



ISSUES IN BRIEF

The Informal Sector and Universal Health Coverage: Crucial Considerations



Lawrence P. O. Were is Assistant Professor in both the Department of Health Sciences at Boston University's College of Health and Rehabilitation Sciences: Sargent College, and in the department of Global Health at BU's School of Public Health. He is also a Faculty Associate of the Pardee Center for the Study of the Longer-Range Future. His research focuses on health economics and the potential impacts of reforms within healthcare systems and health insurance programs on marginalized and high-risk populations, including informal workers and HIV+ individuals, especially pregnant women and their children.

Lawrence P. O. Were

Informality — the collection of firms, workers, and activities that operate outside the legal and regulatory frameworks or outside the modern economy — is considered one of the most difficult challenges facing developing countries (Loayza, 2016). Informality not only reflects underdevelopment but may also lead to further economic decline due to slow capital accumulation, low economic growth, and slower migration to more productive areas (Loayza, 2016). This presents two issues: what is the role of informality in socioeconomic development, and how does informal employment influence welfare. On the socioeconomic front, informal sector firms are seen variously as: 1) untapped reservoirs held back by government regulations; 2) parasites competing unfairly with taxed and regulated enterprises; or 3) the byproduct of poverty (Loayza, 2016). From an employment perspective, urban informal sector workers tend to be younger, are subject to poor pay, unfair dismissal, lack of benefits such as paid leave, health insurance and pensions, and lack of industry regulations in hazardous and risky occupations (The Rockefeller Foundation, 2015). This is of concern as most developing countries produce about 35 percent of their GDP and employ more than 70 percent of their labor force informally (Loayza, 2016). These effects of informality on economic and social well-being as well as labor participation raise questions about the relationship between informality and health.

The links between informal employment and health are multidimensional. First, improved health leads to improved functionality and productivity thereby impacting labor participation, especially in low-income countries (Deaton, 2003). Second, from a life-course perspective, ill health in early childhood is likely to have functional consequences into adulthood thus affecting employment and labor participation (Deaton, 2003). Third, public/government investments in health infrastructure and interventions especially for the poor and marginalized yield higher productivity and economic growth (Deaton, 2003). Finally, greater access to 'safety nets' such as insurance, is needed to minimize the threat of ill health on employment (Deaton, 2003). Informality therefore has critical implications not only for socioeconomic development and employment, but also for accessing and utilizing health services and improving health outcomes. These far-ranging implications of informality on society deserve additional scrutiny.

The additional scrutiny of informality and health is especially important for the sustainability agenda embedded in the UN Sustainable Development Goals (SDGs) of 2030 (UN, 2015). Specifically, SDG #3 calls for universal health coverage (UHC) for all, aiming to realize the idea that “all individuals and communities receive quality healthcare services that they need, and are protected from health threats without financial hardship” (WHO, 2015). UHC underscores the centrality of health to socioeconomic development and is considered a “triple win” as it promises to improve health, reduce poverty, and fuel economic growth (Cotlear, Nagpal, Smith, Tandon, and Cortez, 2015). It so happens that the regions that would benefit most from meeting the SDGs also have the highest disease burden and are characterized by significant informality. Informality also affects access to health insurance (a crucial pillar of UHC) and quality and affordable health care, leaving many dependent on out-of-pocket (OOP) payments (The Rockefeller Foundation, 2015). Financial barriers aside, informal workers have to choose between working to earn an income and stay employed or seeking health care when sick. This leads to a high opportunity cost, and most informal workers end up only seeking care when they are too sick to work (The Rockefeller Foundation, 2015). This scenario raises questions about informality and what it portends for the future of UHC in developing countries. To understand the confluence between the informal sector and health in light of UHC, this brief focusses on Kenya — a country striving to bridge the UHC gap in its large informal sector.

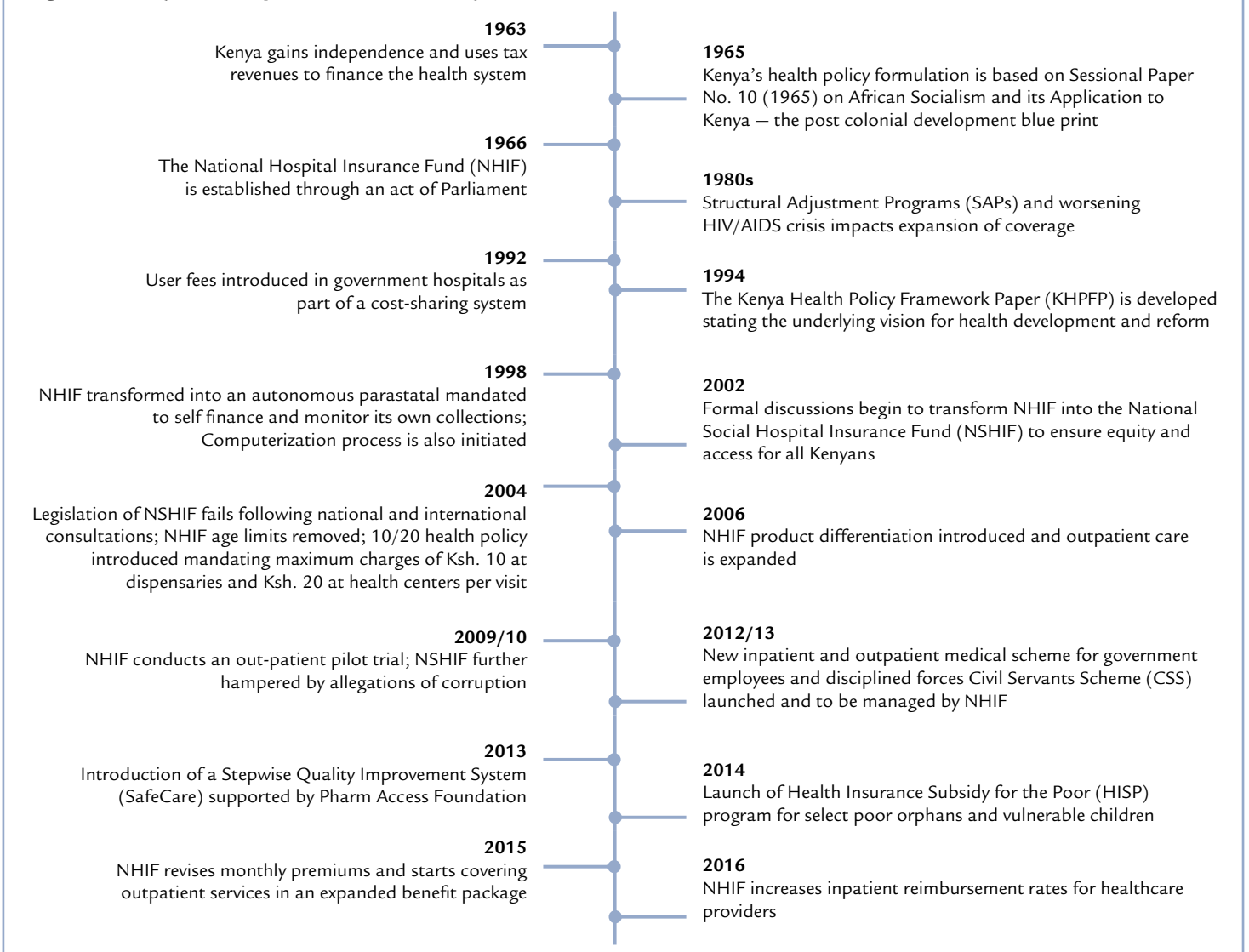
Informality and Health Insurance Reforms in Kenya

The informal sector in Kenya accounts for 34 percent of GDP and 74 percent of employment, and is growing at 10 times the rate of formal employment as a majority of the population lives on less than \$1.25 a day (The Rockefeller Foundation, 2015). Moreover, informal workers save less for retirement due to low wages and limited financial literacy. In a seminal ILO/UNDP report in the early 1970s, Kenya was the first country to identify and discuss the informal sector as an issue for development and employment policy (ILO, 1972). Kenya also happens to have the oldest social health insurance (SHI) scheme in SSA: the National Hospital Insurance Fund (NHIF) instituted in 1966 (Wamai, 2009). Further, Kenya has been identified as having the potential to lead Africa towards UHC (Agyepong, et al., 2017). However, insurance enrollment is generally very low — especially in the informal sector — leading to reforms focused on fast-tracking UHC by increasing access to health insurance.

The foundation for the reforms is the NHIF. The original Act of Parliament [1966] that established NHIF was driven by the government’s initial commitment to providing “free” health services as part of its development strategy to alleviate poverty and improve the welfare of Kenyans (Wamai, 2009). NHIF was mandated to deduct a graduated premium from wages and salaries of formal sector employees and covered the contributor, spouse, and children under 18 irrespective of the type of ailment (Wamai, 2009). However, efforts to expand coverage to all were constrained by several factors including a worsening HIV/AIDS crisis, a strained healthcare budget, and declining economic growth that pushed labor into the informal sector and affected the number of formal employees paying into the fund (Wamai, 2009). This led to reexamination of NHIF as the driver of social health insurance (SHI) in Kenya.

Figure 1 shows that in 1998, NHIF was transformed from a government department to an autonomous parastatal. The reform legislation provided for the NHIF to expand population access to high quality and affordable healthcare, be self-financing, monitor its own collections, distribute benefits to providers, and to make loans from its reserves to hospitals for service improvement. Since then, the NHIF has instituted reforms that include management of inpatient and outpatient scheme for government employees; introduction of a quality improvement system; launch of health subsidies for the poor; revision of monthly premiums and increase in provider reimbursement rates (Barasa, Rogo, Mwaura, and Chuma, 2018). Those not enrolled in NHIF depend on OOP or tax subsidized care in government facilities where quality is questionable (Barasa et al., 2018).

Figure 1: Key Developments in the Kenya NHIF – A Historical Overview



Source: Consolidated and drawn by author.

In tandem with these reforms, studies have looked at the factors that would affect demand for health insurance in the informal sector, design preferences for extending coverage into the informal sector, and implications of NHIF reforms for UHC (Barasa et al., 2018). However, the studies are yet to describe how trends in insurance enrollment vary by form of employment, seasonality of employment and gender – considerations that are critical for achieving UHC while also tackling disparities in the informal sector in Kenya and similar settings. This Pardee Center brief thus uses the Kenyan case to begin to address these research gaps by analyzing the trends in health insurance enrollment given employment in the informal sector by gender. The brief also articulates potential future policy and programmatic considerations for UHC given the observed trends in the Kenyan informal sector.

Approach

To analyze the trends in health insurance enrollment by informal employment and gender, data from the 2008–09 and 2014 Kenya Demographic and Health Survey (KDHS) is used. KDHS is a nationally representative survey that samples households and collects detailed health and sociodemographic information. The 2008-09 KDHS sampled 10,000 households from 400 clusters – 133 urban and 267 rural, while the 2014 KDHS sampled 40,300 households from 1,612 clusters – 617 urban and 995 rural (KNBS, n.d.). The employment variables analyzed account for factors determining individual income such as types of occupation, employment status, and seasonality

of employment. This is in concert with the literature that shows that the key to improving the conditions of the poor lies in addressing the factors *determining* their income levels rather than factors that are *influenced* by their income levels (Sethuraman, 1976). The key variables are shown in Table 1. Additionally, the insurance coverage variable used in the analysis is a composite of six insurance types i.e. social health insurance – NHIF, CBHI, Employer Insurance, Private Insurance, Pre-payment schemes, and other – see Table 1. The composite insurance variable is used in the analysis as a majority of people with insurance are enrolled in NHIF with the other five insurance types accounting for about five percent of insurance coverage/enrollment.

Health Insurance Coverage by Gender and Employment Status

Research, especially from developed countries, shows that gender and employment are key determinants of health insurance coverage (Montez, Angel, and Angel, 2009). This is because women are increasingly entering the workforce and taking more responsibility for their health insurance coverage. However, for women as well as men, participation in the labor market

is no guarantee of health insurance coverage (Montez, Angel, and Angel, 2009). Historically institutionalized gender roles may place many women at a disadvantage relative to men in terms of their own employment-based health insurance (Montez, Angel, and Angel, 2009). Moreover, unemployed people do not use healthcare services as frequently as required and experience more unmet healthcare needs relative to those employed. However, these studies focus only on formal sector workers in developed countries.

As Figure 2 shows, insurance coverage in Kenya is influenced by employment status and gender. Those who are employed are more likely to be insured compared to those not employed. This is true both in 2008 and 2014. Employed men are more likely to have health insurance coverage compared to employed women, but in 2014 relative to 2008, insurance enrollment among employed women is almost at par with employed men. It is also worth noting that health insurance coverage barely changes for the unemployed from 2008 to 2014 irrespective of gender.

Health Insurance Coverage by Gender and Occupation

Occupation does have direct and indirect impacts on healthcare access and health outcomes. For example, direct impacts on health include physical job conditions (manual labor conditions, exposure to noise and heat), psychological job characteristics and stress, and social support (Gueorguieva et al., 2009). Occupation may also affect health through indirect mechanisms via income, health insurance, prestige, and authority that are related to occupation (Gueorguieva et al., 2009). This analysis looks at trends in the intersection of occupation and health insurance

Table 1: Health Insurance Coverage by Gender and Employment Status as a Percentage of Surveyed Population in Kenya: 2008 and 2014

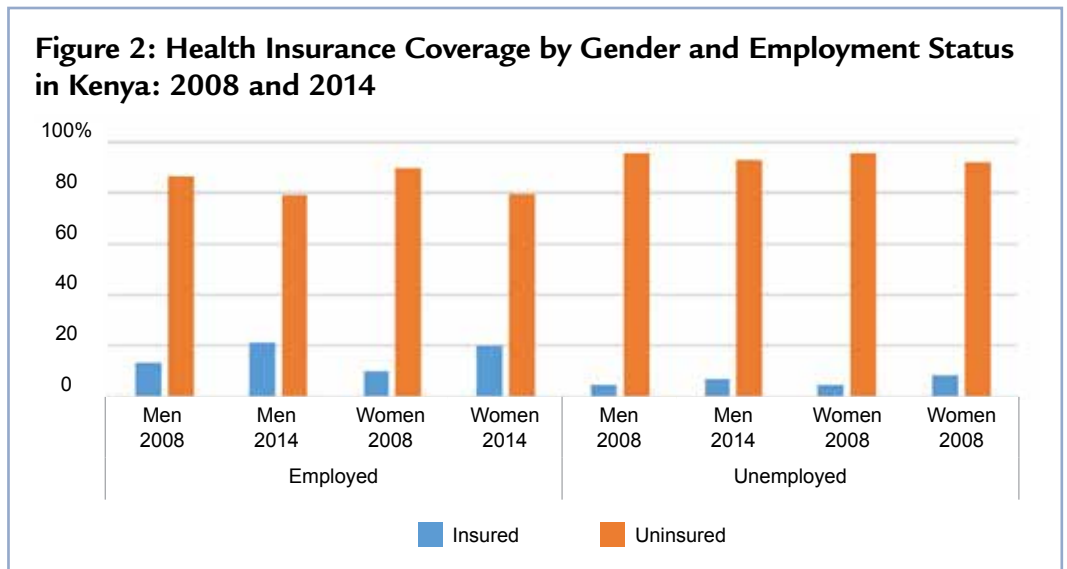
	Men		Women	
	2008	2014	2008	2014
Occupation (%)				
Not Working	14	18	44	38.2
Professional/ Technician/Manager	19	11	18	8.6
Clerical or Sales	7	1	7	0.7
Agricultural	34	24	20	21.9
Household and Domestic	3	16	5	15.8
Services	1	5	1	8
Skilled Manual Labor	7	7	3	0.3
Unskilled Manual Labor	14	18	2	6.6
Seasonality of Employment (%)				
All Year	52	56	35	38
Seasonal	29	18	17	19
Occasional	7	8	3	5
Not Working	12	18	45	38
Health Insurance Coverage (Overall) (%)				
Insured	12	18	7	15
Not Insured	88	82	93	85
Types of Health Insurance Coverage (%)*				
Mutual/Community Organization	0.75	0.16	0.56	0.36
Employer Provided	7.94	2.5	3.8	2.07
Social Insurance/Government	2.97	14.8	1.36	12.20
Private/Commercial	2.14	1.02	1.54	0.73
Pre-Payment Scheme	0	0.19	0	0.05
Other	0.14	0.27	0.23	0.14

*Percentages rounded to nearest 1/100th.

Source: Kenya National Bureau of Statistics (KNBS), KDHS 2008-09 and 2014.

coverage by gender to determine how insurance enrollment changes by employment in Kenya among men and women.

Figure 3 shows that for both men and women, working in unskilled manual, skilled manual, household and domestic, and agricultural occupations have lower insurance enrollment rates. Men are more likely not to have insurance coverage if they work manual and agricultural jobs, while women are more likely not to have health insurance coverage if they are employed in service, household and domestic occupations, or not working. Men working in professional, technical, or managerial positions and women working clerical and sales positions have higher rates of health insurance coverage. Moreover, the rate of insurance coverage increases from 2008 to 2014 for men in manual positions and women in service and household and domestic positions.

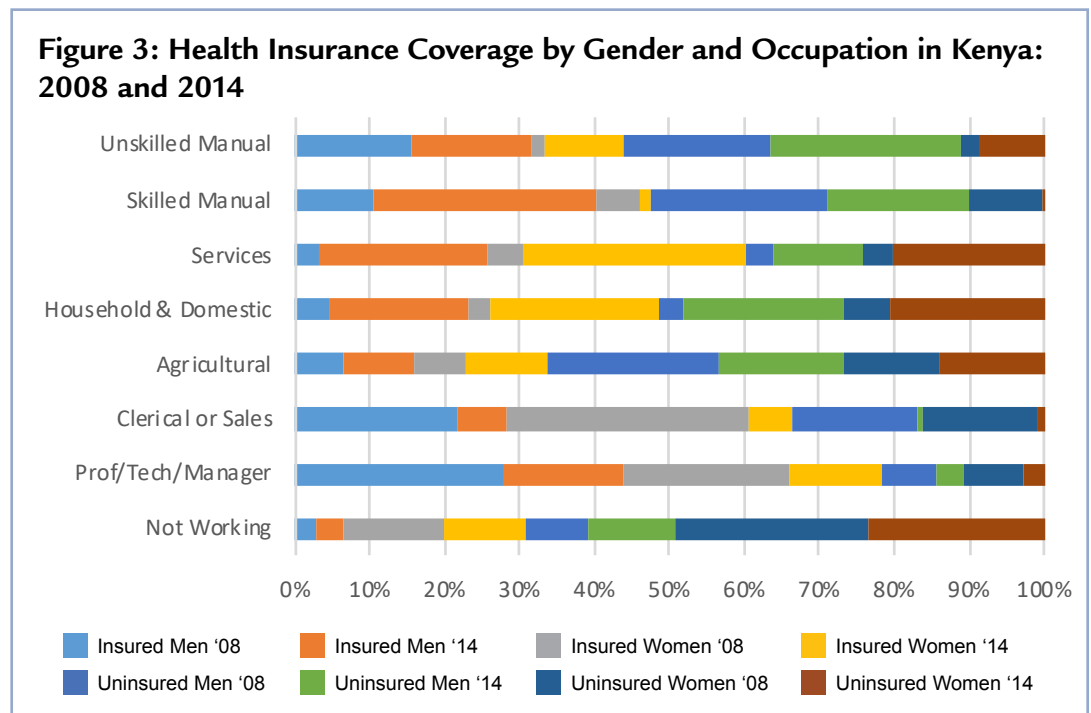


Source: Kenya National Bureau of Statistics (KNBS), KDHS 2008-09 and 2014.

Health Insurance Coverage by Gender and Seasonality of Employment

Seasonality and temporality of employment is associated with stronger and higher morbidity and mortality. In particular, seasonal or temporary employment is associated with higher risk of occupational injuries and mental health issues (Virtanen, Kivimaki, Joensuu, Virtanen, and Elovainia, 2005). Seasonal workers also face barriers to accessing health services including low educational attainment, frequent moving, inadequate transportation, financial strains, limited number of healthcare facilities, and lack of health insurance (Virtanen et al., 2005). This brief therefore articulates the relationship between seasonality of employment and health insurance coverage in Kenya. Here seasonality of employment is considered an element of informality.

In Figure 4, men and women who work all year are more likely to have health insurance coverage compared to seasonal and occasional workers or those not working. In fact, in 2008 and 2014 about 80 percent of men and 60 percent of women who worked all year were insured. In addition, women compared to men were more likely to be



Source: Kenya National Bureau of Statistics (KNBS), KDHS 2008-09 and 2014.

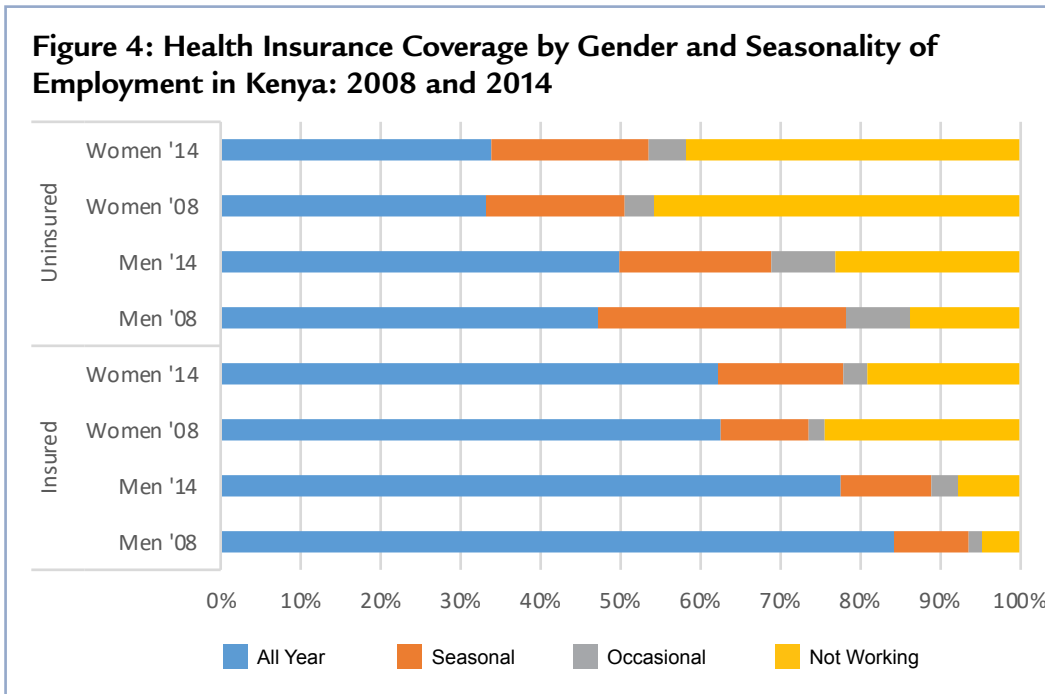
uninsured in 2008 or 2014 with only a minimal increase in likelihood of being insured if they worked all year in both years. Also, men and women who worked occasionally, and women not working do not have health insurance coverage.

Discussion: Trends and Theoretical Underpinnings

The analysis of informality and health insurance coverage by gender in Kenya shows three key trends. First, employment and gender are related to health insurance coverage, and there is minimal if any change in health insurance coverage for those unemployed in both 2008 and 2014. Second, the type of occupation affects health insurance enrollment, i.e. the more informal the job type the less likely it is for one to have health insurance. Third, seasonality of

employment greatly inhibits health insurance enrollment. These trends conform to two theoretical perspectives of health insurance coverage. The first theory is the *individualistic perspective* that asserts that human capital and rational choice predict insurance coverage (Becker, 1994). The individualistic perspective claims that coverage results from adequate human capital accumulation including education, job training, and job tenure, as well as individual choices to maintain an uninterrupted employment trajectory instead of reducing work hours or engaging in intermittent labor to manage family responsibilities. As shown in the analysis above,

Figure 4: Health Insurance Coverage by Gender and Seasonality of Employment in Kenya: 2008 and 2014



Source: Kenya National Bureau of Statistics (KNBS), KDHS 2008-09 and 2014.

those with adequate human capital accumulation are more likely to have insurance coverage. However, this perspective neglects the role of structural features such as gender, race/ethnicity, and marital status in shaping labor market position and health insurance coverage (Montez, Angel, and Angel, 2009). The *structural perspective* thus asserts that an individual's position in the labor market, as opposed to human capital, determines health insurance enrollment (Montez, Angel, and Angel, 2009). Indeed, full-time jobs, higher wage occupations, and gender do influence health insurance coverage and enrollment, thus indicating the existence of the structural perspective in Kenya. The nature and structure of the interaction between these two theoretical perspectives warrant further analysis in Kenya and similar settings.

Therefore, this analysis while a single case is a great catalyst for deliberate and systematic sustainability initiatives for health and development. Moreover, if informality is going to be an enduring characteristic of economies of developing countries (Loayza, 2016), then the results of this analysis highlight the need to urgently and creatively address the question of informality if the SDGs both broadly and those specific to health are to be met by 2030 (Were, 2018). Below are a few considerations.

Future Considerations for Informality and Health Insurance Coverage

In order for countries and global policy makers to address informality and its links to health, measurement, monitoring, and research are going to be critical (WHO, 2015). First, we are in the 'age of big data' and given the variation in the nature and definition of informality, measurable

indicators that capture this difference need to be developed. Such indicators should allow for comparative analysis across countries and regions. The research process ought to incorporate an applied impact evaluation process of the initiatives designed to address the intersection of informality and UHC. This requires solid, transparent monitoring and review systems, as well as regular implementation and service delivery research with national and regional repositories of the data and indicators that jointly feed an ongoing learning process of UHC implementation. Countries such as China and Mexico already offer a blue print in this regard (Cotlear et al., 2015), (Aterido, Hallward-Driemeier, and Pages, 2011).

Second, the protracted nature of informality requires innovation in expansion of health insurance coverage. Such innovation should take advantage of certain key characteristics of the informal sector workers, namely: they have mobile phones, belong to social networks, and rely on these networks for financial services. Mobile phone technologies are shifting the development and health-care landscape in developing countries. One example is M-Pesa, a mobile payment service in Kenya that is being used for direct billing services for healthcare users and providers, collection of health insurance premiums by insurance companies, and development of health savings products (Were, 2018). The social networks are important as they affect health through a variety of mechanisms, including (a) the provision of social support (both perceived and actual), (b) social influence (e.g., norms, social control), (c) social engagement, (d) person-to-person contacts (e.g., pathogen exposure, secondhand cigarette smoke), and (e) access to resources (e.g., money, jobs, information, insurance) (Smith and Christakis, 2008). Any attempts at innovation need to ride on the mobile phone platforms and the social networks.

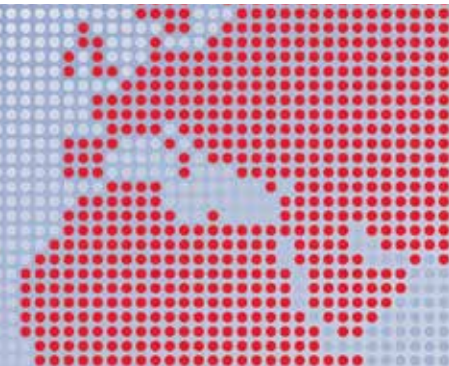
Finally, the success of the research process and innovation is going to be dependent on the policy environment. Policy frameworks and dispensation will be important for achieving UHC requiring a laser-like focus on changing the rules of the game for sustainable development coupled with more resources (Cotlear et al., 2015). As Cotlear et.al articulate, policies that are going to spur UHC in developing countries will need to take a bottom-up approach, prioritize the poor and the vulnerable, and use stepping-stones. The policy process will also need to set priorities using systematic and institutionalized data-driven processes and provide adequate resources for the priorities identified. This applies to Kenya as it expands NHIF.

Conclusion

Informality is greatly linked to sustainable social and economic development, including health in developing countries. This analysis has shown that in developing countries such as Kenya, informality and gender does influence a key component of SDGs and UHC – health insurance coverage. Moving forward, Kenya and similar countries need to carefully consider and institute mechanisms to measure and track the interaction of informality and health, use the research findings to innovate, and support the research and innovation with relevant policies if the global goals and aspirations of the SDGs are to be realized by 2030. ●

References

- Agyepong, I. A., Sewankambo, N., Binagwaho, A., Coll-Seck, A. M., Corrah, T., Exeh, A., and Piot, P. (2017). The path to longer and healthier lives for all Africans by 2030: the Lancet Commission on the future of health in sub-Saharan Africa. *Lancet*; 390(10114), 2803-2859.
- Aterido, R., Hallward-Driemeier, M., and Pages, C. (2011). Does Expanding Health Insurance Beyond Formal-Sector Workers Encourage Informality? Measuring the Impact of Mexico's Seguro Popular. *Institute for the Study of Labor (IZA) Discussion Paper Series No. 5996*.
- Barasa, E., Rogo, K., Mwaura, N., and Chuma, J. (2018). Kenya National Hospital Insurance Fund Reforms: Implications and Lessons for Universal Health Coverage. *Health Systems & Reform*; 4(4), 346-361.
- Becker, G. (1994). *Human Capital: A Theoretical and Empirical Analysis with Special Reference to Education*. Cambridge: National Bureau of Economic Research (NBER).



Analysis for a better tomorrow, today.

The Frederick S. Pardee Center for the Study of the Longer-Range Future at Boston University conducts interdisciplinary research on globally important issues that affect the human condition over decades. Through programs of scholarship, outreach, and education, the Pardee Center works to improve public decision-making and policy and to train future generations of interdisciplinary scholars.
www.bu.edu/pardee



BUPardeeCenter

The views expressed in Issues in Brief are strictly those of the author(s) and should not be assumed to represent the position of Boston University, or the Frederick S. Pardee Center for the Study of the Longer-Range Future.

Cotlear, D., Nagpal, S., Smith, O., Tandon, A., and Cortez, R. (2015). *Going Universal: How 24 Developing Countries Are Implementing Universal Health Coverage Reforms from the Bottom Up*. Washington, DC: World Bank.

Deaton, A. (2003). Health, Inequality, and Economic Development. *Journal of Economic Literature*; 41(1), 113-158.

Georgieva, R., Sindelar, J. L., Falba, T. A., Fletcher, J. M., Keenan, P., Wu, R., and Gallo, W. T. (2009). The Impact of Occupation on Self-Rated Health: Cross-Sectional and Longitudinal Evidence from the Health and Retirement Survey. *Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 64B(1), 118-124.

ILO. (1972). *Employment, Incomes and Equality: A Strategy for Increasing Productive Employment in Kenya*. Geneva: International Labor Organization.

Kenya National Bureau of Statistics (KNBS). (n.d.). *Kenya Demographic Health Survey*. Calverton, MD: KNBS and ICF Macro.

Loayza, N. V. (2016). Informality in the Process of Development and Growth. *The World Economy*, 39(12), 1856-1916.

Montez, J. K., Angel, J. L., and Angel, R. J. (2009). Employment, Marriage, and Inequality in Health Insurance for Mexican-Origin Women. *Journal of Health and Social Behavior*; 50(2), 132-148.

Sethuraman, S. V. (1976). The Urban Informal Sector: Concept, Measurement and Policy. *International Labor Review*, 114(1), 69-81.

Smith, K. P., and Christakis, N. A. (2008). Social Networks and Health. *Annual Review of Sociology*; 34, 405-29.

The Rockefeller Foundation. (2015). *Insights into Urban Informal Workers and Their Health*. New York: The Rockefeller Foundation.

United Nations. (2015). *Transforming our World: The 2030 Agenda for Sustainable Development*. Available at: <https://tinyurl.com/SDGs-UN-2015>

Virtanen, M., Kivimaki, M., Joensuu, M., Virtanen, P., and Elovainia, M. (2005). Temporary Employment and Health: A Review. *International Journal of Epidemiology*; 34, 610-622.

Wamai, R. G. (2009). The Kenya Health System: Analysis of the Situation and Enduring Challenges. *Japanese Medical Association Journal*, 52(2), 134-140.

Were, L. P. (2018). Informality and Health: Universal Health Coverage in the Era of SDGs. *Lancet Global Health*; 6, e22-23.

WHO. (2015). *Tracking Universal Health Coverage: First Global Monitoring Report*. Geneva: World Health Organization.

