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**How Can Universal Health Coverage Foster More
and Better Paid Jobs?**

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1. Introduction

Universal health coverage (UHC) has increasingly become a key goal for many countries. UHC can be understood as access to health care to the entire population and protection against financial risks associated with unexpected health care costs. Thus, in its simplest formulation, UHC entails providing all people with access to needed health services of sufficient quality to be effective, without their use imposing financial hardship.

The main goal of UHC is to provide health services that provide physical and mental well being for its entire population. The adoption of UHC can also potentially enhance individuals' ability to engage in productive employment. In this paper, I explore three channels through which UHC can foster more and better employment and I present evidence associated with these three potential channels.

First, we present evidence of whether increased access to health care improves health outcomes and, in turn, worker capacity and productivity. Thus, this channel explores whether UHC increases the supply of workers by increasing the number of workers and the quality of workers. Second, I present evidence on how a system of health care provision that works solely through jobs can reduce mobility, generating both 'employment lock' and 'job lock'. Moreover, increasing access to health care for those who are not employed can improve labor mobility and

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improve the quality of matches and productivity. Finally, the funding mechanism for the provision of health care also affects employment. I explore how a system of health care financing which ties health care funding solely to jobs can reduce the demand for workers and potentially incentivize informal employment as well. This is, however, not inherent to the absence of UHC. In fact, UHC systems with parallel sources of funding for formal sector employees and others can generate the same perverse effects on formal employment and incentivize informality.

The paper proceeds as follows. In Section 1, I present evidence on the link between health provision, health status, and worker capacity. In Section 2, I present evidence on the ‘job lock’ and employment lock’ literature. In Section 3, I present evidence on how sources of health care funding can affect the composition of employment. In Section 4, I discuss the problem of shortages of health workers for the implementation of UHC and how appropriately implementing UHC can generate job growth. In Section 5, I present some case studies of countries that have recently used different models to achieve UHC and point to the strengths and weaknesses of these systems. I conclude in Section 6 and offer final recommendations on adopting models of UHC adoption, which can also foster more and better employment.

2. The Links Between Health Care, Health Status and Productivity

The presumption is that increased access to health care improves health status and that better physical and mental well being can improve the capacity to work and be more productive.

The idea that health is crucial to allow employees to work goes back to the development and economic history literatures (see Fogel, 1994). The early development literature argued that a basic level of nutrition is necessary to provide the necessary capacity for an individual to be able to work. Fogel (1994) examines data for Europe in the 18th century and indicates that there is a minimum calorie intake necessary to perform an average day of work. Beyond the fact that

general physical well being is necessary to be able to work, diseases and chronic diseases can generate absenteeism or altogether limit work. Fogel (1994) points out that disabling chronic diseases have become more important as a source of reduced productivity in both developed and developing countries.

2.a. Impact of Health Care on Health Status

Increased access to health care through universal coverage may not necessarily improve health status if the quality of health care provided is very low or if access is in reality limited. Here, we present both cross-country and individual country evidence of improved health outcomes as a result of increased access to health services.

Cochrane et al. (1978) show evidence from 18 OECD countries of a negative association between the share of GNP spent and maternal and infant mortality rates, after controlling for a number of factors. Filmer and Pritchett (1999) also use cross-country data and find higher public expenditures in health are associated with lower under-5 mortality, but the effect is small. Gupta et al. (2003) improve upon the last two studies by expanding the analysis to over 70 countries over a number of years. They find that the health of the poor is more favorably affected by public spending on health care than the health of the rich. Moreover, they find that the relationship between public health spending and the health status of the poor is stronger in low-income than high-income countries. Bokhari et al. (2007) also try to improve upon the previous studies by addressing the issue of causality, since the relationship could go from healthier populations to more spending in health. This study uses an instrumental variable strategy with data from 127 countries, by using military spending in neighboring countries as an instrument for health expenditures in a given country. This study finds that a 10% increase in government health

expenditure per head leads to reductions of 2.5%-4.2% in mortality for children younger than 5 and of 4.2%-5.2% for maternal mortality rates.

Or (2001) instead focuses on adult premature mortality. She uses data for 21 OECD countries over the past 25 years and finds that the share of public spending on health care is associated with lower rates of premature mortality for both sexes. Similarly, Or (2001) finds that access to health care, proxied by doctors per capita, has a negative association with premature mortality for both men and women. In addition, this study finds that fee-for-service, as the main payment for health treatment instead of taxation on wages, is associated with higher rates of premature mortality. Moreno and Smith (2011) also use an instrumental variable strategy using data for 153 countries to identify causal links between pooled prepaid health expenditures and population outcomes. The study finds that a 10% increase in government health spending per head reduces children's deaths by 7.9 per 1,000 and adult deaths by 1.3 per 1,000. Moreover, they find that an increase of 10% in the share of out-of-pocket payments in national health financing increases female deaths by 11.6 per 1,000.

Generally, these cross-section studies show that greater access to health care does reduce mortality. Moreover, a number of individual country studies, though not all, specifically show evidence of reduced mortality from increased access to public health care from programs aimed at universality. Farahani et al. (2010) study the effect of state-level public health spending in India on mortality using the state's fiscal deficit as an instrument for health spending. They find that a 10% increase in public spending on health in India decreases the average probability of death by about 2% for the young, the elderly and women. Result et al. (2016) study the impacts of a free-of-charge centrally administered health pooled system introduced in Turkey in 2005 and they find that it reduces mortality particularly for the most vulnerable populations. Gruber et

al. (2012) study the Thai 30 Baht program, which is one the largest health system reforms ever undertaken in a middle-income country. The Thai 30 Baht program, which reduced costs for the previously uninsured and increased, funding for hospitals fourfold, led to a reduction in infant mortality of at least 6.5 children per 1,000 births. Yue-Chune et al. (2010) study the impacts of the introduction of a system of universal National Health Insurance (NHI) in Taiwan and find that once NHI was implemented deaths from treatable causes fell by 5.83% per year. Evidence for Costa Rica by Dow and Schmeer (2003) studies the national health insurance system adopted in the early 1970s and finds that the expansion only explains a small reduction in infant and child mortality.

Overall, these various studies relying on aggregate cross-country data show that increased access to health care reduces mortality. Likewise, the individual country studies focus on programs of Universal Health Coverage show reduced mortality in India, Turkey, Thailand and Taiwan and to a lesser extent in Costa Rica.

Next, we turn to whether the improved health status resulting from increased access also turns into greater work capacity and labor productivity.

2.b. Link Between Health Status and Work Capacity

There are three possible channels through which more health care access and better health status can yield better labor market outcomes. First, lower mortality and longer life expectancy will lengthen the working life of a person. Second, better health can improve work capacity and increase productivity. Finally, better health can decrease absenteeism from work and increase days worked.

First, the various studies above showed a decrease in mortality as a result of access to health care. This reduced mortality in turn increases life expectancy and should also lengthen the working life of individuals.

Second, better health can increase productivity. A number of early studies have shown that a minimum level of nutrition is necessary to meet minimum “body requirements” to perform an average day of work. Fogel (1994) points out that improved gross nutrition accounted for roughly 30% of the growth of per capita income in Britain between 1970 and 1980. Fogel (1994) also indicates an increase in life expectancy in the U.S. between 1850 to 1950 from 40 years of age to 68 years of age and he attributes a good part of this increase to increased effectiveness of medical interventions.

Improved health status can lengthen years worked, but also make workers more productive while they are at work. Strauss and Thomas (1998) use data from the U.S. and Brazil and find that the elasticity of wages with respect to height is 1 in the U.S. and 3-4 in Brazil. They argue that better nutrition and health status increase productivity.

Finally, a paper by Dizioli and Pinheiro (2016) provides credible evidence about how increased access to health coverage increases days worked and improves productivity. Using data from the Medical Expenditure Panel Survey (MEPS), they show that a worker with health coverage misses on average 76.5% fewer workdays than an uninsured worker in a two-year period or 5.5 more workdays in a year. The study also finds that health insurance reduces the probability of getting sick and increase the probability that a sick worker recovers and returns to work. They, then, calibrate the model how changes in tax benefits of health insurance expenses can improve labor force health coverage and productivity. They calibrate that the reduction in the

fraction of uninsured workers in the past decade caused 69 million workers to miss 407 million days of work due to illness and an equivalent loss of \$48 billion in output.

Overall, these studies show that health insurance improves health status and, in turn, the improvements in health status translate into more years and hours of work and substantially greater productivity at work.

3. Employer-Provided Health Care and Labor mobility

The effect of employer-provided health insurance has been an active area of research over the past decades. This literature is mainly relevant to the U.S. where private insurance is mostly provided through employers. However, this literature is also relevant for other countries where contributions to public insurance are made through formal sector employers.

Most of this literature focuses on how employer health insurance can affect labor market outcomes indirectly by altering the payoff structures, which in turn modify labor supply and labor market mobility. In particular, one strand of this literature focuses on how employer-provided health insurance can generate ‘employment lock’ by forcing people to stay employed just to get health insurance. A second strand of this literature focuses on how employer-provided health insurance can generate ‘job lock’ and reduce mobility by forcing workers to stay in a job just to get insurance. A third strand focuses on ‘entrepreneurial lock’ and reduced self-employment and willingness to open business as a result of not being able to access health care other than through an employer. On the flip side, this literature shows that, when people can get access to insurance through means other than the employer, ‘employment lock’ and ‘job-lock’ create less rigidity in the labor market.

As indicated above, one part of this literature focuses on the effects of public health insurance on labor supply. Medicaid may discourage labor force participation since receipt

depends on income thresholds. The earlier empirical literature, using variation in qualifying conditions for Medicaid and Medicare, has generally found that the availability of alternative sources of health insurance depresses labor supply (see Yelowitz (1995), Currie and Madrian (1999) and Gruber (2000) for reviews of this literature). Two recent papers relying on policy changes in Tennessee and Oregon examine whether ‘employment lock’ is an important phenomenon. The paper by Garthwaite et al. (2014) provides evidence of ‘employment lock’ in Tennessee, while Baicker et al. (2013) find no impact of Medicaid on employment when analyzing the Oregon health insurance randomized experiment.¹

The second strand of this literature focusing on ‘job lock’ instead examines the relation between health insurance on labor mobility. The literature vastly shows evidence of the existence of ‘job lock’. Most of this literature exploits whether the worker has health insurance through a family member or exploits workers’ valuation of health benefits. Many of the papers relying on access to other sources of health insurance compare male workers who have access to health insurance through their spouses. The papers by Madrian (1994), Cooper and Monleit (1993), Buchmueller and Valletta (1996), Gruber and Madrian (1994), and Anderson (1997) all find that employer-provided health insurance reduces job leaving. In addition, other papers rely on the differential valuation of benefits due to having a pregnant wife or due to a family member having a chronic health condition and they also mostly find evidence on ‘job lock’ (Madrian, 1994, and Stroupe et al., 2001).²

Another approach relies on examining how access to health insurance due to policy changes can increase labor mobility. Gruber and Madrian (1994) analyzed an exogenous change

¹ The absence of evidence of employment lock in Oregon may be due to the fact that the experiment took place in 2008 in the midst of the Great Recession.

² Kapur (1998) is an exception as it finds no evidence using a similar strategy.

in law across states. In particular, they study the Consolidated Omnibus Reconciliation Act of 1985 (COBRA), which allowed unemployed workers to have health insurance coverage from their past employer until they found a new job. They find evidence of less ‘job lock’ when workers and higher reemployment earnings when workers are exposed to COBRA. Bansak and Raphael (2008) rely on the expansion of State Children’s Health Insurance Programs over the 1990s and find that separations increased by 5-6% after the introduction of these state programs for fathers whose children qualified for SCHIP and whose spouses did not have employer-provided health insurance. Another paper by Hamersma and Kim (2009) finds evidence that parental Medicaid expansions led to increases in job mobility of unmarried women, but not for married women or men. Finally, a paper by Farooq and Kugler (2017) shows that increased access to health care for children through Medicaid increases occupational mobility and allows workers to move to higher paid occupations and better jobs.

A third strand of these studies focus on ‘entrepreneurial lock’. While the studies by Holtz-Eakin et al. (1996) and Heim and Lurie (2013) find no evidence of ‘entrepreneurial lock’, several recent studies show that access to health care through sources other than employers increases entrepreneurship. Fairlie, Kapur and Gates (2010) found that Medicare access increases business ownership. Similarly, DeCicca (2010) and Niu find that New Jersey’s 1993 Individual Health Coverage Plan and Massachusetts’ 2006 Health Care Reform increased self-employment. Heim and Lurie (2010) also find that an increase in the tax deduction for health insurance premiums increases self-employment.

Thus, overall, these studies show that limiting access to health insurance to be provided only through employers generates ‘employment lock’, ‘job lock’ and ‘entrepreneurial lock’, thus reducing labor mobility and entrepreneurship.

4. Employer Health Care Financing and the Formal/Informal Composition of Jobs

Universal health insurance can be financed through different mechanisms. To achieve Universal Health Insurance, countries can use mandatory or voluntary mechanisms. Moreover, countries can finance health insurance for the vast majority of its population in various ways. First, UHI can be financed through general funds raised through sales taxes, the import of goods, and investment allocations. For example, the National Health Insurance System in Ghana funds its health system with an earmarked insurance allocation, by imposing a 2.5% tax on the imports of goods and services, through parliamentary allocations and through investment returns.

Second, UHI can also be provided by Community Based Health Insurance (CBHI) also known as micro-insurance or mutual health organizations. CBHI are often financed through funds from federal, state, municipal and local communities together with out-of-pocket payments from individuals. Gumber (2002) finds that CBHI's are limited in the number of people it covers, but also in terms of quality of services. However, CBHI's can also reduce out-of-pocket spending and provide some financial protection to households hit by health shocks. However, an example of a CBHI program that has worked well is the Rashtriya Swasthya Bima Yojana (RSBY) scheme in India. This program covers most of the poor, including those in the informal sector and it has no age limit. About 75% is financed by the national government and 25% by the state government. The program provides smart cards which assure coverage of the full cost of hospitalizations for the most common illnesses as well as the cost of other hospitalizations for up to US\$638 a year, cashless services for all illnesses, all pre-existing conditions are covered, as well as transportation costs.

Third, another strategy to finance health insurance for a large proportion of the population is to require individuals employed in the formal sector to contribute a share of their salary to health insurance and to require employers in the formal sector to also contribute a share of their employees' salary to cover for health insurance. These schemes often cover for health insurance for formal sector employees but also some of the collected funds are used to subsidize health insurance for the very poor. While these schemes have been common in Latin America and other middle-income countries, they can be problematic for a number of reasons. First, under these schemes, informal sector workers who do not fall under the poverty line are left uninsured and are, thus, known as the 'missing middle'. Second, the scheme can also encourage workers and employers to misreport earnings to pay lower taxes or to even encourage workers to report incomes below the poverty line to benefit from the subsidized regime. Last, the schemes themselves can discourage formal employment as employers face additional costs and reduce demand for formal workers. This may be even more problematic because it reduces the size of the workforce that participates through the contributory regime and pays for formal employees and those under the subsidized regime and it expands the informal sector workers who remain in the 'missing middle'.

There are a number of papers that show the potential reductions in demand for formal employment under this last finance scheme. However, the evidence is mixed. The effects are particularly important in economies where the quality of health services is low and those contributing do not value them fully and in economies in which wage rigidities limit the ability of employers to pass on the cost of the health insurance to the employees. Previous results range from full shifting to little shifting and large reductions in formal employment.

A number of studies for the U.S. find full shifting and no effects on formal employment.

Gruber and Krueger (1991) exploit variation in workers' compensation across industries to study the extent to which compensation to cover for health coverage for accidents are passed on to workers. Gruber (1994) instead exploits variation in health coverage for maternity across states over the 1980s and examines whether these benefits are passed on to workers. Gruber and Krueger (1991) and Gruber (1994), rely on cross-section and time-series variation in the United States for disability insurance and maternity benefits, and find full-wage shifting of employer contributions and no effects at all on employment. Part of the reason why there may full-shifting in these cases is that there is likely a close tax-benefit linkage for disability benefits and maternity health insurance since people are likely to highly value these benefits. In addition, Gruber and Krueger (1991) and Gruber (1994) consider relatively small increases in payroll taxes in the United States, which can be easily passed on as lower wages. By contrast, Kaestner (1996) finds no shifting of health benefits for young workers and reductions in employment. More recently, Colla et al. (2017) examine the impact of the employer-mandated health insurance introduced in San Francisco in late 2006. This legislation required employers with more than 20 employees to spend a minimum contribution of \$1.17 per worker-hour on health benefits and of \$1.76 per worker-hour for firms with more than 100 employees. Colla et al. (2017) use counties around San Francisco as well as counties in other parts of the country as control groups and find no effect on employment, and a small reduction in wages. Instead, they find that about 51% of the cost of the mandate is passed on as increases in prices to consumers. Buechmueller et al. (2011) also study a similar mandate in Hawaii and they do not find an effect on employment either.

By contrast, evidence for Latin America finds mostly less-than-full shifting and large reductions in formal employment when health insurance is paid through payroll taxes on

employment. Given binding minimum wages in Latin America (see, e.g., Maloney and Nunez 2004), it may be more difficult to pass a large increase in payroll taxes on to workers as lower wages than to pass on an increase in payroll taxes to cover health insurance as higher wages. Moreover, most Latin American countries face weak linkages between health benefits, on the one hand, and contributions, on the other, which would make workers less willing to pay for the benefits in the form of lower wages and encourage them to move to the informal sector.

Kugler and Kugler (2009) analyze the increase in payroll taxes to fund health insurance benefits over the 1980s and 1990s in Colombia. According to this study, estimates indicate that formal wages fall by between 1.4% and 2.3% as a result of a 10% rise in payroll taxes. This ‘less-than-full-shifting’ is likely to be the result of weak linkages between benefits and taxes and the presence of downward wage rigidities in Colombia. Because the costs of taxation are only partly shifted from employers to employees, employment also falls. Furthermore, results indicate that a 10% increase in payroll taxes lowered formal employment by between 4% and 5%.

Kugler, Kugler and Herrera (2017) instead estimate the impact on formal employment of a reduction in payroll taxes allocated to health insurance. In this paper, we exploit the fact that a Tax Reform introduced in 2012 in Colombia reduced payroll taxes on health benefits for workers earning less than 10 minimum wages (MW) and for self-employed workers with more than 2 employees. In particular, these workers experienced a reduction of payroll taxes of 13.5% between 2013 and 2014. We use three different data sets to examine the impact of this reform on formal employment: the Colombian Household Surveys, the Social Security records and the Monthly Manufacturing Sample. We conduct difference-in-difference analyses of the reform and find evidence of increased formal employment for the affected groups after the reform using all three datasets. The probability of formal employment and the likelihood of transitioning into

registered employment increased for the affected groups after the reform. We also find that the level and share of permanent employment relative to temporary employment grew after the reform for those earnings less than 10 MW. Thus, this paper confirms that fact that financing health benefits through payroll taxes on employment can be detrimental and reduce formal employment and encourage informality.

Finally, the transition of the Canadian system from an employer-based health care system to a National Health Insurance (NHI) system provides excellent evidence of how replacing employer based taxes to fund health care by general taxes can help grow employment. According to Gruber and Hanratty (1995) NHI replaces a primarily employer-provided benefit with a publicly provided one, which can have additional effects on both the composition and level of employment. The NHI system offers predetermined packages that interact directly with employee benefits. In addition, as discussed above, increased coverage may have important implications for the functioning of the labor market because it may affect job mobility or the health of the work force as previously discussed in this summary in way that workers have increased access to care, better preventive care, improved health habits that improve productivity, and job mobility.

Gruber and Hanratty (1995) propose to investigate the transition to a national system, by exploiting the fact this transition in Canada happened gradually through the provinces and not all at once at the federal level. To estimate the impact of NHI, they use monthly data on employment, wages, and hours of work for the years 1961- 1975 for 8 industries (forestry; mining; manufacturing; transportation; construction; trade; financial, insurance, and real estate; and some service industries such as hotels, restaurants, laundry and dry cleaning, and recreation) in 10 Canadian provinces. They find that the implementation of NHI was associated with a rise

in both employment and the nominal wage rate. This conclusion is robust to a variety of specifications that control for the potential endogeneity of the timing of implementation of NHI. Evidence further suggests that the increase in employment reflects permanent increases rather than short-run adjustments in employment and wages and that wages appear to adjust more rapidly than employment to implementation of NHI. Finally, this analysis suggests that NHI is associated with higher rates of employment and wage growth in provinces that use lump-sum premiums to finance NHI. Additionally, these findings suggest that NHI caused a systematic increase in labor demand across all sectors. This may have arisen due to increases in demand for employment and increases in labor productivity that followed increased job mobility or improvements in the health of the labor force.

5. Health Coverage and Health Sector Employment

Another way in which Universal health Insurance can affect jobs is by increasing demand for employment in the health sector directly. However, a number of studies find substantial shortages in health workers in most parts of the world, but especially in Africa and Asia. This means that for UHC to be achieved, health schemes need to include training and education of doctors, nurses and health workers.

Xenia et al. (2015) measure health worker shortages by using as a tracer indicator estimating the proportion of the population lacking access to such services. The Staff Access Deficit (SAD) indicator developed by the ILO estimates gaps towards UHC in the context of Social Protection Floors (SPFs). The SAD is based on the difference between the density of the health workforce per population in a given country as indicated in the World Health Organization (WHO)'s Global Health Workforce Statistics and a threshold representing the needed staffing requirements for universal health coverage (UHC). The SAD is used to estimate

the share of the population lacking access to health services due to gaps in the number of skilled health workers. It identifies deficits, differences and developments in access at global, regional and national levels and between rural and urban areas. The threshold is crucial to help identify the scope for improvement of understaffing, assessing the status quo and related performance towards UHC, optimizing investments in health sector employment and measuring progress.

In 2014, the global UHC deficit in numbers of health workers is estimated at 10.3 million, with most important gaps in Asia (7.1 million) and Africa (2.8 million). Globally, 97 countries are understaffed with significantly higher gaps in rural than in urban areas. Most affected are low-income countries, where 84% of the population remains excluded from access due to the lack of skilled health workers. Thus, achieving UHC and related health outcomes at the global level requires significant investments in the health workforce. A positive correlation of health worker employment and population health outcomes could be identified. Due to these shortages, no health services are available for 84% of the population in low-income countries as compared to 23% in upper middle-income countries.

Health worker shortages hamper the achievement of UHC and aggravate weaknesses of health systems. They have major impacts on socio-economic development, particularly in the poorest countries where they act as drivers of health inequities. At the same time, if health coverage is expanded and includes support for development of health workers, this would generate new jobs.

The World Health Organization and Global Health Alliance joint report shows that there are shortages of some categories of health workers. However, while skills-mix imbalances persist, advanced practitioners, midwives, nurses and auxiliaries are still insufficiently used in many settings.

The report includes analyzing the workforce data in the WHO Global Health Observatory of human resources for health progress in 36 countries. The report finds insufficient supply and stock of health workers, with the relevant competencies and skill mix that correspond to the health needs of the population. The report finds that 83 countries fall below the threshold of 22.8 skilled health professionals per 10 000 population; 100 countries fall below the threshold of 34.5 skilled health professionals per 10 000 population; 118 countries fall below the threshold of 59.4 skilled health professionals per 10 000 population; and 68 countries are above the threshold of 59.4 skilled health professionals per 10 000 population.

These two reports, thus, point to the substantially shortages in health workers and the impediments this creates in terms of achieving UHC. Thus, UHC schemes need to include funding to educate, train and achieve accreditation of health assistants, nurses and doctors to provide access to health services of the newly covered population. This, in turn, would also create new jobs and expand employment in local economies.

6. Case Studies

This section discusses descriptions of attempts to achieve Universal Health Coverage in a number of countries and the successes and problems in the various countries where UHC has been attempted. In particular, I discuss expansions of health care coverage in India, Ghana, Cambodia, Vietnam, Colombia, Dominican Republic, Mexico and Indonesia.

India

According to a study by the WHO, the World Health Report of 2010, national and state governments in India have acknowledged the twin health financing dangers of low government and high out-of-pocket spending on health. As a result, many recent health-financing initiatives in India such as the National Rural Health Mission (NRHM) target higher government spending and greater prepayment in both rural and urban areas. Their main emphasis is on strengthening

the primary health care infrastructure through public funding. Combining funds, and maintenance grants to primary health care centers, establishment of health and patient welfare societies, provision of staff and client incentives, and public-civil society partnerships attempt 'architectural correction' and resource reallocation so as to help the needy states and populations.

Although prepayment is also given considerable attention, commercial prepayment initiatives in health such as private health insurance have not yielded desirable results so far. The estimated penetration of non-life insurance in 2007 was 0.6% (world average 3.1%) with the density of US\$ 6.20 (world average of US\$ 249.60). Total value of insurance premiums generated in health by both public and private sector insurance companies in 2007-08 was about US\$ 640 million; public sector companies alone accounted for 69.4%. One of the reasons why private insurance companies are not very enthusiastic about health is the claims ratio of about 100%; it was 141% in 2006-07 before coming down to 107% in 2007-08. There are also numerous government-initiated community-based and targeted health financing schemes for the poor. Most of them are insurance-based prepayment schemes such as the Rashtriya Swasthya Bima Yojana (RSBY) or National Health Insurance Scheme, particularly targeting the spending on hospitalizations and deliveries.

The objective of the RSBY is to provide protection to BPL households from financial liabilities arising out of health shocks that involve hospitalization. It aims to cover all the Indian districts in a phased manner. The scheme is funded by the national government with contributions from the state governments and the beneficiaries. The estimated annual premium is about Rs. 750 (US\$ 16) per family to be shared unequally by the national (75% subject to a maximum of Rs. 565 or US\$ 12) and the state governments (25%). Beneficiaries are required to pay only the annual registration fee of Rs. 30 (US\$ 0.64). While the cost of smart cards is borne

by the national government, administrative and other related costs are borne by the respective state governments. Workers engaged in the unorganized sector and belonging to BPL category and their family members (head of household, spouse and up to three dependents) are eligible to become members with no age limit. The state governments determine benefits based on an area/people's requirement. However, as described above, they are advised to incorporate at least the following minimum benefits: annual sum assured/per family for hospitalization coverage; cashless attendance is provided to cover all covered ailments; hospitalization concerning most common illnesses is covered with few exclusions; all pre-existing illnesses are covered and reimbursement of transportation cost (maximum limit/per visit US\$ 2.13; overall limit US\$ 21.28). RSBY Provides the participating BPL households with freedom of choice between public (including the existing Employees State Insurance Scheme facilities) and private hospitals. Hospitals have the incentive to provide treatment to large number of beneficiaries as it is paid per beneficiary treated. Even public hospitals have the incentive to treat beneficiaries as the money from the insurer will flow directly to the concerned public hospital, which they can use for their own purposes. Insurers, in contrast, will monitor participating hospitals in order to prevent unnecessary procedures or fraud resulting in excessive claims.

The main implementing agency is the respective state government, which selects the insurer through a competitive bidding process; the insurer is paid premium for each household enrolled for RSBY. Therefore, the insurer has the motivation to enroll as many households as possible from the BPL list. This will expectedly result in better coverage of target beneficiaries. The RSBY was launched by the Ministry of Labor and Employment, Government of India in April 2008 to provide health insurance coverage for Below Poverty Line (BPL) families. Five Indian states have started delivering the RSBY services to their people enrolled while nine others

have started the enrolment; 8 have initiated the tendering and Memorandum of Understanding processes (with Government of India). By the end of May 2009, about six million people were enrolled and 4.60 million smart cards were issued; Karnataka has initiated the RSBY process in 6 districts. Gujarat was the first state to pilot the scheme in 5 districts covering a population of about 0.45 million; 41 the premium was fixed at INR 634.84 (US\$ 13.50). During the first phase, 327,071 families were covered accounting for 58.1% of BPL families (562,042 families) in the chosen areas. In other words, an estimated total premium of US\$ 4.42 million was generated during the first phase. So far, claims worth US\$ 95,345 (per capita US\$ 120) were made by the enrollees; that is, less than 2.2% of the total premium value was claimed so far and only 0.24% of the enrollees have accessed health care using the NHIS.

While CBHI programs often suffer from insufficient access and low quality, the RSBY in India is an example of an CBHI which has been able to reach a large fraction of the poor and which also provides good quality services to that population group.

Ghana

Ghana's health-care system was founded on the basis of the 'free health care' model. Under this system, the tax-financed public institutions directly delivered health care to the people of Ghana. The model, however, could not be sustained for long and token user fee was first introduced in 1972. Full-fledged user fee scheme, backed by legislation, came into effect from 1985 in the name of 'Cash & Carry' with an aim of recovering 15% of the operating costs. Although vulnerable groups such as the poor, pregnant women, and children and diseases of public health interest were exempted from paying the user fee, the policy had limited success in removing the financial barriers to health services because the exemption package was not clearly specified and adequately funded; there were also managerial and operational difficulties. As a

result, an alternative health financing system using health insurance schemes with community and NGO participation was introduced. Such insurance schemes probably laid the platform for the NHIS, which was a major campaign issue during the 2000 election in Ghana.

The main feature of the NHIS is that it included the poor first and tried to reach out to the rest from there. The initial goal was to bring every resident in Ghana under a health insurance scheme within five years. The ultimate aim is to make it the main purchasing mechanism for health services throughout the country. As a result, the 'Cash and Carry' system of paying for health services is being phased out. Its key design principles are 'equity' defined as equal access to benefit package irrespective of one's socio-economic status and 'risk equalization' meaning the financial risk of illness is equally shared among all. In other words, disease burden and mortality pattern serve as the main basis for the allocation of funds to geographical areas in the country. Financial contributions to and risk sharing is a feature of the program of cross-subsiding the system: the rich and the healthy subsidized the poor and the sick, and the economically active adults paid for the children and the aged. About 14% of the population are employed in the formal sector (including the public sector) while 69.2% are in the informal sector; the rest are unemployed or in business. The informal sector employs 92% of all employed persons in the rural areas and 75% in the urban areas.

NHIS is funded through earmarked budgetary allocation through a system of 'ring-fencing' (since 2007); national health insurance levy imposed at the rate of 2.5% on the supply and import of goods and services; social security contributions; the Ministry of Finance resources for exempted persons, Parliament allocations; investment returns; and voluntary contributions such as grants, donations, and gifts;. People enrolled pay differential premiums ranging between GH¢ 7.20 and GH¢ 48 depending on the socioeconomic status, as assessed by a

committee of local experts. The extreme poor, children (< 18 years) whose parents are enrolled, the elderly (>70 years), indigents, pensioners under the social security scheme, and pregnant women are exempted from paying the premium.

Although its impact on the disadvantaged populations appears to be positive, certain lessons can be learnt from the Ghanaian experience. First, there are many practical barriers to entry – economic, Geographic, political and cultural. There are many people living remotely who do not have easy access to health facilities and therefore may not perceive the benefits of membership. Similarly, the strict income norm for exempting the poor actually excluded the marginal poor, who are not able to pay the premium; in some cases, an ILO program and some NGOs stepped in to pay the premium on their behalf. All the children (under 18 years) could not be covered because of the condition that their parents have to be insured first; efforts are now on to decouple them from their parents. Many districts rely on community groups to identify the poorest, but it is not clear how effective this strategy is. This experience highlights the need for a coordinated effort across different government ministries including the Ministry of Social Welfare to successfully target the poor. Second, the potential of a well-functioning health financing system can be fully utilized only when it is supported by a well-functioning health care delivery system. In Ghana, the health care delivery system including the referral system appears to be functioning sub-optimally. Besides constraining people's access to health care, it facilitates frequent patient visits to higher-level facilities, which results in higher reimbursement per episode. This second point particularly reinforces Moreno-Serra and Smith's concern over good governance and the need to constantly rebalance and revisit the program.

In sum, according to data from Ghana's 2008 Demographic and Health Surveys (DHS), coverage by the NHIS was 39 percent for women and about 30 percent for men (Makinen et al.

2011). Total coverage was estimated at 34.5 percent. Enrollment in NHIS by informal workers is not mandatory and calls for the payment of an annual premium equal to about US\$10 per family member, except for children under 18, who by law are exempt, as previously pointed out. Reportedly, the government of Ghana is experiencing difficulties in enrolling individuals from the informal sector. According to one report, by the end of 2006, only about 22 percent of workers in the informal sector had enrolled in the NHIS (Wahab 2008).

Shieber et al. (2012) conclude that “the fact that an estimated 70–90 percent of Ghana’s labor force works in the informal sector and that most firms are very small provides significant challenges to both revenue collection and enrollment in the NHIS”. These authors also note that premiums for informal sector workers are low relative to their costs and that 70 percent of firms in Ghana have fewer than five employees. These facts and the high share of informal employment are partially responsible for NHIS’s currently low revenues and premium collection. The authors conclude that if Ghana cannot productively employ people entering the labor force, this may lead to lower economic growth, tax revenues, and NHIS premium income in a spiral effect previously discussed over the role of a healthy productive population on output.

Cambodia

One-third of Cambodia’s population lives in poverty (World Bank 2013) and about 20 percent live in extreme poverty. Cambodia’s private sector is dominated by the informal economy, which accounts for 80 percent of GDP and close to 90 percent of employment. Much of informal employment is found in agriculture.

Out-of-pocket health spending is the main source of health financing in Cambodia, as in several other Asian countries (for example, China, India, Vietnam), representing more than two-

thirds of total health spending. Government health care providers are strongly dependent on user fees to supplement health workers' incomes and to purchase drugs and supplies.

The chief mechanisms to offer financial protection in health to the population are health equity funds (HEF) and CBHIs. HEFs pool resources from government and donors to finance health care for the poor who seek ambulatory and inpatient health care in government health facilities. HEFs cover a set of defined inpatient and outpatient health services. Two types of means tests are used in the country to assess HEF eligibility. One was adopted by the MOH for post-identification, that is, to assess eligibility of individuals applying for HEF support when seeking health care. Another was adopted by the Ministry of Planning to determine HEF eligibility at the household level. Thus, HEFs function as a safety net for poor, uncovered individuals when they are seeking health care, and as insurance for households that have qualified for HEF coverage.

CBHI schemes, previously discussed, aim to cover informal-sector workers who can afford to pay the premiums, and are implemented in several health operational districts. Enrollment in CBHI involves a periodic prepayment and may or may not require copayments at the time of service delivery. Like HEFs, CBHIs rely exclusively on public health care providers. Current coverage of CBHI is a mere 2% of the population. A reason for this low coverage is the poor reputation of the quality of health care in government health facilities, which are the sole providers of CBHI. The non-governmental organization Research and Technology Exchange Group (Groupe de Recherche et d'Echanges Technologiques, GRET) has set up CBHI in Cambodia and is supporting its further development.

Vietnam

Vietnam's Health Insurance Law of 2008 mandates enrollment of all citizens in the country's SHI agency, Vietnam Social Security. By the end of 2010, nearly 60 percent of the country's population was covered by SHI. The 2008 law envisioned that farmers would have SHI coverage by 2012 and remaining groups of the informal sector by 2014. To promote enrollment in SHI, certain population groups, including the poor, minority ethnic groups, and households living in disadvantaged areas are not required to make any contribution to SHI. In addition, government subsidizes 70 percent of a flat premium for the near-poor and 30 percent for medium-income farmers. High-income farmers are required to contribute the full premium. While SHI beneficiaries can use both public and private providers, public providers are dominant in Vietnam (for example, 95 percent of all hospital beds are public).

Vietnam, like other countries in the region, has recognized that expanding coverage based on contributory mechanisms alone is not feasible in a context where a large share of the population is still poor, in the informal sector, or both. The expansion of SHI in Vietnam has been financed largely through tax subsidies to cover insurance premiums for the poor and other vulnerable groups. As SHI expanded rapidly during 2006 to 2010, government share of SHI revenues rose from 29 percent to almost 50 percent. By contrast, government health spending increased at a faster rate than economic growth in the same period.

Informality is very high in Vietnam: three out of four of its 46 million workers are informally employed. Efforts to expand coverage to informal sector workers were tried with CBHIs in 1983 and the Voluntary Health Card Scheme in 1991. However, neither program was successful due to problems of adverse selection and moral hazard that derived from their voluntary nature. Currently, about 60 percent of informal sector workers are covered by SHI. Formal and informal sector workers with SHI coverage have the same benefits package and

official level of copayment (approximately 20 percent of health care costs). The poor have a lower copayment of only 5 percent. There is no ceiling for copayments by SHI beneficiaries. That only a fraction of informal sector workers is covered by VSS may be explained by: (1) low quality of care in the primary health care network discourages enrollment in SHI; (2) the 30 percent premium constitutes a financial barrier for enrollment for the near-poor; and (3) SHI confers limited financial protection because copayments are not capped and public providers demand high informal payments.

In their recent World Bank report, Somanathan et al. (2012) recommended a series of measures to achieve UHC in Vietnam, including: (1) expanding the breadth of coverage of SHI, particularly for those hard-to-reach groups, such as the near-poor and the informal sector – which means expanding benefit packages or evening the packages available; (2) substantially increasing general revenue subsidies to pay for expanded coverage for informal sector workers and their families; (3) fully subsidizing the premiums for the near-poor; (4) making enrollment mandatory for all citizens and introducing measures to enforce enrollment compliance; and (5) providing financial incentives to promote family coverage for formal sector workers, instead of only employee coverage -as is currently the case.

Somanathan et al. argued that the first two measures were administratively more efficient than attempting to expand contributory SHI for the near-poor and the informal sector, and were an effective means to curtail adverse selection – evening out benefit package may incentivize people to go into informality to qualify for government subsidized programs or under report their income. However, if enough resources are pulled together to offer the same quality of access and care across the income spectrum, this problem should be reduced. They also concluded that increased health insurance coverage would be ineffective unless actions were

taken to reduce out-of-pocket spending by the insured. Proposed actions included enforcing strict controls on balance billing and providing a basic benefits package that could be fully financed through VSS reimbursements and subsidies.

Colombia

In 1994, a major reform of the health system, known as Ley 100 sought to achieve UHC through SHI by creating two regimes, a Contributory Regime (CR) for the nonpoor and a Subsidized Regime (SR) for the poor. Affiliation in the CR was mandatory for dependent and independent workers whose monthly income was greater than the minimum legal salary (MLS) or twice the MLS, respectively. Affiliation to the CR involved a monthly contribution equal to 12 percent of the worker's salary. For dependent workers, this contribution was split between the employee (4%) and the employer (12%), whereas independent workers had to finance the full 12% themselves. The salary or income subject to the 12% contribution was capped at 20 times the MLS. Individuals who did not qualify for the CR because they had no income or their income was below the legal threshold had to enroll in the SR. Benefits in the CR were self-financed, with 11 percentage points of the affiliates' contributions. Benefits in the SR were financed with 1 percentage point contributed by the affiliates of the CR plus subsidies from the nation's treasury.

It is estimated that about 50% of Colombia's workers are informally employed, up from 33% in the early 1990s. As discussed above, Kugler and Kugler (2009) found that this reform was in part responsible for the reduction in formal employment and rise in informality. In spite of this, Colombia has insisted on its commitment to UHC. Thus, Colombia's experience is therefore important to all those countries with similar income levels (one country that has emulated Colombia's plan is the Dominican Republic – discussed next) that are striving to achieve UHC. Further, whereas in the early years of the reform total health expenditure as a

share of GDP experienced a large increase, over the next decade this share fell to below its starting level at the beginning of the reform.

Despite its many achievements, Colombia's health reform has encountered significant problems along the way. First, there has been considerable evasion of contributions in the CR. Second, public resources were insufficient to meet the reformers' original objective of equalizing the SR's benefits package with that of the CR. Third, there have been a growing number of legal suits by SHI beneficiaries who demand financial coverage for services not included in the benefits packages of the CR and the SR.

Evasion took at least three forms: individuals in the CR underreported their income to reduce their contribution to health, non-poor individuals misrepresented their socioeconomic status to be classified as poor and therefore qualify for the SR, and individuals did not join the CR despite the legal mandate to do so. A study done by Bitran et al, commissioned by MOH in the early 2000s concluded that the CR was failing to collect 36% of its potential revenue. About one-half of this uncollected revenue resulted from failure to affiliate by individuals who should join the CR, and about one-third from underreporting of affiliates' income. The same study also concluded that SHI health insurers had an economic incentive to affiliate independent workers from both the formal and informal sectors in either the CR or SR, but, as public subsidies existed for the SR and a risk compensation fund for both the CR and the SR, they did not have an incentive to verify the applicants' socioeconomic status or income.

In 2007, to reduce evasion and elusion, the government decided to link workers' health contributions to their pension contributions. In Colombia (as in Chile), pension funds are individual and not pooled: The amount of money individuals receive from their pension fund is proportional to the money they put in, and therefore individuals do not have an incentive to

substantially under declare their income. In contrast, health benefits that individuals received in the CR were the same irrespective of their declared income. By linking pension and health payments, government was able to reduce evasion and elusion in SHI. And In 2012, the government implemented a measure to equalize the benefits packages of the two regimes by expanding the contents of the SR package. Some experts think this will threaten the financial stability of the system as people will be more likely to misrepresent their socioeconomic status to qualify for the SR. Despite the many achievements of Colombia's health reform, the government of President Santos is currently designing a major reform to the health system to create a unified health system. It is said that health financing would primarily come from general revenue sources and that payroll contributions may be reduced or eliminated altogether which according to the literature on UHC and health seems to be the most effective way to improve access and care when looking at broad measurements of health.

Dominican Republic

The Dominican Republic emulated many elements of the Colombian Ley 100 reform, with the inclusion of another contributory system: the co-called Contributory Regime (CR), intended for formal sector workers; the Contributory Subsidized Regime (CSR), intended for nonpoor informal sector workers; and the Subsidized Regime (SR), for the poor.

In the CR, about 10% of a worker's salary is allocated to health, with a split in payment between the employee (3%) and employer (7%). As in Colombia, there is also a cap (equal to 10 minimum legal salaries), on the salary or income that is subject to the 10 percent health contribution. Although the CSR has not yet been implemented, by the time of the Bitran report (2012), the law states that informal sector workers should contribute a multiple of the minimum wage (depending on the average income of each occupational category). The government would

subsidize the amount otherwise paid by the employer in the CR. The government uses a means-testing instrument known as the Single System of Beneficiaries (Sistema de Identificación de Beneficiarios-Índice de Condiciones de Vida, SIUBEN), and has developed a national conditional cash transfer (CCT) program, to determine citizens' eligibility for the SR.

Members of the two regimes that have been implemented, the CR and the SR, are expected to receive the same benefits package, but the services they receive differ because they are delivered by different kinds of providers. The same incentives to evade contributions, discussed in Colombia's case, may be present in the Dominican Republic's SHI system. Thus, it is likely that some nonpoor informal sector workers have managed to get coverage under the SR, that formal- and informal-sector workers under report their income, as previously mentioned, and that informal sector workers have evaded their obligation to enroll in the system.

In 2007, 27% of the population was covered by insurance. In mid-2009, just two years after the launch of the CR, coverage had risen to almost 40 percent. Estimates point to the fact that about one-half of formal sector workers still remain to be enrolled in the CR, and two-thirds of the poor also remain to be enrolled in the SR. The yet-to-be-implemented CSR would have a target beneficiary population of about 1 million people, or 10 percent of the country's population. According to the author, if the government decided to achieve full coverage with all three regimes, it would have to increase its public budget by between US\$270 to US\$690 million, that is, between 22 percent and 56 percent of the public health expenditure in 2008. This, she thinks, is possible since it represents only 7 percent of the public budget approved for 2010.

The main obstacle in implementing the CSR for informal workers is the difficulty inherent in the collection of contributions. One proposed solution is the elimination of the CSR; the inclusion of all poor informal workers in the SR; and the elimination of government premium

subsidies for high-income independent workers, who would then belong to the CR. Informal sector workers account for 56 percent of the Dominican Republic's labor force, see the chart provided in the beginning of this section (ILO 2012), and a high percentage of these receive an income equivalent to or less than the minimum wage.

Mexico

Prior to the 2003 reform, which created the System of Social Protection in Health (SSPH), Mexico's health system was segregated and presented large inequalities in insurance coverage and access to health services. Formal private sector workers and their families were affiliated with and received health protection from the Mexican Institute for Social Security (IMSS), while federal public workers were covered by the Institute for Social Security and Services for Civil Servants (ISSSTE). In 2002, prior to the reform, 38.7 million Mexicans were covered by social security, representing 37 percent of the total population. Affiliation in social security for these workers was mandatory. Health services for them were delivered mainly by providers managed by their social security institutions.

In addition, about 1.8 million Mexicans were covered by voluntary private health insurance and obtained health care mainly from private providers. The rest of the population, or approximately 64 million people had no explicit health insurance coverage. Informal sector workers and their families represented about one-half of Mexico's population, or 52 million people.

The SSPH reform sought to expand health insurance coverage in the country, to improve access, and to enhance financial protection for health. With the reform, individuals not covered by mandatory social security can enroll with Seguro Popular, or Popular Health Insurance, a

health insurer financed mainly through general revenue resources from the federal and state governments. Enrollment with Seguro Popular calls for a premium that is determined according to the level of household income. It has exclusions of preexisting medical conditions and covers a broad package of health services known as the Universal Health Services Catalogue (Catálogo Universal de Servicios de Salud, CAUSES). In addition, it covers a list of high-cost medical interventions centrally paid by the Fund for Protection against Catastrophic Health Expenditures. Workers not covered by mandatory social security can also enroll in Family Health Insurance (Seguro de Salud para la Familia, SSFAM), a mechanism created in 1997 and managed by IMSS, through which workers without a work contract can obtain health insurance coverage for themselves and their families by paying a monthly premium.

By the end of 2010, Seguro Popular covered 43.5 million people and SSFAM covered 600,000. The uninsured population had dropped to 9 million people (from 64.4 million in 2002), representing only 8 percent of the nation's population. The absolute amount and the distribution of public financing changed with the reform and reduced the financing gap between those insured through social security and the rest of the population, which was insured through Seguro Popular or uninsured.

Financing of SSPH comes from three sources: (1) a so-called social quota established by the federal government for each individual covered by Seguro Popular, equal to 3.92 percent of the minimum legal salary and updated yearly according to the consumer price index plus a federal contribution equal to 1.5 times the social quota; (2) a contribution made by state governments equal to one-half of the social quota; and (3) contributions made by the affiliates of Seguro Popular.

An evaluation report (Knaul et al., 2012) indicates that Seguro Popular is improving access to health services and reducing the prevalence of catastrophic and impoverishing health expenditures, especially for the poor. Total health care spending in Mexico has increased from 5.1 percent of GDP in 2000 to 6.0 percent in 2004 to 6.3 percent in 2010. In addition, the disparity in per capita public health spending in the states has dropped as measured by the per-person public expenditure between those covered by social security agencies and those without social security. In 2000, the ratio was 6.1; it dropped to 2.1 in 2004 and to 1.2 in 2010.

Levy (2008) has pointed with the shortcomings of Mexico's existing social security system for formal workers and advocated for eliminating payroll-based social security contributions and raising consumption taxes on higher-income households to simultaneously increase the rate of growth of GDP, reduce inequality, and improve benefits for workers. His prescription is at odds with the current direction of the reform but has valid implications for Mexico and other developing countries that rely on SHI as well. Colombia may be moving to a reformed system that relies more on tax-financed health care and less on SHI contributions. India's GSHISs also rely on tax financing. Levy (2008) also expresses concerns about the income requirement of national social insurance that will inevitably leave people from having access to care or creating incentives to game the system, or moral hazard problems, as in Colombia. Levy's core proposal is "The core proposal can be simply described: to provide all workers with the same social entitlements paid for from the same source of revenue."

Indonesia

The implementation of Indonesia's national health insurance program in 2014 highlights the "missing middle" problem, in which non-poor workers in the informal sector remain uncovered from the health care due to self-enrolment. This study examines why informal

workers are reluctant to join the national health insurance even though the benefits of the program are very generous. Observing 400 households working in the informal sector and applying the “Triple Bounded Dichotomies Choice Contingent Valuation Method” to observe the Willingness to Pay, this study found that 70% of respondents were willing to pay a premium that is lower than the current rate. Yet, only 18.7% of households had registered for national health insurance. Econometric estimations provide evidence that the availability of hospitals, insurance literacy, experiences of being an inpatient or outpatient, the number of family members, the sex of the head of the household, access to the Internet, and household income are highly correlated to the likelihood of workers in the informal sector joining the national health insurance program. In contrast to other studies, this report finds that the insurance premium was not the primary impediment. Rather, the availability of health services; and a lack of insurance literacy were the primary causes. Hence, this study calls for increased investment on healthcare facilities as well as campaigns to educate the public about the importance of health insurance.

In early 2014, the Indonesian government integrated a fragmented health insurance scheme into a single national insurance scheme, Jaminan Kesehatan Nasional (JKN), implemented by the newly formed national social security agency, Badan Penyelenggara Jaminan Sosial Kesehatan or BPJS Health. Prior to 2014, steps taken towards universal health coverage (UHC) focused on low-income groups and workers employed in the formal sector (who tend to be in the high-income group). While the low-income group was covered through a government-financed insurance scheme (JAMKESMAS), and while workers in the formal sector are primarily covered under employer-based insurance schemes (ASKES, ASABRI, JPK-JAMSOSTEK), those who are neither poor nor employed in the formal economy remain uncovered, and are “missing” in the enrolment numbers. The Central Statistics Agency (Badan

Pusat Statistik, or BPS) reported that in 2014 the informal sector employed approximately 60% of Indonesia's labor force, affecting around 160.9 million people when family members are accounted for (SUSENAS 2014).

This study surveyed 400 households who are working in the informal sector and are not categorized as poor families. In order to optimize the explanatory power of the sample, it determines the sample provinces based on four considerations: (a) the sample must be able to represent the high, middle, and low-income regions; (b) the selected sample must represent the west, central, and east region in Indonesia; (c) the sample must represent dominant sectors in Indonesia, in particular agricultural, industrial, and fisheries sectors; and (d) the proportion of informal worker respondents in the sample area must be large enough, since its purpose is to find out the willingness to pay of informal workers. Based on these criteria, we purposively sampled three districts: Kabupaten Deli Serdang (high income–west part–industrial) located in North Sumatera Province, Kabupaten Pandeglang (middle income–central part–agricultural) located in Banten Province, and Kabupaten Kupang (low income–east part–fisheries) located in East Nusa Tenggara Province. In each district, the study randomly selects four sub-districts, and within the subdistricts it randomly selects two to three villages. The 400 households sampled are distributed as follows: 160 in Deli Serdang, 140 in Banten, and 100 in Kupang.

The descriptive statistics of the sample shows that most of the respondents are well educated, where 66.2 per cent have finished nine years of compulsory education. Most respondents could not be categorized as poor households, since 75 per cent of them have a monthly income of around Rp1–3.5 million. Only 6 per cent of the respondents earn less than Rp1 million. Even though these are not technically considered poor households, many of the households obtain their income on daily basis (34.25%), and hence are vulnerable to external

shocks. For the sectors of employment, 79.5 per cent of respondents were working in the informal sector, consisting of the service sector (30.25%), the trading sector (26%), and the agriculture sector (23.25%). The rest were working in the construction sector (7.25%) and the manufacturing sector (7%).

This study uses the Triple Bounded Dichotomous Choice Contingent Valuation Method (TBDCCVM) to determine the willingness to participate (WTP) for health insurance of households working in the informal sector. The WTP provides information regarding whether the current premium is affordable enough and whether they would like to join BPJS Health with the current premium system. Generally, the simpler Dichotomous Choice Contingent Valuation Method (DC-CVM) is used to estimate WTP by asking the respondent if he or she will be willing to pay for a particular class of treatment for the given premium, whereby the respondent has a dichotomous choice to answer either “yes” or “no.” The premium for non-wage recipients (workers and non-workers alike) depends on the treatment class they opt for: Rp 25,500 per person per month in treatment room class 3; Rp 42,500 per person per month in treatment room class 2; and Rp 59,500 per person per month in treatment room class 1.

Ultimately, this study reports that many people find insurance a novelty, and around 70 per cent of them had the desire to join the health insurance scheme. Also, estimates of the WTP for each class of treatment: 13.3% of them were willing to pay a premium of Rp 61,740 (US\$4.5) for the class 1 treatment; 10.4% of the remaining respondent were willing to pay for the class 2 treatment with an average premium around Rp 40,685 (US\$3.13); 61.41% of the remaining respondents were willing to join the class 3 treatment with an average WTP of around Rp 22,368 (US\$1.72). These findings show that while they had the desire to join the program, the current premium is unaffordable for them. The availability of hospitals at the district and city level

increases the probability of joining JKN by 15.5%, while the insurance literacy represented by the knowledge about insurance and JKN increase the probability to join the program by 9.5%. Furthermore, the availability of medical doctors at the village/district level is negatively associated with the probability of joining the program. This is because under the current health financing system, visiting the community doctor for minor illnesses is more convenient, faster and cheaper than paying health insurance. Cochrane had already pointed out to the fact that the number of doctors is positively associated with mortality rates for example which bears to attention that it absolute quantities of medical practitioners is not the most correlated variable with positive health outcomes.

6. Conclusion and Recommendations

This review shows that Universal Health Coverage initiatives cannot only achieve broader health care coverage for the population without the need to put households in financial distress, but it can also contribute to more and better employment. In particular, there is extensive evidence of the health status benefits of broader health care coverage and the ensuing employment effects from improved health. First, we documented longer working lives, as well as fewer absenteeism and higher productivity on the job as a result of better health status.

Importantly, we documented the detrimental effects of employer-provided health insurance on labor mobility. I found extensive evidence of ‘employment lock’, ‘job lock’, and ‘entrepreneurial lock’. The evidence shows that when the only way to be able to obtain health insurance is through one’s employment, workers tend to stay employed in the same job and occupation and to have less chances of advancement on the job. In addition, the evidence also shows that employer-provided training reduces self-employment and the likelihood of creating businesses.

The evidence also shows, however, that UHC on its own does not create more and better jobs. In fact, the form of financing for UHC can either be beneficial or detrimental for encouraging formal employment. The three main schemes for funding UHC are through general funds, through community-based financing or through payroll taxes. I showed evidence that payroll-based financing can be the most detrimental for employment and can discourage formal employment. In particular, funding health insurance through payroll taxes can encourage workers to under-report earnings to pay lower taxes and to qualify for subsidized health insurance. In addition, payroll taxes can reduce demand for formal employment when benefits are not directly tied to contributions and when there are downward wage rigidities. Evidence from Colombia, Dominican Republic, Mexico and Vietnam shows that UHC achieved by taxing those in formal employment and using those tax payments to subsidize the poor may fall short of raising sufficient funds and encourage informality.

By contrast, evidence from Cambodia, Ghana and India showed that that Community-Based Health systems can suffer from their inability to cover a broad part of the population and providing sufficiently good health services to those covered by CBHI. Community-based health insurance (CBHI) has been promoted by governments and the international community on the grounds that it is a mechanism that can improve accessibility to needed services and financial protection for poor people, particularly in rural areas of low-income countries. India is a country where CBHI has thrived, providing many communities with a needed mechanism to improve access to health care by lessening the financial burden on the patient's family. However, with the exceptions of Ghana and Rwanda (not included in this report), most poor countries where CBHI has developed have been able to cover only a small share of the population – the targeted communities – and since most initiatives have been isolated and spontaneous. Further, while

poor populations have been shown to have a willingness to pay a premium for CBHI, outside financial resources have been required for most of these schemes. Also, the majority of these schemes promote voluntary enrollment and are therefore subject to considerable adverse selection, as previously discussed. Finally, because of their generally small beneficiary populations, CBHI schemes fail to reach the minimum size required to achieve effective risk pooling.

Indonesia tried to integrate its health insurance but found that informal workers still fell in the ‘missing middle’. They attribute this to lack of literacy and ability to sign up and due to the lack of health services for many informal workers who live in more remote areas. In fact, there is evidence of substantial shortages of health practitioners in many countries in Asia and Africa.

Thus, CBHS’s suffer from limited reach, while contributory schemes used to finance subsidiary regimes through payroll taxes suffer from evasion and growing informality. Bitran (2014) also argues that the notion of offering different health insurance coverage to different population groups tends to be opposed by health policy makers, who believe that such a policy promotes inequality and inequity. However, offering a uniform benefits package for all, just like offering free enrollment for the poor and the non-poor informal alike, may result in such large perverse behaviors that the aim of achieving UHC may become infeasible.

In addition, the choice of benefits package for different population groups has fiscal implications. In most developing countries it is not fiscally possible for government to subsidize a vast, uniform benefits package for all, and it is not convenient to offer a modest package for the non-poor because they may be reluctant to enroll. The Dominican Republic, and Mexico are useful examples of countries that have by design made the decision to offer different levels of benefits to different population groups. In time, with greater economic growth, increased

revenues and sources of financing, these packages can increase and the design can change. At the same time, the opposite can be true. Colombia, for example is a country, which experimented with the former only to find costly and ineffective which is pushing the country to switch direction and to move toward a single unified system of benefits and packages for all its citizens. A solution to the funding mechanism is to move towards systems that are funded by general revenues to finance formal workers, informal workers, and the poor who are not working.

To summarize, I make a number of recommendations on how to introduce UHC as to maximize the positive impact on employment:

- UHC needs to provide resources for training and licensing for health practitioners to be able to provide health services to the new population for whom health insurance coverage is being expanded.
- Newly covered populations, when UHC systems are introduced, need to receive a wide enough range of services and a high enough quality for health care to improve health status and translate into a better workforce.
- Financing for health care should come from a uniform source of funding regardless of whether the individual is employed or not and regardless of whether the individual is employed in the formal or informal sector, otherwise perverse unintended effects result in less mobility and the growth informal sector.
- Consumption taxes are a good alternative source of financing to payroll taxes on formal employment. This would insure that the 'missing middle' receives services and that the size of the informal sector is not farther expanded.
- While uniform services of minimum quality should be offered to all, fee-for-use services should depend on the income level of the individual/household using those

services in such a way that households qualifying as poor are fully subsidized while wealthier households pay in full.

A well-designed UHC can turn into a virtuous circle. Broad and high quality health services can make the workforce more productive and expand formal sector employment if financed through general resources. In turn, a bigger and more productive workforce can contribute to higher economic growth and help to finance health expenditures. As more health services, the workforce continues to grow and become more productive contributing to economic growth.

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