Access to Universal Health Care in the Philippines: The Challenges of Ethnicity, Barriers, and Inequities

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Abstract

The Universal Health Care Program is one of the cornerstones of the Philippine development directions. Its primary objective is to enhance, and update health reform programs by removing inequities in health outcomes. To assess the efficacy of the program, the study measures access to healthcare services of 371 Indigenous Peoples (IPs) belonging to three different ethnic groups. It used qualitative and quantitative approaches consisting of; interviews, focus group discussions and surveys. Overall, the study reveals that Indigenous Peoples occasionally accessed healthcare services; seldom accessed healthcare facilities and occasionally accessed services provided by healthcare personnel. A Kruskal-Wallis test shows that significant statistical differences in access to public healthcare services exist across ethnic groups. The study also reveals a strong negative relationship between ethnicity and access to public healthcare service, confirming the existence of barriers to health care access among ethnic minority groups. The success of the universal health program depends on its inclusiveness and its capacity to serve underprivileged and marginalized groups. The study thus recommends that the design of healthcare services be standardized and customized to include IP client's (IP) health needs, level of education, health demands, geographic locations, cultural practices and socio-economic conditions.

Keywords: Access, universal health care, healthcare services, healthcare facilities, healthcare personnel

Introduction

Many people strive for total physical, mental, and social well-being (World Health Organization, 1948). As such, every State has a mandate to extend health services and ensure that they are readily available and accessible to the public (Vadmanis et al., 2015). Proper public health management protects the whole population, limits disparities, and promotes healthcare equity, quality, and accessibility (CDC, 2017). Public health management in the local context involves participation, consensus-orientation, accountability, transparency, responsiveness, effectiveness, equity, and obedience to the rule of law (Brand, 2007). The success of implementing health-related and people-centered programs lies in making the service accessible to every community member (Mungrue, 2016).

The right to health is strongly reliant on people's desire to use healthcare services and their ability to access them. Healthcare systems must be inexpensive and accessible to people from all walks of life (Gostine et al., 1999). Effective, preventive, and curative interventions, differing expectations of health care needs, and the influence of financial affordability, social

exclusion, and marginalization are all factors that affect access to health (WHO, 2010). The Philippine government's Universal Health Care or Kalusugang Pangkalahatan Program, which began in 2010, aims to provide the "highest possible quality of healthcare services to every Filipino" (DOH, 2010; Acuin et al., 2010, Esparagoza, 2020). Services must be "accessible, efficient, equitably distributed, adequately funded, fairly financed, and appropriately used by an informed and empowered public" (Son, 2009). Despite the program's good intentions, health inequities are still observed in the countryside.

Economic status (Acheson, 1998), culture (Oleska, 2014), and demography (Walker, 2014) are all contributing factors to health inequalities. To address these issues, it is incumbent upon every health practitioner to be active in understanding their own and their patients' health belief system while remaining culturally unbiased in their actions (Kleinman, 1978). Inequity results from the socio-economic realities of the marginalized (Trugman, 2000; DeSouza, 2014; Barasa et al., 2017). Every nation's goal is to improve health outcomes in their respective areas and respond to people's expectations (Berman, 1999). Still, while it is part of the policies of most public institutions to reduce inequalities in the provision of care, there are inequities in health status (Futterman & Lemberg, 2007). More often, the marginalized members of society who cannot bear the financial cost of services succumb to illness without proper treatment.

Indigenous Peoples are one of society's most marginalized groups (Guinaran, Alupias & Gilson, 2021; Peiris, Brown & Cass, 2008). For the past two decades, international development initiatives have centered on improving the lives of marginalized people, particularly Indigenous Peoples (IPs)/Indigenous Cultural Communities (ICCs). From 1995 through 2004, the United Nation's Permanent Forum on Indigenous Issues looked at the health of IPs and ICCs. While the most Philippine peoples are native to the island, IPs/ICCs are differentiated from 'mainstream' Filipinos due to their perceived aversion to dominant religions like Christianity and Islam, their purported resistance to Philippine statecraft, and the remoteness of their geographic territory. While Indigenous communities, in reality modern communities, are diverse and complex, these ideas endure and consolidate racial caste systems, disproportionately target Indigenous communities, and punish resistance to Philippine nationalism (Romero, 2020). IPPs/ICCs make up 14 to 17 million people in the Philippines, and they may be found in 65 of the country's 78 provinces. Out of the overall population, Nueva Ecija contains 29,976 persons or 6,338 Indigenous households. Many of the country's IPs/ICCs are located on the island of Mindanao, where they have remained neglected and underserved, particularly in the area of health services (Gabriel, 2016; Gabriel, 2017).

While the Philippine government passed the Indigenous Peoples' Rights Act of 1997, IPs/ICCs' entitlement to inclusion and access to public health care remains unresolved. Access to adequate health care for IPs/ICCs remains one of the most challenging and complex issues (Dwyer et al., 2014; Peiris, Brown & Cass, 2008). In the Philippines, there is a significant disparity in health outcomes between IPs/ICCs and the mainstream (Romualdez, Lasco & Lim, 2012). As a result, they have a greater risk of illness and a far shorter life expectancy than the general population (Gabriel, 2016; Gabriel, 2017). Inequities in access contribute to serious and preventable health problems and gaps in health status between non-Indigenous and Indigenous Peoples (Peiris, Brown & Cass, 2008).

Despite the public health reforms and implementation of the universal healthcare program since 2010, much is desired in the realm of health services provided to IPs/ICCs. The present study

discusses the factors affecting access to health services of IPs/ICCs living in geographically isolated and disadvantaged areas (GIDAs) in the province of Nueva Ecija. Specifically, the study (1) describes the personal attributes of the Indigenous participants; (2) measures their access to public healthcare services, including factors associated with accessing health programs; (3) analyzes whether there is a significant difference in the perceptions of the three IP groups on the provision of healthcare services; and (4) provide recommendations towards improving the healthcare services to minority groups. The findings of the study will be especially beneficial in formulating recommendations for improving healthcare services for Indigenous Cultural Communities in Nueva Ecija and other Geographically Isolated and Disadvantaged Areas (GIDAs) in the Philippines.

The Research Paradigm

The study applies the research framework in **Figure 1**.

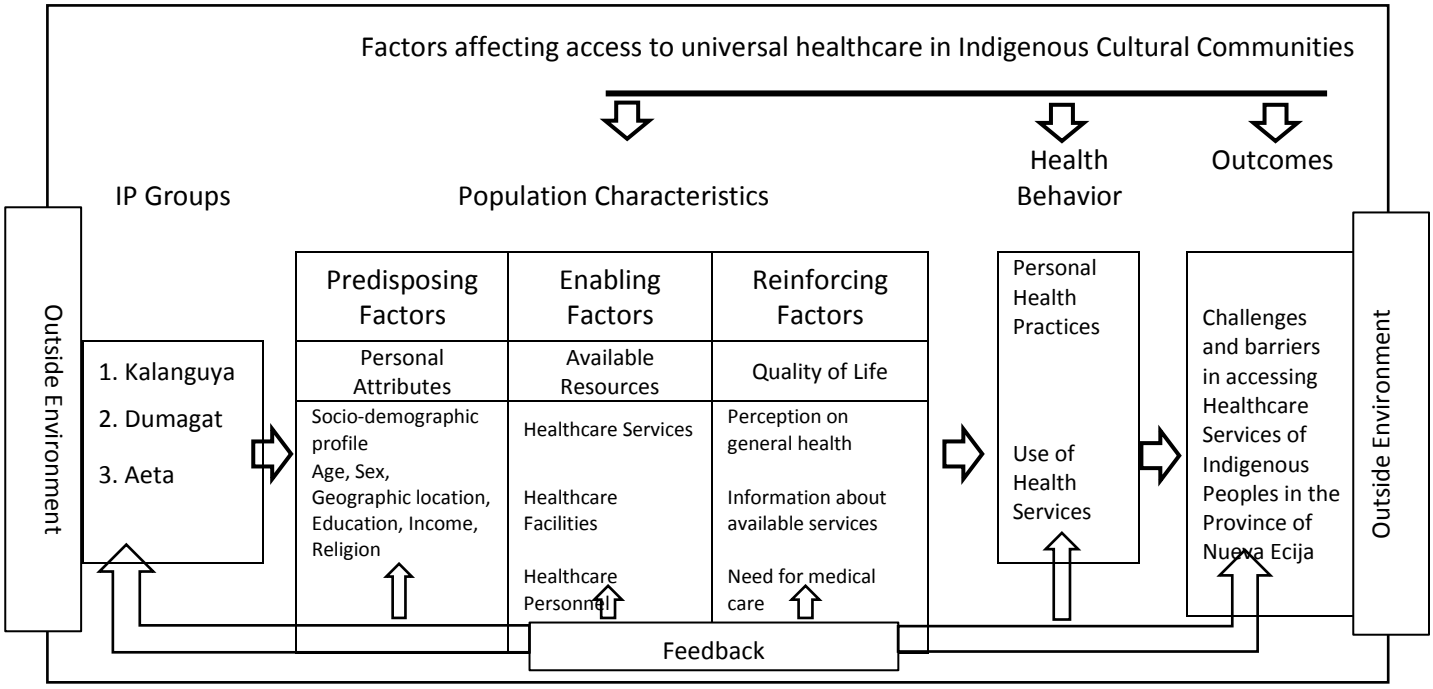

Figure 1
Framework of Health Service Utilization Adapted from Anderson and Newman (1995)

Figure 1 depicts a framework for identifying conditions that can aid or impede health care utilization. The framework is made up of three parts: predisposing, enabling, and reinforcing variables. Predisposing variables are socio-cultural features of individuals that influence their access to health services. For example, age has an impact on health-seeking behavior. Traditional medicine is usually practiced by the elders who are the bearers of culture and indigenous knowledge. Education or literacy to comprehend their health requirements and behavior to seek care as well as geographic location, income, culture, and religious beliefs, are all social health factors.

Access to health care is influenced by logistical components of IPs/ICCs. The third component, the reinforcing components, is people's perceptions of their overall health and functioning state, which leads to a desire for health care. The study looked into these factors and how they affect IPs/ICCs' access to healthcare. The survey questionnaire quantifies the predisposing and enabling elements, while the reinforcing factors are presented as qualitative data.

The paradigm takes into account the presence or absence of healthcare services, facilities, and personnel, as well as their implications for IPs/ICCs' access to healthcare services. The aforementioned factors are seen as mobilization resources for improving healthcare service accessibility. Andersen and Newman's Health Service Utilization Framework (1995) and Green and Kreuter's (2005) PRECEDE framework also contain these criteria. The goal of this study to see if IPs/ICCs' access to health care is influenced by the presence or lack of enabling resources.

The study's findings serve two purposes: assessing the current state of health in the ICCs on the one hand, and developing and promoting health programs or activities that are tailored to the IPs/ICCs' specific health culture, tradition, and belief system on the other. In this framework, strategic attempts to deliver Universal Health Coverage take on a moral duty to enhance equity, with a particular focus on Indigenous Peoples' concerns. The study contributes to the literature on health care implementation at the subnational level as well as to the literature on Indigenous Peoples' health in the Philippines.

Methods

The study takes on a mixed methods case study design to provide an in-depth description of the Universal Health Care Program's implementation at the geographically-isolated and disadvantaged areas (GIDAs) in Nueva Ecija, Philippines. According to Creswell and Clarke (2018), a mixed methods case study design is an approach in which quantitative and qualitative data are collected, analyzed, and integrated to give in-depth evidence for comparative analysis. The study investigates IPs/ICCs' access to healthcare services, facilities, and personnel in Nueva Ecija's geographically isolated and disadvantaged areas. **Figure 2** (left side) shows a map of the Philippines that identifies Nueva Ecija province's location. The specific locations of the study areas are depicted in the right side figure (enclosed in rectangles).

The respondents are the Kalanguya from Carranglan, Dumagat from Gabaldon, and Aeta from the city of Palayan. The selection of respondents was made employing simple random sampling for the Indigenous people's elders/leaders and purposive sampling for Indigenous Peoples Mandatory Representatives and Chieftains. Both sampling techniques considered that the data needed requires information from informants who have been with the community for many years and from leaders who are keepers of Indigenous knowledge and who hold authority in their respective communities.

Figure 2
Map of the Philippines and Map of the Province of Nueva Ecija
(**Source:** Google Maps)

The total population of the Kalanguya, Dumagat, and Aeta in the Province of Nueva Ecija is 8,830. Slovin's formula was used to obtain the sample-size summarized in **Table 1**.

Table 1

Distribution of Respondents Across Ethnic Groups

Name of IP Group	Municipality/ City	Total Population (as of December 2016)	Elders and Leaders	IPMRs and Chieftains
Kalanguya	Carranglan	7,132	186	14
Dumagat	Gabaldon	1,257	104	8
Aeta	Palayan City	441	57	2
TOTAL		**8,830**	**347**	**24**

The study employs a descriptive research approach. In adherence to the research ethics and the NCIP Administrative Order No. 2, Series of 2012, the researchers secured the approval of the National Commission on Indigenous Peoples (NCIP)-Nueva Ecija Provincial Office (NEPO) before data collection and interviews with key informants.

A self-report questionnaire is the main instrument used to gather data and information needed to measure access to public healthcare services of Indigenous Peoples in the Province of Nueva Ecija. The items were translated into Tagalog for the IPs/ICCs to understand fully. The instrument has two parts. The first part contains items that aim to collect the respondents' demographic information. The next part includes questions about whether the respondents have access to healthcare services, facilities, and personnel. Since the questionnaire is a self-report, the same is tested for content validity and reliability. Before the actual data collection, the questionnaire was pilot-tested by administering the questionnaire to the respondents who are not included in the study enabling the researcher to address the weakness of the instrument. During the data collection, respondents were informed of the purpose and contents of the tool. Of the total number of questionnaires distributed, ninety-six percent (n=371) were retrieved.

The researcher used a 5-point Likert Scale with the following statistical scale, range of values, verbal interpretation, and symbol to better analyze and interpret the results.

Table 2

Operationalization of Scale Values

Scale	Range/Values	Interpretation of Scale Values	Symbol
5	4.21-5.00	Always accessed	AA
4	3.41-4.20	Frequently accessed	FA
3	2.61-3.40	Occasionally accessed	OA
2	1.81-2.00	Seldom accessed	SA
1	1.01-1.80	Never accessed	NA

The variable description used to determine Access to Public Healthcare Services in the province of Nueva Ecija are as follows; (1) *Never accessed* means that Indigenous Peoples have never sought health services; (2) *Seldom accessed* means that Indigenous Peoples rarely sought health services (once in two to three years); (3) *Occasionally accessed* means that Indigenous Peoples have sought health services at times (once a year); (4) *Frequently accessed* means that Indigenous Peoples have sought health services more than once in a year; and (5) *Always accessed* means that the Indigenous Peoples regularly sought out health services as needed, anytime and anywhere.

"Access" operationally means that the IPs/ICCs use the service willingly because UHC law and the Department of Health (DOH) made public health services more accessible and affordable; and because they were made aware that such services exist.

The researcher used the Correlation Analysis, particularly Spearman Rank, to determine the significant relationship between the respondents' profile and access to public healthcare services of IPs/ICCs in the Province of Nueva Ecija. Furthermore, to identify and characterize relationships among multiple factors, multiple linear regression was performed. Meanwhile, the researchers used the Kruskal-Wallis test and Mann-Whitney U test to determine the significant difference between and among the perceptions of the three respondents (Kalanguya, Dumagat, Aeta) on the accessibility of healthcare services.

The researcher conducted series of interviews with the elders/leaders to solicit information not captured by the survey questionnaire. The data collected during the interview was transcribed, and traditional practices that may support the qualitative data and explain their behavior towards the public healthcare services were explicitly noted. The responses were further validated through an informal interview with the Department of Health (DOH) personnel in the locality. Among the data collected are the common diseases in the community and the healthcare services availed across age groups.

Interviews and documentary textual data were subjected to thematic data analysis, which required the identification of commonalities and relationships between sets of data and descriptive findings based on themes. Interviews were transcribed, and relevant contents were coded. Multiple sources of data were collected and examined to reinforce the study's validity and reliability.

Results and Discussion

Five themes emerged through the analysis of responses to the guide questions. The results showed the link between the participants' characteristics and predisposing factors, such as age, income, geographic location, and cultural orientation with their readiness to change and access to healthcare services.

Theme 1: Traditional healing techniques coexist with modern medicine

While traditional healing is practiced by Indigenous Cultural Communities, particularly by elders and women, they have learned to accept modern medicine. One interviewee from the Palayan Indigenous Cultural Community recalled that they now follow the advice of health workers to send the pregnant women to the "anakan" or hospital so they may safely deliver their child. They also now avail of the vaccines given at the barangay health center for free. In terms of food consumption and treatment following hospitalization, respondents from the three ICCs agreed that they still favor traditional techniques such as drinking homemade tea prepared from a communal plant, and eating bitter gourd or *kamote* (sweet potato) tops to regain energy.

The Elders among the IPs/ICCs are the keepers of unwritten knowledge and procedures. This was the distinguishing feature that set them apart from other social groups. They serve as both a repository of rich historical past and consultants on cultural integrity issues.

Quantitatively, the majority of respondents (40%) are between 51 and 61 (Kalanguya, n=93; Dumagat, n=35; and Aeta, n=22) and are regarded as elders by their communities. The access to health services would ensure the health of the keepers of culture and Indigenous knowledge, allowing them to pass it on to future generations quickly.

Theme 2: Indigenous Peoples' access to health care is influenced by their educational levels

In the Philippines, formal education typically takes 14 years to complete. The minimum requirements are six years in elementary school, four years in high school, and four years in college. Master's and Doctorate degrees and post-secondary technical-vocational training are also available. In 2012, the K-12 initiative added two years to high school. Only two Kalanguya Indigenous Peoples (1% of respondents) graduated from college, primarily due to the distance between their communities and schools, limited transportation options, poor road networks, and

financial constraints. Because of the requirement to process papers for admission and discharge and possible language hurdles, interviewee 20 from Carranglan ICCs mentioned having reservations about using hospital services. IPs/ICCs endure socioeconomic and health issues, as "Indigenous peoples are substantially more likely than non-Indigenous citizens to die earlier, to have far poorer health, to be unemployed, and to not have the same degree of educational success" (Walter, 2017). This is reinforced by a study by Dawson (2018), which found that the IPs' faith in medical science is shaken at some point due to their lack of access to formal education.

Theme 3: Geographical location affect access to health care

The three (3) IP groups are all located in mountainous areas of Nueva Ecija identified by the National Economic and Development Authority (NEDA) as Geographically Isolated and Disadvantaged Areas (GIDAs).

The respondents stated during the interview that the terrain, limited transportation options, and the distance between health centers, hospitals, and their community are common reasons why they rarely access healthcare services, with the exception of life and death situations and complicated childbirth. Apart from the fact that they still practice traditional medicine, the distance between their home and the time it takes to get to a hospital for treatment prevents them from prioritizing it. One interviewee from the Carranglan ICCs stated that they must walk 20 minutes to the highway, then transfer buses twice before boarding an ambulance that will carry a patient to a hospital in San Jose City, which is at least 30 kilometers away.

Theme 4: Using hard-earned money to cover hospitalization charges adds to the IPs' financial burden and affects their access to healthcare services

Of the respondents, 39% earn between $60 and $275 pesos per month, while 28% earn less than $150. Farm products, however, do not generate enough cash to support day-to-day expenses. Although they are grateful for the lower price for the medical treatment government programs provide, two Gabaldon interviewees stated that there are instances when they must pay for medicine. The IPs' financial burden is worsened by the necessity to pay for health care with hard-earned money, which is not enough to sustain daily expenses for food and school needs.

Theme 5: Indigenous Peoples are devout believers with a variety of cultural and religious connections

The key informant interviews confirmed that the IPs/ICCs' cultural beliefs influence their acceptance of new information and services. The ability of IPs/ICCs to acquire healthcare services is determined by cultural and social factors linked to personal autonomy and capability.

The interview and survey results indicated that the Indigenous Peoples from the ICCs of Palayan and Carranglan are more open to non-traditional information. The conclusion is backed by statements made by the DOH staff during the interview. Due to increased information, dissemination activities by local government units and the DOH, more pregnant IP women and children seek health care from rural health units and hospitals. Despite their willingness to accept modern treatment, the IPs/ICCs continue to use traditional knowledge and health practices to treat common diseases.

IP mothers are often well-versed in traditional meals and remedies (Crivelli et al., 2013). As a result, mothers of new mothers continue to promote eating habits and patterns that they witnessed as children and as performed by their elders.

Some respondents are devout believers with a variety of religious connections based on the field observations and focus group discussions. The majority of people in the three IPs/ICCs are Christians (35.6%), followed by Methodists (15.4%), Catholics (10.8%), Baptists (5.7%), and Iglesia ni Cristo (0.3%). While they take cultural and societal aspects into account, their responses in interviews and comments made during focus group discussions demonstrated that their religious beliefs influence how they accept new information. But unlike the mainstream, their spiritual practices are not merely based on religious affiliations or faith traditions but on the Indigenous spirituality and worldviews.

Despite differences in terminology, all of the ICCs studied had traditional spiritual activities that are combined with faith traditions. Indigenous Spirituality was described as a way of life by interviewees from Gabaldon and Palayan, with worldviews based on the relationship with a Creator, the land and environment, and the unseen elements. The majority of them saw Indigenous Spirituality as inextricably linked to their Indigenous culture and traditions.

When children have a common ailment, according to an interviewee from Palayan, they frequently treat the symptoms at home. They prepare "alay" or a meal offered to the unseen, which is then followed by a ceremony or prayer, in which they implore for assistance in speeding up the healing process.

Meanwhile, the study's quantitative component measured Indigenous Peoples' access to healthcare services, including (a) healthcare services, (b) healthcare facilities, and (c) healthcare personnel as they are seen to influence the community's capacity to access health care and resources.

Access to Healthcare Services

Accessing and obtaining proper healthcare services when needed is not always seen across GIDAs (Haddad, 2002; Waters, 2000; Goddard, 2001). As indicated in **Table 3**, the total mean response for access to healthcare services is 3.39, which may be verbally interpreted as Occasionally Accessed.

Table 3

Percentage Distribution of Responses on Access to Healthcare Services

Access to Healthcare Services Items	Response (%)					
	Always Accessed	**Frequently Accessed**	**Occasionally Accessed**	**Seldom Accessed**	**Never Accessed**	**Total Mean**
a. Libreng gamot kapag magkasakit **(free medicine)**	4.3	49.3	32.1	11.9	2.2	3.42 (FA)
b. Libreng pagpapaospital **(free hospitalization)**	1.6	29.4	36.4	27.5	5.1	2.95 (OA)
c. Tulong na financial ng lokal na pamahalaan **(financial assistance)**	0	55.8	33.2	10	1.1	3.44 (FA)
d. 4Ps program ng DSWD na merong pangkalusugang serbisyo sa nanay **(4Ps program for mothers**)	0	29.6	38	27.8	4.3	2.93 (OA)
e. Libreng completing pagbabakuna para sa mga bata **(free and complete vaccinations for children)**	13.7	65.5	19.4	0.3	1.1	3.91 (FA)
f. PhilHealth Insurance para sa bawat pamilya **(PhilHealth Insurance)**	12.4	54.7	24.8	7.3	0.8	3.71 (FA)
Grand Mean	**n=371**					**3.39 (OA)**

Legend: 4.21-5:00 (Always Accessed, AA), 3.41-4.20 (Frequently Accessed, FA), 2.61-3.40 (Occasionally Accessed, OA), 1.81-2.60 (Seldom Accessed, SA), 1.01-1.80 (Never Accessed at All, NA)

Free medicine, financial aid, free complete vaccines for children, and Philippine Health Insurance all get a Frequently Accessed response. This finding implies that Indigenous Peoples access government-provided health services. However, due to a shortage of medicines and vaccines, there are instances when the Indigenous Peoples access the services but they are not available.

Owing to the distance between their homes and health centers, clinics, and hospitals, Kalanguya respondents are less likely than other respondents to use healthcare services. Andersen (1995) claims that an individual's care is a function of demographics, social and economic traits, and the environment they live, which supports this conclusion. Financial, organizational, and cultural constraints, according to Whitehead (1992), limit access to services. Although individuals have a legal or theoretical right to health care, their entry may be limited in practice that financial, organizational, and cultural barriers limit access to services. Although they have the right to health care in theory or law, their access may be restricted in practice.

Access to Healthcare Facilities

The study of Indigenous Peoples throughout ICCs found that the location of hospitals, clinics, and health centers had an impact on health care provision and access. Frenk (1992) believed that having health resources close by not only makes them available but also improves people's access to them. **Table 4** summarizes the responses of all ICCs studied to each parameter linked to healthcare facility access.

Table 4

Percentage Distribution of Responses on Access to Healthcare Facilities

Healthcare Facilities / Items	Response (%)					
	Always Accessed	**Frequently Accessed**	**Occasionally Accessed**	**Seldom Accessed**	**Never Accessed**	**Total Mean**
a. Pampublikong Clinic sa inyong Barangay **(Public Clinic)**	0.5	66	25.1	7	1.3	3.57 (FA)
b. Pribadong Clinic sa aming Barangay **(Private Clinic within the barangay)**	0	8.6	23.2	52	16.2	2.24 (SA)
c. Pampublikong Clinic sa Munisipyo/ Siyudad **(Public Municipal/City Clinic)**	10.3	53.1	31.8	12.7	1.9	3.37 (OA)
d. Pribadong Clinic sa Munisipyo/ Siyudad **(Private Clinic within the Municipal/City)**	0	8.6	25.9	43.4	22.1	2.21 (SA)
e. Pampublikong ospital sa Munisipyo/ Siyudad **(Public Municipal/City Hospital)**	0.3	26.1	17.8	40.2	15.6	2.55 (SA)
f. Pribadong ospital sa Munisipyo/Siyudad **(Private Hospital within the Municipality)**	0	4.9	27	45.3	22.9	2.14 (SA)
g. Pampublikong ospital sa Probinsiya **(Public Provincial Hospital)**	0	18.9	25.6	46.4	9.2	2.54 (SA)
h. Pribadong ospital sa Probinsiya **(Private Hospital within the Province)**	0	6.5	19.1	32.9	41.5	1.91 (SA)
Grand Mean	**n=371**					**2.567 (SA)**

***Legend*:** 4.21-5:00 (Always Accessed, AA), 3.41-4.20 (Frequently Accessed, FA), 2.61-3.40 (Occasionally Accessed, OA), 1.81-2.60 (Seldom Accessed, SA), 1.01-1.80 (Never Accessed at All, NA)

As indicated by Table 4 and the mean response of 2.567 or Seldom Accessed, IPs/ICCs rarely use healthcare facilities. The findings match the National Health Facility Registry (NHFR) information from the Department of Health (DOH). Provincial hospitals, both public and private that provide the most extensive and complete healthcare services are primarily found in big cities and municipalities, far from ICCs/IPs. There are seventeen (17) barangay health stations in the communities under investigation. While city/municipal hospitals or clinics exist in each of the respondents' locations, only six (6) provide basic facilities and services. However, their services in the IPs/ICCs are significantly constrained. Because health centers serve both the mainstream and the IPs, benefits are frequently provided as scheduled.

Six of the eight questions about healthcare facilities had a Seldom Accessed response, indicating that IPs/ICCs are more likely to visit city/municipal health clinics than private hospitals in the area. Similarly, no responders answered Always Accessed on questions about remote health facilities, clinics, and hospitals, as indicated in the table. The Kalanguya also have

reduced access to healthcare facilities due to the distance between the facilities and their homes. One respondent from barangay Salazar even stated that getting to the nearest health institution in the municipality took 1 to 2 hours (by foot and vehicle). As a result, they use services from another province, Nueva Vizcaya, closer to them.

The concept of co-production may be advantageous in that it addresses spatial isolation and a lack of government financial support for healthcare services. Co-production occurs when citizens' contributions are complimentary rather than substitutive to professional information. In other words, both professionals and citizens have resources and knowledge that can assist one another, ensuring that co-production produces better results than government or citizen production.

Access to Healthcare Personnel

Although the government has undertaken numerous health programs, such as Doctors and Nurses to the Barrio, to reach rural and remote regions, health personnel's capacity to give critical health services to individuals may result in deprivation of the fundamental right to health. The per-item distribution of responses on access to healthcare personnel parameters is shown in the table below (**Table 5**).

Table 5

Percentage Distribution of Responses on Access to Healthcare Personnel

Healthcare Personnel	Response (%)					
Items	**Always Accessed**	**Frequently Accessed**	**Occasionally Accessed**	**Seldom Accessed**	**Never Accessed at All**	**Total Mean**
a. Mga pampublikong pangkalusugang manggagawa sa barangay **(Public Barangay Health Workers)**	19.9	49.1	20.5	9.7	0.8	3.78 (FA)
b. Mga pampublikong pangkalusugang manggagawa na midwife **(Public Midwife)**	14.6	48	18.6	14	4.9	3.53 (FA)
c. Mga pampublikong pangkalusugang manggagawa na nars **(Public Nurses)**	11.3	46.6	24.5	9.7	7.8	3.44 (FA)
d. Mga pampublikong pangkalusugang manggagawa na manggagamot **(Public Doctors)**	0	0	8.6	69	22.4	1.86 (SA)
Grand Mean	**n=371**					**3.153 (OA)**

Legend: 4.21-5:00 (Always Accessed, AA), 3.41-4.20 (Frequently Accessed, FA), 2.61-3.40 (Occasionally Accessed, OA), 1.81-2.60 (Seldom Accessed, SA), 1.01-1.80 (Never Accessed at All, NA)

The average responses indicate that healthcare workers are only available on occasion, and IPs/ICCs do not have regular access to them, particularly public doctors, who rarely stay at rural health centers and are more visible during medical missions. Doctors are frequently seen in hospitals. The statistics support Kenworthy's (2017) argument that scarcity and unequal distribution of human medical resources plays key roles in health care inaccessibility, making the hypocritical oath of medical practitioners irrelevant at times. Indigenous Peoples have more access to barangay health staff because they are more visible.

Health equality, or fairness in healthcare administration and delivery, requires access to comprehensive, high-quality health care (Sarcone, 2016). The National Health Facility Registry (NHFR) of the Department of Health (DOH) found that due to a scarcity of staff, healthcare personnel (e.g., doctors, nurses, and midwives) were serving both provincial or district hospitals and rural health facilities. Meanwhile, each barangay has at least one barangay health worker.

"Social inequality in health care can be changed into social equality when healthcare practitioners and institutions implement inclusive health policies," writes Sarcone (2016). The Department of Health has already put programs to alleviate the community's lack of healthcare staff. When communities of care grow around clinical care integrated into social and cultural meaning relationships that build trust, collective health activities prosper. Systemic societal bias must be addressed to remove cultural gaps in health care and make health equally available to all.

It is the responsibility of the government to address the shortage of medical practitioners in distant communities. The government and the business sector could develop a co-production health initiative involving the recipient communities. However, this is complicated by insufficient facilities and government money for health care, with most resources going to the mainstream.

Indigenous Peoples' Perception on General and Functional Health

The results of the survey and interviews revealed factors that either support or hinder the adoption of healthy behaviors and environmental conditions. Access to health care is aided by the involvement of relatives and family members and the qualities of the surroundings (Andersen, 1995). Access to services appears to be hampered by financial, organizational, and cultural limitations (Whitehead, 1992).

The IPs/ICCs committed regularly explore alternatives when health care is not readily available, such as looking for facilities outside their immediate area. The DOH's consultations and information education and communication (IEC) programs make information available to the public, which aids IPs/ICCs in making informed decisions. These programs encourage individuals to seek medical aid from outside sources, especially when giving birth. After learning of a law which prohibits home delivery to prevent neonatal complications, IP mothers said during the focus group discussion that they are now considering giving birth in a hospital setting under the care of a midwife. Others prefer to vaccinate their children based on the advice of health workers, a decision that is further supported by the fact that it is a free service.

Significant Relationship between Profiles of the Respondents and Access to Public Healthcare Services

Using Spearman Rank Correlation Analysis, this section tests the null hypothesis that there is no relationship between respondents' characteristics and access to public health care. **Table 6** summarizes the treatment outcome.

Table 6

Spearman Rank Correlation Analysis Result between Respondents' Demographics and Access to Public Healthcare Services

		Age	Sex	Education	Monthly Income	Access to Public Healthcare Services
Access to Public Healthcare Services	Correlation Coefficient	-.098	-.048	-.249**	-.092	1.000
	Sig. (2-tailed)	.060	.356	.000	.076	-
	Relationship			Weak		-
	N	371	371	284	371	371

Legend: 0.10-0.29 = Weak Relationship, 0.30-0.49 = Moderate Relationship, 0.5-1.0 = Strong Relationship
**Correlation is significant at the 0.01 level (2-tailed)
*Correlation is significant at the 0.05 level (2-tailed)

In the eyes of the respondents, the accessibility of the services can be viewed in various ways. One of the things to consider when determining whether programs and services are genuinely beneficial in community perception. The study used Spearman's correlation analysis to assess the strength of data in ordinal form (age, sex, education, and monthly income) and their link to the dependent variable (access to public healthcare services). The positive sign denotes that a rise in one independent variable affects the other variable's increase.

The Spearman Coefficient (rs) for age, sex, education, and monthly income for 371 respondents were -0.98 (age), -0.48 (sex), -0.249 (education), and -0.092 (monthly income). Based on the findings, respondents believed a weak negative association between education and public health care access. The findings corroborate the conclusions of other research indicating that Indigenous Peoples suffer numerous hurdles accessing health care and education (Davy et al., 2016; Szczepura, 2005; Schoppers et al., 2006).

According to (Dawson, 2018), an individual's level of education affects their ability to believe in medical sciences as a field that can assist people to live longer lives. According to the findings, when respondents' education levels rise, they are less likely to use public healthcare services due to their ability to acquire private treatment. The data also shows the importance of leveling the playing field by giving IPs/ICCs better educational options.

Significant Difference on Access to Public Healthcare Services Across Indigenous Peoples in Nueva Ecija

The researchers examined the normality of the data of the dependent and independent variables before running a statistical treatment. They found that it is more applicable to assume non-normal distribution. Thus, we used the Kruskal-Wallis test to determine the significant difference in access to public healthcare services across IPs/ICCs in Nueva Ecija. The statistical treatment was done using SPSS 17.0 software. Using SPSS 17.0, Kruskal-Wallis was done to evaluate the null hypothesis.

The analysis showed that the respondents' answers to all Access to Public Healthcare Services parameters have significant differences (p-level <.05) across the IPs/ICCs. A post-hoc test, the Mann-Whitney test, was also performed to determine where the differences occurred. The Mann-Whitney U test results confirmed that the differences in their response to Access to Public Healthcare Services across the three IP groups occurred significantly and not coincidentally. Based on the post-hoc test, the reaction of the three IP groups on Access to Public Healthcare Services are statistically significant from each other, as shown by the p-value< .05. It only means that the answers of the three IP groups are more likely to contribute to their overall response and description on Access to Public Healthcare Services.

The significant value of Chi-Square on Facilities and Personnel among the criteria of Access to Public Healthcare Services indicates that the IP groups' responses on access to healthcare facilities and personnel played a significant role in the group's differences. This demonstrates that the IPs/ICCs' answers to health facility and personnel determinants have a more considerable impact on their overall response to their Access to Public Healthcare Services. The data therefore invalidate the earlier hypothesis that there is no significant difference on the access to public healthcare services across three Indigenous Peoples groups.

Relationship between Predictive Variables and Access to Public Healthcare Services Across Indigenous Peoples in Nueva Ecija

Multiple linear regression analysis was used to determine the association between each predictive predictor (age, sex, education, and income) and the dependent variable (access to public healthcare services). The unique contribution between the predictive and dependent variables was investigated by assigning coefficients to each predictive variable as shown in **Table 7**.

Table 7

Multiple Regression Analysis Result between Respondents' Demographics and Access to Public Healthcare Services

Coefficients[a]

Model		*Unstandardized Coefficients*		*Standardized Coefficients*		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	1.206	.655		1.840	.067
	Age	.045	.107	.033	.420	.675
	Sex	.140	.172	.066	.814	.416
	Education	.600	.249	.188	2.414	.017
	Income	.409	.131	.247	3.132	.002

a. Dependent Variable: Access to public health services

The response to four parameters was measured: age, sex, education, and income. The measure of age was in years (below 20 years old to 61 years old); sex was either male or female; education was defined as the level of education achieved (elementary to college), and income was total monthly earnings (below 2,999 to more than 30,000 pesos).

The beta weight and statistical significance were tested and analyzed, as shown in Table 7. These figures are used to evaluate the hypothesis concerning the demographics of the respondents and their access to public health care. Two predicted variables were found to be significant based on the findings. According to the regression coefficient, education (B=0.188, p=0.017) and income (B=0.247, p=0.002) have a statistically significant beneficial impact on access to public healthcare services. The findings show that as respondents' education and income levels rise, their access to healthcare services increases.

Table 8

Multiple Regression Analysis Result between Respondents' Ethnicity and Access to Public Healthcare Services

Coefficients[a]

Model		*Unstandardized Coefficients*		*Standardized Coefficients*		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	1.465	.621		2.360	.019
	AETA	.295	.112	.259	2.643	.009
	DUMAGAT	.305	.136	.159	2.244	.026
	KALANGUYA	.516	.248	.162	2.080	.039

a. Dependent Variable: Access to public healthcare services on new basis not capped

Multiple linear regression with Indigenous ethnicity as a dummy variable is employed to see if ethnicity predicted access to healthcare services. The data indicate that ethnicity impacts healthcare access, and this is true for all three Indigenous Peoples/IP groups in Nueva Ecija. As a result, cultural concerns must be considered part of holistic care, either as a supplement or as the foundation for health initiatives. Interview results show that the Aeta of Palayan ICCs and the Kalanguya of Carranglan ICCs appear to use healthcare services more frequently than the Dumagats of Gabaldon ICCs.

Limitations

Because it used self-reported data, the study appeared to have some instrument bias, but this flaw was corrected during pilot testing. Another drawback is that the population does not include all GIDAs in Nueva Ecija, and the IP groups studied are limited to the Aeta of Palayan, Dumagat of Gabaldon, and Kalanguya of Carranglan, therefore the impacts measured may simply be a function of remoteness and cannot be applied to all IP groups. While remoteness may be a confounding variable, it is likely that it is linked to the communities' status as Indigenous Peoples and systemic oppression. As a result, future studies may compare Indigenous Peoples' access to healthcare across all ICCs within Nueva Ecija or even other provinces.

Summary, Conclusion, and Recommendation

As part of successful public health governance, universal health care (UHC) aims to provide inclusive health programs for all Filipinos, ensuring no one is left behind. However, despite the government's efforts at all levels, impediments still exist. Predisposing variables (age, income, cultural orientation, educational attainment, geographic location) and enabling factors (availability of healthcare facilities, services, and personnel) play a role in why IPs/ICCs use or don't use health care.

The health disparity is exacerbated by the disconnect between health information systems and the inaccessibility of healthcare facilities, services, and employees to geographically isolated and disadvantaged areas (GIDAs). When creating and administering sustainable government initiatives, ethnicity, education, income, geographic location, and cultural orientation must all be considered. Consideration of this nature may be advantageous in addressing the issues faced by IPs/ICCs and meeting the expanding health care demands of all Filipinos.

While the program progresses toward providing accessible information through health workers and printed and posted information materials, the apparent lack of medical facilities and personnel continue to be a roadblock to achieving universal health care for the people in the shortest time possible. The study's findings also demonstrated a link between education and health, underlining the importance of making services aligned to the cultural beliefs, values, and unique needs of local communities. It may be required to review existing policies and methods to reach a consensus among stakeholders on the parameters that will determine whether universal health care is attained.

However, because the population does not include all GIDAs in Nueva Ecija, and the IP groups studied are limited to the Aeta of Palayan, Dumagat of Gabaldon, and Kalanguya of Carranglan, additional studies comparing Indigenous Peoples' access to health care across all ICCs in Nueva Ecija or even other provinces may be conducted, as the impacts measured may simply be a function of remoteness and cannot be applied to all IP groups. While remoteness may be a confounding factor, it is most likely linked to the communities' status as Indigenous Peoples continually are targeted by systems of oppression.

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