EXPANSION OF HEALTH INSURANCE IN THE PHILIPPINES: EVIDENCE FROM PANEL DATA

DISCUSSION PAPER **MARCH 2017**

Caryn Bredenkamp
Joseph Capuno
Aleli Kraft
Louis Poco
Stella Quimbo
Carlos Antonio Tan, Jr.

WORLD BANK GROUP
Health, Nutrition & Population

EXPANSION OF HEALTH INSURANCE IN THE PHILIPPINES: EVIDENCE FROM PANEL DATA

Caryn Bredenkamp, Joseph Capuno, Aleli Kraft, Louisa Poco, Stella Quimbo, and Carlos Antonio Tan, Jr.

March 2017

Health, Nutrition, and Population (HNP) Discussion Paper

This series is produced by the Health, Nutrition, and Population Global Practice. The papers in this series aim to provide a vehicle for publishing preliminary results on HNP topics to encourage discussion and debate. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent. Citation and the use of material presented in this series should take into account this provisional character.

The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of the World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

For information regarding the HNP Discussion Paper Series, please contact the editor, Martin Lutalo at mlutalo@worldbank.org or Erika Yanick at eyanick@worldbank.org.

Health, Nutrition and Population (HNP) Discussion Paper

Expansion of Health Insurance in the Philippines: Evidence from Panel Data

Caryn Bredenkamp[a], Joseph Capuno[b], Aleli Kraft[c], Louisa Poco[d], Stella Quimbo[e], and Carlos Antonio Tan, Jr.[f]

[a] *Health, Nutrition and Population Global Practice, World Bank, Manila*
[b] *University of the Philippines, Diliman, Quezon City*
[c] *University of the Philippines, Diliman, Quezon City*
[d] *World Bank and University of the Philippines, Diliman, Quezon City*
[e] *University of the Philippines, Diliman, Quezon City*
[f] *University of the Philippines, Diliman, Quezon City*

This paper was produced as a collaboration of the UPEcon Foundation and the World Bank. It was co-financed by the World Bank, the World Bank's Poverty and Social Impact Analysis (PSIA) Trust Fund, and UPEcon Foundation.

Abstract:

Objective: To assess the extent to which health insurance coverage in the Philippines increased, especially among the poor, as a result of the 2012 Sin Tax Law and its earmarks for health insurance coverage.

Data: A panel of household survey data (2011 and 2015), collected by the UPEcon Foundation and the World Bank, as well as administrative databases.

Findings: First, health insurance coverage increased by 20.2 percent between 2011 and mid-2015, from 52.6 percent to 63.2 percent of households. Second, the increase was larger among poor households than among non-poor households, regardless of how "the poor" are defined: coverage among the two poorest quintiles increased by 31 percent compared to 12.7 percent among remaining quintiles; by 30.1 percent among households below the official national poverty line, compared to 17.5 percent among households; and by 23 percent among households on the Department of Social Welfare and Development's *Listahanan* list of the poor. Overall, the distribution of health insurance changed from pro-rich (CI = 0.084***) to neither pro-rich nor pro-poor (CI = -0.003). Third, household surveys reveal lower coverage rates than reported in administrative data. While the Sin Tax Law entitles 100 per cent of poor and near-poor households to free health insurance, in 2015 coverage was only slightly higher than 63.1 percent in the poorest two quintiles, 63.9 percent among households living below the poverty line, and 68.8% among households tagged in the *Listahanan* as being poor and eligible for free health insurance. Fourth, by exploiting the panel dimension of the data and matching surveyed households to administrative databases, we find that many of those receiving free health insurance following the Sin Tax Law were not new PhilHealth members. In 2015, 48.2 per cent of households in the PhilHealth indigent program had been covered by other PhilHealth programs in 2011. Similarly, 32.5 percent of senior citizens receiving free health insurance had previously been covered by other PhilHealth programs.

Recommendations: The major challenge is to close the gap between *de jure* coverage (legal entitlement) and *de facto* coverage (awareness of entitlement) that results from automatic enrollment of the poor in PhilHealth. To achieve this, government agencies could consider conducting an extensive awareness campaign among eligible PhilHealth members, issuing

health insurance cards to all those with free health insurance, and establishing a multiagency oversight committee to aid in transforming the *Listahanan* into the PhilHealth list of the poor in a more transparent manner.

Keywords: health insurance, universal health coverage, sin tax, tobacco tax, PhilHealth

Disclaimer: The findings, interpretations and conclusions expressed in the paper are entirely those of the authors, and do not represent the views of the World Bank, its Executive Directors, or the countries they represent.

Correspondence Details: Caryn Bredenkamp, World Bank, 63 Ly Thai To, Hanoi, Vietnam, +84 4 39 37 8204, cbredenkamp@worldbank.org

Table of Contents

ACKNOWLEDGMENTS

The authors are grateful to the World Bank for publishing this report as an HNP Discussion Paper. The authors also wish to thank Emiko Masaki, Aleksandra Posarac, Ellen Van De Poel and Damien de Walque for helpful comments on earlier drafts.

I. INTRODUCTION

In December 2012, the Government of the Philippines passed the Sin Tax Law (RA 10351) which restructured and raised tobacco and alcohol taxes, while earmarking 85 percent of the incremental[1] revenues for health. Of this 85 percent, 80 percent was intended to be used to provide free health insurance for poor and near-poor families through the National Health Insurance Program managed by PhilHealth, programs intended to speed progress of the health Millennium Development Goals, and programs to promote health awareness. The remaining 20 percent augments the financing of the Medical Assistance Program of the Department of Health (DOH), which is a hospital-based fund (in the name of mayors, congressmen, and DOH officials) that can be used at the discretion of the facility to cover the medical costs of those who cannot afford to pay, and also the DOH's Health Facilities Enhancement Program which allows the DOH to supplement the local governments' investments in health facilities. The first earmarked allocations flowed to the health sector in 2014, based on sin tax collections in 2013.

This reform was important from a health financing perspective. Between 2012 and 2016, the DOH's budget increased three-fold, from PHP 42.2 billion to PHP 122.6 billion, benefiting from a near-doubling of tobacco and alcohol excise tax collections between 2012 and 2015 to almost 1 per cent of gross domestic product (Kaiser, Bredenkamp, and Iglesias 2016). The reform was also important from an equity and governance perspective: the reform eliminated local government discretion in identifying the poor by requiring the use of the Department of Social Welfare and Development's (DSWD) National Household Targeting System for Poverty Reduction (NHTS-PR) to identify the poor who would receive subsidized health insurance.

In November 2014, free health insurance coverage was also extended to the elderly. By Republic Act 10645, sin tax revenues—which had been well in excess of what had been projected—could also be used to subsidize the health insurance of senior citizens (that is, those older than 60) who were not already covered by other PhilHealth insurance programs.[2]

As of December 2015, the PhilHealth database showed indigent program membership equivalent to 15.3 million families[3] (for a total of 45.4 million beneficiaries) and senior citizen program membership equivalent to 5.9 million families[4] (for a total of 7.1 million beneficiaries) in a population assumed to be 101.5 million people (PhilHealth 2016). Other membership categories included the employed program (of formal sector members whose premiums are shared between employer and employee), the "individually paying program" (IPP) (whose members pay their own premiums), the sponsored program (whose members' premiums are paid by local government units [LGUs] or third parties such as nongovernmental organizations [NGOs] or churches), overseas workers, and lifetime workers (whose contribution history and age exempt them from premium payments).

[1] The term 'incremental' is used because what is earmarked under the Sin Tax Law are not all revenues, but those revenues over and above what would have been collected under the previous tax regime.
[2] Senior citizens covered by other programs include those who are 'lifetime members' and receive free health insurance by virtue of having reached the age of 60 and contributed to PhilHealth for at least ten years, as well as those who qualify for free health insurance through the indigent program because they are poor.
[3] A family consists of the principal member, spouse (if any), and any dependents under the age of 21 years old who do not have children of their own; if they have children of their own, they are listed as a separate indigent family.
[4] For the senior citizen program, a family is defined slightly differently in that a spouse of the principal member who is also older than 60 years is counted as a separate family.

Table 1. Membership in PhilHealth Programs, December 2015

	Members	Dependents	Beneficiaries
Formal economy	13,869,211	14,449,551	28,318762
Informal economy	3,424,526	5,033,910	8,458,436
Indigent program	15,288,583	30,118,509	45,407,092
Sponsored program	1,049,921	1,357,641	2,407,562
Senior citizens	5,868,005	1,255,025	7,123,030
Lifetime members	1,001,626	728,545	1,730,171
Total	40,501,872	52,943,181	93,445,053

Source: PhilHealth Stats and Charts, December 31, 2015.

The timing of routine household surveys means that there has been no survey that collects information on self-reported health insurance coverage since the implementation of the sin tax earmarks in 2014. Consequently, all available estimates of the number of people who have benefited from the expansion of health insurance coverage as a result of the Sin Tax Law have come from administrative records, specifically the PhilHealth database. The last national Demographic and Health Survey (DHS) (which collects information on health insurance coverage) was in 2013, before the earmarking provisions became effective.

With this data gap in mind, the World Bank and the UPecon Foundation[5] collaborated to collect data that would answer this question through the implementation ofa 2015 household survey. The 2015 survey was designed as a follow-up to a 2011 survey that they had also jointly implemented, effectively creating a panel dataset with one set of observations before and one set of observations after the passage of the sin tax reform.

Using these panel data, this paper assesses the extent to which the automatic enrollment of a large number of poor and elderly people into health insurance programs, as a result of the Sin Tax Law, has been associated with an increase in self-reported health insurance coverage, especially among the poorest quintiles and households living below the poverty line. Further, by linking the survey respondents to the DSWD's 2011 administrative database of the poor (that is, the NHTS-PR), we can also directly assess whether all those who were *de jure* eligible for PhilHealth coverage in 2011 (according to the NHTS-PR list) actually report having health insurance coverage in 2011 and also in 2015. We also examine to what extent the expansion of free health insurance resulted in new PhilHealth members who had not previously had health insurance and, alternatively, to what extent it subsidized existing PhilHealth members whose contributions had previously been paid in other ways (such as by the member or by a third-party sponsor).

[5] The UPecon Foundation is a private, non-profit research institution of the faculty members of the University of the Philippines School of Economics.

II. ANALYTICAL APPROACH

DATA

The analysis draws on a panel of nationally representative survey data, collected in 2011 and 2015 respectively,[6] as well as the administrative records of the DSWD, specifically the NHTS-PR list.[7]

The 2011 survey is a nationally representative[8] sample of 2,950 households (including 13,858 individuals), randomly selected through a multistage cluster sampling design. The survey was undertaken from January to April 2011 and included information on socioeconomic and demographic characteristics, income and expenditure, assets and housing characteristics, health service utilization, participation in health insurance and other social protection programs, and vulnerability to shocks. Due to cost considerations, the number of households included in the follow-up 2015 survey needed to be reduced. The 2015 sample is representative of the 2011 sample, but with over-sampling among poor/informal sector members to ensure sufficient statistical power (sample size) in that group. The subsample consists, therefore, of two components: component A includes the poor and informal sector households while component B includes the formal sector. For component A, 1,980 households classified as poor or in the informal sector were sampled, but only 1,513 interviews were completed, implying an attrition rate of 24 per cent.[9] However, balancing tests on the baseline characteristics of the two groups confirm that sample attrition does not bias the results. For component B, attrition was not a concern as the targeted sample size to achieve sufficient power (namely 254) was achieved. The actual size of component A is 1,513 households (compared to 1,975 at baseline) while the actual size of component B is 267 households (compared to 975 at baseline) for a total size of 1,780 households (consisting of 9,177 individuals).

The NHTS-PR is a household targeting system and database that was originally developed by the DSWD for the purpose of identifying poor households eligible for the government conditional cash transfer program, also known as the *Pantawid Pamilyang Pilipino* Program. Since 2011, when national funding was first secured to provide national subsidies for health insurance coverage, this list has also been used to identify the poor eligible for free health insurance (per DOH Department Order 2011-0188). The 2011 NHTS-PR database was created using a combination of geographic and individual targeting[10] (see, for example, DSWD 2010, DSWD 2016, and Fernandez 2012) and contains information on both poor and non-poor households.

---

[6] The 2011 data were collected as part of the Health Equity and Financial Risk Protection in Asia project by the UPecon Foundation, Inc., in collaboration with the Erasmus University Rotterdam and the World Bank, and funded by the European Union. The collection of the 2015 data was a collaboration of the UPecon Foundation, Inc. and the World Bank, and funded by the World Bank's Poverty and Social Impact Analysis (PSIA) trust fund.

[7] The NHTS-PR list was made available to the UPecon Foundation, Inc. for research purposes through a Memorandum of Understanding with the DSWD.

[8] Sampling excluded the Autonomous Region of Muslim Mindanao because of the intensity of conflict. Autonomous Region of Muslim Mindanao accounts for 3.5 percent of the population of the Philippines.

[9] Reasons for non-participation include: (a) failure to locate the households, (b) refusal to participate, and (c) transfer of household to a new location outside the survey sites.

[10] First, 'poor' municipalities, with poverty rates in excess of 50 percent, were identified using the 2003 small area of poverty estimates of the National Statistical Coordination Board. Then, within these poor municipalities, a proxy means test was used to identify households as poor or non-poor. In some municipalities, where poverty was less than 50 percent, the proxy means test was also administered to households deemed (by the DSWD) to be living in 'pockets of poverty'.

METHODS

To obtain a more nuanced answer to the first set of questions, we define the poor in three different ways:

- First, we define the poor as the poorest two quintiles of respondent households. Since the survey is nationally representative, once survey weights have been applied, the poorest two quintiles of respondents is equivalent to the poorest two quintiles of Filipino households. Households are ranked by per capita consumption, quintiles are generated, and the corrected concentration index[11] (CI) is calculated as a summary measure of inequality.

- Second, we define the poor as those whose incomes put them below the official poverty line(s) used in the Philippines. Poor households are those whose annual per capita income[12] falls below the official provincial poverty threshold, estimated by the Philippines Statistical Authority (PSA) on a triennial basis using the Family Income and Expenditure surveys, for the province in which they reside. To estimate poverty thresholds for 2011 and 2015, we respectively deflate and inflate the 2012 provincial poverty thresholds by the PSA's official consumer price index.[13] In the first semester of 2014, it was estimated that approximately 25 per cent of Filipinos live below the poverty line (PSA 2015).

- Third, we define the poor as those whose names can be found on the NHTS-PR[14] list of the poor below the (predicted) income threshold which would make them eligible for free social protection programs, including free health insurance and (subject to other restrictions) the conditional cash transfer program. By matching households in our survey to households on the NHTS-PR list, we are able to count which of the survey respondents who are listed in the NHTS-PR as being eligible for free health insurance actually know of their entitlement to health insurance.[15]

We expect that between 2011 and 2015 health insurance coverage should have increased markedly among the poor, by all measures, especially compared with the non-poor groups. In fact, given that the PhilHealth database reports that almost half of the Philippines' population is

---

[11] The Wagstaff corrected CI is generated using the *conindex* STATA command (O'Donnell et al 2016). It is also weighted to account for survey sampling design.

[12] Notwithstanding the arguments in favor of using consumption rather than income to measure living standards in developing countries—see, for example, Deaton and Grosh (2000)—in the Philippines, the official poverty rate is measured using income.

[13] In the analysis, we use provincial poverty lines, that is, compare each household's income level to the poverty line of the province in which it resides. However, to give the reader a sense of the approximate level at which poverty lines are set in the Philippines, the average poverty threshold (based on the 2012 provincial poverty threshold adjusted by consumer price index) was PHP 18,580.43 per capita in 2011 and PHP 20,450.66 per capita in 2015.

[14] Ideally, we would compare the households in our dataset to the PhilHealth database, but this is not available for research purposes.

[15] For the subset of the analysis that looks at self-reported coverage among those on the NHTS-PR list, a limitation is that we only have access to the original NHTS-PR list of DSWD (with the poorest households who have been eligible for free PhilHealth since 2011) and not the PhiHealth database which would include also those additional households who have been covered since the Sin Tax Law. This means that the question we are asking is "What share of those households who were identified as poor in 2010, and eligible for free PhilHealth coverage since 2011, know of their entitlement?" We cannot answer the question "What share of all households currently eligible for free health insurance currently know of their entitlement?" However, since no households have been removed from the NHTS-PR list (making the 2011 NHTS-PR list a subset of the PhilHealth database), it is nevertheless informative to know what share of these households know of their coverage, while recognizing that the answer may well be an overestimate of current coverage rates.

covered through government subsidies under the indigent program (see table 1), we anticipate that there should be almost complete coverage among the poor regardless of measure.

To answer the second question, we exploit the panel dimension of our survey, looking at how the surveyed households have transitioned across PhilHealth member groups between 2011 and 2015. In particular, we look at the insurance status of the households who are currently part of the government-subsidized indigent membership group and see whether they were previously covered by the same program, covered by a different program, or not covered at all. We conduct a similar analysis for those who are currently subsidized under the senior citizen program.

III. FINDINGS

DID HEALTH INSURANCE COVERAGE INCREASE, ON AVERAGE AND AMONG THE POOR?

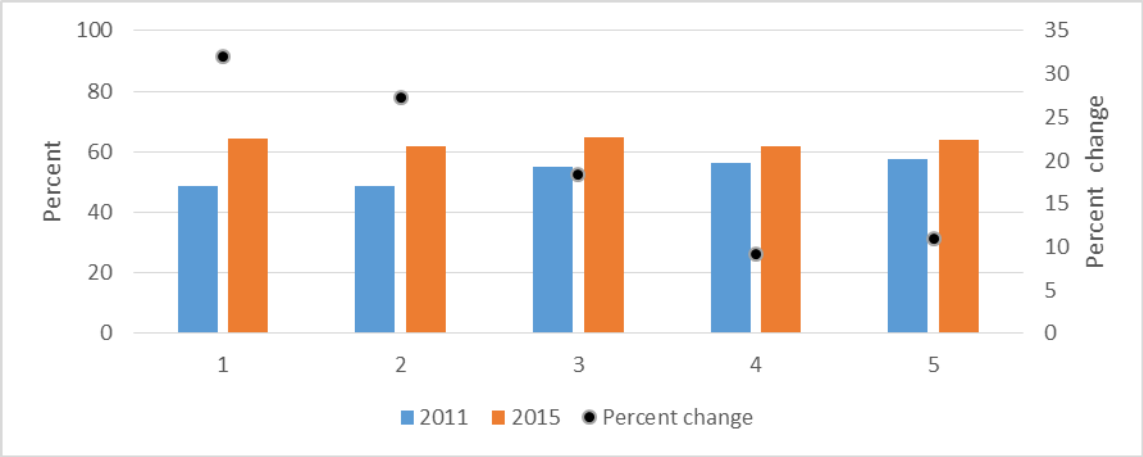
On Average

The percentage of all households reporting that they had health insurance through PhilHealth increased by 20.2 percent between 2011 and mid-2015, from 52.6 percent to 63.2 percent. At the individual level,[16] this translates into a 6.5 percent increase, from 56.7 percent in 2011 to 60.3 percent of the population in mid-2015. The increases are statistically significant at the 1 percent level.

Among Those in the Poorest Quintiles

Health insurance coverage increased by more in the poorest quintiles than in other quintiles. The increase in self-reported coverage was largest among the poorest quintile, followed closely by the second-poorest quintile. Overall, the distribution of health insurance has shifted from having a positive gradient, that is, where coverage is monotonically higher among better-off households, to decreasing with income across quintiles 1 through 4. CIs show that the overall distribution of health insurance coverage has shifted from one which was clearly pro-rich (CI = 0.084***) in 2011 to one which is neither pro-rich or pro-poor (CI = −0.003) in 2015. Yet, 2015 coverage rates in the poorest two quintiles are quite low in absolute terms, between 60 percent and 65 percent — at least compared to the full coverage of the poor intended by the Sin Tax Law.

Figure 1. Self-reported Health Insurance Coverage, by Household Survey Quintile, 2011 and 2015



Source: Authors' calculations using survey data.

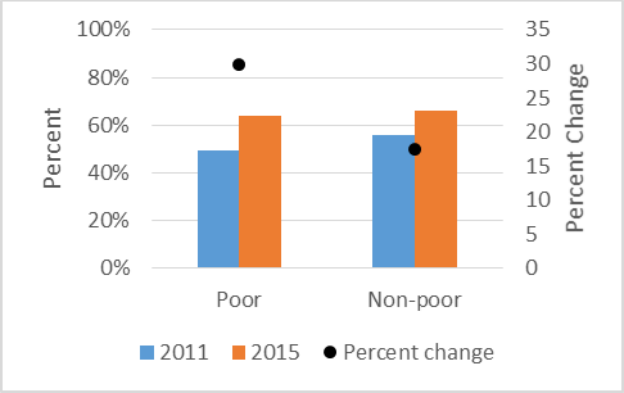
Among Those Living Below the Poverty Line

Another way to assess equity in insurance coverage is to compare differences in coverage rates between households who fall above and below the official Philippines poverty line(s).

[16] Coverage at the individual level was determined by an affirmative answer to the question, "Is the household member covered by PhilHealth either as a member or dependent?" This question was asked of the respondent, with reference to all household members.

Among households below the poverty line, coverage increased from 49.2 percent in 2011 to 63.9 percent in 2015, while among households above the poverty line coverage increased from 56 percent in 2011 to 65.8 percent in 2015.[17] The increase in insurance coverage was, thus, greater among the poor (30.1 percent) than among the non-poor (17.5 percent) with the result that by 2015 health insurance coverage rates among the poor and non-poor had almost equalized. All results are statistically significant at the 1 percent level. But, again, similar to the results obtained when defining poverty as the poorest two quintiles of households, by this measure, coverage among the poor (63.9 per cent) is also quite low.

Figure 2. Self-reported Health Insurance Coverage, Among those Above and Below the Poverty Line, 2011 and 2015



Source: Authors' calculations using survey data.
Note: Poor households are defined as those whose income is less than the 2012 PSA official provincial poverty thresholds.

Among Those Identified as Poor on the NHTS-PR List

Since households are formally targeted for free health insurance not by being in the poorest two quintiles or being officially poor according to the national poverty line, but rather by their position on the NHTS-PR, it is also important to see what share of households designated as poor according to the NHTS-PR actually report having coverage. To do this, we manually match the households in our survey (using information such as household head, spouse, and location) to the households tagged as being eligible for free PhilHealth coverage in the 2011 NHTS-PR database (provided to us by DSWD).

We find that, in 2011, only 55.9 per cent of the households that are tagged by DWSD on the NHTS-PR as being poor and eligible for free health insurance actually report having any health insurance. In 2015, but still using the 2011 eligibility cutoffs, 68.8 percent reported having health insurance coverage. This is an improvement, but not as large an improvement as it at first seems since by 2015 the number of eligible households (that is, the denominator) would likely also have increased (even though not yet reflected in the NHTS-PR list we received from DSWD).

[17] Measured at the individual level, health insurance coverage increased from 51.8 percent to 60.3 percent among the poor and from 61.4 percent to 62.6 percent among the non-poor.

HOW MANY OF THOSE WHO RECEIVED FREE (SUBSIDIZED) HEALTH INSURANCE IN 2015 WERE NOT PREVIOUSLY COVERED BY HEALTH INSURANCE?

Part of the explanation for the low self-reported coverage of health insurance among the poor can be found when we exploit the panel dimension of the dataset to examine membership dynamics. Many of the households that are now part of the indigent program are likely not new PhilHealth members; rather, they are people who had previously been members (or dependents) of other PhilHealth programs. In other words, the health insurance subsidies (funded by sin tax) are, in part, covering new members not previously covered by health insurance, and in part subsidizing the premiums of existing members whose premiums were previously paid by the members themselves or by other entities (such as the local government, NGOs, and so on). Similar points could be made about the senior citizens members whose health insurance coverage is subsidized through sin tax. Consequently, the net increase in health insurance coverage following the sin tax reform is likely to be smaller than the 15.3 million families (of which 14.7 million are poor and 5.9 million are senior citizens) subsidized by the sin tax (PhilHealth 2016).

Among the Indigent

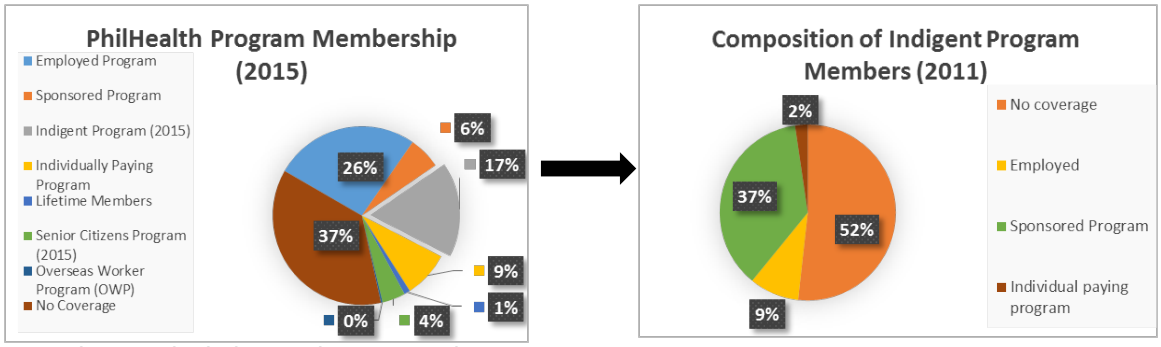
There are at least three different groups of members within the indigent program (subsidized by the national government and financed by sin tax) who are not new PhilHealth members. First, there are families who were previously subsidized by the national government under the 'national government sponsored program'. Their membership category has been renamed (indigent). Second, there are the families who were previously subsidized by LGUs, together with national government partial subsidies of their premiums. They have shifted to the indigent membership category from the 'LGU-sponsored' category. Third, there are families who had previously been paying their own contributions, either through the individually paying (informal sector) program or the employees (formal sector) program.

The first noteworthy observation is that, in 2015, only 17.1 percent of households that were interviewed report being covered by the national government's indigent program. While one cannot assume a one-to-one correspondence between the number of PhilHealth families and the number of surveyed households,[18] this number seems quite low given that administrative records report indigent program coverage of 45 million individuals in a population of around 100 million in mid-2015.

Second, exploiting the panel dimension of the data to look at the changes in PhilHealth membership category, between 2011 and 2015 (see table 2), we can see which types of households actually gained coverage under the indigent program in 2015. Are they families who were not previously covered? Or are they families who were previously covered by other programs? We find that of the households covered by the indigent program in 2015, 36.8 percent were previously covered under the sponsored program in 2011 (either through local government fund or national government funds), 2.3 percent were covered under the individually paying program, and 9.1 percent were covered under the employed program. 51.8 percent of those in the indigent program in 2015 are households that did not have any coverage in 2011.

[18] PhilHealth enrolls families, not households. See section on Explaining the Gap in Coverage Estimates from Administrative Data and Survey Data for a more detailed discussion

Figure 3. PhilHealth Indigent Program in 2015 and Share in Other Member Categories in 2011



Source: Authors' calculations using survey data.

This means that through the provision of Government-subsidized health insurance to poor people by the sin tax reform, there was indeed some expansion of health insurance to people not previously covered; as many as half of those currently reporting coverage under the indigent program fall into that category. However, there was also a substitution effect in that a third of those currently reporting being part of the indigent program previously had coverage through national- or LGU-sponsored PhilHealth membership programs. It also appears that the indigent program may have absorbed some people who were previously part of the employed (formal sector) program; this may reflect a change in their personal circumstances, such as job loss.

Among Senior Citizens

Undertaking similar analysis of the senior citizens group, which also benefits from free health insurance through sin tax revenues, we see that of the 4.2 percent of households in the senior citizens program in 2015, 10.2 percent were previously subsidized under the sponsored program, 5.1 percent were previously covered under the IPP and 17.1 percent were previously covered under the employed program, and 67.5 percent were households which previously did not have coverage. For this group, then, it appears that the Sin Tax Law provided a substantial increase in new coverage. The shifts in coverage under the IPP and employed programs may also reflect people retiring and becoming eligible for these benefits. Further, the fact that as many as 4.2 percent of households reported being members of the senior citizens program even though the program had been initiated only six months before the survey suggests very effective outreach to this group. Alternatively, it is possible that some of the respondents who report health insurance coverage under the senior citizenship program are actually members of the PhilHealth lifetime members program, but not clear on the distinction between the two programs.

Other Membership Dynamics

Looking at other membership categories, some interesting membership dynamics are observed. Membership of the sponsored program (which in 2011 included those subsidized by the national government, local government, and third parties, but in 2015 included only those

subsidized by the local government and third parties) declined from 15 percent to 5.8 percent. This sharp decline is likely the result of two simultaneous processes: first, those in the sponsored program who were previously subsidized by the national government were reclassified as indigent program members (due to change in the name of the national Government-subsidized group from 'sponsored' to 'indigent'), and, second, a number of those in the sponsored program who were previously subsidized by the local government now became eligible for national government subsidy under the indigent program because of the expansion of subsidies to the near-poor (due to the Sin Tax Law). There has also been a near-doubling of the percentage of households enrolled in the IPP and, surprisingly, a reduction in the percentage of households enrolled in the employed program. Membership of the overseas workers program is quite low.

Table 2. Changes in PhilHealth Program Membership, by Household, between 2011 and 2015

Proportion of Households Enrolled in:	2011	2015	Change (Percentage Points)
Employed Program	31.0%	26.3%	-4.6
Sponsored Program	15.0%	5.8%	-5.8
Indigent Program (2015) (paid by National Government and *Pantawid Pamilyang Pilipino* Program)	0%	17.1%	+17.1
Individually Paying Program	5.0%	8.4%	3.4
Lifetime Members	0.8%	1.1%	0.3
Senior Citizens Program (2015)	0%	4.2%	+4.2
Overseas Worker Program (OWP)	0.6%	0.3%	-0.3
Sample Size	2950	1780	

Source: Authors' calculations using survey data.
Note: The indigent program did not exist in 2011. Instead there was the sponsored program, which had two parts: members who were sponsored by the national government and members who were sponsored by the local government.[19]

[19] Unfortunately, our 2011 data do not distinguish between the two types. In 2015, the sponsored program includes only those who were paid by the mayor/governor/*barangay* and other entities.

IV. DISCUSSION AND RECOMMENDATIONS

WHAT DO THE FINDINGS TELL US ABOUT THE EFFECT OF THE SIN TAX LAW ON EXPANDING HEALTH INSURANCE COVERAGE?

It is very encouraging to see that, among the poor (whether defined as households in the poorest quintiles, households living below the poverty line, or households targeted for free health insurance by their position in the NHTS-PR), there has been a sharp increase in self-reported health insurance coverage. Also, the distribution of health insurance has become more pro-poor.

However, we also learn that self-reported coverage rates—both on average and among the poor—are lower than what administrative data show. The PhilHealth database reports that between the end of 2011 and mid-2015 (when this survey was implemented), coverage increased from 27.9 million families (consisting of 78.4 million individuals) to 38.5 million families (consisting of 89.4 million individuals) in a population of just over 100 million. This translates into an increase of 38 percent at the family level and 14 percent increase at the individual level[20] and a total population coverage in mid-2015 of around 88 percent of Filipinos. By contrast, the survey data show that coverage increased by 20.2 percent among households, 6.5 percent among individuals, and reached total coverage levels of 63.2 percent at the household level and 60.3 percent at the individual level in mid-2015. This is 25 percentage points lower than what is being reported by the PhilHealth database. Interestingly, the magnitude of the discrepancy between survey and administrative data is not dissimilar to that which was found in previous years using Government surveys, such as the routine national DHS and FHS: analysis of the 2011 FHS and the 2013 DHS shows differences of 31 percentage points and 22 percentage points, respectively (Bredenkamp and Buisman 2016). This suggests that the problem of the gap between *de jure* and *de facto* entitlements is a persistent one.

It also appears that, among the poorest population groups, coverage is far from complete. With the expansion of subsidized health insurance focused on the poorest 14.7 million families (translating into 45 million people or around 44 percent of the population), we would have expected to see survey estimates of coverage among the poorest two quintiles and coverage among those whose incomes are below the official poverty threshold (which is around a quarter of the population) reach close to 100 percent. However, the survey results show that coverage among these groups only slightly exceeded 60 percent. Even when using the DSWD's 2011 official list of households who are entitled to free health insurance because they are poor, we find that as many as a third of the households on this list report that they do not have any health insurance.[21]

Finally, we learn that the people benefiting from free health insurance funded by the Sin Tax Law do not only consist of people who were not previously covered by health insurance, but

[20] Both surveys and administrative data show a higher increase in coverage at the household and family level than at the individual level. In the case of the administrative data, this is likely due to a redefinition of families that increased the number of PhilHealth families that one will find in nuclear demographic families. In the survey data, it may reflect the larger family size of poorer households to whom subsidized coverage has been expanded.

[21] In fact, this estimate is likely to be the upper-bound (that is, optimistic interpretation) of the self-reported coverage estimate since the official list used is from 2011 when the number of eligible households was a smaller subset of the number of households that are eligible today.

also people who were previously either paying their own premiums or had their premiums paid by other parties, such as LGUs and other sponsors. Of the indigent families receiving free health insurance in 2015, 52 percent were not covered by PhilHealth in 2011, while the remainder had previously been covered by other PhilHealth programs. Among the senior citizens receiving free health insurance financed by the Sin Tax, 67.5 percent did not have PhilHealth coverage in 2011. This means that when policy makers talk about the Sin Tax Law expanding coverage from 5.2 million indigent families to 15.3 million indigent families (plus 6 million senior citizen families), it does *not* mean that an additional 11.2 million new families who previously did not have health insurance became covered. Rather, what the Sin Tax Law did was to provide a national government subsidy for an additional 11.2 million people to have free health insurance. Some of these people may have previously been subsidized by local governments or NGOs, been paying their own premiums, or (in the case of senior citizens) been dependent on the memberships of other people. This finding does not at all diminish the importance and impact of the reform; freeing these (poor) people from the burden of paying their own premiums, or being reliant on the often inconsistent funding of premiums from LGUs and other third parties, should provide them with much-needed financial protection.

EXPLAINING THE GAP IN COVERAGE ESTIMATES FROM ADMINISTRATIVE DATA AND SURVEY DATA

One question raised by these findings is "Why is the expansion of health insurance as measured by household survey data lower than the figures reported in administrative databases?"

The most important reason is likely that PhilHealth members who are subsidized by national government funds (through the indigent program and senior citizens program) are automatically enrolled, rather than actively enrolled, in PhilHealth. In other words, their names appear in the PhilHealth database (and thus count as members) by virtue of being listed below the relevant threshold in the NHTS-PR database (in the case of the indigent program) or in the official list of senior citizens maintained by the Office of the Senior Citizens Affairs (in the case of the senior citizens program). Thus, it is possible that a number of those people who are entitled to free health insurance do not know it.

But, there are also a number of measurement challenges that PhiHealth faces when counting the number of PhilHealth beneficiaries.

One challenge is that while the NHTS-PR list identifies poor households, PhilHealth enrolls poor families—and a 'PhilHealth family' per the 2013 Health Insurance Law has a very specific definition. Since a PhilHealth family is defined in a nuclear sense as the principal member, spouse, and children (under the age of 21), there may be many PhilHealth families within one household. Technically, then, additional nuclear families residing in the same eligible NHTS-PR household would count as separate PhilHealth families, as would children older than 21, and any children who have their own children (for example, an 18 year old daughter with one child). The 5.2 million families previously covered under the sponsored program of the national government before the Sin Tax Law all came from different eligible NHTS-PR households, which in effect means that there were some additional 'families' (according to the PhilHealth definition) among the NHTS-PR households that did not have PhilHealth coverage. According to estimates provided by PhilHealth, most of the new families covered by the Sin Tax Law came from within NHTS-PR households where one family was already entitled to free PhilHealth. In these cases, the expansion of health insurance using sin tax funds would be observed as an expansion in the number of *families* covered, but not in the number of *households* covered. A related point is that when the subsidized senior citizens member category was created in 2014,

it was also decided that each senior citizen would count as a separate family—even a senior citizen married to another senior citizen. This effectively means that a husband and wife, both over the age of 60, would count as one household but two PhilHealth families. In these households, then, one would observe an expansion of health insurance coverage with regard to the number of additional families, but not with regard to the number of additional households.

Another reason, relevant to the percentage of covered individuals, rather than the percentage of covered households, is that the number of individuals reported in the PhilHealth database as covered is not based on an actual count of all members and dependents. Rather, PhilHealth obtains the number of covered individuals by applying a ratio ('multiplier') to the number of principal members enrolled. The multiplier that is used differs across program categories and, within program categories, has changed over time.

Finally, one must acknowledge that this household survey, like all households surveys, is not without its limitations and it is important to ask whether any of these limitations may have biased the findings. One possibility to consider is that respondents may not have fully understood the question regarding health insurance coverage, leading them to respond in the negative despite actually having coverage, thus biasing the estimates downward. Another possibility is that in cases where the survey respondent is not the same as the primary health insurance member, the respondent may not know of the household's health insurance coverage, again biasing the estimates downward. In general, though, we think this risk is low, in part because of the extensive instrument pre-testing that was undertaken both in laboratory and field settings. Also, while these limitations may bias the coverage estimates obtained in any one survey year, it would not affect the trend estimates (on which most of the analysis focuses) since this potential source of bias would affect the 2011 and 2015 results similarly.

RECOMMENDATIONS

Moving forward, there is an urgent need to ensure that all of those who are entitled to free health insurance, whether indigent or senior citizen members, know of their entitlement and are fully informed of their benefits. The large gap between coverage rates reported in administrative databases and coverage rates reported by households suggests that current awareness campaigns of PhilHealth are insufficient.

One immediate opportunity is the release of the new NHTS-PR list—the first update since the original NHTS-PR. Inevitably, some of those people currently on the list will have moved out of poverty, while others not previously on the list will have fallen into poverty. An updated NHTS-PR list can form the basis of an updating of the list of PhilHealth indigent members. Also, since the new NHTS-PR list will also contain updated information on family composition, PhilHealth will be able to work with actual data rather than assumptions around family composition and the number of dependents when counting the number of beneficiaries. This would help to improve the quality of actuarial analysis and also open up the possibility of adjusting the premium subsidies for family size.

In addition to taking the opportunity provided by the new NHTS-PR roster to revise the list of indigent PhilHealth members, an updated list can form the basis of a new awareness campaign to inform people of their entitlements. This could include both mass media and local-level awareness-raising through face-to-face outreach. Related research, undertaken using the same

dataset that was used in the study,[22] has highlighted the effectiveness of local DSWD staff and *barangay*-level officials as sources of information on PhilHealth entitlement and benefits, suggesting that further use of these to reach indigent members could be fruitful. Issuing health insurance cards directly to indigent households would be one of the most direct ways to inform people of their coverage, while also providing people with a tangible reminder of their ability to access health services.

At the institutional level, this could be facilitated by the creation of an interagency oversight committee composed of DSWD, PhilHealth, DOH, and the Department of Budget and Management (DBM). This committee could be responsible for transforming the NHTS-PR list (households) into the list of indigent members (and dependents) that PhilHealth should cover. This list would then be the basis for PhilHealth coverage targets and for DBM budget allocations for premium subsidies. To ensure transparency in resource allocation and accountability for use of funds, this committee should make public how it determines the list of PhilHealth primary members and dependents (families) from the NHTS-PR list (households). An additional function of the interagency committee could be to make decisions about the coverage of those families who were on the initial NHTS-PR list and therefore eligible for free health insurance, but no longer included among the poor in the new enumeration. An alternative to the creation of a new oversight committee would be to use the existing mechanism of the interagency Sin Tax Monitoring group which monitors the implementation of the Sin Tax Law, including the use of its funds. DSWD, PhilHealth, DOH, and DBM are already part of this interagency group, which is chaired by the Department of Finance.

[22] See HNP Discussion Paper on "Awareness of health insurance benefits in the Philippines: what do people know and how?", prepared by the same World Bank/UPecon Foundation team.

REFERENCES

Bredenkamp, C., and L. Buisman. 2016. “Financial Protection from Health Spending in the Philippines: Policies and Progress.” *Health Policy and Planning* 31(7): 919-927.

Deaton, A., and M. Grosh. 2000. “Consumption.” In *Designing Household Survey Questionnaires for Developing Countries: Lessons from Ten Years of LSMS Experience*. Washington, DC: World Bank.

DSWD (Department of Social Welfare and Development). 2010. “National Household Targeting System for Poverty Reduction.”

———. 2016. “Listahanan: Identifying Who and Where the Poor Are”. http://listahanan.dswd.gov.ph/download/advocacy%20and%20information/Listahanan101.pdf Accessed May 3, 2016.

Fernandez, L. 2012. “Design and Implementation Features of the National Household Targeting System in the Philippines.” World Bank Philippine Social Protection Note No. 5.

Kaiser, K., C. Bredenkamp, and R. Iglesias. 2016. *Sin Tax Reform in the Philippines: Transforming Public Finance, Health and Governance for More Inclusive Development*. Washington, DC: World Bank.

O’Donnell, O., S. O’Neil, T. Van Ourti, and B. Walsh. 2016. “Conindex: Estimation of Concentration Indices.” *The Stata Journal* 16 (1): 112–138.

PhilHealth. 2015. “Numbers Speak.” Posted on PhilHealth website on February 23, 2015. http://www.philhealth.gov.ph/news/2015/numbers_speak.html Accessed May 3, 2016.

———. 2016. “PhilHealth Stats and Charts 2015.” http://www.philhealth.gov.ph/about_us/statsncharts/ Accessed April 19, 2016.

PSA (Philippines Statistical Authority). 2015. “Poverty Incidence Among Filipinos Registered at 25.8% as of First Semester of 2014”. PSA Press Release PSA-20150306-SS2-01. Posted on PSA website on March 6, 2015. http://psa.gov.ph/poverty-press-releases/pr/2014%201st%20Sem%20Poverty%20Incidence Accessed March 4, 2016.

This paper is an assessment of the extent to which health insurance coverage in the Philippines increased, especially among the poor, as a result of the 2012 Sin Tax Law and its earmarks for health insurance coverage. Findings illustrated how first, health insurance coverage increased by 20.2 percent between 2011 and mid-2015, from 52.6 percent to 63.2 percent of households. Second, the increase was larger among poor households than among non-poor households, regardless of how "the poor" are defined: coverage among the two poorest quintiles increased by 31 percent compared to 12.7 percent among remaining quintiles; by 30.1 percent among households below the official national poverty line, compared to 17.5 percent among households; and by 23 percent among households on the Department of Social Welfare and Development's *Listahanan* list of the poor. Overall, the distribution of health insurance changed from pro-rich (CI = 0.084***) to neither pro-rich nor pro-poor (CI = -0.003). Third, household surveys reveal lower coverage rates than reported in administrative data. While the Sin Tax Law entitles 100 per cent of poor and near-poor households to free health insurance, in 2015 coverage was only slightly higher than 63.1 percent in the poorest two quintiles, 63.9 percent among households living below the poverty line, and 68.8% among households tagged in the *Listahanan* as being poor and eligible for free health insurance. Fourth, by exploiting the panel dimension of the data and matching surveyed households to administrative databases, we find that many of those receiving free health insurance following the Sin Tax Law were not new PhilHealth members. In 2015, 48.2 per cent of households in the PhilHealth indigent program had been covered by other PhilHealth programs in 2011. Similarly, 32.5 percent of senior citizens receiving free health insurance had previously been covered by other PhilHealth programs.

ABOUT THIS SERIES:

This series is produced by the Health, Nutrition, and Population Global Practice of the World Bank. The papers in this series aim to provide a vehicle for publishing preliminary results on HNP topics to encourage discussion and debate. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations or to members of its Board of Executive Directors or the countries they represent. Citation and the use of material presented in this series should take into account this provisional character. For free copies of papers in this series please contact the individual author/s whose name appears on the paper. Enquiries about the series and submissions should be made directly to the Editor Martin Lutalo (mlutalo@ worldbank.org) or HNP Advisory Service (askhnp@worldbank.org).

For more information, see also www.worldbank.org/hnppublications.

WORLD BANK GROUP
Health, Nutrition & Population

1818 H Street, NW
Washington, DC USA 20433

Telephone: 202 473 1000
Facsimile: 202 477 6391
Internet: www.worldbank.org
E-mail: feedback@worldbank.org