as indicator components, information product components and information dissemination and use components, are in the "adequate" category (Lestari, 2016).

The implementation of health information system in public health centres is carried out more by collaborating with cross-sectors; this is because the data used is data sourced from surveys and censuses as well as cross-sectoral involvement that has data related to environmental health, climate, weather, health data related to tourism, traffic activities. Vehicles/transportation, employment, related to social, legal and other issues. This will assist health information system officers in collecting health-related data because they get data or information from sources that directly handle or go directly to health problems that arise in sectors outside the health sector(Tambunan, 2020).

The health information system can be implemented properly if adequate facilities support it. According to Gesulga (2017), human resources, networks, hardware, software, data, and procedures are related to implementing electronic information systems. The ability of officers in managing information technology has a very great influence. According to research by Eroğlu (2016) that 79.4% of organizations significantly need applications and 67.6% of training that supports improving the competence of officers in the use of information technology. According Husni (2019) show the public health centres

management information systemis an arrangement or equipment that provides information to assist the public health centres management process in achieving its activity targets .

Evaluations of the performance of health information system implementation at public health centers should be conducted on a regular basis, as the data collected in this health information system truly provides an overview of community developments or health conditions. Because we frequently discover weaknesses in the implementation of health information system in the resource component, we can conclude that routine training on health information system implementation should be provided to implementers or persons in charge of health information system, and that implementing officers should specialize in health information system implementation. Health information system officers frequently perform double work or take on two responsibilities, putting them under time constraints and preventing them from performing their duties optimally.

The lack of human resources is caused by the majority of public health centres' human resources being health workers whose main task is to provide health services to the community; therefore, additional human resources are needed to help implement this application. Human resources who implement applications must have the will, skills, and abilities to operate a computer and preferably have the appropriate educational background, such as medical record personnel. Lack of human resources causes the energy that performs the input and process application implementation is also lacking (Isnawati1, 2016).

To achieve adequate, the researcher suggests to the Teladan public health center for the resource component to be improved again in human resources that manage health information system and resources can use health information system equipment as much as possible, and it is hoped that the equipment used for the implementation of health information system can be fulfilled so that health information system can run. According to implementation guidelines the data source component can achieve adequate results by conducting regular censuses to the community and recording and reporting data regularly to receive data promptly, and the community can accept health data. The data management component still needs to be improved, even though it has reached the good category but is still very far from adequate. This means that there is still a need for improvement in the management of the data management component by collecting data regularly and having a special place for storing health data so that health data is easily provided whenever the data is needed.

5. CONCLUSION

The conclusion from the research we have done at the Medan City Teladan public health center on health information system resources is included in the "adequate" category, with a percentage of 73%. This is because the utilization and dissemination component as a whole is included in the adequate category (63%); this is because the public health centre has run a health information system based on the latest Law and is fully and regularly implemented. The overall data source component is included in the adequate category (64%). evaluation of indicator components is included in the very adequate category (78%). This shows that the health information system at the Medan City Teladan public health center has been running quite well but still needs to improve the quality of public health services, especially in the data processing.

The advice we give to the public health centre officers who are responsible for the implementation of the health information system is more professional in carrying out their work and in terms of health services to the community at the public health centre, the quality must be further improved, including friendliness to the community because it is one of the

main things in improving the information system health. The government is expected to pay more attention to or pay more attention to the public health centre in each region, especially in terms of financing the health information system so that the equipment available at the public health centre can also be guaranteed, then further optimizing the health information system at the public health centre by employing higher-quality health information system officers and meet the statutory requirements for the performance of health services at the public health centre. It is hoped that fellow researchers will conduct research more often to evaluate the public health centre so that they can work more optimally.

Evaluations that have been carried out on the performance of the health information system at the Teladan public health center are suggesting the Teladan public health center to increase the resources needed in the management of the health information system and suggested further improve services to the community in order better to meet the quality of the public health centre. The role of the health office in improving the performance of the health information system at the public health centre can be done by providing training for health information system implementers so that the resources become skilled in carrying out their duties. resources must also be devoted so that the resources of the health information system do not double work with other public health centre activities. The office can also meet the need to implement a health information system, such as in terms of infrastructure, equipment such as tools for sending reports online so that data recording and reporting can be timely.

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