ICASH-A10

THE RELATIONSHIP BETWEEN HEALTH FINANCING MECHANISM AND MORTALITY RATE IN SANTA MARIA PEKANBARU HOSPITAL

Arifin*, Amal Chalik Sjaaf

Hospital Administration Department, Faculty of Public Health, University of Indonesia

*Corresponding author. Email : dr.arifin@gmail.com

ABSTRACT

Background: *The main challenge of the health financing mechanism in Indonesia is the allocation of health spending which is still dominated by the private sector, whereas the largest proportion comes from out of pocket payments. The system are a significant barrier in accessing health services. Many individuals with chronis diseases postpone the search for medical services because of high health care cost. The consequences of the delay is the loss of opportunities to overcome chronic illness. This research was aimed to analyze the relationship between health financing mechanism and mortality rate (GDR and NDR) in Santa Maria Pekanbaru Hospital.*
Methods: *This cross-sectional study involves GDR and NDR of patients using out of pocket payment and those using health insurance in the year between 2014 - 2017. Data analysis was performed by independent samples t-Test (significance level p < 0,05).*
Result:*The result of independent samples t-test analysis indicated that there was a significant difference between GDR and NDR of patients using out of pocket payment and health insurance patients (p < 0,05). GDR score of patients using out of pocket payment was 9.58 times higher than health insurance patients. The NDR score of patients with out of pocket payment 6.79 times higher than health insurance patients.*
Conclusion: *The health service outcome in patients with out of pocket payment is lower than health insurance patients. The out of pocket payment financing mechanism is one of the major problems in the transition to Universal Health Covered. It is recommended that our government must increase the health budget which is at least in accordance with the rule of law and improve the allocation of public sector health funds at least 2/3 of the total health budget to reduce the proportion of out of pocket to total health expenditure. Health care providers should do efficiency in all areas to reduce the cost of health services. Patient who do not have health insurance will have to rearrenge the allocation of their household expense to pay premium insurance and implement the healthy life habits.*

Keywords: *GDR, health financing mechanism, NDR, out of pocket*

INTRODUCTION

Health financing systems are critical for reaching universal health coverage. Increased funding for health may reducing barriers in services access through prepayment and subsequent pooling of funds in preference to direct out of pocket payments and allocation or using funds in a way that promotes efficiency and equity [1]. There are five aspects of the health financing: revenue raising, pooling, purchasing, benefit design and entitlement, and governance [2].

Health financing sources can be derived from government expenditures, including all healthcare-related expenditures sourced from central and local government, voluntary payments by individuals or workers deemed to be private outsourcing (Out Of Pocket), external sources, eg external assistance (donors) through bilateral cooperation or international and private NGOs or BUMNs that directly provide health services for employees, such as clinics or hospitals [3].

The health financing mechanism consists of out of pocket spending, private and social health insurance contributions, and taxes [4]. Out of pocket payments, defined as direct paid health costs which depends on the willingness and ability of individuals or households to pay [5] . Generally, the final burden of private health insurance (whether it is financed by the employer and/or employee) is by assumption, borne by the household. The same is usually the the case for social health insurance contribution on behalf of the employee [4].

The combination of different financing mechanism depending on the economic, social, and political conditions in different countries. In the low income group, the share combination is as follow: out of pocket (67%), government / public resources (26%) and private pooling (7%). With the income level increase to middle income countries, out of pocket (36%), government / public resources (54%) and private pooling (10%). As income levels in countries riset o a high level changes in the health financing combinations, including a further decline in out of pocket up to 14%, further increase in government / public resources up to 62% and private pooling up to 24% [6].

Health financing in Indonesia has been regulated in Law No. 36 of 2009, article 171 stating that government health budget is allocated at least 5% of APBN outside of salary. This has not been fulfilled to date. Although the health budget in 2016 and 2017 has reached 5% of the state budget but still includes salary. The main challenge faced by Indonesia in the transition to Universal Health Covered is that the allocation of health spending is still dominated by the private sector and the largest proportion of the private sector comes from out of pocket payments. Although since the implementation of JKN the proportion of out of pocket payments has declined (45.3% in 2014 to 42.8% in 2015), but the value is still increasing from 171.2 trillion in 2014 to 184.4 trillion in 2015 [7] .

Table 1. Details of Indonesian Health Expenditure 2010 - 2015

Financing Agents (Rp) Trillion	2010	2011	2012	2013	2014	2015
Public Health Expenditure	73.5	83.1	101.4	121.1	156.2	194.8
Ministry of Health	12.2	13.1	16.6	18.0	18.5	22.1
Other Ministries / Institutions	3.7	3.9	4.0	4.9	4.4	4.5
Provincial government	14.5	16.1	19.4	22.7	26.5	32.2
District / City Government	31.6	35.2	43.9	51.5	57.8	71.3
Social Security Fund	11.5	14.7	17.4	24.0	49.0	64.6
Private Health Expenditure	161.5	178.6	189.4	201.9	218.4	232.7
Private Insurance	5.3	4.4	5.4	6.5	6.3	7.3
OOP	131.5	144.1	150.9	157.6	171.2	184.4
NPISH	1.7	1.9	2.0	2.1	2.3	2.3
BUMN	6.0	7.3	7.9	8.7	9.6	9.6
Private Company	16.9	21.0	23.3	26.9	29.0	29.0
ROW	2.2	2.5	2.7	2.9	3.2	3.2
Total Health Expenditure	237.2	264.2	293.5	325.9	377.8	430.6

Financing Agents (Rp) Trillion	2010	2011	2012	2013	2014	2015
Health Expenditure per capital (Rp)	661,515	1,091,720	1,195,919	1,309,636	1,498,091	1,685,732
Health Expenditure per capital (US $)	109	124	127	125	126	126

Problem of disparities also still exist in terms of out of pocket payments. Based on wealth differences and analysis of the proportion of average morthly per capita household costs for health, data from the Indonesia Family Life Survey (IFLS) show that for group of rich, health costs were just 2% of monthly per capita income. But for near-poor, the proportion rose to 8% and for the poor population it escalated considerably, to 57% [8].

The proportion of health expenditure by public sector indicated the extent of government's involvement in social security and health financing (ministry of National Development Planning, 2014b). In 2012, although national health insurance had not yet commenced, the share of public sector on total health expenditure went to almost 40%. Obviously this share was expected to increase when social health insurance was implemented in 2014. In 2014, the nominal amount of public expenditure for health was 15% higher compared to that of in 2012 [8].

High and rising out-of-pocket cost are one reason that a sizeable minority of people avoid health care [9]. Out-of-pocket expenditure are a significant barrier in accessing health services [10]. The out of pocket financing system also indirectly influences treatment outcomes. This is due to the patient's delay in seeking medical assistance [11]. Many individuals with chronic illness postpone the search for medical services for fear of high health care costs. They are only seeking care when the disease has been severe and requires advanced medical care. The consequences of such delays are the loss of opportunities to overcome chronic diseases such as heart disease, cancer, diabetes and others [12]. In addition patients are also skipped recommended screenings, treatment, and follow up care [13].

Increased spending on health services with out-of-pocket has been linked to an increase in mortality rates [14]. There are several indicator to measure mortality rate, among others: (1) Gross Death Rate, (GDR) gross mortality or general mortality rate for every 1000 patients out. The GDR indicators are used to determine the quality of hospital care. The lower GDR indicates better hospital service quality. According to the Ministery of Health the ideal GDR score of no more than 45 per 1,000 patients, (2) Net Death Rate, (NDR) is the net mortality or net mortality rate 48 hours after the patient treated every 1000 patients out. Indicators are used to determine the quality of inpatient care. The lower number of hospital NDRs means better service quality. According to the Ministery of Health the NDR score can be tolerated less than 25 per 1,000 patients out [15].

WHO recommends that countries reduce out of pocket payments and aim to keep them below 15% of total spending on health [16]. The patient's of Santa Maria Pekanbaru Hospital financing mechanism consists of two types: out of pocket and health insurance. Health Insurance in collaboration with Santa Maria Hospital consists of social health insurance such as BPJS Employment and private insurance. The proportion of out of pocket financing mecanism is 70.96% of total financing [17]. Based on these facts will be analyzed the relationship of health financing mechanism with mortality rate at Santa Maria Hospital Pekanbaru.

METHODS

The study method is comparative analysis by using secondary data from Santa Maria Hospital Pekanbaru. Data retrieval is retrospective (2014 – 2017). Mortality rate is counted to get Total GDR and NDR. The data then is compared between patients using out of pocket financing mechanism with patients using health insurance.

RESULTS

Based on data processing of mortality rate at Santa Maria Pekanbaru Hospital year 2014 – 2017 obtained result of average of GDR is 24,20 and mean of NDR is 9,14. The results are reprocessed to obtain the average GDR and NDR yields according to the financing mechanism as shown in Table 2.

Table 2. Data processing result of mortality rate based on financing mechanism at Santa Maria Pekanbaru Hospital (2014 – 2017)

	NDR		GDR	
	Out of pocket	Health insurance	*Out of pocket*	Health insurance
2014	14,63	3,76	36,27	6,54
2015	11,99	2,16	34,89	5,52
2016	11,36	0,00	31,58	0,00
2017	12,56	1,50	33,66	2,18
TOTAL	50,54	7,42	136,40	14,24
MEAN	12,63	1,86	34,10	3,56

From 2014 – 2017, the average NDR for out of pocket is 12,63. From 2014 – 2017, the average NDR for health insurance is 1,86. From 2014 – 2017, the average GDR for out of pocket is 34,10. From 2014 – 2017, the average GDR for health insurance is 3,56.

DISCUSSION

Santa Maria Hospital Pekanbaru is a type B public hospital with a capacity of 200 beds. From the data of 2017 the number of inpatients 16.564, outpatient 197.042, BOR 70% , LOS 3,4, and TOI 1,9. The results of GDR and NDR studies at Santa Maria Pekanbaru Hospital showed good values of GDR 24,20 and NDR 9,14 (national standard GDR <45 per 1000, NDR <25 per 1000). This means that the results of health services at Santa Maria Pekanbaru Hospital have met the indicators of mortality by national standards. The GDR scores of patients using out of pocket payment were 9,58 times higher than health insurance patients. The NDR score of patients with out of pocket 6,79 times higher than health insurance patients. Higher GDR and NDR rates in patients using out of pocket payment systems indicate that there are problems with the financing system.

The out of pocket payment are a barrier in accessing health services. Many people will tend to delay treatment and seeking care when the disease has been severe [10]. One in four patients have skipped a medical treatment of follow up appointment because of cost. In a effort to curb costs, 18 percent of patients have skipped doses of medicine, while 27 percent have skipped filling prescriptions altogether [18].

It is important for providers to understand how high out of pocket costs can impact patient treatment utilization, who restricted access can impact overall health, and what role healthcare organization can play in working with patients to alleviate cost burdens and help them take advantage of opportunities for necessary [18]. The result of this study are line with research by Woolhandler adn Himmelstein who

summarized the finding of multiple studies that compared mortality rates among those who are insured and who are not. Most have concluded that those who are insured suffer from lower mortality rate compared with the uninsured [19].

CONCLUSION

Indicators of mortality rate (GDR and NDR) of patients with out of pocket payment is higher than patients covered by health insurance. The health service outcome in patients with out of pocket payment is lower than health insurance patients. High out of pocket costs keep patients from accesing care. The out of pocket payment financing mechanism is one of the major problems in the transition to Universal Health Covered The central government is expected to increase the health budget at least in accordance with the rule of law (5% of the national budget, outside of salaries), improving the allocation of public sector health funds (at least 2/3 of the total health budget to reduce the proportion of out of pocket to total health expenditure), accelerate the achievement of universal health covered and using the latest data in determining the recipient of social security health program. For the provincial and district, increasing the health budget in the area at least in accordance with the rule of law (10% of the provincial and district budget, outside of salaries) is needed as well efforts to improve the effectiveness and efficiency of the use of health budget in the area. The health providers are expected to reduce the cost of health services by promoting wellness, prevention, chronic care management, and encourage patient responsibility for health and cost-consciousness.

REFERENCE

1. WHO. Health systems : Health systems financing. World Health Organization. 2018.
2. Cali J, Makinen M, Derriennic Y. Emerging Lessons from the Development of National Health Financing Strategies in Eight Developing Countries. Health Systems & Reform, 4(2):136–145.2018.
3. Nadjib M. Materi Kuliah Ekonomi Kesehatan Bab Pembiayaan Kesehatan. 2018.
4. Ataguba JE, Asante AD, Limwattananon S, Wiseman V. How to do (or not to do)... a Health Financing Incidence Analysis. Health Policy and Planning. 2018.
5. Wei Fu, colleagues. Research in health policy making in China: out-of-pocket payments in Healthy China 2030. Medical Research in china. 2018.
6. Ahangar A, Ahmadi AM, Mozayani AH, Dizaji SF. The Role of Risk-sharing Mechanisms in Finance Health Care and Towards Universal Health Coverage in Low-and Middle-income Countries of World Health Organization Regions. JPMPH. 2018.
7. Sekretaris Jenderal Kementerian Kesehatan RI. Upaya Bersama Untuk Meningkatkan Kualitas Pembangunan Bidang Kesehatan Dalam Rangka Meningkatkan Standar Kesehatan Masyarakat. Seminar Kajian Bidang Kesehatan. 2017.
8. Mahendradhata Y., et al. The Republic of Indonesia Health System Review. Asia Pacific Observatory on Health Systems and Policies Vol.7. 2017.
9. Fauxon M. Out of pocket costs: a critical health issue to watch in 2018 – but first, some history. 2018.
10. Kujawska J. *Impact Of The Financing Structure On Efficiency Of Healthcare Systems In The Former Eastern Bloc Countries*. Quantitative Methods In Economics Volume XVIII , No. 1, 2017, pp. 78 – 87. 2017.
11. Dangi S, Garimella. Financial Burden an Unintended Outcome of Cancer Care. AJMC. 2018.
12. Smith KT., et al.. Access Is Necessary but Not Sufficient: Factors Influencing Delay and Avoidance of Health Care Services . MDM Policy & Practice. 2018.
13. Heath S. 64% of Patients Avoid Care Due to High Patient Healthcare Costs. Patient Responsibility News. 2018.
14. Noel JK. Public health care funding modifies the effect of out-of-pocket spending on maternal, infant, and child mortality. Journal Health Care for Women International Volume 38, 2017 - Issue 3. 2016.
15. Warkawania FM, MsenY, Rantetampang AL. Performance of Jayapura General Hospital used Balanced Score Card on Year 2015 and 2016. International Journal of Sciences: Basic and Applied Research (IJSBAR) ISSN 2307-4531.2017.
16. WHO. World Health Day 2018: Key messages. World Health Organization. 2018.
17. Rumah Sakit Santa Maria Pekanbaru. Profil Rumah Sakit Santa Maria Pekanbaru 2017. 2018
18. Heath Sara. How out of pocket cost affect patient healthcare access. Patient Engagement HIT. 2017.
19. Woolhandler S, Himmelstein DUA. The Relationship of Health Insurance and Mortality : Is Lack of Insurance Deadly?. Ann Intern Med. 2017.