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Impact of Universal Healthcare Coverage (*Jamsoskes*) in South Sumatera

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Impact of Universal Healthcare Coverage (*Jamsoskes*) in South Sumatera

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I. Introduction

Despite health improvements over the past several decades, indicators still show that South Sumatera ranks in the bottom third of all Indonesian provinces with regard to life expectancy, infant and maternal mortality rates, and malnourishment among children (UNDP 2010). In January 2009, the provincial government instituted *Jaminan Sosial Kesehatan Sumatera Selatan (Jamsoskes*) with the goal of providing universal healthcare coverage. Jamsoskes aims to provide free basic health services to the 4 million South Sumatera citizens not covered under existing programs, such as *Jamkesmas,* which provides coverage for the very poor, and *ASKES*, which covers formal-sector employees. The Jamsoskes-eligible population constitutes about a half of South Sumatera's total population. This research proposes to evaluate the effects of the Jamsoskes program on healthcare utilization and on health outcomes.

South Sumatera's introduction of the Jamsoskes system provides a unique opportunity to study the effects of extending healthcare coverage to a segment of the population that can roughly be classified as "middle-class." The Jamsoskes-eligible population represents a portion of the population that is more educated than other government targeted populations and thus may be more likely to participate in the program. An evaluation of the program in South Sumatera will shed light on the effectiveness of universal healthcare in developing countries, and will assist other provincial or national governments considering similar expansions of healthcare coverage.

The general objective of the study is to gauge the impact of Jamsoskes on healthcare utilization and health outcomes in South Sumatera by using data from the 2007 and 2011 SUSENAS and 2007 and 2010 RISKESDAS (*Riset Kesehatan Dasar*). Specific objectives are as follows:

- To determine whether universal healthcare coverage resulted in an increase in the number of inpatient, outpatient, and prenatal care visits.
- To examine whether families are increasing their use of all healthcare services.
- To evaluate whether levels of use differ by age, education, and gender.
- To capture any variation in use by (1) urban versus rural areas, and (2) income group.
- To consider the effect of *Jamsoskes* on health outcomes (infant and adult).
- To study the effect of *Jamsoskes* on days of normal activity disrupted by illness.

2. Region and Sector Context

South Sumatra Province has an area of 99,888.28 square kilometers on the island of Sumatra, in the western part of Indonesia, south of the equator at 10 to 40 degrees South latitude, and 102 to 108 degrees east longitude. It has four boundaries with other provinces (i.e., Jambi, Bangka Belitung, Bengkulu and Lampung.)

South Sumatra is known as Sriwijaya Land because it was the largest and most powerful kingdom in Indonesia from the 7th to the 12th century. It was a trade center close to the Malacca Straits, and its influence was felt up to Formosa and China in Asia, and Madagascar in Africa. During the Sriwijaya era, Palembang, the capital city, was known as Buddha's center. After this era, South Sumatera was mostly affected by Hinduism under the Majapahit kingdom (13th to 14th century), then the Tiongkok culture for about 200 years, when South Sumatera was not ruled by any kingdom.

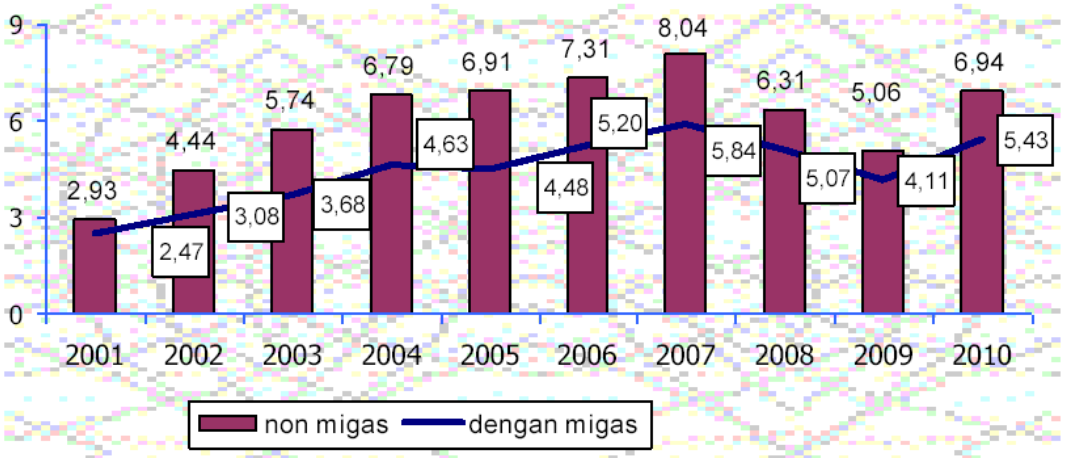
In the early 17th century, South Sumatera was under the Islamic kingdom from Java and absorbed Islamic and Javanese culture. The western cultures started influencing South Sumatera through Dutch

colonialism, then British and American culture after Indonesia achieved independence, and as several oil and mining companies operated in South Sumatera. A great number of migrants from Java worked at the oil, mining, and plantation companies. Hence, South Sumatera, particularly Palembang, is known as melting pot of various cultures. The nonmaterial culture is mostly influenced by India and the Middle East, while the material culture is affected by Java, Tionghoa, Europe, and the United States.

The South Sumatra Population total 7.4 million people, located in 11 districts and 4 cities (2010). The biggest area is Ogan Komering Ilir district, while the highest population density is in Palembang city. South Sumatra is also known as Nine Batanghari province because it has 9 big rivers, Musi, Ogan, Komering, Lematang, Kelingi, Rawas, Batanghari Leko, and Lalan. In the past, the indigenous people lived along the riverside and established communities. The tribes were named after the rivers e.g. Ogan, Komering etc. Thus, the local people comprise various tribes, such as Palembang, Ogan, Komering, Semendo, Pasemah, Gumai, Lintang, Musi Rawas, Meranjat, Kayu Agung, Ranau, Kisam, etc.

They are also known as a religious society with a Moslem majority, about 94.43 percent, the rest are Christian 1.83 percent, Buddhist 1.80 percent, Catholic 1.04 percent, and Hindu 0.90 percent. Despite this religiosity, local people today are characterized as extroverted, persistent, modern, and open-minded particularly to innovation and reformation.

South Sumatera's economic performance is improving due to high demand for mining and services, but not all enjoy the benefits of this improvement. This situation could induce social conflicts if the local people lack of access to the economy compared to the migrants. Economic growth from 2001 to 2010 is presented in the following figure:



JAMKESDA KAB MUSI BANYU ASIN

According to the most recent data available from the Ministry of Health, 60.24% of the population (142,179,507 people) are covered by health insurance, while nearly 40% (95,376,856 people) are not. About 53.7% of health insurance comes from *Jamkesmas*, and 67.4% from Kabupaten/kota through *Jamkesda.*

Universal healthcare coverage in South Sumatera began on January 22, 2009. The governor of South Sumatera, a former district head of Kab Musi Banyuasin (Muba), introduced this program, which was basically modeled after the first universal healthcare program in Kab Musi Banyuasin. Universal healthcare in Muba started in 2002 with a Pilot project for selected poor families. This program was called *Askes Perdana*. Following the Pilot, in 2003-2004, Muba expanded the program by covering all

poor families, and was called *Gakin* Muba (poor family Muba). Since 2005, all poor families under Gakin Muba were transferred into the national program called *Askeskin Nasional*. This was the first program from the Ministry of Health, applied throughout Indonesia, and managed by PT *Askes.*

On 1 January 2007, Kab Muba launched *Jamkesda* which covered the whole society in Muba. It covers 400,000 people that were not part of any health insurance system, i.e. *Askeskin* Nasional (*Jamkesmas*), *Askes*, *Asabri*, and *Astek*[1]. During early implementation, PT Askes managed this program, with a payment system based on capitation allocated to PT *Askes*. In this system, if there is an under claimant at the end of fiscal year then the remaining funds go to PT *Askes*, as it has been allocated in the beginning. Also, there is a management fee of 1.5% for each person covered by *Jamkesda*.

Since 1 June 2008, *Jamkesda* has changed the payment system into a self-management system (*swakelola*) to increase budget efficiency. Under the new system, payment is based on the claim mechanism directly from health facilities to the local government c.q. Local Health Office (*Dinas Kesehatan*). If an under claimant occurs then the remaining funds go to the local budget as unused funds (SILPA) to be spent on the next year's budget. Also, there is no need to pay management fees to the local government as this is under *Dinas Kesehatan* management.

Until 2012, non-poor people could use *Jamkesda* by paying the difference charged covered by insurance. For instance, *Jamkesda* will pay for a third class facility at a hospital, while the non-poor patient will upgrade into a higher class by paying an additional charge to the hospital. However, since 2013, if non-poor patients are willing to use *Jamkesda*, they have to use the full program, otherwise they cannot access health services using *Jamkesda*. This encourages a self-selection mechanism among the non-poor patients to self-exclude from the *Jamkesda*.

The service coverage of *Jamkesda* is exactly the same with *Jamkesmas*[2] as a national program, so there is no jealousy among poor people in terms of health services. Premium insurance is also the same cost and remains unchanged since 2002 by IDR 5,000 per person per month. However, Kab Muba applies a higher premium for high rank officials, i.e. VVIP and VIP health services. The district government has been signed MOUs with other hospitals located at the boundaries (under Jambi Province jurisdiction), as well as the referral hospital at Palembang and Jakarta for advanced treatment. The patient should have a reference letter from lower health facilities to access the higher ones for advanced treatment. One person covered by Jamkesda during the treatment will accompany each patient that needs advance treatment outside Muba, or even outside South Sumatera. The requirement to access *Jamkesda* an ID and or family card issued by Kelurahan or Village Head. Since 2013, Kab Muba plans to issue *Jamkesda* cards to replace IDs and or family cards.

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[1] There are various health insurance schemes in Indonesia: (i) *Askeskin Nasional (Jamkesmas)* is health insurance for poor families throughout Indonesia issued by the Ministry of Health. The premium charge as well as facilities and services are the same with *Jamkesda* and/or *Jamsoskes*. This program has evolved into many forms since the 1980s. (ii) *Askes* is health insurance for civil servants and or BUMN with a little bit better facilities; (iii) Asabri is health insurance for military; (iv) *Astek* is health insurance for laborers or workers in the private sector.

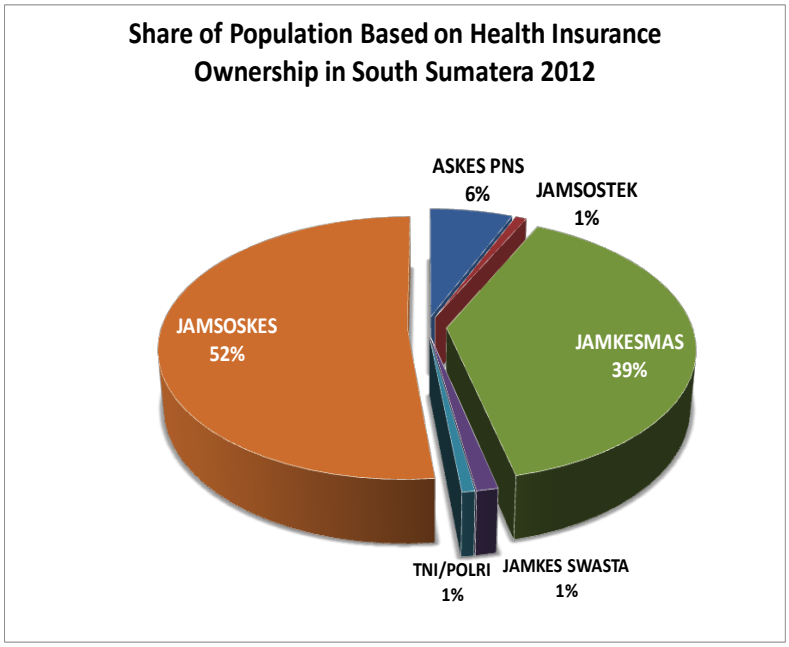
[2] Jamkesmas covers comprehensive healthcare i.e. outpatient, emergency, third-class inpatient hospitals, as well as advance treatment at reference hospitals.

JAMSOSKES IN SOUTH SUMATERA

The basic idea of the *Jamsoskes* program in South Sumatera province is exactly the same as *Jamkesda* in Kab Muba, and *Jamkesmas* the national program from the Ministry of Health. Recipients of *Jamsoskes* coverage may seek free medical care in local public health clinics (*Puskesmas, Pustu, Polindes, Poskesdes*) or in public hospitals. In order to receive free general care in a health clinic, individuals must either show their *Jamsoskes* card or a copy of a family card (although there are some reported difficulties with receiving care with only a family card). If more intensive care is needed at a hospital, patients must first obtain a reference letter from a local clinic before receiving free care in a hospital.

From our fieldwork, it appears therefore there is no jealousy among poor people in terms of health services. The health services of *Jamsoskes* exclude the following (i) unstandardized procedures, (ii) cosmetic treatment, (iii) general check-ups, (iv) prosthesis, (v) alternative medications, such as acupuncture, herbal or traditional medication, and other medication that have not been academically proven, (vi) medication on fertility and impotence, and (vii) treatment or medication during emergency response due to natural disaster or social activities.

Jamsoskes covers all citizens throughout South Sumatra province, except those that hold other health insurance, and Muba citizens. Kab Muba is excluded from this program as Muba already has their own *Jamkesda*. According to the most recent data, in 2012, out of 7.4 million people in South Sumatera, more than half were covered by *Jamsoskes* (52%), 39% were under the Jamkesmas scheme, and the rest is covered by other health insurance (*Askes*, *Jamsostek*, *ASABRI*, etc.). This program is under a regulatory framework from Governor Regulation (*Pergub*) No 23 Year 2009 concerning the guidelines to conduct *Jamsoskes* in South Sumatera, Local Regulation (*Perda*) No 2 Year 2009 on the *Jamsoskes* program, commitment with all district heads and Ministry of Health to conduct and support *Jamsoskes.*



In terms of financing *Jamsoskes*, there is a co-payment among districts to share the total allocated insurance budget. On average, districts pay 30-40% contribution sharing to the Province proportional to the number of population in each district. In this case, Kab Muba contributes 100% for *Jamsoskes*, meaning that Muba is self-financed for its *Jamkesda*. The provincial government allocates a budget of

IDR 240 billion for *Jamsoskes* every year since 2009. Sharing from districts has increased from IDR 81 billion in 2009 to IDR 90.2 billion and IDR 101.8 billion in 2010 and 2011, respectively.

Similar with Muba, the payment system has changed since 2013, from capitation to PT *Askes* into self-management by *Dinas Kesehatan* at the Province office. Also, since 2013, non-poor families that want to upgrade health facilities by paying additional charges are no longer allowed. The South Sumatera province has signed MOUs with referral hospitals at Jakarta for advanced treatment, but not with the hospitals at the boundaries. However, unlike Kab Muba, *Jamsoskes* only covers patients that need advance treatment outside South Sumatera, and does not cover patient's companions during treatment. The requirement to access *Jamsoskes* is the same, i.e. ID and or family card issued by Kelurahan or Village Head. Since 2013, there will be a *Jamsoskes* card issued by the province government to replace IDs and/or family cards.

Compared to *Jamsoskes*, a universal healthcare program issued at the provincial level, *Jaminan Kesehatan Aceh* (JKA) was launched by Aceh Province on 1 June 2010. This program is managed by PT *Askes*. The basic idea is actually similar with *Jamkesda* and/or the *Jamsoskes* program implemented in Muba and South Sumatera. Since first launching in 2010, the payment system is based on capitation allocated to PT *Askes*. If an under claimant happens then the remaining funds go to PT *Askes* as it has been allocated in the beginning. It appears that PT *Askes* tends to refuse the claimant to obtain high remaining funds because there is a high tension between PT *Askes* and Aceh Province in determining the amount of claimant.

There is also a management fee for each person covered by JKA applied by PT *Askes*. However, unlike South Sumatera, there is no payment sharing among districts in Aceh Province for JKA. All JKA payment have been allocated and paid by the province. Aceh province has signed MOU with referral hospitals in Jakarta for advanced treatment, but not with hospitals at the boundaries. One person covered by JKA during the treatment will accompany each patient that needs advanced treatment outside the district, or even Aceh. The service coverage of JKA is a little bit higher than *Jamkesmas* as a national program, so there is jealousy among poor people in terms of health services. They are competing to obtain JKA services.

In contrast to the provision of general healthcare described above, *Jamsoskes* coverage of maternal care is not tied to possession of a *Jamsoskes* card or a family card. Following *Jamsoskes*'s introduction in January 2009, all women in South Sumatera were able to seek free prenatal, delivery, and postnatal care in public health clinics. In particular, *Jamsoskes* covers the cost of four prenatal visits, delivery, and three postnatal visits if care is sought in public clinics. In certain areas, particularly those with inadequate health facilities, registered midwives are also able to provide free at-home care for mothers. The *Jamsoskes* program reimburses registered midwives or other trained medical personnel retroactively, after claims are submitted to *Jamsoskes* by the health clinic. During a series of prenatal visits, women are typically counseled about appropriate nutrition during pregnancy, provided iron supplements, given a tetanus shot, and examined to detect certain complications.

JAMSOSKES' PROBLEMS IN SOUTH SUMATERA

Most problems in implementing *Jamsoskes* are administrative. Data on members should be updated annually so the provincial government can allocate budgets appropriately. Names and addresses of recipients recorded at *Puskesmas* at the district level are not automatically linked to the provincial database. Related to service administration, it seems that there is a shortage in the number of people responsible for verification, particularly at the hospital. At this time, the person in charge of verification is the same person who verifies *Jamkesmas,* so this person is overloaded. Even though it

is written in the requirements, many people do not bring IDs and/or family cards to register at health facilities. It wastes time for patients to go back and forth to get documents.

3. Conceptual Framework and Literature Review

Health capital is one of the most important parts of human capital. Michael Grossman (1972) for the first time formulized a theory of demand for health, which became the basis for health and health care related studies. He stated that every human has its own health capital stock that can be depreciated and needs to be replaced by investing in the stock of health capital. For instance, acquiring healthy food every day and seeking for medical treatment if one gets sick. From this point of view, the health sector has been an important part of living standards improvement for many people. Low access to health care services may affect the future income of individuals or households and therefore their quality of life.

In developing countries, where public subsidized health care is still low, people suffer from illnesses since they have to pay the health expenses themselves, and therefore reduce their consumption. There is a lot of evidence showing that health insurance is rare, especially in the rural areas, and households face expenses as a big portion of out-of-pocket (OOP) financing (see Gertler and Gruber 2002). Poor households without health insurance are vulnerable to health shocks; besides experiencing OOP, they will also absorb illnesses, which then affects their productivity because of health stock depreciation. This will become a catastrophic expenditure for the household. Evidence from Vietnam by Wagstaff (2007) shows that urban households that spend less on food following a health shock, but spend more on budget items are more vulnerable to health shocks than rural households.

Several studies in developed countries indicate that increased health insurance coverage results in increased medical care utilization and improved health outcomes (see Currie and Gruber (1996) and Card et al. (2004)). However, in a developing country setting, there is less evidence that increasing coverage has any positive impact on health outcomes (Camacho and Conover 2008). There are several explanations for the lack of documented improvement in health outcomes in response to increased coverage. The newly covered population may lack adequate access to care, or the quality of care may be ineffective. There may also be take-up and utilization problems, especially among the uneducated and poor, which are generally the targets of medical care expansions. Lack of information about eligibility and insufficient knowledge regarding the importance of medical care may be factors leading to low take-up rates among this typically targeted population.

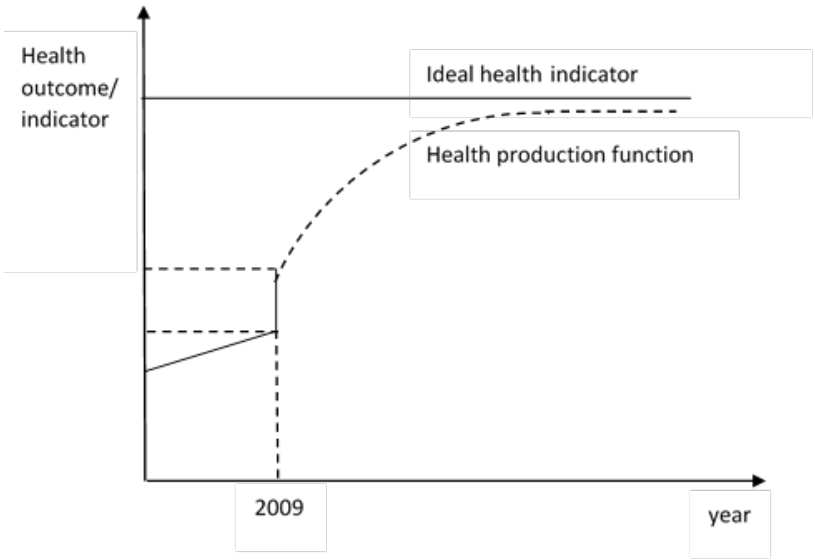
In Indonesia, the Central Government has enacted Law No.40/ 2004 on the National Social Security System.[3] This law is the basis for the central government and local governments to provide health care for the people, especially for the poor in the short and medium term, and in the long term to launch the Universal Health Care Coverage in 2014. For that purpose, in 2005 the Central Government

[3] *Undang-undang No. 40 tahun 2004 tentang Sistem Jaminan Sosial Nasional.*

introduced health care insurance for the poor called *Jamkesmas.*[4] Following the *Jamkesmas* program, the provinces and districts in Indonesia have started similar programs, for example in South Sumatera.

In South Sumatera, Universal Health Care was introduced in January 2009, even though the program can be traced back to the "Free Health Treatment Program"[5] in 2006 introduced by the former Head of Musi Banyuasin District, and who became the Governor of South Sumatera, Alex Noerdin. The Universal Health Care program is called *Jamsoskes*, and aims to target people without any health insurance coverage. There are approximately 52%, or four million people, without health insurance in South Sumatera that can access this program only by showing ID cards to the health facilities from the lowest level hospital to class III with a referral. To run the *Jamsoskes* program, the provincial government has provided a maximum budget of IDR 20 billion (IDR 5,000 x 4 million people), and is expected to share from 30 to 50 percent of this with governments at the district level.

The existence of *Jamsoskes* in South Sumatra is expected to induce both supply and demand sides of health services in that province. On the supply side it is expected to increase the facilities and health services by providing more doctors, nurses, and medicine. While on the demand side, allowing free access for all individuals (poor and non-poor) in South Sumatera to get medical treatment at no cost in public health facilities, including *Puskesmas*, *Pustu*, *Posyandu*, and public hospitals (3rd class).



The effect of wider access to health services on health status can be seen as an investment in health capital stock (preventive health treatment) and replacement in health capital stock (curative treatment). If health capital stock, measured by health outcomes or indicators, is the function of health insurance then the impact of *Jamsoskes* in 2009 can be shown illustratively by the graph.

Due to a large demand side increase, a potential huge increase in the health facilities utilization is expected after the program. In our study, we will explore the empirical impact of the program in the following chapter. Some previous studies have been done to measure the impact. A Study by Ekowati (2009) on the impact of *Jamsoskes* in Ogan Komering Ilir district (OKI) shows that *Jamsoskes* holders comprise around 57.5% of the total population, which is higher than the provincial percentage. Since the introduction of *Jamsoskes*, the number of visits to public health care facilities has increased, and individuals are more willing to visit the public hospital than before. The study shows that about 79.2% of *Jamsoskes* recipients visit local public hospitals, and 20.8% visit Local Health Centers (Puskesmas). While the visitors of Puskesmas reached 100% of those who are *Jamsoskes* recipients.

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[4] Jamkesmas stands for *Jaminan Kesehatan Masyarakat* or Health Insurance for Society to insure the treatment of basic health care. Accompanying Jamkesmas, there is *Jaminan Persalinan* (Jampersal) for maternity health care.

[5] In Indonesian, "*Program Berobat Gratis*", it was introduced in 2002 for targeting poor households in District of Musi Banyuasin and in 2006 become Universal Health Care.

In terms of nature of treatment in the hospital for the *Jamsoskes* recipients, the number of outpatients was 46.1%, and inpatients were 36%. For the inpatients that were treated in public hospital, there were about 64% with expenses paid by the *Jamsoskes* scheme, and 36% paid by themselves. The reasons behind self-payment by inpatients include the fact that health expenses are considered cheap enough to afford. This result is surprising since *Jamsoskes* not only covers the poor, but also non-poor. The other reason found by this study is that some non-poor individuals consider 3rd class public hospitals inferior compared to their standards. While some inpatients said that the administrative paper work is slower and takes longer to process than in paid schemes.

4. Methodology

Research consisted of fieldwork and analysis of secondary data from the 2007 and 2010 RISKESDAS of South Sumatera, and the 2006 and 2011 SUSENAS. We analyzed general health visits and incidence of disease, record children's immunization histories, and several results of the anthropometric measurements, including weight, blood pressure, and count of teeth.

FIELD WORK

The LPEM-FEUI team visited the Health Office in Musi Banyuasin (Muba) District and the Provincial Health Office in Palembang to conduct interviews on 17-18 April 2013. The purpose of the visit was to explore the development of the local universal health care program at the district and provincial level, to confirm statistical results generated from SUSENAS data, and to obtain any other information useful for this report. Interview results are presented in the form of questions and answers in Appendix A. Answers to questions in the province and district are similar; where they differ, we distinguish them.

In short, the interview results are as follows: the health care program in Muba was first introduced in 2002, and designed to target poor households. This program, called *Muba Sehat*, was successful and in 2006 expanded to become a universal health care program that not only covers poor households but also non poor that are not covered by any kind of health insurance, i.e. Akses PNS, *Jamkesmas*, *Jamsostek*, etc. To have access to this program, individuals not covered must prove to be Muba citizens by showing an ID card or family card (*Kartu Keluarga*). The type health treatment of Muba Sehat refers to *Jamkesmas* with mostly basic health care in health facilities, which includes *Puskesmas, Pustu, Posyandu*, and 3rd class public hospitals (with referral). The budget was financed by APBD, and in 2011 insured almost 64% of 581,000 individuals.

The *Muba Sehat* program, which was brought by Alex Noerdin to the provincial level when he ran for the Governor of South Sumatera, is a success story. Similar to the health care program in Muba, which was introduced in 2009 and called *Jamsoskes*, this insures all uncovered citizens in South Sumatera. Until now, almost 52% of its citizens were covered by *Jamsoskes*, unlike the *Muba Sehat*, *Jamsoskes*, which was partly funded at the provincial level and shared with district governments. About 30-50% are responsible to the district level government, with a total budget of IDR 240 billion per year, and covers almost four million individuals.

APPROACH

Using the RISKESDAS-SUSENAS data, we will determine whether Universal Healthcare Coverage (*Jamsoskes*) resulted in an increase in the number of inpatient, outpatient, and choices of natal care.[6]

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[6] Until this report written we have not obtained the data for pre natal care visits from the Ministry of Health for 2011. We will incorporate this into the analysis once the data is provided.

We will also examine whether families are increasing their use of all healthcare services or are only substituting between types healthcare services (e.g. utilizing public health clinics instead of traditional or private medical care). It will also be important to evaluate whether levels of utilization differ by age, education, and gender. To enrich the analysis, we will capture how utilization of *Jamsoskes* varies by (1) urban versus rural areas, and (2) income group. Any difference in utilization levels may indicate that certain segments of the population lack information about their eligibility or about the importance of general medical care. These are the groups that should be the targets of health education campaigns.

We will also consider the effect of *Jamsoskes* on adult health outcomes, such as days of normal activity disrupted due to illness. Adult illness in rural areas may reflect general adult health, with a loss of workdays indicating various illnesses such as intestinal problems, typhoid fever, tuberculosis, or other incidence of diseases. "Normal activity" can include working, attending school, or household activities. This method of measuring health status can be less subjective than other measures, since the respondents can base their assessments of their own health on a clear set of standards.

The estimating equation for individual i in household k is given by

$$h_{ik} = \beta_1 I_{ik} + \beta_2 X_k + \beta_3 C + \beta_4 F_{ik} + \beta_5 D + v_{ik} \qquad (1)$$

Equation (1) above shows the general linear relationship between health outcomes mentioned above (h) and their potential covariates; β1, β_2, β_3, β_4, β_5 are the coefficients to be estimated, I is individual characteristics, X is the household characteristics such as: asset ownership, household size, income, etc. Then, C_j are other control variables for factors external to households, such as location (i.e. urban versus rural), distance to health facilities, topographic conditions of household location (i.e. hilly, coastal etc.). F is the choice of health facilities such as big hospital, PUSKESMAS etc. Finally D is a dummy variable to capture the differential effect of before (Riskesdas 2007) and after (Riskesdas 2010) the implementation of *Jamsoskes* (UHC).

Equation (1) can also be expanded by adding the interaction between control variables and dummy variables to examine time differential effects of various interested variables. The general form of the interaction model is the following

$$h_{ik} = \beta_1 I_{ik} + \beta_2 X_k + \beta_3 C_i + \beta_4 F_k + \beta_5 I_{ik} D + \beta_6 X_k D + \beta_7 F_{ik} D + \beta_8 CD + v_{ik} \qquad (2)$$

Choices of Health Services

In the next exercise, the choice of health service is examined whether it is affected by the implementation of UHC. For example, the choice between inpatient (hospitalization) and outpatient care may differ before and after the implementation of UHC.

The probability P_{ij} of individual i choosing health care service j from a set of services is

$$P_{ij} = P_r[u_{ij} > \{u_{ij'}\} for\ every\ j' \neq j] \qquad (3)$$

$$= P_r[v_{ij} + \varepsilon_{ij} > \{v_{ij} + \varepsilon_{ij'}\}\ for\ every\ j' \neq j]$$

The observed choice can be estimated by using maximum likelihood method (probit or logit model). Both probit and logit models assume that the error components are independent and identically distributed (iid), the difference between those two is probit model assumes the error components are normally distributed, while logit model assumes they are double exponential distributed.

Observed choice may take any functional form but here, as in (1), we assume they are linear functions explaining the general relationship between observed choice and some independent variables.

$$P_{ijk} = \beta_1 I_{ik} + \beta_2 X_k + \beta_3 C + \beta_4 F_{ik} + \beta_5 D + v_{ijk} \qquad (4)$$

P_{ijk} is a dichotomous variable having value of one if for example hospitalization is chosen and zero otherwise.

As in (3), the equation (4) also can be modified by incorporating the interaction between control variables and dummy variables to examine the differential effects across time of various interested variables. The general form of the interaction is the following

$$P_{ijk} = \beta_1 I_{ik} + \beta_2 X_k + \beta_3 C_i + \beta_4 F_k + \beta_5 I_{ik} D + \beta_6 X_k D + \beta_7 F_{ik} D + \beta_8 CD + v_{ijk} \qquad (5)$$

By declaring that all South Sumatra citizens that do not have any type of insurance would be eligible for *JAMSOSKES*, virtually all would be covered. However due to various reasons, such as distance covered, education level, and ignorance the coverage may be less than perfect. To control for this, geographic-topographic variables at the sub-district level as well as the availability and distance of health facilities from PODES are included.

Data

First, the most important data sets are those of health status and outcomes. These are obtained from the 2007 RISKESDAS (or the basic health status research). The health variables are only available upon request. The Ministry of Health only allowed us to collect variables related to the proposal.

The second data sets collected are the Indonesian National Socio-Economic Survey (or SUSENAS) data for 2006 and 2011 containing individual and household -level information, such as education, type of work, and housing conditions. Individuals in RISKESDAS are a subset of individuals in SUSENAS, so the two data sets should be able to be merged into one.

The third data set is a village community data set known as PODES for 2006, which is the latest year available. PODES contain village-level information, such as population, distance to the district's capital, and availability of a health centre. Village IDs in PODES are designed to be matched with (or can be converted to) village IDs in SUSENAS 2007, and so they can be merged.

LIMITATIONS

The main limitation of this study is data availability. At first, complete data from *Riskesdas* (2007 and 2010) was expected to be available during the study period, however, due to the complexities of *Riskesdas* administration, the team obtained very limited data, which does not cover detailed outcome health indicators, type of health facilities by ownership, i.e. government versus private health facilities, pre-natal care visit, etc. Instead, *PODES* and *SUSENAS* are used more intensively in this study.

This study does not analyze panel data as the next *Riskesdas* 2013 is not available yet. Also, typical *Riskesdas* 2007 and 2010 data are quite different, and therefore they are incomparable. *Riskesdas* 2007 was designed for basic health status at the district level while *Riskesdas* 2010 was designed for Millennium Development Goals (MDG) measurement at the provincial level.

In analyzing the utilization of health care facilities/services by the patients, such as *PUSKEMAS*, hospitals, doctors, midwifes, etc., we do not have enough information about the existence of patient favoritism for particular health care facilities/services. The choices of the same health facilities/services might be affected by this kind of favoritism, since we may observe that *PUSKESMAS* is overcrowded, but empty on the other. Thus, information about the distribution of health care utilization is not available and here we assume the patients are indifferent to the same health care facilities/ services.

Next, in this study we might encounter the reality of two level impact of a health policy: the public health effort and individual health effort. The introduction of universal health care is a type of individual health effort that induces an increase in the number of visits to doctors and therefore might increase health outcomes. The health outcomes might be affected not only by the individual health effort policy, but also the public health effort policy. This is to say, this study does not focus on the supply side of health care market.

5. Results

Detailed tabular data referred to in this chapter are presented in appendixes B and C.

OUTPATIENT TREATMENT

When seeking outpatient treatment, people choose to use a government hospital, a private hospital, a private doctor/polyclinic, PUSKESMAS, or a private health worker. Table B-1 in Appendix B presents the basic regression results of these choices, with a government hospital serving as the base.

Age is a negative and significant variable for three choices: private doctor/polyclinic, PUSKESMAS and private practice health worker; as people get older they tend to move from these to a government hospital, presumably because of an increase in illness frequency, as well as cost consideration. There is no apparent shift from a private to a government hospital as the private hospital variable is not significant.

Those with at least high school education are more likely to choose a government hospital, rather than PUSKESMAS or a private health worker. These two variables are negative and significant. In contrast, for the highly educated there is no such shift from private hospitals and private doctors to government hospitals. High-income families tend not to choose PUSKESMAS or private health workers. Also, high-income families prefer private hospitals or private doctors for outpatient treatment.

The year 2011 dummy variable captures before and after effects following the introduction of Jamsoskes in South Sumatra in 2009. Two things can be observed. The year 2001 dummy is negative and significant at the 5 percent level for private hospitals. So, with regard to the impact of Jamsoskes to outpatient treatment there is a movement from private to government hospital to benefit from free care. Next, the proportion of people choosing PUSKESMAS also increases after the program is introduced. Although, the fees at PUSKESMAS are already small to begin with, it appears that the coming of free healthcare program increases its utilization.

At the half bottom of Table B-1, results from subdistrict covariates are presented. The percentage of paved road is negative and significant for PUSKESMAS. This implies if road access is good, people tend not to choose PUSKESMAS for outpatient treatment and go to government hospital. The same thing also applies to private health workers. In the case of hilly or mountainous regions there is a clear choice differentiation between private doctors, PUSKESMAS and private health workers. For private hospitals, however the coefficient is negative and significant, which means people tend to choose government over private hospitals.

The physical number of hospitals at the subdistrict level is not an important factor influencing the choice of private doctor, PUSKESMAS, or private health worker, which means the number alone is not sufficient to make the former a direct competitor of the latter three. There must be some other factor at work on this, for example, reputation, cost etc. The similar pattern is also apparent for the

physical number of polyclinics. Interestingly, the coefficient of the number of PUSKESMAS/PUSTU is negative and significant at 10 percent for PUSKESMAS choice, suggesting a competition between PUSKESMAS and PUSTU.

In some cases, distance to facilities is quite important in determining the choice. The longer the distance to a hospital of any kind, the more people go to private doctor/polyclinic, PUSKESMAS and private health worker. As expected, the distance to polyclinics affects the demand for private doctors/polyclinics negatively. Local private health workers are still not a choice, though, when a polyclinic is far away. The same is also true for PUSKESMAS. Though it may locate further away, it is still the preferred choice relative to private health workers.

Table B-2 presents the results of incorporating the year dummy's interactive terms for selected variables into the empirical model. Poor families tend to use Jamsoskes the most. The coefficients of all choices are negative and significant, which means there is a huge shift to government hospitals for outpatient treatment. This stresses the reference system from PUSKEMAS, since without it, the government hospital system might get overwhelmed. In contrast, there is no apparent impact on the program on mother and child outpatient choices. Unlike the case for mothers and children, incorporating the urban dummy into the model produces statistically significant results. There are observed increases for all choices relative to government hospitals in urban areas in South Sumatra.

At the bottom of Table B-2, the sample size is increased to include all provinces in Sumatra except Aceh. The results suggest that, compared to Sumatra with no health care program, there is an increase of demand for private doctors/polyclinics. One explanation is that the introduction of the program may bring more people to private doctors to get a good diagnosis of their health condition despite having to pay fees. Afterward, they use the diagnosis as an initial opinion when joining the free health care system. The same situation may also take place for private health workers. In remote areas, in the absence of medical doctors they may conduct medical practices, and serve as substitute doctors.

INPATIENT TREATMENT

The results for inpatient treatment are quite different from the outpatient case (Table B-2). The age variable is significant only for PUSKESMAS. The negative coefficient suggests that as people get older, they are less likely to choose PUSKESMAS relative to a government hospital. Education is not important in the choice. Richer families tend to use private hospital relative to government hospital.

The impact of the introduction of Jamsoskes is twofold. First, it decreases the likelihood of using PUSKESMAS relative to government hospitals. Next, it increases the choice of private workers relative to government hospitals. Similar to the outpatient case, we interpret this as the more intensive use of private health workers, especially in the countryside/remote areas, as a substitute for doctors for a first diagnosis before taking advantage of free health care in a government hospital.

Moving to other covariates, the percentage of paved roads in a sub-district has a negative, significant impact for both PUSKESMAS and private health workers. This means that better road infrastructure would make PUSKESMAS and private health workers less attractive compared to government hospitals. People in hilly regions would prefer government relative to private hospitals. Another possibility is that private hospitals are less available in these regions.

Turning to the availability of health facilities, the number of hospitals is positively related to PUSKESMAS. This suggests that the referral system from PUSKESMAS before a patient proceeds with more advanced treatment in a government hospital has made them complementary to each other.

The negative coefficient of number of PUKESMAS with respect to PUSKESMAS choice indicates that PUSKESMAS are competing with each other in attracting patients. There should be an optimal number of PUSKESMAS within a district with proper distance. Otherwise, the facilities would be wasted. The coefficient for number of PUSKESMAS in the choice of private health worker practice is also negative and significant. The availability of PUSKESMAS is expected to draw people away from private health workers.

The effect of distance to facilities conforms to earlier expectations. Longer distances to a hospital would make both PUSKESMAS and private health workers attractive options. One are that is harder to explain is the negative coefficient for distance to polyclinic in the choice of private health workers. It appears that for inpatient treatment, some private health worker practices also function as improvised polyclinics.

In the model with interactive terms, only the urban dummy is significant with a negative coefficient, with respect to PUSKESMAS (Table B-4). This implies that urban people tend not to choose PUSKESMAS, but rather go to the government hospital. In the choice of private health workers, both the urban dummy and its interaction with the time dummy are significant. The coefficient sign indicates that after the program is introduced in 2009, more urban dwellers move away from private health workers and toward government hospitals.

As in the previous exercise, the sample is increased to include other provinces in Sumatra, except Aceh. The interactive term is the only significant variable with a negative coefficient for PUSKESMAS. So, relative to other provinces in Sumatra, which has no free universal healthcare, South Sumatra sees more people shift to government hospitals from PUSKESMAS.

CHOICE OF BIRTH HELPER

Table C-5 in Appendix C shows the results of multinomial logit estimations for the choice of the first birth helper, midwifes, paramedic, traditional midwives (dukun), and relatives. Doctors serve as the baseline, so all other choices are valued relative to doctors. The impact of age is uniform across all choices. All coefficients are positive and statistically significant. Similarly, the coefficients of household incomes are all negative and significant, implying that as incomes increase, doctors become the most preferred choice of birth helper. The time dummy is negative and significant for midwives, paramedics, traditional midwives, and own family/relatives. The introduction of JAMSOSKES makes people less likely to choose midwives and traditional midwife over doctors. Interestingly, the use of paramedics is also more likely after the program. Presumably, this takes place in remote areas, since having a good paved road makes people less likely to go to a paramedic.

For other subdistrict covariates in hilly regions, people tend to use whatever healthcare is available, such as a midwife, traditional midwife, and their own family/relative. The number of hospitals is related negatively to midwives and paramedics, indicating for people that tend to use a doctor if one is available in a hospital nearby. The number of maternity hospitals is related positively and significantly with the choices of midwife, paramedic, and traditional midwife. So, these health workers must staff some maternity hospitals. The coefficient of traditional midwife is also positive and statistically significant, which may suggest why some of them may be functioning as ‘assistants’[7] The coefficient for the number of doctors is negative and significant for the choice of traditional

[7] We are indebted to the head of MUBA health office in attempting to interpret this result.

midwife and family/relative, suggesting that the former is the preferred choice if they are accessible locally.

Midwives are clearly in a direct competition with paramedics and traditional midwives. As more and more midwives are available locally, paramedics and traditional midwives will no longer be an attractive option. The coefficient for the number of POLINDES is positive and significant with respect to traditional midwives suggesting that they may have some function in this facility.

The distance variable exhibits a familiar pattern already detected in the outpatient regressions. The further away a hospital is from a village the more likely traditional midwives and families are the only viable options when it comes to delivery. A similar pattern reemerges in distance to doctor. The coefficients are positive and significant for midwife and traditional midwife, which stresses that a midwife – trained or traditional– is a substitute for a doctor.

Table C-6 presents the results of interacting the time dummy with selected variables: poor family, urban dweller, as well as South Sumatra versus other provinces in Sumatra. The introduction of Jamsoskes is clearly to benefit the poor, as it makes doctors more accessible in helping the delivery process. The interactive terms between the time and poor family dummies are all negative and significant for midwives, traditional midwives, and own relatives. Urban residents also benefit in the same sense that they are moving to doctors as birth helpers and leaving out midwives, paramedics, and traditional midwives.

When the sample also includes other provinces in Sumatra, only the coefficient for the interactive term between South Sumatra and the time dummy with respect to paramedics is negative and significant, while the others are not significant. This is because, with regard to birth delivery, the national government has the JAMPERSAL program, which is applied to all provinces, so the differences in outcome may not appear. Still, the role of Jamsoskes in South Sumatra is to provide additional coverage that extends the number of pre and post-natal visits, as well as care for new born babies. This may explain why in South Sumatra people are moving from paramedics to doctors after the program is in effect.

SICKNESS

Table C-7 presents the probability of being sick. The dichotomous variable for being sick has the value of one if an individual reported an illness such as fever, cough, cold, asthma, diarrhea, headache and toothache, and zero otherwise. It is immediately apparent that all interactive terms between the time dummy with the dummies for the poor, children under 5, mothers, and urban dwellers are negative and statistically significant. Therefore, the impact of Jamsoskes is to reduce the probability of being sick for all cases considered.

All other covariates behave as expected. The probability of being sick is related positively with age. While higher education attainment tends to reduce the probability of sickness. Being in a high-income household apparently does not prevent someone from being sick.

In Table C-8, the results for the working days lost because of sickness are presented. None of the interactive terms are significant, suggesting that the sickness of this type does not prevent one from continuing to work.

INFANT MORTALITY RATE

From Table 9 it is apparent that, in general, there is no improvement in the infant mortality rate (IMR) after the introduction of Jamsoskes, to the contrary the number appears to be increasing. The year 2011 dummy is positive and significant at the 5 percent level. Household incomes have no influence on IMR. Those with higher education above senior high school tend to have lower IMR. One brighter side is the reduction of IMR particularly for the poor helped by midwives. None of the interactive variables for doctor as birth helper are significant, suggesting that there is a crucial role for modernly trained midwives in reducing IMR among the poor. Hospitals are the only significant health facility in reducing IMR, suggesting that building hospitals and/or upgrading PUSKESMAS is important in reducing IMR. Overall immunization has helped in reducing IMR, but the effect disappears when the interactive variables to capture the differential effect before and after Jamsoskes is introduced.

As we have noted in limitations of this study in the previous chapter, the introduction of Jamsoskes is considered an "individual health effort" policy that allows an individual to choose among the available health care services, and therefore might affect the individual's health status. But, overall health outcomes of a society might also be influenced by broader improvements in the health sector, including the supply side of the market. Since we do not evaluate "public health effort" policy, it is difficult to find a reasons why Jamsoskes does not affect the IMR outcome.

6. Conclusion, Recommendations, and Suggestions for Research

CONCLUSION

In this study, we analyze various aspects of health outcomes in the aftermath of the introduction of universal health care in South Sumatera. There is no indication that there is a segment in the population left out. The general impact is to increase poor family and urban dweller demand for outpatient treatment in government hospitals. The increase in demand for government hospitals appear to overburden government hospitals, since at the same time the utilization of the PUSKESMAS system is also rising, which means the policy successfully uses PUSKESMAS as a sorting system. If the sample is broadened to include other provinces in Sumatra without free health programs, it appears that more people flock to government hospitals in South Sumatra. Interestingly, the increase in demand for government hospitals does not diminish the role of private doctor practices, presumably because the income per capita for South Sumatera is higher than the Indonesian average. People use private doctors to get better and more personalized diagnostic care before utilizing the system.

In the case of inpatient treatment, Jamsoskes has intensified the use of private practice of healthcare workers who are not medical doctors. It appears that in remote areas, healthcare workers serve as a first stop before continuing to government hospital, in effect decreasing the utilization of PUSKESMAS for inpatient care. However, in the case of expectant mothers, Jamsoskes has the effect of reducing the attractiveness of modernly trained midwives, paramedics, traditional midwives, and people's own family/relatives relative to medical doctors at the time of delivery. The district government in South Sumatra needs to have good road infrastructure; this is as important as having more health facilities spread all over the countryside and remote areas.

The aim of the program is to reduce the probability of being sick for the poor, urban dwellers, children under 5, and expectant mothers. However, there is no statistically significant impact for the lost days because of sickness. This is due to the habit of the general population to continue working if they consider their sickness "light." This is not a good habit, since the disease may spread to fellow workers.

In general, there is no improvement in the infant mortality rate (IMR) after the introduction of Jamsoskes, to the contrary the number appears to be increasing. Reducing IMR is shown only for poor people helped by midwives, hospitals, and immunizations. However, the latter shows no effect when interacted with variables to capture the differential effect of Jamsoskes.

RECOMMENDATIONS AND SUGGESTIONS FOR RESEARCH

At the end of study, a half-day dissemination seminar was conducted at LPEM FEUI on May 13, 2013. The participants were from local and central governments and universities. From the event, some recommendations and inputs for further study were conveyed. Detailed information on dissemination activity is presented in Appendix D.

Recommendations

Health workers in remote areas should be improved as they serve as a first stop before continuing to government hospitals. This will reduce excess demand for government hospitals at the district level. PUSKESMAS should also add more staff to anticipate the higher utilization of this health facility by expectant mothers.

In terms of budgeting policy, the local government should focus on building and maintaining good roads while at the same time optimizing the use of the PUSKESMAS system by upgrading their capabilities and/or building hospitals. This is because PUSKESMAS are in effect in competition with each other in attracting patients.

The socialization of staying at home if sick should be carried out more frequently to all people to reduce spreading diseases to fellow workers. Furthermore, the role of modern trained midwives should be strengthened in reducing IMR among the poor.

Suggestions for Further Research

After launching Riskesdas 2013 next year, further study on measuring the impact of universal healthcare on health outcome could be accomplished by studying the different effects before and after the program.

Further analysis should be conducted on the sustainability of a universal healthcare program at the local level particularly for resource-based districts in which the local budget highly relies on revenue sharing. In addition, a study the use of budget effectiveness for universal healthcare should be performed. After universal healthcare was introduced in 2009, the share of the budget for curative care is much higher than the share for prevention care, and the number of sick people is also higher than the number of healthy people.

Conducting regular customer satisfaction surveys to improve the program will help assess the implementation of universal healthcare programs. The typical survey could be applied to all programs related to universal healthcare, either provided by the government or private institutions.

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Appendix A. Interview Results

Health Office *Musi Banyuasin* District and South Sumatera Province

<table>
<tr><th>No</th><th>Question and Answer</th></tr>
<tr><td>1</td><td>What is the percentage of the population covered by health insurance?

Answer:

Province: In general, all of the South Sumatera population has been covered by health insurance since Jamsoskes (provided by provincial government) covers the population without any health insurance scheme. But the utilization of Jamsoskes depends on the choice of the individuals/households. Currently, the total population in South Sumatera Province is 7.4 million inhabitants.

District: Similar with the province, all of the Muba population have been covered by health insurance. The total population of Muba is 580,489 inhabitants (census 2011).</td></tr>
<tr><td>2</td><td>What is the percentage of the population covered by following insurance scheme?

Askes? Jamsostek?
Jamkesmas?
Jamkesda?
Dana sehat?
Private Insurance?
Others?

Answer:
<table><tr><td>No</td><td>South Sumatera Province (March 2013)</td><td>Muba District</td></tr><tr><td>1</td><td>Jamsoskes Sumsel Semesta 52%</td><td>Jamkesda Muba 63.7%</td></tr><tr><td>2</td><td>Jamkesmas 39%</td><td>Jamkesmas 25%</td></tr><tr><td>3</td><td>Askes PNS 6%</td><td>Askes PNS 3.0%</td></tr><tr><td>4</td><td>Jamsostek 1%</td><td>Jamsostek 3.1%</td></tr><tr><td>5</td><td></td><td>Others 5.2%</td></tr></table></td></tr>
<tr><td>3</td><td>What is the legal basis for the province’s health care program?

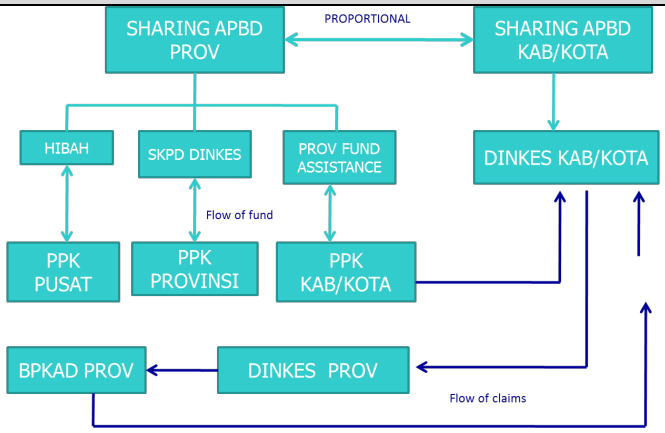
Answer: The legal basis for South Sumatera’s universal health care program (UHC) is:

Governor Regulation no.23/2009 on “The Implementation guidelines of Jamsoskes Sumsel Semesta” (followed by MoU between Governor of South Sumatera and Ministry of Health GOI about “The Implementation of Health Insurance for the Societies”)

Regional Regulation No.2/2009 on “The Implementation of Jamsoskes Sumsel Semesta</td></tr>
</table>

No	Question and Answer
	program" (followed by MoU between Governor of South Sumatera and Heads of all districts/cities about "Provision of share fund for *Jamsoskes Sumsel Semesta* program"
4	When is the effective date for this program? *Answer*: Province: It was announced in January 2009. District: In 2002, the pioneer of health insurance in Muba, but in this period the program was designed to cover the poor only. The program was organized by PT. *Askes*. In 2006 until now, the program has become the universal health care program not only targeting poor households, but also the population without health insurance.
5	How does this policy work? (mechanism, beneficiaries (universal or limited), exception, health facilities involved and not involved, referral procedure) Answer: *Jamsoskes* is designed to cover the population in South Sumatera who don't have any kind of health insurance. It is a universal health care program that benefits individuals without exception. Health facilities involved are all types of public health facilities: Posyandu, Puskesmas, Pustu, and Public hospital (3rd class). It does not involved private hospitals and clinics. Referral is possible from Puskesmas to the public hospital in South Sumatera, and this the provincial government also has MoU with some hospitals in Jakarta for severe treatments. Muba applies the same regulation.
6	Beneficiaries
	How to define the beneficiaries? *Answer*: The Health Office has the list of Jamkesmas' recipients, and based on this list the Office will exclude individuals for *Jamsoskes*, combined with self-report by individuals who are not listed. Individual who are willing to access *Jamsoskes* must present his/her identity card (KTP) or Family Card (KK).
	What is the subject for this program, individual or family level? *Answer*: It is based on individual level. Every person who lives in South Sumatera can get access for this program.
	Is there any database that are different from the central government database? *Answer*: Besides using Jamkesmas database, at every Puskesmas there is also a record about patient's identity.
	Related to the *Jamkesmas* program of Central Government, does this program deliver benefit to the same individual or different individual? *Answer*: This program delivers benefit to new individuals who do not have any kind of health insurance including *Jamkesmas*.

No	Question and Answer
	Are the recipient database renewed regularly? *Answer*: The renewal of database depends on the recipients' visits to the health facilities and record from the Puskesmas. If an individual never visits any health facilities then he/she will never be recorded.
	What is the policy to assure the individual always get the same services? Answer: Every person who is the citizen of South Sumatera Province by presenting his/her ID card.
	Is there any policy to limit an individual to access the services? Answer: There is no limit for individuals to access the services. This program allows any individual to utilize the involved health facilities many times as he/she gets sick.
h.	Is there any problem of determining the beneficiaries? Answer: The only problem is when an individual does not have ID card, so her neighbor or head of village must recognize her as the village's member.
7	Funding
	What is the source of funds for this program? *Answer*: Province: The resources for this program come from Provincial Government Budget (APBD) shared with Municipalities budget except with Muba. District: Muba organizes its own program independently.
	What is the most flexible source of funds for this program? *Answer*: Provincial and district revenues. Except for the capitation, the funds are not from their own revenues. In 2013 the provincial government allocates IDR 240 billion for this program (shared with municipalities). This calculation comes from 4 million (population without any insurance) x IDR 5,000 x 12 months. The following chart depicts the circular flow of fund among the government units:

No	Question and Answer
	
	Do the recipients have to pay to get this program? Answer: It is totally free for the eligible recipients.
	What is the mechanism of payment to the health facilities (reimbursement or allocated)? Answer: Claims from Puskesmas are involved.
	What is the requirement to get the payment by that mechanism? Answer: Costs incurred both visits and medications at Puskesmas will be checked by trained verifiers.
8	Organization
	Is there a separated body to organize the program? Answer: The program either in province or district is organized by the local Health Office. There is a team at each level of government who is responsible for the program.
	Which place for individual to apply this program? Answer: One can come directly to the health facilities to access the program; there is no application for the program except administrative record at Puskesmas.
	Is there any possibility for registered nurses or midwifes to deliver health services at patient's house by using this program? Answer: The treatment is only delivered at health facilities but sometimes patients ask for more the services but the approval will be considered case by case.
9	Services
	What kind of services involved in the program: inpatient, outpatient or both? Answer: Outpatient for basic health care and inpatient (with referral)
	Is there any special treatment? Answer: The treatments included in this program refers to the list of treatment of *Jamkesmas*,

No	Question and Answer
	for example the following treatment:
	- Dental care? Yes for basic dental care - Dental prosthesis, this is not included - Sunglasses, included with maximum plus/minus one and claimed at public hospital - Prosthesis, not included - Hearing aids, not included
	- Child birth, not included. This treatment is covered by *Jampersal* program
	Is there any fee for medications? Answer: The medications are free as long as they are obtained from the Puskesmas and not from private pharmacies.
	Is there limitation or exclusion for treatment? Answer: Basic treatments are not limited but there are services that excluded, such as: • Services which are not in accordance with procedures and conditions • Materials, tools and measures aimed to cosmetics • General check-up • Denture prosthesis. • Alternative treatments (such as acupuncture, traditional medicine) and other treatments have not been scientifically proven • Series of examinations, treatment and actions in an effort to obtain offspring, including IVF and treatment of impotence. • Health services during a natural disaster emergency response • Health services provided in social activities
10	Requirement
	What is the requirement for this program? Answer: To benefit from this program one must not have any kind of health insurance and must prove to be a citizen of South Sumatera or Muba.
	Is there any other requirement? Answer: No, there is not.
	If there is other requirement, how to control over it? (Answer NA.)
	If a person does not meet the administrative requirement, is there any possibility to benefit from this program?

No	Question and Answer
	Answer: Yes, as long as there is a proof that the person lives in a particular village or town. This information usually verified by health workers or head of village.
11	Is there any fringe benefit from this program? Answer: No, there is not.
12	Related to Social Security Body (BPJS), are you aware of the impact for this program? Answer: Province: Yes, but we do not have how to cope with other insurance scheme such as *Askes*, Asabri, *Jamsostek*, and *Askes* PNS because those schemes are still valid until 2019. District: Yes, but the local initiated insurance program like *Jamkesda* is allowed until 2009 besides if BPJS is implemented there will be central officials to be assigned at local government office.
13	Can you tell us the impact of this program to the health conditions in terms of: • Number of visits to health facilities? • Health outcome improvement? Answer: Number of visits to health facilities fluctuated every year but showing upward trend not only at public health facilities but also private clinics or hospitals. People are smarter now, they prefer going to private clinics to have first screening of their health condition and also to avoid long queue at public health facilities. After that, for the severe treatment then they use facilities from *Jamsoskes* program. There is improvement in health outcome although it showing the slow pace. For example the child mortality rate in South Sumatera has decreased from 40 in 2009 to 25 in 2011, and so on.
14	Compared to *Jamkesmas* and other type of health insurances, what is the impact of this program, greater or lesser? Answer: Basically the impact is not so different because in term of coverage and treatment are similar to *Jamkesmas*.
15	Self-assessment to this program:
a.	The program has cover all beneficiaries Answer: Yes, because of its nature of universal health care.
b.	Database is adequate Answer: The database recorded at Puskesmas are very basic information about patient. Any further information are not available.
c.	Resource of fund is adequate Answer: Province: Yes, but there is still problem with sharing scheme especially City of Palembang. It

No	Question and Answer
	still need hard work to convince the municipalities' government about the importance of this program. Muba: So far, the fund is enough to finance this program.
d.	Delivery system is adequate Answer: Yes, we have no problem to deliver services to the patients, except for few severe treatments which need referral to the hospitals in Jakarta. South Sumatera is constructing new hospital to solve this problem.
e.	Management is adequate. *Answer*: Yes, the coordination system at health offices so far are doing good.

Appendix B. Summary of Regression Results

Below is the summary of main regression results on likely outpatient choices, inpatient choices, birth helper choices, illness, and its occurrence.

Likelihood of Outpatient Choices

In comparison to government hospitals, the likelihood of outpatient choices for other health facilities by 1-unit increase/change in affecting factors:

Table B-1

Likelihood of Outpatient Choices

Factors	Private Hospital	Private Doctor /Polyclinic	PUSKESMAS /PUSTU	Private Health Worker
Age (year)	-	lower	lower	Lower
Education (H. school and above)	-	-	lower	Lower
Household income (IDR)	higher	higher	lower	Lower
Year 2011 dummy	lower	-	higher	-
% paved road	-	-	lower	Lower
Hilly region	lower	-	-	-
N. of hospital	higher	-	-	-
Distance to hospital	-	higher	higher	Higher
Distance to polyclinic	-	lower	-	Lower
Poor family	higher	higher	higher	Higher
Poor family in 2011	lower	lower	lower	Lower
Urban	-	-	lower	Lower
Urban in 2011	higher	higher	Higher	Higher
South Sumatera	-	-	-	Lower
South Sumatera in 2011	-	higher	-	Higher

Likelihood of Inpatient Choices

In comparison to government hospitals, the likelihood of inpatient choices for other health facilities by 1-unit increase/change in affecting factors:

Table B-2

Likelihood of Inpatient Choices

Factors	Private Hospital	PUSKESMAS/ PUSTU	Private Health Worker
Age (year)	-	lower	-
Household income (IDR)	higher	-	-
Year 2011 dummy	-	lower	Higher
% paved road	-	lower	Lower
Hilly region	lower	-	-
N. of hospital	-	higher	-
Distance to hospital	-	higher	Higher
Distance to polyclinic	-	-	Lower
Urban	-	lower	Higher
Urban in 2011	-	-	Lower
South Sumatera in 2011	-	lower	

Note: The table only shows factors that have a statistically significant affect on health facility choices of individuals. The dash (-) signifies that the data cannot explain the causal relationship between the factors and choices.

Likelihood of Birth Helper Choices

In comparison to doctor, the likelihood of birth helper choices for other alternative by 1-unit increase/ change in affecting factors:

Table B-3

Likelihood of Birth Helper Choices

Factors	Midwife	Paramedic	Dukun	Relative
Age (year)	higher	Higher	higher	Higher
Household income (IDR)	lower	Lower	lower	Lower
Year 2011 dummy	lower	Higher	lower	Lower
% paved road	-	Lower	-	-
Hilly region	higher		higher	higher
N. of hospital	lower	Lower	-	-
N. of maternity hospital	higher	Higher	higher	lower
N. of Puskesmas	higher	-	higher	higher
N. of midwife	-	Lower	lower	-
Distance to doctor	higher	-	higher	-
Distance to midwife	-	Higher	-	-
Poor family	higher	-	higher	higher
Poor family in 2011	lower	-	lower	lower
Urban	-	-	-	lower
Urban in 2011	lower	Lower	lower	-
South Sumatera	-	-	-	lower
South Sumatera in 2011	-	Lower	-	-

Note: The table only shows factors that have a statistically significant affect on health facility choices of individuals. The dash (-) signifies that the data cannot explain the causal relationship between the factors and choices.

Likelihood and Occurrence of Illness

The likelihood and occurrence of illness of an individual by 1-unit increase or existence of the following factors:

Table B-4

Likelihood and Occurrence of Illness

Factors	Likelihood of Illness	Occurrence of illness
Age (year)	Higher	Higher
Marriage	lower	Lower
Education (high school)	lower	Lower
Household income (IDR)	higher	-
Year 2011 dummy	higher	-
Poor family	higher	-
Poor family in 2011	-	-
Has child under 5 and less	higher	Higher
Has child under 5 and less in 2011	lower	-
If a mother	higher	-
If a mother in 2011	lower	-

Note: The table only shows factors that have a statistically significant affect on health facility choices of individuals. The dash (-) signifies that the data cannot explain the causal relationship between the factors and choices.

Determinants of Infant Mortality Rate

The determinants of infant mortality rate by unit change in factors or the existence of some factors. The table summarizes the effects of factors in three models:

Table B-5

Determinants of Infant Mortality Rate

Factors	(Model 1) Infant Mortality Rate	(Model 2) Infant Mortality Rate	(Model 3) Infant Mortality Rate
High school	Lower	Lower	-
HH. incomes	-	-	-
Year 2011	higher	Higher	Higher
Doctor	-	-	-
Midwife	-	-	-
Poor family	Higher	Higher	Higher
2011Xdoctor	-	-	-
2011XdoctorXpoor	-	-	-
2011Xmidwife	-	-	-
2011XmidwifeXpoor	Lower	Lower	Lower
%paved road	Higher	Higher	Higher
Hilly regions	-	-	-
# hospital	Lower	Lower	Lower
# polyclinic	-	-	-
# puskesmas	-	-	-
Hospital distance	-	-	-
Polyclinic_distance	-	-	-

Factors	(Model 1) Infant Mortality Rate	(Model 2) Infant Mortality Rate	(Model 3) Infant Mortality Rate
Puskesmas distance	-	-	-
Breast feeding	n.a	-	-
Immunization	n.a	Lower	-
2011Ximmunization	n.a	n.a	-
D2011XimmunizationXpoor	n.a	n.a	-

Note: The table only shows factors that have a statistically significant affect on health facility choices of individuals. The dash (-) signifies that the data cannot explain the causal relationship between the factors and choices.

Appendix C. Regression Outputs

Table C-1

South Sumatra: Multinomial Outpatient Choices – Basic Regressions

Variables	(1) Private Hospital	(2) Private Doctor /Polyclinic	(3) PUSKESMAS /PUSTU	(4) Private Health Worker
Age	0.00404	-0.00931***	-0.0171***	-0.0132***
	(0.930)	(-3.321)	(-6.361)	(-4.811)
H. school and above	0.332	-0.200	-0.838***	-0.841***
	(1.427)	(-1.246)	(-5.123)	(-5.058)
Household income	0.403**	0.250**	-0.495***	-0.307***
	(2.339)	(2.147)	(-4.321)	(-2.639)
Year 2011	-4.023**	0.568	3.129**	1.373
	(-2.270)	(0.466)	(2.572)	(1.053)
% paved road	-0.00341	-0.00192	-0.00595*	-0.0112***
	(-0.721)	(-0.587)	(-1.908)	(-3.563)
Hilly region	-0.0216**	-0.000360	-0.00360	-0.00273
	(-2.314)	(-0.0966)	(-0.993)	(-0.749)
N. of hospital	2.818**	1.199	-1.227	-0.00865
	(2.029)	(1.361)	(-1.414)	(-0.00946)
N. of polyclinic	-0.744	-0.132	0.468	-0.466
	(-1.057)	(-0.276)	(0.987)	(-0.962)
N. of puskesmas	0.410	-0.905	-1.064*	0.528
	(0.456)	(-1.574)	(-1.891)	(0.896)
Distance to hospital	-0.00182	0.0133**	0.00934*	0.0370***
	(-0.190)	(2.277)	(1.661)	(6.640)
Distance to polyclinic	0.00714	-0.0177**	0.00303	-0.0149**
	(0.649)	(-2.429)	(0.445)	(-2.194)
Distance to puskesmas	0.0217	-0.00587	0.00889	-0.0346**
	(1.028)	(-0.344)	(0.589)	(-2.186)
Constant	-6.810***	-2.015	9.752***	5.797***
	(-2.753)	(-1.204)	(5.947)	(3.487)
Observations	5,981	5,981	5,981	5,981

Notes:

z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Pseudo R-SQR: 0.107
base: government hospital

Table C-2

South Sumatra Multinomial Choices of Outpatient – Interactive Terms

Variables	Outpatient Choices			
	Private Hospital	Private Doctor /Polyclinic	PUSKESMAS /PUSTU	Private Health Worker
POOR FAMILY				
Poor Family	0.758**	0.473*	0.981***	0.914***
	(2.038)	(1.814)	(4.121)	(3.529)
2011 X Poor	-1.143**	-0.817***	-0.946***	-1.002***
	(-2.532)	(-2.640)	(-3.263)	(-3.271)
MOTHER				
Mother	-0.555	0.530	0.396	0.638
	(-0.494)	(1.031)	(0.817)	(1.238)
2011 X Mother	-27.56	-0.567	-0.489	-0.170
	(-4.18e-05)	(-0.874)	(-0.788)	(-0.264)
CHILDREN UNDER 5				
Age 5 and less	0.305	0.360	-0.00924	0.255
	(0.561)	(1.067)	(-0.0293)	(0.746)
2011 X Age 5 or less	-0.329	-0.0940	0.171	0.497
URBAN				
Urban	-0.247	-0.383	-0.454*	-2.138***
	(-0.573)	(-1.403)	(-1.814)	(-6.753)
2011 X urban	0.904*	0.952***	0.521*	1.424***
	(1.798)	(2.958)	(1.711)	(3.831)
SUMATRA CONTEXT				
South Sumatra	0.0815	-0.0604	0.151	-0.221**
	(0.498)	(-0.551)	(1.533)	(-2.031)
2011 X South Sumatra	0.126	0.389***	-0.155	0.415***
	(0.599)	(2.780)	(-1.182)	(3.008)

Note: base: government hospital

Table C-3

South Sumatra: Multinomial Inpatient Choices – Basic Regressions

Variables	Inpatient Choices		
	Private Hospital	PUSKESMAS / PUSTU	Private Health Worker
Age	0.00415	-0.0203***	-0.00994
	(1.055)	(-2.857)	(-1.636)
H. school and above	0.159	-0.730	-0.535
	(0.819)	(-1.560)	(-1.594)
Household income	0.829***	-0.306	0.0862
	(5.568)	(-1.072)	(0.372)
Year 2011	1.778	-8.952**	8.807***
	(1.010)	(-2.126)	(2.674)
% road paved	0.000947	-0.0126**	-0.0209***
	(0.233)	(-2.090)	(-4.074)
Hilly region	-0.0468***	-0.00575	-0.0143
	(-3.716)	(-0.606)	(-1.462)
N. of hospital	0.695	9.733***	-1.419
	(0.596)	(2.937)	(-0.706)
N. of polyclinic	-0.449	-0.177	0.185
	(-0.693)	(-0.130)	(0.193)
N. of puskesmas	-0.948	-6.084***	-3.668***
	(-1.139)	(-3.416)	(-3.004)
Distance to hospital	-0.0124	0.0203**	0.0266***
	(-1.457)	(2.087)	(3.393)
Distance to polyclinic	0.0114	-0.000942	-0.0402***
	(1.117)	(-0.0858)	(-3.194)
Distance to puskesmas	0.00868	-0.0189	-0.0381
	(0.411)	(-0.758)	(-1.042)
Constant	-12.12***	4.321	-0.222
	(-5.548)	(1.064)	(-0.0667)
Observations	778	778	778

Notes:

z-statistics in parentheses
*** p<0.01, ** p<0.05, * p<0.1
Pseudo R-SQR: 0.115
base: government hospital

Table C-4

South Sumatra: Multinomial Inpatient Choices – Interacted Terms

Variables	Inpatient Choices		
	Private Hospital	PUSKESMAS/ PUSTU	Private Health Worker/Poly
POOR FAMILY			
Poor Family	0.508	-0.139	0.360
	(1.192)	(-0.233)	(0.504)
2011 X poor	-0.521	0.155	-0.0660
	(-1.123)	(0.221)	(-0.0853)
MOTHER			
Mother	0.923	0.993	0.810
	(0.954)	(0.886)	(0.538)
2011 X mother	-0.999	-33.40	-0.554
	(-0.904)	(-4.78e-06)	(-0.341)
CHILDREN UNDER 5			
Age 5 and less	-0.373	-0.478	-1.309
	(-0.562)	(-0.669)	(-1.013)
2011 X age 5	0.849	-0.109	0.978
	(1.222)	(-0.131)	(0.739)
URBAN			
Urban	0.710	-2.174**	1.956**
	(1.481)	(-2.225)	(2.422)
2011 X urban	-0.545	0.458	-2.452***
	(-1.041)	(0.365)	(-2.735)
SUMATRA CONTEXT			
South Sumatra	0.129	-0.0207	-0.272
	(0.724)	(-0.0783)	(-0.872)
2011 X S. Sumatra	0.0524	-0.830**	0.230
	(0.256)	(-2.511)	(0.665)

Notes:

z-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Pseudo R-SQR: 0.115

base: government hospital

Table C-5

South Sumatra: Multinomial Choices of Birth Helper – Basic Regressions

Variables	(1) Midwife	(2) Paramedic	(3) Dukun	(4) Relative
Age	0.0751**	0.352**	0.0859**	0.199*
	(2.328)	(2.362)	(2.293)	(1.768)
Household income	-0.694***	-0.839**	-1.268***	-1.074***
	(-8.565)	(-2.122)	(-12.73)	(-3.389)
Year 2011	-2.194*	15.70*	-9.123***	-8.924
	(-1.752)	(1.769)	(-5.129)	(-1.509)
% road paved	0.00143	-0.0228**	-0.000639	0.0103
	(0.628)	(-2.487)	(-0.253)	(1.293)
Hilly region	0.0133***	0.0119	0.0173***	0.0173**
	(3.181)	(0.969)	(3.949)	(2.218)
N. of hospital	-1.322*	-14.95***	-0.239	2.422
	(-1.873)	(-2.824)	(-0.238)	(0.723)
N.of maternity hosp.	0.976**	7.761*	1.140*	-1.062
	(2.016)	(1.775)	(1.783)	(-0.520)
N. of puskesmas	1.208**	-0.861	3.118***	3.474*
	(2.479)	(-0.233)	(4.996)	(1.651)
N. of doctor	-0.0400	0.559	-0.234*	-1.558**
	(-0.395)	(0.479)	(-1.714)	(-2.149)
N. of midwife	-0.135	-3.043***	-0.488***	0.745
	(-1.199)	(-3.199)	(-3.519)	(1.495)
N. of polindes	-0.122	-0.374	0.516**	0.497
	(-0.609)	(-0.418)	(2.287)	(0.758)
Distance to hospital	0.00633	0.0319	0.0178***	0.0285**
	(1.361)	(1.515)	(3.511)	(2.398)
Distance to amaternity_hosp.	0.000412	-0.00323	0.00719	-0.00252
	(0.101)	(-0.161)	(1.610)	(-0.229)
Distance to puskesmas	0.00831	-0.0196	-0.0133	-0.0268
	(0.609)	(-0.376)	(-0.936)	(-0.870)
Distance to doctor	0.0178*	-0.0800	0.0285***	0.0176
	(1.810)	(-1.614)	(2.813)	(0.860)
Distance to midwife	-0.0183	0.0808*	-0.00110	0.0273
	(-1.540)	(1.742)	(-0.0902)	(1.256)
Distance to polindes	0.00413	-0.0419	-0.00513	0.00547
	(1.499)	(-1.506)	(-1.632)	(0.686)
Constant	11.35***	11.35**	17.56***	9.600**
	(9.774)	(2.055)	(12.50)	(2.168)
Observations	6,577	6,577	6,577	6,577

Notes:

z-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

base: doctor

Table C-6

South Sumatra: Multinomial Choices of Birth Helper – Interacted Terms

Variables	(1) Midwife	(2) Paramedic	(3) Dukun	(4) Relative
POOR FAMILY				
Poor Family	0.523**	0.878	0.957***	1.044*
	(2.365)	(1.463)	(4.051)	(1.836)
Year 2011 X Poor	-0.420*	0.175	-0.779***	-1.258*
	(-1.706)	(0.188)	(-2.898)	(-1.845)
URBAN				
Urban	0.330	1.549	-0.391	-2.258*
	(1.334)	(1.416)	(-1.394)	(-1.761)
Year 2011 X urban	-0.475*	-8.543***	-0.795**	-1.050
	(-1.738)	(-3.193)	(-2.368)	(-0.606)
SUMATRA CONTEXT				
South Sumatra	0.0280	0.322	0.0778	-1.442***
	(0.324)	(1.210)	(0.802)	(-5.340)
Year 2011 X South Sumatra	-0.01000	-0.881**	-0.0519	0.544
	(-0.0968)	(-2.000)	(-0.437)	(1.640)

Notes:

z-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

base: doctor

Table C-7

South Sumatra: Probability 0f Being Sick

Variables	(1) Days of illness	(2) Days of illness	(3) Days of illness	(4) Days of illness
Age	0.00276***	0.00427***	0.00290***	0.00276***
	(11.40)	(18.02)	(17.07)	(11.37)
Marriage	-0.0285***	-0.0195**		-0.0292***
	(-3.453)	(-2.330)		(-3.583)
High school	-0.0687***	-0.0471***	-0.0643***	-0.0694***
	(-9.442)	(-6.327)	(-8.654)	(-9.565)
Household income	0.0390***	0.0330***	0.0326***	0.0348***
	(4.082)	(3.628)	(3.652)	(4.170)
Year 2011	0.536***	0.536***	0.532***	0.552**
	(3.072)	(3.050)	(2.988)	(2.296)
Poor Family	0.0500***			
	(2.863)			
2011 X poor	-0.0245			
	(-1.290)			
Age 5 and less		0.286***		
		(13.90)		
2011 X age 5		-0.0609***		
		(-0.636)		
Mother			0.238***	
			(11.32)	
2011 X mother			-0.0468**	
			(-2.112)	
Urban				-0.0337
				(-0.808)
2011 X urban				-0.000171
				(-0.00392)
Geo-topography	Yes	Yes	Yes	Yes
Facility availability		Yes	Yes	Yes
Distance to facility	Yes	Yes	Yes	Yes
Observations	73,171	73,171	73,171	73,171
Wald-Chisq	365.68***	1008.31***	267.16***	346.37***

Table C-8

Poisson Regression: South Sumatra – Impacts on Days of Illness

Variables	(1) Days of illness	(2) Days of illness	(3) Days of illness	(4) Days of illness
Age	0.00943***	0.0104***	0.00922***	0.00942***
	(14.02)	(14.81)	(14.13)	(13.91)
Marriage	-0.0736**	-0.0548*		-0.0727**
	(-2.423)	(-1.741)		(-2.374)
High school	-0.0426	-0.0207	-0.0433	-0.0441
	(-0.873)	(-0.419)	(-0.897)	(-0.885)
ln_HH expenditure	-0.0436	-0.0375	-0.0393	-0.0377
	(-1.404)	(-1.273)	(-1.327)	(-1.308)
Year 2011	-0.407	-0.358	-0.396	-0.590
	(-1.031)	(-0.929)	(-1.018)	(-1.450)
Poor Family	-0.0589		-0.329	
	(-1.034)		(-0.919)	
2011 X poor	0.0643			
	(0.987)			
Age 5 and less		0.174***		
		(3.100)		
2011 X age 5		-0.0396		
		(-0.636)		
Mother			0.00165	
			(0.0195)	
2011 X mother			-0.000714	
			(-0.749)	
Urban				-0.0436
				(-0.474)
2011 X urban				0.0735
				(0.732)
Geo-topography	Yes	Yes	Yes	Yes
Facility availability	Yes	Yes	Yes	Yes
Distance to facility	Yes	Yes	Yes	Yes
Constant	2.145***	1.971***	2.238***	2.056***
	(4.955)	(4.804)	(5.550)	(5.073)
Observations	9,248	9,248	9,248	9,248
Wald-Chisq	269.69***	305.88***	267.16***	246.00***

Table C-9

Tobit Regression: South Sumatra: Determinants of Infant Mortality

Variable	(1) Infant Mortality Rate	(2) Infant Mortality Rate	(3) Infant Mortality Rate
High school	-2.988*	-3.011*	-3.021
	(-1.75)	(-1.77)	(-1.78)
HH. incomes	-0.134	-0.346	-0.404
	(-0.10)	(-0.25)	(-0.30)
Year 2011	81.16***	81.43***	80.89***
	(3.71)	(3.72)	(3.70)
Doctor	-6.178	-0.828	-3.200
	(-1.52)	(-0.20)	(-0.67)
Midwife	-4.934	1.392	-1.488
	(-1.42)	(0.37)	(-0.34)
Poor family	6.996***	7.012***	7.233***
	(4.93)	(4.95)	(5.12)
2011Xdoctor	5.109	4.621	6.813
	(1.04)	(0.95)	(1.03)
2011XdoctorXpoor	2.588	2.407	5.173
	(0.63)	(0.58)	(1.05)
2011Xmidwife	-0.0758	-0.357	2.229
	(-0.02)	(-0.09)	(0.38)
2011XmidwifeXpoor	-4.963**	-5.130**	-1.519
	(-2.11)	(-2.20)	(-0.36)
%paved road	0.139***	0.141***	0.141***
	(3.31)	(3.32)	(3.33)
Hilly regions	0.0701	0.0730	0.0732
	(1.44)	(1.48)	(1.49)
# hospital	-30.35**	-30.61**	-30.24**
	(-2.09)	(-2.11)	(-2.08)
# polyclinic	0.247	-0.0264	0.0411
	(0.03)	(-0.00)	(0.01)
# puskesmas	-3.033	-2.653	-2.589
	(-0.31)	(-0.27)	(-0.27)
Hospital dst	0.184	0.183	0.183
	(1.49)	(1.47)	(1.47)
Polyclinic_dst	-0.194	-0.189	-0.190
	(-1.54)	(-1.49)	(-1.50)
Puskesmas dst	-0.210	-0.204	-0.203
	(-1.07)	(-1.04)	(-1.03)
Breast feeding		1.544	1.237
		(0.36)	(0.29)
Immunization		-8.849**	-5.185
		(-2.14)	(-0.92)
2011Ximmunization			-3.108
			(-0.53)
D2011XimmunizationXpoor			-4.176

Variable	(1) Infant Mortality Rate	(2) Infant Mortality Rate	(3) Infant Mortality Rate
			(-1.01)
_cons	-47.18*	-43.78*	-43.43*
	(-2.46)	(-2.26)	(-2.24)
Sigma			
_cons	41.40***	41.35***	41.34***
	(31.75)	(31.70)	(31.69)
N	14543	14543	14543
Pseudo-R2	0.0157	0.016	0.016
F-value	11.20***	10.95***	10.80***

Notes:
t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix D. Dissemination Event

Date: 13 May 2013
Time: 09.50-12.00am
Place: LPEM FEUI Auditorium 1, Jl. Salemba Raya No 4, Jakarta

Participants

- National Task Force Poverty Alleviation (TNP2K)
- Ministry of Health
- Ministry of National Planning Agency
- Faculty of Public Health, University of Indonesia
- Center of Health and Economic Policy, University of Indonesia
- Faculty of Economics, University of Indonesia
- Faculty of Economics, University of Andalas
- Graduate School of Economics University of Indonesia
- Institute for Economic and Social Research Faculty of Economics University of Indonesia

Speakers

- Prof. Ari Kuncoro, PhD
- Isfandiarni, SE, MA

The LPEM-FEUI team conducted a half-day dissemination seminar on the findings of the study: Impact of Universal Healthcare Coverage (*Jamsoskes*) in South Sumatera. The objective was to communicate findings and elicit constructive input to enrich the final report and policy recommendations. The event started with opening remarks by the Head of LPEM FEUI and a SEADI representative, followed by a presentation of research findings and discussions. At first, the team planned to invite the Head of Health Office South Sumatera to present the *Jamsoskes* program. However, due to preparations for a Presidential visit to Palembang, the respected speaker cancelled her trip to Jakarta without replacement; therefore the first session was skipped. The team allocated more time to the second and third sessions for a deeper and more comprehensive discussion of statistical results. The participants came from various institutions, such as central government, local government, and universities, with 24 attendees. Input, comments, and suggestions collected from the discussions are as follows:

- This study should calculate how many poor people in South Sumatera never use health facilities.
- This study should consider the case of healthcare centers (*Puskesmas*) operated without a doctor in the outpatient regression analysis.

- The number of *Puskesmas* and *Pustu* is less important than quality of *Puskesmas* and *Pustu*. It seems that there is room for government to reallocate the budget either for upgrading those healthcare centers or for building good roads to access better healthcare centers.
- This study shows that there is no crowding out effect on private doctors and private hospitals/clinics after implementing *Jamsoskes* in South Sumatera. Yet, moral hazard from poor people does not exist in this study.
- After launching *Riskesdas* 2013 next year, further study on measuring the impact of universal healthcare on health outcomes could be accomplished.
- Further analysis should be conducted on the sustainability of universal a healthcare program at the local level, particularly for the resource based districts in which the local budget highly relies on revenue sharing.
- After universal healthcare was introduced in 2009, the share of the budget for curative care is much higher than share for prevention, and the number of sick people is also higher than number of healthy people. A study on effectiveness the use of budget for universal healthcare should be performed.
- Customer satisfaction is one of the important factors to improve universal healthcare. Surveys related customer satisfaction should be carried out in the future.