



International Journal of Public Health and Nursing (IJPHN)

ISSN: 3070-202X (ONLINE)

VOLUME 2 ISSUE 2 (2026)



PUBLISHED BY
E-PALLI PUBLISHERS, DELAWARE, USA

Coastal Barangays' Access and Utilization of Universal Health Care Services Towards Program Enhancement

Jesus Trix V. Ponsaran^{1*}

Article Information

Received: March 11, 2026

Accepted: May 13, 2026

Published: July 18, 2026

Keywords

*Access, Coastal Barangays, Health
Care, Program Enhancement,
Utilization*

ABSTRACT

Health care access in remote and disadvantaged areas remains a critical challenge due to systemic inequities and behavioral barriers. In the coastal barangays of Panay, structural limitations and individual health perceptions create a complex environment that often results in reactive, symptom-driven utilization rather than preventive care. This study identified the factors influencing the residents of coastal barangays in the Municipality of Panay, which are considered geographically isolated and disadvantaged in accessing and utilizing health care services, with insights to enhance program implementation. This employed a quantitative cross-sectional survey research design. Data were collected from residents across eight barangays to evaluate service availability and Health Belief Model (HBM) constructs, including perceived susceptibility, severity, and barriers. The hypothesis of a significant link between engagement and perception was supported, as health care utilization was a statistically significant positive predictor of perceived access. While basic medical equipment was widely available, critical human resource disparities were noted, with doctor and nurse availability falling below in some barangays, like Butacal. HBM findings revealed low perceived susceptibility and high perceived barriers related to transportation and costs, leading to a “symptom-driven” utilization model. The findings highlight a “resource-rich but functionally poor” health system where hardware is available but clinical personnel and emergency transport are lacking. Increased utilization reinforces positive perceptions of access, suggesting that improving service frequency can improve systemic trust. Interventions must move beyond hardware provision to address structural barriers and shift community mindsets through proactive programs like Barangay Health Workers' Education, Service and Telemedicine, and “GIDA Emergency and Logistics Network”.

INTRODUCTION

As of late 2024 and early 2025, recent reports and academic studies continue to highlight the persistent challenges in the Philippines' health care system, echoing the long-standing issues despite the country's commitment to Primary Health Care. These challenges are particularly acute in marginalized communities and include a lack of resources, geographic barriers, and health care poverty (World Health Organization, 2018).

However, in the report “Enabling Healthcare Access in the Philippines,” millions of Filipinos experience health care poverty, including those living a considerable distance from the nearest clinic, with insufficient health literacy, and cannot afford the cost of health care (Philanthropy Asia Alliance, 2025). This is common not only in rural areas but also in urban slums. The local Barangay Health Stations face a shortage of resources, including a lack of doctors and nurses, and inadequate supplies of equipment and medicines (Parial *et al.*, 2024).

This is a sad state of the health care system in the country that, after four decades of being one of the first countries that adopted primary health care, there are still Filipinos who have no access or have not availed of the primary health care services, especially in the remote and rural areas.

One of the objectives of the Universal Health Care (UHC) is to improve access to health care by encouraging Filipinos to sign up with a primary care provider. The UHC also provides additional funding of PHP 500 per citizen per year to Local Government Units (LGUs), which is conditional and available only to enrolled citizens (Philanthropy Asia Alliance, 2025). The UHC seeks to ensure that all Filipinos are guaranteed equitable access to quality and affordable health care goods and services and are protected against financial risk (Padilla, 2024). Furthermore, RA 11223 states that all Filipinos are automatically enrolled in the National Health Insurance Program, which means the PhilHealth (target) coverage rate is 100 percent. However, in the study “Some Provinces have only 52 percent PhilHealth Coverage”, the authors pointed out that the 52% coverage pales in comparison to the target 100% of the healthcare coverage by the UHC. They noted that indigents and beneficiaries of the government programs like Pantawid Pamilya Pilipino Program (4Ps) were at a higher risk of contracting disease. Apart from this, Filipinos in rural areas have fewer health care options, as PhilHealth-accredited facilities are “disproportionately located in urban areas” (Sarao, 2023).

In June 2024, President Marcos issued Memorandum

¹ Capiz State University, Roxas City, Capiz and San Juan de Dios Educational Foundation Inc, Pasay City, Philippines

* Corresponding author's e-mail: trixponsaran@yahoo.com

Circular 53 on the development of the health sector, which aligns with the Philippine Development Plan 2023-2028 (Cervantes, 2024). The National Objectives for Health medium-term strategy for developing the Philippines' health sector is also anchored on "AmBisyon Natin 2040", which highlights the promotion of good health as a key strategy toward economic and social transformation. The president ordered the Department of Health to formulate and disseminate plans and guidelines that will ensure that all stakeholders have a comprehensive understanding of NOH 2023-2028 (Parungao, 2024). This is also aligned with United Nations SDG 3, which aims to ensure everyone lives a healthy life and promotes well-being for all at all ages.

After considering the above studies and reports on the low access and utilization of primary health care in the Local Government Units, the Health Belief Model (HBM) is used. The researcher investigated the factors that influence residents of the coastal barangays in the Municipality of Panay in terms of accessing and utilizing the primary health care. The residents of these coastal barangays may have limited access to primary health care and inadequate utilization of health services compared to those in urban settings, who have access to and utilize city health centers, as well as private clinics and hospitals, with insights to enhance program implementation.

LITERATURE REVIEW

The World Health Organization (WHO) and other recent reports confirm that populations in remote areas often have a higher disease burden due to limited access to health care professionals and facilities, inadequate infrastructure, and poor health literacy (WHO, 2024). Manasan and delos Santos (2024) identified financial barriers, noting that out-of-pocket health care expenses remain a significant challenge, particularly for the most vulnerable populations in these underserved areas. The HBM provides a robust framework for understanding these disparities. It can be used to analyze the factors influencing the underutilization of primary health services in Geographically Isolated and Disadvantaged Areas. The model's constructs can explain why mothers in lower socio-economic levels may choose not to use health facilities for childbirth. Their perceived susceptibility to health complications may be low due to traditional beliefs, while the perceived severity of giving birth at home may also be underestimated. Furthermore, significant perceived barriers, such as travel costs, distance to the clinic, or lack of trust in formal health services, are likely to outweigh the perceived benefits of a facility-based delivery. A lack of self-efficacy, the confidence in their ability to overcome these barriers, and a lack of cues to action from community health workers or media further explain why they may not seek care. Recent research continues to apply the HBM to similar contexts, confirming that these cognitive factors, combined with socioeconomic and geographic barriers, are central to explaining health service underutilization. Hodge *et al.* (2016) highlighted a significant disparity in health care

utilization among mothers in the Philippines, noting that those with higher socio-economic status are more likely to deliver in a health facility.

Tolabing *et al.* (2022) found that over half of the Filipino population suffers from limited health literacy, defined as the ability to access, understand, appraise, and apply health information to make informed decisions. The study revealed a national prevalence of 51.5%, with sub-national rates ranging from 48.2% to 65.4%. The highest prevalence of limited health literacy was associated with difficulties accessing information and navigating the health care system. The authors concluded that there is a critical need for targeted interventions to improve health literacy among specific subgroups, focusing on both information access and the health care domain. They estimated that over half of Filipinos nationwide have limited health literacy. While the Philippines has a high basic literacy rate, this does not translate to a high health literacy rate. This gap is a significant barrier to effective health care utilization, as limited health literacy can hinder an individual's ability to understand health information and make informed decisions.

Chew *et al.* (2024) noted a significant lack of village-level health data, which hinders effective health care planning. Their findings revealed that in remote villages, health care is primarily delivered by village health workers and primary health centers, with referral facilities being difficult to access due to long travel times (15–90 minutes by motor vehicle). They confirmed a shortage of doctors in these areas, with most health care providers being nurses or health center workers, many of whom lack formal training. These findings mirror the situation in the Philippines, where Geographically Isolated and Disadvantaged Areas face similar issues of limited access and a reliance on lower-level health workers.

Prinja *et al.* (2024) examined the state of Primary Health Care (PHC) in South Asia, crediting it with improvements in maternal and child health outcomes. They identified a rise in non-communicable diseases and an aging population as new challenges requiring health system adaptation. The study highlighted significant health inequalities linked to economic status, noting that financial crises and a focus on curative rather than preventive care were major barriers to effective PHC. This points to the need for increased investment in PHC due to its high economic returns and overall welfare benefits. A systematic review of PHC implementation in Asia by Madria *et al.* (2023) reinforced these points by categorizing factors that either facilitate or hinder the success of PHC. Enablers included strong political will, increased health coverage, free access to programs, and support from public-private partnerships. Conversely, barriers included political turmoil, economic shocks, corruption, inequitable resource allocation, a lack of experienced providers, and the informal, for-profit nature of some private providers. The review highlights that while policy frameworks are in place, socio-economic inequalities and resource deficits continue to hinder effective implementation. These findings are directly

applicable to the Philippines, where the Universal Health Care (UHC) Act, despite its clear policy goals, still faces significant challenges in equitable access and resource distribution.

Agbedi and Agbedi (2026) explored the urban-rural divide with regard to their enrollment in their SHI, noting that those in the rural areas have limited access to health insurance. It also highlighted the lack of knowledge regarding the advantages of health insurance; awareness of the enrollment process and affordability are the barriers that led to low enrollment in the SHI. Even the perception that the government cannot deliver quality health care services, as shown in the low enrollment in their SHI. Thus, to enhance the implementation of this program, the author highlighted the need for targeted interventions, such as enhancing public awareness, simplifying the enrollment process, and improving financial accessibility, to ensure better participation in SHI, which will lead to the realization of UHC in Bayelsa, Nigeria.

Additionally, the study of Oweibia *et al.* (2026) emphasized the importance of health insurance coverage, which can significantly reduce neonatal mortality by improving access to skilled delivery and postnatal care. The authors highlighted that Universal Health Care (UHC) policies must prioritize maternal enrollment in insurance schemes. According to this study, Nigeria suffers from high neonatal mortality due primarily to the inability to access quality health care. It may seem that to have a Universal Health Coverage, they have to be enrolled in their National Health Insurance Authority, which remains low, particularly in rural and informal sectors. Thus, it is recommended that integrating insurance enrollment into antenatal programs and rural outreach can accelerate progress and attainment of SDG 3.2 on neonatal survival.

MATERIALS AND METHODS

Research Design

A quantitative descriptive correlational cross-sectional study is a non-experimental design that describes variables and examines statistical association between them using numerical data collected at a single point in time (Creswell & Creswell, 2018). It was used in this study to determine the factors influencing the communities' access to and use

of primary health care services in the coastal barangays of Panay, Capiz. Data collection was done at a single point in time without manipulation of variables. This allowed the researcher to describe the important characteristics and analyze the relationships between health-related factors and access to and utilization of health care services. These influencing factors were obtained to describe and measure the health care beliefs of the respondents. The target respondents consisted of a cross-section of adult residents, 18 years old and above, regardless of gender, religion, educational attainment, and socio-economic status. These participants lived in the coastal barangays of Panay for more than two years and may or may not have previously consulted at the barangay health center.

Locale of the Study

Pawa, the most populous barangay with 2,776 residents, is likely a commercial and residential hub, reflecting a more developed infrastructure. Following it is Agojo, a well-established community of 1,642, which probably has a mix of residential and agricultural or coastal areas. The moderately-sized barangays of Bantigue (1,357), Navitas (1,290), and Buntod (1,280) may have economies tied to cultural heritage, fishing, or tourism, as their names and regional associations suggest. The smaller barangays, Butacal (1,177), Jamul-awon (801), and Lat-asan (793), are probably more rural, with their economies centered on agriculture and limited commercial development. Their smaller populations could also contribute to a more close-knit community atmosphere. These population figures and the implied characteristics are typical of the administrative divisions found in the Philippines. These coastal barangays pose unique challenges to the access and utilization of primary health care. Common factors in these barangays that may influence residents' behavior in accessing and utilizing health services include limited health facilities, shortages of health care providers, poor transportation systems and accessibility, poverty, low health literacy, unreliable delivery of health services, and even security issues. Residents of the identified eight (8) coastal barangays of the Municipality of Panay were included in this study. Table 1 presents the population of the coastal barangays in Panay, Capiz.

Table 1: Population of the coastal barangays in the Municipality of Panay, Capiz

Coastal Barangays	Population
Agojo	1,642
Bantigue	1,357
Buntod	1,280
Butacal	1,177
Jamul-awon	801
Lat-asan	793
Navitas	1,290
Pawa	2,776
Total	10,616

Source: PSA 2023

Sample Size and Sampling Procedures

The study employed a two-step sampling approach to ensure a representative and statistically sound sample. First, the total sample size of 386 participants was calculated using the OpenEpi software, which determined the minimum number of respondents required to achieve statistical significance. This step determined the overall size of the sample. Second, to ensure the sample accurately reflected the demographics of the research area, stratified sampling was used to proportionally allocate the total sample across the eight coastal barangays. This method, which divided the total population into non-

overlapping groups or strata, the barangays, ensures that each community was represented in the final sample in proportion to its share of the total population of 10,616. The largest barangay, Pawa, which accounted for approximately 21% of the total population, was allocated with 81 participants (21% of 386). Conversely, the smallest barangay, Lat-asan, with 793 residents, was assigned 28 participants, maintaining the correct proportion. This approach reduced sampling bias and enhanced the generalizability of the findings to the entire population of the eight barangays. Table 2 presents the stratified sampling for each barangay.

Table 2: Stratified sampling of each barangay

Coastal Barangays	Population		Number of intended participants from each barangay
Agojo	1,642	0.15	58
Bantigue	1,357	0.13	51
Buntod	1,280	0.12	47
Butacal	1,177	0.11	43
Jamul-awon	801	0.08	32
Lat-asan	793	0.07	28
Navitas	1,290	0.12	46
Pawa	2,776	0.21	81
Total	10,616	0.99	386

Source: Panay Municipality

Respondents of the Study

The respondents were the adult residents aged 18 years and older who had lived in one of the eight coastal barangays of Panay for at least two years. The study included both individuals who had previously consulted at a barangay health center and those who had not, ensuring a comprehensive view of health care access and utilization within the community. The selection was not restricted by gender, religion, educational attainment, or socio-economic status.

Research Instrument

A survey questionnaire was used. The researcher formulated the statements based on the 6 components of Health Belief Model (HBM). These statements were based on the health behaviors of patients that the researcher commonly observed in his private clinic and at the district hospital where he once worked. A Filipino survey form was also available to those who are not proficient in English. A Filipino teacher was consulted on this aspect. The six components of HMB which explained the factors that affect Filipinos on accessing and utilizing the primary health care services are: 1) Perceived susceptibility which is one's perception that he/she is at risk or not of getting ill; 2) Perceived severity which refers to one's feelings that his/her health problem is serious or not; 3) Perceived benefits refers to one's perception that the benefits of taking action (i.e. consulting a health care provider) outweighs the cost; 4)

Perceived barriers refers to obstacles that hinders them from doing a recommended health action; 5) Cue to action exposes one to activities that would prompt an action, such as consulting a health care provider; and 6) Self-efficacy refers to one's confidence that he/she will get well whether one seeks the consult or not.

The survey form was face-validated by experts in the fields of public health, psychology, and medicine. Upon approval of the form of its face validity, reliability was performed, which the questionnaire was piloted among 30 respondents. Inter-rater reliability was computed, using Cronbach's alpha and obtained 0.85, considered acceptable.

Data Gathering Procedure

After the pilot study was conducted and ethical approval to proceed was granted, the researcher proceeded with the main study. Survey forms were distributed to qualified respondents in different coastal barangays, most of which were only accessible by a small boat. A research assistant was hired to facilitate the survey. Prior to the actual data collection, the research assistant sought permission from every barangay captain to conduct the survey. The research assistant served as an enumerator and assisted respondents who had difficulty completing the survey.

All data were encoded and analyzed using Microsoft Excel and SPSS version 25. Data descriptors, such as frequency (percentage) and mean and standard deviation, were used to describe the demographic profile of

respondents in terms of gender, educational attainment, and socio-economic status (on a nominal scale), and age (on a ratio scale). To examine the factors influencing the HBM, Simple linear regression was used to determine whether access to health care predicted utilization across all barangays. A p-value of 0.05 was considered.

To determine the primary health care services promoted among Filipinos, especially at the barangay level, a descriptive narrative was written based on the outcomes of the influencing factors and their comparisons. To create a health policy in enhancing the primary health care services to their fullest, trends, patterns, and disparities in health care outcomes through evidence-based recommendations were created that inform policy decisions, improve health care interventions, and address public health challenges in the maximization of primary health care services in the Barangay Health Stations of Panay.

Ethical Consideration

An Informed Consent Form was provided to participants before the survey was administered. A research assistant was hired to personally detail the study's objectives, risks, and benefits of participation. It was emphasized that participation was entirely voluntary, that privacy remained the utmost priority, and that no identifiable data would appear in any part of the paper. Data were collected in compliance with RA 10173 (the Data Privacy Act). These data were used only during the six-month duration of the study. Once all responses were collected and analyzed, all forms, including the raw data, will be shredded and disposed of properly. There were no foreseeable risks, except for a potential breach of confidentiality, which was strictly mitigated. Achieved benefits include a deeper understanding of the factors influencing Filipino behaviors regarding primary health care access and the formulation of policies to enhance Universal Health Care utilization. Results were made available to participants upon request. For those who were not proficient in English, Filipino Informed Consent Forms were provided and facilitated by the research assistant.

RESULTS AND DISCUSSION

Primary Health Care Services Available along Coastal Barangays in Panay

The results revealed that all barangays reported the presence of Barangay Health Stations, with Agojo having 58 (100%), Bantigue 25 (100%), Buntod 46 (97.9%) with 1 (2.1%) reporting none, Butacal 2 (4.7%) and 41 (95.3%) reporting none, Jamul-awon 32 (100%), Lat-asan 28 (100%), Navitas 46 (100%), and Pawa 80 (98.8%) with 1 (1.2%) reporting none. This indicates that while most barangays have functional health centers, Butacal shows very limited access.

In terms of doctors on duty (office hours and on-call), Agojo had 56 (96.6%) reporting availability, Bantigue 25 (100%), Buntod 47 (100%), Butacal only 2 (4.7%) with 41 (95.3%) reporting none, Jamul-awon 24 (75%) with

8 (25%) reporting none, Lat-asan 28 (100%), Navitas 46 (100%), and Pawa only 8 (9.9%) with 73 (90.1%) reporting no doctor. This suggests significant disparities in physician deployment, particularly in Butacal and Pawa. For nurses on duty, Agojo reported 57 (98.3%), Bantigue 25 (100%), Buntod 47 (100%), Butacal 2 (4.7%) with 41 (95.3%) reporting none, Jamul-awon 31 (96.9%), Lat-asan only 1 (3.6%) with 27 (96.4%) reporting none, Navitas 2 (4.2%) with 44 (95.7%) reporting none, and Pawa 11 (13.6%) with 70 (86.4%) reporting none. This reflects uneven nurse distribution, with low availability in Butacal, Lat-asan, Navitas, and Pawa.

Midwives were more consistently available: Agojo 57 (98.3%), Bantigue 25 (100%), Buntod 29 (61.7%) with 18 (38.3%) reporting none, Butacal 43 (100%), Jamul-awon 32 (100%), Lat-asan 28 (100%), Navitas 46 (100%), and Pawa 78 (96.3%) with 3 (3.7%) reporting none. This suggests strong maternal and primary care support across most barangays.

Regarding medical technologists, availability was limited in some areas: Agojo 1 (1.7%) with 57 (98.3%) reporting none, Bantigue 25 (100%), Buntod 47 (100%), Butacal 3 (7.0%) with 40 (93%) reporting none, Jamul-awon 1 (3.1%) with 31 (96.9%) reporting none, Lat-asan 28 (100%), Navitas 46 (100%), and Pawa 11 (13.6%) with 70 (86.4%) reporting none. This indicates diagnostic service limitations in several barangays.

Basic medical equipment, such as a stethoscope, BP apparatus, thermometer, penlight, weighing scale, examining table, nebulization kit, oxygen tank, and medicines, was largely available. The equipment listed in the survey form are the ones mostly needed for a barangay health station to be licensed by the Department of Health (DOH) based on the DOH Manual of Standards for Primary Care Facilities under DOH Department Circular No. 2022-0176. Most barangays reported 100% availability for BP apparatus, thermometer, penlight, weighing scale, and medicines. However, Buntod reported that only 27 (57.4%) had stethoscopes, while 20 (42.6%) lacked them. Pawa also showed slight gaps in some equipment, such as examining tables: 80 (98.8%) were present, with 1 (1.2%) lacking.

For basic laboratory services, Agojo and Bantigue both reported 100% availability. Buntod showed only 1 (2.1%), with 46 (97.9%) reporting none. Butacal had 42 (97.7%) availability. Navitas reported 38 (82.6%), with 8 (17.4%) reporting none, while Pawa showed 41 (50.6%) with availability and 40 (49.4%) without services. CBC services were available in most barangays except Butacal 1 (2.3%) and Pawa 1 (1.2%). Urinalysis was nearly universal, with 81 (100%) reported in Pawa. Chest X-ray services were widely available, though Bantigue had only 14 (56%), with 11 (44%) reporting none.

Birth facilities were fully available in Agojo 58 (100%), Bantigue 25 (100%), and Lat-asan 28 (100%). However, Butacal had only 1 (2.3%) with 42 (97.7%) reporting none, Navitas 1 (2.2%) with 45 (97.8%) reporting none, and Pawa 3 (3.7%) with 78 (96.3%) reporting none. Jamul-

awon reported 12 (37.5%) availability with 20 (62.5%) reporting none, indicating limited maternal facility access in several barangays.

Ambulance or similar transport services were available in Agojo 58 (100%), Bantigue 25 (100%), Butacal 43 (100%), Navitas 46 (100%), and largely in Lat-asan 27 (96.4%) and Jamul-awon 29 (90.6%). However, Buntod had only 23 (48.9%) availability, and Pawa reported only 2 (2.5%), with 79 (97.5%) lacking transport services. Similarly, driver and auxiliary personnel followed the same pattern, with Pawa showing only 2 (2.5%) availability.

This implies that while basic equipment and midwife services are generally available across barangays, there are significant disparities in the availability of doctors and nurses, laboratory services, birthing facilities, and emergency transport, particularly in Butacal and Pawa. These gaps suggest the need to redistribute health resources to ensure equitable access to comprehensive primary health care services across all barangays.

However, on further inquiry about the presence of health care personnel and services and birthing facilities, it was found that the considerably good results were due to a series of medical missions conducted prior to the election of 2025 and by several non-governmental organizations (NGOs), which conducted laboratory and chest x-ray procedures. The Health Belief Model findings revealed a significant gap between how individuals perceive their health and their assessment of the quality of institutional care in coastal Barangays of Panay. This lack of connection directly influenced health-seeking behaviors and may hinder the effectiveness of local health interventions.

Building on these findings, respondents generally perceived themselves as being at low risk of illness. The high mean scores for statements regarding youth, exercise, and the absence of family history indicated a strong sense of personal invulnerability. This alignment with recent literature suggests that individuals who perceive themselves as “low risk” are statistically less likely to engage in preventive health care or utilize primary health services (Tefera, 2024). In rural settings, this lack of perceived vulnerability often leads to a “wait-and-see” approach, which care is sought only after symptoms become debilitating (Cruzada, 2025).

The primary point of divergence between the barangays lies in the availability of specialized staff and diagnostic services. In Jamul-awon, there is a robust presence of nursing staff (90.6%) but a near-total absence of medical technologists (3.1%). This aligns with the “nursing-centric” model often seen in Philippine Rural Health Units, where nurses and midwives act as the primary gatekeepers of care. However, this shortage of laboratory personnel echoes concerns raised by Collado (2019). The scarcity of laboratory staff mirrors the issues identified (Collado, 2019; Reyes *et al.*, 2023; Mirano, 2024), highlighting that rural clinics frequently emphasize maternal and pediatric care through midwifery services at the expense of diagnostic facilities. Consequently, this imbalance often hinders the ability of health care

providers to make timely, data-driven clinical decisions.

The 100% availability of essential medical equipment (stethoscopes, nebulizers, oxygen) in Lat-asan reflects a successful implementation of the Department of Health’s basic equipment standards. This consistency suggests that the local government unit has prioritized procurement, satisfying the requirements for “quality primary care” as defined by the World Health Organization (2020). While Jamul-awon showed strong human resources, the lack of data on their specific equipment suggests that Lat-asan may be better positioned for immediate clinical interventions despite its nursing shortage.

The perspective of the respondents expressed moderate concern regarding the institutional capability of the barangay health stations. The belief that the Barangay Health Stations are incapable of handling serious diseases or that staff have limited knowledge reflects a lack of trust in primary care. Recent studies in the Philippines have noted that in Geographically Isolated or Disadvantaged Areas, the perceived “medical inadequacy” of local facilities often outweighs the perceived severity of the disease itself, leading residents to bypass local clinics in favor of distant, more specialized facilities (Collado, 2019). Perceived barriers to health care were consistently high among respondents. Major obstacles included geographic distance, high transportation costs, and the financial burden of hospital fees and medications. The shortage of specialists and medical personnel at the local infirmary was a significant concern, underscoring the community’s firsthand experience of an overburdened, under-resourced health care system.

The results are aligned with national and international evidence indicating that geographic isolation and human resource shortages are primary determinants of inequity in healthcare access (Cano *et al.*, 2021; World Health Organization, 2021). The structural limitations identified in the remote barangays reflect broader systemic challenges, in which physical and financial hurdles often deter residents from seeking timely medical intervention (Collado, 2019; Altea *et al.*, 2025).

A primary concern identified was the uneven distribution of health care personnel. Human resources for health disparities are a primary concern in the barangays. While midwives were consistently available across almost all barangays (e.g., 96.3% in Pawa and 100% in Navitas), the presence of doctors and nurses was highly erratic. In Butacal and Pawa, professional medical coverage was critically low (under 14%), whereas Agojo and Bantigue enjoyed nearly full coverage. The “midwife-led” model is common in rural areas of the Philippines; however, the lack of higher-level clinicians often limits the scope of care. According to Collado (2019), the shortage of diverse medical staff in remote and isolated areas is a primary structural barrier that forces residents to bypass local clinics for more staffed urban centers. Furthermore, the World Health Organization (2021) emphasized that the maldistribution of human resources for health remains a global driver of inequity, particularly in geographically

isolated regions where recruitment and retention are challenging.

The widespread presence of Barangay Health Stations and midwives across all five locations (96% to 100%) is supported by the findings of Serafica *et al.* (2025). Their research demonstrated that the Philippines' decentralized health system has effectively prioritized maternal-first infrastructure. For example, in Pawa, midwife coverage remained high (96.3%) even as the availability of doctors and nurses declined. These findings reinforce the view that midwives constitute the foundation of rural health, maintaining the resilience of maternal and child health services despite broader staffing shortages. While basic facilities exist, the lack of specialized personnel, such as nurses and medical technologists, creates a "care gap." Preventive services are available in theory but remain inaccessible in practice due to a lack of skilled staff to deliver them.

The data on diagnostic and emergency referral indicate a substantial disconnect between diagnostic services. In Buntod and Butacal, although basic equipment such as weighing scales was present, laboratory services (CBC/Urinalysis) and emergency transport were largely unavailable. The absence of ambulance services and auxiliary staff in Navitas (82.6% unavailable) and Buntod (2.1% availability) creates a significant risk for maternal and emergency cases. Cruzada *et al.* (2025) observed that in isolated Filipino municipalities, lack of emergency transport and support staff routinely escalated treatable conditions into life-threatening crises. Referral and support mechanisms, as seen in Agojo and Bantigue, constitute best practices that have not yet been established in other coastal barangays. This is aligned with Serafica *et al.*'s (2025) observation that transportation and logistical barriers are key drivers of health inequity in the Philippines. They noted that bridging this gap takes more than building health centers, requiring an integrated referral system with reliable emergency transport.

Maternal and basic equipment readiness were also a concern in some barangays. However, a positive finding was the high availability of birthing facilities and basic medical equipment (nebulizers, examining tables, and oxygen tanks) in most areas. This suggests that the Department of Health's (DOH's) Basic Emergency Obstetric and Newborn Care initiatives have successfully reached the local level in terms of hardware. However, as noted in recent literature, equipment without the corresponding human resource, such as the medical technologists missing in Agojo (1.7%) or the nurses missing in Navitas (4.2%), renders the facility "resource-rich but functionally poor" (Collado, 2019).

Although the result showed almost a 100% in the medical personnel, services, and equipment found inside the Barangay Health Station, this can be attributed to the series of medical missions, which included distribution of medicines, laboratory and ancillary tests conducted, especially during the election campaign period. Though medical missions help the community in addressing their

medical needs, this is only seasonal and does not address the real problem of inadequate medical personnel and services. Sometimes this activity can be seen as an exploitation of the residents in the disadvantaged localities because the primary objective is not really to address their needs, but for political gain. After the election period, these barangays are back to where they started, no medical personnel, no medicines, and no services.

The Universal Health Care Act of 2019 directly addresses access, utilization, economic factors, and system efficiency to strengthen primary health care, thereby reducing hospital congestion and improving early detection and disease prevention of disease.

The World Health Organization (WHO) and other recent reports confirm that populations in remote areas often have a higher disease burden due to limited access to healthcare professionals and facilities, inadequate infrastructure, and poor health literacy (WHO, 2024). Manasan and delos Santos (2024) identified financial barriers, noting that out-of-pocket health care expenses remain a significant challenge, particularly for the most vulnerable populations in these underserved areas.

Level of Access of Residents in Health Care Services

The findings indicate that access to health care services is influenced by structural conditions and individual health perceptions, consistent with the principles of the Health Belief Model. According to Alyafei and Easton-Carr (2024), individuals' engagement with healthcare services is shaped by their perceptions of susceptibility, severity, benefits, barriers, cues to action, and self-efficacy. The present study's results demonstrate how these factors collectively affect healthcare-seeking behavior among community residents.

Under perceived susceptibility, respondents generally believed they were at low risk of illness, suggesting that many respondents perceive themselves as less vulnerable to disease, which may reduce their likelihood of seeking preventive or early care. The high mean score (3.97) indicates that respondents strongly agree that being young, healthy, and physically active protects them from getting sick. This suggests that most participants believe that their current health status significantly lowers their risk of illness. The relatively low standard deviation (0.49) indicates that responses are closely clustered around the mean, suggesting consistency in respondents' perceptions. There is minimal variation in their beliefs, indicating that most share a similar level of confidence in their health as a protective factor. This implies a low perceived susceptibility, despite the high rating. Although the verbal interpretation is "High," it reflects strong agreement with the idea that they are unlikely to get sick. In Health Behavior Theory, particularly the Health Belief Model, such low perceived susceptibility may reduce preventive health behaviors because individuals do not see themselves as at risk.

The mean score of 3.58 also falls within the "High"

range, indicating that respondents generally agree that the absence of family history reduces their risk of illness. This reflects a belief that genetic or hereditary factors are primary determinants of disease risk. However, the higher standard deviation (SD 0.91) for the second item suggests greater variability in responses. This means that while many agree, opinions vary, some respondents are unsure or believe that family history does not guarantee protection against illness. This variability may indicate that some respondents are becoming increasingly aware that illnesses can still occur despite genetic history, due to environmental, lifestyle, or infectious factors, regardless of genetic history.

Respondents generally believed they were at low risk of illness, emphasizing youth, physical fitness, and the absence of family history of disease. This perception suggests that respondents consider their current health status as protective against illness. According to the Health Belief Model, individuals who perceive themselves as less vulnerable to disease are less likely to engage in preventive or early health care-seeking behaviors (Alyafei & Easton-Carr, 2024). Luquis and Kensinger (2019) observed that younger and apparently healthy populations often underestimate their vulnerability to illness, leading to reduced utilization of preventive health services. This low perceived susceptibility may therefore contribute to delayed health care consultation and limited use of primary health care services.

As to perceived severity, respondents expressed moderate concern regarding the capability of the Barangay Health Station (BHS). The respondents expressed moderate concern about the capability of the BHS. The results show reservations about whether the BHS can adequately manage serious illnesses and about the level of medical knowledge among its staff. According to Boulos and Hassan (2023), individuals are more likely to seek healthcare services when they perceive an illness as serious and believe that appropriate treatment is available. However, when individuals doubt the capacity of local health facilities to manage serious conditions, they may bypass primary care services and instead seek care from specialists or higher-level health care institutions. This perception may reduce the utilization of primary health care facilities even when they are geographically accessible.

For perceived benefits, mixed perceptions were observed. Respondents somewhat agreed that they would not consult a primary physician at the BHS due to cost, despite services often being subsidized. While some recognized the importance of consulting health care providers at the BHS, many preferred specialist's care, even when free consultation at the BHS was available. This suggests that respondents perceive greater benefits from specialized health care services than from primary care. According to Chuang *et al.* (2021), perceived quality and expertise of healthcare providers strongly influence healthcare utilization decisions. When individuals believe that specialized services provide more effective treatment,

they may choose higher-level facilities over primary healthcare centers, contributing to the underutilization of local health services.

Regarding perceived barriers, respondents somewhat agreed that distance and opportunity costs hinder access to care. They reported that distance to the BHS and the need to miss work for consultations can discourage them from seeking care. This reflects common logistical and economic constraints faced by communities in accessing healthcare services. Research has shown that factors such as transportation costs, travel time, and potential loss of income significantly limit healthcare utilization, particularly among underserved populations (Alyafei *et al.*, 2024). When these barriers outweigh the perceived benefits of seeking care, individuals may delay consultation or rely on alternative forms of treatment, suggesting that incentives such as free services strongly motivate consultation, while self-medication remains a common alternative. This shows that cues to action play an important role in motivating health care-seeking behavior. Respondents strongly agreed that they would consult the BHS if free medications or laboratory services were available, indicating that incentives act as powerful motivators for accessing healthcare. According to Boulos and Hassan (2023), external triggers such as health campaigns, reminders from health care providers, and the availability of free medical services can encourage individuals to seek health care. Self-medication from local stores is common, suggesting that individuals may choose more convenient and accessible alternatives when formal health care services are not perceived as immediately beneficial.

Agbedi and Agbedi (2026) explored the urban-rural divide with regard to their enrollment in their SHI, noting that those in the rural areas have limited access to health insurance. It also highlighted the lack of knowledge regarding the advantages of health insurance; awareness of the enrollment process and affordability are the barriers that led to low enrollment in the SHI. Even the perception that the government cannot deliver quality health care services, as shown in the low enrollment in their SHI. Thus, to enhance the implementation of this program, the author highlighted the need for targeted interventions, such as enhancing public awareness, simplifying the enrollment process, and improving financial accessibility, to ensure better participation in SHI, which will lead to the realization of UHC in Bayelsa, Nigeria.

Additionally, the study of Oweibia *et al.* (2026) emphasized the importance of health insurance coverage, which can significantly reduce neonatal mortality by improving access to skilled delivery and postnatal care. The authors highlighted that Universal Health Care (UHC) policies must prioritize maternal enrollment in insurance schemes. According to this study, Nigeria suffers from high neonatal mortality due primarily to the inability to access quality health care. It may seem that to have a Universal Health Coverage, they have to be enrolled in

their National Health Insurance Authority, which remains low, particularly in rural and informal sectors. Thus, it is recommended that integrating insurance enrollment into antenatal programs and rural outreach can accelerate progress and attainment of SDG 3.2 on neonatal survival. This suggests that external triggers or incentives significantly influence community health care-seeking behavior. Based on the Health Belief Model (HBM), cues to action prompt individuals to seek care when certain motivating factors are present. In this case, the high agreement with consulting the BHS only when free medications or laboratory services are available indicates that financial considerations strongly affect decisions to seek care, as free services reduce perceived barriers and increase perceived benefits. The common practice of purchasing medicines from sari-sari stores reflects the convenience and accessibility of self-medication, which is often chosen for quick relief when illnesses are perceived as minor. These responses show that health care utilization is often conditional: residents are more likely to seek formal care when incentives are available, but rely on self-medication when they are not.

This suggest that incentives such as free services strongly motivate consultation. They reduce both financial and psychological barriers to accessing health care. When medications or laboratory tests are provided free of charge, residents may perceive fewer costs and risks associated with visiting the BHS. In the context of the HBM, such incentives function as cues to action. They prompt individuals to seek care by highlighting immediate, tangible benefits. Free services also increase the perceived value of visiting the health center. This is especially true for individuals who might otherwise delay care due to concerns about expenses or uncertainty about the usefulness of the consultation.

Self-medication remains a common alternative because it is perceived as more convenient, quicker, and more accessible than formal health care services. Many individuals may believe that minor illnesses can be managed independently. They may use over-the-counter medicines from local stores, traditional remedies, or advice from family and neighbors. This behavior is often reinforced by prior experiences in which symptoms resolved without professional intervention. These experiences strengthen confidence in self-management. Factors such as distance to healthcare facilities, time constraints, and potential loss of income from taking time off work can further encourage self-medication. These factors may lead people to choose self-medication instead of consulting health care providers.

Under self-efficacy, respondents generally believed they could manage illness without professional care. This perception may further contribute to delayed or reduced utilization of formal primary health care services, as individuals who feel confident in their ability to manage illness on their own are less likely to perceive a need for professional medical consultation. In the context of the HBM, self-efficacy refers to a person's belief in their

capability to perform behaviors necessary to manage health conditions. When individuals believe that they can effectively treat or control illnesses through traditional remedies, self-medication, or natural recovery, they may view formal health care as unnecessary, especially for symptoms they consider minor or manageable.

Self-efficacy was reflected in respondents' confidence in managing illness without professional medical care. Many participants believed that illnesses could be treated through traditional remedies or would resolve naturally without medical intervention. While self-efficacy can empower individuals to manage their health, excessive confidence in self-treatment may reduce engagement with formal health care services. According to Kamimura *et al.* (2016) and Limbu and Guatam (2023), self-efficacy can influence health behaviors by shaping individuals' perceptions of their ability to control health outcomes. In some contexts, however, high self-efficacy may lead individuals to underestimate the need for professional medical care, particularly when symptoms are perceived as minor.

The overall findings support the relevance of the HBM in explaining health care-seeking behavior, demonstrating that perceptions of risk, severity, benefits, barriers, cues to action, and self-efficacy collectively influence access to healthcare services. The access to health care services and facilities has an overall mean of 3.43 (SD = 0.79), interpreted as High, suggesting that the access based on the perception of the participants is highly important. These factors highlight the importance of improving health education, strengthening primary health care capacity, and addressing structural barriers in order to promote better utilization of health care services within the community. Both perceptions and practical constraints influence residents' engagement with health care services. This indicates that respondents generally perceive themselves as having low susceptibility to illness, largely due to beliefs about youth, physical fitness, and lack of family history of disease. This perception reduces motivation to seek preventive or early health care services. Moderate perceptions of illness severity and doubts about the capability of the Barangay Health Stations further weaken the urgency to consult primary care providers.

The results revealed mixed perceptions regarding the benefits of primary health care. While services at the BHSs may be affordable or free, many residents still prefer specialist care, suggesting that perceived quality and expertise strongly influence health care choices. Practical barriers, such as distance and potential loss of income, contribute to delayed or avoided consultations. Cues to action, such as the availability of free medicines or laboratory tests, serve as strong motivators for seeking care, indicating that external incentives can effectively encourage service utilization. High self-efficacy in managing illness independently, including reliance on self-medication or traditional healers, may further reduce formal health care engagement. These factors illustrate

how perceptions, accessibility issues, and personal confidence in self-care interact to shape health care-seeking behaviors within the community. Tolabing *et al.* (2022) found that over half of the Filipino population suffers from limited health literacy, defined as the ability to access, understand, appraise, and apply health information to make informed decisions. There is a critical need for targeted interventions to improve health literacy among specific subgroups, focusing on both information access and the health care domain.

Level of Utilization of Residents in Health Care Services

Under perceived susceptibility, respondents moderately agreed that the absence of symptoms reduces the need for health care utilization, indicating that many respondents tend to underestimate health risks, which may lead to delayed or reduced use of preventive health services. This may occur because individuals often associate the need for medical consultation only with visible or severe symptoms, leading them to believe that they are healthy if they do not feel unwell. They may overlook the importance of routine check-ups and early detection of diseases, which can contribute to delayed diagnosis and treatment of potential health conditions.

Regarding perceived severity, respondents were more inclined to seek care when illness was viewed as serious, suggesting that while severity prompts care-seeking, it also drives preference away from primary health care facilities toward higher-level services. This occurs because individuals are more likely to recognize the urgency of seeking professional care when symptoms become severe or persistent, increasing their perceived seriousness of the illness. However, the belief that the Barangay Health Stations (BHSs) lack the capability or resources to manage serious conditions leads residents to bypass primary care and seek specialists or higher-level facilities instead. As a result, perceived severity motivates consultation but simultaneously shifts health care utilization away from primary care services due to concerns about the adequacy of available care.

In terms of perceived benefits, respondents generally expressed positive views toward the role of BHS. Agreement was noted for consulting a primary physician at the BHS when feeling ill and for the belief that nurses or midwives can provide relevant health information. This suggests recognition of the value of primary health care services, particularly for information and initial consultation. This may be because BHSs are the most accessible health care facilities within the community, where residents can easily receive basic consultations, health advice, and preventive services. As a result, individuals may perceive these services as beneficial for addressing common health concerns and obtaining reliable medical guidance, which encourages them to consider the BHS as a first point of contact for healthcare. Regarding perceived barriers, respondents somewhat agreed that structural limitations hinder the utilization

of the service, indicating perceived inadequacies in staffing and supplies. However, respondents disagreed that they are not comfortable with the services of the BHS provided by the Local Government Unit (LGU). This suggests that structural limitations, such as the lack of doctors and limited medicines at the BHS, may discourage residents from using the service, as they may doubt whether their health needs can be properly addressed. This happens because individuals are less likely to seek care from facilities they perceive as lacking adequate resources. However, respondents generally do not report discomfort with LGU services, suggesting that service quality is not a major issue. Instead, the main barrier appears to be the perceived inadequacy of medical resources, which may prompt residents to delay consultations or seek care elsewhere.

Under cues to action, moderate agreement was observed. Respondents somewhat agreed that community experiences influence care-seeking behavior. Similarly, misconceptions about antibiotics were evident, with respondents somewhat agreeing that all antibiotics work for both mild and severe diseases. This indicates that community experiences and health misconceptions moderately influence health care-seeking behavior. Respondents somewhat agreed that witnessing illness or death in their community may prompt them to consult the BHS, suggesting that observing health events around them can serve as a trigger to seek care. However, the belief that antibiotics are effective for both mild and severe illnesses indicate misconceptions about proper medication use, which may lead individuals to self-medicate rather than seek professional consultation. This occurs because people may rely on community experiences or incorrect health knowledge when deciding whether or not to access healthcare services.

As to self-efficacy, respondents somewhat agreed that alternative sources of care reduce the need for BHS utilization. The belief that medical advice is available online and the practice of taking medicines without prescription, suggest confidence in self-management of illness, which may contribute to self-medication and reduced reliance on formal health care services. This may occur because easy access to online health information and over-the-counter medicines can increase individuals' confidence in managing minor health concerns independently. As a result, people may feel capable of diagnosing or treating symptoms on their own, leading them to rely less on professional consultation and delay seeking care from formal healthcare providers such as the BHS.

The utilization of health care services in the coastal barangays of Panay was significantly influenced by the cognitive and structural factors outlined in the Health Belief Model. The data indicated that while residents recognized the utility of the Barangay Health Stations for basic information, their actual utilization patterns were driven by the perceived severity of their condition and a tendency toward self-management for minor ailments.

The overall mean for the level of utilization is 3.20 (SD = 0.85), perceived by the participants as High, indicates that utilization reflects the demand of the coastal barangays as important for the improvement of their health. A critical finding was that the utilization was largely reactive rather than preventive. With a high mean score for seeking specialists when symptoms worsen (Mean = 4.17), respondents indicated they prioritized formal care only when a condition was perceived as serious. This is inversely related to their perceived susceptibility; the belief that the absence of symptoms negates the need for check-ups (Mean = 3.11) reflects a “symptom-driven” utilization model. According to Boulos and Hassan (2023), when individuals have a low perception of risk for asymptomatic conditions, the utilization of preventive services remains stagnant. This behavior is common in rural Philippine settings where health care is often viewed as a “last resort” for debilitating illness rather than a routine practice for wellness (Collado, 2019).

Interestingly, utilization was not hindered by a lack of comfort with Local Government Unit (LGU) services, but rather by structural barriers such as the absence of doctors and limited medicine supplies. The data suggested that residents were willing to use the Barangay Health Stations (BHSs), but were deterred by the perceived “medical inadequacy” for serious cases. Cruzada (2025) confirmed that in geographically isolated municipalities, the utilization of primary care is often bypassed in favor of specialized facilities because residents believe local centers lack the diagnostic “teeth” to handle anything beyond minor injuries.

The findings on cues to action and self-efficacy highlighted a shift away from formal health systems toward self-management. The moderate agreement on using neighbors’ illnesses as a cue and the reliance on internet advice, or non-prescription medicine, indicated a high level of confidence in self-medication. Tefera (2024) posited that high self-efficacy in self-management, often fueled by digital health information and accessible over-the-counter drugs, frequently leads to a decrease in the utilization of professional primary care. This is particularly concerning in remote or isolated areas, where the misuse of antibiotics can lead to long-term community health risks, such as antimicrobial resistance, which further complicates the effectiveness of future healthcare utilization (World Health Organization, 2021). Chew *et al.* (2024) confirmed a shortage of doctors in these areas, with most health care providers being nurses or health center workers, many of whom lack formal training. This finding mirrors the situation in the Philippines.

Access to Health Care Services Predicts the Utilization

The results indicate a statistically significant and positive relationship between utilization and access ($p < 0.001$), suggesting that as an individual’s use of health care services increases, their perceived or actual access to health care also increases. Individuals who report more

frequent engagement with health care services tend to report better access to those services. This relationship may be explained by several interconnected factors. First, individuals with better physical, financial, or geographic access to health care facilities are naturally more able to use services when needed. Access elements such as availability of facilities, affordability of services, proximity to health care providers, and adequacy of health insurance coverage may reduce barriers, thereby encouraging higher utilization rates. Second, repeated use of health care services may strengthen familiarity with the health care system. Individuals who frequently interact with health care providers may develop greater knowledge about service processes, appointment systems, referral pathways, and available benefits. This familiarity can enhance their perception of accessibility and reduce psychological or informational barriers to care. Third, the relationship may also reflect underlying health needs. Individuals with chronic conditions or recurring health concerns may both utilize services more frequently and actively seek better access mechanisms, such as enrolling in insurance programs or establishing regular health care providers. Thus, higher utilization could simultaneously signal greater need and improved system navigation.

However, it is important to note that while the results show association, they do not necessarily establish causality. Increased utilization does not automatically lead to better access; rather, the two variables appear to reinforce each other. This means that as an individual’s use of health care increases, their access to health care tends to increase as well, implying that those who report more frequent use of health care also report better access to those services.

The key predictive number is the unstandardized coefficient (β) for utilization, which is 0.250. This coefficient can be used to describe that for every one-point increase in the utilization, a person’s predicted score on the access increases by 0.250 points. The standardized coefficient (β) is 0.320, indicating a moderate effect size. This value indicates the strength of the relationship between access and utilization. In practical terms, utilization plays an important role in shaping how individuals perceive their access to health care. The positive relationship between access to health care services and their utilization indicates that individuals who experience fewer barriers to health care are more likely to use those services, while those who frequently use health care services often perceive them as more accessible. Access refers to the availability, affordability, and convenience of obtaining health care, whereas utilization refers to the actual use of these services by individuals. Conversely, when access is limited by distance, cost, lack of transportation, or inconvenient service hours, individuals may delay or avoid seeking care altogether, even when they need medical attention. Frequent utilization can also shape individuals’ perceptions of access. People who regularly use health care services become more familiar with available facilities, procedures, and health care providers. This

familiarity reduces uncertainty and increases confidence in navigating the health care system.

Therefore, this model demonstrates that utilization is a reliable and significant predictor of access to health care services, suggesting that strategies to promote more consistent and frequent use of health care services may directly improve individuals' access, underscoring the importance of encouraging engagement with available health care resources. In general, greater engagement with health care services is associated with a stronger sense of access, highlighting the importance of actual service use in improving perceptions of health care availability.

The standardized coefficient ($\beta = 0.320$) further indicates a moderate effect size, indicating that the relationship remains substantively relevant even after adjusting for differences in measurement scales. This aligns with health services research demonstrating that access and utilization are conceptually linked: individuals who have fewer barriers and greater enabling resources (such as insurance, transportation, or proximity to care) are both more likely to use services and to perceive their access as higher, reinforcing the dual nature of access and utilization in health behavior frameworks (Alkhawaldeh *et al.*, 2023). In resource-constrained environments, health care utilization often mediates the link between objective health system infrastructure and subjective patient satisfaction. This suggests that sustained clinical encounters are vital for improving perceived access and equity (Claffin *et al.*, 2023).

Access and Utilization of Residents in Health Care Services

The simple regression model yields the most direct finding: the amount of health care services residents utilized is a highly significant predictor of their perceived access to those services ($p < 0.001$). This is not a chance finding; the relationship is strong, as demonstrated by the standardized coefficient (β) of 0.320. The positive unstandardized coefficient ($\beta = 0.250$) indicates that for every one-unit increase in a person's utilization score, their predicted score on the access scale increases by a quarter of a point. Essentially, people who are more engaged with and use the system more frequently are the same people who report the best experience with accessibility. This may be because individuals who regularly use health care services become more familiar with available facilities, procedures, and providers, which reduces uncertainty and perceived barriers. Their repeated interactions with the health care system can improve their confidence in navigating services, leading them to perceive health care as more accessible than those who rarely use these services.

Several factors are associated with a person's perceived accessibility at the 0.05 level of significance ($p < 0.05$). These areas, indicated by p-values such as 0.04, 0.03, and the one with a p-value of 0.00, are the levers that health officials should focus on to improve the resident experience. These factors are critically associated with

whether people feel they can get care.

Even more factors appear to significantly drive utilization (how often people use the services), with many having p-values of 0.00 or 0.01, this suggests that a broad array of underlying variables, likely including factors such as need, income, and overall health, are tied to a person's decision to seek care. Notably, two factors were strongly associated with utilization ($p = 0.00$) but were not significantly associated with accessibility (p-values of 0.20 and 0.18), suggesting that while these factors encourage people to use services, they do not necessarily make them feel good about the access itself.

The findings indicate that the impact of staff availability on health-seeking behavior varies significantly across professional categories. Both doctors and nurses on duty showed significant associations with perceived accessibility and actual utilization ($p < .05$), suggesting that the presence of higher-level clinicians is a primary driver of residents' perceptions of accessibility and their active seeking of care. In contrast, while the midwife on duty was significantly utilized during office hours ($p < .05$), their presence was not significantly associated with perceived accessibility. This implies that while midwives are the most utilized frontline workers, they are viewed as a routine service rather than a "lever" that shifts community perceptions of the health system's overall reach. Furthermore, the presence of a medical technologist showed no significant association with either accessibility or utilization ($p > .05$), likely reflecting the persistent lack of diagnostic capacity in remote and isolated areas and the resulting lack of community reliance on these specific services.

The statistical analysis of medical equipment revealed distinct patterns in how specific tools influence perceptions of access and the frequency of service use. Tools such as the BP apparatus and nebulization kit are highly significant predictors of both accessibility and utilization ($p < .05$), suggesting that these items are central to the patient experience and a primary driver of the decision to seek care at the barangay health stations. In contrast, the stethoscope presents a unique case; while it is not a significant predictor of how accessible a facility feels ($p = .25$), it is a highly significant predictor of actual utilization ($p = .00$). This implies that while the stethoscope's presence may not be a major "lever" for attracting patients, it is an indispensable tool once a consultation is underway. General basic medical equipment follows a similar trend, showing a significant association with accessibility ($p = .03$) but failing to significantly drive utilization ($p = .09$). This reinforces the finding that while basic equipment makes a facility "feel" available, its mere presence is insufficient to increase visit frequency. Furthermore, foundational equipment, such as the weighing scale and examining table, serves as a highly significant indicator of accessibility ($p = .00$), contributing significantly to the community's perception of the BHS as a functional, appropriately equipped medical environment. On the other hand, specialized

equipment, such as the oxygen tank, showed no significant association with either accessibility ($p = .67$) or utilization ($p = .10$), likely due to its rare use in routine primary care settings. Surprisingly, the general availability of medicines was not statistically significant for either accessibility ($p = .08$) or utilization ($p = .25$). This suggests that the vague presence of “medicine” is not a strong enough motivator to alter health-seeking behavior; rather, behavior is likely driven by the consistent availability of specific, high-demand medications that are known to be provided at no cost to the resident.

The findings are aligned with broader health services research, which demonstrates that utilization and perceived access often co-vary, as greater engagement with services can enhance familiarity, confidence, and perceptions of accessibility. Multiple factors showed significant associations with perceived accessibility ($p < .05$), suggesting that characteristics such as socioeconomic conditions, perceived barriers, and health needs shape individuals’ perceptions of whether they can obtain care. The fact that some variables were significantly associated with utilization but not with perceived access ($p = .20$ and $.18$) highlights that drivers of actual service use and perceptions of access do not always overlap; for example, need or severity may compel utilization without necessarily improving an individual’s sense of ease in accessing care. Such nuances are supported by studies showing that structural, economic, and perceptual factors can independently influence perceptions of utilization and access (Alemu *et al.*, 2024; Hussien, 2024). This evidence suggests interventions aimed at improving both the experience and structural conditions of access, such as reducing financial or informational barriers, may strengthen both the objective use of services and subjective perceptions of access, ultimately supporting more equitable health care engagement.

Insights for Program Implementation Enhancement

Enhanced health education, emphasizing the prevention of illness rather than cure. By increasing awareness on the PHIC programs about disease prevention, such as the PhilHealth YAKAP, previously known as Konsulta Package, individuals may recognize the importance of seeking early care and maintaining their health before illnesses become severe.

Prioritize enhancing Barangay Health Station (BHS) capacity by resolving persistent shortages of doctors and medical supplies to rebuild perceived adequacy and community trust. Improving the capacity of the BHS involves addressing shortages of doctors, health care workers, medicines, and medical equipment. This helps rebuild community trust and confidence in primary healthcare facilities, encouraging residents to seek care locally rather than bypassing them in favor of other facilities.

Recognize the importance of complementary or integrative medicine, where traditional medicine can be combined with the conventional way of treating. This

approach acknowledges the role of traditional healing practices within the community while integrating them with evidence-based medical care. By respecting cultural health beliefs and combining traditional remedies with conventional treatments when appropriate, health care providers can foster better patient cooperation. Also, increasing awareness of the PhilHealth GAMOT program, specifically designed to address the high costs of outpatient medications countering the practice of getting prescribed medicines from sari-sari stores.

Implementation of mobile clinics, enhanced telemedicine and outreach programs will reduce the distance and financial barriers faced by isolated families, through collaboration and networking. Mobile clinics and outreach programs bring health care services closer to underserved or geographically isolated communities. Through partnerships with local organizations and government agencies, health care teams can provide consultations, medications, health screenings, and education directly in remote areas. This reduces barriers such as distance, transportation costs, and time away from work, making health care more accessible to families who might otherwise delay or avoid seeking care. A telemedicine or teleconsultation may also be attempted which can address the physical barriers such distance from the nearest BHS taking into account the concerns in digital communication in these remote areas.

CONCLUSIONS

The result of the shortage of medical personnel in the coastal barangays is not limited to the Municipality of Panay but is also evident in other parts of the country, especially in geographically isolated barangays or communities. The findings demonstrate that access to health care remains a critical determinant of service utilization, where limitations in physical availability, staffing, diagnostic capacity, and support services constrain equitable access despite the presence of Barangay Health Stations (BHSs). Perceived and actual barriers, such as distance, cost, limited personnel, and inadequate facilities reduced timely and preventive care, particularly in underserved barangays. Health care utilization is predominantly symptom-driven, with delayed consultation until illness becomes severe, while perceived constraints in staffing and resources at the primary care level encourage care-seeking from higher-level facilities rather than BHSs. Health care access significantly influences utilization, as improved physical, financial, and informational access lowers barriers, strengthens familiarity with the system, and promotes more frequent engagement with health care services, reinforcing overall service use. A clear distinction exists between the equipment that makes a facility “feel” ready and the tools that sustain use. The presence of medical equipment, like weighing scales, provide a visual sense of accessibility, and clinical tools like the BP apparatus and stethoscopes, and diagnostic Capacity is what drives continued utilization.

REFERENCES

- Agbedi, E.B. and Agbedi, P.G. (2026). Determinants of Social Health Insurance Uptake in Bayelsa, Nigeria: Understanding Barriers and Facilitators to Achieving Universal Health Coverage. *American Journal of Medicine and Health Care (AJMHC)*, Volume 1 Issue 1. <https://journals.e-palli.com/home/index.php/ajmhc/article/view/7136/3281>
- Alkhalwaldeh, A., ALBashtawy, M., Rayan, A., Abdalrahim, A., Musa, A., Eshah, N., Abu Khait, A., Qaddumi, J., Khraisat, O., & ALBashtawy, S. (2023). Application and Use of Andersen's Behavioral Model as Theoretical Framework: A Systematic Literature Review from 2012-2021. *Iranian journal of public health*, 52(7), 1346–1354. <https://doi.org/10.18502/ijph.v52i7.13236>
- Alemu, F. W., Yuan, J., Kadish, S., *et al.* (2024). Social determinants of unmet need for primary care: a systematic review. *Systematic Reviews*, 13, 252. <https://doi.org/10.1186/s13643-024-02647-5>
- Altea, M.K.P., Mapote, K.B.M., Del Mundo, K.V., Guillermo, K., Belen, J.A.D., Orapa, T.C.C., Corcolon, K.B. & Quintana, M.L.F. (2025). Community needs assessment and status of primary health care in Middle Sitio Baloc. *Journal of Allied Health Sciences & Medical Research*, 1(1), 42-67. <https://doi.org/10.53378/jahsmr.353169>
- Alyafei, A., & Easton-Carr, R. (2025). The Health Belief Model of behavior change. In *StatPearls [Internet]. Treasure Island, FL: StatPearls Publishing*. <https://www.ncbi.nlm.nih.gov/books/NBK606120/>
- Boulos, D. N. K., & Hassan, A. M. (2023). Using the Health Belief Model to assess COVID-19 perceptions and behaviours among a group of Egyptian adults: A cross-sectional study. *BMC Public Health*, 23, Article 1624. <https://doi.org/10.1186/s12889-023-16513-x>
- Cano, J., Miller, C., & Vázquez, M. (2021). Barriers to healthcare access in rural and remote areas: A systematic review. *International Journal for Equity in Health*, 20, 183. <https://doi.org/10.1186/s12939-021-01529-2>
- Cervantes, F. (2024). PBBM issues memo circular for health sector dev't. *Philippine News Agency*. <https://www.pna.gov.ph/articles/1225742>
- Chew, E., Tan, J., Rahman, S., & Kumar, R. (2024). Rural health care delivery in South and Southeast Asia: Challenges in data, workforce, and access. *International Journal of Health Planning and Management*, 39(1), 45–62. <https://doi.org/10.1002/hpm.3654>
- Claffin, S. B., Campbell, J., & Taylor, B. V. (2023). Healthcare utilisation and perceived healthcare accessibility and quality. *Multiple Sclerosis and Related Disorders*, 74, 104691. <https://doi.org/10.1016/j.msard.2023.104691>
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Collado, Z. C. (2019). Challenges in public health facilities and services: Evidence from a geographically isolated and disadvantaged area in the Philippines. *Journal of Global Health Reports*, 3, Article e2019059. <https://doi.org/10.29392/joghr.3.e2019059>
- Chuang, Y. M., Han, S. Q., Tseng, C. C., Tseng, C. F., & Hu, Y. J. (2021). Factors associated with patients' decision on colorectal cancer screening. *Medicine*, 100(31), Article e26735. <https://doi.org/10.1097/MD.00000000000026735>
- Cruzada, R. G. (2025). Barriers to timely access to specialized healthcare in a geographically isolated municipality: Evidence from Mapun, Tawi-Tawi. *International Journal of Research and Innovation in Social Science*, 9(9), 6317–6322. <https://dx.doi.org/10.47772/IJRISS.2025.909000517>
- Hodge, A., Firth, S., Bermejo, R. III, Zeck, W., & Jimenez-Soto, E. (2016). Utilisation of health services and the poor: Deconstructing wealth-based differences in facility-based delivery in the Philippines. *BMC Public Health*, 16, 523. <https://doi.org/10.1186/s12889-016-3148-0>
- Hodge, A., Firth, S., Bermejo, R. III, Zeck, W., & Jimenez-Soto, E. (2016). Utilisation of health services and the poor: Deconstructing wealth-based differences in facility-based delivery in the Philippines. *BMC Public Health*, 16, 523. <https://doi.org/10.1186/s12889-016-3148-0>
- Hussien, B. (2024). The role of perceived quality of care on outpatient visits to health centers in two rural districts of northeast Ethiopia: a community-based, cross-sectional study. *BMC Health Services Research*, 24, 614. <https://doi.org/10.1186/s12913-024-11091-z>
- Kamimura, A., Nourian, M. M., Jess, A., Chernenko, A., Assasnik, N., & Ashby, J. (2016). Perceived benefits and barriers and self-efficacy affecting the attendance of health education programs among uninsured primary care patients. *Evaluation and Program Planning*, 59, 55–61. <https://doi.org/10.1016/j.evalprogplan.2016.08.006>
- Limbu, Y. B., & Gautam, R. K. (2023). How well the constructs of the Health Belief Model predict vaccination intention: A systematic review on COVID-19 primary series and booster vaccines. *Vaccines*, 11(4), 816. <https://doi.org/10.3390/vaccines11040816>
- Luquis, R. R., & Kensinger, W. S. (2019). Applying the Health Belief Model to preventive health services. *International Journal of Health Promotion and Education*, 57(1), 37–47. <https://doi.org/10.1080/14635240.2018.1549958>
- Madria, N. K., Pamittan, D. T., & Ubiña, R. K. C. (2023). A systematic review of primary health care implementation in Asia. *Journal of Public Health*, 45(1), 38–47. <https://doi.org/10.1093/pubmed/fdac123>
- Manasan, R. G., & delos Santos, C. L. (2024). *The Philippine Universal Health Care Law: Early implementation and the road ahead* (PIDS Discussion Paper Series No. 2024-03). Philippine Institute for Development Studies.

- <https://pids.gov.ph/publication/discussion-papers/the-philippine-universal-health-care-law-early-implementation-and-the-road-ahead>
- Mirano, J.M.M. (2024). Challenges of barangay health workers in advent of health care emergencies. *International Journal of Research Studies in Psychology*, 10(1), 143-160. <https://doi.org/10.5861/ijrsp.2024.011>
- Oweibia, M., Timighe, G.C., & Agbedi, E.B. (2026). The Role of Health Insurance Coverage in Reducing Neonatal Mortality in Nigeria: An Analytical Study. *International Journal of Public Health and Nursing (IJPHN)*. <https://journals.e-palli.com/home/index.php/ijphn/article/view/6431/2993>
- Padilla, T. B. (2024). Rural health: Challenges and solutions. *BusinessWorld Online*. <https://www.bworldonline.com/health/2024/11/08/567890/rural-health-challenges-and-solutions/>
- Parial, L. L. B., Leyva, E. W. A., Siongco, K. L. L., Dones, L. B. P., Bernal, A. B. S., Lupisan, J. A. C., Santos, D. C., Diamaden, M. M. C., & Bonito, S. R. (2024). Staffing and workload in primary care facilities of selected geographically isolated and disadvantaged communities in the Philippines. *Acta Medica Philippina*, 58(12), 21–34. <https://doi.org/10.47895/amp.v58i12.9268>
- Parungao, A. (2024). Marcos orders DOH to craft plan for 2023-2028 health objectives. *Philippine Daily Inquirer*. <https://newsinfo.inquirer.net/1928320/marcos-adopts-doh-health-goals-for-2023-to-2028>
- Philanthropy Asia Alliance. (2025). PAS 2025 Insights Report – Priming Asia for Good: Catalysing Action for Impact. *Philanthropy Asia Alliance*. <https://philanthropyasiaalliance.org>
- Prinja, S., Sharma, A., Gupta, R., & Kumar, R. (2024). Primary health care in South Asia: Achievements, emerging challenges, and the way forward. *International Journal of Health Planning and Management*, 39(2), 115–132. <https://doi.org/10.1002/hpm.3678>
- Republic Act No. 11223. (2019). Universal Health Care Act. *Official Gazette of the Republic of the Philippines*. <https://www.officialgazette.gov.ph/2019/02/20/republic-act-no-11223/>
- Reyes, A.T., Serafica, R., Kawi, J., Fudolig, M., Sy, F., Leyva, E.W.A., & Evangelista, L.S. (2023). *Using the socioecological model to explore barriers to health care provision in underserved communities in the Philippines: Qualitative study*. *Asian Pac Isl Nurs J*, 7, e45669. <https://doi.org/10.2196/45669>
- Sarao, Z. (2023). Some provinces have only 52% PhilHealth coverage – study. *Philippine Daily Inquirer*. <https://newsinfo.inquirer.net/1722975/some-provinces-have-only-52-philhealth-coverage-study>
- Serafica, R., Reyes, A. T., Cacciata, M. C., Kawi, J., Leyva, E. W. A., Sy, F. S., & Evangelista, L. S. (2025). Bridging the gap: Reducing health inequities in access to preventive health care services in rural communities in the Philippines. *Journal of Transcultural Nursing*, 36(1), 24–33. <https://doi.org/10.1177/10436596241271270>
- Tefera, G.M. (2024). Understanding Access and Utilization of Healthcare Services Among African Immigrant Women in the United States: The Application of Health Belief Model. *Applied Research in Quality of Life*, 19(3), 1097–1115. <https://doi.org/10.1007/s11482-024-10283-3>
- Tolabing, M. C., Co, K. C. D., Mendoza, O. M., Mira, N. R. C., Quizon, R. R., Tempongko, M. S. B., Mamangon, M. A. M., Salido, I. T. O., & Chang, P. W. S. (2022). Prevalence of limited health literacy in the Philippines: First national survey. *Health Literacy Research and Practice*, 6(2), e104–e112. <https://doi.org/10.3928/24748307-20220419-01>
- World Health Organization. (2018). Health for all is key for a safer, fairer, more prosperous Philippines. *World Health Organization*. <https://www.who.int/philippines/news/commentaries/detail/health-for-all-is-key-for-a-safer-fairer-more-prosperous-philippines>
- World Health Organization. (2024). Country cooperation strategy for the Philippines 2024–2029. *WHO Regional Office for the Western Pacific*. <https://www.who.int/philippines/publications/i/item/country-cooperation-strategy-for-the-philippines-2024-2029>
- World Health Organization. (2021). Monitoring health inequality: Structural and social determinants. *World Health Organization*. <https://www.who.int/publications/i/item/9789240039445>