

## **EFFORT TO IMPROVE THE QUALITY OF HEALTH CARE BASED ON SPIDERWEB MATRIX IN PUSKESMAS X REGION Y**

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### **ABSTRACT**

*Public health care, known as Puskesmas, have very important role in this era of BPJS. But there are still some Puskesmas have not performed an optimal health care for public, so it needed to be studied. One of them is Puskesmas X in region or kabupaten Y which its service is needed to be improved. Research methods to improve service quality is by describing health care or Puskesmas's condition based from appraisal of 75 respondents which is including : 1) health care condition aspect; 2) public appraisal on land and building, location, health and medical service, facilities and infrastructure, medical human resources and health care's equipment; and 3) public appraisal on puskesmas service capacity. The result of these three aspects are : 1) score 11.72 categorized as "Adequate"; 2) score 7.11 categorized as "Less"; and 3) score 9.16 categorized as "Adequate".*

*Recommendation can be given is efforts to improve service quality through : 1) counseling and consultation with Health Department, Universities; 2) improve human resources skill by personality training, organization culture, service ethics; 3) making SWOT analysis to mapping health care condition and also arrange strategic and operational plan, and 4) developing information system technology which can facilitate service to become efficient and effective.*

**Keywords:** Spiderweb Analysis, Puskesmas, Service Quality

### **INTRODUCTION**

Puskesmas as a health care unit which became a spearhead in basic health care service, is expected to give qualified health care service and suitable with market and public needs. It is needed to improve their service in order to be able to compete, grow and thrive (Haksama, 2011). Puskesmas is Technical Implementation Unit (UPT) of Regional and City Health Department which is responsible to organize health care development in a territory of work. Puskesmas have a vision to achieve public health care and its mission is to moving development within vision of health; promoting independency of living healthy for family and society,

maintaining and improving quality, equality, and affordability of health care, and maintain and improving personal health care, family and public with its environment in their work place.

The purpose of this research is effort to improve quality of service health care in Puskesmas X in Region Y based on spiderweb matrix, which is explained as :

1. Analyzing aspect condition of Puskesmas, which is including : demographic, socio-economic, morbidity and mortality, regulation and policy review, and Puskesmas internal aspect review.
2. Analyzing public appraisal aspect on land and building, location, health and medical service, facility and infrastructure, health human resources, and Puskesmas equipment.
3. Analyzing public appraisal on Puskesmas service capacity, including : emergency unit (UGD), general medical, basic specialty medical, mouth and teeth health, nursing and midwifery, supporting clinic, inpatient, specialty health, general medical personnel, and Puskesmas service in its work area.

Result of the research is recommendation of efforts to improve health service quality in Puskesmas X Region Y which is expected to improve visitor and public satisfaction in having health care in the Puskesmas.

## **RESEARCH METHODS**

The research is an analytic observational research because it did not take any action towards sample groups and its purpose is to describe research variables using spiderweb matrix. While design of this research is a *cross sectional* because this research is conducting in a specific period of time therefore the description gained is the condition in that specific period of time. Data sampling is obtained by using survey methods on public lives around the Puskesmas, which 75 person is selected to be respondents.

The data analysis technique is using quantitative approach by transform qualitative data to become quantitative data. This approach is using methods and basic in spiderweb matrix calculation in form of *dummy* table which is serves to transform and explain qualitative data become quantitative data. These dummy tables consist of some components which is a one unity that describes data results in field so it can be treated into the spiderweb matrix by scoring and weighting. Scoring and weighting are one of tools that can be used to converse qualitative data result into structural quantitative data with equal weight so that obtained result score is equal and have the same proportion.

In determining scoring and weighting, scale data table is needed as key table that is used as base of scoring and weighting. Scale data table combine score of weight, scale and scale value in one table and there is adjusted parameter based on field survey result. Data scale table is consist of :

1. Weight, which is numeric constants given from dividing inside variables equally with maximal number 100 points which is distributed into the variable and sub variable score depends on its weight level.
2. Scale, is limit given to converse field survey result. Scale is describing value level from lowest (score 1) until highest (score 4).
3. Score scale, is given score to each mentioned scale. Assumption of given score scale for lowest score is also given score scale of the lowest scale. The assessment of feasibility study is score +1 until +4, where scale score +1 means less while scale score +4 means more.
4. Parameter, is description boundaries used to place a survey result on scale and a score scale it supposed to be. Parameter can be sourced from policies such as : constitution,

government regulations, president decree, ministerial regulation, local regulation, and logic assumption based on field survey result that have been done, including review and researcher study.

5. Final score, is final value from multiplying score and weight.

### RESEARCH RESULT AND DISCUSSION

Result of data sampling from conducted research can be explained as below. The result of Puskesmas condition aspect analysis is a final result of calculation process which have been described in the above method, which are condition aspect : demographic, socio-economy, morbidity and mortality, policy and regulation review, and Puskesmas internal.

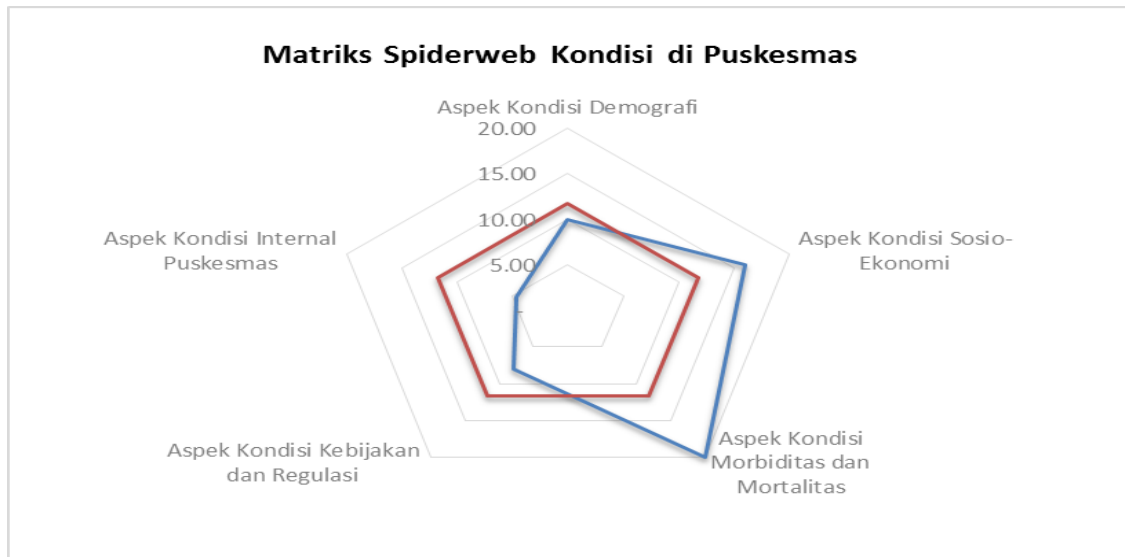
**Table 1. Weighting Result, Range of Category, and condition aspect score of Puskesmas**

No	Measured Aspects	Weight x Score	Range Category	Score
1	Condition aspect Demographic	10.00	8.45 – 12.30	Adequate
2	Condition aspect Socio-Economy	16.00	>12.30 – 16.15	Good
3	Condition aspect Morbidity and Mortality	20.00	>16,15 – 20.00	Very Good
4	Condition aspect Policy and Regulation	8.00	4.60 – 8.45	Less
5	Condition aspect Internal Puskemas	4.60	4.60 – 8.45	Less
	<b>Total Score</b>	<b>58.60</b>	<b>11.72</b>	<b>Adequate</b>

Based on accumulation score result above it is showed that condition aspect of Puskesmas X which have been weighting on each aspects, its final score is 58.60. Average score is 11.72, maximal score is 20.00, minimal score is 4.60. Cut of point formula is  $\frac{\text{maximal score} - \text{minimal score}}{\text{total category}}$  with total category is 4 value scale, then cut of point formula calculation is  $\frac{20,00-4,60}{4}$  therefore the cut of point score is obtained in 3.85. Then division based on the number of categories is :

1. Category 1 (Less), in range score 4.60 – 8.45
2. Category 2 (Adequate), in range score > 8.45 – 12.30
3. Category 3 (Good), in range score > 12.30 – 16.15
4. Category 4 (Very Good), in range score > 16.15 – 20.00

Based on above table it can be concluded generally Puskesmas condition aspect is on category “Adequate” with score 11.72. Assessment per item is scored in category “Adequate” in condition aspect Demographic, and “Less” in condition aspect Policy and Regulation and Puskesmas Internal. It is then describe in spiderweb matrix to achieve clear description on condition aspect of Puskesmas.



**Figure1. Condition aspect spiderweb matrix of Puskesmas**

Based on spiderweb matrix on Figure 1 above, it is showed that condition aspect demographic, policy and regulation, and internal Puskesmas is inside cut of point line in spiderweb matrix, so it is necessary to reform on those 3 (three) condition aspect. So efforts to improve service quality of Puskesmas is need to pay attention on public demographic condition, develop policies and regulations associated with increasing service quality which one of them is preparing Puskesmas X to obtain ISO series 9001 certification about service management quality, also compiling Service Standard (SP) on Puskesmas. Internal aspect Puskesmas need to be address especially in reorganize and increasing competency and human resource quality in providing service in health care. So that public can obtain satisfaction in health care service provided by Puskesmas X officer.

Assesment on land and building, location, medical and health care service , facilities and infrastrcuture, human resources, and equipment on Puskesmas is presented in the explanation as below :

**Table 2. Weighting Result, Category Range, and Assessment score on Land and Building, Location, Medical and Health Care Service, Facility and Infrastructure, Human Resources, and Equipment on Puskesmas**

No	Measured Aspects	Weight x Result	Range Category	Score
1	Land and Building of Puskesmas	12.00	>14.50 – 21.25	Good
2	Location of Puskesmas	28.00	>21.25 – 28.00	Very Good
3	Medical and Health Care Service			
	a. Medical Emergency Unit (UGD)	4.00	1.00 – 7.75	Less
	b. General Medical Service	4.00	1.00 – 7.75	Less
	c. Basic Specialist Medical Service	1.00	1.00 – 7.75	Less

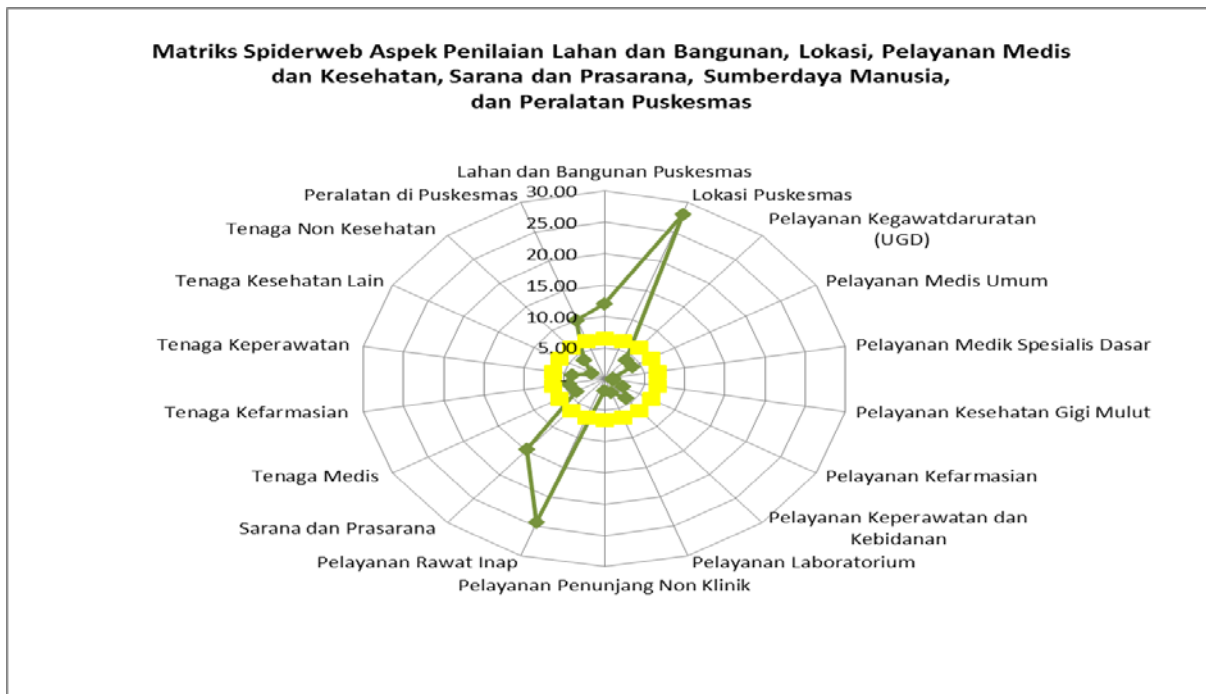
No	Measured Aspects	Weight x Result	Range Category	Score
	d. Supporting Specialist Medical Service	1.00	1.00 – 7.75	Less
	e. Other Specialist Medical Service	1.00	1.00 – 7.75	Less
	f. Mouth and Teeth Medical Service	1.00	1.00 – 7.75	Less
	g. Pharmacy Service	2.50	1.00 – 7.75	Less
	h. Nursing and Midwifery Service	4.00	1.00 – 7.75	Less
	i. Clinical Support Service	2.20	1.00 – 7.75	Less
	j. Non Clinical Support Service	1.90	1.00 – 7.75	Less
	k. Inmate Service	24.35	>21.25 – 28.00	Very Good
4	Facility and Infrastructure	14.75	>14.50 – 21.25	Good
5	Medical Human Resources			
	a. Medical Personnel	4.00	1.00 – 7.75	Less
	b. Pharmacy Personnel	4.50	1.00 – 7.75	Less
	c. Nursing Personnel	4.00	1.00 – 7.75	Less
	d. Other Medical Personnel	1.90	1.00 – 7.75	Less
	e. Non medical Personnel	3.97	1.00 – 7.75	Less
6	Puskesmas Equipment	9.98	>7.75 – 14.50	Adequate
	<b>Total Score</b>	<b>128.05</b>	<b>7.11</b>	<b>Less</b>

Based on accumulation score result on table above shows that public assessment aspect on land and building, location, medical and health care service, facility and infrastructure, human resources, and equipment on Puskesmas after weighting each of them, a final score is obtained in 128.05. Average point is 7.11, maximal score is 28.00, minimal score is 1.00. Cut of point formula is  $\frac{\text{maximal score} - \text{minimal score}}{\text{total category}}$  with total category is 4 value scale, then cut of point formula calculation is  $\frac{28,00-1,00}{4}$  therefore the cut of point score is obtained in 6.75. Then division based on the number of categories is:

1. Category 1 (Less), in range score 1.00 – 7.75
2. Category 2 (Adequate), in range score > 7.75 – 14.50
3. Category 3 (Good), in range score > 14.50 – 21.25
4. Category 4 (Very Good), in range score > 21.25 – 28.00

Based on table above, it show that assessment aspect on medical and health care service, medical human resources, and equipment of Puskesmas generally are on category “Less” with score 7.11.

Result of table above then is conversed into spiderweb matrix to describe assessment aspect on measured aspect as below:



**Figure 2. Assessment aspect spiderweb matrix of Land and Building, Location, Medical and Health Care Service, Facility and Infrastructure, Human Resource, and Equipment of Puskesmas**

Based on spiderweb matrix on Figure 2 above shows that quantitatively many aspects of Land and Building, Location, Medical and Health Care Service, Facility and Infrastructure, Human Resources, and Equipment of Puskesmas appears to be below standard line limit. It shows Puskesmas have not been able to fulfill public needs related to the measured aspects. Therefore Puskesmas need to immediately improve its quality service and human resources competency as shown in the spiderweb matrix to reach public satisfaction. In future in case Puskesmas is not able to improve their service then they will be left by public because people can choose their health care facility as sentenced by BPJS.

Community assessment to Puskesmas service is represented in explanation as below :

**Table 3. Weighting Result, Range Category, and Community Assessment Score On Health Care Service at Puskesmas**

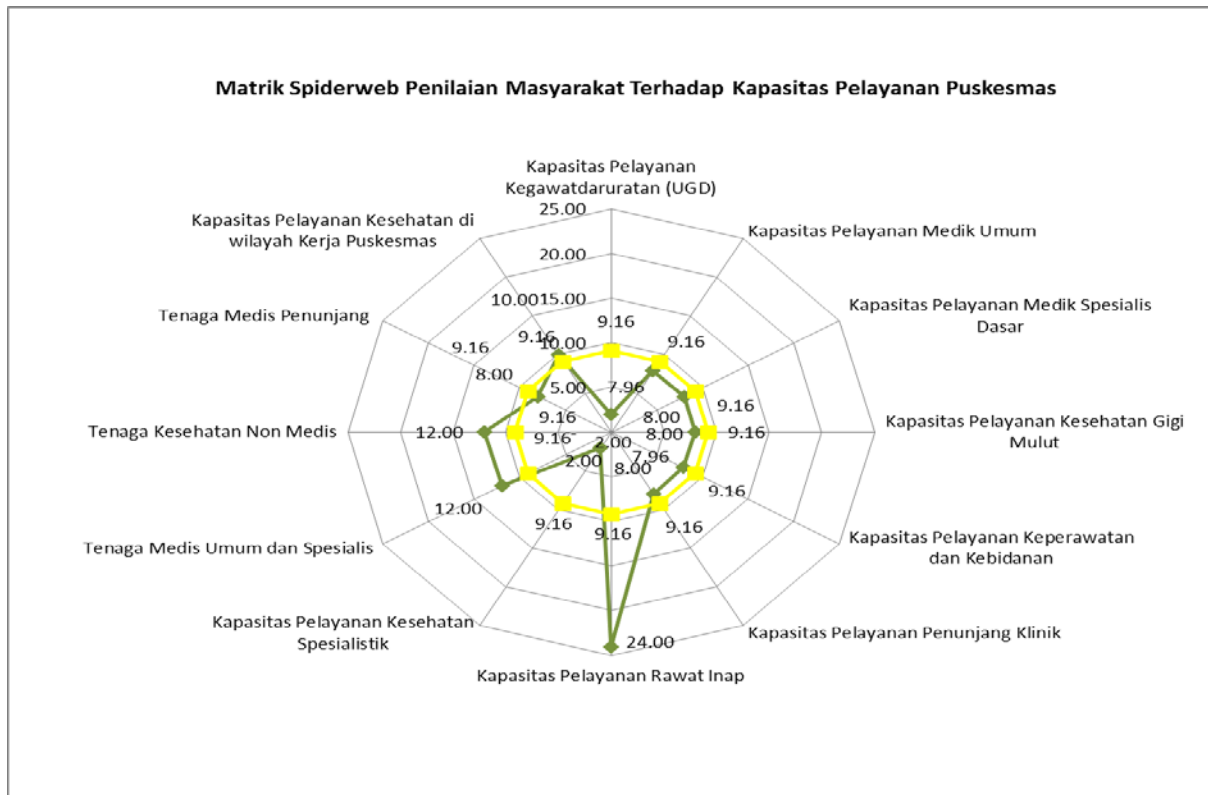
No	Measured Aspects	Weight x Result	Range Category	Score
1	Emergency Service (UGD)	2,00	2,00 – 7,50	Less
2	General Medical Service	7,96	7,51 – 13,01	Adequate
3	Basic Specialist Medical Service	8,00	7,51 – 13,01	Adequate
4	Mouth and Teeth Medical Service	7,96	7,51 – 13,01	Adequate
5	Nursing and Midwifery Service	8,00	7,51 – 13,01	Adequate
6	Clinical Support Service	8,00	7,51 – 13,01	Adequate

No	Measured Aspects	Weight x Result	Range Category	Score
7	Inpatient Service	24,00	18,53 – 24,03	Very Good
8	Specialist Health Care Service	2,00	2,00 – 7,50	Very Less
9	General and Specialist Medical Personnel	12,00	7,51 – 13,01	Adequate
10	Non Medical Health Care Personnel	12,00	7,51 – 13,01	Adequate
11	Supporting Medical Personnel	8,00	7,51 – 13,01	Adequate
12	Health Care Service in the Puskesmas Work Area	10,00	7,51 – 13,01	Adequate
<b>Total Score</b>		<b>109.92</b>	<b>9.16</b>	<b>Adequate</b>

Based on accumulation score result on table above shows that public assessment aspect on health care service capacity on Puskesmas after weighting each of them, a final score is obtained in 24.00. Average point is 9.16, maximal score is 24.00, minimal score is 2.00. Cut of point formula is  $\frac{\text{maximal score} - \text{minimal score}}{\text{total category}}$  with total category is 4 value scale, then cut of point formula calculation is  $\frac{24,00 - 2,00}{4}$  therefore the cut of point score is obtained in 5.50. Then division based on the number of categories is:

1. Category 1 (Less), in range score 2.00 – 7.50
2. Category 2 (Adequate), in range score > 7.50 – 13.00
3. Category 3 (Good), in range score > 13.00 – 18.50
4. Category 4 (Very Good), in range score > 18.50 – 24.00

Based on table above shows that community assessment on health care service capacity on Puskesmas generally categorized as “Adequate” with score 9.16. It means that community assessed health care service by Puskesmas is relatively not optimal. Only on inpatient service that community assessed the facility is “Very Good”. It shows that Puskesmas need to improve their capacity service as optimum as they can so that it fits public needs towards health care service that Puskesmas can perform. Result of measurement above then be studied into spiderweb matrix so it can describe more detailed. The result is as below :



**Figure 3. Spiderweb matrix of Community Assessment on Service Capacity of Puskesmas**

Based on spiderweb matrix on Figure 3 shows that community assessment on Service Capacity of Puskesmas is below standard line limit. It shows that the service from Puskesmas cannot fulfill highly expected community needs in Puskesmas work area, therefore Puskesmas needs to make some efforts to obtain community needs towards health care service such as adding number of personnel, infrastructure and facility.

As known before patients' satisfaction or customer according to Kotler (2000) is level of someone's feeling after comparing expected result with perceiving result. If the expected result fits the perceiving result, then the customer will be satisfied.

Tjiptono (2001) stated that every actions or deeds that can be offered by one to another basically is not tangible and produces no ownership over something. In simple way, service quality can be identified as customer expectation size. Therefore Puskesmas needs to realize the important of quality service. Based on this definition, service quality is determined by Puskesmas capability to fulfill needs and desire of customer according to customer's expectation. In other word, as stated by Parasuraman (1985) and Tjitono (2001) that main factor which influences service quality is customer expected service and perceiving service.

Next Tjiptono (2006) stated that quality of services is expected level of excellence and control over the level of excellence to fulfill customer needs. Quality is overall distinctive of product or service attribute which influences its ability to fulfill the needs that is expressed or implied.



Many things can be done by Puskesmas in order to improve its service quality for community, one of them is paying attention on service quality dimension which is explained by (Tjiptono, 2005). There are 10 (ten) service quality dimension as explained as below :

1. Reliability, including work consistency (performance) and ability to be trust (dependability).
2. Responsiveness is the will of officer to provide services that the community need.
3. Tangibles are physical proof of service either in form of physical facility, equipment used and physical representation of service.
4. Security is feeling of secure of danger, risk, doubt including physical, financial or secrecy security.
5. Communication gives information to customer in language that can be understood and always listen to complaint and suggestion from customer.
6. Understanding knowing the Customer is an effort to understand need of customer.
7. Credibility is honesty and reliable. Credibility includes names and reputation of organization, personal characteristic, contact person, and interaction with customer.
8. Competence is individuals within the company who has skill and knowledge needed to provide certain kind of service.
9. Accessibility includes easiness to be contacted or meet.
10. Courtesy includes manner, respect, attention, and hospitality owned by the contact person.

Therefore Puskesmas need to pay attention on health care service quality well and carefully. In this time the competition is very high, Puskesmas is no longer a dominant health care service institution anymore in the area. There have been many clinics or similar health care service as Puskemas establish which are directly competing head to head with Puskesmas, especially in the era of BPJS. Therefore effort need to be done by Puskesmas is immediately arrange effort to improve health care service quality based on description result done in this research especially associated with health and medical service aspect and its human resources

## **CONCLUSION AND RECOMMENDATION**

### **CONCLUSION**

1. Based on public assessment to the condition aspect of Puskesmas gained score 11.72 with categorized “Adequate”; public assessment aspect on Land and Building, Location, Health and Medical Service, Facility and Infrastructure, Human Resources, and Equipment of Puskesmas gained sore 7.11 with categorized “Less”; and public assessment aspect on Puskesmas Capacity Service gained score 9.16 with categorized “Adequate”.
2. Priority aspect that need to be improved is health and medical service and human resources aspect.

### **RECOMMENDATION**

1. Make efforts on improving health and medical service through counseling and consultation by Health Department, Universities, Non-Governmental Organization (NGO), and other associated parties to improve the service needed by the community in less than 1 (one) year.
2. Improve human resources skill through counseling and consultation from Health Department, Universities to arrange short term program in form of training associated with personality, organization culture and service ethics.

3. Measuring Puskesmas through SWOT (Strength, Weakness, Opportunity, Threat) to map the condition of Puskesmas by including higher education institutions as an effort to arrange Strategic and Operational Planning in Puskesmas.
4. Developing information system technology in order to ease service so that efficiency and effectiveness is obtained.

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