

KnE Life Sciences



Conference Paper

The Body Aids Orthosis As a Superior Product towards Public Service Agency (BLU) of the Polytechnic MOH Jakarta 1

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Abstract

Background: The public service agency (BLU) plays an important role in serving the community because of its autonomy in the provision of goods and/or services. The number of patients in the orthotics prosthetics (OP) disability clinic at the Health Polytechnic Jakarta I is increasing. There are 70 new patients that have been waiting for services. Meanwhile, 20 patients have to be given maintenance. This study aims to perform an assessment of the services of the OP disability clinic towards the public service agency of the Health Polytechnic Jakarta 1. Method: The research design is a cross-sectional followed by a qualitative study. The 51 disabled patients visiting the clinic in September–November 2014 were asked to fill a questioner. In-depth interviews with top management, focus group discussions with providers were carried out to connect patient data. Result: The orthotic services are most requested by patients (51%). Crosstab analysis showed a relationship between the type of service and patients visit (p-value = 0,043). Although no significant relationship between insurance ownership and patient visits was seen, univariate analysis shows 43,7% patients have insurance. The qualitative data revealed that top management provided policy support so that the clinic can develop into BLU. Likewise, service providers feel confident to serve because of international standards owned by the clinic, and will continue to serve patients as long as infrastructure and human resources improved. Conclusion: Health Polytechnic Jakarta I has the big potential of becoming a BLU because it has a clinic that can be a source of income. Policies are needed to implement BLU.

Keywords: orthosis product, public service agency (BLU).

1. Introduction

More than 600 million people in the world's population suffer from disabilities of different types and conditions. As of 2005, around 80% were in developing countries 1. Many factors increase the number of disabilities that manifest each year, including aging, chronic medical conditions, traffic accidents, and domestic injuries due to landmines and warfare [1]. Most people with disabilities live in poverty and have difficulty accessing health and rehabilitation services. This socio-economic condition causes the exclusion

Corresponding Author: Atikah Adyas Anwar

Received: 23 September 2019 Accepted: 18 November 2019 Published: 22 December 2019

Publishing services provided by Knowledge E

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Selection and Peer-review under the responsibility of the ICHP Conference Committee.





of and disempowerment of people with disabilities even though they are one of the human resources in those communities that have productivity value. A disability is a physical condition which causes a person to have limited mobility, physical capacity, stamina, or dexterity [2]. There are many types and degrees of disability, including brain or spinal cord injuries, multiple sclerosis, cerebral palsy, respiratory disorders, epilepsy, hearing and vision disorders, and others [2]. People who have disabilities are usually referred to as "people with disabilities."

In 1970, the International Society for Prosthetics and Orthotics (ISPO) was formed as a non-governmental organization (NGO) in Copenhagen, Denmark [3]. This organization, together with the World Health Organization (WHO), introduced the Community Based Rehabilitation (CBR) method. This method aims to ensure that persons with disabilities from various regions can access health and rehabilitation services. This method also includes the involvement of the community [4,5].

An orthotic is a device that is installed externally on the body that aims to support body functions, such as improving deformity, protecting body parts, reducing pain, and helping mobility [6]. An orthotic device can be used in the legs, joints, and spine. A In contrast, prosthetic is an artificial device mounted on a part of the body to replace a lost body part [6].

The number of people with disabilities in Indonesia has changed from year to year because there are many factors that influence it, including natural disasters and traffic accidents [7]. Data collected by the Central Bureau of Statistics in 2008 regarding social protection programs, reports that approximately 37% of disabilities in Indonesia were physical disabilities [7]. Based on data compiled by *Riskesdas* (2018), the proportion of persons with a severe disability and total dependence in Indonesia at the age of 5-17 years is 3.3%, at the age of 18-59 is 22%, and at the age of 60 and over is 2.6% [8]. On the other hand, there was a decrease in injuries that occurred on the highway, namely from 42.8% to 31.4% [8]. Based on the WHO report on disability in 2011, there are still gaps in various countries, regions, and groups in obtaining PO services [9], including in Indonesia. To ameliorate these gaps, the government issued the Regulation of the Health Minister of Indonesia Number 27, in 2015 [10], which facilitated the existence of PO services.

One of the PO services in Jakarta is the Clinical Laboratory of the Prosthetics and Orthotics (PO) at Health Polytechnic of Ministry of Health, Jakarta 1, mentioned above. This Clinical Laboratory is part of Health Polytechnic of Ministry of Health, Jakarta 1 under the supervision of the Indonesian Ministry of Health. As noted above, the services at Clinical Laboratory have followed the standards of the International Society of Prosthetic Orthotic (ISPO). When a patient arrives at the facility, the patient registers and performs general anamnesis. During the next visit, the patient provides data on health and disability conditions which will become the basis for making the OP device according to the patient's case. The next meeting involves monitoring or control. This will be conducted for usually 3-4 meetings, but the time frame can include more monitoring meetings. At this Clinical Laboratory, until now patients are not charged a fee because of assistance from the Cambodia Trust, which is an International NGO in collaboration with Ministry of Health. With a teaching team and Laboratoium's staffs who are experts in their fields, the Clinical Laboratory of the Prosthetics and Orthotics (PO) at Health Polytechnic of Ministry of Health, Jakarta 1, is expected to provide good, scientific quality of treatment. However, there are few studies related to service quality, such as the identification of factors that contribute to patient's visits, whereas additional research can provide input for improving the quality of PO services11. Therefore, this study aims to identify factors contributing toward patient's visits The Clinical Laboratory of the Prosthetics and Orthotics (PO) at Health Polytechnic of Ministry of Health, Jakarta 1.

2. Method

The research design in this study was cross-sectional. The sample consisted of disabled patients who visited The Clinical Laboratory of the Prosthetics and Orthotics (PO) at Health Polytechnic of Ministry of Health, Jakarta 1, in September-November 2014. The total population recorded was 700 people. The sample size was calculated based on WHO standars with a minimum sample requirement of 40. The method of sampling was completed using a simple random sampling method; the sample collected was 51 respondents. The type of data used in this study is primary data (quantitative and quantitative) because data is obtained directly from the results of questionnaire responses and interviews with respondents. Analysis of this research data was completed using univariate analysis with a chi square test. This study provides qualitative data, namely focus group discussion and interviews with Clinical Laboratory staff and Management of Health Polytechnic of Ministry of Health, Jakarta 1 (Director and her subordinate).

This study consists of dependent and independent variables. The dependent variable is an established patient, namely a patient with visit frequency above five meetings. A new visit is a visit of patients with a frequency equal to or below five meetings. The independent variable consists of the characteristics of the respondents (age and sex),



characteristics of needs (type service), socio-economic factors (education, employment, income, distance, transportation, insurance), environmental factors (referral).

3. Results

3.1. Univariate analysis

The frequency distribution of factors that contributing toward patient's visits at The Clinical Laboratory of the Prosthetics and Orthotics (PO) at Health Polytechnic of Ministry of Health, Jakarta 1 can be seen in table 1 below.

TABLE 1: Distribution of respondents based on factors that contributing toward patient's visits The Clinical Laboratory of the Prosthetics and Orthotics (PO) at Health Polytechnic of Ministry of Health, Jakarta 1.

No	Variable	n	%				
	Independent						
	characteristics of the respondents						
1	Age						
	Child	23	45,1				
	Adult	28	54,9				
	Total	51	100				
2	Gender						
	Male	26	51				
	Female	25	49				
	Total	51	100				
	characteristics of needs						
3	Type of services						
	Orthotics	35	68,6				
	Prosthetics	16	31,4				
	Total	51	100				
	socio-economic factors						
4	Education						
	≤High School	16	31,4				
	>High School	35	68,6				
	Total	51	100				
5	Employment						
	Yes	43	84,3				
	No	8	15,7				
	Total	51	100				
6	Income						
	>Regional Minimum Wage	6	11,8				
	≤ Regional Minimum Wage	45	88,2				

No	Variable	n	%
	Total	51	100
7	Distance		
	Near	44	86,3
	Far	7	13,7
	Total	51	100
8	Transportation		
	Low cost	10	19,6
	High cost	41	80,4
	Total	51	100
9	Insurance		
	Yes	24	47,1
	No	27	52,9
	Total	51	100
	Environment Factor		
10	Medical referral		
	Yes	20	39,2
	No	31	60,8
	Total	51	100
	Variabel Dependen		
11	Visit		
	Old patient	20	39,2
	New patient (Establish visit)	31	60,8
	Total	51	100

Based on table 1, the majority of disabled patients in this study were new patients, namely patients with visits of 1-5 meetings. For the characteristics of respondents, adult patients or children and male or female patients were nearly equivalent. For education, the majority of patients have high education, namely above the high school level. The most visited service for patients was orthotic. The majority of respondents have income below the Regional Minimum Wage (88%) and 12% respondent have income above Regional Minimum Wage, and most of the respondents deal with high transportation cost. Nearly half of all respondents (47.1%) had health insurance, while the referral factor showed that the majority of respondents came directly to the Clinic Laboratory OP without referral

3.2. Bivariate analysis

Relationship between respondents' characteristics, socio-economic factors, and environmental factors with patient's visits at The Clinical Laboratory of the Prosthetics and Orthotics (PO) at Health Polytechnic of Ministry of Health, Jakarta 1 can be seen in table 2 below.

Based on table 2, it can be seen that only the type of service (Orthosis or prosthesis) contribute to patient visits with P Value ≤ 0.05 .

3.3. Qualitative analysis

Results of interviews with Management of The Health Polytechnic of Ministry of Health, Jakarta 1 can be seen in table 3 below.

The increasing demand for disabilities services and professionalism of human resource shown in the result of focus group discussion with lab clinic's staff in table 4

4. Discussion

4.1. Patient visit

Assessment and evaluation of disabled patients who visit the PO Clinic is very important because it is one of the goals of clinic to improve the quality of service management [12, 13]. Based on information from the Clinical Laboratory Staff, it takes 3-5 meetings or more to conduct assessments of patients with disabilities. The clinic aims to obtain precise information to create PO products that fit the patients' problems. Some studies related to the topic of healing rehabilitation state that a criteria that can be used to determine a patient as a new or established patient was the frequency of visits, the criteria for an established patient being at least 3 or 4 meetings [14, 15]. Based on previous research and service processes at the Clinical Laboratory, it was concluded that an established patient was to be a patient with a frequency of visits of more than 5 times. Based on the data with regard to visits, there were 31 new patients who arrived during the three months of study, even though there were still 20 established patients who were undergoing service. This indicated that the PO clinic had a significant increase in visits. This was in accordance with the study conducted by The American Academy of Orthotists and Prosthetists, which states that at present there is an increase in the demand for PO specialists [16]. This indicates an increase in demand for PO services. In

Adult 14 50 14 50 28 14 50 28 14 50 28 15 15 16	7-1,160 2-4,027
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Male 11 42,3 15 57,7 26 0,645 0,422 Female 9 36 16 64 25 1	-4,027
Male 11 42,3 15 57,7 26 0,645 0,422 Female 9 36 16 64 25 1	-4,027
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3 Type of services 17 48,6 18 51,4 35 0,043 1,100- 3 Orthotics 17 48,6 18 51,4 35 0,043 1,100- 4 Education 10 10 10 10 62,5 16 0,865 0,900 5 Employment 118 41,9 25 58,1 43 0,370 0,390	
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7 Distance	
	7-4,22
Far 3 42,9 4 57,1 7	-7,22
8 Transportation	
	-11,972
High cost 14 34,1 27 65,9 31	,• / _
9 Insurance	
)-1,952
No 12 44,4 15 55,6 27	
10 Medical referral	
No 13 41,9 18 58,1 31	-2,386

TABLE 2: Relationship between respondents' characteristics, socio-economic factors, and environmental factors with patients visits at The Clinical Laboratory of the Prosthetics and Orthotics (PO) at Health Polytechnic of Ministry of Health, Jakarta 1.



Торіс	Informant 1	Informant 2	Informant 3	Informant 4
General Policy of Organization	Clinical Laboratory should be develop and has own structural function	Prosthetics and	The Clinical Laboratory should be an independent and it should has own structural function.	The Clinical Laboratory of PO have been in Category 1 and it should has own management (category 1 : Pros- thetist/Orthotist, University entry level, 3/4 years formal structured leading to University Degree)
Operational Policy	There was a permit for clinical laboratory and complete infrastructure, but can not withdraw service fees from patients.	Clinical Laboratory needs legality, responsible physician, infrastructure, student learning clinic and receiving general patients	There was a permit for clinical laboratory and complete infrastructure	The Clinical Laboratory has function not only as student learning place but also as center of rehabilitation that accept patient and has doctor in charge.
Cooperation Policy	Increase collaboration with hospitals, foundations, universities.	This transformation will increase performance and demand of service.	Transformation Clinical Laboratory into BLU will be provide opportunities to collaborate with National Insurance, Hospital, foundations, and universities	Transformation Clinical Laboratory into BLU will be provide opportunities to collaborate with National Insurance, Hospital, foundations, and universities

TABLE 3: Results of interviews with management of The Health Polytechnic of Ministry of Health, Jakarta 1.

addition, it appears that in the Clinical Laboratory of orthotics prosthetic (OP) at Health Polytechnic of Ministry of Health, Jakarta 1, many patients have consistently utilized PO services, which requires repeat visits.

4.2. Correlation patient visit with age and gender

Based on bivariate analysis, there was no relationship between age and gender with the patient visits (P > 0.05). Many studies explain that there was no relationship between the age and gender to patient visits. The study of Geil and Coulter in 2014 and Wahyuni in 2011 study both proved that age and gender were not determinants of patient visits

Торіс	Group 1	Group 2
PO Services	Patients visit increase time by time, it because information about OP was shared in families, friends and collega of patients, however medical staffs, facilities dan infrastructure was limited. It was alternately used with teacing and learning process	there was cumulating of the number of new/establish patient in waiting lists, Patients visits increase year by year, whereas staffs, facilities dan infrastructure were limited
International Recognition from ISPO	Clinical lab staffs was Diploma (level 3 and 4) that included in Category 2	Some of Clinic lab staffs pursue Diploma (Level 4) that could be upgrade to category 1
Profession	Skill of Clinical lab is Category 2, it is professional level	Category 2 is professional

TABLE 4: Result of focus group discussion with Clinical Lab's staffs of The Health Polytechnic of Ministry of Health, Jakarta 1.

to clinics or hospitals [17, 18]. The results of this study contrast with Harkins et al who concluded in 2013 that demographic factors such as age and gender were related to the utilization of PO services [11].

4.3. Correlation patient visit with education, employment, and income

Education, employment, or incomes of patients have no relationship with the number of patient visits to the Clinical Laboratory of OP. The research conducted by Rumengan in 2015 and Wahyuni in 2011 showed no relationship between education, employment, and income with the frequency of insurance participant visits to the health center/clinic [18, 19]. Besides, Su'udi (2010) showed that households in the upper-middle class had a tendency to use free health facilities [20]. The study conducted by Irawan in 2017 also showed no relationship between education and employment in accessing health services [21].

A high level of education is expected for ease of communication and provide motivation for visit, health center or clinic. For the current situation, knowledge is not only obtained from formal education, but also from television, internet, and social media, so formal education is not always a factor associated with someone's decision to use the PO service or not.

The influence of the factor of employment is not much different from that of the level of education of patients. The condition of patients who work was expected to open opportunities for patients to get more information related to PO services, but along with the variability of work schedules, patients have no time to visit the PO clinic, so



the patient's condition is not always a decision factors to visit the PO. On the contrary, it is possible that patients who do not work that have the availability of time cannot determine whether to visit the clinic or not.

The income of patients that was above or below the RWMS did not affect the visit to the clinical laboratory of PO. The Clinical laboratory are free services that are expected to help patients from lower economic status, but in fact, the clinical laboratory of PO is also visited by patients who were members of the upper-middle class. This can happen because the location of the Clinical Laboratory of PO at Health Polytechnic of Ministry of Health, Jakarta 1 is in the center of Jakarta where information can be spread rapidly among patients, including middle-income patients.

4.4. Correlation patient visit with distance and transportation costs

There is no relationship between the distance of laboratory clinic of PO to patient's residence and transportation costs with the frequency of patient visit. This is in accordance with the research conducted by Yosa in 2015 regarding the number of dental clinic visits that are not influenced by distance factors [21], and research conducted by Su'udi in 2017 which also shows the same results [21].

Distance is not a determining factor in the frequency of patient visits. The location of the Clinical Laboratory of prosthetic orthotics (PO) in Health Polytechnic of Ministry of Health, Jakarta 1 allows patients to be access through various types of transportation that shorten the distance and shorten travel time. Good road conditions make distance a non-factor for patients to visit the clinical laboratory. This is also confirmed by a study in 2015 [21]. The transportation cost factor also has no effect on patient visits because access and transportation costs are currently varied and affordable. Additionally, private vehicle ownership can be a solution for distance and transportation costs [21].

4.5. Correlation patient visit with service types

Based on table 5, orthotic services affect the number of patient visits to the clinical laboratory of PO. In percentage terms, the majority of disabled patients need orthotic services.

Based on its function, orthotic is a strengthening tool for full-bodied limbs (AOPA, 2019). Orthotic is needed for patients who have fractures or for post-operative patients to recover mobility. The scope of the use of orthotic is far more than the use of prosthesis, leading to the conclusion that orthosis is more desirable3,5,6. Additionally, orthosis

Variable	visit				Total	P value	OR	95%CI
	Old	%	New	%				
Service type								
orthotics	17	48,6	18	51,4	35	0,043	4.03	1,100-16,925
Prosthetics	3	18,8	13	81,3	16			

TABLE 5: Visit distribution based on type of service.

production process is more economic and faster compared to prosthesis. Based on the theory developed by Andersen (1995) about behavioral theories of health service utilization, the character of patient needs influences patient visits.



Figure 1: Diagram 1 of the Initial Behavioral Model by Andersen.

The need for limb rehabilitation encourages people to find services that meet their needs, while the Clinical Laboratory of PO in Health Polytechnic of Ministry of Health, Jakarta 1 provides orthosis and prosthesis services for the community. This is in accordance with the need and demand concept formulated by Andersen (1995). Community needs for PO services are also strongly related to the existence of a health service system covering policies, resources, and service organizations (Andersen, 1995). In addition, global demand for PO services is increasing every year.

Based on the development of the need concept, it should be a driving force for the clinical Laboratory of PO to develop itself into a more independent health clinic through the status of Public Service Agency (BLU).

Government Regulation No. 23 of 2005 state the Public Service Agency (BLU) was control under the government. The Public Service Agency (BLU) was formed to provide services to the community in the form of goods or services with a buying and selling system that functions without prioritizing profit. By holding a Public Service Agency



(BLU) status, public institutions such as the Clinical Laboratory of PO in Health Polytechnic of Ministry of Health, Jakarta 1 can manage finances flexibly and can carry out sound business practices to improve service quality and quantity.

Based on information obtained from interviews of staff working at the Clinical Laboratory of OP in Health Polytechnic of Ministry of Health, Jakarta 1, it is seen that over time, the Clinical Laboratory needs to be developed into separate program study that have their own organizational structures (informants 1 and 3) and are legally so by having doctors, therapists, technicians, and others who are certified (informants 2 and 4). With the existence of an independent and legal organizational structure, the Clinical Laboratory of PO in Health Polytechnic of Ministry of Health, Jakarta 1 can hold a clinical permit and complete infrastructure (Informant 1). When the clinical laboratory has become a clinic, this can be the first step to change towards becoming a Public Service Agency (BLU) that can find its own patients, manage its own finances (informant 2), and to do its own business without ignoring the obligation as a public servant.

When the Clinical Laboratory of PO in Health Polytechnic of Ministry of Health, Jakarta 1 is a business unit of the Public Service Agency (BLU), students and laboratory staff can also obtain patients, and practice and conduct research related to the PO so that the Clinical Laboratory of PO can provide good and quality services. In addition, the status of BLU can enhance collaboration with other agencies such as National Insurance, hospitals, foundations, universities, and others (Informants 1,2,3,4).

Orthosis in Health Polytechnic of Ministry of Health, Jakarta 1 serves Foot Orthoses (FO) for various foot, leg problems or posture Ankle Orthoses (AO) and Knee Orthoses (KO) for joint protection, relieves pain or support after Ankle-Foot surgery Orthoses (AFO) and Knee-Ankle-Foot Orthoses (KAFO) to improve mobility, support rehabilitation and biomechanical orthosis of the upper limbs; to provide postural and functional support for the upper limb Fracture orthoses; modern alternatives to casts or fiberglass in cases of Spinal Orthoses; to correct or control spinal disorders and injuries and support spinal cord injury. Orthosis was made from various types of materials including thermoplastics, carbon fiber, metal, rubber, EVA, fabric or a combination of various materials. Some orthoses can be bought freely, while others require prescription from a doctor. One product in orthosis services is a custom foot orthoses or shoe insole that can support longitudinal arch media and stabilize the feet in a neutral alignment in patients with flat foot, Pes planus



Figure 2: Foot assessment for custom foot orthoses.

4.6. Correlation patient visit with medical referral

Based on bivariate analysis, referrals also did not affect the visit of the Clinical Laboratory of PO in Health Polytechnic of Ministry of Health, Jakarta 1. In this study, the majority of respondents did not obtain a referral from a physician to visit the Clinical Laboratory of PO. This indicates that the patient immediately came to the Clinical Laboratory of PO without consulting a doctor or hospital. This factor can be affected by minimal patient knowledge of the referral system [22]. In addition, free PO services allow patients not to use their health insurance so that the referral process is ignored. Even if the patient uses health insurance, a mandatory referral system is required.

4.7. Correlation patient visit with with insurance

This study shows that there is no relationship between the enrollment in health insurance and the number of visits to the PO Clinical Laboratory. This finding is in accordance with a study conducted by Wahyuni in 2011 [18], which stated that there was no relationship between the utilization of Community Health Clinic (*Puskesmas*) services and enrollment in health insurance in Balikpapan. PO services at the Clinical Laboratory of orthotics prosthetic (PO) in Health Polytechnic of Ministry of Health, Jakarta 1 were free health services, but almost 50% of patients who come to the PO clinic were enrolled in health insurance included peoples with income under Regional Minimum Wage (15%), whereas people who got national health insurance should use their insurance in public/private hospital or clinical were recommended by government. This could indicate that the reasons for patients to come to the clinical lab were due to needs23 and other personal considerations. In health insurance-JKN as managed by the Government (BPJS), PO services are one of the services included in the calculation of premiums. The cost of free services can actually be used by patients through health insurance plans. Patients should receive free care or pay subsidized fees [23,24].

In this study, 24 respondents are patients who have health insurance. That is, almost a portion of patients who visit the PO Clinic Laboratory, so it is not appropriate if the group is given free PO services or subsidies due to the initial purpose of free provision or subsidies to ease the burden of medical expenses on disadvantaged groups. For PO services with the concept of subsidies or which are administered for free, it should refer to WHO recommendations more, namely the target of the poorer people (beneficiaries poor), services that are really needed (adequate demand), and require large costs (catastrophic cost) [25]. Whereas for groups of people who are wealthy or already have health insurance, they are still charged fees or premium sharing can be initiated for more comprehensive health services.

5. Conclusion

There was independent variable that influences patient visits to the Clinical Laboratory of Prosthetics and Orthotics (JSPO) at Health Polytechnic of Ministry of Health, Jakarta 1. Namely, the need characteristics (type of orthotic service). The Clinic Laboratory of orthotics prosthetic (PO) in Health Polytechnic of Ministry of Health, Jakarta 1 followed international standard and performed best service so that Health Polytechnic of Ministry of Health, Jakarta 1 has the big potential into a BLU because it has a clinic that can be a source of income. Policies are needed to implement BLU.

6. Recommendation

The Clinic Laboratory of orthotics prosthetic (PO) in Health Polytechnic of Ministry of Health, Jakarta 1 has been running for several years with the number of patients up to hundreds every year.

Most PO patients already have health insurance and some of them were patients with middle to upper economic standing, so that free service programs were not centered on the segment of the population that it intends to target. Therefore, it is time for the Health Polytechnic of Ministry of Health, Jakarta 1 become a Public Service Agency (Badan Layanan Umum or BLU). When the Clinical Laboratory of orthotics prosthetic (PO) has become a business unit under Public Service Agency (BLU) of Health Polytechnic



of Ministry of Health, Jakarta 1, it is expected that Clinic Laboratory can manage its own finances, create better and targeted service programs, and can contribute as a health facility that receives Government Insurance services – JKN of BPJS or other health insurance schemes.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

Dana Riset Pembinaan Tenaga Kesehatan (Risbinakes) 2014.

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