Challenges on Accessing Healthcare Services in Geographically Isolated and Disadvantaged Areas: Through the Lens of Community Leaders

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ABSTRACT

Geographically Isolated and Disadvantaged Areas (GIDAs) remain underserved due to remoteness, lack of infrastructure, and limited health resources. This study aimed to explore the lived experiences and perceptions of Barangay Health Workers regarding the barriers to healthcare access in GIDAs. The primary objective of this study is to address the challenges that residents in the GIDAs of Panabo City, Davao del Norte, encounter when accessing health services through the lens of community leaders. From the viewpoint of community leaders, specifically eight Barangay Health Workers from identified GIDA barangays, this research seeks to uncover exclusive insights into the barriers and obstacles that hinder effective healthcare delivery in their regions. The study further attempts to identify specific issues related to the accessibility, availability, and quality of healthcare services by understanding these leaders' perspectives. A qualitative descriptive research design was employed, with semi-structured interviews conducted with the eight selected BHWs. Thematic analysis revealed four significant challenges: Out-of-Pocket Expenses, Critical Resource Shortages, Terrain-Driven Transport Challenges, and Frontline Workforce Strain. Despite these, BHWs demonstrated resilience through community-based initiatives and adaptive strategies. The findings emphasize the importance of participatory governance and localized health interventions. These outcomes contribute to Sustainable Development Goal 3, which promotes good health and well-being, especially for underserved populations.

Keywords: Barangay Health Workers, Community Leaders, GIDAs, Healthcare Access, Health Equity

INTRODUCTION

Public healthcare systems face several challenges, including limited access to care, limited resources, long wait times, and corruption (Sutthatothan, 2024). From the perspective of Geographically Isolated and Disadvantaged Areas (GIDAs), which the Department of Health defines as communities with marginalized populations, physically and socioeconomically separated from mainstream society, access to healthcare services is always a broad and significant challenge (DSWD-MIMAROPA, 2021). The geographical location significantly influences the overall health of the population, particularly the distance to better healthcare facilities. Accessing intensive medical care and thorough check-ups is often a challenge due to the remoteness of these facilities; the costs involved and the lengthy travel times make it especially difficult for low-income individuals to meet their health needs (Collado, 2019).

In rural Madagascar, a study by Garchitorena, Ihantamalala, Révillion, Cordier, Randriamihaja, Razafinjato, Rafenoarivamalala, Finnegan, Andrianirinarison, Rakotonirina, Herbreteau, and Bonds (2021) reveals that traditional healthcare models struggle with the "distance decay" effect, in which healthcare use declines as distance from facilities increases. This article highlights the urgent need for well-equipped community health schemes and for local leaders to increase access to and use of healthcare in distant localities. Coupled with efforts toward universal health coverage, the study indicates the value of overcoming the geographic barriers that restrict healthcare provision in rural Madagascar.

Moreover, in the remote areas of Tabuk, Philippines, an article by Tamayo (2022) highlighted that the lack of sufficient health facilities and services poses a significant challenge to healthcare quality and accessibility. Government efforts to improve access have not solved this problem, and even with more support, such situations still cause unnecessary deaths, further underlining the need for more effective interventions to overcome this acute problem. This situation underscores the importance of prioritizing healthcare infrastructure development and resource allocation in remote areas to ensure equitable access to essential medical services.

The study by Bustamante, Diana, Grande, Dagohoy, Abelardo, and Cabanes (2021) on Barangay Health Workers (BHWs) in Panabo City, Davao region, sheds light on the challenges that healthcare providers in Geographically Isolated and Disadvantaged Areas (GIDA) may face. Their study highlights the effects of poor transportation, a lack of medical supplies, and poor payment, which hinder BHWs' capacity to deliver and serve their community. Therefore, their results indicate the need for local-level intervention to mitigate these issues and enhance access to healthcare in GIDAs.

Empirical data from the Philippines, particularly in Tabuk and Panabo City, highlight the persistent challenges of accessing healthcare services in these isolated areas. Moreover, a review of 110 studies by Gizaw, Astale, and Kassie (2022) highlights the persistent challenges faced by rural communities globally, including limited access to healthcare facilities, shortages of healthcare professionals, and inadequate infrastructure. The evidence-based breakdown underscores the imperative need for the research study to understand and implement strategies to enhance health outcomes and narrow health disparities in these underserved populations. It is necessary to understand the challenges and how they affect communities to develop effective interventions and policies that enhance equitable access to health for all people.

Theoretically, the concept of "distance decay" suggests that the likelihood of individuals utilizing healthcare services decreases as the distance to the nearest facility increases, highlighting the importance of accessibility in healthcare delivery models and the necessity for community-based interventions to mitigate these barriers. As explained by Dempsey (2022), distance decay describes how interactions between populations diminish with increasing distance, leading to disparities in healthcare access and outcomes. This emphasizes the need to strategically place healthcare facilities and services to ensure that geographic distance does not become a barrier to essential health services.

Government healthcare interventions in Geographically Isolated and Disadvantaged Areas (GIDAs) are often criticized for being top-down and failing to account for local perspectives and needs, resulting in ineffective solutions (Ramanadhan, Davis, Donaldson, Miller, & Minkler, 2023). In contrast, a bottom-up approach encourages community participation and decision-making, emphasizing insights from community leaders who understand local challenges and culture (Simple Learn, 2024). This community-driven approach aligns with the principles of community-based participatory research (CBPR) and can lead to more effective and sustainable healthcare interventions.

On top of that, research on rural healthcare systems is essential to address health inequities and improve access by identifying barriers and developing innovative strategies, such as telehealth and mobile clinics. The rural population faces inequality in resource allocation, a shortage of healthcare professionals, and limited transport availability. Research on the rural healthcare system enables the development of effective models of rural healthcare delivery that inform policy and decision-making (Akhtar, Haleem, & Javaid, 2023). Knowledge of these problems contributes to improving healthcare delivery and to formulating policies that better serve the rural population.

The research is anchored in three primary theories: the Social Determinants of Health Theory, Eco-Social Theory (EST), and the Health Belief Model Theory. According to Alu (2022), the Social Determinants of Health Theory highlights that challenges to obtaining healthcare services are frequently influenced by factors such as social status and educational attainment in particular geographic areas. The study shows that individuals with higher levels of education have more economic resources, enabling them to afford better-quality healthcare services. Additionally, Eco-Social Theory (EST) is a conceptual model that integrates ecological and social factors to explain the emergence of health disparities. It focuses on the interactions between individuals and their environment, emphasizing pathways linking societal inequalities and biological processes.

Moreover, based on Jones, Gilman, Cheng, Drury, Hill, and Geronimus (2021), the life course perspective theory explains a set of phenomena to describe inequalities in health status among geographically isolated groups. This model highlights how different people's experiences shape their health. Furthermore, the Health Belief Model provides a framework for describing how socioeconomic factors influence health-related behaviors (LaMorte, 2022). These theories serve as valuable tools for highlighting the complexities and barriers faced by underprivileged groups, providing a comprehensive framework for understanding the multifaceted nature of health disparities and for learning about the roles of various socioeconomic, environmental, and educational factors that contribute to them. With this, researchers and practitioners can better distinguish particular constraints that limit the use of healthcare services and other relevant commodities. Additionally, these theories inform the development of interventions and policies to address the determinants of health inequities, ultimately leading to greater equality in the healthcare sector. By integrating these theoretical perspectives, stakeholders can collaborate to improve conditions, health outcomes, and social justice in health for underserved populations.

In this study, the integrated definition of key concepts and term use includes the social determinants: the conditions in which people are born, grow, live, work, and age, including the systems that shape daily life and determine health outcomes, as well as the availability of healthcare services. It also encompasses societal inequalities, defined as disparities in resources, opportunities, and privileges within a society that contribute to unequal health outcomes. Additionally, socio-economic factors, including income, education, and job availability, are taken into account, as they play a critical role in determining a person's ability to access healthcare. Lastly, social status, understood as an individual's position within the societal hierarchy, is recognized for its role in shaping health equity. These factors are particularly significant in specific geographic areas, especially remote or underserved regions.

While existing research has highlighted challenges to healthcare access in isolated communities, such as affordability barriers, provider shortages, and limited health education (Maganty, Bymes, Hamm, Wasilko, Sabik, Davies, & Jacobs, 2023; Gizaw et al., 2022), a critical gap remains in understanding the perceptions of community leaders regarding these issues. Specifically, there is a lack of research exploring how community leaders in different areas, particularly in Panabo City, view the unique challenges their communities face in accessing healthcare. Filling this gap would provide valuable insights into the local context and contribute to a more comprehensive understanding of healthcare accessibility in geographically isolated and disadvantaged areas.

This study aims to examine the views of community leaders in the city of Panabo regarding the accessibility and prospects for enhanced healthcare in their geographically isolated, disadvantaged community. The study aims to gain insights into barriers and facilitators to healthcare access, especially as understood by community leaders, and find potential solutions that can be adopted to eliminate health inequities and achieve positive health outcomes. By incorporating the perspectives of community leaders, the study aims to contribute to the process of formulating more effective, locally applicable health policies that accommodate the specific needs of the community and encourage community members to improve community-related health care.

The enumerated research questions identified the primary challenges community members face in accessing healthcare services in GIDAs. Also, it examined how community leaders creatively address challenges in accessing healthcare services to ensure their residents' well-being. Lastly, it would provide insights into this community leader's potential improvements to healthcare access in Geographically Isolated and Disadvantaged Areas (GIDAs). The purpose of these questions is to uncover the specific obstacles encountered, the leaders' experiences in navigating healthcare issues, and their insights for potential improvements in their communities.

The study's significance contributes to global health by reducing health inequalities in resource-limited areas through research, education, and collaborative interventions (Duke Global Health Institute, 2022). In contribution to Geographically Isolated and Disadvantaged Areas (GIDAs), gaining insight into rural healthcare is essential for identifying the fundamental causes of disparities and devising interventions to address them. Investigating the rural healthcare system informs policies and decision-making, supporting the development of effective healthcare delivery models for these regions (Akhtar et al., 2023). Furthermore, undertaking this research would significantly assist future researchers in understanding the difficulties encountered by

geographically isolated and disadvantaged areas (GIDAs) and ultimately expand efforts to enhance healthcare equity, efficiency, and accessibility.

The study directly benefits residents living in Geographically Isolated and Disadvantaged Areas (GIDAs) in Panabo City. The research delved into Barangay Health Workers' (BHWs) viewpoint of how they assist the people they represent. This looked into the challenges that they encountered in providing free public healthcare services. The aim of the study by Plianbangchang (2021) in the field of public health is to comprehend how the given factors, including genetic, environmental, socio-cultural, economic, and political factors, affect the health of the population.

Public health research seeks to use the knowledge gathered to develop evidence-based policies and interventions to improve the population's health and well-being, ultimately reducing health inequalities. In addition, global health research must be conducted to address a range of social, cultural, and logistical challenges that hinder the effectiveness of many international health programs. In addition, health care accessibility has been cited as a key determinant of achieving health outcomes for the population and of the sustainability of the health care system. Health care access is generally measured by the use/utilization of the service or by the service's availability (Nguyen, 2023).

To further explain the challenges of accessing health services in Geographically Isolated and Disadvantageous Areas (GIDAs), this research aims to use a qualitative descriptive approach to assess GIDAs through their community leaders and identify the challenges they encounter in accessing healthcare services. The Qualitative analysis investigates and delivers a deeper understanding of real-world challenges. Qualitative analysis collects data concerning individuals' experiences, perceptions, and behaviors (Tenny, Brannan, & Brannan, 2022). The case study by Flores, Tonato, Dela Paz, and Ulep (2021) from the Philippines highlights the role of healthcare facilities as a key aspect of program strategic planning. An appropriately located health facility provides access to essential health services and improves health outcomes, especially for affected groups. The decision to develop health facilities in most low- and middle-income countries (LMICs) is mainly political and economic. Due to this factor, most of the healthcare facilities are in concern areas.

As the study specifically focused on GIDA's residents, it may have had a limited number of participants or lacked representation from all sectors of the GIDA community, thereby compromising the generalizability of its findings. The problems faced by GIDA can vary widely depending on cultural, regional, and socioeconomic factors, limiting the applicability of the results beyond the targeted community. Along with limitations, the study's constraints may be confined to a specific geographic location, determining the relevance of the findings beyond that setting. Additionally, this study seeks significant value insights that will assist GIDAs and community leaders in overcoming the challenges they encounter in accessing healthcare services.

Moreover, the study's specific goal is to gather the perspectives of community leaders, potentially overlooking the direct voices and experiences of GIDA citizens. Thus, it will benefit future research across fields such as public health, sociology, and community studies. It provides a basis for subsequent research on specific health promotion activities, community head involvement, and cross-country comparisons. Subsequent studies build on these findings to investigate longitudinal consequences or examine the effectiveness of community-level health initiatives.

The main objective of this research study is to address the difficulties that residents of Geographically Isolated and Disadvantaged Areas (GIDAs) in Panabo City, Davao del Norte, encounter when accessing health services. Evidently, this is from the perspective of community leaders who represent their communities; these leaders offer exclusive insights into the barriers and obstacles that prevent effective healthcare delivery in their regions. The research aims to identify specific issues regarding the accessibility, availability, and quality of healthcare services by understanding their perspectives.

The perspective of community leaders is crucial for identifying barriers to health care access, including transportation barriers and cultural determinants of patient seeking. The involvement of community leaders in this research will help ensure that the study's results reflect the experiences of affected communities, thereby contributing to effective, positive changes in healthcare access for isolated and disadvantaged communities. This

collaborative approach can uncover critical barriers, inform policy-making, and promote equity in health care access, ultimately overcoming the divide between healthcare systems and the communities they serve.

METHOD

Study Participants

The research involved eight (8) community leaders from each identified Geographically Isolated and Disadvantaged Area (GIDA) in Panabo City. The sample population was determined by the study's qualitative nature, which aimed to gain deep, diverse insights into the lived experiences of community leaders in their roles as healthcare providers. According to the study by Muellmann, Brand, Jürgens, Gansefort, and Zeeb (2021), a small number of key informant interviews, typically around 4 to 6, can be sufficient to achieve a valid representation of a community's readiness and perspectives. Therefore, our inclusion of eight informants aligns with this guidance, enabling comprehensive data collection while maintaining a manageable, focused study scope.

Purposive sampling was used in this study, as it enables a targeted selection of participants with specific knowledge and insights into the challenges and opportunities for improving healthcare access in Panabo City. This approach aligns with the study's objective of understanding the perceptions of community leaders, who are uniquely positioned to provide valuable insights into the local context and the specific needs of their communities. As highlighted by Ahmad and Wilkins (2024), purposive sampling is a valuable technique in qualitative research, particularly when researchers seek to gain an in-depth understanding from individuals with specific expertise or experiences relevant to the research question, making it an appropriate method for this study.

Moreover, the study's informants were specifically the active Barangay Health Workers (BHWs) from the identified Geographically Isolated and Disadvantaged Areas (GIDAs) in Panabo City. Eligible participants must be 18 years of age or older and have at least 1 year of experience providing primary healthcare services to ensure they have substantial knowledge of their communities' healthcare challenges. These BHWs must also be actively involved in health-related initiatives and stationed in barangays officially classified as GIDAs by local health authorities. Conversely, individuals who are inactive or former BHWs, non-BHW community leaders such as Barangay Captains or Council Members, those with less than 1 year of experience, or workers serving outside GIDAs, and those 17 years old and below will be excluded. This inclusion and exclusion framework ensures the study focuses on informants with relevant, firsthand experience addressing healthcare issues in underserved areas.

The study includes withdrawal criteria that excuse participants who demonstrate a lack of engagement, experience a change in their role or status that no longer aligns with the study's inclusion criteria, or express discomfort with the research process. These withdrawal criteria are based on ethical research principles and the need to address the integrity and relevance of the collected statistics regarding active BHWs operating in GIDAs. This approach aligns with purposive sampling principles, selecting participants who can provide valuable and relevant data while respecting participant autonomy and well-being, as highlighted by Ahmad et al. (2024), who emphasize the importance of ethical considerations and data quality in qualitative research.

The recognized barangays in Panabo City include Barangay Tagpore, San Roque, Consolation, Katualan, San Nicolas, Buenavista, Sta. Cruz and Mabunao. These barangays were selected based on physical and socio-economic factors that classified them as Geographically Isolated and Disadvantaged Areas (GIDAs) according to the Department of Health's criteria, along with their distance from the city center. In this instance, all unmentioned barangays were excluded from the study. Hence, the information obtained from these informants would focus on the obstacles leaders face, insights into how they are navigating healthcare issues, and the perspectives of Barangay Health Workers on better healthcare access in GIDAs.

Materials and Instruments

A qualitative research design was employed to explore further the challenges these community leaders face in accessing healthcare services, especially in the Geographically Isolated and Disadvantaged Areas (GIDAs) of

Panabo City, Davao del Norte. This qualitative method allows for an in-depth understanding of their viewpoints and experiences. Participants, the Barangay Health Workers (BHWs) from certain GIDA barangays, were selected through purposive sampling. These individuals are chosen based on their knowledge of their communities, the challenges of healthcare access within them, their direct involvement in healthcare delivery, and their leadership roles within them.

The primary objective of this research study is to address the difficulties that residents in Geographically Isolated and Disadvantaged Areas (GIDAs) of Panabo City, Davao del Norte, face in accessing healthcare services. The main instrument for gathering data was a semi-structured interview guide. A comprehensive approach was used to develop this interview guide to ensure its validity and reliability. A detailed evaluation of the body of research on GIDAs was conducted to identify key ideas, themes, and challenges. Experts in the field of study have examined and commented on the preliminary version of the interview guide.

The interview guide was updated to reflect their comments and recommendations. In addition, one (1) Panabo City community leader participated in a pilot study of the interview guide to evaluate its efficacy in generating insightful answers as well as its clarity and applicability. The interview guide was improved based on the dry run results. The set of professionals and experts with backgrounds has validated and approved the final draft of the interview guide. They examined the guide's content validity to make sure it accurately depicts the difficulties in obtaining medical care in GIDAs.

Design and Procedure

The research employed a qualitative design to focus on community leaders' viewpoints and Barangay Health Workers' (BHWs) perspectives on challenges in accessing health services, specifically in GIDA, Panabo City. Qualitative research is a method of inquiry that focuses on gaining a deep understanding of social phenomena in their real-world context. It emphasizes the "why" rather than the "what" in social events. It relies on individuals' firsthand experiences as they create meaning in their daily lives (University of Utah College of Nursing, n.d.). The researchers selected Barangay Health Workers (BHWs), who have direct communication with the community involved in GIDAs and ensure that the community's fundamental needs are met.

Barangay Health Workers (BHWs) may provide valuable insights into enhancing the healthcare services delivered by local government-trained healthcare practitioners in countries with decentralized healthcare systems. Because most Barangay Health Workers come from the communities they serve, they are familiar with the difficulties residents encounter and may adjust their care accordingly. In addition to assessing medical conditions, BHWs can advise on healthy living, provide basic treatments, and make referrals as needed (Reyes, Serafica, Kawi, Fudolig, Sy, Leyva, & Evangelista, 2023). By engaging with these leaders, we can tap into their knowledge and perspectives, which reflect the community's concerns and priorities. Their experiences can shed light on challenges that might not be evident through other research methods. This approach helped us develop a detailed description of the issues at hand and inform our efforts to improve healthcare access in the community.

Qualitative Data Analysis was conducted systematically. Beginning by focusing on the most significant patterns and revealing key themes within the data. This analysis culminates in the extraction of insights that form a coherent line of evidence. Following Ravindran and Vinitha (2019), the study aims to clarify the implicit meanings that individuals associate with their behaviors and reactions concerning a phenomenon. The researcher serves as the primary tool for uncovering these meanings through intensive interaction with both the data and the participants who share their experiences. The fundamental phases of content analysis, such as data preparation, thorough reading and reflection, coding, categorization, and theme development, are essential to all methods.

They were also informed, communicative, unbiased, and willing to take part. They would have a role in the community or in understanding the phenomenon that provides the information the researcher is seeking. They offer a viewpoint that the researcher (as an outsider) would not otherwise be able to get and are willing to disclose insider information or knowledge about a concept, situation, group, culture, or issue. (Bernard, 2018; Marshall, 1996; O'Leary, 2014, Schutt, 2004 as cited in Pollak, 2015 as cited in Cossham & Johanson, 2018)

The researchers of this study played a vital role in documenting the qualitative research methodology. The researchers' responsibility is to ensure the privacy and anonymity of informants while adhering to ethical guidelines during Key Informant Interviews. Initially, the researchers provided the informants with an overview of the study's significance and obtained informed consent before conducting the interviews, which will be held with strict confidentiality. Proper interviewing practices were followed, using open-ended questions to elicit comprehensive responses. The researchers employed thematic analysis to examine the data collected from the Key Informant Interviews (KII), identifying key themes in participants' feedback. After preparing the transcriptions accurately, the researchers presented the complete manuscript to the informants, who could confirm their responses.

Lastly, after the interview transcription was completed, the researchers presented the entire manuscript to the respective informants to ensure participants could validate their responses and confirm that their messages were conveyed during the interview. Additionally, after organizing the identified themes, the researchers communicated their findings to the informants to promote transparency and ensure they could authenticate the information included in our research before the final reporting of the study.

The study's informants were selected and will be interviewed using a Key Informant Interview (KII). A recent study found that purposive sampling is more structured than random sampling in qualitative research (Van Rijnsoever, 2017). The data has been prepared for analysis to verify the validity of the interview information. Initially, after reading through all the data and creating themes and descriptions, the meaning of the identified themes was interpreted. The data from the notes were placed once the Key Informant Interviews had been successfully conducted with the selected informants.

Dependability was ensured by rigorously documenting methods, data collection techniques, and analysis procedures, allowing for replication by other researchers. Confirmability was maintained by striving for neutrality and objectivity, minimizing the influence of researcher bias. Finally, transferability was facilitated by presenting data and results in relation to the methods and procedures used, thereby enabling potential application in similar contexts. By applying these principles throughout the research process, it aimed to enhance the credibility, dependability, confirmability, and transferability of the study, ultimately contributing to a more robust understanding of healthcare access challenges in these communities.

Interviews used to gather the data were conducted with ethical considerations. The researcher has requested the informant's permission before interviewing them. Their permission to participate in this study was requested, and their refusal to be involved is being respected. Subsequently, the respondents should provide answers and responses relevant to the study.

Another ethical consideration involved the informant's privacy. It is important to note that the identities of the informants were protected after data collection. Thus, their names were anonymized using only aliases to guarantee compliance with the Data Privacy Act of 2012. (National Privacy Commission, 2022).

RESULT AND DISCUSSION

Study Participants

Key Informant Interviews were conducted with eight female participants, aged 25 to 64, all Barangay Health Workers (BHWs) from Geographically Isolated and Disadvantaged Areas (GIDAs) in Panabo City, Davao Del Norte, including Tagpore, San Roque, Consolation, Katualan, San Nicolas, Buenavista, Sta. Cruz and Mabunao. These participants, with substantial experience in delivering primary healthcare services, provided valuable insights into their roles, revealing the key challenges they face, the innovative strategies they implement, and potential ways to improve healthcare access within their communities.

To preserve confidentiality, each informant was assigned a pseudonym, as presented in Table 1. A list of Barangay Health Workers (BHWs) from various barangays in Panabo City, Davao del Norte, was compiled during the selection process. Participants were chosen according to specific criteria: they must be at least 18 years old, have at least a minimum of one year’s experience in delivering primary healthcare services, be actively

involved in health-related initiatives, and be stationed in barangays officially designated as Geographically Isolated and Disadvantaged Areas (GIDAs) by local health authorities. The selection aimed to ensure a diverse range of experiences among participants.

Table 1. Participants Information

Code	Age	Length of Service	Barangay Unit	Study Group
KII1	44	13 years	Tagpore	Interview
KII2	25	2 years	San Roque	Interview
KII3	34	13 years	Consolacion	Interview
KII4	42	20 years	Katualan	Interview
KII5	32	7 years	San Nicolas	Interview
KII6	64	20 years	Buenavista	Interview
KII7	34	4 years	Sta. Cruz	Interview
KII8	39	16 years	Mabunao	Interview

Categorization of Data

Following the Key Informant Interviews (KII), audio recordings were transcribed and thoroughly reviewed to gain a deep understanding of the data, in line with Alvin Nicolas (2023) approach. This initial phase involved extracting key concepts and immersing in participants' narratives to prepare for in-depth analysis. In the second stage, researchers manually assigned initial codes to meaningful text segments, using concise phrases or keywords to capture distinct ideas from Barangay Health Workers, ensuring each code aligned with the research questions and was clearly documented for a structured and systematic analysis.

In the third stage, researchers grouped related codes into provisional themes. They carefully reviewed each one, subdividing broader themes or merging closely related ones as necessary to ensure clarity and coherence. This iterative process refined the themes to reflect the coded data accurately. The fourth stage involved inspecting the coded data to ensure consistency between the codes and their corresponding themes, re-coding or reorganizing any misaligned excerpts to uphold thematic integrity. In the final stage, themes were clearly defined and assessed for relevance to the study's objectives, with any tangential or weak themes refined or eliminated to maintain a focused and coherent analysis.

Primary Healthcare Access Challenges in Geographically Isolated and Disadvantaged Areas

Participants described the primary challenges community members face in accessing healthcare services in Geographically Isolated and Disadvantaged Areas (GIDAs). Derived from the analysis, four key themes emerged: Out-of-Pocket Expenses, Critical Resource Shortages, Terrain-Driven Transport Challenges, and Frontline Workforce Strain. These themes captured the core issues and provided a framework for reporting on the lived experiences and challenges encountered by community members, as seen through the perspectives of community leaders, in accessing essential healthcare services.

Table 2. Primary Healthcare Access Challenges in Geographically Isolated and Disadvantaged Areas

Major Themes	Description	Core Ideas
Out-of-	*Out-of-Pocket Expenses refer to*	Limited income and high transportation expenses prevent many from seeking medical care despite free health services.

Pocket Expenses	*the expenses that an individual is personally required to spend instead of another party paying its costs, such as an insurance provider, an employer and a government program.*	The barangay's small Internal Revenue Allotment causes a limited health center budget, which restricts medicine supplies and healthcare services.
		Poverty and high transportation costs limit timely access to healthcare despite free medical services.
		Patients requiring regular monitoring, particularly the elderly and hypertensive, often postpone visits because they cannot afford transportation.
Critical Resource Shortages	*It refers to the severe lack or unavailability of essential materials, supplies, or personnel needed to maintain the basic functions of a system most notably in healthcare, emergency response, or community services.*	Limited medicine supply and lack of diagnostic equipment restrict healthcare services, forcing patients to buy medicines they often cannot afford.
		Medicine shortages and limited supplies, including essential drugs, hinder local healthcare, forcing referrals and risking the health of patients who depend on regular medication.
		The facility has no delivery equipment, making access to emergency, lab, and maternal care.
		Local health services are limited to treating only mild illnesses with basic generic medicines.
		The lack of a nearby pharmacy forces residents to travel far to the town center for medicine, causing added hardship
		Limited funding and severe budget shortages restrict medicine supply and prevent building a hospital to meet the community's healthcare needs.

Terrain-Driven Transport Challenges	*This refers to the difficulties in accessing and delivering services due to the physical features of a geographic area. In regions with mountainous landscapes, rough roads, rivers, or remote islands,*	Rescue services and vehicles exist but are often unavailable during emergencies, leading to costly reliance on private transport.
		One rescue vehicle is not enough to respond to multiple emergencies at the same time.
		Limited rescue services and long distances to hospitals force patients to find their own transportation, underscoring the need for better local emergency support.
		Poor and muddy roads during rainy seasons make transportation to health facilities difficult and unreliable.
		Distance and travel time, combined with high transportation costs, significantly limit access to healthcare despite local facilities.

	transportation becomes slow, risky, and costly.	Lack of a nearby hospital and long distance to Panabo City delay timely healthcare access.
		People living in mountain areas without roads have a very hard time getting health care and other important services.
		The community's remote location and long distances make it hard for residents to quickly reach the health center and other services.
Frontline Workforce Strain	*It refers to the physical, emotional, and professional pressure experienced by essential workers such as healthcare providers and community volunteers.*	Health workers face challenges because they must go through the LGU to get needed support, causing delays in their work.
		Health workers are often blamed by community members who miss out on services, even when efforts were made to inform them, leaving workers feeling unfairly held accountable.
		The barangay has limited health personnel, only one midwife, one nurse, and eight BHWs with just two staff members on duty each day due to a strict rotation schedule.
		Insufficient number of on-duty health workers available to cover all zones and meet the community's healthcare needs.

Out-of-Pocket Expenses

One of the most prominent challenges identified by community members living in Geographically Isolated and Disadvantaged Areas (GIDAs) is the out-of-pocket expenses associated with accessing healthcare services. This out-of-pocket expense burden on healthcare access falls squarely within the enabling resources domain of Andersen's behavioral model of health services utilization (BMHSU), one of the main models in healthcare services research (Lederle, Tempes, & Bitzer, 2021). This issue not only reflects the inadequacy of current support systems but also directly impacts the well-being and survival of residents in these marginalized areas. A key informant emphasized this burden, sharing that:

"Usahay ma-stress ang mga tawo kay bisan pa man libre ang serbisyo sa infirmary, wala silay ikaplete ug allowance paingon didto." ~ (KII1)

Sometimes, people get stressed because, even though the services at the infirmary are free, they don't have money for transportation or an allowance to get there.

The insight reveals that financial barriers to healthcare go beyond service fees, with transportation and daily costs posing significant challenges. Ratnapradipa, Jadhav, Kabayundo, Wang, and Smith (2023) found that over 20% of adults delayed care due to transport expenses, a nationwide trend. Rural populations face the most significant disparities, including higher disease rates, lower service use, and increased out-of-pocket costs (Dans, Marfori, De Mesa, Galingana, Fabian, Rey, Sanchez, Catabui, Sundiang, Paterno, Co, & Tan-Lim, 2024). Moreover, healthcare access is severely hindered not just by the cost of medical services but also by the added burden of transportation and daily expenses, challenges most deeply felt in rural areas, where limited resources and higher personal costs force many to delay or forgo needed care. One key informant also noted the constraints caused by limited government funding:

"Ang nag una na problema jud diri samoa is ang budget na gina-hatag sa center. Gamay raman gud og IRA ang barangay maong gamay rajud mi og budget diri, syempre pag gamay rag budget ang mahatag diri gamay rasad ang budget sa mga tambal." ~ (KII2)

The main challenge we face in our area is the limited budget allocated to the health center. Since the barangay receives a small Internal Revenue Allotment (IRA), our budget is also minimal. Naturally, when budgets are limited, the supply of medicines is affected as well.

The testimony highlights how LGUs with low Internal Revenue Allotments (IRAs) struggle to sustain health services, resulting in persistent shortages of medicines and equipment. Despite increased tax revenues, public health spending in the Philippines remains at just 1.5% of GDP, far below the ASEAN average, and there has been little progress in primary care, infrastructure, or workforce pay (Diokno-Sicat, Ulep, Palomar, Maddawin, & Ruiz, 2023). Globally, similar trends persist: declining health budgets in low- and middle-income countries have led to reduced services and supply shortages (Stubbs, Kentikelenis, Gabor, Ghosh, & McKee, 2023, as cited in ActionAid International, 2025). In GIDAs, the burden often begins with transportation, where costs can match or exceed treatment expenses, causing missed appointments and poor adherence (Endo, Jaramillo, & Yadav, 2022). One local key informant described this reality, saying:

"Ang problema rajud kay ang transportation kay pag wala juy kwarta dili na lang man mag-patambal ang mga tao." ~ (KII2)

The main problem is transportation. When people don't have money, they choose not to seek medical treatment because.

The challenge extends beyond the Philippines. In rural southern Ecuador, transportation alone can consume over 4% of a household's monthly income, a burden that is significant in low-income communities (Golembiewski, Gravholt, Torres Roldan, Lincango Naranjo, Vallejo, Bautista, LaVecchia, Patten, Allen, Jaladi, & Boehmer, 2022). Added to this are high out-of-pocket costs for medications and specialized care, sometimes reaching thousands of U.S. dollars (Brusnahan, Carrasco-Tenezaca, Bates, Roche, & Grijalva, 2022). These financial barriers often result in delayed or foregone care, worsening health disparities in underserved areas.

In Geographically Isolated and Disadvantaged Areas (GIDAs), the financial burden of healthcare is compounded by transportation costs, daily expenses, and limited government funding, making even free services inaccessible to many. These challenges, situated within Andersen's behavioral model of enabling resources, reveal systemic gaps in which patients are forced to delay or forgo care, not because of the cost of treatment, but because they are unable to reach it. As health centers operate with minimal budgets and communities face rising out-of-pocket expenses, the lack of accessible, adequately funded services continues to widen health disparities among the most vulnerable.

Critical Resource Shortages

Barangay Health Workers highlighted a critical challenge: the annual budget for medicines and equipment falls short of meeting year-round needs. These critical resource shortages align with Resource-Dependency Theory (RDT), which examines how healthcare organizations in various settings perceive and respond to pressures stemming from uncertain access to essential resources (Ansmann, Vennedey, Hillen, Stock, Kuntz, Pfaff, Mannion, & Hower, 2021). This shortage forces rationing and treatment delays, compromising the quality of care. One key informant emphasized the weight of this burden, noting that:

"Limitado gyud ang among resources gamay ra ang supply sa tambal, mao nga dili tanan residente matagaan, ug kung mahutdan, wala mi'y kapuli. Ginaingnan nalang namo sila nga kung makaya, sila na lang mupalit." ~ (KII1)

Our resources are indeed minimal; we have only a small supply of medicine, which means we cannot provide for all residents. Once supplies run out, we have no replacements available, so we advise them, if financially able, to purchase the medicine themselves.

The statement underscores the ongoing problem of inconsistent access to essential medicines in remote areas, where stock-outs severely undermine universal health coverage and patient outcomes (Olaniran, Briggs, Pradhan, Bogue, Schreiber, Dini, Hurkchand, & Ballard, 2022) When local facilities lack critical drugs, patients often pay out of pocket, leading to poor adherence and eroded trust in public healthcare. Modisakeng, Matlala, Godman, and Meyer (2020) note that while medicine shortages are a global issue, their effects are most severe in regions with weak health systems, disrupting care and overburdening already strained services. One healthcare worker captured this reality, sharing that:

"Sa tambal, kung naa lang gyud tambal, mahatag man gyud namo. Kung wala, wala jud mi ikahatag sa mga nanginahanglan." ~ (KII4)

Regarding medicine, if it is available, we will certainly provide it. However, if it is unavailable, we cannot assist those in need.

The statement captures the harsh reality for frontline health workers who struggle to provide basic care amid persistent shortages of medical supplies. This issue erodes service quality and patient trust (Andoh-Adjei et al., 2018, as cited in Atiga, Walters, & Pisa, 2023). Unreliable access to essential drugs limits effective response and discourages care-seeking behavior. Gizaw et. al (2022) further describe how geographic isolation, underfunding, supply gaps, and staff shortages contribute to "healthcare cold spots," where essential services remain inaccessible in many rural areas. These systemic challenges are reflected in the experiences of rural health workers, as one key informant noted that:

"Limitado ra gyud ang among mahatag nga serbisyo diri sa center, kay mga mild nga sakit ra ang among matambalan ug generic ra sab ang mga tambal." ~ (KII1)

The services we can provide here are minimal — we can only treat mild illnesses like fever and diarrhea, and the medicines we give are generic.

The narratives underscore the difficulties rural health facilities face in delivering comprehensive care, primarily due to the lack of diagnostic services. This diagnostic gap leads to delays in disease detection and limits timely, appropriate treatment, resulting in poorer health outcomes. Fleming, Horton, Wilson, Atun, DeStigter, Flanigan, Sayed, Adam, Aguilar, Andronikou, Boehme, Cherniak, Cheung, Dahn, Donoso-Bach, Douglas, Garcia, Hussain, Iyer, Kohli, Labrique, Looi, Meara, Nkengasong, Pai, Pool, Ramaiya, Schroeder, Shah, Sullivan, Tan, and Walia (2021) highlight that globally, only about 19% of people in low- and lower-middle-income countries have access to basic diagnostic tests at the primary care level.

Hence, persistent shortages of medicines and diagnostic tools in rural health centers force frontline workers to ration care, delaying treatment and lowering service quality. These challenges, rooted in limited budgets and reliance on external resources, leave residents without essential support and often push them to pay out of pocket. As a result, trust in public healthcare erodes, and access to timely, comprehensive care remains out of reach for many in GIDAs.

Terrain-Driven Transport Challenges

Universal Health Coverage (UHC) aims to ensure that all individuals have access to quality, affordable healthcare, regardless of background or location (WHO, 2019). However, transportation remains a critical yet often overlooked barrier, particularly in rural and underserved areas. These barriers correspond to the Health Belief Model (HBM), which examines how perceived barriers, such as logistical challenges like transportation, affect individuals' health behaviors (Alyafei & Easton-Carr, 2024). Travel difficulties hinder follow-up visits and access to specialist care, leading to missed appointments, delayed treatment, and poorer outcomes, especially for those with chronic conditions or limited mobility. This challenge was brought to light by a key informant, who shared that:

"Naa mansad miy rescue og daghan sad og bao-bao diria. Pero pag busy kaayo ang rescue tapos emergency kaayo need pajud nila mag pakyaw og bao-bao tapos mahal baya ang pakyaw ana diria." ~ (KII2)

We have a rescue service, and many motorized vehicles are available. However, during busy times or emergencies, the rescue service may be unavailable, and they may need to hire a private car, which can be expensive.

The statement highlights the fragile and often inaccessible emergency transport systems in rural areas, where costly private options place additional strain on vulnerable populations. Salanga, Pascual-Dormido, Villanueva, and Maguate (2024) identify key weaknesses in the Philippines' EMS, including fragmented governance, lack of national standards, and a shortage of trained personnel; over 40% of municipalities lack functional ambulances

or responders. Rodriguez, Chen, and Rodriguez (2024) further emphasize that poor coordination and limited rescue vehicles hinder timely care, undermining progress toward Universal Health Coverage and health system resilience. One frontline barangay health worker described the strain on local EMS during multiple emergencies:

"Usahay labaw na og magsabay-sabay ang emergency emergency diri samoa, dili pud enough ang among rescue vehicle diri kay isa raman." ~ (KII2)

Sometimes, mainly when multiple emergencies occur at once, our single rescue vehicle is not enough to handle all the cases.

The situation mirrors broader challenges identified by Li, Wang, Xu, Chen, and Lyu (2023), who found that even in urban areas, emergency response times are inconsistent due to limited vehicle availability. Their study underscores how operational constraints, like balancing vehicle use, distance, and cost, can hinder service delivery, especially when resources are scarce. A related concern is the geographic inaccessibility of hospitals for rural residents, as one participant noted that:

"Maapektuhan jud ang mga tao diria tungod sa kakulangan anang rescue kay layo baya jud diria ang mga hospital sa panabo, mudagan pag pila ka oras ang travel." ~ (KII2)

The lack of an adequate rescue service significantly impacts people in our area, especially since the hospitals in Panabo are far away, requiring several hours of travel.

These geographical barriers in healthcare align with the Social Determinants of Health (SDOH) framework, which highlights non-medical factors, such as socioeconomic status and geographic location, that significantly influence health outcomes (CDC, 2024). It exacerbates the vulnerability of patients in geographically isolated areas, where ambulance access is limited by traffic, poor infrastructure, and vehicle shortages, issues present nationwide but more acute in rural settings (Naboureh, Farrokhi, Saatchi, Ahmadi & Farzinnia, 2024). Chen and Bellou (2025) point to the lack of a unified national EMS framework, with fragmented local systems often uncoordinated with private providers. As a result, residents usually experience delayed treatment, underutilized services, and poorer health outcomes, and this burden was clearly illustrated by one key informant, who noted that:

"Ang nag-una jud na hagit diri samoa sa pag-access og dali na serbisyo kay ang kalay-on samong barangay og sa mga hospital sa sentro." ~ (KII1)

The main challenge here regarding easy access to services is the distance from our barangay to the hospitals in the center.

The statement underscores how access to emergency medical services in rural areas is severely hindered by geographic isolation, limited infrastructure, and poor transportation, challenges documented by Evans, Andréambeloson, Randriamihaja, Ihantamalala, Cordier, Cowley and Garchitorena (2022). These barriers not only impact healthcare but also weaken broader community resilience. Although healthcare is a fundamental right for all Filipinos, including rural populations (Dondonayos, Masukat, Ochave, Ulangkaya, Zacaria, & Faller, 2023), ongoing access issues continue to undermine this right and drive health inequities. This was highlighted by another local key informant, who shared their experience of the challenges faced locally.

"Mga pila pajud baya ka oras bago mi maabot didtoa labaw na pag emergency, pero lisod pagudpud kaayo mag-tukod og hospital diri kay gamay raman sad gud ang population samong barangay." ~ (KII2)

It still takes us several hours to get there, especially during emergencies. However, it is also tough to establish a hospital in our area because our barangay has a relatively small population.

The challenges shared by the key informant reflect broader systemic issues in rural healthcare, where workforce shortages and growing populations widen service gaps. Dondonayos et al. (2023) highlight this concern, noting that Navotas reported only 12.1 healthcare workers per 10,000 people. Limited facilities further exacerbate access issues, as Willie (2023) notes, while emergency services often cover long distances, causing treatment

delays and worse outcomes (Cochran, McDonald, Prunkl, Vinella-Brusher, Wang, Oluyede, & Wolfe, 2022). These realities point to the urgent need for sustained investment in rural healthcare infrastructure and workforce development. One key informant emphasized this, stating that:

“Hantod karon wala pajuy duol bitaw na hospital diri samoa, layo baya jud ang sentro sa Panabo dinhia no.” ~ (KII2)

Up until now, there has still been no nearby hospital in our area. The center of Panabo is quite far from here.

Supporting these accounts, Evans, Andréambeloson, Randriamihaja, Ihantamalala, Cordier, Cowley, Finnegan, Hanitriniaina, Miller, Ralantomalala, Randriamahasoa, Razafinjato, Razanahanitriniaina, Rakotonanahary, Andriamiandra, Bonds, and Garchitorena (2022), found that geographic distance remains a significant barrier to healthcare access, especially in rural areas with limited transportation infrastructure, where many rely on non-motorized travel. In regions with sparse road networks, a greater distance from primary health clinics (PHCs) significantly reduces service utilization, a pattern known as the "distance-decay" effect (Garchitorena, Ihantamalala, Révillion, Cordier, Randriamihaja, Razafinjato, Rafenoarivamalala, Finnegan, Andrianirinarison, Rakotonirina, & Herbreteau, 2021).

Hence, access to emergency healthcare in rural areas is severely constrained by geographic isolation, inadequate transportation systems, and a lack of nearby facilities, forcing patients to endure long travel times even during urgent situations. These logistical challenges, compounded by fragmented emergency medical services and scarce government investment, result in delayed care, increased health risks, and underutilization of services. Despite healthcare being a right, systemic limitations in infrastructure and rescue capacity continue to undermine equity and resilience in geographically isolated communities.

Frontline Workforce Strain

In line with the Job Demands–Resources (JD-R) model, which concludes that excessive job demands paired with insufficient resources lead to strain and burnout (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001). Barangay Health Workers (BHWs) often contend with excessive workloads, long hours, and insufficient medical supplies, all of which heighten physical and emotional exhaustion, which could compromise both their well-being and service delivery. Recent qualitative accounts reveal that, amid limited infrastructure and pandemic-related disruptions, BHWs grapple with physical exhaustion, emotional fatigue, and moral distress as they strive to meet community needs (Abelardo, Bustamante, Cabanes, Diana, Grande, & Dagohoy, 2021). One key informant emphasized this, stating that:

“Mao nga dako kaayo og epekto sa amoa isip usa ka BHW kay syempre kami man ang i-blame sa ubang miyembro nga dili sila maka avail sa maong serbisyong medikal tungod may wala napahibalo,bisan pa man kami naningkamot nga mapaabot nila ang pahibalo.” ~ (KII8)

That’s why it significantly affects us because, of course, as a BHW, we’re the ones blamed by some members who couldn’t avail of the medical services due to lack of notice, even though we really tried our best to inform them.

The emotional impact on Barangay Health Workers intensifies when they are unfairly held responsible for service gaps resulting from insufficient advance notice, despite their concerted efforts to inform the community. Recent qualitative research in Davao City highlights that BHWs employ strategies such as flyers, SMS messaging, and face-to-face outreach, yet limited access to communication technology and the absence of contextualized materials significantly undermine these efforts (Gallegos, Comidoy, Cabal, Acol & Polistico, 2023). Likewise, a socioecological analysis of underserved Philippine communities revealed that interpersonal miscommunication and insufficient support structures at the community level exacerbate feelings of guilt and blame among health workers, further straining their morale and commitment (Reyes, Serafica, Kawi, Fudolig, Sy, Leyva, & Evangelista, 2023). This burden was clearly illustrated by one key informant, who noted that:

"Tungod sa mga gina atubang namo na problema diri sa center labaw na sa kakulangon sa resources, nakaapekto kini sakoang trabaho as Barangay Health Worker na niresulta na maglisod ko og kombinse sa ilaha na magpa check up og naa silay mga balation." ~ (KII3)

Due to the problems we are facing here at the center, especially the lack of resources, this has affected my work as a Barangay Health Worker, making it difficult to convince people to get a check-up even when they are sick.

Resource shortages at local health centers directly undermine community confidence in Barangay Health Workers (BHWs) and their ability to provide care, making it challenging to persuade residents to attend check-ups even when they are ill. In a 2024 study of medically underserved Filipino communities, Kawi, Fudolig, Serafica, Reyes, Sy, Leyva, and Evangelista found that only 69.1% of participants sought professional care when sick, with many citing clinic inaccessibility, lack of diagnostic equipment, and medication stockouts as reasons for forgoing visits. Likewise, Estrada (2024) demonstrated that system-level deficits, such as under-resourced facilities and inconsistent availability of preventive services, significantly reduced treatment-seeking behaviors among socioeconomically disadvantaged Filipinos. Together, these recent findings indicate that visible resource gaps at health centers erode trust in BHWs' capacity to deliver care, thereby exacerbating reluctance to seek timely medical attention despite clear need.

The Creative Solutions by Community Leaders to Improve Healthcare Access in Geographically Isolated and Disadvantaged Areas

The Barangay Health Workers explained how they creatively address challenges in accessing healthcare services to ensure the well-being of their residents. From the analysis, four key themes surfaced: Home visits for Community Care, Inter-Agency Collaboration, Community-driven Healthcare Outreach, and Health Access through Community-Led Effort. These themes demonstrated the innovativeness of community leaders in delivering healthcare services in Geographically Isolated Disadvantaged Areas (GIDAs).

Table 3. The Creative Solutions by Community Leaders to Improve Healthcare Access in Geographically Isolated and Disadvantaged Areas

Major Themes	Description	Core Ideas
Localized Healthcare Delivery Strategies	*These are proactive, personalized healthcare or support services delivered directly to individuals and families in their homes, especially in remote or underserved communities.*	We proactively conduct home visits to reach pregnant women who cannot visit the health center.
		Pregnancy care is prioritized by proactively bringing necessary supplies and equipment during visits to ensure proper maternal health services.
		Health workers provide care through regular home visits, especially for those who can't go to the center.
Inter-Agency Collaboration	*It refers to the coordinated efforts of multiple government agencies, non-governmental organizations (NGOs), and community stakeholders working*	Working closely with the barangay improves community health by addressing needs through regular communication with local leaders.
		Our healthcare services depend mostly on the barangay partnership, with support from city and provincial governments.
		We partner with the City Health Office and NGOs for mobile medical and dental services, and we verify their effectiveness with residents.

	together to address complex issues more effectively.	Working with the barangay on medicine distribution has noticeably improved the community's health.
		We partner with the City Health Office, NGOs, and volunteers to enhance healthcare services.
Community-driven Healthcare Outreach	*This refers to health initiatives that are led or actively shaped by local community members, particularly in areas with limited access to formal healthcare services.*	Regular community health programs provide check-ups, education, and nutrition support for mothers and children.
		The community runs feeding programs and clean-up drives to improve child nutrition and prevent disease.
		Outreach programs benefit the community through partnerships with external groups.
		The community receives free medical and dental services through regular outreach events held at barangay facilities.
		Taking vaccination services to neighborhoods has greatly boosted child immunization rates.
Health Access through Community-Led Effort	*This highlights the vital role that local communities play in improving healthcare availability and delivery, especially in underserved or remote areas.*	Community health participation improves through local cooperation, daily BHW presence, and accessible neighborhood health posts.
		Community-led efforts have boosted resident turnout at the barangay health center.
		Greater community involvement improves the success of health programs.

Home visits for Community Care

A key way community leaders have ensured residents receive care is through Home Visits for Community Care. Rather than having people travel to the Barangay Health Center, health workers take the initiative to visit homes regularly. It's a hands-on approach that brings comfort and care directly to families, making healthcare more personal and accessible, especially for older people, children, and those with limited mobility. Nievar and Egeren (2005) emphasize that home visiting allows providers to observe and engage with families in their natural home environment, offering a more accurate understanding of family dynamics. Drawing on family process theory, they note that understanding relationships within the family and between the family and its context is essential to supporting family well-being (Broderick, 1993, as cited in Nievar & Egeren, 2005). They also incorporate a systems theory perspective, highlighting the interactions between families, their neighborhoods, and the physical environment as key components of family functioning (Bubolz & Sontag, 1993, as cited in Nievar & Egeren, 2005). In this regard, KII8 expressed that:

"Imbes nga sila pa ang mo-adto sa health center, kami ang moanha sa ilang tagsa-tagsa ka purok aron maghatag og libreng check-up, tambal, ug health education." ~ (KII8)

Instead of them going to the health center, we go to each neighborhood to provide free check-ups, medicines, and health education.

During house-to-house visits, Barangay Health Workers identify who needs medical attention, whether it's a child due for vaccines, an older adult needing prescriptions, or someone with a chronic illness requiring follow-up care (Philippine Information Agency, 2025). Another key effort is Proactive Maternal Home Care Support, where pregnant women receive regular checkups and guidance right at home. It's a personal and proactive way to ensure safe pregnancies and healthy moms.

"Kami na mismo ang magdala sa mga gamit na kailanganon para sa homevisit para lang jud maatiman og mahatagan namo silag serbisyo." ~ (KII1)

We understand the challenges of pregnancy, so we take the initiative to bring the necessary supplies and equipment during these visits to ensure that they receive proper care and services.

Zelka, Yalew, and Debelew (2023) highlighted how important it is for pregnant women to receive consistent care, not just at health centers, but also through home visits. These visits help catch potential complications early and ensure both mother and baby are cared for even after childbirth, a critical time for their survival. Moreover, KII1 also shared to the researchers that carrying out Home-Based Healthcare is crucial for pregnant women who cannot personally visit the Barangay Health Center.

"Samoa diri ga foster jud mi og homevisit para sa mga buntis na dili makaadto sa center kay lisod baya jud ang mag-buntis." ~ (KII1)

In our area, we actively conduct home visits, especially for pregnant women who are unable to come to the health center.

According to the Health Resources and Services Administration (2025), home visitation supports families by promoting healthy pregnancy habits and providing guidance on breastfeeding, infant care, nutrition, and child safety. They also help parents set goals, access education or jobs, arrange childcare, and connect with community resources.

Inter-Agency Collaboration

In the barangay, working together has made a real difference in healthcare delivery. When community leaders and health workers collaborate, they can quickly address health concerns and ensure that vital programs—such as immunizations, maternal care, and disease prevention—are implemented effectively. Barangay Health Workers, by partnering closely with their communities, have helped improve health outcomes and strengthen access to essential services. Building on these insights, an article by Wei (2021) outlines the development of the evidence-informed Convergent Care Theory, emphasizing its significance for navigating the complexities of contemporary healthcare systems. Through a collaborative framework, the theory seeks to unite diverse healthcare stakeholders, align resources, and foster collective efforts to enhance health outcomes. At its foundation, the theory is rooted in a culture of caring. This core principle guides organizational and team behaviors and underpins the delivery of safe, effective, and person-centered care.

"Tapos effective og naa man sad impact ang collaboration namo sa barangay kay makita manako sa mga tao diri na nakatabang jud mi sailaha in terms sa health." ~ (KII1)

Our collaboration with the barangay has proven effective and impactful, as we can clearly see how our efforts have improved our community's health.

Barangay Health Workers (BHWs) enhanced their knowledge and skills through training activities facilitated by national and local government agencies, including workshops on immunization, tuberculosis management, and basic life support. (Mallari, Lasco, Sayman, Amit, Balabanova, McKee, Mendoza, Palileo-Villanueva, Renedo, Seguin, & Palafox, 2020). With this, KII1 explained that:

"Sa barangay raman jud mi ga partner in terms sa paghatag og mga healthcare services diria samoa og sa city og ang province." ~ (KII1)

We primarily partner with the barangay to deliver healthcare services in our area, with support from the city and provincial governments.

De Claro, Lava, Bondoc, and Stan (2024) highlighted the roles of different government levels in healthcare delivery. The provincial government manages hospitals and provides tertiary care. In contrast, the municipal government implements primary healthcare programs, including maternal and child health, disease prevention,

and access to higher-level care and medical supplies. The city government coordinates and delivers both municipal and provincial services, improving overall coverage and accessibility. Furthermore, KII5 stipulated that:

"Kolaborasyon sa City Health Office ug usa ka NGO nga naghatag og mobile medical services." ~ (KII5)

Collaboration with the City Health Office and an NGO that provides mobile medical services.

According to Soriano and Mercado (2023), partnerships between NGOs and the healthcare sector have made services more accessible, fair, and effective. By working together, they've filled service gaps, engaged communities, and used limited resources wisely. In times of crisis or local health programs, this teamwork proves just how vital unity and cooperation are in caring for people's lives.

Community-driven Healthcare Outreach

Regular community health programs, including check-ups, education, nutrition support, and vaccination drives, have effectively improved child nutrition, boosted immunization rates, and prevented disease. A theoretical framework developed by Shin, Kim, and Kang (2023) provides a clear and comprehensive understanding of community health outreach as a purposeful strategy to advance health equity. The framework supports the design and implementation of more effective outreach efforts, contributing to the reduction of health disparities and the promotion of equitable health outcomes. These initiatives have enhanced overall community health and well-being.

"Naa mi Purok Kalusugan na program diri samoa, kini na programa makaingon sad ko na naa ni impact sa mga tao diri kay makatabang sila na maaware sila na naa silay ginabati kay every byernes man mi ga purok kalusugan diri, gina checkup namo sila og ginahatagan ug vitamins ug tambal." ~ (KII2)

We have the Purok Kalusugan program here in our area. I can say this program has had an impact on people because it raises awareness of their health issues. Every Friday, we conduct the Purok Kalusugan activity, during which we check them, provide vitamins, and give medicines.

Fos (2025) shared how teams of healthcare workers have been reaching underserved barangays, offering medical services and running health campaigns. One key effort is PuroKalusugan, which brings regular health activities to puroks, focusing on eight key areas—from vaccination and maternal health to TB, HIV screening, and chronic disease care. Another initiative the community has embraced is the Nutrition Program, especially feeding programs for children. These aim to boost nutrition, improve overall health, and prevent malnutrition in the early years. KII6 stated that:

"Naa mi feeding program para sa mga underweight nga bata ug regular nga clean-up drives aron malikayan ang dengue." ~ (KII6)

We have feeding programs for underweight children and regular clean-up drives to prevent dengue.

Childhope Philippines (2021), a local NGO, shared how feeding programs have helped reduce malnutrition and hunger among underprivileged children. These programs do more than serve meals—they also teach families about proper nutrition and support children's right to adequate food. They remain a lifeline for communities facing food insecurity.

In a similar effort to empower communities, Gregorio, Takeuchi, Hernandez, Medina, Kawamura, Salanguit, Santillan, Ramos, Tuliao, Morales, Palatino, Shibuya, & Kobayashi (2024) found that people who understood dengue—its symptoms, treatment, and how it spreads—were more likely to protect themselves and eliminate mosquito breeding sites. It's a clear reminder that knowledge can drive healthier habits. KII7 also shared their experience with Free Medical-Dental Outreach Programs:

"Mga libreng ibot sa ngipon, naga pasulod pod mi og medical diri kanang para libre check up pareha sa mata, sa mga diabetic, ug laboratory." ~ (KII7)

We provide free tooth extractions and also offer medical services, including free eye check-ups, diabetes screening, and basic laboratory tests.

Kherad and Carneiro (2023) revealed that routine health check-ups led to higher detection rates of chronic conditions such as depression and hypertension. They also showed moderate improvements in managing risk factors like blood pressure and cholesterol, while encouraging greater use of preventive services, including screenings for colorectal and cervical cancer.

In a similar light, a scoping review by Ghoneim, Ebnahmady, D'Souza, Parbhakar, He, Gerbig, Singhal, and Quiñonez (2022) emphasized how dental diseases negatively affect both the healthcare system and society. Improving access to dental care, they noted, can enhance overall health, reduce healthcare costs, and create broader social benefits. KII8 also shared that:

"Misaka gyud ang ihap sa mga bata nga nakadawat og bakuna kay among gidala mismo ang immunization services sa matag purok." ~ (KII8)

The number of children receiving vaccines has significantly increased because we brought immunization services directly to each neighborhood.

According to a major study by the World Health Organization (2024) published in The Lancet, immunization programs have saved an estimated 154 million lives over the past 50 years—that's roughly six lives every minute. Remarkably, 101 million of those saved were infants. The research shows that vaccines are among the most powerful tools in public health, with the measles vaccine having the most significant impact, accounting for 60% of the lives saved. It's a clear reminder of how vaccines continue to protect millions, especially in a child's most vulnerable years.

Health Access through Community-Led Effort

Community engagement boosts healthcare by addressing local needs, building trust, and respecting culture. Active community member participation is fundamental to the effectiveness of community-based health and safety programs. Baciu, Negussie, Geller, and Weinstein (2020) highlighted that when people trust their neighbors and feel a strong sense of belonging, they are more likely to work together to address health equity challenges. Actual community-led action depends on the community's ability to organize, which requires vision, leadership, voice, and power. Building this capacity is key to ensuring inclusive decision-making around health equity. Along with this, KII7 mentioned that:

"Pinaagi sa pag organize ug pag hikayat saila na magtinabangay, ginapa aktibo namo pinaagi sa kanunay na pag pasabot saila nga makig cooperate sama sa pakigpulong." ~ (KII7)

By organizing and encouraging them to work together, we actively engage the community and consistently remind them to cooperate.

Durrance-Bagale, Marzouk, Tung, Agarwal, Aribou, Ibrahim, Mkhallalati, Newaz, Omar, Ung, Zaseela, Nagashima-Hayashi, and Howard (2022) emphasized that involving communities in setting priorities and making decisions gives people a chance to voice their opinions and take ownership of their healthcare, which improves its effectiveness. When healthcare is accessible, it encourages more community participation. People can attend programs, communicate their needs, and collaborate with providers, fostering a sense of responsibility and helping ensure that services truly meet the community's needs.

"Tungod ani na mga inisyatibo, niresulta kini na naa nay mga katawhan na moduol sa barangay health center." ~ (KII3)

As a result of these initiatives, residents have started coming to the barangay health center.

A study by Ojielo, Etiaba, and Onwujekwe (2024) found that community participation and involvement in community health system (CHS) activities improved healthcare services, corrected health misconceptions,

increased willingness to use immunization services, and increased use of government health facilities rather than unqualified providers.

Building Health Access Through Community Unity highlights the importance of collective effort in improving healthcare access. Unity fosters trust, strengthens advocacy, and ensures that health solutions are shaped by the people who need them most. Ultimately, a united community becomes a powerful force for achieving inclusive, responsive, and sustainable healthcare for all.

"Usahay og naay miyembro na kailangan jud moadto sa Panabo, ginatabangan namo mga Barangay Health Worker para makaadto lang sila, ginatabangan namo ilang pamasahe. Pati among sir mag diskarte pud jud para naay ikadungag." ~ (KII4)

At times, when a member needs to go to Panabo, we, the Barangay Health Workers, help them by covering their transportation expenses. Our supervisor also makes an effort to provide extra support.

Within the Primary Health Care (PHC) framework, Barangay Health Workers (BHWs) serve as the initial point of contact between the community and the healthcare system. Quitevis (2011, as cited in Camasin, Estur, Jomadiao, Paet, Nacionales, & Claridad, 2023) highlighted the multifaceted roles of BHWs, highlighting that they not only monitor community health and provide medical services but also offer basic curative care to patients. Their involvement is crucial for assessing constituents' health needs and connecting them to appropriate healthcare services.

Perspectives of Barangay Health Workers on Better Healthcare Access in GIDAs

Through rigorous analysis of interviews with community leaders, five major themes were identified: Ensuring Medicine Availability, Igniting Local Healthcare, Investing in Healthcare Infrastructure, Advancing Innovative Healthcare Delivery, and Empowering Healthcare Workforce Development. These themes highlight both systemic challenges and local solutions in healthcare service delivery for remote communities.

Table 4. Perspectives of Barangay Health Workers on Better Healthcare Access

Major Themes	Description	Core Ideas
Ensuring Medicine Availability	*It refers to the strategic efforts to maintain a consistent and reliable supply of essential medicines, particularly in rural and underserved areas.*	Establishing a nearby drugstore is essential to ensure accessible medicine and basic supplies, particularly for residents with limited mobility or financial means.
		Frequent shortages of essential medicines in health centers hinder timely and effective treatment for residents.
		Prioritizing access to essential medicines for children and the elderly is vital to safeguarding community health and minimizing the need for distant travel to seek treatment.
Ignite Local Healthcare	*This is the initiative to systems at the community level by empowering local stakeholders, investing in grassroots solutions, and fostering innovation.*	Improving local healthcare requires upgraded facilities and increased barangay funding however, persistent budget limitations hinder meaningful progress.
		Collaboration with NGOs, volunteers, and donors serves as a crucial strategy to address healthcare gaps caused by insufficient barangay funding.
		Increasing the barangay budget is essential to strengthen local healthcare services and lessen the financial burden of traveling to distant health facilities.

Investing in Healthcare Infrastructure	*This involves allocating resources to build, and maintain the physical and technological systems that support effective healthcare delivery.*	Upgrading and renovating barangay health centers with improved facilities, such as diagnostic equipment, is essential for enhancing local healthcare services and minimizing the need for residents to seek care in distant locations.
		Reliable internet access, modern equipment, and adequate tools are urgently needed in the health center to enhance service quality, improve efficiency, and overcome operational limitations.
		Every barangay needs reliable health transportation to ensure timely and consistent patient care.
Modernizing Community Healthcare	*This refers to the process of updating and enhancing local health systems through the integration of innovative tools, technologies, and practices that improve the accessibility, quality, and efficiency of healthcare services.*	Digital health programs with teleconsultations and mobile clinics help fill gaps when doctors are unavailable in rural areas.
		Expanding mobile clinics and purok-based healthcare brings timely medical services to remote mountain communities, improving access for vulnerable residents.
		Purok-level health initiatives use local community gatherings to effectively extend healthcare services.
Empowering Healthcare Workforce Development	*This focus on strengthening the capabilities, confidence, and well-being of health workers especially those serving at the community level such as Barangay Health Workers (BHWs), nurses, and midwives.*	Enhancing barangay healthcare depends on providing comprehensive and continuous training for Barangay Health Workers.
		Caregiver classes provide pregnant women and new mothers with essential knowledge and skills for safe pregnancy and effective newborn care.
		Barangay Health Workers are able to identify and report issues within health centers but face limitations that prevent them from directly resolving these problems.

Ensuring Medicine Availability

One of the recurring challenges identified by community leaders is the inconsistent availability of essential medicines at barangay health centers. This issue significantly affects individuals who depend on these facilities for maintenance medications and immediate healthcare needs. Residents, especially those with limited mobility, often struggle to access necessary treatments due to frequent stock shortages and the considerable distance to alternative sources of medicine.

“Karon, kasagaran kulang ang supply sa health center dunay panahon nga mahurot ang stock sa essential nga tambal sama sa para sa hilanat, ubo, o high blood.” ~ (KII8)

Right now, the health center often lacks supplies, and the stock of essential medicines, such as those for fever, cough, or high blood pressure, runs out.

Frequent stockouts hinder timely access to treatment, often forcing patients to delay care or resort to costlier, less accessible alternatives. Consistent availability of essential medicines is crucial for achieving universal health coverage, particularly in GIDAs where private pharmacies are scarce (Ozawa, Higgins, Yemeke, Nwokike,

Evans, Hajjou, & Pribluda, 2020). Informants emphasized the need to prioritize access for vulnerable groups, especially children and the elderly, who are more susceptible to health complications and depend on uninterrupted medication. As KII1 shared:

“Kasagaran mangud diria ang pinaka need jud kay tambal sa mga bata og senior citizen, mao na ang pinaka importante na matagaan sila og pagtagad para sailahang kaayuhan." ~ (KII1)

The most needed items here are usually medicines for children and senior citizens, so they must receive proper care for their well-being.

The collective concern highlights the importance of equity in healthcare delivery. Davies (2022) emphasizes that pediatric and geriatric populations have distinct pharmacological needs and are particularly vulnerable to disruptions in the supply of essential medicines, underscoring the need for consistent access to these medicines to build community health resilience. One major constraint identified is the lack of nearby drugstores or private pharmacies; in many rural barangays, health centers are the only source of medicine. Without local access, residents are often forced to spend scarce resources on transportation to town centers, funds that could otherwise be used to purchase additional medication. Further emphasizing the need for local access, KII1 remarked:

“Diri kay dapat naa na ju’y groceryhan kanang mga botika para diri nalang mupalit, dili na need muadto pa sa sentro para mupalit ug tambal kay para ang ipamasahe nila ipalit na lang na nila dungag og tambal." ~ (KII1)

There should really be a pharmacy here, like a small drugstore, so people can buy medicine locally without having to go to the town center. That way, the money they would’ve spent on transportation can instead be used to buy more medicine.

Proximity to healthcare commodities plays a vital role in improving treatment adherence and reducing financial burden. Berenbrok, Tang, Gabriel, Guo, Sharareh, Patel, Dickson, and Hernandez (2022) found that the presence of community pharmacies increases medication adherence and reduces preventable hospitalizations, thereby strengthening primary healthcare systems in underserved areas. Consistent access to medicines is especially crucial in rural communities, where travel to urban centers often imposes additional costs and delays care.

Aligned with the Primary Health Care Performance Initiative (PHCPI) framework, the steady availability of medicines at the community level reflects the responsiveness, equity, and resilience of primary healthcare systems (PHCPI, 2022). To ensure more reliable access, particularly for children and older adults, recommended strategies include improved budgeting, community-led inventory monitoring, and decentralized procurement systems. These targeted interventions not only enhance the efficiency of local service delivery but also help build public trust in barangay-level healthcare infrastructure.

Ignite Local Healthcare

Collaborative partnerships between local government units (LGUs), non-governmental organizations (NGOs), volunteers, and other stakeholders are vital for improving healthcare access in underserved barangays. In areas where public resources are limited and healthcare facilities are underfunded, such partnerships help fill critical gaps by providing financial aid, medical supplies, and human resource support. Key informants consistently highlighted the inadequacy of barangay-level budget allocations, which restrict the delivery of essential health services. These fiscal limitations underscore the importance of partnerships as a practical and sustainable means of supporting community health programs. As KII2 shared:

“Since ang unang problema manjud diri samoa is budget, ang solusyon na akong ma visualize para masolusyonan ni kay pinaagi sa volunteerism og donations." ~ (KII2)

Since the main problem we face here is budget constraints, I can envision addressing this through volunteerism and donations.

A widely held belief among informants is that external collaboration—particularly through volunteer efforts and donor contributions is indispensable in addressing local resource gaps. Multi-stakeholder partnerships contribute

not only material support but also bring innovation, training, and managerial expertise often lacking in barangay health units. Loban, Scott, Lewis, Law, and Haggerty (2021) highlight that such collaborations can strengthen the capacity of primary healthcare systems in marginalized communities by improving service delivery and ensuring long-term sustainability. The importance of financial support was echoed by another informant, who articulated the need for increased budget allocations to meet community demands:

“Taasan unta ang budget samoang barangay para mas ma-provide namo ang mga healthcare services na ilang gina pangita ug para di nasad sila moadto og layo para mamasahe." ~ (KII4)

Hopefully, the budget for our barangay will be increased so we can better provide the healthcare services they need, and so they won’t have to travel far or spend on transportation.

Limited fiscal capacity constraints health service availability and access, particularly in geographically remote barangays. Although the 1991 Local Government Code devolved responsibility for health services to LGUs, the effectiveness of this decentralization largely depends on each unit's income classification. Liwanag and Wyss (2020) note that lower-income LGUs often receive a disproportionately small share of national funds, which is insufficient to support labor-intensive and infrastructure-dependent health services. As a result, many LGUs depend heavily on reimbursements from the Philippine Health Insurance Corporation (PhilHealth) to sustain operations. Among informants, a related concern was the inadequacy of medical equipment in barangay health stations, a gap frequently attributed to limited funding. One informant emphasized:

“Isa sa mga gusto pajud nako ma improve diri samoa is ang mga gamit bitaw diri samoa kay kulang-kulang paman jud mi, pero naga depende paman jud gud na sa budget." - (KII2)

One of the things I really want to see improved in our area is the equipment we have, because we’re still lacking, but that still really depends on the budget.

The lack of functional medical equipment limits the quality and scope of care in communities, often forcing residents to seek basic diagnostic services at distant facilities, causing delays, extra costs, and weakening the goal of localized healthcare. Investments from NGOs, private donors, and public-private partnerships have helped address these gaps; Chukwudalu, Ebulue, and Ekesiobi (2024) highlight how such collaborations improve equipment, health worker readiness, and innovation in underserved areas. Community-led efforts such as medical caravans and health donation drives also demonstrate the impact of collective action, even in resource-limited settings.

Anchored in the WHO Integrated People-Centred Health Services (IPCHS) framework, contemporary evidence (2016–2023) shows that collaborative, cross-sector partnerships build trust, foster coordinated governance, and strengthen resilience in underserved rural health systems (Hafiz, Yin, Sun, Yang, & Liu, 2024). Sustainable partnerships anchored in long-term commitment and mutual accountability are essential to addressing structural deficiencies in rural health systems. By leveraging external support and community initiative, barangay health units can enhance service delivery, reduce dependency on distant facilities, and create more equitable and resilient healthcare environments.

Investing in Healthcare Infrastructure

Investing in healthcare infrastructure is crucial to delivering quality services in geographically isolated and disadvantaged barangays. Informants emphasized that the structural condition and technological capacity of barangay health centers directly influence their ability to provide timely and comprehensive care. The WHO Health Systems Building Blocks Framework underscores that targeted investments in infrastructure, including facilities, equipment, and transport, are essential for strengthening service delivery, enhancing system resilience, and promoting health equity in rural settings (World Health Organization, 2020). In many cases, the poor state of local health facilities reflects broader systemic neglect, as one key informant noted:

“Para sakoa ang kailangan jud unahon kay ang pag-usab sa structure health center. Kailangan kini para mas mapagwapo ug mas mahatag ang mga serbisyo na kinahanglan sa mga tao." ~ (KII4)

For me, the top priority should be renovating the health center. This is necessary to improve its appearance and to provide better services that people need.

Infrastructure is not merely about physical structures; it also shapes community confidence in the health system. When health facilities deteriorate or lack essential equipment, they compromise the quality of care, especially for vulnerable populations such as pregnant women, children, and the elderly, who are often compelled to seek treatment in distant hospitals. Modern healthcare infrastructure, equipped with basic diagnostic tools such as ultrasound machines and automated BP monitors, can significantly enhance service delivery. For instance, Alberto, Alberto, Eala, Dee, and Cañal (2022) found that well-equipped rural health units experienced fewer patient referrals and higher satisfaction rates. Such upgrades are both functional and instrumental in advancing equitable access to care.

“Dili na kinahanglan mulangoy ang pasyente sa kahago ug gasto para lang matambalan." ~ (KII6)

Patients shouldn't have to suffer or spend too much to get treatment.

In addition, accessible equipment encourages early health-seeking behavior, builds trust in local systems, and reduces dependence on informal or unsafe care. Furthermore, the availability of medical tools improves efficiency. In under-resourced areas, health teams often share equipment, limiting their ability to serve multiple locations simultaneously.

“Kung madugangan among equipment na ginagamit, mas mapadali among trabaho kay pwede nami mag bulag-bulag og suroy kada purok dili na kailangan na mag usa gyud mi tanan tungod kay limited ra ang gamit." ~ (KII7)

If we had more equipment, our work would be easier because we could split up and visit different zones, instead of all going together just because the equipment is limited.

Limited resources hinder outreach efforts, while adequate tools enable more exhaustive coverage and shorter wait times in remote sitios. The Philippine Health Facility Development Plan (PHFDP) 2020–2040 notes that diagnostic equipment is heavily concentrated in urban areas, such as NCR and Region IV-A, leaving regions such as BARMM and MIMAROPA with severe shortages (Cordial, 2020). These disparities perpetuate health inequities and obstruct the implementation of Universal Health Care. Additionally, the lack of dedicated transport in many barangays limits access to timely emergency care, as one informant shared:

“Unta matag barangay naay health transport nga dedicated para sa pasyente.” ~ (KII5)

Hopefully, each barangay will have its own health transport specifically for patients.

Although the national government allocated ₱2.2 billion in 2024 for ambulance procurement (Presidential Communications Office, 2024), and programs like PCSO have distributed over 200 units, many barangays still lack any form of patient transport (PNA, 2023). As a result, residents face delays, financial burdens, and emotional distress, especially during emergencies or when navigating rugged terrain. The World Health Organization (2021) underscores that localized investments in infrastructure, including transport and equipment, are essential for realizing Universal Health Care.

Improving healthcare outcomes in rural and remote barangays requires robust infrastructure investment. Renovating health centers, equipping them with essential tools, and providing reliable transport are not supplementary; they are foundational measures. Ultimately, addressing these gaps is key to building a resilient, equitable, and community-centered healthcare system.

Modernizing Community Healthcare

Modernizing community healthcare begins with adopting interoperable electronic health record systems that centralize patient data and minimize clinical errors (Javaid, Haleem & Singh, 2024). Telemedicine platforms and mobile health applications have demonstrably expanded access and improved outcomes for rural and

underserved populations by enabling remote consultations and continuous monitoring (Ezeamii, Okobi, Wambai-Sani, Perera, Zaynieva, Okonkwo, Ohaiba, William-Enemali, Obodo & Obiefuna, 2024). Together, these digital tools empower local health workers to deliver more efficient, data-driven, and equitable care across communities (Adeniyi, Arowoogun, Chidi, Okolo & Babawarun, 2024).

Persistent disparities in healthcare access in rural and geographically isolated areas highlight the need for innovative delivery models. The absence of resident physicians, under-equipped health centers, and long travel distances hinder timely access to care, especially for children, older people, persons with disabilities, and low-income households. According to the WHO Digital Health Strategy, telemedicine and mobile outreach are most effective when adapted to local needs (World Health Organization, 2021).

To bridge these service gaps, adaptive approaches have emerged, including mobile medical units, digital health platforms, and the decentralization of services to the purok level. These strategies are particularly relevant in Geographically Isolated and Disadvantaged Areas (GIDAs), where poor road conditions, rugged terrain, and a limited healthcare workforce further restrict access. As one informant noted:

“Ang pinaka-importante nga improvement kay ang pagdugang sa mga mobile clinics ug medical missions nga moabot gyud sa mga bukid ug libtong purok.” ~ (KII7)

The most important improvement is the addition of mobile clinics and medical missions that can truly reach the mountainous and remote puroks.

Mobile clinics serve as practical solutions to long-standing barriers in rural healthcare by bringing services closer to residents, helping reduce the costs and difficulties associated with traveling long distances. Weiner, Gallo, Gabiola, Ip, and Bender (2024) highlight that these clinics not only expanded access but also improved patient satisfaction through more convenient, affordable care. Their capacity to provide diagnostic, treatment, and preventive services makes them vital for inclusive health systems. At the same time, the lack of consistent medical personnel in remote barangays remains a challenge. Many health centers still operate without resident doctors, leaving communities underserved. One informant emphasized the need for alternative solutions:

“Unta naay digital health program nga kung wala’y doktor, pwede makatawag ug telekonsulta.” ~ (KII5)

Hopefully, there will be a digital health program that allows teleconsultations when no doctor is available.

In this context, digital health, particularly telemedicine, emerges as a key innovation. It enables real-time consultations between patients and remote physicians, thereby expanding access even in areas without resident providers. The World Health Organization (2020) and Quilon and Singun (2020) both recognize the potential of telemedicine in rural settings, provided that internet connectivity and digital literacy are improved. Supporting this, Lahoz, Dans, Tan-Lim, Tomas, Galingana, Sanchez, Aquino, Amit, Rey, Panganiban, and Dans (2024) reported that 29% of pediatric consultations from 2021 to 2022 occurred via telehealth, mainly in low-access areas. However, barriers such as unstable internet connections and a lack of digital devices continue to limit its reach, as highlighted by Fabian, Ynez, Tan-Lim, Sandigan, Lopez, Loreche, Dans L., Benzon, Zabala, Sanchez, Sundiang, Rey, and Dans A. (2024). To overcome these limitations, several informants recommended combining telemedicine with mobile clinics and health caravans, ensuring that even those without digital access can benefit from integrated and responsive healthcare services.

“Health education caravan kada buwan, mobile clinic, ug teleconsultation gamit ang cellphone para sa mga pasyente nga di na makagikan.” ~ (KII6)

Monthly health education caravans, mobile clinics, and teleconsultations using cellphones for patients who can no longer leave their homes.

By integrating these approaches, healthcare delivery becomes more comprehensive and responsive, especially during emergencies, natural disasters, or pandemics, when access to physical facilities is restricted, and institutionalizing efforts at the purok level, where residents naturally gather and engage in local activities, is equally important, as one key informant explained:

"Sa akong panan-aw, ang pag prioritize sa purok-level nga mga health initiative kay hinungdanon kaayo tungod kay dinhi natural nga nagkatigom ang mga tawo ilabina atol sa Purok Kalusugan activities." ~ (KII8)

In my opinion, prioritizing purok-level health initiatives is very important because this is where people naturally gather, especially during Purok Kalusugan activities.

Indeed, localizing programs at the purok level enhances reach, encourages participation, and improves health outcomes, especially among populations with mobility issues. Nevertheless, many barangays lack formalized purok-based systems due to funding and staffing limitations. Research from Decentralization Net (2021) highlights that decentralized models, particularly at the micro-community level, are more responsive and adaptable, enhancing continuity of care and local coordination.

Advancing innovative healthcare delivery is essential for addressing access barriers in rural and remote areas. By combining mobile clinics, telemedicine, and purok-level initiatives, communities benefit from more inclusive, efficient, and context-sensitive services. Therefore, to ensure health systems are both equitable and accessible, innovation must be continuously harnessed and localized, bringing healthcare closer to where people live, work, and gather.

Empowering Healthcare Workforce Development

Empowering the healthcare workforce is essential for equitable access, especially in GIDAs, where Barangay Health Workers (BHWs), caregivers, and volunteers serve as frontline providers in the absence of licensed professionals. The Community Health Systems framework emphasizes that community health workers need participatory roles, adequate support, and clearly defined responsibilities to sustain effectiveness and promote equity (Kowalczyk, Yao, Gregory, Cheatham, DeClemente, Fox, Ignoffo, & Volerman, 2024). Their impact, however, relies on continuous training and institutional backing. Gonzales, Cariaso, Pechon, Salvador, Dote, Malbas, and Gamboa (2024) found that retooling programs in rural areas, such as Occidental Mindoro, enhanced BHWs' technical skills, confidence, and communication, leading to better health outcomes. Similarly, Dorado and Ramos-Florece (2024) noted that trained and engaged BHWs are more effective in health promotion and are trusted community advocates. Field respondents echoed these findings, stressing the need for regular training and greater funding for barangay health initiatives. As one informant noted:

"Dungag training sa mga barangay health workers, mas dako na pundo para sa health sector." ~ (KII6)

There should be more training for barangay health workers and a larger budget for the health sector.

Visitacion and Taburnal (2020) emphasize that BHWs' knowledge and competence are strongly shaped by access to continuous learning and refresher courses; without these, their capacity to respond to evolving community health needs is limited. Comprehensive training must also be supported by adequate logistics—such as health supplies, supervisory systems, and fair compensation—to ensure long-term sustainability. Beyond clinical skills, community-based health education programs were also highlighted as practical tools for promoting maternal and child health. As one informant shared:

"Adunay gipahitabo nga caregivers class kung diin ipasabot sa mga buntis ug sa bag-ong nanganak ang need nga buhaton para sa ilang pagbuntis ug sa ilang bag-ong natawo nga bata. Panahon pod sa immunize ipasabot daan sa mga inahan ang mga kaayohan nga makuha sa mga bata." ~ (KII8)

Caregiver classes are held to inform pregnant women and new mothers about what they need to do during pregnancy and after childbirth. During immunization, mothers are also educated about its benefits for their children.

Grassroots initiatives underscore the value of culturally sensitive, peer-led education in improving health literacy. Dorado and Ramos-Florece (2024) note that more competent BHWs are better at engaging communities and promoting preventive behaviors, particularly among women and caregivers. Effective collaboration among healthcare workers also plays a vital role in service delivery. Nakamura, Siongco, Moncatar, Tejero, De La Vega, Bonito, Javier, Tsutsui, Tri Han, Vo, Tashiro, Al-Sobaihi, Seino, Van Vo, Lorenzo, and Canila (2022) found that

in-service training focused on interprofessional collaboration improves care efficiency, especially for vulnerable groups like older adults. Extending such collaborative practices to BHWs and local health committees enhances coordination and strengthens continuity of care. Despite these advances, limited BHW participation in regional health planning and budgeting remains a key challenge. As one informant shared:

"Naa man gud mi committee sa Health na mao rajud among ma-ingnan na mao kulang sa health center kay dili man mi pwede. Naka-budget naman gud daw daan ang kwarta." ~ (KII4)

We have a Health Committee, and they are the only ones we can approach regarding the deficiencies in the health center, as we are not permitted to intervene directly. It was explained to us that the funds have already been pre-allocated.

Such sentiment points to the disconnect between frontline insights and top-down decision-making. While decentralization has placed health responsibilities with local government units (LGUs), the lack of participatory governance often results in budgetary decisions that fail to reflect ground-level realities. Ensuring that BHWs are meaningfully involved in planning processes would not only improve service responsiveness but also promote greater accountability.

Empowering the rural healthcare workforce requires a holistic strategy: one that combines capacity-building through structured training, logistical and financial support, community-based education, and participatory governance. As supported by recent literature, when BHWs are adequately trained, resourced, supported in their roles, and consulted, they become key agents in delivering equitable and effective healthcare to underserved populations.

CONCLUSION

The findings of this study hold significant implications for national strategies aimed at addressing the challenges faced by Geographically Isolated and Disadvantaged Areas (GIDAs). As Barangay Health Workers (BHWs) have demonstrated the capacity to adapt and overcome institutional obstacles to providing healthcare, the study establishes the necessity of specific policy changes and infrastructure investment. The reforms are necessary not only to promote access to healthcare in GIDA but also to promote the universal healthcare goal of Universal Health Coverage (UHC). The Findings can be used at the national level of GIDA strategies, as they will highlight the significance of equal access to healthcare services. The specific needs experienced by the marginalized populations help policymakers construct holistic strategies that coordinate the local healthcare agendas with international ones, including Universal Health Coverage (WHO, 2017) and the Sustainable Development Goals (SDG 3).

The research leads to the understanding that there is a high demand for community-based interventions, which will empower BHWs and thus yield better results for community health. Moreover, enhancing stakeholder partnerships, encompassing government agencies, healthcare providers, and local communities, is important for facilitating accountability and driving breakthroughs in local governance. With the help of technology and improvements in BHW roles, we can strengthen our healthcare system and better meet the needs of GIDAs.

Additionally, collaboration among policy-makers, healthcare providers, and local communities in the long run is crucial for translating these insights into real solutions. This partnership will not just improve the quality of healthcare delivery in GIDAs, but will also serve the broader mission of achieving Universal Health Coverage. Ensuring that everybody, regardless of their geographical location, has access to the necessary health services will bring us closer to the vision of a better, more equitable society in health.

Finally, the research can act as an essential milestone in briefing national GIDA plans and recommending better Universal Health Coverage. We can promote a more inclusive and comprehensive healthcare system that addresses the needs of all communities, especially those in geographically isolated and disadvantaged areas, by prioritizing policy reforms, investing in infrastructure, and empowering local health workers first.

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