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EVALUATION OF HEALTH INFORMATION SYSTEMS WITH HEALTH METRICS NETWORK (HMN) APPROACH AT LANGSA CITY HEALTH OFFICE

Muhammad Yusuf Akbar
Master of Public Health Study program, Faculty of Medicine, Dentistry and Health Sciences, Universitas Prima Indonesia
Jl. Sampul No.3, Sei Putih Bar., Kec. Medan Petisah, Kota Medan, Sumatera Utara 20118, Indonesia

Abstract

Data and information are very strategic resources in managing health development. A health information system (SIK) is said to be effective if it can provide information support for the decision-making process at all levels. SIK evaluation aims to ensure that SIK implementation runs efficiently and is able to produce quality information. This research aims to provide an overview of the results of the evaluation of the implementation of the Health Information System using the Health Metrics Network (HMN) approach in the Langsa City Health Service in 2021. The research was conducted on 04-27 June 2021 in the Health Service working area. This research is a descriptive evaluative research with a mixed method approach. The research subjects were 9 SIK managers in the Langsa City Health Service working area. The data used was taken from direct interviews and observations and document review. Data analysis was carried out using the Health Metrics Network (HMN) version 4.00 tools approach. The research results showed that the six components in implementing a health information system using the Health Metrics Network (HMN) approach were in the existing but inadequate category. The evaluation results for the GIS resource component were 54% (existing but not adequate), the GIS indicator component was 52% (existing but not adequate), the GIS data source component was 54%, the GIS data management component was 51% (existing but inadequate), the information product component is 48% and the dissemination and use of information component is 51% (existing but inadequate). The conclusion from the results of this research is that the six components of the health information system are in the existing but inadequate category, which means that the HMN-based SIK at the Langsa City Health Service is already running and is not adequate. It is recommended to increase the quantity and quality of human resources, increase the provision of SIK facilities and infrastructure as well as monitoring and evaluation funds by providing feedback from each health report.

Keywords: Evaluation, Health Information Systems, Health Metrics Network

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INTRODUCTION

The challenges of health development require adequate resource support, as well as appropriate policy direction and health development strategies. However, policy makers in the health sector often experience difficulties in making appropriate decisions due to limited or unavailability of accurate, precise and fast data and information. Data and information are very strategic resources in managing health development, namely in the management and decision making process (Permenkes, 2015). Therefore, Article 168 of Law Number 36 of 2009 states that to carry out effective and efficient health efforts, health information is required.

A Health Information System is a set of arrangements that includes data, information, indicators, procedures, devices, technology and human resources that are interrelated and managed in an integrated manner that provides information support for decision-making processes, health program planning, implementation monitoring and evaluation in support of health development (Government of Indonesia Regulation, 2014). Strengthening SIK in Indonesia is carried out by developing a national SIK model, namely integrated SIK, which provides a mechanism for interconnection between information sub-systems. The National Health Information System (SIKNAS) is built from a collection or network of Provincial Health Information Systems and the Provincial SIK is built from a collection or network of District/City Health Information systems (Ministry of Health, 2015).

Health developments in a country really need to be paid attention to. However, in reality the Health Information System, which is one of the goals of health development in Indonesia, still does not provide accurate, complete and timely results. This is because there are many challenges faced in carrying out SIK, especially on the part of SIK organizers who still do not understand SIK itself so that SIK has not been implemented efficiently and produces data that is of poor quality. Other problems are the uncoordinated recording and reporting system, the use of information technology is not yet optimal, the ability to analyze and manage data is still weak and the lack of use of data and information for decision making. (Indonesian Ministry of Health, 2015).

The results of the SIK assessment evaluation carried out by the Indonesian Ministry of Health's Data and Information Center in 2007 and 2012 using the Health Metrics Network (HMN) generally show that the six components of health information system implementation in Indonesia are not adequate. The results of this assessment show that only around 57% of SIK activities have been implemented. Various problems were faced in implementing health information system activities during that time. The failure of this program should be a reference for health development in Indonesia that SIK in Indonesia still really needs to be improved (Permenkes, 2015).

SIK evaluation aims to ensure that SIK runs efficiently, is able to collect relevant and quality information as a basis for decision making by policy makers. To evaluate SIK in order to strengthen SIK at the national level, the Health Metrics Network (HMN) was formed in 2005 which was the result of a global agreement. HMN has developed a standard reference for SIK development, hereinafter called the HMN Framework. Components and standards that influence the performance of SIK include SIK resources, indicators, data sources, data management, information products, dissemination and use of data (Ministry of Health of the Republic of Indonesia, 2011).

The Health Information System (SIK) at the Langsa City Health Service has not been integrated into all health centers. This is because there is no software/application used in the community health center, where the recording and reporting system at the community health

center is not yet one door and is still done manually. The application currently used only for the Health Service is a data communication application (Komdat) which is integrated with the Provincial Health Office and the Ministry of Health. However, until now the implementation of the health information system has never carried out evaluation or feedback on the health reports received.

Based on the observations that have been made, there are several problems in the implementation of the health information system at the Langsa Health Service, namely the problem of timeliness and the management of the health information system which is not in accordance with its competence. This can be seen from the recapitulation of the Regional Health Information System report at the Langsa City Health Service in February 2023, that only 14.28% of puskesmas sent monthly reports on time (1 puskesmas out of 7 puskesmas). Based on these conditions and problems, it will certainly have the potential to disrupt the implementation of SIK at the Langsa Health Service. This is the reason for carrying out an evaluation of the health information system at the Langsa City Health Service as an effort to improve the quality of health data which is expected to be an important step in improving the quality of public health services.

MATERIAL AND METHODS

Content Analysis

The data analysis used in this research is content analysis, which is a technique for collecting or compiling data and then analyzing the contents of the manuscript or the results of the data obtained (Sugiyono, 2015). The research results which have been grouped based on variables are then compared with the theories in the literature review. Data analysis in this study also used the HMN Assessment Tool Version 4.00. In the assessment, the highest score (3) is given for variables that are considered very adequate, score (2) is given for variables that are adequate, score (1) for variables that exist but are inadequate and score (0) for variables that are not adequate at all. The total score for each category is collected and compared to the maximum score to produce a percentage ranking. Each question can potentially be scored by several respondents and aggregated to obtain an overall score (WHO, 2008). The results of in-depth interviews were analyzed qualitatively. Assessments are classified using the following criteria (Hartono, in Puguh 2009):

Tabel 1. Kriteria Klasifikasi Evaluasi SIK

Classification	Range persentase
Does not work	0 – 20%
Not adequate at all	21 – 40%
Yes, but not adequate	41 – 60%
Adequate	61 – 80%
Very adequate	81 – 100%

RESULTS

The results of this research describe the implementation of the health information system at the Langsa City Health Service using the Health Metric Network (HMN) method which consists of information regarding resource components, indicators, data sources, data management, information products, dissemination and use of information. The HMN form, which had been filled in by 9 SIK officers in the Langsa City Health Service area, was then analyzed using the HMN method using the HMN Assessment tool version 4.00. The following results of the SIK analysis of the Langsa City Health Service can be seen in the following graph:

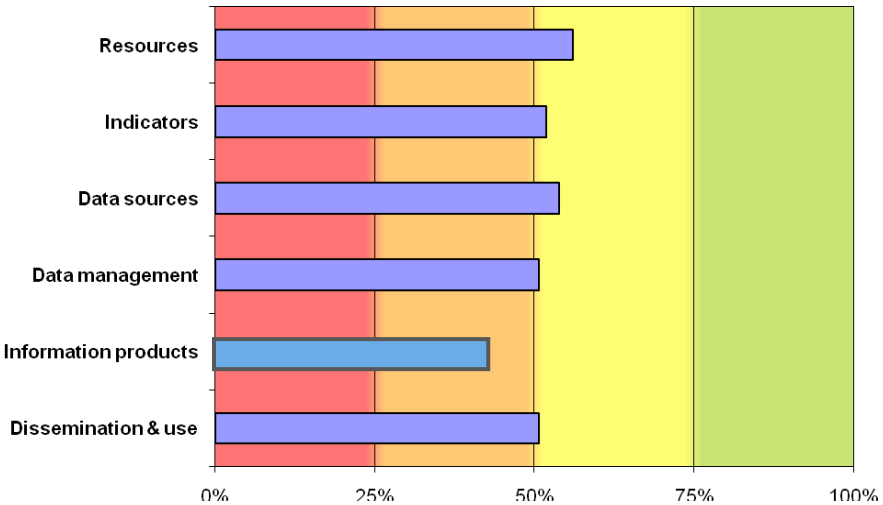

Figure 1. Langsa City Health Office SIK Evaluation/Assessment Results in 2021

The graph above shows the results of the SIK analysis of the Langsa City Health Service using the basic HMN assessment method. There are six components used as a reference for HMN assessment, including the following:

3.1. SIK Resources

The successful implementation of a system depends on the resources that support the system. There are three sub-components of SIK resources evaluated in this research, namely policy, human resources and funding and infrastructure. Based on the results of observations and interviews during the research, the resource components contained in the Langsa City Health Service in implementing the health information system can be assessed through the following scoring:

Table 2. Evaluation Results of Langsa City Health Office's SIK Resource Components

Numbers	Category	Total Score Maximum	Average Score	Precentage
1.	Policy	9	**4,3**	**48%**
2.	Resource Humans and Funding	9	**4,9**	**54%**
3	Infrastructure	12	**6,9**	**57%**
	Total	30	**16,1**	**54%**

Based on the table above, it can be seen that the percentage of results from the analysis of policy indicators and SIK Coordination of the Langsa City Health Service is 48% (available but inadequate), the human resources and funding indicators are 54% (existing but inadequate), while the indicators infrastructure is 57% or (existing but inadequate). In general, the SIK resource component of the Langsa City Health Service is 54% (available but inadequate).

3.2. SIK Indicator

The assessment of SIK indicators at the Langsa City Health Service can be seen in the following table:

Table 3. Evaluation Results of Langsa City Health Office SIK Indicator Components

Numbers	Category	Total Score Maximum	Average Score	Precentage
1.	Indicators	9	**4,7**	**52%**

Based on the table above, it can be seen that the percentage of indicator component analysis results for the Langsa City Health Service is 52% (available but inadequate). From several informants, information was obtained that the indicators used in health information system reporting cover all categories of representative health indicators. In this case, health indicators are outlined in the data communication report (Komdat) from the Ministry of Health.

Table 4. Indicator Triangulation Matri

Indicators	**Deep interview**	**Field observation**	**Conclusion**
Indicators	The indicators used in reporting certainly follow the format and are in accordance with national health indicators, but not yet for reporting health indicators done regularly	The reporting format is in accordance with the reporting form from the Ministry of Health (Based on Komdat reporting form / Health priority data set)	the indicators used in health reporting follow the health indicators (Ministry of Health), but indicator reporting has not been carried out regularly (not timely and incomplete)

3.3. SIK Data Source

Data sources in the implementation of the health information system at the Health Service are obtained from health and disease records and health service records. Meanwhile, census and survey methods have not been carried out by the Health Service. The following are the results of the Health Service SIK data source component assessment:

Table 5. Evaluation Results of Langsa City Health Office SIK Data Source Components

Numbers	Category	Total Score Maximum	Average Score	Precentage
1.	Source Data	60	32,8	54%

Based on the table above, it can be seen that the percentage of evaluation results for the Langsa Health Service data source component is 54% (available but inadequate). Health data and information in the implementation of the health information system comes from health facilities, both government and private. This is in line with the explanation quote from the Head of the Program Subdivision, The data sources for recording health and disease are generally adequate, but there are still several things that are inadequate, including the unavailability of disaggregated data based on specified criteria, the unavailability of data with mapping. at-risk populations and dissemination and feedback of surveillance data on epidemic-prone diseases.

3.4. SIK Data Management

Table 6. Evaluation Results of Langsa City Health Office SIK Data Management Components

Numbers	Category	Total Score Maximum	Average Score	Precentage
1.	Management data	9	4,6	51%

Based on the table above, it can be seen that the percentage of analysis results for the data management component of the Langsa City Health Service is 51% (available but inadequate). The availability of procedures and data banks is a component of assessing data management. Based on the results of interviews conducted with the Head of Subdivision and staff of the Information Program subsection, and Public Relations of the Langsa City Health Service and the Health Information System manager at the Community Health Center regarding the data management of the health information system within the Langsa City Health Service which is not yet adequate, written procedures for data management are not sufficient. including data collection, storage, analysis and presentation are not yet available in the form of SOPs at the regional and community health center levels, as conveyed by the Head of the Program, Information and Public Relations Subdivision and the Puskesmas SIK manager.

Table 7. Data Management Indicator Triangulation Matrix

Indicators	Deep interview	Field observation	Conclusion
Management Data	Data storage or archiving at the Health Service and Community Health Centers is not adequate because there is no special room available and it is not supported by a storage area such as a special cupboard for archiving health reports/folder boxes	Reports both at the Health Service and community health centers are not yet neatly arranged and have not been stored in special cupboards/folder boxes/data banks are not yet available	Data management in terms of inadequate data storage

3.5. SIK Information Product Overview

Based on the HMN version 4.00 tool, it was found that in general the results of the evaluation of the health information system information product components at the Langsa City Health Service are as follows:

Table 8. Evaluation Results of Langsa City Health Office SIK Information Product Components

Numbers	Category	Total Score Maximum	Average Score	Precentage
1.	Product Information	15	7,2	48%

Based on the table above, it can be seen that the percentage of results from the analysis of Langsa City Health Service information product components is 48% (available but inadequate). Overall assessment of information products is based on the relationship between several subcomponents such as data collection, timeliness, periodicity, representativeness and the presence of data separation. Based on the results of interviews and observations regarding absenteeism in collecting reports, information was obtained that the majority of community health centers were not punctual in collecting komdat reports (SIK reports).

Table 9. Triangulation Matrix of Information Product Indicators

Indicators	Deep interview	Field observation	Conclusions
Product Information	Information products can be in the form of health reports or health profiles, in processing information products timeliness is a problem that often occurs, this is due to many factors such as the double duty of managers, inadequate work facilities.	Availability of information products in the form of health pocket books, Data Communication reports (Monthly & Yearly) and health profile	Information products at the Department Health is available but not yet available in a timely manner

3.6. Overview of Dissemination and Use of CIS Information

Based on the HMN version 4.00 tool, it was found that in general the evaluation results of the components of dissemination and use of health information system information at the Langsa City Health Service are as follows:

Table 10. Evaluation Results of Dissemination and Use Components of SIK Langsa City Health Office

Numbers	Category	Total Score Maximum	Average Score	Precentage
1.	Dissemination and use of SIK information	33	17	51%

Based on the table above, it can be seen that the percentage of component analysis results for dissemination and use of the health information system of the Langsa City Health Service is 51% (available but inadequate). The need for complete, timely and accurate SIK data and information is very important when considering decision making. However, because the availability of existing data is not optimal enough, this will affect the use of the data itself. The use of information at the Health Service is used as evaluation material for each program. In disseminating information, the Health Service itself already has a website, but not all of the information is available on the website and cannot be accessed by the wider public. It could be said that the dissemination of this information has not been optimal enough. Dissemination of information is still limited to sharing health profiles with related agencies.

DISCUSSION

4.1. SIK Resources

Health information system resources consist of policy resource components, human resources and funding and infrastructure. The successful implementation of a system depends on the resources that support the system. Overall, the results of the evaluation of the health information system resources of the Langsa City Health Service were 54% or in the existing but inadequate category. This is in line with research conducted by Lestari (2016) which stated that the percentage of the assessment of health information system resource components in Central Java Province was in the existing but inadequate category, namely 54.2%. This shows that the resources that support the implementation of the health information system are still not optimal.

4.2. SIK Indicator

The results of the evaluation of health information system indicators at the Langsa City Health Service are in the existing but inadequate category, namely 52%. Assessment of indicators is seen from several components, such as national indicators which are summarized in regional indicators, and indicator reporting which is carried out regularly. From several informants, information was obtained that the indicators used in health information system reporting cover all categories of representative health indicators, namely in accordance with national indicators. The determination of SIK indicators at the Langsa City Health Office is in accordance with the provisions in PP No. 46 of 2014. In this case the health indicators are outlined in the data communication report (Komdat) from the Ministry of Health. However, reporting of existing indicators has not been carried out regularly, meaning that there are often delays in collecting health reports. From the research results, researchers assume that indicator components that are included in the existing but inadequate category indicate that there are components that are inadequate. In the indicator component, regular reporting is one of the measurements that is taken into account. The health indicators used by the Health Service are indicators that have been determined by the Ministry of Health, meaning that the Health Service has used standard forms in accordance with those that have been determined.

4.3. Source Data

The results of the evaluation of the data source components in the health information system of the Langsa City Health Service are in the existing but inadequate category, namely 54%. Data sources in the implementation of the health information system at the Health Service are obtained from health and disease records and health service records. Meanwhile, census and survey methods have not been carried out by the Health Service. In this case, the Health Service does not yet have the capacity to conduct surveys, process data, analyze existing data and carry out data selection based on certain criteria, which of course is carried out by skilled and adequate resources to process existing data. Based on information obtained from several informants, health data and information in the implementation of the health information system does not only come from government health facilities but also from the private sector. Data sources for recording health and disease are generally adequate, but there are still several things that are inadequate, including the unavailability of disaggregated data based on specified criteria, the unavailability of data with mapping of risk populations and the dissemination and feedback of surveillance data regarding epidemic-prone disease. Data sourced from public and private health service facilities are not all based on information systems so they cannot be combined and there is no mechanism to verify the completeness and consistency of the data. Based on the research results and related theories, researchers assume that the data sources included in the existing but inadequate category indicate that the data sources at the Langsa City Health Service are not adequate. Incompleteness and inaccuracy in data sources will of course have an impact on the information products produced, existing information errors will also result in wrong planning and of course will have an impact on inappropriate health management as well.

4.4. Data Management

Based on the evaluation results using the Health Metric Network (HMN) method, it was found that data management in the health information system of the Langsa City Health Service was in the existing but inadequate category, namely 51%. This shows that data management at the Health Service is not optimal enough. Based on the results of interviews conducted with the Head of Subdivision and staff of the Information Program subsection, and Public Relations of the Langsa City Health Service and the Health Information System manager at the Community Health Center related to health information system data management within the Langsa City Health Service, information was obtained that written procedures for data management include Data collection, storage, analysis and presentation are not yet available in the form of SOPs at the regional and community health center levels.

Data storage or archiving at the Health Service and community health centers is not adequate. This is due to the unavailability of a special room and no storage space such as a special cupboard for filing health reports. Existing health reports are not stored in a folder box which should have its own number or code so it will be difficult to find the data or reports needed. Inadequate data management is also caused by a lack of collection of data that is collected and stored in health reporting warehouses. If data management can run well, it will produce information that is useful and more meaningful for the recipient which describes an event so that it will be useful for decision making. If data management is processed well, it will produce quality data and information. Based on the research results and related theories, researchers assume that data management components

that fall into the existing but inadequate category indicate that data management at the Health Service is not adequate. To improve optimal data management, of course, an integrated information system is needed through applications or software. By using an Integrated Information System, health services can be more effective and efficient in managing the data needed during operations. Starting from patient health reports, medical records, medicine stock lists, to management of all existing employees. This benefit is important to consider because it can clearly increase productivity, so that health services can be provided more optimally and can provide data quickly, completely and accurately.

4.5. Information Products

Based on the results of the evaluation using the Health Metric Network (HMN) method, it was found that in general the assessment of the information product components of the health information system at the Langsa City Health Service was in the existing but inadequate category, namely 48%. This shows that of the six components in the evaluation using the Health Metric Network (HMN) tools, information products have the lowest assessment. The overall assessment of information products is assessed based on the relationship between several subcomponents such as data collection methods, timeliness, periodicity, representativeness and the presence of data separation.

Based on observations and in-depth interviews with informants, information was obtained that timeliness is a problem that often occurs in report collection. It is said to be on time if the manager collects the report no later than the 5th of each month, it is said to be not on time if the manager collects the report later than the 5th of each month. From the results of observations and review of attendance documents, of all the health centers in the Health Service's working area, there is only one health center that collects reports in a timely manner. Most community health centers collect reports after the 10th of every month, where the 10th should be the deadline for inputting reports by the Health Service.

Delays in sending reports are caused by many factors. Based on in-depth interviews, information was obtained that delays occurred due to the large number of job desks from SIK managers because most of the Ka.TU managers had to carry out their main duties as Ka.TU, thus making SIK activities hampered. Apart from that, work facility factors also influence delays in sending reports, computers which support work at Community Health Centers experience problems more often and cannot be used by officers to recap reports to be submitted to the Health Service. From these results it can be said that the availability of work support is related to reporting delays because if the computer cannot be used then processing the report will experience obstacles. The results of this research are in accordance with Gibson's theory in Ilyas (2001) that the availability of facilities and infrastructure influences individual performance. This is also in line with research conducted by Vidyanto (2018), the inaccuracy of sending reports from the Community Health Center to the Health Service is influenced by several factors including regional geographic factors, minimal staff but high workload, the absence of electronic communication media and sending reports is still being carried out. simply. So it will be even more efficient if software is provided in implementing health information systems in the regions.

In evaluating the components of information products, data sorting for reports from community health centers and the Health Service has not been carried out optimally. Data sorting is

only limited to sorting based on gender, and even then there are several reports that should provide disaggregated data based on gender but the disaggregated data is not yet available in information products produced by community health centers and the Health Service. Due to the various problems that exist, steps are needed in the form of supervision of the implementation of SIK. Supervision is an effort to assess and correct each employee's performance to achieve the goals set in the plan or a process for measuring the performance of a program which is then continued by directing it so that the set goals are achieved. Supervision uses actual performance measurements of officers, starting from personal observations carried out by the leadership to monitor employee activities in the work area of the health center. At the Health Service, direct supervision should be carried out by the Head of the Health Service regarding SIK implementation activities in the work area of the Langsa City Health Service, then extending the hand in supervising the implementation of SIK at the Community Health Center, then the Head of the Health Service appoints one SIK coordinator. Supervision is carried out at least once every three months. Direct supervision at the Community Health Center must be carried out by the Head of the Community Health Center, which is carried out by monitoring every month and conducting evaluations at least once every 3 months. Leaders must begin to carry out supervision by carrying out routine monthly monitoring of recording and reporting both at the Health Service level and at the Puskesmas level, then routinely carry out SIK evaluations once every three months to see what obstacles and problems exist in the implementation of SIK at the Puskesmas, after Obstacles are found and then efforts are sought to overcome existing problems as a form of control and follow-up to the evaluation that has been carried out.

Based on research results and related theories, researchers assume that information products that are in the existing but inadequate category indicate that there are components that are not adequate. Data collection activities from community health centers are still carried out manually or computerized offline. Timeliness is one of the most dominant elements in assessing information product components. It is felt that the health service is very minimal in monitoring and evaluating the implementation of the health information system, making delays in collecting reports a common and commonplace thing to do in collecting reports. Of course, this must be an important concern by providing feedback to each community health center so that the implementation of report collection can be well controlled and controlled so that it will have an impact on providing quality information.

4.6. Dissemination and Use of Information

The ultimate goal of information system development is the presentation of data and information to support decision-making activities and policy determination. Every SIK management, whether manual or computerized, must carry out reporting in accordance with the minimum dataset standards set by the Ministry of Health (Siregar, 2019). The results of the evaluation of the dissemination and use of health information system components of the Langsa City Health Service were 51% or in the existing but inadequate category. This shows that the dissemination or dissemination of health information has not been carried out optimally. Based on in-depth interviews with informants, information was obtained that the dissemination of information was still limited to collecting health reports to several related agencies such as Bappeda and Kominfo. The dissemination of health information cannot be fully accessed by the wider community through

the Health Service website, this is because the website is still new so health information has not been published properly.

The need for complete, timely and accurate GIS data and information is very important when considering decision making. However, because the availability of existing data is not optimal enough, this will affect the use of the data itself. In terms of information use, the Health Service and Community Health Centers have used health information as material for evaluating the implementation of each health program so that it can become the basis for planning for the following year.

The Health Service has a SIK component that is on average present but not adequate, this can show that the health information system at the Health Service is running, although not optimally. If each component is improved, especially in the performance section of SIK implementation, the data obtained can be processed into useful information and can create a health information system that is able to support the health development process towards an independent, healthy society. The better the quality of the health information system, the easier it will be to describe the level of health of a community. 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. Collecting the data that is obtained, if collected and reported in a timely manner to the data bank, will ensure that the public health situation can be considered optimally so that if something undesirable occurs, such as an outbreak/outbreak, the cause can be known and how to control the disease using data. -data that has been collected is in the form of up-to-date information so that there is no need for investigations to be carried out from the start. This makes the process of handling disease cases run efficiently and effectively.

The SIK evaluation carried out by Lestari, et al (2016) in their research on the Evaluation of the Health Information System in Central Java Province in the Context of Strengthening the National Health Information System resulted in the overall evaluation of each of the 7 SIK components, namely SIK management, indicators, sources. data, data management, SIK resources, SIK development, utilization and dissemination in Central Java Province are in the "adequate" category. The four components, namely the management component, resource component, data source component and data management component are in the "available but inadequate" category. Meanwhile, the other three components such as the indicator component, information product component and information dissemination and use component are in the "adequate" category (Lestari, et al., 2016).

It is very necessary to carry out evaluations related to the performance of SIK implementation in the Health Service on a regular basis, this is because the data obtained in this health information system really provides an overview of developments or health conditions in the community. Weaknesses in SIK implementation are often found in resource components and information products. It can be concluded that SIK implementation training for SIK implementers or persons responsible for SIK must be routinely provided and implementing officers must specialize in SIK implementation. Double work or taking on two responsibilities is often carried out by SIK officers so that in carrying out their responsibilities in running SIK they have time constraints and do not carry them out optimally.

To achieve very adequate/adequate for each component of SIK, researchers suggest to the Health Service to further increase human resources that manage SIK and resources capable of using

SIK equipment to the maximum extent possible, and it is hoped that the equipment used for implementing SIK can be fulfilled so that SIK can run in accordance with implementation guidelines. The Data Source component can be very adequate by carrying out regular data reporting so that data can be timely and health data can be accepted by the public. The data management component still really needs to be improved, there is still a need to improve the processing of the data management component by collecting data regularly and having a special place to store health data so that health data is easily provided whenever the data is needed. . For the information product component, the Health Service needs to carry out evaluations in the form of feed back or feedback on reports received so that there are no delays in sending health reports. In the dissemination and use of information component, information publication must be further improved so that stakeholders or the public can utilize health information while still paying attention to the presentation of accurate and reliable information.

CONCLUSIONS

The overall evaluation results on the implementation of the health information system at the Langsa City Health Service using the Health Metric Network (HMN) method were 52%, namely in the existing but inadequate category, this shows that the 6 SIK components are all in the existing but inadequate category. .

- The evaluation results on the SIK resource component of the Langsa City Health Service were 54%, namely in the existing but inadequate category.
- The evaluation results on the SIK indicator component of the Langsa City Health Service were 52%, namely in the existing but inadequate category
- The evaluation results on the SIK data source component of the Langsa City Health Service were 54%, namely in the existing but inadequate category
- The evaluation results on the SIK data management component of the Langsa City Health Service were 51%, namely in the existing but inadequate category
- The evaluation results for the Langsa City Health Service SIK information product component were 48%, namely in the existing but inadequate category
- The evaluation results on the dissemination and use of SIK information component of the Langsa City Health Service were 51%, namely in the existing but inadequate category

Suggestions

- There needs to be policies and regulations made by the Langsa City Health Service to regulate the implementation of the health information system at the regional level, through the creation of a Decree from the Head of the Health Service, a Mayor's Decree and the existence of an SOP for implementing SIK at both the Health Service and Community Health Center levels.
- There is a need to increase the quantity and quality of human resources or health information system managers, through the provision of management personnel who are competent and provide education and training in the field of health information systems.
- Providing facilities and infrastructure to support the implementation of regional health information systems, through proposing budgets sourced from DAK Physical (Special Allocation Funds) and APBD. Providing facilities and infrastructure can take the form of providing

computers, laptops, printers, providing internet and providing a special room for health information systems.

- Advocacy to stakeholders in the context of budget allocation for the implementation of the health information system.
- The need to improve the recording and reporting system. To increase the effectiveness of information system implementation, software or applications are needed that can facilitate the recording and reporting system from the community health center level to the regional level, for example providing the Generic SIKDA application. Improvement of the archiving system starting from the community health center level to the Health Service through a coding system for each archived report and providing a data bank that can collect all existing health report data.
- There needs to be motivation to improve the performance of SIK managers by providing rewards for managers who can provide reports quickly, precisely and accurately.
- Increased coordination in monitoring problems related to SIK on a regular basis.
- Evaluate health reporting by providing feedback to the community health center.

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