The Impact of National Health Insurance Program on Equity of Inpatient Care Access in Hospital: The Indonesian Family Life Survey Data

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Abstract: Access to health care is a basic right of every resident. The State has an obligation to ensure the health for every citizen. By implementing the National Health Insurance Program (*Program Jaminan Kesehatan Nasional, JKN*). The main objectives of the JKN is to improve access of health services and to improve egalitarian equity. To evaluate how far the JKN meeting the goal studies are needed. The purpose of this study is to evaluate the impact of the JKN equity of inpatient care. The design of this research is retrospective quasi experiment using IFLS data of 2007 and 2014. The sample is IFLS respondents which is ≥ 40 years old. The analysis used Probit, Propensity Score Matching and Difference in Difference. The results showed that the JKN increase inpatient probability by 115.8%. The study found significant improvement of concentration index (more equitable) among JKN member. The researcher recommended acceleration of JKN membership and the availability of hospital beds within reasonable geographical access to further improve equity.

1 INTRODUCTION

Access to health services is a basic right of every resident. Access is defined as the opportunity and ability of a person to obtain the necessary health services and protection from financial risks (Appiah et al 2011; Braveman 2006; vans et al 2013). The fulfillment of human rights to access to health services is a means of equitable distribution of health services that must be accepted by every resident regardless of economic level (egalitarian equity).

Egalitarian equity is agreed as the most important goal in any health system in the world[5]. Unfairness in access and utilization of health services will have an impact on health inequalities (Liu et al, 2012). The disparities in access to health services occur in almost all countries, including Indonesia. Access disparities occur in all types of primary and secondary health services. But in this study, researchers focused on inpatient disparities that can impoverish the population, if they do not have an insurance. One characteristic of complex advanced health care services is there is a huge cost for each service that is generally unaffordable for each family. Out-of-pocket health spending causes a high gap (there will be no equity).

The facts of inequality in access to health services in Indonesia are caused by several aspects such as geographical aspects, limited health facilities, limited health budget and unequal distribution of health personnel throughout Indonesia. The fact of inequality of access in Indonesia from various aspects mentioned above has long been a concern of the government. Until the end of Law number 40 of 2004 mandated to the state to develop a national social security system which one of them is health insurance (Bappenas, 2015). On January 1, 2014 Indonesia officially launched the National Health Insurance (JKN) program managed

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The National Health Insurance Program (JKN) is organized nationally with the primary objective to improve the access to formal health care and to improve the equity of healthcare. The JKN program is the state's effort to ensure the fulfilment of basic public health needs so that they can live healthy, productive and prosperous lives.

The result of monitoring and evaluation of JKN by some independent institutions, mass media and also academics showed that the main problem of JKN on health service in hospital. Based on the facts presented above, it is necessary to continuously evaluate JKN to see how far the goal of improving access to and equity of health services is achieved.

2 METHODS

This study is an impact evaluation that aims to measure the effects of the National Health Insurance (JKN) Program on the equity of inpatient services access at the hospital. This study used a quasi-retrospective experimental design. The picture of the effects of JKN on inpatient care equity is derived from the measurement of equity utilization of inpatient services prior to JKN and after the current JKN program. This study using IFLS (Indonesian Family Life Survey) data in 2007 (describe condition before there JKN program) and 2014 (describe condition after JKN program implemented). The data sets are also supplemented with Village Potential Survey data (Survei Potensial Desa, *PODES*) to complement the description of health facility variables. The location of this study covers all areas of IFLS samples in 13 provinces in Indonesia (IFLS I): in Java, Sumatera, Bali, West Nusa Tenggara, Kalimantan and Sulawesi.

The sample of this research is IFLS respondents who have age ≥40 years with sample number 12,964 respondents. The basic selection of research samples with age ≥ 40 years is inpatient services largely due to chronic conditions and questions related to chronic conditions in IFLS are only asked on respondents who have age ≥ 40 years. The analysis used in this research is a combination of propensity score matching and difference in difference (PSM-DID), concentration curve and concentration index

3 RESULTS

The impact of the JKN program on inpatient access in this study was measured using a combination of propensity score matching and difference in difference (PSM-DID) methods. The result of PSM-DID calculation in this study as follows:

Table 1: Difference of In-patient Utilization in Hospital in Before and After JKN Program

	Before JKN			After JKN			DID	
Variable	JKN	Non-JKN	Diff	JKN	Non-JKN	Diff	Diff	Sig
	Mean	Mean		Mean	Mean			
Total In-patient	0.029	0.010	0.019	0.053	0.012	0.041	0.021	***
In-patient in Public Hospital	0.023	0.006	0.017	0.031	0.006	0.024	0.007	***
In-patient in Private Hospital	0.006	0.004	0.002	0.024	0.005	0.019	0.016	***

Note :significant: p value <0.01

The difference values indicate the magnitude of the impact of the JKN program on the utilization of inpatient services in hospitals. The result of the analysis shows that the JKN program significantly (p value <0.01) gives the same impact on access of inpatient service in hospital that is 115,8% (2,1 points). When the analysis was done separately on each type of hospital (not combined), the PSM-DID analysis results showed differences in both types of samples. In the main sample of the study (respondents ≥ age 40 years) it appears that the JKN program significantly (p value <0.01) had an effect on access to inpatient services in private hospitals of 850% (1.6 points) and at government hospitals 41.2% (0.7 points). The results of this study are in line with several studies conducted in Indonesia as well as in some countries where health insurance is significantly able to improve access to health services. A study of the compulsory health insurance effect on outpatient equity in Indonesia conducted by Budi Hidayat, et al (2004) proves that ASKES insurance for civil servants has a strong positive impact on access to outpatient services in government health facilities.

The ultimate goal of this study was to identify changes in the equity of access to inpatient health care services in hospitals after 1 year of the current JKN program. The equity of inpatient health

services in this study was analyzed using concentration and concentration index.

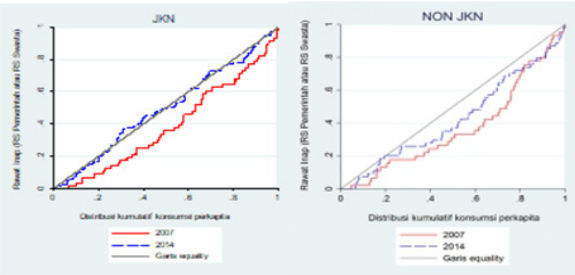

Figure 1: Concentration Curve of Hospital's In-patient Care in The Before and After Implementing JKN in JKN and Non-JKN Group

The concentration curve in figure 1 indicates that the JKN program is able to improve access inpatient care gaps in hospitals. This can be proven in the JKN group in 2014 (after the JKN program is implemented) the position of the curve moves closer to the equity line compared to 2007 (before the JKN program is implemented) the curve is below the equity line. The same thing happened to non- JKN group, but the biggest change of equity in inpatient care occurred in JKN group.

The magnitude of the equity value of the JKN and Non-JKN group curves in the figure 1 can be measured using the concentration index. Differences of the equity value of the JKN and Non-JKN groups are the magnitude of the impact of JKN on the equity of inpatient care access at the hospital.

Table 2: The Impact of National Health Insurance Program on Equity Of Inpatient Care Access in Hospital

Variable	JKN Group		Non-JKN Group		Diff
	2007	2014	2007	2014	
	CI	CI	CI	CI	
Total In-patient	0.226	0.006	0.263	0.151	(0.108)
In-patient Public Hospital	0.218	(0.055)	0.182	0.104	(0.196)
In-patient Private Hospital	0.293	0.084	0.414	0.205	0.000

Table 2 shows that the impact of the JKN program on the equity of inpatient care access in hospitals is -0.108. A negative concentration index gives meaning that hospitalization services provided by the JKN program are more utilized by the poor

4 DISCUSSION

This study proved that after 1 year have implemented, JKN program able to give positive impact on access of inpatient service in hospital by 115.8% (2.1poin) in the sample of the research with age ≥40 years old.

The results of this study are in line with several studies conducted in Indonesia as well as in some countries where health insurance is significantly able to improve access to health services. A study of the compulsory health insurance effect on outpatient equity in Indonesia conducted by Budi Hidayat et al (2004) have been proved that ASKES insurance for civil servants has strongly positive impact on access to outpatient services at government health facilities (Hidayat, et al, 2004). Sparrow et al (2013) conducted a study on Askeskin in Indonesia, the results showed that the Askeskin program was able to improve the utilization of health services in both outpatient and inpatient services (Sparrow, et al, 2013). Another similar study showed that health insurance is able to provide economic protection to civilian civil servants on inpatient and outpatient health services so that their access to health services is widespread (Sparrow et al,2013; Szarcwald, CL et al 2010).

Equal conditions in access to health care for all residents are an ideal condition expected by each country (Bonfrer, et al, 2016). Findings from studies from various countries show that social insurance can improve the equity of access to health services (Braveman,2006; David HP et al, 2008; Hidayat, 2004). When access equity can be achieved it will affect the occurrence of macro efficiency (low health costs). Efficiency is one of the expected outcomes of a market mechanism in healthcare (Szarchwald et al, 2010).

The improvement of equity in inpatient services in hospitals on the findings of this study has an influence on the main national policies on the JKN program. Although the access of inpatient services has not reached a perfect condition of equity but the findings of this study indicate scientifically that the JKN program is able to improve access to in-patient hospital health services and be able to change the condition of equity inpatient access to equity is perfect compared to before the program JKN. Thus it can be said that the government needs to make continuous efforts to

expand the participation of JKN so that access equity can be immediately achieved according to the main purpose of JKN.

5 CONCLUSION

This study proved that after 1 year have implemented, JKN program able to give positive impact on access of inpatient service in hospital by 115.8% (2.1poin) in the sample of the research with age ≥40 years old.

This study concludes that there has been a change in utilization of inpatient services after the JKN program runs 1 year. The impact of the JKN program on inpatient care access was 115.8% of samples aged ≥ 40 years. This study also proves that the JKN program is able to narrow the gap of inpatient service access in hospitals in all income groups. Researchers recommend suggesting accelerated coverage of hospital coverage and availability of hospitals within adequate geographic coverage for equity improvement.

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