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Surian sa mga Pag-aaral Pangkaunlaran ng Pilipinas

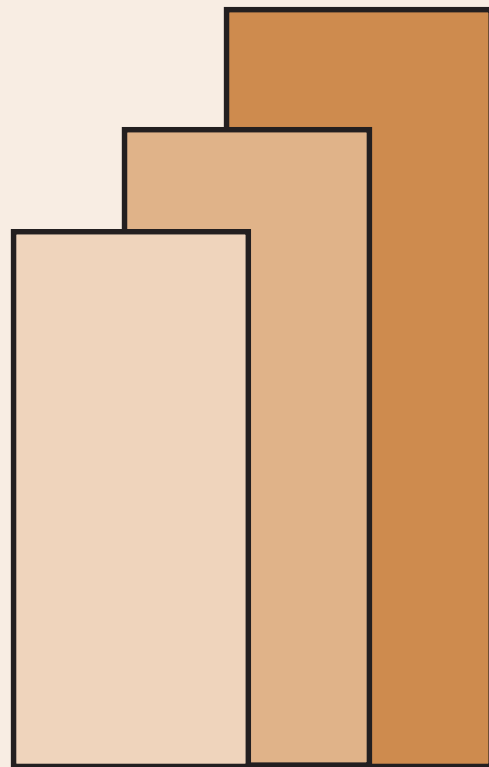# Factors Influencing PhilHealth Coverage and In-patient Benefit Utilization of Filipino Children under Five

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ABSTRACT

According to the 2008 National Demographic and Health Survey report, children under 5 are more likely to use in-patient care than other age groups. These children are not only more vulnerable to getting sick, but are also at risk of incurring high health expenditures if they are without health insurance. Using the 2008 NDHS dataset, this study focused on the coverage and in-patient benefit utilization of children under five, who are dependents of the Philippine Health Insurance Corporation (PhilHealth). Unique to this analysis was the shift in focus of coverage and utilization from the traditional angle of primary members to the dependents. Descriptive analyses revealed that PhilHealth covered only 33.93% of the under-5 population, and of those PhilHealth dependents who were confined in a hospital, 67.59% used PhilHealth as a source of payment. Logistic regression analysis determined that age and educational attainment of the household head, region and wealth index were significant factors that influenced coverage. Moreover, it was found that confinement in a private facility and for longer periods of time increased the probability of in-patient benefit utilization for PhilHealth dependents. These results will be useful for PhilHealth as they create evidence-based initiatives to attain Universal Health Coverage.

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RATIONALE

The time between birth and five years of age is not only the most crucial for a child's development but it is also the period when they are highly at risk (Kaduru, 2013). According to the 2008 National Demographic and Health Survey report, children under 5 are more likely to use in-patient care than other age groups (National Statistics Office [Philippines] [NSO] & ICF Macro, 2009). Inherently, children in this age bracket are more vulnerable to getting sick and incurring health expenditures. A study has also shown that hospitalized children without insurance had increased chances of mortality because of higher disease severity than those with insurance (Abdullah et al., 2010). Therefore, children become even more vulnerable without health insurance. With the Philippines' push for Kalusugan Pangkalahatan (KP) or Universal Health Coverage (UHC) (Department of Health [DOH], 2010), it is vital that these children should not be forgotten.

This study focused on coverage and in-patient benefit utilization of children under five who are part of the Philippine Health Insurance Corporation (PhilHealth). PhilHealth, as the implementer of the National Health Insurance Program (NHIP), is vital in ensuring the protection of the Filipino people from vulnerabilities brought about by medical expenditures. This single-fund social health insurance covers families, wherein the primary member and his dependents (declared children below 21 and parents above 65) can avail of the in-patient and outpatient PhilHealth benefits (Philippine Health Insurance Corporation [PHIC], 2012). Studies have shown that having insurance early on has a positive effect on a child's future health, as what happens in childhood impacts adulthood (Case, Fertig & Paxson, 2005; Currie, Decker & Lin, 2008). Moreover, according to a study on the Children's Health Insurance Program (CHIP) in the United States, where children are given insurance financed by the federal government and states, insured children were more likely than uninsured children to receive well-child care, see a specialty doctor, avail of dental care service and be fully immunized. They were also less likely to use emergency care (Eisert & Gabow, 2002). Similarly, a study done in the Philippines, a randomized policy experiment called the Quality Improvement Demonstration Study (QIDS), revealed that low-income children with PhilHealth had greater long-term health improvements compared to those without insurance (Quimbo et al., 2011). This is because health insurance reduces barriers to health care access (Abdullah et al., 2010; Currie et al., 2008).

Surprisingly, given that international studies revealed positive effects of health insurance on children, there has not been a study this large that has looked into the extent of health insurance coverage among children in the Philippines, even more so for their insurance utilization. This study, therefore, wishes to address this research gap. Unique to this analysis is the shift in focus of coverage and utilization from the traditional angle of primary members to the dependents, specifically those under five years old. This study would be a measurement of the degree of universal coverage, in terms of population and service availment, which PhilHealth provides to this vulnerable group (Evans, Saksena, Elovainio & Boerma, 2012). These two components must be explored hand-in-hand because it is not enough that a child is covered by insurance; s/he must be able to utilize it as well. Moreover, this research will allow PhilHealth to better address the needs of children and ensure their future health.

RESEARCH PROBLEM

What are the factors that affect PhilHealth coverage and in-patient benefit utilization of Filipino children under five years old?

RESEARCH OBJECTIVES

<u>General Objective</u>
- To determine the factors that affect PhilHealth coverage and in-patient benefit utilization of Filipino children under five years old

<u>Specific Objective</u>
- To estimate the U5 PhilHealth coverage rate according to the following:
  - Predisposing variables
    - Age of Household head
    - Gender of Household head
    - Educational attainment of Household head
  - Enabling variables
    - Place of Residence
    - Region
    - Wealth Index
    - Other sources of payment to supplement PhilHealth
- To measure the U5 PhilHealth in-patient benefit utilization rate according to the following:
  - Predisposing variables
    - Household Head
      - Age
      - Gender
      - Educational attainment
    - Child
      - Age
      - Gender
  - Enabling variables
    - Family
      - Wealth Index
      - PhilHealth Category
    - Community
      - Place of Residence
      - Region
  - Illness Level variables
    - Type of Hospital
    - Length of Confinement
    - Medical Expenditure
- To specify the factors that influence U5 PhilHealth coverage in relation to:
  - Predisposing variables
    - Age of Household head
    - Gender of Household head
    - Educational attainment of Household head
  - Enabling variables
    - Place of Residence
    - Region
    - Wealth Index
- To establish the factors that influence U5 PhilHealth in-patient benefit utilization in relation to:
  - Predisposing variables
    - Household Head
      - Age

- Gender
- Educational attainment
  - Child
    - Age
    - Gender
- Enabling variables
  - Family
    - Wealth Index
    - PhilHealth Category
  - Community
    - Place of Residence
    - Region
- Illness Level variables
  - Type of Hospital
  - Length of Confinement
  - Medical Expenditure

SCOPE AND LIMITATIONS

This study focused only on the health insurance coverage and in-patient benefit utilization of Filipino children under five years old (U5) provided by the Philippine Health Insurance Corporation (PhilHealth). A U5 child was considered covered if s/he is a PhilHealth dependent, meaning that his or her parent is a PhilHealth member. In this scheme, PhilHealth members can declare dependents, either their children under 21 or parents over 65, who will receive the same benefits as them. Members are also divided into two main groups – paying or indigent. Paying members are those that come from the formally and informally employed sector and pay for their own insurance premium, while the indigent members have their premium subsidized by the national or local government (PHIC, 2012). Utilization is defined as "the extent to which the members of a covered group use a program…" (Utilization, n.d.); thus, benefit utilization, in this context, pertained to the availment of PhilHealth in-patient benefits by U5 dependents in PhilHealth accredited health facilities. These children used PhilHealth as a source of payment to cover their medical expenditures. This is not to be confused with health care utilization, which is more commonly measured. However, the model used to analyze insurance utilization is a behavioral model of health care utilization (Andersen & Newman, 2005) since there was no available model to measure the former that fit the study. Moreover, this study did not include the specific PhilHealth in-patient benefits availed of by the respondents or the support value provided by PhilHealth, as it could not be determined with the available data.

The data utilized for analysis was the 2008 Philippine National Demographic and Health Survey (NDHS) data set, as this was representative of the country and the most recent version. Given that the NDHS is a national survey and the researcher was not involved in the survey development, the research problem was answered to the extent that the data collected permitted. Results of this study were only limited to associations, considering the cross-sectional study design.

METHODOLOGY

This was a cross-sectional study that determined the factors that influenced PhilHealth coverage and in-patient benefit utilization of children under five years old (U5) using the 2008 National Demographic and Health Survey (NDHS) data set. Multiple levels of analysis were used to determine these.

The study population consisted of Filipino children under five included in the 2008 NDHS (Figure 1). These children were divided into those covered by PhilHealth as dependents and those who were not at all covered by PhilHealth. This determined the U5 coverage rate. PhilHealth dependents who were confined in a hospital in the last 12 months were then identified. This sample was separated into those that used PhilHealth to pay for their medical expenses and those that were covered by PhilHealth but did not use it. This accounted for the U5 in-patient benefit utilization rate. Descriptive statistics, such as frequency, percentages and means, were generated to profile these children.
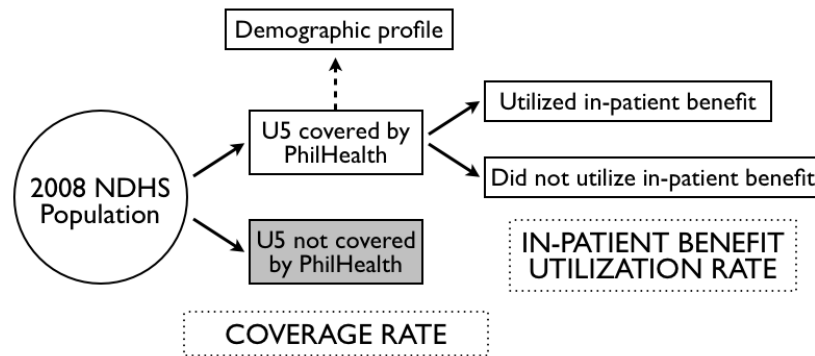
Figure 1. Study design to determine coverage and in-patient benefit utilization rates

To determine the factors that affect coverage and utilization, two dependent variables were studied – one for PhilHealth coverage and the other for PhilHealth in-patient benefit utilization. The PhilHealth coverage variable was a binary variable that indicated whether or not the U5 was a PhilHealth dependent (Figure 2). The dependent status was used because the study population was not eligible for PhilHealth membership. PhilHealth in-patient benefit utilization was also a binary variable that showed how many U5 used PhilHealth when confined in the hospital (Figure 3). As for the independent variables, these were categorized into three: predisposing, enabling and illness level (Andersen & Newman, 2005). Predisposing variables, such as age and gender, were characteristics that may have inclined the individual towards the dependent variable. Variables for the household head (age, gender, educational attainment) were included here based on the assumption that the household head was the child's parent/relative and that his/her characteristics affected the child's insurance coverage and utilization. Enabling variables were conditions, whether on the family or community level, that allowed an individual to access health care. Lastly, illness level variables were reasons for using health care. As such, these were only used for PhilHealth utilization. The study variables are summarized in Annex 1. Bivariate analysis using Chi-Square for categorical variables and T-Test for continuous variables established the initial factors that affected the dependent variables. Logistic regression was employed to control for confounders and to determine the variables truly associated with coverage and utilization. A significance level of 0.05 was used for both levels of analysis.
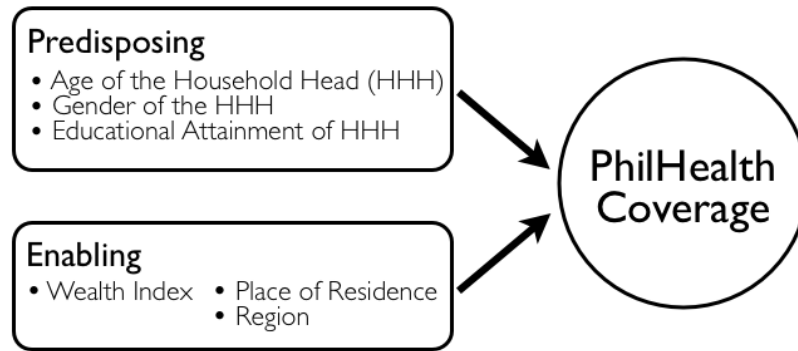
Figure 2. Relationship between PhilHealth coverage and predisposing and enabling variables
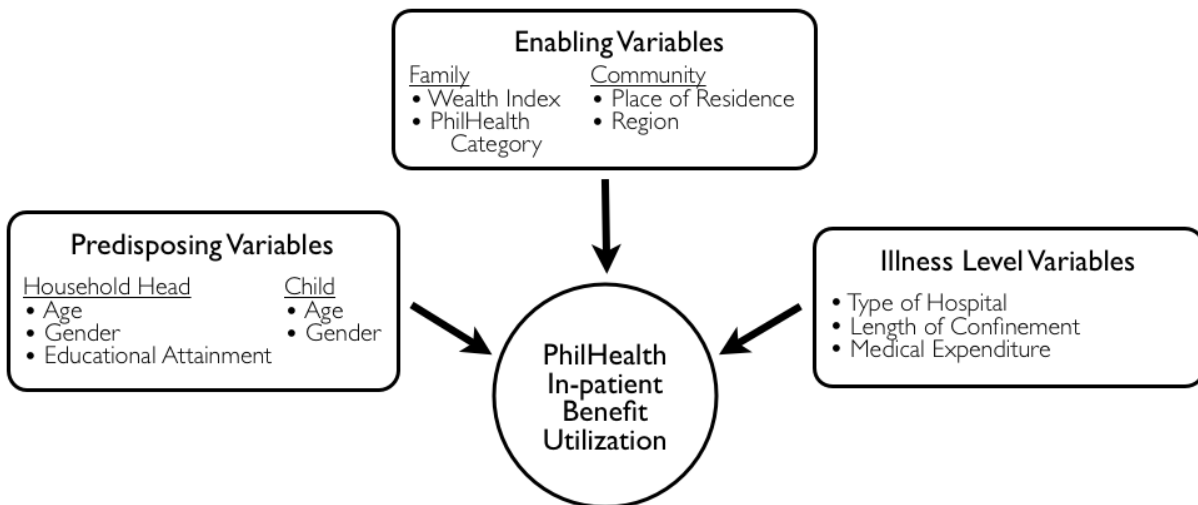
Figure 3. Relationship between PhilHealth in-patient benefit utilization and predisposing, enabling and illness level variables

RESULTS AND DISCUSSION

Summary Statistics

Around 6,973 children aged below five years were included in this survey (Annex 2), with a normal distribution between ages 0-4 and an almost equal gender ratio. There were more respondents from NCR (9.32%), Regions III (7.39%) and IV-A (8.65%), the rural areas (58.24%) and from the poor (Q1=30.06% and Q2=24.09%) wealth quintiles. In relation to the household head, most U5 were the son/daughter (70.20%), while the rest were either a grandchild (25.53%) or another relative (3.67%).

PhilHealth Coverage

In terms of health insurance, only 33.93% of respondents were PhilHealth dependents. This is a very low percentage given that PhilHealth boasted of 76% coverage in 2009 (Philippine Health Insurance [PHIC], 2009). Moreover, there were more dependents under the PhilHealth paying category (73.20%) than the PhilHealth indigent one (26.80%). Children whose parents were employed (whether formally, informally or overseas) were part of the paying category, while those whose parents could not afford to pay the full

PhilHealth premium fell under the indigent category. Given this, the PhilHealth category result was contradictory to the wealth index distribution, as there should have been more PhilHealth indigents than paying dependents. This may mean that only a small percentage of the poorer population were covered under PhilHealth's Sponsored program, even with the national and local governments' assistance.

Determining the factors that influenced coverage, U5 with PhilHealth were compared to those without insurance using the following independent variables: household head's (1) age, (2) gender and (3) educational attainment, (4) place of residence, (5) region, and (6) wealth index (Figure 2). This analysis showed that the age and gender of the household head did not affect the coverage status of the child (p-values=0.907 and 0.112, respectively), while the rest of the variables did (Annex 4). The educational attainment of the household head was statistically significant (p-value=0.000), meaning that one's educational attainment was a factor in PhilHealth coverage. Furthermore, the percentage distributions (Annex 3) showed that PhilHealth paying members had higher educational attainment while indigent members had lower educational attainment. However, no pattern was seen for those without insurance. The type of residence and region were also statistically significant variables (p-value=0.000 for both). This showed that where one lives has an implication on PhilHealth coverage; and, as the results demonstrated, more PhilHealth paying members were found in the urban areas while the indigent and non-members were mostly in rural areas (Annex 3). One's wealth index was also a factor that determined PhilHealth coverage (p-value=0.000). As previously mentioned, majority of the poor did not have insurance. Moreover, there seems to be a leakage in PhilHealth coverage; there were those from the higher quintiles included in the indigent category and some from the lower quintiles in the paying category. This is something PhilHealth should look into, as the indigent program should only be for the poorer population (Q1 and Q2).

Further analysis through logistic regression (Table 1) showed that age (p-value=0.050) and educational attainment (p-value=0.000) of the household head (HHH), region (p-value=0.003) and wealth index (p-value=0.000) were statistically significant factors in determining PhilHealth coverage. Place of residence can be considered a confounder since it was not significant in this level of analysis. Interpreting the results showed that an added year in the HHH's age decreased the child's chance of being a PhilHealth member by 0.995, while a higher HHH's educational attainment increased it by 1.282. The significance levels of the region and wealth index variables were interpreted similarly. A change in region decreased the odds of the child's PhilHealth coverage by 0.993 and a higher wealth index increases it by 1.518. These results are consistent with studies exploring the determinants of insurance coverage (DeNavas-Walt, Proctor & Lee, 2006; DeVoe et al., 2007).

PhilHealth should consider these four factors when expanding coverage, especially with the low percentage of PhilHealth dependents. Results indicate the significant relationship of the household head's characteristics to a child's insurance coverage, which is consistent with research (Davidoff, Dubay, Kenney & Yemane, 2003). As the child's insurance is determined by the parent, they should be targeted to increase enrollment, specifically the older, less educated and less affluent ones. Localized strategies may also help cover more children and reach more parents, given the difference in coverage among regions. Collaborating with other agencies, such as the Department of Health (DOH), Department of Education (DepEd), Department of Social Welfare and Development (DSWD) and Department of Interior and Local Government (DILG) may make these interventions more effective. Moreover, given the yearly coverage of PhilHealth, the importance of continuous payment of premiums must be stressed to these parents. Other strategies to expand U5 coverage may also be explored. To remove the responsibility from parents, the automatic enrollment of children U5 into PhilHealth may be considered. The United States insures low-income children under the State Child Health Insurance Program (Lambrew, 2007), while Mexico does it under Seguro Médico para una Nueva Generación (Perez-Cuevas et al., 2012). The low population must first be targeted, as their increase in coverage will be the stepping-stone to achieving the country's goal of UHC.

PhilHealth In-Patient Benefit Utilization

Out of the children surveyed, 6.28% were confined in the hospital in the 12 months before the survey was administered (Annex 2). PhilHealth covered 49.32% of these children, but only 67.59% used their health insurance to pay for their medical expenses. This shows that there was an approximately 32% underutilization of benefits by PhilHealth dependents, where children were covered by PhilHealth but chose not to use it. As such, this part of the study looked into the factors that affected this PhilHealth utilization, as it is not enough that a child is covered by PhilHealth; s/he must be able to use it to avail of needed health services. Again, to clarify, this analysis is on health insurance utilization and not health service utilization.

The sample size for this analysis was 216, which were the hospitalized children with PhilHealth (Annex 5). Most of the U5 children were around 2 years old and male (56.16%). Their household head was around 40 years old, male (86.99%), had higher education (39.73%) and lived in the rural area (53.42%). These characteristics were similar for both children that used PhilHealth and did not. Those that used PhilHealth were mostly from Regions X (21.23%), VII (11.64%) and CARAGA (10.27%), while those that did not use PhilHealth were from Regions XI (10.00%), VII (8.57%) and VIII (8.57%). Surprisingly, more of the richer quintiles (Q4=27.40% and Q5=21.23%) used PhilHealth than the lower quintiles (Q1=15.75% and Q2=17.81%). Also, majority of those that used their PhilHealth benefit were paying members and were confined in a private hospital. The approximate length of confinement for those that used PhilHealth was 5 days, while it was 3 days for those that did not. Medical expenditures reached about PHP 8,800 and PHP 6,900 for those that used and did not use PhilHealth, respectively. Since this study is limited to health insurance utilization and not support value, the amount financed by PhilHealth could not be determined. However, the results showed that, aside from PhilHealth, medical expenses were paid using salary/income (49.32%) and savings (29.45%).

To determine the factors that influenced utilization, the following independent variables were studied (1) age and (2) gender of child, (3) age, (4) gender, and (5) educational attainment of household head, (6) place of residence, (7) region, (8) wealth index, (9) PhilHealth category, (10) type of hospital, (11) length of confinement, and (12) medical expenditure (Figure 3). This analysis (Annex 5) revealed that region (p-value=0.013), type of hospital (p-value=0.044) and length of confinement (p-value=0.003) were statistically significant in relation to PhilHealth utilization. There was an effect on utilization if the child was confined in a public or private health facility and if the child stayed for a certain period of time. As previously mentioned, the percentage distribution showed that majority of those that used PhilHealth were confined in a private hospital (64.38%) and stayed for an average of 5 days. It can be assumed that PhilHealth was more valuable in subsidizing a private hospital and longer confinement. Moreover, it seems that the difference in regions also affects the utilization of U5 dependents.

To strengthen the analysis, logistic regression was performed (Table 2). This resulted in the same significant variables as the bivariate analysis, except for the region variable. In this case, the latter can be considered a confounding variable, as it does not actually affect utilization. The regression model showed that being confined in a private facility increased the odds of utilization by 2.397, and for every day added to length of confinement, the odds increased by 1.679. Furthermore, it seems that the child and household head's characteristics, location and socio-economic status had no bearing when it came to utilization. PhilHealth category and the amount of medical expenditure also did not affect it.

According to Andersen and Newman (2005), illness level variables are major determinants of health care utilization, and as the results show, the only significant variables fell under the illness level category. Moreover, the significance of length of confinement is consistent with a study done in the Philippines that

also measured insurance utilization (Quimbo et al., 2008). The study done by Quimbo et al. (Ibid) also found that a mother's education was a significant factor in utilization; however, this research was not able to analyze specifically the mother's education due to the data limitation. Instead, a more general variable of household head's education was used; although, in this case, it was not a significant characteristic. In fact, none of the predisposing or enabling variables was a significant factor in influencing utilization. In a study conducted in the United States, use of health services was determined by a child's age and a parent's education (Davidoff et al., 2003). Neither of which were significant in this research. Financial barriers, such as cost of health services and ability to pay, also have been consistently cited as impediments to health care utilization (Nair et al., 2013; Wisk & Whitt, 2012) However, even with insurance, it seems that these financial variables did not impact utilization.

These comparisons must be looked at with caution as most studies reviewed were on health care utilization and not health insurance utilization. There may be a difference between factors that affect the two, as the results of this study showed; however, this must be confirmed by further studies. Additional variables that impact insurance utilization, especially those that deal with claim filing processes and benefit awareness, should be explored as well. These were some reasons for not filing insurance claims reported in the 2003 NDHS as mentioned in Quimbo et al (2008). Unfortunately, this information was not included in the 2008 NDHS. PhilHealth should work with the National Statistics Office to consistently include questions on PhilHealth awareness, coverage and utilization in all related national surveys. This will be a convenient and effective way for PhilHealth to gather information about its members.

Moreover, as the results of the study showed that health insurance utilization is influenced by hospital-related factors, PhilHealth should use hospitals as venues to increase U5 insurance utilization. Currently, PhilHealth has nurses, known as PhilHealth Customer Assistance, Relations and Empowerment Staff (CARES), stationed in hospitals to provide assistance and answer PhilHealth inquiries (PHIC, 2012). These nurses should be instructed to focus on children in public facilities and those confined for shorter periods of time to diminish underutilization.

Table 1. Logistic Regression of U5 with PhilHealth Coverage

VARIABLE	Odds Ratio	95% CI	Standard Error	Z	P-Value
Age of Household Head	0.995	0.991-0.999	0.0023	-1.96	0.050
Gender of Household Head	0.960	0.803-1.149	0.0877	-0.44	0.660
Educational Attainment of Household Head	1.282	1.228-1.338	0.0279	11.40	0.000
Place of Residence	1.122	0.995-1.264	0.0686	1.88	0.061
Region	0.993	0.989-0.998	0.0023	-2.94	0.003
Wealth Index	1.518	1.442-1.598	0.0397	15.97	0.000

Pseudo R2 = 0.1041

Table 2. Logistic Regression of U5 PhilHealth in-patient benefit utilization

VARIABLE	Odds Ratio	95% CI	Standard Error	Z	P-Value
Age of Child	1.111	0.862-1.433	0.144	0.81	0.416
Gender of Child	1.078	0.564-2.063	0.357	0.23	0.820
Age of Household Head	0.849	0.284-2.532	0.473	-0.29	0.768
Gender of Household Head	0.991	0.963-1.021	0.014	-0.58	0.562
Educational Attainment of Household Head	0.885	0.656-1.194	0.135	-0.80	0.423
Place of Residence	1.838	0.870-3.882	0.701	1.60	0.110
Region	1.009	0.976-1.044	0.017	0.55	0.584
Wealth Index	1.195	0.843-1.694	0.213	1.00	0.318
PhilHealth Category	0.747	0.313-1.783	0.332	-0.66	0.511
Type of Hospital	2.257	1.115-4.569	0.812	2.26	0.024
Length of Confinement	1.556	1.274-1.899	0.158	4.34	0.000
Medical Expenditure	0.999	0.999-1.000	0.0002	-1.05	0.295

Pseudo R2 = 0.1268

CONCLUSION

PhilHealth covers only one-third of the under-5 population (33.93%), and even less of the country's poor. This is a far cry from the 76% coverage rate announced by PhilHealth. Even more telling is the presence of leakage in PhilHealth coverage, where a number of richer people were included in the indigent category. This is an issue that PhilHealth must address to ensure that those truly in need of assistance will receive it.

The analysis revealed that age and educational attainment of the household head, region and wealth index were factors that affected PhilHealth coverage. Great responsibility falls on the parent to ensure that his child is ensured; thus, PhilHealth and other government agencies should provide them with adequate support. Parents must be informed about the benefits of insurance and be provided with the means to avail of them, especially for the less fortunate. Insuring these children will increase their access to health care services and the likelihood of long-term health.

Insurance coverage, however, should not be the only concern, as coverage does not automatically translate into utilization. The results showed that 67.59% of those confined used PhilHealth as a source of payment. Although this is a large percentage, there were still about one-third of people who chose not to use PhilHealth. Utilization was more likely to happen in private facilities and if children were confined for longer periods of time. Given that illness level variables were the only significant factors, PhilHealth should position itself in hospitals to reach more children and increase their insurance utilization.

Overall, it seems that PhilHealth was not successful in covering children under 5. Not only was the percentage of covered dependents low, but also not all PhilHealth dependents utilized in-patient benefits when confined. This means that majority of the U5 population, an already vulnerable group, becomes even more vulnerable when they get sick either from lack of insurance or underutilization. If PhilHealth wants universal health coverage for all, as stated in the Aquino Health Agenda, it is important that low coverage rate is addressed and utilization is increased. In this way, more children will not only have access but will also be able to use insurance to pay for health services. PhilHealth will then be on the way to providing true financial risk protection.

RECOMMENDATIONS

Research
- The study should be repeated with the 2013 NDHS data for comparison, given the PhilHealth programs initiated in the past years to increase coverage.
- Another study should also be conducted exploring additional barriers to utilization, as the results show that there are different factors affecting health insurance utilization and health care utilization.
- PhilHealth should also study the support value it provides to this population in order to complete the UHC cube (Evans, Saksena, Elovainio & Boerma, 2012).

Policy
- PhilHealth should focus on protecting children under five. Given that a child's insurance rests on his/her parent, PhilHealth should consider the automatic coverage of children under 5 years old. This way, the responsibility is removed from the parent and transferred to the government.

- Targeted education campaigns should be created using the significant factors as a guide. To expand coverage, campaigns should be localized to regions with a focus on older and less educated parents and people in lower income quintiles. For utilization, it is necessary to continue to educate members about their benefits and how to claim them, as coverage does not translate into utilization. Furthermore, children in public facilities or those confined for shorter periods of time should be targeted. Other government agencies, such as DOH, DSWD, DepEd and DILG, should be included in these campaigns as well.
- PhilHealth should look into creating localized initiatives given that regional factors influence health insurance coverage.
- Revise directives of PhilHealth CARES that will have them focus on increasing utilization in hospitals.
- Provisions should be outlined by PhilHealth to reduce leakage, especially for the inclusion of the politically poor in the LGU-SP program.

Actions
- Create a technical working group (TWG) to explore automatic coverage of children under 5. The Seguro Médico para una nueva Generación program of Mexico (Pérez-Cuevas et al., 2012) and the State Child Health Insurance Program (SCHIP) of the United States (Medicaid.gov, n.d.) can be used as guides.
- Memorandum of Agreement should be established between PhilHealth and the National Statistics Office to consistently include health insurance in all relevant national surveys.
- Strengthen partnerships with DOH-retained hospitals, LGU hospitals and hospital associations in order to reach more U5 children and increase their utilization.

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ANNEXES

Annex 1. Summary of Study Variables

Dependent Variables	-PhilHealth coverage -PhilHealth in-patient benefit utilization		
	PREDISPOSING	**ENABLING**	**ILLNESS LEVEL**
Independent Variables	**Demographics** -Age of Child -Gender of Child -Age of Household Head -Gender of Household Head -Educational Attainment of Household Head	**Family** -Wealth Index -PhilHealth Type **Community** -Region -Place of Residence	-Type of hospital -Length of confinement -Medical expenditure

Annex 2. Demographic profile of children under five

VARIABLE	CATEGORY	Frequency	Percentage
TOTAL		**6,973**	**100.0**
Age	0	1,407	20.18
	1	1,376	19.73
	2	1,374	19.70
	3	1,423	20.41
	4	1,393	19.98
Gender	Male	3,687	52.88
	Female	3,286	47.12
Relationship to Household Head	Son/daughter	4,890	70.20

	Grandchild	1,780	25.53
	Other relative	256	3.67
	Not related	42	0.60
Place of Residence	Urban	2,913	41.76
	Rural	4,060	58.24
Wealth Index	Poorest (Q1)	2,096	30.06
	Poorer (Q2)	1,680	24.09
	Middle (Q3)	1,272	18.24
	Richer (Q4)	1,125	16.13
	Richest (Q5)	800	11.47
Region	NCR	650	9.32
	CAR	278	3.99
	Region I	345	4.95
	Region II	315	4.52
	Region III	515	7.39
	Region IV-A	603	8.65
	Region IV-B	353	5.06
	Region V	477	6.84
	Region VI	427	6.12
	Region VII	444	6.37
	Region VIII	374	5.36
	Region IX	368	5.28
	Region X	343	4.92
	Region XI	365	5.23
	Region XII	333	4.78
	CARAGA	370	5.31
	ARMM	413	5.92
Health Insurance	PhilHealth	2,366	33.93
	Other health insurance	57	0.82
	No health insurance	4,550	65.25
PhilHealth Dependent	PhilHealth paying	1,732	73.20
	PhilHealth indigent	634	26.80
U5 Confined in Hospital	Yes	438	6.28

	No	6,535	93.72				
U5 Confined with PhilHealth	With PhilHealth	216	49.32				
	Without PhilHealth	222	50.68				
U5 Utilized PhilHealth	Yes	146	67.59				
	No	70	32.41				
U5 Supplemented PhilHealth with Other Sources of Payment	Salary/income	72	49.32				
	Loan/mortgage	21	14.38				
	Savings	43	29.45				
	Donation/charity/assistance	11	7.53				
	SSS/GSIS/ECC	1	0.68				
	HMO/private/pre-need insurance	6	4.11				
	Other	2	1.37				

Annex 3. Demographics of children under five with health insurance

VARIABLE	CATEGORY	TOTAL	PAYING DEPENDENT		INDIGENT DEPENDENT		NO PHILHEALTH	
			Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
TOTAL		**6,973**	**1,732**	**100.0**	**634**	**100.0**	**4,607**	**100.0**
Age of Child	0	1,407	298	17.21	107	16.88	1,002	21.75
	1	1,376	367	21.19	115	18.14	894	19.41
	2	1,374	353	20.38	120	18.93	901	19.56
	3	1,423	365	21.07	150	23.66	908	19.71
	4	1,393	349	20.15	142	22.40	902	19.58
Gender of Child	Male	3,687	914	52.77	363	57.26	2,410	52.31
	Female	3,286	818	47.23	271	42.74	2,197	47.69
Educational Attainment of Household Head	No education	220	4	0.23	7	1.10	209	4.54
	Incomplete primary	1,602	133	7.69	185	29.18	1,284	27.87
	Complete primary	1,178	188	10.87	130	20.50	860	18.67
	Incomplete secondary	958	157	9.08	114	17.98	687	14.91
	Complete secondary	1,488	419	24.23	123	19.40	946	20.53
	Higher	1,524	828	47.89	75	11.83	621	13.48

Wealth Index	Poorest (Q1)	2,096	100	5.77	253	39.91	1,743	37.83
	Poorer (Q2)	1,680	253	14.61	229	36.12	1,198	26.00
	Middle (Q3)	1,272	363	20.96	88	13.88	821	17.82
	Richer (Q4)	1,125	511	29.50	56	8.83	558	12.11
	Richest (Q5)	800	505	29.16	8	1.26	287	6.23
Place of Residence	Urban	2,913	1,068	61.66	150	23.66	1,695	36.79
	Rural	4,060	664	38.34	484	76.34	2,912	63.21
Region	NCR	650	291	16.80	3	0.47	356	7.73
	CAR	278	74	4.27	33	5.21	171	3.71
	Region I	345	102	5.89	38	5.99	205	4.45
	Region II	315	68	3.93	38	5.99	209	4.54
	Region III	515	125	7.22	14	2.21	376	8.16
	Region IV-A	603	236	13.63	14	2.21	353	7.66
	Region IV-B	353	37	2.14	20	3.15	296	6.43
	Region V	477	71	4.10	80	12.62	326	7.08
	Region VI	427	97	5.60	41	6.47	289	6.27
	Region VII	444	137	7.91	32	5.05	275	5.97
	Region VIII	374	53	3.06	21	3.31	300	6.51
	Region IX	368	53	3.06	19	3.00	296	6.43
	Region X	343	69	3.98	151	23.82	123	2.67
	Region XI	365	113	6.52	15	2.37	237	5.14
	Region XII	333	98	5.66	13	2.05	222	4.82
	CARAGA	370	69	3.98	78	12.30	223	4.84
	ARMM	413	39	2.25	24	3.79	350	7.60

Annex 4. Bivariate analysis of U5 with PhilHealth coverage

VARIABLE	CATEGORY	PHILHEALTH COVERAGE				SIGNIFICANCE
		WITH PHILHEALTH		WITHOUT PHILHEALTH		
		Frequency	Percentage	Frequency	Percentage	
Age of Household Head		41.21		41.17		0.907
Gender of Household Head	Male	1,277	53.97	2,410	52.31	0.188
	Female	1,089	46.03	2,197	47.69	
Educational Attainment of Household	No education	11	0.47	209	4.54	0.000

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Head	Incomplete primary	318	13.46	1,284	27.87	
	Complete primary	318	13.46	860	18.67	
	Incomplete secondary	271	11.47	687	14.91	
	Complete secondary	542	22.94	946	20.53	
	Higher	903	38.21	621	13.48	
Place of Residence	Urban	1,218	51.48	1,695	36.79	0.000
	Rural	1,148	48.52	2,912	63.21	
Region	NCR	294	12.43	356	7.73	0.000
	CAR	107	4.52	171	3.71	
	Region I	140	5.92	205	4.45	
	Region II	106	4.48	209	4.54	
	Region III	139	5.87	376	8.16	
	Region IV-A	250	10.57	353	7.66	
	Region IV-B	57	2.41	296	6.43	
	Region V	151	6.38	326	7.08	
	Region VI	138	5.83	289	6.27	
	Region VII	169	7.14	275	5.97	
	Region VIII	74	3.13	300	6.51	
	Region IX	72	3.04	296	6.43	
	Region X	220	9.30	123	2.67	
	Region XI	128	5.41	237	5.14	
	Region XII	111	4.69	222	5.14	
	CARAGA	147	6.21	223	4.84	
	ARMM	63	2.66	350	7.60	
Wealth Index	Poorest (Q1)	353	14.92	1,743	37.83	0.000
	Poorer (Q2)	482	20.37	1,198	26.00	
	Middle (Q3)	451	19.06	821	17.82	
	Richer (Q4)	567	23.96	558	12.11	
	Richest (Q5)	513	21.68	287	6.23	

Annex 5. Bivariate analysis of U5 PhilHealth in-patient benefit utilization

VARIABLE	CATEGORY	PHILHEALTH IN-PATIENT UTILIZATION				SIGNIFICANCE
		UTILIZED PHILHEALTH		DID NOT UTILIZE		
		Frequency	Percentage	Frequency	Percentage	
TOTAL		**146**	**100.0**	**293**	**100.0**	
Age of Child		1.89		1.88		0.960
Gender of Child	Male	82	56.16	41	58.57	0.738
	Female	64	43.84	29	41.43	
Age of Household Head		40.89		40.20		0.709
Gender of Household Head	Male	127	86.99	63	90.00	0.406
	Female	19	13.01	7	10.00	
Educational Attainment of Household Head	No education	1	0.68	0	0.00	0.730
	Incomplete primary	15	10.27	7	10.00	
	Complete primary	23	15.75	7	10.00	
	Incomplete secondary	20	13.70	14	20.00	
	Complete secondary	29	19.86	14	20.00	
	Higher	58	39.73	28	40.00	
Place of Residence	Urban	68	46.58	33	47.14	0.938
	Rural	78	53.42	37	52.86	
Region	NCR	6	4.11	4	5.71	0.013
	CAR	8	5.48	2	2.86	
	Region I	7	4.79	3	4.29	
	Region II	7	4.79	4	5.71	
	Region III	5	3.42	4	5.71	
	Region IV-A	11	7.53	5	7.14	
	Region IV-B	3	2.05	0	0.00	
	Region V	5	3.42	4	5.71	
	Region VI	6	4.11	4	5.71	
	Region VII	17	11.64	6	8.57	

	Region VIII	1	0.68	6	8.57	
	Region IX	5	3.42	3	4.29	
	Region X	31	21.23	5	7.14	
	Region XI	11	7.53	7	10.00	
	Region XII	8	5.48	4	5.71	
	CARAGA	15	10.27	4	5.71	
	ARMM	0	0.00	5	7.14	
Wealth Index	Poorest (Q1)	23	15.75	17	24.29	0.310
	Poorer (Q2)	26	17.81	12	17.14	
	Middle (Q3)	26	17.81	14	20.00	
	Richer (Q4)	40	27.40	11	15.71	
	Richest (Q5)	31	21.23	16	22.86	
PhilHealth Category	Paying	108	73.97	46	65.71	0.209
	Indigent	38	26.03	24	34.29	
Type of Hospital	Public	52	35.62	35	50.00	0.044
	Private	94	64.38	35	50.00	
Length of Confinement			4.86		3.09	0.0003
Medical expenditure			8,798.38		6,893.60	0.267