




Accessibility of healthcare in rural Zimbabwe: The perspective of nurses and healthcare users



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Background: Accessibility of healthcare in rural areas is globally impeded by physical, material, human, financial and managerial resources and societal barriers in the healthcare system. Developing countries like Zimbabwe are significantly affected.

Aim: The aim of this article was to share the perspectives of nurses and healthcare users (HCUs) in the rural areas of Zimbabwe with regard to the accessibility of healthcare.

Setting: The study was conducted at 45 rural health facilities in Chegutu district, Mashonaland West province and Masvingo district in Masvingo province, Zimbabwe.

Methods: A self-administered questionnaire (for professional nurses) and a structured interview questionnaire (for HCUs) were utilised to gather data in a cross-sectional survey. Two districts were randomly sampled from 59 districts. All nurses working in 45 public health facilities in the selected two districts, who were willing and available to participate, were included. Ninety nurses participated in the study. The HCUs were selected through a multistage sampling technique. The sample size for HCUs was calculated by using Dobson's formula, and 445 HCUs were included via convenience sampling.

Results: Nurses reported challenges such as work overload because of staffing shortages (55%) and the supply of necessary medical drugs that lacked consistency in both the quantity and type ordered (46.7%). The challenges faced by HCUs included long distances from villages to health facilities (86%), unaffordability of transport costs and lack of access to medical drugs (59.95%), causing them to seek assistance from traditional healers (43%).

Conclusion: Both the nurses and HCUs perceived grave challenges regarding access to health facilities, health workers and medical drugs, all of which are bound to have an impact on the health of communities in rural Zimbabwe.

Keywords: accessibility of healthcare; challenges; nurses; healthcare users; rural areas.

Background

Ensuring the well-being of citizens is the goal of all healthcare delivery systems,¹ where individuals have the right to access good-quality healthcare. Allocating the relevant and required resources (e.g. financial resources) contributes to the accessibility of health facilities, essential medical drugs and competent and adequately trained health workers, as well as medical supplies.²

In developing countries like Zimbabwe, access to healthcare services is often influenced by long distances and travel times to health facilities, the availability of financial resources to travel or pay for care and the availability of medical drugs as well as competent healthcare workers.³ For example, in Zimbabwe, people in rural areas often have to walk between 10 km and 50 km to access the nearest health facility.³

Access can be further impeded by a lack of infrastructure, such as dirty roads that are not maintained, resulting in poor road conditions and potholes that create barriers to transport.⁴ In Zimbabwe, because of economic challenges, bridges that have collapsed because of rain are not repaired, hindering travelling of patients during critical times⁵ and negatively affecting the timely delivery of medical drugs and medical supplies to rural health centres.

Even where healthcare services are available and affordable, access to medical drugs is limited.^{6,7} There is often a shortage in the supply of medical drugs, especially in the rural parts of Zimbabwe. It is evident that the economic crisis in Zimbabwe has also led to a shortage of medical supplies and equipment in public health facilities, leaving professional nurses with limited options to provide treatment.⁸

The economic crises has caused community outreach programmes to be closed, as they were likely to place a further burden on the few nurses available.⁹ The family planning distribution programme has crumbled, as family planning drugs are not available, and thus the birth rate has increased.¹⁰ There were challenges with access to antiretroviral drugs for people living with HIV in the rural areas because of shortages, transportation challenges and nurses' attitudes at designated rural health facilities.¹¹

Zimbabwe has also failed to meet the minimum 15% annual health budget allocation as indicated in the Abuja Declaration of 2001, where African leaders agreed to allocate 15% of their countries' total annual budget to the health sector.¹² Although some efforts were made by Zimbabwe's government to reverse the significant declines in the health allocation of the annual budget in 2010 (12.3% of the total allocated annual budget), the increase was reversed in subsequent years to 7% in 2012, 8.2% in 2013, 7.3% in 2015 and 8.3% in 2016.

Evidence of the dire need to investigate how nurses and healthcare users (HCUs) perceive accessibility to healthcare included the higher rates of vital statistics like infant mortality and maternal mortality rates (MMRs). Infant mortality also increased from 53 per 1000 in 1992 to 56.4 per 1000 in 2016.¹³ The MMR in Zimbabwe rose from 695 per 100 000 in 1999 to 960 per 100 000 in 2011 and fell in 2015 to 443 per 100 000, attributed to a rise in attendance by skilled health staff. Despite the fall in MMR, 443 per 100 000 is way above the target of 70 per 100 000 according to the Sustainable Development Goals (SDGs) (Goal 3).¹³

Aim

The aim of this article was to share the perceptions of nurses and HCUs regarding accessibility to healthcare in rural Zimbabwe.

Objective

The objective was to share and describe the challenges to accessing healthcare as perceived by (1) the nurses working in healthcare facilities in rural Zimbabwe and (2) the HCUs in rural Zimbabwe.

Methods

Study design

A cross-sectional quantitative survey was conducted in two rural districts of Zimbabwe.

Population and sample

The setting of the study included 1170 public health facilities in 62 districts of Zimbabwe, of which 997 are in rural areas.^{14,15} Within the 62 districts, 11 054 nurses were working in rural areas,^{16,17} serving a population of 8 777 094 people.¹⁸

The researcher used impartial random sampling to select the districts. The names of all 62 districts, written on separate

pieces of paper, were placed in a box. Two districts were selected randomly by a blindfolded individual. The selected districts had a total population of 350 757 people living in the rural areas¹⁸ and 45 rural public health facilities.

All nurses (120) working in the 45 public health facilities in the selected two districts, who were willing and available to participate during the time of data collection, were recruited. Ninety nurses agreed and participated in the study.

The households in the catchment areas of the 45 public health facilities were sampled by using a multistage sampling technique. The households were clustered in each catchment area, by using the distance to the health facilities, as follows: those within a ≤ 5 -km radius and those within a > 5 -km radius. In these clusters of ≤ 5 -km and > 5 -km radii within each catchment area, HCUs (five HCUs from a nearby area and five HCUs from a distant area) were conveniently sampled based on the availability and willingness of respondents aged ≤ 18 years to participate in the study. The sample size for HCUs was calculated by using Dobson's formula for descriptive studies.¹⁹

Research instrument

A self-administered questionnaire for the nurses and a structured interview questionnaire for the HCU respondents were developed. The questionnaires were developed based on a literature review on accessibility of healthcare. The questions were based on the inputs needed to enhance access to healthcare, as described within the Systems Model illustrated by Forester 2009 (Figure 3).²⁰ The questionnaires were assessed for validity by the two supervisors and the statistician, as well as the appointed scientific review committee. The instruments had been pre-tested by purposely selected professional nurses (four nurses) at two health facilities and 20 HCUs in the catchment areas before the data collection commenced.

Data collection and analysis

The self-administered questionnaire was distributed to the professional nurse respondents, and the structured interview

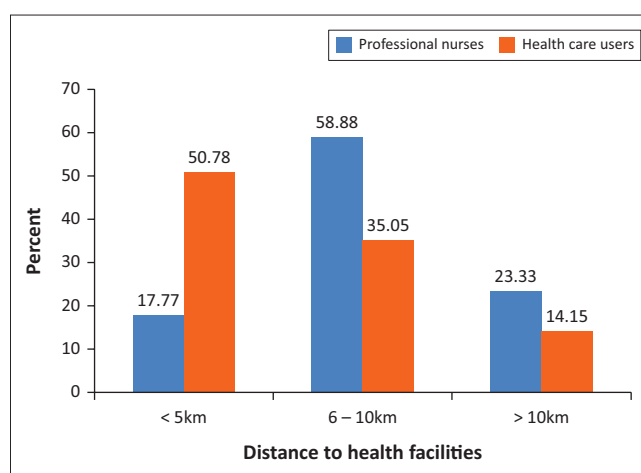


FIGURE 1: Distance to health facility (professional nurses: $N = 90$; healthcare users: $N = 445$).

questionnaire was administered by research assistants to the HCU respondents. The nurses completed the self-administered questionnaire and returned it in a sealed envelope, in a safe box in the office of the nurse-in-charge. After 2 weeks, the researcher followed up in person to collect the completed questionnaires at each health facility from the sealed box. During the study, 90 nurses completed these self-administered questionnaires.

Data were gathered from the HCU respondents by research assistants by using the structured interview questionnaire. The research assistants assisted respondents where needed with the completion of 445 questionnaires. This approach, as suggested by Johnson and Christensen,²¹ allowed the research assistants to elaborate and assist respondents in understanding the questions during data collection.

The data collected by using both the types of questionnaires were separately entered in Census and Survey Processing System (CSPRO) Version 4, and exported to Statistical Package for Social Sciences (SPSS) Version 22 for analysis. Descriptive statistics, showing frequencies and cross-tabulation, was used to present the decoded data.

Ethical consideration

All the protocols for ethical consideration were followed, including obtaining ethical approval from the Scientific Research Ethics Committee at the Department of Health Studies of the University of South Africa (Reference Number: HSHDC 240/2013) received on 23 October 2013. Approval to conduct the research in Zimbabwe was obtained from the Medical Research Council of Zimbabwe on 03 July 2014 (Approval Number: MRCZ/A/1832).

Findings

Forty-one out of 90 (45.55%; $f = 41$) professional nurses were between 26 and 35 years of age, and 39 out of 90 (43.33%; $f = 39$) were between 36 and 50 years. Only 3 out of 90 (3.33%; $f = 3$) professional nurse respondents fell in the age range of 18–25 years, 7 nurses with 51+ years, representing 7.77% (see Table 1). Of these 90 professional nurses, 21 (23.3%) were male and 69 (76.6%) female.

The research findings and/or perceptions of the 90 nurses and 445 HCUs are discussed according to the health systems model inputs needed for accessibility to healthcare, namely physical resources, material resources, human resources and financial resources.

Physical resources

HCUs indicated the walking distance to the health facilities in rural areas as a challenge, 35.05% HCUs walk between 6 km and 10 km ($n = 445$; $f = 156$) and 14.15% walk more than 10 km to the nearest health facility ($n = 445$; $f = 63$) (Figure 1). Because of this challenge, 44.94% of the HCUs ($n = 445$; $f = 200$) use the option of consulting traditional healers for

TABLE 1: Frequency distribution: Demographic characteristics of the study respondents.

Demographic characteristics	Professional nurse respondents <i>N</i> = 90		Healthcare user respondents <i>N</i> = 445	
	Frequency (<i>f</i>)	Percent	Frequency (<i>f</i>)	Percent
Gender				
Male	21	23.33	147	33.03
Female	69	76.66	298	66.96
Age				
18–25	3	3.33	73	16.40
26–35	41	45.55	102	22.92
36–50	39	43.33	121	27.19
51+	7	7.77	149	33.48
Education level				
Primary school	-	-	72	16.17
Secondary school	-	-	333	74.83
College certificate	60	66.66	12	2.69
College diploma	30	33.33	15	3.37
Degree	0	0	13	2.92
Average monthly income				
Less than US\$100	-	-	271	60.89
US\$100–250	-	-	128	28.76
US\$251–500	57	63.33	34	7.64
US\$501–750	32	35.55	7	1.57
US\$751–1000	1	1.11	4	0.89
US\$1000+	-	-	1	0.22
Sources of income (<i>N</i> = 442)				
Self-employment	-	-	224	50.67
Full-time employment	-	-	116	26.24
Part-time employment	-	-	35	7.91
Remittances	-	-	67	15.15

US, United States.

healthcare, as they live within their villages and are more accessible.

Transport is known to bridge the problem of distance, but 64.74% of HCU respondents ($n = 417$; $f = 270$) reported that accessing public transport is a challenge. The non-availability of transport was identified as a challenge by both 64.74% HCUs ($n = 417$; $f = 270$) and 97.77% nurses ($n = 90$; $f = 88$). The situation was even more challenging because of the poor road conditions arising from a lack of maintenance. The inaccessibility of public transport and poor quality of the roads contribute to the fact that HCUs ($n = 445$; $f = 266$; 60.59%) have to walk to health facilities, and if they have to walk more than 10 km, they do not access healthcare and it becomes a severe challenge, with a negative impact on the health of patients. The unavailability of transport also affects the supply of material resources to health facilities.

Material resources

Medical drugs play an important role in saving lives, and nurses perceived the shortage of medicines as their greatest challenge when providing healthcare in rural areas. According to the nurses ($n = 90$; $f = 87$; 96.66%), medical drugs were supposed to be delivered on a quarterly basis, but deliveries lacked consistency in both the quantity and type ($n = 90$; $f = 48$; 46.7%) ordered. Similarly, HCUs viewed access

to medical drugs as a challenge, with 59.95% of HCU respondents ($n = 445$; $f = 249$; 59.95%) reporting failure to obtain medicines during their last visits to health facilities in the rural areas (Figure 2). The nurses ($n = 90$; $f = 68$; 75.55%) reported that medical drugs for chronic conditions were rarely available and that this had a negative impact on the treatment of patients. The non-availability of medical drugs leads to a high risk of relapse and non-adherence by patients suffering from chronic diseases, which has a negative impact on the health outcomes in a community or country.²¹

Nurses ($n = 90$; $f = 65$; 72.22%) and HCUs ($n = 311$; $f = 133$; 42.76%) perceived the inaccessibility of medical supplies as a severe challenge, as patients are requested to bring their own medical supplies like bandages, cotton wool, intravenous fluids, candles and methylated spirits. The economic crisis results in HCUs experiencing financial constraints, rendering them unable to bring their own medical supplies, resulting in poor health outcomes.

Human resources

One of the key factors of accessibility to healthcare services is ensuring that people living in rural areas have access to trained health workers, but 60% of the nurses ($n = 86$; $f = 54$) and 44.94% HCUs ($n = 445$; $f = 200$) perceived a shortage of nurses as a challenge. HCUs (44.94%) reported a waiting time of more than an hour at health facilities that were manned by only one or two nurses. The nurses ($n = 86$; $f = 54$; 60%) reported a work overload at the health facilities where there were fewer than two nurses, contributing to the long waiting time as described by the HCUs ($n = 445$; $f = 245$; 55%). It was interesting to note that only 23.25% of the 90 nurse respondents were trained midwives, but each nurse was

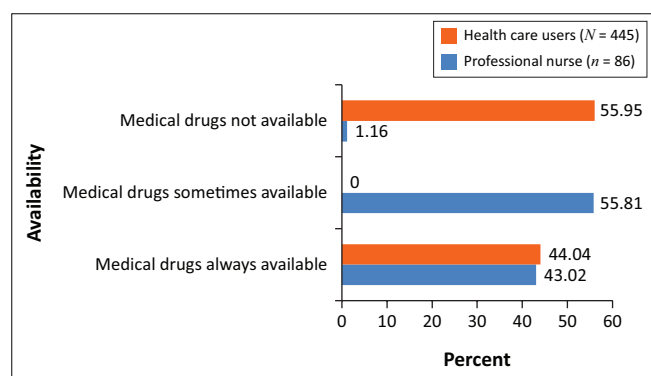


FIGURE 2: Medical drugs' availability at the rural health facility (professional nurses $N = 86$ and healthcare users $N = 445$).

TABLE 2: Midwife-trained professional nurses (professional nurses: $N = 86$).

Type of nurse ($N = 86$)	Trained as midwives				Total
	Yes		No		
	<i>n</i>	%	<i>n</i>	%	
Nurse (RGN)	5	23.80	16	76.20	21
Nurse (SCN)	7	70.00	3	30.00	10
Nurse (PHC)	8	14.80	46	85.20	54
Total	20	23.25	66	76.74	86

RGN, State Registered Nurse; SCN, State Certified Nurse; PHC, Primary Health Care.

expected to provide antenatal, intrapartum and postpartum midwifery care (Table 2). The shortage of nurses affected follow-up on defaulters, as indicated by 72.22% of nurses, thus negatively affecting the treatment outcome of tuberculosis and other chronic diseases. This shortage of health workers at the rural health facilities contributes to HCUs ($n = 445$; $f = 140$; 31.53%) having to travel long distances to district hospitals, which has a severe impact on their meagre financial resources.

Financial resources

Both nurses ($n = 89$; $f = 79$; 88.76%) and HCUs ($n = 445$; $f = 339$; 76.17%) identified a lack of financial resources as challenging. The HCU respondents ($n = 445$; $f = 397$; 89.21%) indicated that 89.21% of HCUs living in rural areas do not have medical insurance to cover their healthcare needs. The nurses ($n = 90$; $f = 86$; 95.55%) confirmed this challenge and reported that HCUs try to seek free healthcare at mission health facilities. HCUs ($n = 445$; $f = 339$; 76.17%) indicated that they cannot afford to pay HCU fees at the rural health facilities or district hospitals. They then have to refrain from seeking healthcare ($n = 445$; $f = 149$; 33.48% of HCUs), or consult traditional healers ($n = 445$; $f = 200$; 44.94% of HCUs) whom they can afford. The nurses (75.55%) considered the limited financial resources amongst HCUs in rural areas and the limited access to the allocated annual fiscal funds for rural health facilities as a challenge; the nurses (75.55%) reported delayed disbursements in most cases. The lack of financial resources available to healthcare services is reflected in the annual budget allocation, where less than 10% of the total annual budget¹² was allocated to healthcare in Zimbabwe in 2016, instead of the recommended 15% of total annual budget allocation.¹²

Limitations and implications of the study

Because of limited financial resources, the study was conducted at the rural public health facilities, excluding district hospitals where information from health facilities is consolidated including first-line supervision. This might have contributed to limited triangulation of data. The limitations were minimised by the participation of the national health directors in the second phase of the study, where the strategic action plan was developed to enhance accessibility to healthcare in Zimbabwe.

Discussion

The Systems Model (Figure 3),²² as the theoretical framework for this study, is made up of sub-systems that are interconnected and interdependent, forming a holistic healthcare system.²³ The connected parts or components are designated as inputs, processes, outputs and outcomes. The questions were based on the inputs as described by the Systems Model that include the physical materials and human or financial resources needed to produce the outputs. Processes refer to the actions needed to change an input to contribute to an output. The outcomes refer to the association

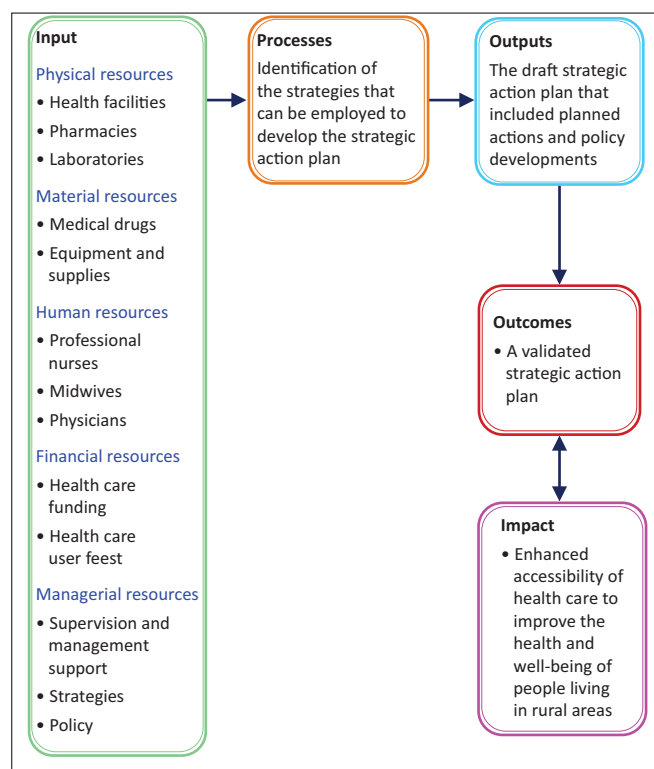


FIGURE 3: Systems Model (Forester 2009:6) as applied in the development of a validated strategic action plan to enhance accessibility to healthcare in rural areas.

between the processes and the outputs.²³ The accessibility of healthcare services therefore depends on the availability of physical materials, and human as well as financial resources, and the processes followed to ensure access to healthcare.²⁴

How professional nurses and HCUs perceive access to healthcare in Zimbabwe was described.²⁵ Some nurses (53 out of 90 [58.88%; $f = 53$]) and HCUs (226 out of 445 [50.78%; $f = 26$]) identified the lack of health facilities (within a 5-km walking distance), lack of transport and the conditions of the roads in rural areas as challenges. The distances that HCUs have to travel to access healthcare affect patient outcomes, and for this reason a maximum walking distance of 5 km to a health facility is recommended by the World Health Organization (WHO), and a distance of 8 km is recommended by the Ministry of Health and Child Care in Zimbabwe.^{14,26} The closer the health facility is to where people live, the less likely the distance will negatively influence healthcare access and healthcare-seeking behaviour. The distance that has to be travelled to access to a facility contributed to HCUs (44.94%) seeking healthcare from traditional healers who were within close proximity.^{27,28} Government is the important stakeholder that has to ensure that the distance to health facilities does not hinder accessibility or cause delays for patients seeking healthcare.²⁸ The accessibility of healthcare decreases disease progression and reduces the need for hospitalisation. Therefore, developing new health facilities closer to the people can play a pivotal role in enhancing accessibility to healthcare – an input which is important according to the Systems Model.²⁹

In Vietnam³⁰ and China,³¹ reducing the distance to health facilities resulted in a reduction in the number of women seeking healthcare from traditional healers.

Poor road conditions between rural villages and health facilities were indicated by respondents as an obstacle when seeking healthcare. More resources to address the infrastructure shortfalls are needed, to upgrade the existing roads or construct new roads to bridge the distance between health facilities and people.³²

Nurses and HCUs perceived access to material resources at rural health facilities as challenging, despite these being essential inputs (Systems Model) needed to enhance access to healthcare. Material resources like medicines or drugs, medical accessories such as bandages, surgical blades and cotton wool, and medical equipment like microscopes are needed for the comprehensive provision of healthcare at health facilities.³³ The unavailability of these materials compromises the effective delivery of healthcare, as nurses (46.7%) cannot provide the healthcare and treatment needed by HCUs (59.95%). This then inevitably increases the disease burden in communities. The shortage or inconsistent supply of medical drugs at rural healthcare facilities also seriously affects patients suffering from chronic diseases like hypertension, diabetes, heart diseases and HIV. This contributes to a high incidence of and relapse in diseases such as tuberculosis in Zimbabwe, where the incidence rate was 208 per 100 000 in 2016 against the SDG target of 3.3, to end the epidemic of tuberculosis by 2030.¹³

Zimbabwe's Health Assessment in 2010 cited in Chirwa¹⁷ and a study on healthcare delivery in Zimbabwe³² reported the same findings as the current study, indicating that only 20% of rural health facilities had essential medical drugs for the treatment of common chronic diseases. The provision of medical drugs at rural facilities is crucial to improve the health outcomes of communities.³⁵

When improving the provision of medical drugs, the government should also look at addressing the shortage of health workers. Health workers are an essential part of the healthcare inputs (Systems Model) required to enhance access to healthcare.³⁶ Both the nurses and HCUs in this study reported access to health workers as the greatest challenge they face. Of concern were the rural health facilities that were manned by only one or two nurses (18 out of 45 [40%]), which does not meet the minimum standard of three nurses, as determined by the Ministry of Health and Child Care's policy.¹⁶ Zimbabwe has 1.25 nurses per 1000 population – far below the global median of 2.84 (three) nurses per 1000, which is indicative of a critical shortage that needs immediate resolution to enhance the accessibility of healthcare. It is particularly worrying that the government has performed so little to address these shortages, which make it impossible to provide adequate healthcare to people.^{3,37} Compounding the problem, the

shortage of nurses influences the availability of midwives because the same pool of nurses is trained as midwives. According to Govule et al,³⁵ at least one of the professional nurses at the health facilities should be a trained midwife to provide maternal healthcare services, and this was not the case, as a mere 23% of nurses were trained in midwifery. The nurses viewed this as a problem because inadequately trained nurses at the health facilities contribute to the work overload, demotivation and stress, thus inhibiting meaningful patient care.³⁶ It also contributes to a lack of adequate time to attend to patients during consultations,³⁶ as indicated by the nurse respondents in this study. One-on-one nursing care is simply impossible,³⁷ because of work pressure. Nurses perceived overworking as a factor contributing to inefficiency in monitoring patients and providing inadequate support. The study findings indicated that some of the rural health facilities (40%) were manned by only one or two nurses to attend to women in labour, as well as emergency cases. In Chegutu and Masvingo rural districts, the vacancy rate was 14% for nurses.³⁷ Such a situation is bound to contribute to high morbidity and mortality rates.³⁸

In this study, the lack of financial resources was perceived as a challenge by both nurses and HCUs and was seen as the underlying cause of the inaccessibility of health facilities, and the shortage of medical drugs and health workers. The capacity of the Zimbabwe government to fund healthcare has been eroded, leading to costs of healthcare services surpassing HCUs' capacity, especially at rural health facilities charging user fees. These findings were similar to those of another study conducted in Zimbabwe,³³ which showed that vacant positions for nurses at rural health facilities were frozen because of a lack of financial resources and that HCU fees were introduced despite HCUs not being able to afford to pay the fees.

The fact that the budget was altered to attend to this issue shows the study findings were acknowledged and first steps taken in the right direction by the government.

Conclusion

Accessing healthcare in the rural areas of Zimbabwe is a challenge, as confirmed by the sample of nurses providing healthcare within rural areas, as well as the HCUs interviewed in this study. If these challenges are not addressed, Zimbabwe might again not achieve the SDGs set by the United Nations in 2015, just as it and other countries failed to achieve the Millennium Development Goals.³⁴ Zimbabwe should work towards achieving the allocation of 15% of the total fiscal budget to health, if any success in achieving the SDGs is to be expected. Governments, like the Zimbabwean government, are responsible for providing adequate, quality and accessible healthcare to their entire populations and therefore need to face the challenges and act on research findings and recommendations to increase access to healthcare.

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Competing interests

The authors have declared that no competing interest exists.

Authors' contributions

L.R. was the senior supervisor for this research and was instrumental in methodology design and discussion of findings. E.J.V.R. was the primary supervisor and was actively involved in all stages of the research, providing guidance during writing. M.M. was the primary author of the research.

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Data availability statement

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Disclaimer

The views and opinions expressed in this article are those of the authors and do not necessarily reflect the official policy or position of any affiliated agency of the authors.

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