REVIEW ARTICLE

Inequality in health care services in urban and rural settings in South Africa

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Abstract

In low- and middle-income countries, urban and rural settings are distinct communities with the latter being more likely to have limited resources, particularly in health care services. We assessed the inequality in health care services in urban and rural settings in South Africa, highlighting the disparities between public and private health services, given that the latter are located mainly in urban settings. Rural settings suffer the highest inequality in the availability of drugs and supplies, overcrowding of health care facilities, delays in transporting patients, inadequate emergency medical services, and lack of experienced health care professionals. Rural settings also preferentially have a shortage of various levels of health care services, and increased security threats by criminals. In addition to specific remedies, the overarching key to solving these challenges is socio-economic growth, as well as visionary and compassionate leadership with integrity and accountability, which ensures policy development, implementation, monitoring, and evaluation. *(Afr J Reprod Health 2023; 27 [5s]: 87-95).*

Keywords: Health care services, inequality, public health sector, rural setting, South Africa

Résumé

Dans les pays à revenu faible ou intermédiaire, les milieux urbains et ruraux sont des communautés distinctes, ces dernières étant plus susceptibles de disposer de ressources limitées, en particulier dans les services de soins de santé. Nous avons évalué l'inégalité des services de santé en milieu urbain et rural en Afrique du Sud, en mettant en évidence les disparités entre les services de santé publics et privés, étant donné que ces derniers sont principalement situés en milieu urbain. Les milieux ruraux souffrent de la plus grande inégalité dans la disponibilité des médicaments et des fournitures, de la surpopulation des établissements de santé, des retards dans le transport des patients, des services médicaux d'urgence inadéquats et du manque de professionnels de la santé expérimentés. Les milieux ruraux ont également de préférence une pénurie de divers niveaux de services de soins de santé et une augmentation des menaces à la sécurité par les criminels. En plus des remèdes spécifiques, la clé primordiale pour résoudre ces défis est la croissance socio-économique, ainsi qu'un leadership visionnaire et compatissant avec intégrité et responsabilité, qui assure l'élaboration, la mise en œuvre, le suivi et l'évaluation des politiques. *(Afr J Reprod Health 2023; 27 [5s]: 87-95).*

Mots-clés: Services de soins de santé, inégalités, secteur de la santé publique, milieu rural, Afrique du Sud

Introduction

South Africa (SA) is an upper middle-income country with a mid-year population of 60 million in 2021[1,2]. According to the global wealth inequality review of 2022, SA is the most unequal country in the world[3]. In addition, SA has an obvious disparity between urban and rural communities with the latter being more likely to have limited resources particularly in health care services[4]. In SA, 84% of the population (predominantly disadvantaged economic groups) depend on public health care services[5]. The public health sector is managed by the national and provincial governments; health care in the public sector being largely subsidized. The health sector is divided into primary,

secondary, and tertiary levels of health care. Primary health facilities (clinics and district hospitals) are located mostly in rural settings, and their staff includes professional nurses and generalist medical practitioners; however, the regional hospitals have specialist medical personnel[5]. Most people living in rural settings seek medical services in primary health care clinics where they are medically screened, and any minor illnesses are treated. Those with major illnesses or acute severe medical conditions are "medically stabilized" and referred to regional or tertiary health facilities either as an emergency via the emergency medical services (EMS) or on an elective referral basis[5].

Furthermore, SA has a thriving private health sector whose facilities are in keeping with standards in high-income countries but are mainly situated in urban settings. The cost of private health services is high, and only 16.4% of the population can afford such health care services based on purchasing medical insurance through their places of employment or independently via private/personal arrangements[6]. The private health care facilities, both clinics and hospitals, are owned and managed by private companies. These companies provide the health infrastructure and employ nursing personnel, while private specialists utilize the health care facilities for their patients. The private health sector is not faced with overcrowding and understaffing,[7] unlike the public sector[8]. Most medical professionals, including specialists, prefer working in private health facilities because they have fewer patients, access to better resources, and greater earning capacity compared to the public sector.

In contrast, public sectors (having only 20% of the national health care staff)[9] have shortages of doctors and nurses and an overload of patients resulting in an increased risk of substandard care. The difference between the two sectors creates a huge gap in SA's health services and inequalities in patient care. The contributory factors associated with health care inequality are complex[10] and require multifaceted solutions. This is because factors determining an individual's health status are personal characteristics, behaviour, social condition, economic situation, and physical environment. This narrative review aims to analyse the intersectional disparities in rural and urban health care services in SA, highlighting the disparities between public and private health services, given that the latter are located mainly in urban settings. The review is amongst the foremost on the topic following the declaration of SA as the most unequal nation in the world.

The report has the following sections: 1) Literature search strategy and selection criteria; 2) theoretical framework; 3) challenging disparity between urban and rural settings; 4) measures for improvement; and 5) conclusion.

Literature search strategy and selection criteria

We searched Google Scholar, PubMed, and MEDLINE using the search words: "inequality in health care" and "health care in South Africa." We cross-referenced these words with: "high-income country," "low- and middle-income country," "low resource setting," "private health sector," "public health sector," "rural setting," and "urban setting." We focused on articles published in English between 2010 and 2022 but also referenced important older and newer publications.

Theoretical framework

The theoretical framework used in this article is the 4-level model of health care system[11], adapted from four levels of change for improving quality[12], which the authors found most suitable because it is explanatory, interactive, and action-oriented, similar to other frameworks[10]. The four levels are the patient, care team, infrastructure/resources, and regulatory environment. For the first time, the 4-level model of health care system framework is used to discuss the inequality in health care services between urban and rural settings in SA.

Challenging disparity between urban and rural settings

Various indicators are used to define rural settings in SA. For instance, places in SA that do not fall under the metropolitan region and those that lack urban characteristics such as amenities and infrastructure are regarded as rural settings[13]. The number of people living in rural areas differs amongst the nine provinces of SA[13]. In 2006, the populations of people in the nine provinces residing in rural settings were Limpopo 90%, Northern Cape

80%, Eastern Cape 62%, Mpumalanga 61%, North West 59%, KwaZulu-Natal 55%, Free State 25%, Western Cape 10%, and Gauteng 4%[14]. The high number of rural populations in these provinces has a significant negative impact on the services provided by health care systems. For instance, Gauteng and the Western Cape provinces have the lowest populations in the rural settings but provide better services in the same settings compared to other provinces[15].

In SA, the basic indicators of health status, such as maternal mortality, life expectancy, perinatal mortality, and under-5 child mortality in the provinces with predominantly rural populations are of interest. For example, the in-hospital maternal mortality ratio in Limpopo province (a province with a large rural population) in the third quarter of 2020 was 102 per 100 000 live births[16]. On the other hand, the Western Cape (a province with one of the lowest proportions of rural population) had a relatively low ratio of 51 per 1000 000 live births during the same period[16].

Of note, the measurement of inequality shows that in SA, diseases and violence are suffered more by the poor than the wealthy[17] and many indigent people reside in rural settings. A typical example is the burden of chronic diseases such as HIV[18] and tuberculosis[19]. This health disparity is supported by studies on the concentration index (CI_H), one of the indices used for assessing health inequality due to financial income[17]. A value of -1 means that “good health” in the population is found mainly in the most disadvantaged persons. A value of +1 means that “good health” is concentrated the least on disadvantaged persons[20]. However, quality health should not only be for the wealthy or elite but for all, and the attainment of this goal can no longer be postponed.

The quality of health care services in public hospitals in SA is comparatively lower than that provided in private hospitals[21]. Generally, the quality of health care services in rural settings in SA is impacted by various factors (Figure 1), viz:

(i) Patient factors
(ii) Health care team factors
(iii) Infrastructure/Resources
(iv) Regulatory environment

In particular, some causes of health care inequality play a role in more than one of the four categories of factors.

Patient factors

Most people residing in rural settings in SA are of poor educational status, low-income class, do not have medical insurance, and consequentially majority of them cannot afford private health care. This is a major concern for women because many of them living in rural settings are also of low-income status.[22] The socio-economic factors and health care status are influenced by racial background[23] with most historically disadvantaged groups being low-income. The ailing services in public health care facilities cause a lack of trust[24], which influences health-seeking behaviour, delays visit to hospitals or clinics for medical treatment, and results in severe disease. Generally, a slightly lower percentage of South Africans of poor income status than the affluent (74.9% vs. 83.1%) seek medical attention when ill or injured[25]. Additionally, the poor socio-economic conditions in the rural settings in SA predispose to a high burden of disease[26] because of factors such as poor sanitation resulting in an increased number of patients requiring medical attention.

Furthermore, some health care workers stationed at rural clinics cannot speak the language used by the indigenous residents, and this results in miscommunication, which interferes with the proper management of the patients. Additionally, migration from rural settings is increasing, resulting in 67.9% of South Africans to reside in urban settings[27]. Most people migrating to be the urban setting are younger[28] which results in the older age group who may have an increased need for health care to residents in the rural settings.

Cultural issues also play a role in health care inequality in SA. Culture determines the uptake of orthodox health care services. Additionally, inadequate cultural humility by the health care workers causes a negative attitude toward patients and results in poor patients' satisfaction.

Health care team factors

Generally, health care professionals are scarce in public health care facilities in SA; and the rural settings are preferentially worse affected by the shortages of staff, including those with special skills[29]. A major reason for these shortages is poor

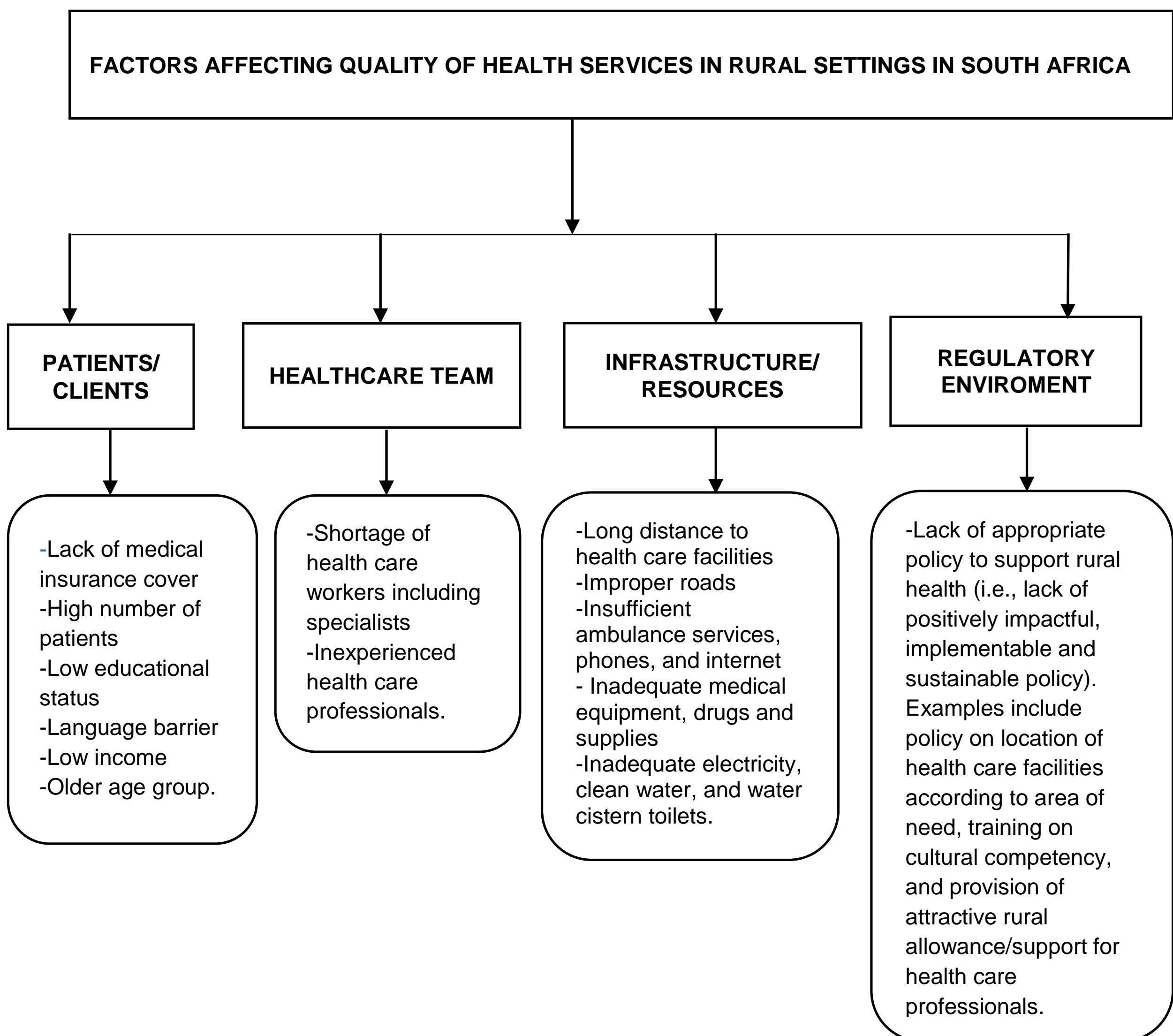

Figure 1: Challenges in rural settings in South Africa illustrating the domains of inequality in health care services between urban and rural settings

socioeconomic conditions in rural settings[30]. The staff shortage results in a lack of 24-hour onsite coverage of many health care facilities in rural settings. Therefore, some clinics operate on a particular day, which is problematic because the health care professionals may not be available to attend to all emergencies. These situations can be critical for those needing urgent assistance. The net effects are a high number of patients at the clinics and a few health care workers available, compromising the quality of services provided. This is crucial because a functioning health system is organized around people, institutions, and resources which are channelled to restore, maintain, and improve the health status of the community. Additionally, the limited resources including the shortage of staff to attend to clients who use free services in the public sector cause hospital overcrowding by patients,[8] which results in long waiting times before medical attention particularly for non-emergency services at public hospitals.

In SA, the lack of functional and proper medical equipment has been a challenge in public hospitals. Not only does this affect the treatment of patients, but it also impacts the training and acquisition of clinical experiences by health care

professionals. Nurses, for instance, require regular training on how to use equipment and screening kits. It becomes challenging to provide proper nursing training if the equipment is not functional and there are missing screening or diagnostic tools. Consequentially, inadequate clinical exposure of health care professionals results in inexperience and poor management of patients.

Infrastructure/Resources

Despite the availability of clinics in rural settings in SA, the distance between them and residents is still long in many areas, which constitutes a major predicament. Of the South African population that uses public health care facilities, approximately 15% travel an hour from their residence to reach the nearest primary health care clinic. In comparison, 20% reside an hour from the nearest hospital[13,25]. Additionally, some roads that lead to the clinics are in poor condition, making it difficult for ambulances and other forms of transport to reach the clinics. Public transport to these areas is also costly to the dwellers, as many of them are unemployed. Furthermore, public hospitals have insufficient numbers of adequately equipped and staffed ambulances, and many clinics in rural settings are affected by this inadequacy. Therefore, patients who require transport are often delayed because of various reasons: (i) the ambulance is offering services elsewhere and currently unavailable; (ii) long distance between the rural settings and public health care facilities; (iii) unavailability of proper roads for the ambulance to reach the patients' destinations; (iv) poor communication between the clinic and the ambulance due to non-functional or lack of telephones, reception/telephone switchboard, and or electricity in the setting. There is often a lack of ambulance services with advanced skilled staff to transport critically ill patients.

Furthermore, inadequate medical equipment, drugs, and supplies are a major concern in rural areas and the country as a whole. There is also a limited number of functional equipment (and health care workers) available to provide the services[31]. In 2012, an audit of public hospitals revealed a score of less than 50% in medical equipment, with a higher shortage noted in rural than urban settings[32]. Lack of medical supplies delays diagnosis, increases the length of hospital stay, and incurs more costs to the patients. The unavailability of resources leads to multiple transitions in access to health care, predisposing to medical error[33]. Another bane is that most rural settings in SA including the health care facilities lack adequate sanitation, such as clean water supply and water cistern toilets, making it difficult for clinics to operate properly[34]. For instance, an assessment of challenges faced by health care workers in primary health care clinics in the Eastern Cape and KwaZulu-Natal provinces revealed the following major concerns: inadequate access to clean drinking water, electricity, water cistern toilets, and telephones[30]. The availability of these resources is essential for daily duties to be carried out and quality services to be provided to the community[13]. With no phone coverage, contact with ambulance services in case of emergencies for hospital referrals becomes a problem. Undoubtedly, this may compromise the lives of patients who require urgent treatment[13]. Obviously, delays in referrals increase the risk of adverse events, including mortality. Additionally, the unavailability of basic resources may result in a lack of job satisfaction and the emigration of health care professionals in search of greener pastures.

Regulatory environment

Public health care facilities in many rural areas were built to help the populace, particularly the disadvantaged communities, to have access to health care services, which is the right of the citizens. While the SA government has improved the livelihood and health care of many previously disadvantaged communities, there are still gaps in the system. Although many years of apartheid rule is contributory to the pervasive poverty and inability of many indigenous South African to afford care, more support is required from the government to aid all her citizens.

Measures for improvement

The measures for improvement are shown in Table 1.

There is a need to address the language barrier between health care workers and indigent patients. Including English, there are 11 official languages in SA. Providing enough interpreters will improve the communication between health care workers and patients, and we recommend establishing free language-learning courses to assist

Table 1: Measures to improve health care services in rural settings in South Africa

S/No	Measures to improve various factors
I	Patient factors
a	Improve disease screening and preventive measures
b	Improve trust among the stakeholders in health care
c	Facilitate local language literacy for health care workers
d	Improve educational subsidy, bursary, and support for the populace
e	Improve socio-economic empowerment of the populace, particularly of historically disadvantaged groups
f	Introduce National Health Insurance (NHI) scheme after improving the prerequisite conditions[35].
g	Improve community health and cultural humility education to address cultural barriers to health care services. For instance, these are needed to address the ineffective attempts to modernize male cultural circumcision, which results in many deaths in South Africa.
II	Care team
a	Develop staffing norms, employ additional staff, and improve staff retention strategies
b	Improve training and in-service training of health care workers.
III	Infrastructure/Resources
a	Revamp existing health care facilities and build additional medical centres to cater to the teeming population
b	Improve access to health care facilities
c	Improve the condition of existing roads and construct additional roads
d	Provision of approved essential equipment, drugs, and supplies for use at the correct facility and time. Drug shortage is a global challenge worse in low- and middle-income countries, and possible solutions have been addressed[36].
e	Improve the water, and electricity supply as well as general sanitary conditions.
IV	Regulatory environment
a	Develop and implement actionable and positively impactful policies. Examples include policies to economically influence the location of health care facilities according to areas of need, training health care workers on cultural competency, and providing attractive rural allowance/support for health care professionals.
b	Regulation of marketing of schemes/products dangerous to health[37].
c	Other measures are the effective use of domestic resources, implementation of consultative and guided will/decision of the people, and access to education and information. Another remedy is to improve the primary health care oriented approach to health without neglecting pre-existing diseases, and to ensure that efforts are consolidated, sustainable, and well-aligned with pragmatic health care policies.

staff. Good communication skill involves listening, and this promotes understanding and trust. It has been posited that believing/trusting and listening to patients saves health care costs by preventing unnecessary investigation and enabling timely diagnosis[38].

Assigning one or more ambulances (manned by appropriately trained staff) in each clinic to attend to specific referrals and emergencies such as pregnant women in labour, trauma cases, domestic violence victims, critically ill children, and the elderly would reduce delays and morbidity and mortality rates in these areas. In this light, security must be made available to the paramedics providing the ambulances services protection against criminals.

The District Care Specialist Team (DCST), comprising an obstetrician and gynaecologist, a paediatrician, a midwife, and a family physician has been established in health districts in SA, but there are many settings without their services. The members of the DCST report to the district health office and are employed to improve service delivery in the peripheral clinics and district hospitals through scheduled visits to these facilities for clinical and system support. These include training of staff and establishment of perinatal and maternal morbidity and mortality review meetings in the health district to identify avoidable factors and take corrective actions. We suggest that the team members must be sufficient in number, and their key responsibility areas should be district-specific, well-defined, and not excessive.

The World Health Organization and private sectors have a significant role to play through regulations that promote equity, such as in vaccine distribution. Furthermore, there is a need to upscale research on diversity, equity, and inequality as it concerns rural settings and the health of underprivileged (including migrant) groups; and it is crucial to involve the research-setting community members in the study. Notably, the overarching key to solving all the challenges is socio-economic growth as well as visionary and compassionate leadership with integrity and accountability, which ensures policy development, implementation, monitoring, and evaluation. Therefore, we support strengthening policies that enhance measures such

as implicit bias education and training[39], study on inequality, contextually tailored care, advocacy, diversity inclusion in health, and socio-economic administration/empowerment.

The Department of Health in SA has core health care standards and priorities, which are included in the national strategic plan[40]. These are among the measures expected to lead to the actualization of the National Health Insurance (NHI) scheme, where private and public healthcare funds will be pooled and controlled by the government to provide the best possible quality health care to all SA citizens. Until the implementation of NHI, the inequalities in the health sector, which also exist in some semi-urban areas although prevalent in the deep rural settings require immediate attention.

Conclusion

Inequality in health care services between rural and urban settings is prevalent in SA. Living conditions in rural settings need improvement to prevent adverse health outcomes and to decrease mortality and morbidity rates. Suggested strategies to improve rural health care services include support for health care workers, and fast-tracking implementation of the proposed NHI scheme. However, the issues in health care disparity (and its consequences) are chronic and complex, often involving social, cultural, and racial issues. This means that the solutions must go far beyond health financing reforms alone. Therefore, optimal and consistent efforts should be made to improve challenges related to the patient, care team, infrastructure/resources, and regulatory environment.

Authors' contributions

Nnabuike Chibuoke Ngene conceptualized the study, performed the literature search, drafted parts of the manuscript, revised and approved the submission for publication.

Olive Pearl Khaliq performed the literature search, drafted parts of the manuscript, revised and approved the submission for publication.

Jagidesa Moodley verified the underlying information/data, revised the manuscript and approved the version of the manuscript submitted for publication.

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Conflicts of interest

The authors have no conflict of interest and nothing to disclose.

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