Uptake, Determinants and Barriers to the Utilization of Preventive Healthcare Services in Rural Benue State, Nigeria

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ABSTRACT

Utilization of preventive healthcare services is essential for reducing disease burden and improving overall health outcomes. This study assessed the uptake, determinants, and barriers to the utilization of preventive healthcare services among health workers and rural residents in Benue State, Nigeria, using a descriptive survey design. The study adopted a descriptive survey design and a positivist research paradigm. The study adopted a multistage sampling technique from rural communities and primary healthcare centres in the state. A structured questionnaire was used to collect data, from 411 respondents for both health workers and. The data obtained were analyzed using the Statistical Package for the Social Sciences (SPSS) version 23.0. Descriptive statistics such as frequencies, percentages, and means were used to answer the research questions, while Pearson's correlation coefficient was used to test the hypotheses at the 0.05 level of significance. Results obtained showed that the uptake of preventive healthcare services was moderate, with higher utilization observed for services such as counselling for healthy living, blood pressure screening, and blood sugar testing, while services like cholesterol and cancer screening recorded relatively low uptake. The findings further revealed that several barriers significantly influenced utilization, including cost of services, distance to health facilities, poor quality of care, and socio-cultural factors. In addition, socio-demographic characteristics such as age, gender, education, income, occupation, and family size were found to have significant associations with the uptake of preventive healthcare services. The study also identified key facilitators and strategies for improving uptake, including reducing the cost of services, improving healthcare infrastructure, enhancing health worker attitudes, expanding health insurance coverage, and strengthening community outreach and awareness programmes.

It was recommended that government should strengthen the primary healthcare system in rural areas by improving healthcare infrastructure, ensuring adequate supply of medical equipment, and deploying more qualified health personnel to rural health facilities to enhance access to preventive health services.

INTRODUCTION

Health is an unavoidable means that evaluates the active running of humans all over the world. The individual's state of health and progression in the society is majorly based on how the individual accesses optimum health care service. Sound health is variant for individuals and the process of attaining a healthy leaving is particular to individuals (Iorver, 2020). Health is a state of absolute physical, mental and social well-being and not entirely the absence of disease or infirmity (Jones, 2003). World Health Organization additionally simplified that health is a supply for everyday life not the aim of living (WHO, 2017). World Health Organization also emphasized that, health is a helpful idea stressing social and personal reserves, as well as physical capacities (WHO, 2017). This entails that, health is a means to aid an individual's role in larger society (Iorver, 2020). Currently, scholars have defined health as the capacity of a body to get used to new pressures and ailments. They centre this on the notion that, present science has noticeably increased human alertness of disease and how they work in the last few decades (Jones, 2003; Iorver, 2020).

Uptake of preventive healthcare services among health workers and residents of rural areas in Benue State is the dependent variable. The independent variables are the determinants that influence the uptake of these services. These determinants can be broadly categorized into individual factors, such as age, gender, and educational level; socio-economic factors, including income, occupation, and access to healthcare facilities; cultural and religious beliefs; and healthcare system factors, such as availability of services, quality of care, and the attitudes of healthcare workers. Each of these variables will be critically examined to understand their impact on the utilization of preventive healthcare services in rural Benue State.

Socio-demographic factors, such as age, gender, education, and income, are pivotal in determining the uptake of preventive healthcare services. Hilton et al. (2003) found increased age, non-white race/ethnicity, low educational level, low income, decreased access, in sufficient funding, and unfavourable attitudes towards screening to be determinants of uptake of preventive healthcare services. Mugassa et al. (2020) found religious beliefs, cultural practices; availability, accessibility, and affordability of preventive health services, and policy of the employers or workplace to be affecting uptake of preventive healthcare services. Similarly, the factors identified by Mutyaba et al. (2007) were "ignorance about, cultural constraint/beliefs about illness, economic factors, domestic gender power relations and unfriendly health care services"

Vaidya et al. (2011) identified existing age, race, income, and insurance status-related disparities in preventive care utilization within a US population. According to Abera Abaerei et al. (2017), many people in low- and middle-income countries are unable to utilize health care because of socioeconomic factors, cultural beliefs and practices, distance and most importantly problem of the health system itself such as availability, affordability and quality of care. A research by Akinyemi et al. (2021) and Ndikom and Ofi (2012) suggests that individuals with higher education and income levels are more likely to engage with preventive health services due to better health literacy and access. Obi et al. (2021) asserted that the rich in the society utilize health care for preventive, curative, rehabilitative and maintenance purposes while the poor use health care for curative purposes and most of the health care and health care services utilized by the rich is rarely found in the rural communities. Jansen et al. (2018) however showed that lower educational attainment and income levels are often associated with reduced utilization of preventive care, primarily due to financial constraints and limited health knowledge.

Despite the implementation of numerous health education programs and interventions, significant challenges persist in the field of preventive healthcare, particularly in rural areas where service uptake remains alarmingly low. Through my experiences growing up and working in Nigeria, I have directly observed the difficulties in accessing quality healthcare, especially in rural regions. These areas often suffer from inadequate healthcare infrastructure, compounded by a lack of preventive measures, leading to high rates of morbidity and mortality from diseases that could otherwise be prevented. These observations have ignited a strong desire to investigate the underlying reasons behind the underutilization of preventive healthcare services, despite their well-established efficacy in reducing the disease burden. This research is also deeply influenced by the researcher's active engagement in public health initiatives. Participation in community health programs has provided the researcher with a first-hand perspective on the challenges faced by healthcare workers and residents in rural areas, further intensifying her commitment to addressing these issues. The researcher is driven by the belief that improving preventive healthcare services can lead to better health outcomes and reduce the burden of diseases in rural areas, ultimately contributing to the overall development of rural communities. This study seeks to examine the factors influencing the uptake of preventive healthcare services among health workers and residents in rural areas of Benue State, Nigeria. Examining key variables such as attitudes, barriers, facilitators, and socio-demographic factors can contribute valuable insights that can inform the development of targeted strategies. These strategies will be designed to improve healthcare access and effectiveness, thereby fostering better health outcomes and overall well-being in these underserved communities.

The study further identified the facilitators to uptake of preventive healthcare services among respondents. These include availability of services, affordable costs, positive attitude of health workers and awareness campaigns. These findings agrees with Ofoli et al. (2020) who reported that the presence and accessibility of healthcare services significantly improved the likelihood of individuals adopting preventive healthcare practices. Ewulum et al. (2022) noted that inadequate availability of services often leads to poor uptake, while improved service provision improves utilization. The agreement between this study and previous findings may be attributed to the

fact that individuals are more likely to utilize preventive healthcare services when such services are consistently available within reachable distances.

The study also identified several strategies that could improve the uptake of preventive healthcare services among health workers and residents of rural areas in Benue State. These include increasing community awareness and health education, improving accessibility of healthcare facilities, expanding health insurance coverage, strengthening primary healthcare systems and encouraging community-based health promotion programmes. Thus, the study aims to assess the uptake, determinants and barriers to the utilization of preventive healthcare services in rural Benue State, Nigeria.

METHODOLOGY

Research Philosophy

This study adopted the positivist research paradigm, which is grounded in the belief that reality is objective and can be observed and measured independently of the researcher's influence (Ali, 2024; Pretorius, 2024). Through this paradigm, the research relied on the collection of empirical data using standardized instruments, ensuring consistency and reliability (Burton-Jones and Lee, 2017; Aliyu et al., 2014).

Research Design

This study adopted a descriptive research design

Area of the Study

The study was conducted in some parts of Benue State of Nigeria.

Study Population

The study population consisted of health workers employed at primary healthcare centers and residents of rural areas in Benue State.

Inclusion Criteria

The inclusion criteria for this study are as follows: health workers must be employed at a primary healthcare center within the rural areas of Benue State, with a minimum of 5 years of work experience in their current position. Additionally, they must be willing to participate in the study and provide informed consent. Residents must be aged 18 years or older and must have lived in the selected rural area for at least 5 years. They must also be willing to participate in the study and provide informed consent. These criteria ensure that participants are representative of the target population and can offer relevant and reliable insights into the uptake and determinants of preventive healthcare services in rural areas of Benue State.

Exclusion Criteria

The exclusion criteria for this study included health workers without at least 5 years of work experience in a primary healthcare center within the rural areas of Benue State or those who are not willing to participate in the study or provide informed consent. Residents who have not lived in the selected rural area for a minimum of 5 years or those under the age of 18 were also excluded. Additionally, individuals who have previously been involved in similar studies or those with any cognitive impairments that may hinder their ability to respond accurately to the study's instruments were excluded.

Sample Size Determination

The sample size for this study was determined using the Cochran formula. The sample size was 421 (both rural residents and healthcare workers).

Sampling Technique

Multi-stage sampling was employed to select participants for the study. The first stage involved stratifying the state into its three senatorial districts (Benue North-West (Zone B), Benue North-East (Zone A), and Benue South (Zone C)) to ensure geographical representation. In the second stage, purposive sampling was used to select specific local government areas (LGAs) within each senatorial district that have rural communities and functional primary healthcare facilities. Simple random sampling was then be used within each stratum to select participants, ensuring equal representation and minimizing bias.

Instrument of Data Collection

The primary instrument for data collection in this study was a structured questionnaire designed to capture the determinants and uptake of preventive healthcare services among health workers and residents in rural areas of Benue State. The development of the instrument incorporated, adopted, adapted, and developed strategies.

Validity of the Instrument

Validity was assessed by experts from academia and practitioners from the field or industry (Elangovan & Sundaravel, 2021; Kania et al., 2024). A sample of the questionnaire was submitted to experts who validated the instrument for content accuracy and relevance.

Reliability of the Instrument

The reliability of the study was assessed using Cronbach's alph (Park, 2021). Cronbach's alpha values were calculated for each section of the instrument based on data collected during the pilot study. A threshold of 0.7 or higher was considered acceptable, with values above 0.8 indicating good reliability.

Pilot Study

The pilot study involved a small sample of participants drawn from a population similar to the main study's target group, ensuring relevance and applicability of the feedback obtained (Moore et al., 2011). Reliability testing was conducted using Cronbach's alpha to measure the internal consistency of the items. Necessary adjustments were made based on the pilot results to refine the instrument and enhance its effectiveness for the main study.

Method of Data Analysis

Descriptive and inferential statistics was used in the study. The facts gotten from the study were probed using simple percentages and means. Comparative analysis was done by subjecting the data obtained to chi-square analysis using statistical package for social sciences (SPSS), version 23. For Likert scale scoring, means below 3.0 were considered as accepted while means below 3.0 were considered rejected.

Ethical Consideration

Ethical approval was obtained from the university's Research Ethics Committee to enable conduct of studies on human subjects. Also, permission to give questionnaires to patients was be gotten from the patients themselves using an informed consent form. The participants were be educated about the aim and purpose of the research, privacy was confirmed and information were recorded namelessly. Participation was made voluntary.

RESULTS

The uptake of preventive health services among health workers and residents of rural areas in Benue State is presented in Table 1. Findings revealed that respondents take up counselling for healthy living (77.9%), blood

pressure screening (74.2%), blood sugar testing (71.3%), routine vaccinations (64.0%), hepatitis screening (41.6%), cancer screening (25.3%) and cholesterol screening (20.9%).

The frequency of uptake of preventive health services among health workers and residents of rural areas in Benue State is presented in Table 2 Findings revealed that the majority of the respondents reported taking preventive health services yearly (37.5%). This was followed by those who accessed the services monthly (29.2%), undefined (18.0%), weekly (7.5%) whereas 7.8% never use preventive health services (7.8%).

Table 1: Uptake of Preventive Health Services among Heath Works and Residents of Rural Areas in Benue State

Uptake of PHS	**Frequency(N=411)**	**Percentage (%)**
Blood pressure screening	305	74.2
Blood sugar testing	293	71.3
Cholesterol screening	86	20.9
Routine vaccinations	263	64.0
Cancer screening (e.g., cervical, prostate)	104	25.3
Counselling for healthy living	320	77.9
Hepatitis screening and vaccination	171	41.6

Source: Field Survey, (2026)

Table 2: Frequency of Uptake of Preventive Health Services among Heath Works and Residents of Rural Areas in Benue State

Frequency of Uptake of PHS	**Frequency(N=450)**	**Percentage (%)**
Never	32	7.8
Weekly	31	7.5
Monthly	120	29.2
Yearly	154	37.5
Undefined	74	18.0
Total	**411**	**100.00**

Source: Field Survey, (2026)

The mean analysis of the barriers and facilitators to the uptake of preventive health services among health workers and residents of rural areas in Benue State is shown in Table 3. Results obtained show that the items on barriers to uptake of preventive health services had mean scores of 4.09, 4.15, 3.82, 3.85, 4.00, and 3.84 respectively. Items on facilitators to uptake of preventive health services had mean scores of 4.06, 3.85, 3.93, and 3.94 respectively with a cluster mean of 3.95. Since the cluster mean score is above the decision point of 3.0, it implies that the identified factors significantly influence the uptake of preventive health services among health workers and residents of rural areas in Benue State.

The association between the socio-demographic factors and uptake of preventive health services among health workers and residents of rural areas in Benue State is presented in Table 4. Results showed that uptake of preventive health services was significantly associated with gender, age, religion, education, occupation, monthly income, and family size ($p<0.05$). However, there was no significant association between marital status and uptake of preventive health services ($p>0.05$).

The strategies for improving the uptake of preventive health services among health workers and residents of rural areas in Benue State are presented in Table 5. Findings revealed that reducing the cost of services (74.9%), ensuring the availability of services (73.7%), strengthening healthcare infrastructure (73.0%), introducing health insurance schemes (71.0%), community outreach programs (67.4%), improving the attitudes of health workers (66.9%), and creating awareness campaigns (61.8%) were the commonly identified strategies for improving the uptake of preventive health services in Benue State, Nigeria.

Table 3: Barriers and Facilitators to Uptake of Preventive Health Services in Benue State

Barriers to Uptake of PHS	**Mean**	**Std. D**
Cost of services	4.09	1.16
Distance to health facility	4.15	1.17
Lack of awareness	3.82	1.38
Cultural or religious beliefs	3.85	1.27
Poor quality of care	4.00	1.18
Negative attitude of health personnel	3.84	1.24
Facilitations to Uptake of PHS		
Availability of services	4.06	1.12
Affordable costs	3.85	1.26
Positive attitude of health workers	3.93	1.22
Awareness campaigns	3.94	1.22
Cluster Mean	**3.95**	**9.45**

Source: Field Survey, (2026)

Table 4: Association between Socio-demographic Characteristics and Uptake of Preventive Health Services among the Respondents

Variables	**No Examined**	**Uptake of Preventive Health Services**			**χ^2**	**P value**
		Good (%)	**Average (%)**	**Poor (%)**		
Gender						
Male	222	145 (65.3)	64 (28.8)	13 (5.9)	19.67	0.00
Female	189	115 (60.8)	37 (19.6)	37 (19.6)		

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Age (years)						
<20	44	36 (81.8)	8 (18.2)	0 (0.0)	120.02	0.00
20-30	97	81 (83.5)	12 (12.4)	4 (4.1)		
31-40	109	85 (78.0)	14 (12.8)	10 (9.2)		
41-50	129	36 (27.9)	66 (51.2)	27 (20.9)		
>50	32	22 (68.8)	1 (3.1)	9 (28.1)		
Marital Status						
Single	157	94 (59.9)	44 (28.0)	19 (12.1)	3.64	0.72
Married	215	142 (66.0)	47 (21.9)	26 (12.1)		
Divorced	21	12 (57.1)	7 (33.3)	2 (9.5)		
Separated	18	12 (66.7)	3 (16.7)	3 (16.7)		
Religion						
Christianity	219	156 (71.2)	58 (26.5)	5 (2.3)	102.75	0.00
Islam	43	41 (95.3)	2 (4.7)	0 (0.0)		
Traditional Worshiper	92	41 (44.6)	18 (19.6)	33 (35.9)		
Others	57	22 (38.6)	23 (40.4)	12 (21.1)		
Education						
No formal	12	10 (83.3)	1 (8.3)	1 (8.3)	36.39	0.00
Primary	61	33 (54.1)	16 (26.2)	12 (19.7)		
Secondary	135	89 (65.9)	46 (34.1)	0 (0.0)		
Tertiary	203	128 (63.1)	38 (18.7)	37 (18.2)		
Occupation						
Civil Servant	85	38 (44.7)	42 (49.4)	5 (5.9)	86.87	0.00
Farmer	90	55 (61.1)	23 (25.6)	12 (13.3)		
Trader	63	61 (96.8)	2 (3.2)	0 (0.0)		
Artisan	170	106 (62.4)	34 (20.0)	30 (17.6)		
Others	3	0 (0.0)	0 (0.0)	3 (100.0)		

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Monthly Income						
<50, 000	64	39 (86.7)	6 (13.3)	0 (0.0)	70.88	0.00
50 – 100,000	104	76 (61.8)	12 (9.8)	35 (28.5)		
101 – 150, 000	176	102 (58.0)	66 (37.5)	8 (4.5)		
>150, 000	67	43 (64.2)	17 (25.4)	7 (10.4)		
Family Size						
<2	43	26 (60.5)	17 (39.5)	0 (0.0)	36.29	0.00
3-5	185	122 (65.9)	30 (16.2)	33 (17.8)		
6-9	109	67 (61.5)	25 (22.9)	17 (15.6)		
>9	74	45 (60.8)	29 (39.2)	0 (0.0)		
Total	**411**	**260 (63.3)**	**101 (24.6)**	**50 (12.2)**		

Source: Field Survey, (2026)

Table 5: Strategies for Improving Uptake of Preventive Health Services among Heath Works and Residents of Rural Areas in Benue State

Strategies for Improving Uptake of PHS	**Frequency(N=411)**	**Percentage (%)**
Awareness campaigns	254	61.8
Reducing cost of services	308	74.9
Improving health worker attitudes	275	66.9
Ensuring availability of services	303	73.7
Strengthening healthcare infrastructure	300	73.0
Introducing health insurance schemes	292	71.0
Community outreach programs	277	67.4

Source: Field Survey, (2026)

DISCUSSION

The study found that the uptake of preventive healthcare services is suboptimal. Counselling for healthy living, blood pressure screening and blood sugar testing were the most frequently utilized services. However, cholesterol screening and cancer screening recorded the lowest uptake. This finding is consistent with the report of Ofoli et al. (2020), who observed that although awareness of preventive healthcare services was high among respondents, the actual utilization of such services remained low. Akinyemi et al. (2021) reported poor uptake

of preventive health services despite adequate knowledge among their study population. The finding of this study also agrees with Brisibe et al. (2014) who reported that although awareness of preventive healthcare services was high, actual utilization remained low due to factors such as religious beliefs and fear of positive test results. Obi et al. (2021) found that only about 40.6% of older adults in rural communities in Anambra State utilized preventive healthcare services. It also agrees with the report of Iyinbor et al. (2023) who reported that less than half of respondents in an urban community in South-South Nigeria utilized primary healthcare services, indicating low utilization of health services. The low uptake recorded in this study indicates that awareness and positive attitudes alone may not necessarily translate into actual utilization of preventive healthcare services.

The findings of this study also agree with the finding of Titus et al. (2014) who reported that 42.5% of participants in Ogun State utilise preventive healthcare services. The low uptake of preventive healthcare services observed in this study may be attributed to several barriers affecting access to healthcare services in rural communities. These barriers include cultural and religious beliefs, poor social infrastructure, weak healthcare systems, poor quality of care, long distance to healthcare facilities, lack of health insurance coverage, and limited availability of preventive health services. These findings are similar to the report of Ewulum et al. (2022) who identified cultural beliefs and inadequate infrastructure as major barriers affecting the utilization of preventive healthcare services in rural Nigeria. Ofoli et al. (2020) also reported that distance to healthcare facilities, lack of health insurance, and socio-cultural beliefs significantly influence the uptake of preventive healthcare services.

The study also revealed that the frequency of uptake of preventive health services varied among respondents. Many reported yearly or occasional use of preventive services rather than regular use. This trend shows that preventive healthcare practices are still not fully integrated into the routine health behaviour of many individuals in rural communities. A similar observation was reported by Titus et al. (2014) who found that although 58% of rural households had access to healthcare services, only about 42.5% actually utilized them. Distance to healthcare facilities was a major barrier to uptake of preventive healthcare services. This suggests that accessibility and infrastructural challenges remain significant factors affecting the utilization of healthcare services in rural Nigeria.

The study found that socio-demographic factors such as education level, income, occupation, and distance to healthcare facilities were associated with the uptake of preventive health services. This finding is consistent with the study of Obi et al. (2021), which reported that gender, education level, income, health insurance status and proximity to healthcare facilities significantly influenced the utilization of preventive healthcare services among rural residents. It is also consistent with Bassey et al. (2019) who found that level of education, income, occupation, marital status and place of residence were associated with the utilization of prostate cancer screening services. Akinyemi et al. (2021) found that employment category and presence of chronic illness were significantly associated with the uptake of preventive healthcare services among university staff. The finding of this study also agrees with Lee et al. (2022) who found that level of education and place of residence were associated with the uptake of preventive healthcare services. Iyinbo et al. (2023) also found that sex, religion, and occupation were factors associated with the utilization of health services in South-South Nigeria.

The finding of this study also corroborates the report of el-Gewaily et al. (1990), who found that family size, mother's education, socioeconomic status and mother's attitude toward the curative services were significant factors for the use of preventive healthcare services. These findings highlight the importance of socio-economic and demographic characteristics in influencing healthcare-seeking behaviour. Individuals with higher education, better income and closer proximity to healthcare facilities are more likely to utilize preventive healthcare services.

The study identified several barriers affecting the uptake of preventive health services among respondents. These include cost of healthcare services, distance to health facilities, lack of health insurance, poor healthcare infrastructure, and socio-cultural factors. These findings are consistent with Akinyemi et al. (2021) who reported barriers such as affordability, availability of services, interference with other activities, religious beliefs and time constraints as key factors limiting the utilization of preventive healthcare services. Ofoli et al. (2020) reported factors such as cost, distance to the healthcare provider, lack of health insurance, poor education, social norms,

cultural and religious beliefs. The finding of this study also agrees with Iyinbo et al. (2023) who reported long waiting time, lack of diagnostic facilities and lack of essential drugs as the barriers to uptake of preventive healthcare services. It is also in consonant with Ewulum et al. (2022) who found that up-to-date medical equipment, easy access to healthcare, attending to patients promptly, reliability, and dependable healthcare outcomes were the factors influencing uptake of preventive healthcare services. Obiechina and Ekenedo (2013) also reported factors such as high cost of drugs, non-availability of services and inadequate referral systems as barriers to healthcare utilization. Bassey et al. (2019) reported knowledge of PCS, level of education, monthly income, occupation, marital improve healthcare utilization. Similarly, Titus et al. (2015) recommended the development of rural infrastructure and improved access to healthcare facilities as important strategies for improving healthcare utilization in rural areas. Furthermore, Bassey et al. (2019) recommended community-based education programmes and stakeholder engagement to improve awareness and participation in preventive healthcare services. Improving preventive healthcare uptake requires coordinated efforts involving healthcare providers, policymakers and community leaders to address the socio-economic, cultural and infrastructural barriers affecting the use of preventive health services in rural communities.

CONCLUSION AND RECOMMENDATION

In conclusion, the study reveals that although there is a reasonable level of engagement with certain preventive healthcare services such as counselling, blood pressure checks, and blood sugar testing among health workers and rural residents in Benue State, the overall uptake remains inconsistent and suboptimal, particularly for services like cancer and cholesterol screening. The findings clearly show that utilization is significantly shaped by a combination of socio-demographic factors, including age, gender, education, income, occupation, and family size, highlighting the unequal distribution of healthcare access and use. More importantly, barriers such as high cost of services, long distances to health facilities, inadequate healthcare infrastructure, poor quality of care, and socio-cultural beliefs continue to hinder effective utilization despite existing awareness. On the other hand, facilitators like service availability, affordability, positive healthcare worker attitudes, and awareness campaigns can enhance uptake, they are not yet sufficiently strengthened to overcome these barriers.

Based on the findings of the study, it is recommended that the government should strengthen the primary healthcare system in rural areas by improving healthcare infrastructure, ensuring adequate supply of medical equipment, and deploying more qualified health personnel to rural health facilities to enhance access to preventive health services, government and relevant stakeholders should expand access to health insurance schemes, especially the National Health Insurance Authority (NHIA), to reduce out-of-pocket expenditure and make preventive health services more affordable for rural residents, and more community-based screening programmes and mobile health clinics should be introduced in rural communities to reduce the barrier of distance to healthcare facilities and encourage the use of preventive health services.

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