

Unit cost analysis using the activity-based costing method at the dental and oral clinic, the oral and dental hospital of Andalas University, Indonesia

Suci RAHMASARI¹, Yurniwati YURNIWIATI¹, Febrian FEBRIAN²

¹ Postgraduate of Public Health, Faculty of Medicine, Andalas University, Padang, Sumatera Barat, Indonesia

² Department of Public Health, Faculty of Dentistry, Andalas University, Padang, Sumatera Barat, Indonesia

*Corresponding Author E-Mail: sucirahmasari1990@gmail.com

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ABSTRACT. The assurance of hospital fee service (unit cost) is still calculated using conventional methods. The method is inappropriate because it produces inaccurate rates, providing distorted cost information, either under costing or over costing, which results in errors in decision making and organizational continuity. Efforts to reduce distortion due to the use of this conventional method is to use a new approach that uses an activity basis, namely, Activity Based Costing, which can accurately measure the costs that come out of each activity to produce the correct rate for each type of service action in hospital. The study aims to analyze unit cost calculations using the activity-based costing method to set new rates and to explain policy procedures for the latest rates framework at the dental and oral clinic of RSGM FKG UNAND. The type of research used is descriptive research with a mixed method approach that combines quantitative and qualitative methods. The goal is that data used in mixed method research will be more comprehensive, valid, reliable, and objective. The mathematical calculations, the quantitative method calculates unit cost with the activity-based costing method. The qualitative method analyzes information about fee setting procedures by conducting in-depth interviews. The quantitative research results obtained the unit cost value for services with the most visits, including composite fillings and IDR. 157.099.78, scaling is IDR.134,162.95, and root canal treatment is IDR.167,815.94. Results of qualitative research through in-depth interviews obtained that in setting the new rates through the structural levels that apply at Andalas University. The recent rate decisions at the dental and oral polyclinic services of RSGM FKG UNAND are in the discussion stage of the rectorate leadership. The new rates are based on unit cost calculations using the activity-based costing method plus a margin or expected profit.

KEYWORDS: Activity-based costing, unit cost, rates, policy rates

INTRODUCTION

The unit cost calculation will be beneficial in deciding the amount of the given fee or arranging the budget for a service program. In hospitals, calculating the reasonable unit cost for efficiency and performance of each department, poly, or component used in the service process at the health service provider institutions can be appropriately monitored. This action balances income and hospital production costs, which can be planned as well as possible so that patient health service activities can be carried out optimally, effectively, and affordable for the community. With this *unit cost* analysis, it is possible to know the cost centers in the hospital, with the result that the hospital director will more

easily identify which cost centers are in deficit and can easily take revision action.⁷

So far, the decisions on hospital service rates have been carried out by calculating *unit costs* using conventional methods. This decision is less precise because it does not reflect specific activities and is based on the output volume. Considering the hospital output is imperceptible, such as service speed, quality of information, and providing satisfaction to patients, with the volume and complexity of services, handling, care, and differences of facilities, most of the costs incurred are overhead costs. Therefore the fee system with conventional methods produces inaccurate results, thus providing distorted information, costs that are

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too low (*undercosting*) or over costs (*overcosting*), consequence errors in decision making and organization.¹²

Efforts to reduce distortion due to conventional methods can be made with a new approach that uses an activity basis, which is *Activity Based Costing* (ABC). *Activity Based Costing* (ABC) is an accounting information system that identifies the various activities carried out within an organization or hospital and collects the costs attached to the product based on the actions performed, starting from producing, running, distributing, or supporting the development concerned in detail. In addition, Activity Based Costing (ABC) can accurately measure the costs of each activity and produce the correct rates for each type of service activity in the hospital.¹³

Based on the results of interviews that have been carried out, data was obtained that currently, the applicable fee set at the RSGM FKG UNAND clinic uses conventional methods. Where the application of service rate at the RSGM is adjusted, refer to other universities, which are then designed and determined in a board meeting with hospital management. It results in unreliable rates to be paid by patients, where rates can be cheaper (*undercosting*) or more expensive (*overcosting*) than the charge that should be consumed.

Based on several previous studies, there have been many studies on *unit costs* in hospitals using *Activity Based Costing*. However, few studies still discuss the *unit cost of services* for the Dental and Oral Hospital (RSGM). Jasmaniar (2017) conducted a study on unit cost analysis in dental and oral

polyclinics, from the results of her research, it was found that the rate for dental procedures was higher calculated by the *Activity Based Costing* method compared to the current rate. In addition, Muhammad Hosein Dwi Saputra (2019) also researched the analysis of rate determination for dental and oral services using the *Activity Based Costing* method at the general dental clinic of the dental hospital of UNIMUS. The results of his research captured information about the policy for setting the rate at RSGM UNIMUS, where the leader wants medical services charged by 30% and 30% profit for each action.

There has been no accurate calculation, supported by the recent legalization of Andalas University as a Legal Entity College (PTN BH), becoming an essential factor for the need to apply rate calculations using the *Activity Based Costing* (ABC) method. PTN BH aims to produce higher education quality and be able to compete globally. By calculating the correct service rates, it is hoped that the RSGM FKG UNAND can become a competitive hospital and a leading hospital in dental and oral services in West Sumatra to help Andalas University achieve its goals of the PTN BH.

Based on the description above, it is the background for the need for research at the dental and oral polyclinic of the RSGM FKG UNAND with the title "Unit Cost Analysis (*unit cost*) with the *Activity Based Costing* (ABC) Method at the Polyclinic of the Dental and Oral Hospital, Faculty of Dentistry, Andalas University (RSGM FKG UNAND)- 2021".

MATERIALS AND METHODS

The research design used in this study is descriptive, with a mixed method research approach. According to Creswell (2007), MMR is a combination of quantitative and qualitative methods in research activity. Therefore, the data is more comprehensive, valid, reliable, and objective.

In the first stage, quantitative research was conducted using a quantitative descriptive research design. This quantitative study aims to provide an overview of how much *unit cost* is using the *activity-based costing* method for the services of the dental department at the dental and oral polyclinic of RSGM FKG UNAND using mathematical calculations.

RESULTS

Since the beginning of its operation, RSGM FKG UNAND has been a hospital that provides

After completing quantitative research in the first stage, qualitative research is next carried out using a qualitative descriptive research design. The qualitative study aims to obtain information about the policy setting procedure in determining the new service rate based on *unit cost* calculations using the *activity-based costing* method at the dental and oral polyclinic of RSGM FKG UNAND. Through in-depth interviews and focus group discussions with hospital management and policymakers in the rates framework. Furthermore, analyzing the data collected will carry conclusions analysis of the data.

dental and oral health services and is also used as a place for learning, education, and research processes

for dental health professionals and other health workers, which are bound through collaboration with the Faculty of Dentistry, Andalas University. This hospital has facilities for a dental emergency room, dental polyclinic, inpatient, outpatient, radiology, and specialist dentist services. However, only the polyclinic facilities have been operating, while the other facilities are being used. The steps in calculating the *unit cost* of dental services include:

1. Identify supporting activities (facility activities) along with the types of cost drivers and their total costs. Some of the supporting units at

RSGM FKG UNAND include 12 types of support units in RSGM FKG UNAND with their respective cost drivers.

According to Gabriela (2012), *cost drivers* are events or activities that cause or result in expenses. Based on the results of calculations at the supporting units at the RSGM FKG UNAND polyclinic, the highest total cost was the activity cost in the dental material service, IDR. 83,115,050.93, and the lowest cost in the laundry service was IDR. 20,620,099.07. (Table 1).

Table 1. Types of support units in RSGM FKG UNAND with their respective cost drivers

No	Unit	Cost driver	Number of Cost Driver	Total Cost FA (IDR)
1	Medical record	Number of patients	9441	44,971,926.69
2	Management	Number of patients	9441	73,969,567.15
3	Dental material	Number of patients	9441	83,115,050.93
4	Pharmacy	Number of patients	9441	37,921,106.81
5	Sterilization equipment	Number of patients	704	68,893,334.76
6	Security	Number of patients	9441	31,466,033.96
7	Toilet	Number of patients	704	33,052,106.17
8	IPSRS and Warehouse	Frequency of maintenance	9441	33,966,399.45
9	Doctor's Waiting	Number of patients	9441	25,110,718.69
10	Coass	Number of patients	9441	19,601,342.20
11	Wet Laboratorium	Number of patients	9441	55,468,182.28
12	Cleaning Service	Width of Area	100	43,520,816.71

2. We are distributing facility activity *overhead costs* to the Dental and Oral Polyclinic.

At this stage, calculations are carried out to distribute *overhead costs* (all indirect costs) in supporting units to all existing production units based on the *cost drivers* determined in the first stage. The *cost driver* in the support unit serves as an out-of-

pocket share of all activity costs in the support unit. The calculation results show that the highest cost for distributing facility activity to dental and oral polyclinics is in the dental material service unit, IDR. 39,234,459.79, and the lowest was in IPRRS and Warehouse services of IDR. 6,610,421.23 (Table 2).

Table 2. Cost for distributing facility activity costs

No	Facility Activity	Cost
1	Dental material	IDR 39,234,459.79
2	Management	IDR 34,917,334.18
3	Sterilization equipment	IDR 32,521,098.67
4	Wet Laboratories	IDR 26,183,755.45
5	Cleaning Service	IDR 25,489,729.58
6	Medical Record	IDR 21,228,997.99
7	Security	IDR 18,429,357.66

No	Facility Activity	Cost
8	Pharmacy	IDR 17,900,658.47
9	Toilet	IDR 15,602,246.72
10	Doter's Waiting room	IDR 11,853,514.76
11	Coass	IDR 9,252,813.59
12	IPSRS and Warehouse	IDR 6,610,421.23

- To figure out the service product for which the unit cost will be calculated in each production unit and identify the number and time of service.

At this stage, the identification of activities for each service will be calculated for the unit cost. At this stage, each service is determined by the type of activity, activity classification, activity category, and service time for each service which is used as the basis for calculating unit costs. The types of activities were identified from history taking, equipment preparation, patient examination, treatment actions, dentist assistance, filling out medical records, and post-treatment instructions.

The results of the identification showed that of the 32 services in the dental and oral polyclinic of RSGM FKG UNAND, there were services that required the longest time in carrying out primary activities, including services for making teeth, partially removable teeth, complete dentures, and bridges which took 65 minutes for the primary activity. Services that require the least service time include screening, examination of oral diseases, and extraction of children's teeth with chloroethyl, which takes 25 minutes for primary activities (**Table 3**).

Table 3. Time Identification of Service Activity

No	Product of service	Number of services	Duration of service (Menit)
1	Screening	1994	50
2	Composite Filling	1185	65
3	Scaling	1068	75
4	PSA Non vital/ medicine rotation (Decidui/Permanent)	872	75
5	Fuji/GIC Filling	728	60
6	Permanent Tooth extraction (Expo)	644	70
7	PSA Vital (Decidui/Permanent)	497	75
8	Decidui Tooth extraction (Exod) with Chlor Ethyl	342	50
9	PSA Obsturation (Decidui/Permanent)	328	90
10	Fissure Sealant with LC (FS)	265	50
11	Preventive Resin	265	50
12	Crown acrylic	212	90
13	Post Core/ Indirect	212	75
14	Pulp Capping	163	70
15	Decidui Tooth extraction (Exod) with Injection	141	55
16	SSC	110	85
17	Ortho	84	80
18	Occlusal Adjustment	84	55
19	Topical Flour	81	65
20	Space Maintainer	67	80
21	Permanent Tooth extraction with complication	66	90
22	Odontectomy	66	100

No	Product of service	Number of services	Duration of service (Menit)
23	Oral Health	63	50
24	GTP acrylic	62	100
25	Curettage	56	90
26	Desensitivity / Hipersensitifity	54	60
27	Gingivectomy/Operculectomy	41	90
28	Alveolectomy	33	80
29	GTSL acrylic	30	100
30	Bridge acrylic	29	100
31	Nightguard	21	75
32	Fixation / Splinting	21	75

- Identify and add the direct costs for each service product in a production work unit, including direct costs of medical personnel, medical consumables, and medical equipment expenses.

The results of the total direct costs of consumables, the cost of salaries for medical personnel, and the cost of medical devices are shown in **Table 4**. The results show that removable partial denture services have the highest total costs, and extraction with chloroethyl is the service with the lowest price.

Table 4. Total Direct Costs

No	Product of service	Material cost (IDR)	Personnel Cost (IDR)	Material cost (IDR)	Total
1	GTSL Acrylic	275,418	110,634	82	IDR 386,134.35
2	GTP acrylic	241,668	110,634	82	IDR 352,383.96
3	Post Core/ Indirect	240,462	76,593	94	IDR 317,148.53
4	Bridge Acrylic	176,283	110,634	82	IDR 286,998.96
5	SSC	70,475	102,123	79	IDR 172,677.87
6	Gingivectomy/Operculectomy	72,097	93,613	82	IDR 165,791.60
7	Ortho	80,483	85,103	83	IDR 165,669.08
8	Space Maintainer	79,150	85,103	83	IDR 164,335.75
9	Crown Acrylic	52,044	102,123	89	IDR 154,255.69
10	Odontectomy	50,063	102,123	101	IDR 152,287.24
11	PSA Obstruction (Decidui/Permanent)	45,862	93,613	92	IDR 139,566.97
12	Permanent Tooth extraction with complication	39,663	93,613	101	IDR 133,376.95
13	PSA Vital (Decidui/Permanent)	56,092	76,593	92	IDR 132,776.41
14	PSA Non vital/ medicine rotation (Decidui/Permanent)	56,092	76,593	92	IDR 132,776.41
15	Alveolectomy	24,683	93,613	101	IDR 118,396.95
16	Fixation / Splinting	40,792	76,593	85	IDR 117,468.99

No	Product of service	Material cost (IDR)	Personnel Cost (IDR)	Material cost (IDR)	Total
17	Curettage	8,672	102,123	85	IDR 110,879.90
18	Scalling	5,092	93,613	85	IDR 98,789.43
19	Composite Filling	35,482	59,572	92	IDR 95,145.65
20	PRR	28,967	59,572	641	IDR 89,179.69
21	Permanent Tooth extraction	9,663	76,593	102	IDR 86,357.87
22	Nightguard	8,450	76,593	80	IDR 85,122.41
23	Pulp Capping	11,522	68,082	85	IDR 79,689.23
24	Topical Flour	27,942	51,062	78	IDR 79,080.89
25	Fissure Sealant with LC (FS)	29,400	42,551	83	IDR 72,034.66
26	Fuji/GIC Filling	12,685	51,062	79	IDR 63,825.25
27	Decidui Tooth extraction (Exod) with Injection	9,598	51,062	87	IDR 60,747.19
28	Desensitivity / Hipersensitifity	9,133	51,062	80	IDR 60,274.81
29	Occlusal Adjusment	5,283	51,062	81	IDR 56,426.09
30	Oral Health Inspection	6,400	42,551	78	IDR 49,029.33
31	Screening	4,425	42,551	78	IDR 47,053.94
32	Decidui Tooth extraction (Exod) with Chlor Ethyl	3,250	42,551	81	IDR 45,882.80

5. Identify and add up the indirect costs (*overhead costs*) used in a production work unit, including:

Indirect costs are expenses used to support the success of the production process and are often called *Overhead Cost*.

At this stage, the indirect costs used in the dental and oral polyclinic production unit are calculated where indirect costs consist of building depreciation costs, non-medical equipment and general costs used in the production unit.

The calculation results show that the number of indirect expenses used for the largest production unit is the building cost, IDR. 353.965.127.24, and IDR's smallest cost is the expenses for non-medical consumables. 7,300,000.

The calculation results in the number of indirect costs in the production unit consisting of the total depreciation cost of IDR. 357,660,407 plus operating costs of IDR.55,300,00, for a total of IDR. 426,630,807 (**Table 5**).

Table 5. Identification of Indirect costs

No	Indirect Cost	Total
A	Depresiation	
1	Building	IDR 353,965,127.24
2	Non-Medical tools	IDR 3,695,280.00
B	Operational cost	
1	Non-Medical Materials and consumables	IDR 7,300,000.00
2	General cost	IDR 48,000,000.00
TOTAL		IDR 426.630.807.00

6. Charge the costs of supporting activities (secondary) to production activities (primary) based on the *cost driver* activity.

At this stage, each secondary activity's expenses are assigned to each primary activity by dividing the *cost driver* of each primary activity by the total cost

driver of all preparatory activities. The result of the division is multiplied by the non-medical costs of each primary activity. Next, establish the total non-medical expenses for each primary activity charged earlier.

After that, we figured out the rate of non-medical costs for each primary activity by dividing

the total non-medical costs for each primary activity by the number of patients in that service. The last stage is to add up the total non-medical cost rate for each primary activity according to the primary activity category **Table 6**.

Table 6. Indirect Cost

No	Services	Indirect Cost	
1	Oral Health Inspection	IDR	80,442.32
2	Composite Filling	IDR	75,406.26
3	Odontectomy	IDR	54,453.19
4	Bridge Acrylic	IDR	61,218.90
5	Ortho	IDR	61,659.67
6	Preventive Resin	IDR	55,524.57
7	Topical Flour	IDR	49,977.28
8	Gingivectomy/Operculectomy	IDR	48,619.71
9	PSA Obturation	IDR	46,978.35
10	Fissure Sealant Dengan LC (FS)	IDR	59,904.22
11	Fuji/GIC Filling	IDR	46,423.40
12	Permanent Tooth extraction with complication	IDR	45,668.36
13	PSA Vital	IDR	45,654.04
14	Alveolectomy	IDR	46,070.94
15	Desensitivity / Hipersensitifity	IDR	45,368.10
16	Scalling	IDR	45,053.98
17	Crown Acrylic	IDR	44,866.02
18	PSA Non vital/ medicine rotation	IDR	44,617.60
19	GTP Acrylic	IDR	49,676.21
20	Fixation / Splinting	IDR	43,270.83
21	Space Maintainer	IDR	42,673.52
22	Permanent Tooth extraction (Exop)	IDR	42,829.57
23	Pulp Capping	IDR	42,575.01
24	Decidui Tooth extraction (Exod) DCE	IDR	42,103.72
25	Post Core/ Indirect	IDR	41,418.69
26	GTSL Acrylic	IDR	46,627.03
27	Nightguard	IDR	40,677.83
28	Occlusal Adjusment	IDR	38,169.77
29	Curettage	IDR	37,576.14
30	Decidui Tooth extraction (Exod) with Injection	IDR	36,760.25
31	SSC	IDR	32,429.70
32	Screening	IDR	29,198.32

7. Calculate the *unit cost* of each product or service. The last stage calculates the unit cost by adding up the direct and indirect expenses for each dental health service charged in the previous stage **Table 7**.

Table 7. Calculation of *Unit Cost*

No	Services	Indirect Cost (IDR)	Direct Cost (IDR)	Unit Cost
1	GTSL Acrylic	46,627.03	386,134.35	IDR 432,761.38
2	GTP Acrylic	49,676.21	352,383.96	IDR 402,060.17
3	Post Core/ Indirect	41,418.69	317,148.53	IDR 358,567.22
4	Bridge Acrylic	61,218.90	286,998.96	IDR 348,217.86
5	Ortho	61,659.67	165,669.08	IDR 227,328.75
6	Gingivectomy/Operkulectomy	48,619.71	165,791.60	IDR 214,411.31
7	Space Maintainer	42,673.52	164,335.75	IDR 207,009.27
8	Odontectomy	54,453.19	152,287.24	IDR 206,740.43
9	SSC	32,429.70	172,677.87	IDR 205,107.58
10	Crown Acrylic	44,866.02	154,255.69	IDR 199,121.70
11	PSA Obsturation	46,978.35	139,566.97	IDR 186,545.33
12	Permanent Tooth extraction with complication	45,668.36	133,376.95	IDR 179,045.31
13	PSA Vital	45,654.04	132,776.41	IDR 178,430.45
14	PSA Nonvital/ medicine rotation	44,617.60	132,776.41	IDR 177,394.01
15	Composite filling	75,406.26	95,145.65	IDR 170,551.92
16	Alveolectomy	46,070.94	118,396.95	IDR 164,467.89
17	Fixation / Splinting	43,270.83	117,468.99	IDR 160,739.82
18	Curettage	37,576.14	110,879.90	IDR 148,456.04
19	Preventive Resin	55,524.57	89,179.69	IDR 144,704.25
20	Scalling	45,053.98	98,789.43	IDR 143,843.40
21	Fissure Sealant Dengan LC (FS)	59,904.22	72,034.66	IDR 131,938.88
22	Oral Health Inspection	80,442.32	49,029.33	IDR 129,471.65
23	Permanent Tooth extraction (Expo)	42,829.57	86,357.87	IDR 129,187.44
24	Topical Flour	49,977.28	79,080.89	IDR 129,058.17
25	Nightguard	40,677.83	85,122.41	IDR 125,800.25
26	Pulp Capping	42,575.01	79,689.23	IDR 122,264.23
27	Fuji/GIC Filling	46,423.40	63,825.25	IDR 110,248.65
28	Desensitivity / Hipersensitivity	45,368.10	60,274.81	IDR 105,642.91
29	Decidui Tooth extraction with Injection	36,760.25	60,747.19	IDR 97,507.45
30	Occlusal Adjusment	38,169.77	56,426.09	IDR 94,595.86
31	Decidui Tooth extraction (Exod) with CE	42,103.72	45,882.80	IDR 87,986.52
32	Screening	29,198.32	47,053.94	IDR 76,252.26

DISCUSSION

Based on the results of research that has been carried out on unit costs for services at the dental and oral polyclinic of RSGM FKG UNAND using

the Activity Based Costing (ABC) method, the unit cost value for each service is obtained, i.e., examination/screening, examination of oral

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diseases, composite fillings, fissure sealants, preventive resin, GIC filling, SSC, Topical flour, Acrylic crown, post-core, pulp capping, PSA (BAP), PSA (drug rotation), PSA (obturation), scaling, curettage, nightguard, splinting, hypersensitivity, gingivectomy, decidual extraction with CE, primary extraction under local anesthesia, permanent extraction, complicated extraction, odontectomy, alveolectomy, GTP, GTSL, bridge, removable orthodontics, space maintainer and occlusal adjustment.

The unit cost value for each dental and oral service at the dental and oral polyclinic of RSGM FKG UNAND using the Activity Based Costing (ABC) method can be compared with previous research, that is research conducted by Muhammad Hosein (2019) regarding the calculation of unit costs for dental and oral services with Activity Based Costing method at RSGM UNIMUS.

The results of the study indicate a difference between the unit cost of the results from current research and the research conducted by (Muhammad Hoesin, 2019). When we look at the effects of unit cost research for dental and oral services at the dental and oral polyclinic, RSGM FKG UNAND, it is found that some unit cost values are still considered low. Although both studies use the unit cost calculation method and the activity-based costing method, several factors can influence the research results above. Factors that control it are the number of human resources who work, the number of patients who visit, and the activities carried out.¹³

The number of human resources who work will significantly affect the expenses for employee

salaries, both for medical and non-medical employees. The fewer the number of human resources working, the smaller the costs incurred for employee salaries. It is supported by research (Bunga, 2017), where a large number of employees and intensive costs will lead to more significant costs incurred for employee salaries and vice versa.^{1,9,13}

The number of patients who visit to get treatment also affects the cost incurred by the clinic in providing health services. The fewer patients, the fewer costs the hospital will incur. It is supported by research conducted by (Wahyuni et al., 2017), saying that the increasing number of patients will cause more activities to be carried out so that the costs incurred will also be more significant. This number of patients is one cost driver used in calculating the unit cost of health services. It is also following research conducted by (Rahmaniar and Rochmah, 2017), which states that the greater the number of cost drivers in the supporting units and production units, the higher the costs charged, so the unit costs will be higher.^{9,13}

Unit cost calculation using the Activity Based Costing (ABC) method will produce more accurate cost information because the calculation is based on the costs incurred from the activity. It was also conveyed by Wahyuni 2017 in her research that the ABC method can help reduce unnecessary costs effectively through an activity analysis. According to Rahmaniar and Rochmah 2017, the Activity Based Costing method, in addition to evaluating rates, can also standardize service activities, which will impact the activities' efficiency and costs incurred.^{1,9,12,13}

CONCLUSION

1. Facility activities that support the production unit include medical record services, management, dental equipment and materials, pharmacy, instrument sterilization, security, toilets, cleaning services, chat rooms, doctor waiting rooms, IPSRS, and wet warehouses and laboratories.
2. Indirect facility activity costs are charged to units including dental and oral clinics, dental ER, outpatient, inpatient, radiology, and specialist dental clinics by multiplying the cost driver by the rate per cost driver *facility activity*.
3. Thirty-two dental and oral services are available in the production unit at the dental and oral polyclinic, which would be calculated

by *unit cost*. Then the products are classified into primary and secondary activities, and the activity time is calculated as the basis for further costs. The direct costs of each service product are obtained by adding up the cost of medical BHP, medical personnel, and medical equipment costs. The indirect costs of each service product are obtained by assigning secondary activities to primary activities and dividing the total indirect costs per year by the service output.

4. The estimated new rates are expected from all parties, the rectorate, faculties, and hospitals, where the results of calculating the new rates are obtained through in-depth interviews with stakeholders.

5. The procedure of new rates framework for new services at the dental and oral clinic of

RSGM FKG UNAND must go through a structural level stage.

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