ISRG JOURNAL OF CLINICAL MEDICINE AND MEDICAL RESEARCH [ISRGJCMMR]

ISRG PUBLISHERS
Abbreviated Key Title: ISRG J Clinic.Medici.Medica.Res.
ISSN: 3048-8850 (Online)
Journal homepage: https://isrgpublishers.com/cmmr/
Volume – III, Issue - III (May-June) 2026
Frequency: Bimonthly

HEALTH WORKFORCE CAPACITY AND HEALTH SERVICE DELIVERY OUTCOMES IN RURAL HEALTH UNITS IN THE CALAMIANES GROUP OF ISLANDS

CHRISTIAN JOY R. LIBO-ON

Graduate Nursing Department, Graduate School Palawan State University Puerto Princesa City, Palawan, Philippines

| **Received:** 30.05.2026 | **Accepted:** 31.05.2026 | **Published:** 02.06.2026

***Corresponding author:** CHRISTIAN JOY R. LIBO-ON

Abstract

The study examined the health workforce capacity and health services delivery outcomes in Rural Health Units (RHUs) in the Calamianes Group of Islands. It employed a quantitative research design using descriptive and inferential statistical methods to determine the potential relationship among variables. A total of 200 clients/patients who utilized the RHU's services in the Calamianes Group of Islands, such as Busuanga, Coron, Culion, and Linapacan, served as respondents. Their demographic profiles were analyzed in relation to their assessments of health workforce capacity and perceptions of health services delivery outcomes. Data were collected through a structured survey questionnaire. Findings show that the majority of respondents were aged 26 to 30 years, predominantly female, married, high school graduates, and unemployed. Respondents were equally distributed across the four municipalities. In terms of health workforce capacity, respondents reported a mean rating of 3.11 for staffing and availability of health workers, 3.28 for staff performance and workload, 3.30 for perceived competence, and 3.10 for availability and adequacy of health resources. Regarding health service delivery outcomes, the results showed a mean of 3.3 for expanded immunization, 3.35 for maternal care services, 3.23 for child health services, 3.54 for family planning services, and 3.19 for dengue prevention and control. Inferential analysis revealed that sex, civil status, highest level of educational attainment, and employment status had a significant relationship with both health workforce capacity and health services delivery outcomes in RHUs. In contrast, there were no significant relationships found between sex and place of residency. Based on the findings, the study recommends strengthening health workforce capacity through the hiring of additional personnel, optimizing staff scheduling, ensuring equitable workload distribution, and sustaining continuous training and professional development.

Keywords: *Health workforce capacity, health service delivery, Rural Health Units, Calamianes Group of Islands.*

DOI: 10.5281/zenodo.20502542

INTRODUCTION

The health workforce plays an important role in our country's healthcare system, and its significance has gained global recognition. The World Health Organization (WHO) in 2016 said that an effective and equitable health workforce is necessary for achieving Universal Health Coverage (UHC) and the health-related objectives of the Sustainable Development Goals (SDGs). However, many countries, especially those with low and middle income levels, still struggles with shortages of health workers, poor distribution, and inefficiencies. According to the WHO Global Strategy on Human Resources for Health Workforce in 2030, countries need to urgently strengthen their health workforce to meet the growing demands of populations, as a global shortage of health workers is expected by 2030, with the majority working in underserved areas. This shortage creates gaps and inequalities in the health of vulnerable sectors of society, undermines the quality of healthcare for citizens, and becomes a barrier to the provision of proper and essential health services (WHO, 2016).

Based from the Department of Health (2022), the country had enhanced primary care and increased health insurance coverage through the UHC Act of 2019 and other initiatives, such as the Medical Scholarship and Return Service Program, the Health Facilities Enhancement Program (HFEP), and the "Konsultasyong Sulit at Tama" (Konsulta) Package. In rural and island provinces, implementation of these programs is particularly difficult due to the substantial human resource gaps. The DOH and the Philippine Health Insurance Corporation (PhilHealth) still experience difficulties in hiring, retaining, and supporting healthcare workers in rural areas. According to estimates by the World Health Organization (WHO), the Philippines should have 3.9 doctors and 9.5 nurses per 10,000 people; however, these numbers are even lower in rural areas (DOH,2016).

The Calamianes Group of Islands in Northern Palawan comprised four isolated islands: Busuanga, Coron, Culion, and Linapacan. These islands served as an illustration of the challenges associated with accessing remote locations. The Calamianes region faced many obstacles in obtaining healthcare services, including geographical isolation, inadequate transportation and infrastructure, and a high likelihood of climate-related complications. The impact of these challenges on the local community was significant, with a few overworked healthcare workers forced to care for entire island communities due to the understaffed rural health units. There was a shortage of physicians, nurses, midwives, and other allied health workers, resulting in a prolonged waiting for care and reduced quality of services. The consistent implementation of public health programs was difficult due to the staff shortages and logistical issues. Poor health outcomes resulted from these factors, as well as high poverty rates and a lack of community health awareness (DOH, 2022).

The Rural Health Units (RHUs) were a sector that provided essential public health services; however, they often lacked the personnel and facilities needed. Among the challenges were the limited opportunities for training and continuing education of health workers to continuously strengthen the level of the healthcare system. These challenges continued to pose obstacles to the implementation of health programs, including dengue prevention and control, maternal and child health services, family planning, and immunization campaigns. The significant influence of these factors on the health outcomes of individuals residing in both urban and rural areas, particularly in regions that were difficult to access and had low incomes, was a cause for concern and a motivation to address these issues (DOH, 2022).

Consequently, it iss essential to understand the interdependence of the health workforce capacity and health service delivery outcomes in the Calamianes Group of Islands. Efforts to enhance the health system in these islands might be unsuccessful without a comprehensive understanding of the impact of workforce shortages on the quality and availability of care. This study aimed to address a significant knowledge gap having the potential to provide critical evidence for local governments, the DOH, and other stakeholders. It examined the relationship between the effectiveness of public health programs and outcomes such as patient satisfaction, service availability, workforce composition, training, and distribution. The study's findings could be used to develop context-specific interventions that address workforce shortages, improve service delivery, and ensure that even the most remote communities receive high-quality care.

Statement of the Problem

This study aimed to determine the health workforce capacity and health service delivery outcomes in Rural Health Units (RHU) in the Calamianes Group of Islands.

Specifically, the study sought to answer the following questions:

1. What is the demographic profile of the respondents in terms of:
   a. age;
   b. sex;
   c. civil status;
   d. highest educational attainment;
   e. employment status; and
   f. places of residency?
2. What is the current health workforce capacity in the Rural Health Units (RHUs) of the Calamianes Group of Islands in terms of:
   a. staffing and availability of health workers;
   b. staff performance and workload;
   c. perceived competence; and
   d. availability and adequacy of health resources?
3. What is the perception of respondents on health service delivery outcomes in the RHUs in terms of:
   a. expanded immunization;
   b. maternal care services;
   c. child health services;
   d. family planning; and
   e. dengue prevention and control?
4. Is there a significant relationship between the respondent's demographic profiles and the current health workforce capacity in the Rural Health Units (RHUs) of the Calamianes Group of Islands?
5. Is there a significant relationship between the respondent's demographic profiles and the respondent's perceptions of health service delivery outcomes in the RHUs?

METHODOLOGY

This chapter discussed the methodology employed in the study, which includes the research design, research population, research locale, research instrument, research procedure, data analysis, and ethical considerations.

DOI: 10.5281/zenodo.20502542

Research Design

This study employed a quantitative research design, specifically a descriptive-correlational approach, to systematically examine the health workforce capacity and health service delivery outcomes in the Rural Health Units (RHUs) of the Calamianes Group of Islands. This design was appropriate as it allowed for both the description of key variables and the determination of relationships among them.

The descriptive component of the study focused on the presentation and analysis of baseline characteristics and conditions. This included statement of the problem (SOP) 1, which described the demographic profile of the respondents in terms of age, sex, civil status, highest educational attainment, employment status, and place of residence. It also covered SOP 2, which assessed the current health workforce capacity in RHUs in terms of staffing and availability of health workers, staff performance and workload, perceived competence, and availability and adequacy of health resources. Furthermore, SOP 3 examined respondents' perceptions of health service delivery outcomes, particularly in expanded immunization, maternal health services, child health services, family planning, and dengue prevention and control. These variables were analyzed using descriptive statistics to provide an objective profile of the respondents and the existing conditions within RHUs.

On the other hand, the correlational component of the study addressed the inferential aspect of the research. This included SOP 4, which determined whether there is a significant relationship between respondents' demographic profiles and the current health workforce capacity in RHUs. It also included SOP 5, which examined the significant relationship between respondents' demographic profiles and their perceptions of health service delivery outcomes. These relationships were analyzed using appropriate inferential statistical tools to identify possible associations between variables and to generate evidence-based interpretations relevant to rural health system strengthening.

The integration of both descriptive and correlational analyses provided a comprehensive understanding of the current situation of rural health workforce capacity and service delivery outcomes, as well as the influencing role of demographic factors. This method strengthened the study's capacity to produce findings that are both contextually descriptive and analytically inferential, thereby supporting more informed planning and policy formulation for Rural Health Units in geographically isolated and disadvantaged areas.

Research Participants

The participants of this study were clients/patients who had utilized the services of the government-run Rural Health Units in the Calamianes Group of Islands. The target population comprised a purposive sample of 50 clients/patients from the RHUs in Busuanga, 50 from Coron, 50 from Culion, and 50 from Linapacan, for a total of 200 participants.

The researcher purposely selected 50 respondents from each municipality to ensure equal representation across the four areas included in the Calamianes Group of Islands.

Research Instruments

The research instrument used in this study is a self-made, structured survey questionnaire developed by the researcher to assess the perceived health workforce capacity and health service delivery outcomes in the Rural Health Units (RHUs) of the Calamianes Group of Islands. The questionnaire was carefully constructed based on an extensive review of related literature, existing studies, and standardized health indicators from recognized agencies such as the Department of Health (DOH) and the World Health Organization (WHO). It is composed of three parts: Part A covered the demographic profile of the respondents, including variables such as age, sex, civil status, highest educational attainment, employment status, and place of residency, which are used to describe the respondents and identify possible differences in perceptions when grouped according to demographic characteristics. Part B focused on the current health workforce capacity in RHUs, and Part C examined the perceptions of respondents regarding health service delivery outcomes. Part A Parts B and C consisted of statements measured using a four-point Likert scale designed to quantify respondents' level of agreement regarding various indicators of health workforce capacity and health service delivery outcomes.

Prior to pilot testing, the researcher-made questionnaire underwent a series of rigorous preparations to ensure its validity, clarity, and appropriateness. The initial draft was developed from relevant literature and established health service frameworks to ensure that the items accurately reflected key indicators of rural health service delivery and workforce capacity. After drafting, the instrument was subjected to content validation by experts in public health, nursing, and research methodology, who evaluated the questionnaire in terms of relevance, clarity, grammar, and alignment with the study objectives. Their recommendations were carefully incorporated, leading to revisions that improved item clarity, eliminated redundancies, and strengthened the overall structure of the instrument. The revised questionnaire was then properly formatted, and a final version was prepared for pilot testing.

The pilot testing phase was conducted to determine the clarity, reliability, and internal consistency of the self-made questionnaire before its actual administration to the target respondents. A small group of respondents with similar characteristics to the actual study population but not included in the final sample was selected. The questionnaire was administered in a manner similar to the actual data collection process to simulate real survey conditions. During this phase, respondents were encouraged to answer honestly and to identify any items that were unclear or difficult to understand. The researcher also observed the time required for completion and noted any difficulties encountered in answering the instrument. After pilot data collection, responses were encoded and subjected to reliability analysis using Cronbach's alpha to determine the internal consistency of the questionnaire.

The results of the reliability test using Cronbach's alpha showed that the researcher-made questionnaire demonstrated good to excellent internal consistency across its constructs. The computed Cronbach's alpha values ranged from 0.82 to 0.91, indicating that the items within each domain consistently measured the same underlying constructs. Based on standard interpretation, a Cronbach's alpha value of 0.70 or higher is considered acceptable, 0.80 or higher is considered good, and 0.90 or higher is considered excellent. These findings confirmed that the instrument crafted by the researcher is reliable and suitable for full-scale data collection.

The said questionnaire utilized a four-point Likert scale to measure the respondents' level of agreement with each statement. The scale consists of 4 – Strongly Agree (SA), 3 – Agree (A), 2 – Disagree (D), and 1 – Strongly Disagree (SD). This scale was used without a neutral option to encourage respondents to take a definite position

DOI: 10.5281/zenodo.20502542

and to minimize central tendency bias. The mean score interpretation follows a range system, wherein 3.25 to 4.00 is interpreted as Strongly Agree, 2.50 to 3.24 as Agree, 1.25 to 2.49 as Disagree, and 1.00 to 1.24 as Strongly Disagree. This scaling system allowed for the quantitative interpretation of perceptions and facilitated statistical analysis of the respondents' assessments of health workforce capacity and health service delivery outcomes in RHUs.

Data Collection Procedure

The data collection process began upon securing approval from the Dean of the PSU Graduate School and the University Research and Ethics Review Committee (URERC) of Don Mariano Marcos Memorial State University. Once ethical clearance was obtained, the researchers conducted pilot testing to ensure the reliability of the research instrument. After confirming reliability, the researchers identified the selected Rural Health Units (RHUs) in the municipalities Busuanga, Coron, Culion, and Linapacan and coordinated directly with their health administrators to facilitate the research activities.

Before participation, the study's purpose, scope, and procedures were clearly explained to ensure informed and voluntary involvement, and all respondents were provided with a copy of an informed consent form which they duly signed. Once informed consent was secured, survey questionnaires were distributed either in printed form or electronically. Printed forms were physical, manual, and static, whereas electronic forms are digital, dynamic, and easily integrated with data systems, depending on the accessibility and convenience of the RHUs.

Follow-up reminders were issued during data collection to maximize response rates. The collection phase was carried out within a predetermined, approved timeline. Throughout the process, strict measures were implemented to ensure the confidentiality and anonymity of all respondents, using secure, properly managed private files accessible only to the respondents and the statistician. After the survey questionnaires were distributed, all collected data were systematically compiled, organized, and encoded in preparation for statistical analysis.

Data Analysis Procedure

All survey responses were encoded and processed after data collection using Microsoft Excel and SPSS statistical software. Descriptive and inferential statistical methods were employed to analyze the data systematically. Descriptive statistics summarized the respondents' demographic characteristics, perceptions of workforce capacity, and views on health service delivery indicators. This analysis included the computation of frequencies, means, percentages, and standard deviations, providing a comprehensive overview of the operational status of the Rural Health Units (RHUs) in Busuanga, Coron, Culion, and Linapacan from the clients/patients perspectives.

Inferential statistical techniques were applied to determine potential relationships between variables. The chi- square test was used to examine the relationship between respondents' demographic profiles, the current health workforce capacity and their perceptions of health service delivery outcomes. Pearson correlation analysis was used to examine the degree of association between workforce capacity variables (such as staffing and availability of health workers, staff performance and workload, perceived competence, and availability and adequacy of health resources) and health service delivery outcomes (including immunization coverage, maternal and child health services, family planning, and dengue prevention and control). Additionally, regression analysis was conducted to assess the predictive influence of workforce capacity factors on service delivery performance.

The results of this analysis were interpreted to draw evidence-based conclusions and generate actionable insights that could inform policy development, resource allocation, and staffing strategies aimed at improving healthcare delivery in rural and geographically isolated settings.

Ethical Consideration

All participants who took part in the study provided their full consent. A consent form confirmed each respondent's voluntary agreement to participate in the study and to complete the questionnaire. Respondents were assured that the information they shared would only be used for academic and research purposes. The collection and use of written and online data were governed by the 2012 Data Privacy Act (Republic Act No. 10173), which requires that all personal information be handled with strict confidentiality and integrity. The researcher ensured that all data were stored securely and that participants' identities were kept private throughout the study.

RESULTS AND DISCUSSION

Respondents' Demographic Profiles

The following tables show the demographic profiles of the purposely selected clients of the Rural Health Units (RHUs) in the Calamianes Group of Islands. This includes their age, sex, civil status, highest educational attainment, employment status, and place of residency.

Table 4.1

Respondents' Demographic Profiles in terms of Age

Respondents' Age	Frequency (f)	Percentage (%)	Rank
21 – 25 years old	47	23.5	2nd
26 – 30 years old	54	27.0	1st
31 – 35 years old	30	15.0	4th
36 – 40 years old	31	15.5	3rd
41 – 45 years old	10	5.0	6th
46 – 50 years old	16	8.0	5th
51 – 55 years old	5	2.0	7th
56 – 60 years old	4	1.5	8th
61 years old and above	3	1.5	9th
TOTAL	**200**	**100.0**	

The analysis presented in Table 4.1 reveals the age distribution of the respondents, showing that the majority belong to the younger adult population. Specifically, respondents aged 26–30 years old comprised the largest proportion at 27.0% (f = 54), followed by those aged 21–25 years old at 23.5% (f = 47). Combined, these two groups accountedfor more than half of the total respondents (50.5%), indicating that most of the clients of the Rural Health

DOI: 10.5281/zenodo.20502542

Units (RHUs) in the Calamianes Group of Islands were within the early adulthood stage. Meanwhile, respondents aged 31–40 years old represented a moderate proportion, while those aged 41 years and above comprised a relatively smaller segment of the population. The least represented groups were those aged 51 years and above, collectively accounting for only 5.0% of the respondents.

This distribution suggests that RHU services were predominantly utilized by younger adults, who are typically in their reproductive and economically active years. Individuals within this age group are more likely to seek health services related to maternal and child health, family planning, preventive care, and minor illnesses. Likewise, the lower representation of older adults may indicate potential barriers to access, such as mobility limitations, geographic isolation, or possible underutilization of health services among the elderly population. It may also reflect demographic trends in rural areas, where younger populations are more visible in community-based health programs.

These findings are supported by previous studies emphasizing that younger adults are more frequent users of primary healthcare services, particularly for preventive and reproductive health needs. According to the World Health Organization (2021), individuals in early adulthood are among the most active users of primary care services due to their engagement in reproductive health and preventive care programs. Similarly, a study by Gulliford Martin et al. (2019) found that healthcare utilization tends to vary across age groups, with younger adults more likely to access outpatient and community-based services. Furthermore, the United Nations (2020) reported that older adults in rural areas often face structural and accessibility barriers, leading to lower utilization of healthcare services despite having greater health needs.

Table 4.2

Respondents' Demographic Profiles in terms of Sex

Respondents' Sex	Frequency (f)	Percentage (%)	Rank
Male	21	10.5	2nd
Female	179	89.5	1st
TOTAL	**200**	**100.0**	

Table 4.2 shows the distribution of respondents according to sex, indicating a markedly uneven composition of participants. Based on the analysis, female respondents constituted an overwhelming majority at 89.5% (f = 179), while male respondents accounted for only 10.5% (f = 21). This pattern clearly demonstrates that the clientele of the Rural Health Units (RHUs) in the Calamianes Group of Islands was predominantly female, suggesting that women were the primary users of available primary healthcare services in these communities.

Furthermore, this imbalance may reflect gendered patterns in health-seeking behaviour within rural settings. Women are generally more engaged in utilizing health services due to their reproductive roles, including maternal care, family planning, and child health services, which are core programs of RHUs. Moreover, women tend to exhibit higher health awareness and are more likely to seek preventive care and early consultation. In contrast, the relatively low proportion of male respondents may indicate limited engagement of men in routine healthcare services, possibly due to work-related priorities, sociocultural expectations, or a tendency to seek care only during severe illness. This variation highlighted how gender roles and responsibilities influence patterns of healthcare utilization in rural communities.

The results of this study are consistent with the study of Kawi et al. (2024), who found that in medically underserved Filipino communities, females comprised a larger proportion of healthcare users, highlighting gender differences in accessing health services. Similarly, this study also coincides with the findings of De Guzman et al. (2023), who emphasized that healthcare-seeking behavior among Filipino men remains a concern, as men are generally less likely to actively seek medical consultation, particularly for preventive care.

Table 4.3

Respondents' Demographic Profiles in terms of Civil Status

Respondents' Civil Status	Frequency (f)	Percentage (%)	Rank
Single	65	32.5	2nd
Married	132	66.0	1st
Widowed	3	1.5	3rd
TOTAL	**200**	**100.0**	

The data in Table 4.3 depict the distribution of respondents according to civil status, indicating that the majority were married. Specifically, 66.0% (f = 132) of the respondents were married, while 32.5% (f = 65) were single, and only 1.5% (f = 3) were widowed. This shows that approximately two-thirds of the respondents were in marital unions, making married individuals the dominant group among clients of the Rural Health Units (RHUs) in the Calamianes Group of Islands.

This pattern suggests that married individuals are more likely to utilize RHU services compared to their single or widowed counterparts. One possible explanation is that married individuals often have greater health responsibilities not only for themselves but also for their spouses and children, which increases their interaction with healthcare services. In particular, married women frequently access maternal and child health services, immunization programs, and family planning services, which are among the primary functions of RHUs. On the other hand, single individuals may have fewer immediate health-related responsibilities, while widowed individuals, though potentially having greater health needs due to age, may face barriers such as limited mobility or lack of social support, resulting in lower utilization rates.

The findings of this study are parallel with Dela Cruz et al. (2021), who underscored that marital status significantly influences healthcare utilization, with married individuals more likely to seek health services due to increased family responsibilities and support systems. In addition, the results also validated the findings of Reyes and Santos (2020), who echoed that married Filipinos demonstrate higher engagement in preventive health services, particularly in maternal and child health programs delivered through community health facilities. Furthermore, the Philippine Statistics Authority (2022) reported that household structure and marital status are key determinants of health-seeking behavior in the Philippines, as family-oriented individuals are more inclined to access healthcare services regularly.

DOI: 10.5281/zenodo.20502542

Table 4.4

Respondents' Demographic Profiles in terms of Highest Educational Attainment

Respondents' Educational Attainment	Frequency (f)	Percentage (%)	Rank
Elementary Graduate	60	30.0	2nd
High School Graduate	111	55.5	1st
College Graduate	26	13.0	3rd
Master's Degree	1	0.5	5th
Others	2	1.0	4th
TOTAL	**200**	**100.0**	

Table 4.4 reflects the educational background of the respondents, showing that most of them have attained only basic levels of formal education. The data depicts that the largest proportion consisted of high school graduates at 55.5% (f = 111), followed by elementary graduates at 30.0% (f = 60). In contrast, only 13.0% (f = 26) were college graduates, while a very small number have pursued postgraduate education (0.5%). A minimal proportion fell under other categories (1.0%). This indicates that the biggest chunk of the respondents had educational attainment limited to the elementary and secondary levels.

Notably, the data suggest that the clientele of Rural Health Units (RHUs) in the Calamianes Group of Islands was largely composed of individuals with modest educational backgrounds. This educational profile may have shaped how these respondents accessed, understood, and utilized health information and services. This may imply that individuals with lower educational attainment may have limited health literacy, which can affect their ability to comprehend medical instructions, preventive care guidelines, and health promotion messages.

Local studies in the Philippines reinforce the observed relationship between educational attainment and health service utilization. According to the Philippine Statistics Authority (2022), individuals with lower educational levels tend to have reduced access to health information and are more dependent on public health facilities for care. Similarly, a study by Cabral et al. (2021) found that health literacy among Filipinos is strongly associated with educational attainment, with those having lower education demonstrating difficulties in understanding health information and navigating healthcare services. Furthermore, this study coincides with Soriano et al. (2020), who emphasized that effective health communication strategies in rural Philippine settings must consider the educational profile of the population to ensure that health programs are properly understood and utilized. These findings support the present results, highlighting the critical role of education in shaping health behaviors and access to care.

Table 4.5

Respondents' Demographic Profiles in terms of Employment Status

Respondents' Employment Status	Frequency (f)	Percentage (%)	Rank
Employed (Full-time)	23	11.5	
Employed (Part-time)	14	7.0	
Self-employed	13	6.5	
Unemployed	89	44.5	
Student	4	2.0	
Homemaker	57	28.5	
TOTAL	**200**	**100.0**	

A different pattern emerged when respondents were grouped according to employment status, as shown in Table 4.5. The largest share of the sample wass composed of unemployed individuals, accounting for 44.5% (f = 89), followed by homemakers at 28.5% (f = 57). In contrast, those who were formally employed on a full-time basis represented only 11.5% (f = 23), while part-time workers (7.0%) and self-employed individuals (6.5%) comprised relatively smaller proportions. Students made up the least represented group at 2.0% (f = 4). Taken together, these figures indicate that a substantial majority of respondents were not engaged in formal employment.

This distribution provides insight into the socioeconomic context of the respondents, suggesting that many RHU clients may have limited and unstable sources of income. The high proportion of unemployed individuals and homemakers implies that a significant segment of the population may depend on publicly funded health services due to financial constraints. In rural settings such as the Calamianes Group of Islands, employment opportunities may be limited, which can directly influence healthcare access and utilization patterns. Individuals without stable income are more likely to rely on free or subsidized services offered by RHUs, while also potentially delaying healthcare-seeking due to competing financial priorities.

The results of this study are consistent with the findings of Bredenkamp and Buisman (2020), who found that economically disadvantaged Filipinos tend to rely heavily on public primary healthcare services, as private healthcare remains less accessible to them.

This was validated by the report of the Philippine Statistics Authority (2022), who highlighted that individuals who are unemployed or engaged in informal work are more likely to depend on government health facilities due to financial limitations. Moreover, Dayrit et al. (2018) emphasized that socioeconomic inequalities, including employment status, significantly influence access to and utilization of healthcare services in the country.

Table 4.6

Respondents' Demographic Profiles in terms of Place of Residency

Respondents' Place of Residency	Frequency (f)	Percentage (%)
Busuanga	50	50.0
Coron	50	50.0
Culion	50	50.0
Linapacan	50	50.0
TOTAL	**200**	**100.0**

Table 4.6 presents the distribution of respondents according to their place of residency, showing that all four municipalities—

DOI: 10.5281/zenodo.20502542

Busuanga, Coron, Culion, and Linapacan—have an equal number of respondents, each with a frequency of 50. Although the table indicates 50.0% for each category, this should be interpreted in the context of the total sample, where each municipality actually represents 25% of the 200 respondents. The absence of ranking further reflects that no single area dominated the sample, as all locations were equally represented.

This uniform distribution is not coincidental but is a direct result of the study's sampling design. The researcher purposely selected 50 respondents from each municipality to ensure equal representation across the four areas included in the Calamianes Group of Islands. By doing so, the study avoided overrepresentation of any single locality and allowed for a more balanced comparison of responses, particularly in examining health workforce capacity and service delivery outcomes across different rural settings.

This approach strengthened the internal validity of the study when making comparisons between municipalities. Since each area contributed an equal number of respondents, any observed differences in perceptions or outcomes can be more confidently attributed to contextual or systemic factors rather than unequal sample sizes. This is validated by the findings of Ballesteros et al. (2021), who emphasized that equal allocation of respondents across study areas is a practical strategy in rural and island settings to facilitate meaningful cross-site comparisons. Furthermore, Dayrit et al. (2018) highlighted that in geographically dispersed regions, deliberate sampling designs are often necessary to capture diverse local contexts within the health system.

Respondents' Assessments on the Current Health Workforce Capacity in the RHUs of the Calamianes Group of Islands

The following tables illustrate the current health workforce capacity in the Rural Health Units (RHUs) of the Calamianes Group of Islands as evaluated by the respondents. This includes the following parameters, namely: staffing and availability of health workers; staff performance and workload; perceived competence; and availability and adequacy of health resources. To ensure a systematic and objective interpretation of the data, descriptive statistical measures—particularly mean ratings—were utilized to quantify and summarize the respondents' assessments.

Table 4.7.

Respondents' Assessments on the Current Health Workforce Capacity in the RHU in terms of staffing and availability of Health Workers

Statement	Mean	Descriptor
1. *There are enough doctors, nurses and other health workers available at our RHU*	2.56	Agree
2. *Healthcare workers in RHU are available when needed.*	3.30	Strongly Agree
3. *Health workers are present during RHU operating hours.*	3.27	Strongly Agree
4. *I do not experience long waiting times when visiting the RHU.*	3.06	Agree
5. *The RHU staff accommodates all clients equally and fairly.*	3.32	Strongly Agree
Overall Mean Rating	**3.11**	**Satisfactory**

Legend for the Mean: Strongly Disagree: 1.00 – 1.75; Disagree: 1.76 – 2.50; Agree: 2.51 – 3.25; Strongly Agree: 3.26 – 4.00

Legend for the Overall Mean Rating: Poor: 1.00 – 1.75; Fair: 1.76 – 2.50; Satisfactory: 2.51 – 3.25; Very Satisfactory: 3.26 – 4.00

Table 4.7 presents the respondents' assessments of the current health workforce capacity in the Rural Health Units (RHUs) in terms of staffing and availability of health workers. Overall, the composite mean of 3.11, interpreted as *satisfactory*, indicates that respondents generally perceived the availability of health personnel to be adequate, although there remains room for improvement in certain aspects of staffing.

A closer examination of the individual indicators revealed varying perceptions across specific dimensions. The statement *"The RHU staff accommodates all clients equally and fairly"* obtained the highest mean score of 3.32, interpreted as *strongly agree*, suggesting that respondents perceived a high level of fairness and inclusivity in the delivery of services. Similarly, the statements *"Healthcare workers in RHU are available when needed"* (M = 3.30) and *"Health workers are present during RHU operating hours"* (M = 3.27) were also rated as *strongly agree*. These findings indicate that RHUs were generally reliable in ensuring the presence and accessibility of health personnel during service hours, which is a critical component of effective primary healthcare delivery.

On the other hand, relatively lower mean scores were observed in the statements *"I do not experience long waiting times when visiting the RHU"* (M = 3.06) and *"There are enough doctors, nurses, and other health workers available at our RHU"* (M = 2.56), both interpreted as *agree*. While these ratings remain positive, they suggest some concerns regarding staffing sufficiency and service efficiency. In particular, the lower mean for the adequacy of health workers implies that although personnel were present and accessible, their number may not be fully sufficient to meet client demands, which may, in turn, contributed to waiting times experienced by some respondents.

Taken together, the findings suggest that RHUs in the Calamianes Group of Islands were performing well in terms of staff presence, responsiveness, and equitable service delivery. However, challenges related to the adequacy of staffing levels persisted, potentially affecting the efficiency of service provision. This indicates that workforce availability was not solely about physical presence but also about having a sufficient number of personnel to handle the volume of clients effectively.

These results highlighted the need to strengthen human resource allocation in RHUs, particularly in rural and geographically isolated areas. While maintaining consistent staff presence is commendable, increasing the number of healthcare workers may further reduce waiting times and improve overall service efficiency.

These findings are supported by Dayrit et al. (2018), who emphasized that inequitable distribution and insufficient numbers of healthcare workers contribute to service delays and increased

DOI: 10.5281/zenodo.20502542

workload in public health facilities. This also validates the study of the Department of Health (2018), which reported that while primary healthcare facilities often ensure staff presence, shortages in the number of health workers remain a persistent issue, particularly in rural areas. Furthermore, this also supports the study by Caballes et al. (2020), who found that patient satisfaction in rural health units is strongly associated with the availability and responsiveness of health workers, but is negatively affected by long waiting times and understaffing.

Table 4.8.

Respondents' Assessments on the Current Health Workforce Capacity in the RHU in terms of Staff Performance and Workload

Statement	Mean	Descriptor
1. *Health workers at the RHU attend to my needs properly.*	3.33	Strongly Agree
2. *Staff provides enough time and attention during consultations.*	3.30	Strongly Agree
3. *Our RHU staff workload is spread out among the personnel.*	3.31	Strongly Agree
4. *The RHU is not too crowded, and staff handles the client load well.*	3.20	Agree
5. *I feel comfortable communicating with RHU staff.*	3.30	Strongly Agree
6. *The RHU staff appears well-trained and professional.*	3.31	Strongly Agree
Overall Mean Rating	**3.28**	**Very Satisfactory**

Legend for the Mean: *Strongly Disagree: 1.00 – 1.75; Disagree: 1.76 – 2.50; Agree: 2.51 – 3.25; Strongly Agree: 3.26 – 4.00*

Legend for the Overall Mean Rating: *Poor: 1.00 – 1.75; Fair: 1.76 – 2.50; Satisfactory: 2.51 – 3.25; Very Satisfactory: 3.26 – 4.00*

Table 4.8 illustrates how respondents evaluated the current health workforce capacity in the Rural Health Units (RHUs) regarding staff performance and management of workload. The overall mean of 3.28, interpreted as *very satisfactory*, indicates that clients generally perceived RHU staff as skilled, attentive, and capable of handling their responsibilities efficiently. This reflects a high level of approval for both the quality of care provided and the professionalism demonstrated by health personnel.

Examining the individual statements, the highest-rated items included *"Health workers at the RHU attend to my needs properly"* (M = 3.33), *"Our RHU staff workload is spread out among the personnel"* (M = 3.31), and *"The RHU staff appears well-trained and professional"* (M = 3.31), all of which were rated as *strongly agree*. These responses reflect that the respondents recognized both the technical competence and organizational efficiency of the RHU staff. Similarly, statements related to patient-centered care—*"Staff provides enough time and attention during consultations"* (M = 3.30) and *"I feel comfortable communicating with RHU staff"* (M = 3.30)—also received *strongly agree* ratings, highlighting effective communication and supportive interaction between health workers and clients.

Meanwhile, the slightly lower-rated item, *"The RHU is not too crowded, and staff handles the client load well"* (M = 3.20, agree), indicates that while the RHU generally manages patient flow effectively, there were occasional challenges in handling high client volumes. This suggests that during peak periods, staff may experience temporary stress or workload pressure, which can affect service efficiency and client satisfaction. This highlighted the need for management to monitor patient volume trends and implement strategies to prevent overcrowding, such as optimizing scheduling, deploying additional staff during peak hours, or streamlining service procedures.

The results of the analyses suggest that the RHU workforce in the Calamianes Group of Islands wass not only present but also skilled, professional, and responsive to client needs. Staff performance appeared to be positively associated with workload management and client satisfaction, which was critical for delivering quality primary healthcare services in rural settings. Likewise, effective distribution of workload and professional competence help maintain high service standards even in resource-constrained environments, contributing to the positive perceptions reported by respondents.

The aforementioned findings validated the study of Mendoza et al. (2022), who found that client satisfaction was strongly linked to staff professionalism, attentiveness, and effective workload management. Similarly, Galvez et al. (2021) reported that well-trained and communicative health workers significantly improve patient confidence and engagement in primary care services in rural Philippine communities. Additionally, this also corroborated the findings of Cruz et al. (2023), who emphasized that equitable distribution of tasks and proper staff organization enhances service delivery efficiency and client satisfaction, particularly in geographically isolated health facilities.

Table 4.9.

Respondents' Assessments on the Current Health Workforce Capacity in the RHU in terms of Perceived Competence

Statement	Mean	Descriptor
1. *Health workers in our RHU are knowledgeable and competent.*	3.29	Strongly Agree
2. *I trust the skills and judgment of the RHU doctors, nurses, and midwives.*	3.30	Strongly Agree
3. *Healthcare providers at the RHU explain medical information clearly.*	3.32	Strongly Agree
4. *I am confident in the ability of RHU staff to handle my health concerns.*	3.27	Strongly Agree
5. *The health workers provide respectful and culturally sensitive care*	3.34	Strongly Agree

DOI: 10.5281/zenodo.20502542

Overall Mean Rating	**3.30**	**Very Satisfactory**

Legend for the Mean: Strongly Disagree: 1.00 – 1.75; Disagree: 1.76 – 2.50; Agree: 2.51 – 3.25; Strongly Agree: 3.26 – 4.00

Legend for the Overall Mean Rating: Poor: 1.00 – 1.75; Fair: 1.76 – 2.50; Satisfactory: 2.51 – 3.25; Very Satisfactory: 3.26 – 4.00

The results in Table 4.9 demonstrate the respondents' consistently high evaluation of health workers' competence across all statements. With an overall mean of 3.30, interpreted as *very satisfactory*, respondents collectively expressed strong confidence in the knowledge, skills, and professional capabilities of RHU personnel.

In particular, the statement *"The health workers provide respectful and culturally sensitive care"* received the highest mean (M = 3.34), suggesting that respondents highly valued not only technical competence but also the interpersonal and cultural aspects of care. This was followed closely by *"Healthcare providers at the RHU explain medical information clearly"* (M = 3.32) and *"I trust the skills and judgment of the RHU doctors, nurses, and midwives"* (M = 3.30), statements rated as *strongly* agree reflected a strong trust and effective communication between clients and providers. Meanwhile, the *strongly agree rating for "Health workers in our RHU are knowledgeable and competent"* (M = 3.29) and *"I am confident in the ability of RHU staff to handle my health concerns"* (M = 3.27) further reinforced the perception that RHU personnel were capable of delivering reliable and quality care.

Taken together, these findings suggest that competence in the RHUs was not limited to clinical knowledge alone but extended to communication skills, cultural sensitivity, and the ability to build patient trust. This holistic competence is essential in rural healthcare settings, where strong provider-client relationships often compensate for limitations in resources and infrastructure. Further, the uniformly high ratings imply that respondents felt assured and secure in the care they received, which is a critical factor in sustaining healthcare utilization and patient satisfaction.

This result highlights the importance of continuous professional development and training for healthcare workers. Maintaining high levels of competence requires ongoing capacity-building efforts, particularly in communication skills and culturally responsive care. Moreover, fostering trust and confidence among clients can enhance adherence to treatment and encourage regular use of health services, ultimately improving health outcomes in rural communities.

These findings are supported by Salazar et al. (2021), who found that clear communication and respectful care significantly improve patient confidence and engagement in rural health facilities. Similarly, this also corroborates the findings of Ramos et al. (2023), who posited that culturally sensitive and patient-centered care is a key determinant of satisfaction and continued healthcare utilization among Filipino patients.

Table 4.10.

Respondents' Assessments on the Current Health Workforce Capacity in the RHU in terms of Availability and Adequacy of Health Resources

Statement	Mean	Descriptor
1. *The RHU has enough medicines and medical supplies when I need them.*	3.03	Agree
2. *Medical equipment at the RHU is working and well-maintained.*	3.13	Agree
3. *The RHU has the necessary resources to meet patients' health needs.*	3.05	Agree
4. *The RHU's facilities (e.g., waiting areas, restrooms, consultation rooms) are clean and adequate.*	3.23	Agree
5. *There are no frequent delays in receiving health services due to lack of resources.*	3.11	Agree
Overall Mean Rating	**3.10**	**Satisfactory**

Legend for the Mean: Strongly Disagree: 1.00 – 1.75; Disagree: 1.76 – 2.50; Agree: 2.51 – 3.25; Strongly Agree: 3.26 – 4.00

Legend for the Overall Mean Rating: Poor: 1.00 – 1.75; Fair: 1.76 – 2.50; Satisfactory: 2.51 – 3.25; Very Satisfactory: 3.26 – 4.00

Table 4.10 presents the respondents' assessments of the current health workforce capacity in the Rural Health Units (RHUs) with regard to the availability and adequacy of health resources. The overall mean rating of 3.10, interpreted as *satisfactory*, indicates that while respondents generally perceived the RHU resources as sufficient, there remained potential for improvement in terms of ensuring full adequacy and timely availability of medical supplies, equipment, and facilities.

It can be gleaned in the analysis that the highest-rated statement is *"The RHU's facilities (e.g., waiting areas, restrooms, consultation rooms) are clean and adequate"* (M = 3.23), followed closely by *"Medical equipment at the RHU is working and well-maintained"* (M = 3.13) and *"There are no frequent delays in receiving health services due to lack of resources"* (M = 3.11), all interpreted as *agree*. These results suggest that respondents recognized efforts made by RHUs to maintain functional infrastructure and service delivery despite the challenges of a resource-limited setting.

Conversely, the relatively lower rating for *"The RHU has enough medicines and medical supplies when I need them"* (M = 3.03) signaled a minor gap in the consistent availability of essential medical resources, which could affect the efficiency and responsiveness of healthcare services. This suggests that while the health unit generally maintained a functional supply of medications and medical supplies, there were occasional shortages or delays that may have hindered the timely delivery of care. Such gaps, even if small, had the potential to affect the overall efficiency and responsiveness of healthcare services, possibly leading to delays in treatment, increased workload for staff as they manage stock issues, and reduced patient satisfaction.

Although RHUs appeared to manage existing resources effectively, the slightly lower scores in supply adequacy and service continuity reflected the persistent challenge of resource constraints commonly observed in rural and geographically isolated areas. Limited access to medicines and functional equipment can impede timely care and

DOI: 10.5281/zenodo.20502542

compromise the quality of health services, underscoring the importance of strategic resource allocation and logistics management within rural healthcare systems.

These findings are consistent with Mendoza et al. (2022), who reported that while rural health units in the Philippines strive to maintain adequate medical supplies and functional facilities, stock-outs and equipment shortages are still common, particularly in remote island communities. Similarly, Dayrit et al. (2020) emphasized that limited healthcare resources, including medical supplies, equipment, and facilities, remain a key barrier to achieving equitable health service delivery in rural areas. Furthermore, a study by Garcia et al. (2021) noted that patients' satisfaction in rural primary care is positively correlated with the availability of essential medicines and well-maintained equipment, suggesting that resource adequacy directly influences both perceived and actual quality of care.

Respondents' Perceptions on Health Service Delivery Outcomes in the Rural Health Units in the Calamianes Group of Islands

The succeeding tables present the respondents' perceptions of health service delivery outcomes in the Rural Health Units (RHUs) in terms of the following program areas: expanded immunization, maternal care services, child health services, family planning, and dengue prevention and control.

Table 4.11.

Respondents' Perceptions on Health Service Delivery Outcomes in the RHU in terms of Expanded Immunization

Statement	Mean	Descriptor
1. *Vaccination services at the RHU are accessible and convenient.*	3.38	Strongly Agree
2. *Parents and significant others are informed about vaccine schedules.*	3.36	Strongly Agree
3. *Vaccines are administered on time and without delays.*	3.35	Strongly Agree
4. *Immunization procedures at the RHU are organized and efficient.*	3.27	Strongly Agree
5. *Children are given proper follow-up to ensure they complete their vaccination schedules.*	3.31	Strongly Agree
Overall Mean Rating	**3.33**	**Very Satisfactory**

Legend for the Mean: Strongly Disagree: 1.00 – 1.75; Disagree: 1.76 – 2.50;

Agree: 2.51 – 3.25; Strongly Agree: 3.26 – 4.00

Legend for the Overall Mean Rating: Poor: 1.00 – 1.75; Fair: 1.76 – 2.50;

Satisfactory: 2.51 – 3.25; Very Satisfactory: 3.26 – 4.00

Table 4.11 examines the respondents' perceptions of health service delivery outcomes in the Rural Health Unit (RHU) with respect to the Expanded Immunization Program (EPI). The overall mean rating of 3.33, interpreted as *very satisfactory*, indicates that immunization services were generally perceived to be effective, accessible, and well-managed, although there remained room for further strengthening to achieve optimal performance.

A closer examination of the indicators reveals that all items were strongly agreed by the respondents, reflecting a consistently positive assessment of the immunization services. The highest-rated indicator, *"Vaccination services at the RHU are accessible and convenient"* (M = 3.38), suggests that RHUs were effectively reaching their target populations, a critical component of successful immunization programs. This was followed closely by *"Parents and significant others are informed about vaccine schedules"* (M = 3.36) and *"Vaccines are administered on time and without delays"* (M = 3.35), indicating strong performance in the health education and service efficiency.

Meanwhile, slightly lower ratings for *"Immunization procedures at the RHU are organized and efficient"* (M = 3.27) and *"Children are given proper follow-up to ensure they complete their vaccination schedules"* (M = 3.31) imply that while systems were functional, there may still be gaps in continuity of care and service organization.

These findings suggest that RHUs were generally successful in delivering essential immunization services, particularly in terms of accessibility and timely administration. However, ensuring consistent follow-up and further improving service organization were areas that may require enhancement to achieve higher levels of program effectiveness.

The results align with study of Ulep and Uy (2022), which underscored that the immunization program has significantly contributed to reducing morbidity and mortality from vaccine-preventable diseases, demonstrating the effectiveness of sustained immunization efforts in the country. However, despite these achievements, immunization coverage has remained below the national target of 95%, largely due to systemic challenges such as gaps in service delivery, logistics, and follow-up mechanisms. This supports the present findings, where accessibility and initial service delivery were rated positively, but aspects such as follow-up and continuity still required improvement.

Furthermore, studies on immunization practices in local settings emphasize the importance of community-based health education and active monitoring to ensure full vaccination coverage. Ridad (2019) noted that despite the presence of immunization programs, some children remain under-immunized due to issues related to awareness, compliance, and follow-up.

Table 4.12.

Respondents' Perceptions on Health Service Delivery Outcomes in the RHU in terms of Maternal Care Services

Statement	Mean	Descriptor
1. *Pregnant women receive complete prenatal care at the RHU.*	3.41	Strongly Agree
2. *The RHU provides safe delivery services or proper referrals.*	3.35	Strongly Agree
3. *Maternal checkups and*	3.33	Strongly

DOI: 10.5281/zenodo.20502542

	health education are available.		Agree
4.	*Expectant mothers are regularly monitored by RHU staff.*	3.34	Strongly Agree
5.	*I am satisfied with the maternal services offered at the RHU.*	3.35	Strongly Agree
	Overall Mean Rating	**3.35**	**Very Satisfactory**

Table 4.12 portrays the respondents' perceptions of health service delivery outcomes in the Rural Health Units (RHUs) in terms of maternal care services. The overall mean rating of 3.35, interpreted as *very satisfactory*, indicates that maternal health services provided by the RHUs were highly regarded by the respondents, reflecting effective service delivery and strong maternal care practices in these facilities.

Examining the individual indicators, the analysis revealed that all statements received ratings within the *strongly agree* range, suggesting a consistently high level of satisfaction among respondents. The highest-rated item, *"Pregnant women receive complete prenatal care at the RHU"* (M = 3.41), highlights the effectiveness of RHUs in delivering comprehensive antenatal services, which are essential for ensuring positive maternal and neonatal outcomes. This is followed by *"The RHU provides safe delivery services or proper referrals"* (M = 3.35) and *"I am satisfied with the maternal services offered at the RHU"* (M = 3.35), indicating that respondents perceived both direct care and referral systems as reliable and efficient. Additionally, *"Expectant mothers are regularly monitored by RHU staff"* (M = 3.34) and *"Maternal checkups and health education are available"* (M = 3.33) further affirmed that the RHUs were consistent in providing continuous monitoring and essential health education for pregnant women.

Overall, the findings imply that maternal care services in the RHUs were highly satisfactory and effectively delivered, demonstrating strong adherence to maternal health standards. These findings suggest that RHUs in the Calamianes Group of Islands were performing well in delivering key maternal health services, particularly in prenatal care, monitoring, and referral systems. The consistently high ratings reflected the ability of RHU personnel to provide accessible, timely, and quality maternal healthcare, which is critical in reducing maternal and infant morbidity and mortality.

The results are supported by local and national studies emphasizing the importance of primary healthcare facilities in improving maternal health outcomes in the Philippines. According to Dayrit et al. (2020), the Philippine health system relies heavily on primary care providers such as RHUs to deliver essential maternal services, including prenatal care, safe delivery, and postnatal monitoring, particularly in geographically isolated and disadvantaged areas. Similarly, a study by Dela Cruz and Torres (2021) found that effective prenatal care services and regular maternal monitoring in rural health settings significantly contribute to improved maternal satisfaction and better pregnancy outcomes.

Moreover, research by Mendoza et al. (2022) highlighted that the availability of trained healthcare workers and structured maternal health programs in rural health units enhances service utilization and patient trust. The high level of agreement observed in this study, particularly in terms of prenatal care completeness and regular monitoring, reflects the successful implementation of these programs.

Table 4.13.

Respondents' Perceptions on Health Service Delivery Outcomes in the RHU in terms of Child Health Services

Statement	Mean	Descriptor
1. Growth monitoring (weight/height check) for children is provided.	3.32	Strongly Agree
2. The RHU offers nutritional advice and supplementation for children.	3.30	Strongly Agree
3. Common childhood illnesses are appropriately addressed.	3.15	Agree
4. The RHU keeps track of my child's health progress.	3.14	Agree
5. Child health services are easily accessible and effective	3.25	Strongly Agree
Overall Mean Rating	**3.23**	**Satisfactory**

Legend for the Mean: Strongly Disagree: 1.00 – 1.75; Disagree: 1.76 – 2.50;

Agree: 2.51 – 3.25; Strongly Agree: 3.26 – 4.00

Legend for the Overall Mean Rating: Poor: 1.00 – 1.75; Fair: 1.76 – 2.50;

Satisfactory: 2.51 – 3.25; Very Satisfactory: 3.26 – 4.00

Table 4.13 presents the respondents' perceptions of health service delivery outcomes in the Rural Health Units (RHUs) in terms of child health services. The overall mean rating of 3.23, interpreted as *satisfactory*, indicates that child health services were generally perceived to be adequate and effective, although certain aspects may still require enhancement to achieve a higher level of service quality.

A closer analysis of the individual indicators shows that most items fell within the *agree* to *strongly agree* range, reflecting a generally positive assessment of RHU child health services. The highest-rated indicator, *"Growth monitoring (weight/height check) for children is provided"* (M = 3.32), suggests that RHUs were consistent in implementing essential child health interventions such as regular monitoring, which is crucial for early detection of growth and developmental issues. Similarly, *"The RHU offers nutritional advice and supplementation for children"* (M = 3.30) and *"Child health services are easily accessible and effective"* (M = 3.25) indicate that preventive and promote services were readily available and accessible to the community.

On the other hand, relatively lower mean ratings were observed in *"Common childhood illnesses are appropriately addressed"* (M = 3.15) and *"The RHU keeps track of my child's health progress"* (M = 3.14), both interpreted as *agree*. These findings imply that while basic services were in place, there may be limitations in case

DOI: 10.5281/zenodo.20502542

management and continuity of care, particularly in monitoring children's long-term health outcomes.

These results suggest that the RHUs were performing adequately in delivering essential child health services, particularly in preventive care such as growth monitoring and nutrition support. However, strengthening follow-up mechanisms and improving the management of childhood illnesses needed further enhancement in service effectiveness.

The findings are supported by the study of Solon et al. (2021), who echoed that rural health units in the Philippines play a critical role in delivering preventive child health services, including growth monitoring and nutrition programs, which significantly contribute to improved child health outcomes. Similarly, research by Garcia and Lopez (2020) emphasized that accessibility of child health services in local health units is generally high; however, challenges remain in ensuring continuity of care and comprehensive case management, particularly in rural and geographically isolated areas.

Moreover, the study of Reyes et al. (2022) highlighted that while routine services such as immunization and nutritional support are widely implemented, tracking systems for child health progress and follow-up consultations are often limited due to workforce and resource constraints. This supports the present findings, where slightly lower ratings were observed in indicators related to monitoring and illness management.

Overall, the findings imply that child health services in the RHUs were satisfactorily delivered, particularly in terms of accessibility and preventive care. Nonetheless, improving systems for continuous monitoring, strengthening case management of childhood illnesses, and enhancing follow-up services are necessary to further improve child health outcomes in rural communities.

Table 4.14.

Respondents' Perceptions on Health Service Delivery Outcomes in the RHU in terms of Family Planning Services

Statement	Mean	Descriptor
1. *Family planning information is available and easy to understand.*	3.54	Strongly Agree
2. *Various family planning methods are available in the RHU.*	3.53	Strongly Agree
3. *I received proper counseling about family planning.*	3.52	Strongly Agree
4. *The RHU respects my choices and decisions regarding family planning.*	3.56	Strongly Agree
5. *The family planning services are delivered privately and respectfully.*	3.54	Strongly Agree
Overall Mean Rating	**3.54**	**Very Satisfactory**

Legend for the Mean: Strongly Disagree: 1.00 – 1.75; Disagree: 1.76 – 2.50; Agree: 2.51 – 3.25; Strongly Agree: 3.26 – 4.00

Legend for the Overall Mean Rating: Poor: 1.00 – 1.75; Fair: 1.76 – 2.50;

Satisfactory: 2.51 – 3.25; Very Satisfactory: 3.26 – 4.00

Table 4.14 presents the respondents' perceptions of health service delivery outcomes in the Rural Health Units (RHUs) in terms of family planning services. The results of the analysis reveals that all statements obtained ratings within the *strongly agree* range, reflecting a consistently high level of satisfaction among respondents. The highest-rated indicator, *"The RHU respects my choices and decisions regarding family planning"* (M = 3.56), underscored the presence of a rights-based and client-centered approach in service delivery. This is followed closely by *"Family planning information is available and easy to understand"* (M = 3.54) and *"The family planning services are delivered privately and respectfully"* (M = 3.54), suggesting that the RHUs effectively ensured both accessibility of information and the protection of client privacy and dignity. Furthermore, *"Various family planning methods are available in the RHU"* (M = 3.53) and *"I received proper counseling about family planning"* (M = 3.52) indicate that the RHUs provided comprehensive options and adequate counseling, enabling clients to make informed reproductive health decisions.

These findings imply that the RHUs were highly effective in delivering family planning services, particularly in promoting informed choice, ensuring method availability, and maintaining respectful and confidential care. The consistently high ratings reflected the successful implementation of reproductive health programs at the primary care level.

The results are congruent with the findings of Cabral et al. (2021), who stressed that the quality of family planning services in public health facilities significantly improves when clients are provided with comprehensive information, a wide range of contraceptive options, and respectful counseling, all of which enhance client satisfaction and service utilization. Similarly, the results also confirmed the study by Juarez and Paz (2020), who argued that privacy, confidentiality, and respect for client autonomy are among the most important factors influencing the acceptance and continued use of family planning methods in rural communities.

Notably, the overall mean rating of 3.54, interpreted as *very satisfactory*, indicates that family planning services from the RHUs were highly effective, client-centered, and responsive to the needs of the community. This statistic indicates that family planning services by the RHUs were delivered at a very satisfactory level, demonstrating strong adherence to principles of accessibility, informed choice, and respectful care. This suggests that sustaining these strengths, along with continuous support for health workers and resource availability, will be essential in maintaining and further enhancing reproductive health service delivery in rural areas.

Table 4.15.

Respondents' Perceptions on Health Service Delivery Outcomes in the RHU in terms of Dengue Prevention and Control

Statement	Mean	Descriptor

DOI: 10.5281/zenodo.20502542

1. *Our RHU provides regular information about dengue prevention.*	3.23	Agree
2. *Mosquito fogging or control efforts are conducted regularly.*	3.11	Agree
3. *RHU staff educate households on how to prevent dengue.*	3.20	Agree
4. *Dengue cases are appropriately managed in our community.*	3.17	Agree
5. *I am informed and supported in preventing dengue at home.*	3.26	Strongly Agree
Overall Mean Rating	**3.19**	**Satisfactory**

Legend for the Mean: Strongly Disagree: 1.00 – 1.75; Disagree: 1.76 – 2.50;

Agree: 2.51 – 3.25; Strongly Agree: 3.26 – 4.00

Legend for the Overall Mean Rating: Poor: 1.00 – 1.75; Fair: 1.76 – 2.50;

Satisfactory: 2.51 – 3.25; Very Satisfactory: 3.26 – 4.00

Table 4.15 illustrates the respondents' perceptions regarding health service delivery outcomes in the Rural Health Units (RHUs) in relation to dengue prevention and control. The computed overall mean of 3.19, categorized as *satisfactory*, suggests that the delivery of dengue-related services wass generally acceptable and operational. However, the findings also indicate the presence of certain areas that may need further enhancement to achieve more effective and comprehensive service delivery.

The results of the analysis shows that most statements were agreed to by the respondents, reflecting a moderately positive perception of dengue prevention efforts. The highest-rated item, *"I am informed and supported in preventing dengue at home"* (M = 3.26), interpreted as *strongly agree*, suggests that RHUs were relatively effective in empowering households with knowledge and support for dengue prevention. Similarly, *"Our RHU provides regular information about dengue prevention"* (M = 3.23) and *"RHU staff educate households on how to prevent dengue"* (M = 3.20) indicate that health education initiatives were being implemented consistently within the community.

However, relatively lower mean ratings were observed in *"Dengue cases are appropriately managed in our community"* (M = 3.17) and *"Mosquito fogging or control efforts are conducted regularly"* (M = 3.11), both interpreted as *agree*. These findings suggest that while preventive education was present, operational aspects such as vector control activities and case management may not be as consistently implemented or may have been perceived as less effective by the respondents. Moreover, the relatively lower ratings could indicate inconsistencies in the scheduling and coverage of mosquito control activities, such as fogging, as well as possible limitations in resources, manpower, or coordination among health personnel. Inadequate or irregular implementation of these measures may have reduced their overall effectiveness in controlling mosquito populations and preventing the spread of dengue.

The above findings coincide with Bravo et al. (2021), who stated that community-based education and household-level interventions are among the most effective strategies in reducing dengue incidence, particularly when residents are actively engaged in preventive practices. Likewise, this finding corroborates with that of Edillo et al. (2020), which noted that while health education campaigns are widely conducted, inconsistencies in environmental management, such as irregular fogging and inadequate elimination of mosquito breeding sites, limit the overall effectiveness of dengue control programs. Similarly, a study by Capeding et al. (2022) emphasized that timely case management and coordinated community efforts are critical in reducing dengue-related morbidity, yet these are often constrained by limited resources and workforce capacity in local health units.

Relationship between the Respondent's Demographic Profiles and their Assessment on the Health Workforce Capacity in the RHUs

The following table presents an analysis of the relationships between the respondents' demographic profiles and the current health workforce capacity in the Rural Health Units (RHUs) of the Calamianes Group of Islands. To determine whether these relationships were statistically significant, the Chi-square test of independence was applied, using a 0.05 level of significance as the criterion for decision-making.

Table 4.16

Relationship between the Respondent's Demographic Profiles and their Assessment on the Health Workforce Capacity of the RHUs

Demographic Profile	p-value	Interpretation
Age	0.046	Not Significant
Sex	0.019**	Significant
Civil Status	0.008**	Significant
Highest Educational Attainment	0.003**	Significant
Employment Status	0.025**	Significant
Place of Residency	0.106	Not Significant

Legend: **Significant at 0.05 level of significance

Table 4.16 presents the relationships between the respondents' demographic profiles and their assessments of the health workforce capacity of the Rural Health Units (RHUs) in the Calamianes Group of Islands. Using the Chi-square test of independence at a 0.05 level of significance, the analysis revealed that certain demographic factors specifically sex, civil status, highest educational attainment, and employment status had statistically significant associations with how respondents perceived the health workforce. On the other hand, age and place of residency did not show significant relationships, suggesting a relatively uniform perception of workforce capacity across these groups.

Moreover, the significant associations indicate that the respondents' gender, marital status, educational background, and employment situation influenced how they evaluated the adequacy, competence, and responsiveness of health workers in the RHUs.

DOI: 10.5281/zenodo.20502542

For instance, differences in gender could reflect varying healthcare expectations or comfort levels in interacting with health staff. In addition, female respondents may be more frequent users of maternal and child health services and therefore more attuned to workforce performance. Likewise, civil status may influence service use, particularly in maternal and family planning care, which may lead married respondents to perceive workforce capacity differently than single or widowed individuals. Furthermore, highest educational attainment appeared to affect health literacy and the ability to critically assess healthcare delivery, while employment status may determine time availability and frequency of service utilization, thus shaping perceptions of staff responsiveness and efficiency.

Contrarily, the lack of significant relationships with age and place of residency suggests that these factors did not strongly influence perceptions of RHU workforce capacity. This may imply that, regardless of their age or geographic location within the Calamianes Group of Islands, respondents generally had similar experiences and expectations regarding RHU services.

These findings are consistent with Alon et al. (2021), who found that education and employment status significantly influence patient evaluations of healthcare personnel in rural Philippine communities, particularly in terms of service quality, professionalism, and accessibility. Bautista and Reyes (2020) similarly reported that gender and civil status affect client satisfaction in rural primary healthcare settings, as these characteristics are linked to healthcare-seeking behaviors, frequency of facility visits, and expectations of care.

Relationship between the Respondent's Demographic Profiles and their Perceptions on Health Service Delivery Outcomes in the RHUs

The table below illustrates the analysis of potential associations between the respondents' demographic characteristics and their perceptions of health service delivery outcomes in the Rural Health Units (RHUs) of the Calamianes Group of Islands. To assess whether these associations were statistically meaningful, the Chi-square test of independence was conducted, with a 0.05 level of significance serving as the threshold for determining significance.

Table 4.17

Relationship between the Respondent's Demographic Profiles and their Perceptions on Health Service Delivery Outcomes in the RHUs

Demographic Profile	p-value	Interpretation
Age	0.164	Not Significant
Sex	0.029**	Significant
Civil Status	0.017**	Significant
Highest Educational Attainment	0.026**	Significant
Employment Status	0.012**	Significant
Place of Residency	0.179	Not Significant

Legend: **Significant at 0.05 level of significance

Table 4.17 shows the relationships between respondents' demographic profiles and their perceptions of health service delivery outcomes in the Rural Health Units (RHUs) of the Calamianes Group of Islands. Inferential analysis was used to determine whether variations in demographic characteristics were significantly associated with respondents' perceptions of service delivery outcomes, such as immunization, maternal care, child health, family planning, and dengue prevention programs.

The analysis indicates that sex ($p = 0.029$), civil status ($p = 0.017$), highest educational attainment ($p = 0.026$), and employment status ($p = 0.012$) were significantly related to the respondents' perceptions of RHU service delivery outcomes. This suggests that differences in these demographic characteristics influenced how respondents evaluated the accessibility, quality, and effectiveness of services provided by the RHU personnel.

The data implies that female respondents may have been more engaged with maternal and child health services, which could lead to a heightened awareness of service quality, while civil status may have influenced perceptions on family planning and maternal care services. Highest educational attainment likely affected health literacy, enabling respondents to critically assess the availability of services, clarity of health information, and responsiveness of staff. Similarly, employment status may have determined both the frequency and timing of facility visits, affecting client experiences and evaluations of service delivery.

On the other hand, age ($p = 0.164$) and place of residency ($p = 0.179$) were found not to have a significant relationship with perceptions of service delivery outcomes. This suggests that respondents' views regarding the quality and effectiveness of RHU services were relatively consistent across different age groups and geographic locations within the study area. In practical terms, it implies that the RHUs maintained a generally uniform standard of service provision across communities, irrespective of respondents' age or residency.

These findings are consistent with the views of Bautista and Reyes (2020), who argued that gender, marital status, and educational attainment significantly affect client satisfaction and perceptions of healthcare delivery in rural Philippine health units. Similarly, this conforms to Alon, Santos, and Cruz (2021), who reported that employment and education levels influence patients' assessments of accessibility, staff competence, and overall service satisfaction in rural primary care settings.

CONCLUSION

The findings of the study revealed that Rural Health Units (RHUs) in the Calamianes Group of Islands were effectively delivering essential healthcare services despite existing socioeconomic and resource-related challenges. The demographic profile showed that RHUs services were predominantly utilized by young, married, and female clients with modest educational attainment and limited employment, reflecting a population that relied heavily on accessible and publicly funded healthcare. This highlighted the crucial role of RHUs in addressing the health needs of vulnerable and economically constrained groups.

In terms of health workforce capacity, respondents generally perceived RHUs personnel as competent, professional, and responsive, with very satisfactory ratings in staff performance and perceived competence. Although staffing levels and resource availability were rated as satisfactory, concerns regarding workforce adequacy, occasional overcrowding, and intermittent shortages of medicines and supplies suggested areas that required strategic improvements. Strengthening human resources and

DOI: 10.5281/zenodo.20502542

ensuring the consistent availability of medical supplies were necessary to further enhance service efficiency and quality.

Furthermore, the assessment of health service outcomes indicated that RHUs were performing well across major healthcare programs. Maternal care, immunization, and family planning services received very satisfactory ratings, indicating effective implementation, accessibility, and high levels of client trust. Child health services and dengue prevention and control were rated as satisfactory, indicating that these services are generally effective. However, improvements were needed in case management, follow-up mechanism systems, and community-based interventions to achieve more comprehensive and sustainable health outcomes in rural areas.

RECOMMENDATIONS

Based on the findings and conclusions of the study, the following recommendations are presented, beginning with the stakeholders to whom each recommendation is addressed to ensure clear responsibility and effective implementation.

1. The Municipal Health Office (MHO), Rural Health Unit (RHU) heads, and Barangay Health Workers (BHWs) should strengthen health education and community outreach programs to improve health literacy and increase service utilization, particularly among underrepresented groups such as men and older adults.
2. The Local Government Unit (LGU), Municipal Health Office, and Provincial Health Office (PHO) should hire additional personnel, optimize staff scheduling, ensure equitable distribution of workload, and sustain continuous training and professional development of health personnel to enhance health workforce capacity. by
3. The Rural Health Unit (RHU) management, Municipal Health Office, Department of Health (DOH), and Provincial Health Office (PHO) should improve supply chain and logistics management to ensure the consistent availability of medicines, vaccines, and essential medical equipment through strengthened inventory monitoring and coordination with higher health authorities.
4. The RHU program coordinators, Municipal Health Office, and Department of Health (DOH) program implementers should sustain high-performing programs such as maternal care, immunization, and family planning through regular monitoring, evaluation, and continuous quality improvement.
5. The Rural Health Unit (RHU) health personnel, Municipal Health Office, and Department of Health (DOH) are recommended to strengthen child health services by improving case management protocols, establishing effective follow-up systems, and enhancing monitoring of child growth and development.
6. The Rural Health Units (RHUs), Barangay Local Government Units (BLGUs), Barangay Health Workers (BHWs), and Municipal Health Office (MHO), in coordination with the Department of Health (DOH), should intensify dengue prevention and control efforts through strengthened vector control measures, increased community engagement, health promotion campaigns, and improved case management to reduce disease incidence.
7. The future researchers, academic institutions, and health policy planners should conduct further studies exploring the relationships between demographic profiles, workforce capacity, and health service delivery outcomes, with broader geographic coverage to support stronger evidence-based planning and policy development.

References

1. Abdul, S., Adeghe, E., Adegoke, B., Adegoke, A., & Udedeh, E. (2024). A review of the challenges and opportunities in implementing health informatics in rural healthcare settings. International Medical Science Research Journal, 4(5), 606-631.
2. Abelsen, B., Strasser, R., Heaney, D., Berggren, P., Sigurosson, S., Brandstorp, H., Wakegijig, J., Forsling, N., Moody-Corbett, P., Akearok, G. H., Mason, A., Savage, C., & Nicoll, P. (2020). Plan, recruit, and retain: a framework for local healthcare organizations to achieve a stable remote rural workforce. Human Resources for Health, 18(1).
3. Ahmed, M. A., Hussen, A., Bashir, B. M., & Ibrahim, A. (2024). Animal health service delivery in Ethiopia: A Review. Asian Journal of Advanced Research and Reports, 18(3), 59–72.
4. Akhtar, M. H., & Ramkumar, J. (2023). Does rural India need a new primary healthcare delivery model? Design for Health, 1–20.
5. Al-Worafi, Y. M. (2023). Healthcare facilities in developing countries: infrastructure. In Springer eBooks (pp. 1–21).
6. Aytona, M., Politico, M., McManus, L., Ronquillo, K., & Mollent, O. (2022). Determining staffing standards for primary care services using workload indicators of staffing needs in the Philippines. Human Resources for Health, 19(Suppl 1).
7. Babawarun, O., Okolo, C. A., Arowoogun, J. O., Adeniyi, A. O., & Chidi, R. (2024). Healthcare managerial challenges in rural and underserved areas: A review. World Journal of Biology Pharmacy and Health Sciences, 17(2), 323–330. https://doi.org/10.30574/wjbphs.2024.17.2.0087
8. Ballesteros, A., et al. (2021). Title of the article. Name of Journal, volume(issue), page range. https://doi.org/xxxxx
9. Bravo, L., Roque, V. G., Brett, J., Dizon, R., & L'Azou, M. (2021). Epidemiology of dengue disease in the Philippines (2000–2019): A systematic review. PLoS Neglected Tropical Diseases, 15(4), e0009397
10. Bredenkamp, C., & Buisman, L. R. (2020). Financial protection from health spending in the Philippines: Policies and progress. Health Policy and Planning, 35(9), 1131–1140.
11. Bloom, P. A., Bloom, H. G., Moses, I., Stephens, J. H., Owembabazi, I., Sam, M., & Paccione, G. (2024). Community-oriented primary care to improve health in older adults of rural Uganda: A feasibility study.
12. Bogale, B., Scambler, S., Mohd Khairuddin, A. N., & Gallagher, J. E. (2024). Health system strengthening in fragile and conflict-affected states: A review of systematic reviews.

DOI: 10.5281/zenodo.20502542

13. Caballes, A. B., et al. (2020). Patient satisfaction and service quality in rural health units in the Philippines. Philippine Journal of Health Research and Development, 24(1), 35–44.
14. Cabral, E. I., et al. (2021). Health literacy in the Philippines: A national survey. Asia Pacific Journal of Public Health, 33(6–7), 734–741.
15. Capeding, M. R., Tran, N. H., Hadinegoro, S. R., et al. (2022). Dengue prevention and control strategies in Southeast Asia: Challenges and opportunities. The Lancet Regional Health – Western Pacific, 20, 100387.
16. Chowdhury, J., & Ravi, R. (2022). Healthcare Accessibility in Developing Countries: A Global Healthcare Challenge. Journal of Clinical & Biomedical Research.
17. Cruz, R. P., Villanueva, J. M., & Santos, E. B. (2023). Health workforce performance and workload management in rural Philippine health units. Philippine Journal of Public Health, 48(2), 102–112.
18. Dayrit, M. M., Lagrada, L. P., Picazo, O. F., Pons, M. C., & Villaverde, M. C. (2018). The Philippines health system review. World Health Organization.
19. Dela Cruz, M. R., Garcia, P. R., & Torres, L. M. (2021). Health-seeking behavior among Filipino households: The role of socio-demographic factors. Philippine Journal of Health Research and Development, 25(2), 45–56.
20. De Guzman, S., Dee, V., & Jiang, Y. H. (2023). Reliability and validity evidence for health care-seeking behavior questionnaires on sexual health among Filipino men. Journal of Nursing Measurement.
21. De Mesa, R. Y. H., Marfori, J. R. A., Fabian, N. M. C., Camiling-Alfonso, R., Javelosa, M. A. U., Bernal-Sundiang, N., Dans, L. F., Calderon, Y. T., Celeste, J. A., Sanchez, J. T., Rey, M. P., Galingana, C. L. T., Paterno, R. P. P., Catabui, J. T., Lopez, J. F. E., Aquino, M. R. N., & Dans, A. M. L. (2023). Experiences from the Philippine grassroots: Impact of strengthening primary care systems on health worker satisfaction and intention to stay. BMC Health Services Research, 23(1).
22. Department of Health. (2018). National Human Resources for Health Strategic Plan 2017–2022. DOH Philippines.
23. Department of Health. (2019). Implementing rules and regulations of Republic Act No. 11223 otherwise known as the Universal Health Care Act. Government of the Philippines. DOH Philippines.
24. Department of Health. (2022). National objectives for health Philippines 2017–2022. Government of the Philippines. Department of Health Philippines
25. Dondonayos, G. V., Masukat, H. H., Ochave, M. C. I., Ulangkaya, J. L., Zacaria, L., & Faller, E. M. (2023). A review of challenges of delivering healthcare service in rural areas of the Philippines. International Journal of Research Publication and Reviews, 4(1), 96–105.
26. Edillo, F. E., Halasa, Y. A., Largo, F. M., et al. (2020). Economic cost and burden of dengue in the Philippines. American Journal of Tropical Medicine and Hygiene, 102(5), 1186–1193.
27. Felipe-Dimog, E., Liang, F., Tumulak, M., Hsu, M., Sia-Ed, A., & Dumalhin, Y. (2022). Roles and functions of rural health midwives in cordillera administrative region: a qualitative pilot study. Acta Medica Philippina.
28. Flores, E. L. L., Manahan, E.M.R., Lacanilao, M.P.B. et al. Factors affecting retention in the Philippine National Rural Physician Deployment Program from 2012 to 2019: a mixed methods study. BMC Health Service Research 21, 1201 (2021).
29. Galvez, A. R., Laxamana, R., & De Leon, M. (2021). Professionalism and communication in rural primary healthcare: Client perspectives. Asia Pacific Journal of Health Services, 33(4), 245–254.
30. Garcia, L. M., & Lopez, R. T. (2020). Accessibility and utilization of child health services in rural Philippine communities. Philippine Journal of Health Research and Development, 24(1), 33–41.
31. Gizaw, Z., Astale, T. & Kassie, G.M. What improves access to primary healthcare services in rural communities? A systematic review. BMC Primary Care 23, 313 (2022).
32. Gulliford, M., Figueroa-Munoz, J., Morgan, M., Hughes, D., Gibson, B., Beech, R., & Hudson, M. (2019). What does 'access to health care' mean? Journal of Health Services Research & Policy, 7(3), 186–188.
33. Hassan, M. M., Ali, A., Ali, I., Mohamed, Z., Abdullahi, H., Ahmed, M., Mohamud, A. K., Adebisi, Y. A., Okesanya, O. J., & Lucero-Prisno, D. E. (2024). Somalia's Medical Education and Regulation: A Review of the Health Regulatory Landscape.
34. Hassan, M., Ahmed, A. M., Ali, S. A., & Noor, I. M. (2024). Medical education and healthcare regulation challenges in Somalia: Implications for rural healthcare delivery. BMC Medical Education, 24(1), 415. https://doi.org/10.1186/s12909-024-05415-7.
35. Haseen, F., Kumar, R., Singh, P., & Sharma, A. (2023). Reassessing primary healthcare delivery in rural India: Towards decentralized and community-based health systems. Journal of Rural Health Systems and Policy, 18(1), 33–47.
36. Ihsaniyati, H., Sarwoprasodjo, S., Muljono, P., & Gandasari, D. (2024). Understanding the impact and driver of digital divide to support rural development policy: a review. IOP Conference Series, 1362(1), 012016.
37. Jessup, B., Barnett, T., Obamiro, K., Cross, M., & Paul, E. (2021). Review of the health, welfare and care workforce in Tasmania, Australia: 2011–2016. International Journal of Environmental Research and Public Health, 18(13), 7014.
38. Juarez, F., & Paz, F. (2020). Client perspectives on family planning services in rural communities in the Philippines. Asia-Pacific Population Journal, 35(2), 45–60.
39. Kawi, J., Fudolig, M., Serafica, R., Reyes, A. T., Sy, F., Leyva, E. W. A., & Evangelista, L. S. (2024). Health information sources and health-seeking behaviours of Filipinos living in medically underserved communities: Empirical quantitative research. Nursing Open.
40. Khan, H. T. A. (2024). Public health challenges and responses to the growing ageing populations: A review of literature.
41. Khondowe, W. K., & Qutieshat, A. (2024). Private Sector Engagement in Healthcare Delivery in Developing Countries: A Review. International Journal for Multidisciplinary Research, 6(1).

DOI: 10.5281/zenodo.20502542

42. La Forgia, G. (2022). Service delivery networks in the Philippines: Results of a readiness assessment. International Journal of Integrated Care, 22(S1), 51 (8).
43. Lokota, M., Miriti, G., & Okello, J. (2023). Staffing capacity and the delivery of healthcare services at Lodwar County Referral Hospital. Journal of Human Resource & Leadership, 7(5).
44. Mallari, E., Lasco, G., Sayman, D., Amit, A., Balabanova, D., McKee, M., et al. (2020). Connecting communities to primary care: a qualitative study on the roles, motivations and lived experiences of community health workers in the Philippines. BMC Health Services Research, 20(1).
45. Mendoza, J. L., Ramirez, F. M., & Velasco, P. (2022). Patient satisfaction and staff efficiency in rural health units of Mindoro, Philippines. Philippine Journal of Nursing Research, 44(1), 33–44.
46. Mesa, R., Marfori, J., Fabian, N., Camiling-Alfonso, R., Javelosa, M., Bernal-Sundiang, N., et al., (2023). Experiences from the Philippine grassroots: impact of strengthening primary care systems on health worker satisfaction and intention to stay. BMC Health Services Research, 23(1).
47. Mesa, A. M., Somera, L. P., De Guzman, A. B., & Reyes, M. E. (2023). Health worker satisfaction and retention in rural health systems in the Philippines: The role of financial and non-financial incentives. Philippine Journal of Health Research and Development, 27(2), 45–58.
48. Navarro-Jiménez, E., Saturno-Hernández, P. J., Jaramillo-Mejía, M. C., & Clemente-Suárez, V. J. (2024). Amenable Mortality in Children under 5: An Indicator for Identifying Inequalities in Healthcare Delivery: A Review. Children 11(7), 764.
49. Nesari, T. (2023). Skill development and Ayurveda sector: Bridging the gap of workforce in India. International Journal of Ayurveda Research, 4(3), 113.
50. Nguyen, T. T., McDonald, F., Witter, S., Bui, T. M. A., & Wilson, A. (2023). In-service Training of Maternal Health Workers in Rural Areas in Vietnam: Is it Relevant, Timely and Effective? A Mixed-method Study. Journal of Health Management, 25(3), 553–562.
51. Okereke, O. (2024). The well-being of Nigeria's rural population: a review of literature. Annals of the Polish Association of Agricultural and Agribusiness Economists, 26(2), 138–150.
52. Oloruntoba, B., Okolo, C. A., Arowoogun, J. O., Adeniyi, A. O., & Chidi, R. (2024). Healthcare managerial challenges in rural and underserved areas: A Review. World Journal of Biology Pharmacy and Health Sciences, 17(2), 323–330.
53. Ong, M. M., Dayrit, E. S. N., Apostol, G. L., Caranay-Narag, S., Dikomitis, L., & Dayrit, M. M. (2020, November 8–12). Understanding primary care in rural areas of the Philippines — using ethnographic evidence for the Universal Health Care Law [Conference presentation]. 6th Global Symposium on Health Systems Research, Virtual Conference.
54. Osadolor, O., Osodalor A., Osadolor, O., Enabulele, E., Akaji, E., & Odiowaya, D (2022). Access to health services and health inequalities in remote and rural areas. Janaki Medical College Journal of Medical Science.
55. Osman, S., Churruca, K., Ellis, L. A., & Braithwaite, J. (2024). Beyond the planned and expected: the unintended consequences of telehealth in rural and remote Australia through a complexity lens. The Medical Journal of Australia.
56. Padilla, C., Sur, A., Villarante, K., Crisostomo, H., Lescano, A., Padilla, P., Howson, C. (2020). Identifying challenges to quality in preconception health care among women of reproductive age in Lipa City, Batangas. Acta Medica Philippina, 54(4).
57. Panganiban, J. M. S., Loreche, A. M., De Mesa, R. Y. H., Camiling-Alfonso, R., Fabian, N. M. C., Dans, L. F., Galingana, C. L. T., Lopez, J. F. E., Casile, R. U., Aquino, M. R. N., Rey, M. P., Sanchez, J. T., Javelosa, M.A. U., Tan-Lim, C. S. C., Marfori, J. R. A., Paterno, R. P., & Dans, A. L. (2024). Promoting equitable and patient-centred care: An analysis of patient satisfaction in urban, rural and remote primary care sites in the Philippines. BMJ Open Quality, 13(1), e002483.
58. Perez, A. E., Santos, R. L., & Villanueva, M. D. (2022). Accessibility and utilization of family planning services in rural health units in the Philippines. Philippine Journal of Nursing Research, 44(1), 12–20.
59. Pérez-Cubero, E., Mula, J., & Vicéns, E. S. (2024). The Workforce Scheduling Problem (WSP): A Review of the Literature. 318–324.
60. Philippine Health Insurance Corporation. (2023). Konsultasyong Sulit at Tama (Konsulta) Package. PhilHealth Official Website
61. Philippine Statistics Authority. (2022). National Demographic and Health Survey 2022. PSA
62. Ramos, J. P., Castillo, M. A., & Dizon, R. L. (2023). Patient-centered care and satisfaction in Philippine primary health settings. Philippine Journal of Health Research and Development, 27(1), 55–66.
63. Reyes, J. P., Santos, M. D., & Cruz, A. L. (2022). Continuity of care and service delivery challenges in child health programs in rural health units. Philippine Journal of Nursing, 92(2), 60–68.
64. Reyes, J. L., & Santos, A. P. (2020). Utilization of primary healthcare services among Filipino families: A community-based study. Acta Medica Philippina, 54(3), 210–218.
65. Ridad, A. (2019). Factors influencing immunization compliance among children in community health settings. Belitung Nursing Journal, 5(2), 85–92.
66. Robredo, J. P., Ong, B., Eala, M. A., & Naguit, R. J. (2022). Outmigration and unequal distribution of Filipino physicians and nurses: An urgent call for investment in health, human resource and systemic reform. The Lancet Regional Health – Western Pacific, 25, 100512.
67. Salazar, R. M., Lopez, G. T., & Hernandez, P. S. (2021). Communication and trust in rural healthcare: A study of patient perceptions in the Philippines. Asia Pacific Journal of Nursing, 18(2), 120–128.
68. Shah MP, Morgan CJ, Beeson JG, Peach E, Davis J, McPake B, Wallace A.S.(2020) Integrated Approaches for the Delivery of Maternal and Child Health Services with Childhood Immunization Programs in Low- and Middle-Income Countries: Systematic Review Update 2011-2020. Vaccines (Basel).

DOI: 10.5281/zenodo.20502542

69. Shaw, G. (2022). Special Report. Emergency Medicine News, 44(5), 1, 16-17.
70. Shivachi, D. I. (2023). Capacity of Clinical Officers to Care for Patients with Hypertension and Type 2 Diabetes Mellitus in Rural Healthcare Facilities in Kisumu County, Kenya. East African Journal of Health & Science, 6(1), 301–317.
71. Simões, J., Loureiro, R., Lopes, E. R., & Pacheco, A. (2024). The Challenges of Health Units during Covid-19: Qualitative Analysis through the Lens of Dynamic Capacities. 23, 199–208.
72. Solon, O. R., Herrin, A. N., & Palafox, B. (2021). Primary healthcare and child health outcomes in the Philippines: The role of local health systems. Asia Pacific Journal of Public Health, 33(5), 567–575.
73. Soriano, G. P., et al. (2020). Health education and promotion in rural communities in the Philippines: Challenges and strategies. Philippine Journal of Nursing, 90(1), 15–22.
74. Sylim, P., Lu, J., & Marcelo, P. (2022). Discoursing terminology standards and interoperability in relation to the Philippine health strategy. Acta Medica Philippina, 56 (1).
75. Tejero, L. M., Leyva, E., Abad, P. J., Montorio, D., & Santos, M. (2021). Production, Recruitment, and Retention of Health Workers in Rural Areas in the Philippines. Acta medica Philippina.
76. Tripathi, V., & Preetha, G. S. (2024). Public health infrastructure and human resources in tribal areas of India: a decadal assessment (2012–2022) with Rural Health Statistics data. International Journal of Health Governance.
77. Ulep, V. G. T., & Uy, J. (2022). An assessment of the Expanded Program on Immunization (EPI) in the Philippines: Challenges and ways forward. Philippine Institute for Development Studies (PIDS).
78. World Health Organization. (2016). Global strategy on human resources for health: Workforce 2030. WHO.
79. United Nations. (2020). World Population Ageing 2020 Highlights. United Nations Department of Economic and Social Affairs.
80. World Health Organization. (2021). Primary health care on the road to universal health coverage: 2021 monitoring report. WHO Press.
81. World Health Organization. (2021). Immunization agenda 2030: A global strategy to leave no one behind. WHO Press.
82. World Health Organization. (2021). WHO guideline on health workforce development, attraction, recruitment and retention in rural and remote areas. World Health Organization. WHO Guideline on Rural and Remote Health Workforce
83. Zhao, I.Y., Montayre, J., Leung, and A.Y. M., et al. Interventions addressing functional abilities of older people in rural and remote areas: a scoping review of available evidence based on WHO functional ability domains. BMC Geriatr 22, 827 (2022).

DOI: 10.5281/zenodo.20502542