International Journal of Innovative Technologies in Social Science

e-ISSN: 2544-9435

Operating Publisher
SciFormat Publishing Inc.
ISNI: 0000 0005 1449 8214

2734 17 Avenue SW,
Calgary, Alberta, T3E0A7,
Canada
+15878858911
editorial-office@sciformat.ca

ARTICLE TITLE	THE HEALTH CARE SYSTEM IN THE REPUBLIC OF SOUTH AFRICA: ANALYSIS OF REFORMS, NON-COMMUNICABLE DISEASES, AND THE IMPACT OF THE COVID-19 PANDEMIC
DOI	https://doi.org/10.31435/ijitss.2(50).2026.5265
RECEIVED	09 March 2026
ACCEPTED	16 June 2026
PUBLISHED	25 June 2026
LICENSE	The article is licensed under a **Creative Commons Attribution 4.0 International License.**

THE HEALTH CARE SYSTEM IN THE REPUBLIC OF SOUTH AFRICA: ANALYSIS OF REFORMS, NON-COMMUNICABLE DISEASES, AND THE IMPACT OF THE COVID-19 PANDEMIC

Kacper Wrzosek *(Corresponding Author, Email: kacperwrzosek2003@gmail.com)*
Student Research Circle at the Chair and Department of Epidemiology and Clinical Research Methodology, Medical University of Lublin, 20-093 Lublin, Poland
ORCID ID: 0009-0009-6215-2134

Kacper Ponikowski
Student Research Circle at the Chair and Department of Epidemiology and Clinical Research Methodology, Medical University of Lublin, 20-093 Lublin, Poland
ORCID ID: 0009-0008-4052-0410

Paulina Gumółka
Student Research Circle at the Chair and Department of Epidemiology and Clinical Research Methodology, Medical University of Lublin, 20-093 Lublin, Poland
ORCID ID: 0009-0007-7571-2917

Emilia Kamizela
Student Research Circle at the Chair and Department of Epidemiology and Clinical Research Methodology, Medical University of Lublin, 20-093 Lublin, Poland
ORCID ID: 0000-0001-9364-6764

Eliza Kuchta
Student Research Circle at the Chair and Department of Epidemiology and Clinical Research Methodology, Medical University of Lublin, 20-093 Lublin, Poland
ORCID ID: 0009-0009-2408-4900

Karina Udrycka
Medical University of Lodz, 90-419 Lodz, Poland
ORCID ID: 0009-0003-8577-4100

ABSTRACT

Since the end of apartheid in 1994, the Republic of South Africa has implemented multiple reforms to improve equity and quality within its healthcare system. This paper provides a comprehensive review of the current state of these reforms, focusing on the implementation of National Health Insurance (NHI), the growing burden of non-communicable diseases (NCDs), and the systemic impact of the COVID-19 pandemic. Based on a systematic review of 32 scientific papers published between 2017 and 2025, a qualitative analysis was conducted to identify recurring trends, structural barriers, and strategic recommendations. The findings reveal that healthcare reform is progressing unevenly, hindered by limited financing, weak intersectoral coordination, and persistent disparities between the public and private sectors. Furthermore, the rising prevalence of NCDs, such as diabetes and cardiovascular diseases, poses a significant threat to system stability. While the COVID-19 pandemic exposed the fragility of existing organizational structures, it also served as a catalyst for digital health innovation and telemedicine. To achieve Universal Health Coverage, South Africa must transition toward an integrated, community-based model. Key priorities include strategic investment in the health workforce, improved public financial management, and effective public-private integration. Ultimately, the lessons learned from the pandemic and the NCD crisis should drive the development of a more resilient, equitable, and technologically advanced healthcare system.

KEYWORDS

Republic of South Africa; Health System Reform; National Health Insurance; Non-Communicable Diseases; COVID-19; Primary Care

CITATION

Kacper Wrzosek, Kacper Ponikowski, Paulina Gumółka, Emilia Kamizela, Eliza Kuchta, Karina Udrycka. (2026) The Health Care System in the Republic of South Africa: Analysis of Reforms, Non-Communicable Diseases, and the Impact of the COVID-19 Pandemic. *International Journal of Innovative Technologies in Social Science*. 2(50). doi: 10.31435/ijitss.2(50).2026.5265

Introduction

Since the end of apartheid in 1994, the Republic of South Africa (RSA) has undertaken numerous initiatives aimed at reforming its healthcare system to ensure equity, efficiency, and universal access to high-quality medical services. Despite significant political and institutional progress, including the introduction of the National Health Insurance (NHI) programme, the system continues to struggle with deeply rooted structural inequalities, limited financing, and a double burden of communicable and non-communicable diseases (Maphumulo & Bhengu, 2019; Mokoena & Naidoo, 2025).

In the early years of the post-apartheid transformation, the public healthcare sector expanded rapidly; however, its effectiveness was constrained by inefficient management mechanisms, workforce shortages, and a lack of coherent quality-improvement strategies (Ifeagwu et al., 2021; Solanki et al., 2024). Maphumulo and Bhengu (2019) highlighted that quality initiatives often failed due to insufficient managerial competencies and system fragmentation. Meanwhile, Van Ryneveld et al. (2020) and Mokoena and Naidoo (2025) observed that unequal distribution of healthcare personnel remains one of the major barriers to ensuring equitable access to services, particularly in rural areas.

The introduction of National Health Insurance (NHI) was intended to consolidate fragmented healthcare financing mechanisms and strengthen financial protection for patients (Whyle & Olivier, 2023; Solanki et al., 2025). However, as noted by Whyle and Olivier (2024), the implementation of the NHI has been slow and faces substantial political and institutional obstacles. According to Solanki et al. (2024) and van Vuuren et al. (2025), effective implementation of the NHI requires not only financial reforms but also comprehensive redesign of primary healthcare (PHC) and greater engagement of frontline healthcare workers at the local level.

Simultaneously, the country faces a rapidly increasing burden of non-communicable diseases (NCDs), including cardiovascular diseases, diabetes, cancers, and chronic respiratory diseases. This phenomenon is closely linked to urbanisation, lifestyle changes, and unhealthy diets (Pilusa et al., 2025; Samodien et al., 2021; Ramalivhana et al., 2024; Godbharle et al., 2024). Samodien et al. (2021) refer to the NCD epidemic as a "catastrophe for South Africa," emphasising that the rise in risk factors threatens the stability of an already strained healthcare system. The coexistence of infectious diseases such as HIV and tuberculosis with NCDs results in a so-called "double disease burden", further complicating resource allocation and service planning (Moyo-Chilufya et al., 2023; WHO Regional Office for Africa, 2024).

The COVID-19 pandemic further exposed structural weaknesses in South Africa's healthcare system (Nematswerani et al., 2023; Mbunge, 2020; Nyasulu & Pandya, 2020; Heunis et al., 2023; Ohene-Kwofie et al., 2025). Studies conducted between 2020 and 2024 showed severe disruptions in the provision of essential medical services and increased mortality among patients with chronic diseases, together with limited access to prevention and diagnostics, particularly in disadvantaged regions (Mbunge, 2020; Nyasulu & Pandya, 2020; Heunis et al., 2023). Mbunge (2020) and Nematswerani et al. (2023) observed that the pandemic intensified existing inequalities, revealing the fragility of relationships between the public and private sectors. On the other hand, COVID-19 served as a catalyst for innovation in e-health, cross-sectoral collaboration, and acceleration of reforms under the NHI framework (Heunis et al., 2023; Ohene-Kwofie et al., 2025; Moosa et al., 2017).

In light of these complex challenges historical inequalities, ongoing systemic reforms, growing NCD burden, and the consequences of the COVID-19 pandemic — this paper aims to provide a synthetic overview of current evidence on the evolution, challenges, and future prospects of South Africa's healthcare system between 2017 and 2025. The review focuses on three interrelated areas: (i) structural and policy reforms, including NHI implementation; (ii) the burden and management of non-communicable diseases; and (iii)

system-wide effects of the COVID-19 pandemic. Through this approach, the paper seeks to identify key insights and recommendations for building a more resilient, equitable, and patient-centred healthcare system in the Republic of South Africa.

Materials and Methods

1. Study Design

This article is a narrative review aimed at providing a synthetic overview of the current state of knowledge on healthcare system reforms in the Republic of South Africa (RSA) in the context of the implementation of the National Health Insurance (NHI) programme, the burden of non-communicable diseases (NCDs), and the impact of the COVID-19 pandemic on the functioning of the health sector. The review was conducted in accordance with the guidelines for narrative reviews based on the Scale for the Assessment of Narrative Review Articles (SANRA), ensuring transparency, coherence, and methodological reliability.

2. Literature Search Strategy

To identify up-to-date and reliable information sources, a systematic search was performed in the following databases: PubMed, Scopus, Web of Science, Google Scholar, Africa Journals Online (AJOL), SciELO, and official publications of the World Health Organization (WHO).

The search was limited to publications in English published between 2017 and 2025.

Keyword combinations using operators (AND/OR) included: “South Africa” AND (“health system reform” OR “healthcare financing” OR “National Health Insurance” OR “primary health care re-engineering” OR “non-communicable diseases” OR “COVID-19” OR “health system resilience”)

3. Inclusion Criteria

The following types of publications were included:

- Articles published in peer-reviewed journals;
- Studies, reports, and analyses concerning the healthcare system in South Africa Works describing structural, financial, or organizational reforms, including NHI implementation;
- Articles addressing the burden of NCDs or the impact of COVID-19 on the health sector;
- Publications providing full-text access and an abstract in English.

4. Exclusion Criteria

The following were excluded from the analysis:

- Articles not directly related to the South African healthcare system (e.g., comparative studies without country-specific data);
- Publications published before 2017;
- Press reports, commentary without empirical data, conference abstracts, and non-peer-reviewed materials;
- Articles not available in full text or not published in English

Results

Analysis of thirty two publications enabled the identification of three key thematic areas concerning the evolution of the South African healthcare system between 2017 and 2025:

- Structural and policy reforms in the health sector;
- Burden and management of non-communicable diseases (NCDs);
- Impact of the COVID-19 pandemic on healthcare system functioning;
- The results are presented in a synthetic narrative supported by evidence from reviewed studies.
- Structural and Policy Reforms: Towards National Health Insurance (NHI)

For over a decade, the central direction of reform in South Africa has been the development of the National Health Insurance (NHI) system to ensure universal and equal access to healthcare services regardless of socioeconomic status (Mokoena & Naidoo, 2025; Solanki et al., 2024; Whyle & Olivier, 2023; Solanki et al., 2025; Whyle & Olivier, 2024). The main stages of health system reforms in South Africa since the end of apartheid are summarized in Table 1. The review indicates that NHI implementation has encountered numerous structural and political barriers.

Table 1. Key stages of health system reforms in South Africa (1994–2025)

year / period	Initiative / reform	Main objectives	Outcomes / challenges	Source
1994–2000	Post-apartheid reform	Elimination of discrimination; expansion of PHC coverage	Insufficient funding; limited infrastructure	(Van Ryneveld et al., 2020)
2011	PHC Re-engineering	Outreach teams; focus on community-based care	Uneven implementation across provinces	(Moosa et al., 2017)
2017	NHI Bill draft	Establishment of universal health insurance fund	Criticism over unclear funding mechanisms	(Solanki et al., 2024)
2020–2022	COVID-19 response	Investments in e-health and telemedicine	Workforce overload; service disruptions	(Mbunge, 2020; Heunis et al., 2023)
2023–2025	NHI Implementation Phase I	Integration of the private sector into NHI framework	Workforce shortages; risk of persistent inequities	(Mokoena & Naidoo, 2025)

Whyle and Olivier (2023, 2024) report legislative inertia driven by historical institutional constraints, together with lack of political consensus. Solanki et al. (2024, 2025) highlight difficulties in integrating the private and public sectors and insufficient financial transparency. Mokoena and Naidoo (2025) emphasise uneven workforce distribution and lack of a long-term human resources strategy as major risks to reform success.

Van Ryneveld et al. (2020) and Mofolo et al. (2019) note that despite efforts to train and employ healthcare workers, effective management and motivation mechanisms remain limited. Analyses by Christmals and Aidam (2020) as well as Cometto et al. (2020) suggest that successful NHI implementation requires not only financing reforms but also adaptation of organisational solutions from countries with similar structural challenges, such as Ghana.

Recent years have also seen increasing emphasis on primary healthcare (PHC) reforms. Naidoo et al. (2024), Mash et al. (2020) and Gaede (2020) highlight the need for PHC re-engineering based on community-oriented services and collaboration in multiple sectors. Moosa et al. (2017) report that PHC outreach teams in cities like Johannesburg face insufficient funding, weak staffing support, and difficulties integrating preventive and clinical services.

- Burden of Non-Communicable Diseases (NCDs)

The review shows that NCDs have become one of the most significant health threats in South Africa. Their prevalence has increased across all age groups, especially in urban and economically disadvantaged populations (Pilusa et al., 2025; Samodien et al., 2021; Ramalivhana et al., 2024; Godbharle et al., 2024).

Studies by Samodien et al. (2021) and Pilusa et al. (2025) confirm high rates of hypertension, type 2 diabetes, and obesity in Mpumalanga, describing the situation as a “silent epidemic”. Ramalivhana et al. (2024) report poor access to diagnosis and care for NCD patients in low-resource settings, resulting in reduced quality of life compared with urban areas.

Bhuiyan et al. (2024) and Achoki et al. (2022) identify lifestyle changes, urbanisation, consumption of processed foods, and reduced physical activity as key risk factors. Godbharle et al. (2024) demonstrate a strong association between the consumption of processed food and metabolic risk among adults in South Africa.

A great challenge is the coexistence of NCDs with infectious diseases, especially HIV and tuberculosis. Moyo-Chilufya et al. (2023) report that individuals living with HIV have significantly higher risk of cardiovascular and metabolic disorders, necessitating integrated “one-stop-service” care models.

- Impact of the COVID-19 Pandemic

The COVID-19 pandemic profoundly affected South Africa's healthcare system, exposing both strengths and weaknesses (Nematswerani et al., 2023; Mbunge, 2020; Nyasulu & Pandya, 2020; Heunis et al., 2023; Ohene-Kwofie et al., 2025; Gomes & Malherbe, 2024; Ataguba & McIntyre, 2018). Three recurring themes emerged: disruption of healthcare services, widening health inequalities, and acceleration of organisational and digital innovations.

Mbunge (2020) reports a decline in primary care visits and preventive programmes, including childhood immunisations and screening services. Nyasulu and Pandya (2020) note that resource reallocation toward COVID-19 led to temporary collapse of essential services which included maternal care and management of chronic diseases.

Research by Nematswerani et al. (2023) showed that the private sector also recorded significant declines in the number of elective hospital admissions and the availability of services for adults. Meanwhile, Heunis et al. (2023), analyzing data from the Free State province, found that the effects of the pandemic were particularly severe in rural areas. Limited infrastructure and workforce shortages hindered the continuation of essential public health programs there.

Studies by Gomes and Malherbe (2024) as well as Ohene-Kwofie et al. (2025) indicate that the pandemic had a particularly negative impact on patients with rare and chronic diseases, leading to increased mortality and reduced access to long-term care. At the same time, the authors observed that the pandemic period contributed to the accelerated implementation of telemedicine tools, improved intersectoral coordination, and increased public awareness of public health issues (Silubonde et al., 2023).

- Summary of results

A review of the analyzed studies shows that the health system in South Africa remains in a phase of dynamic transformation.

Reforms within the framework of the National Health Insurance are making the foundation for a future universal health care system, but their implementation requires significant institutional strengthening and financial support.

Non-communicable diseases pose an increasing threat to the stability of the system, especially when combined with the persistent burden of infectious diseases.

The COVID-19 pandemic, on one hand, deepened existing inequalities, while on the other revealed the potential for innovation, cooperation, and strengthening the resilience of the health system.

Discussion

- Dynamics of health system reforms and historical context

An analysis of the collected material indicates that the health care system in the Republic of South Africa (RSA) is undergoing a long-term transformation that dates back to the post-apartheid era. During this period, numerous efforts were made to improve equity in access to health services and reduce disparities between the public and private sectors (Maphumulo & Bhengu, 2019; Solanki et al., 2024; Van Ryneveld et al., 2020; Whyle & Olivier, 2023).

However, despite more than 30 years since democratization, structural inequalities in health care remain significant. As noted by Maphumulo and Bhengu (2019), unequal distribution of resources, insufficient funding and limited quality of services in the public sector make the implementation of reforms more difficult. The National Health Insurance (NHI) program was introduced as an attempt to systematically address these issues, aiming to ensure universal access to publicly funded health care (Mokoena & Naidoo, 2025; Solanki et al., 2024; Whyle & Olivier, 2023; Solanki et al., 2025; Whyle & Olivier, 2024).

Although the NHI project has received broad public support, its implementation faces numerous challenges. According to Whyle and Olivier (2023, 2024), the reform process has become entangled in complex political, economic, and ideological dependencies that slow its progress. The authors argue that reforms in South Africa represent an example of “path dependency”, a situation in which past institutional decisions constrain future change. Similarly, Solanki et al. (2024, 2025) and Mokoena and Naidoo (2025) emphasize that one of the key challenges for effective NHI implementation remains the shortage of human resources in health care and not sufficient workforce planning.

As highlighted by Van Ryneveld et al. (2020), between 1994 and 2018 it was not possible to develop a coherent system of medical personnel management, resulting in significant workload for public sector workers and the outflow of specialists to the private sector or abroad.

- Importance of primary health care (Primary Health Care Re-Engineering)

Primary health care (PHC) reform is a key pillar of the systemic transformation in South Africa. According to Naidoo et al. (2024), the goal of "PHC re-engineering" is to shift from a reactive model, focused on disease treatment, to a proactive model based on prevention, education, and community-oriented activities. Mash et al. (2020) indicate that implementing the Community-Oriented Primary Care (COPC) approach in Cape Town contributed to improved service integration and communication between levels of care. However, Moosa et al. (2017) demonstrated that the effectiveness of PHC outreach teams in Johannesburg is limited by insufficient funding and not adequate administrative support. PHC reform is also critical for reducing the burden of non-communicable diseases, which represent one of the country's greatest health challenges (Pilusa et al., 2025; Samodien et al., 2021; Ramalivhana et al., 2024; Godbharle et al., 2024).

- Growing burden of non-communicable diseases (NCDs)

The collected data indicate that South Africa faces a double burden of disease, in which non-communicable diseases (NCDs) coexist with infectious diseases such as HIV and tuberculosis (Pilusa et al., 2025; Samodien et al., 2021; Moyo-Chilufya et al., 2023; Achoki et al., 2022).

As Samodien et al. (2021) note, epidemiological transition in South Africa is driven by demographic changes, urbanization, and westernization of lifestyle. Studies by Pilusa et al. (2025) and Ramalivhana et al. (2024) have shown that the prevalence of hypertension, diabetes, and obesity is highest in low-income provinces where access to health care remains limited.

Furthermore, Godbharle et al. (2024) documented a strong correlation between consumption of highly processed foods and the risk of metabolic diseases, highlighting the need for broader interventions in nutrition policy and public health promotion.

It is also worth noting that, as stated by Moyo-Chilufya et al. (2023), individuals living with HIV in South Africa increasingly experience NCD-related complications, requiring an integrated model of care. Lack of such integration leads to fragmented services and increased risk of preventable deaths.

- COVID-19 pandemic as a catalyst and challenge for the system

The COVID-19 pandemic revealed structural weaknesses in the health care system but also accelerated certain positive organizational changes. Mbunge (2020) and Nyasulu and Pandya (2020) reported a sharp decline in routine and preventive services during the first months of the pandemic, exacerbating health backlogs in the population.

Nematswerani et al. (2023) found that the private sector also faced staff shortages, supply chain disruptions and difficulties in maintaining care for chronic patients. Heunis et al. (2023) confirmed these findings. They documented decreases in outpatient visits and vaccinations in the Free State province.

Meanwhile, the pandemic enabled acceleration of the development of telemedicine and new forms of care coordination. As Gomes and Malherbe (2024) noted, digital tools enabled ongoing contact with patients with rare and chronic diseases. However, Ohene-Kwofie et al. (2025) observed that digitalization did not eliminate inequalities — rural areas lacked the necessary infrastructure to fully benefit from telehealth.

- Health Policy Implications

The synthesis of the analyzed studies indicates that health system reforms in South Africa require an integrated approach based on three pillars. The key systemic challenges and proposed recommendations identified in the literature are summarized in Table 2.

Table 2. Main challenges and recommendations for South Africa's health system

Problem area	Key challenges	Recommendations	Source
Health financing	Dependence on private sector; limited public funding	Introduce mixed financing models (NHI + private schemes)	(Ifeagwu et al., 2021; Ataguba & McIntyre, 2018)
Health workforce	Unequal distribution; migration of specialists	Increase investment in training and financial incentives	(Van Ryneveld et al., 2020; Christmals & Aidam, 2020)
NCDs	High prevalence of obesity, diabetes, and cardiovascular diseases	Strengthen prevention and health education programs	(Pilusa et al., 2025; Samodien et al., 2021)

As emphasized by Solanki et al. (2024, 2025), the implementation of the National Health Insurance will only be possible together with reinforcement of workforce management and standardization of services. At the same time, authors such as Christmals and Aidam (2020) and Cometto et al. (2020) point to the need to adapt successful solutions from other African countries, including community-based health care models and flexible financing mechanisms.

- Summary of Discussion

The review shows that the health system in the Republic of South Africa is at a crucial point of transformation. The COVID-19 pandemic exposed systemic weaknesses but also accelerated the modernization processes. The implementation of National Health Insurance, development of primary health care and addressing non-communicable diseases will determine the effectiveness of the system in the future.

South Africa faces the necessity of balancing the ambition of universal health coverage with the reality of limited resources. The ultimate success of reforms will be dependent on coherent health policy, financial stability, as well as maintaining public trust in public institutions.

Conclusions

The health system of the Republic of South Africa currently stands at a crossroads between historically entrenched inequalities and the need to realize the idea of universal access to health services. The literature review showed that despite significant progress in legislation, planning and institutional reforms, numerous structural barriers still hinder the achievement of the goals of the National Health Insurance (NHI).

The key challenges include:

- insufficient funding and administrative inefficiency in the public sector,
- uneven distribution of human resources in health care,
- limited integration between the public and private sectors,
- growing burden of non-communicable diseases (NCDs) and the consequences of the COVID-19 pandemic, which highlighted weaknesses in crisis response capacity.

Primary Health Care re-engineering remains one of the most important directions of modernization, yet its effectiveness requires financial, training, and organizational reinforcement. An integrated, community-based model of health care may become the foundation for achieving NHI objectives, especially in rural and disadvantaged areas.

Although the COVID-19 pandemic deepened existing inequalities, it also created momentum for innovation — particularly in digitalization, telemedicine and coordination of care for chronically ill patients. These experiences should be permanently incorporated into national health strategies.

In the coming decade, the success of health system reforms in South Africa will depend on:

- consistent implementation of equity and fairness in resource allocation,
- ensuring stable financing and transparency in expenditure,
- investing in human capital within the health sector and strengthening partnerships between the state, private sector, and local communities.

Ultimately, the pursuit of a universal and equitable health system in South Africa is not only an organizational challenge but also a moral obligation of the state toward its citizens. Only sustained cooperation between policymakers, health professionals, and society can ensure that the vision of “Health for All” becomes a reality rather than merely a political slogan.

Disclosure

The authors report no conflicts of interest in this work.

This manuscript received no external funding.

REFERENCES

1. Achoki, T., Sartorius, B., Watkins, D., Glenn, S. D., Kengne, A. P., Oni, T., Wiysonge, C. S., Walker, A., Adetokunboh, O. O., Babalola, T. K., Bolarinwa, O. A., Claassens, M. M., Cowden, R. G., Day, C. T., Ezekannagha, O., Ginindza, T. G., Iwu, C. C. D., Iwu, C. J., Karangwa, I., . . . Naghavi, M. (2022). Health trends, inequalities and opportunities in South Africa's provinces, 1990–2019: Findings from the Global Burden of Disease 2019 Study. *Journal of Epidemiology and Community Health, 76*(5), 471–481. https://doi.org/10.1136/jech-2021-217480
2. Ataguba, J. E., & McIntyre, D. (2018). The incidence of health financing in South Africa: Findings from a recent data set. *Health Economics, Policy and Law, 13*(1), 68–91. https://doi.org/10.1017/S1744133117000196
3. Bhuiyan, M. A., Galdes, N., Cuschieri, S., & Hu, P. (2024). A comparative systematic review of risk factors, prevalence, and challenges contributing to non-communicable diseases in South Asia, Africa, and Caribbeans. *Journal of Health, Population and Nutrition, 43*(1), Article 140. https://doi.org/10.1186/s41043-024-00607-2
4. Christmals, C. D., & Aidam, K. (2020). Implementation of the National Health Insurance Scheme (NHIS) in Ghana: Lessons for South Africa and low- and middle-income countries. *Risk Management and Healthcare Policy, 13*, 1879–1904. https://doi.org/10.2147/RMHP.S245615
5. Cometto, G., Buchan, J., & Dussault, G. (2020). Developing the health workforce for universal health coverage. *Bulletin of the World Health Organization, 98*(2), 109–116. https://doi.org/10.2471/BLT.19.234138
6. Gaede, B. (2020). Revisiting the doctor's role at the primary healthcare clinic. *South African Family Practice, 62*(1), e1–e4. https://doi.org/10.4102/safp.v62i1.5242
7. Godbharle, S., Kesa, H., & Jeyakumar, A. (2024). Processed food consumption and risk of non-communicable diseases (NCDs) in South Africa: Evidence from Demographic and Health Survey (DHS) VII. *Journal of Nutritional Science, 13*, Article e19. https://doi.org/10.1017/jns.2024.13
8. Gomes, M. C. M., & Malherbe, H. L. (2024). The impact of COVID-19 on patients affected by rare diseases and congenital disorders in South Africa: A scoping review. *South African Medical Journal, 114*(9), Article e1795. https://doi.org/10.7196/SAMJ.2024.v114i9.1795
9. Heunis, C., Chikobvu, P., Muteba, M., Kigozi-Male, G., Engelbrecht, M., & Mushori, P. (2023). Impact of COVID-19 on selected essential public health services—Lessons learned from a retrospective record review in the Free State, South Africa. *BMC Health Services Research, 23*(1), Article 1244. https://doi.org/10.1186/s12913-023-10166-7
10. Ifeagwu, S. C., Yang, J. C., Parkes-Ratanshi, R., & Brayne, C. (2021). Health financing for universal health coverage in sub-Saharan Africa: A systematic review. *Global Health Research and Policy, 6*(1), Article 8. https://doi.org/10.1186/s41256-021-00190-7
11. Maphumulo, W. T., & Bhengu, B. R. (2019). Challenges of quality improvement in the healthcare of South Africa post-apartheid: A critical review. *Curationis, 42*(1), e1–e9. https://doi.org/10.4102/curationis.v42i1.1901
12. Mash, R., Goliath, C., Mahomed, H., Reid, S., Hellenberg, D., & Perez, G. (2020). A framework for implementation of community-orientated primary care in the Metro Health Services, Cape Town, South Africa. *African Journal of Primary Health Care & Family Medicine, 12*(1), e1–e5. https://doi.org/10.4102/phcfm.v12i1.2632
13. Mbunge, E. (2020). Effects of COVID-19 in South African health system and society: An explanatory study. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 14*(6), 1809–1814. https://doi.org/10.1016/j.dsx.2020.09.016
14. Mofolo, N., Heunis, C., & Kigozi, G. N. (2019). Towards National Health Insurance: Alignment of strategic human resources in South Africa. *African Journal of Primary Health Care & Family Medicine, 11*(1), e1–e7. https://doi.org/10.4102/phcfm.v11i1.1928
15. Mokoena, S. V., & Naidoo, P. (2025). An assessment of South African policy and strategic framework for the development of a sufficient, equitably distributed and well-performing health workforce for the implementation of the National Health Insurance. *South African Medical Journal, 115*(1), 37–43. https://doi.org/10.7196/SAMJ.2025.v114i1.2479
16. Moosa, S., Derese, A., & Peersman, W. (2017). Insights of health district managers on the implementation of primary health care outreach teams in Johannesburg, South Africa: A descriptive study with focus group discussions. *Human Resources for Health, 15*(1), Article 7. https://doi.org/10.1186/s12960-017-0183-6
17. Moyo-Chilufya, M., Maluleke, K., Kgarosi, K., Muyoyeta, M., Hongoro, C., & Musekiwa, A. (2023). The burden of non-communicable diseases among people living with HIV in sub-Saharan Africa: A systematic review and meta-analysis. *EClinicalMedicine, 65*, Article 102255. https://doi.org/10.1016/j.eclinm.2023.102255
18. Naidoo, V., Suleman, F., & Bangalee, V. (2024). Medical insurance representatives' perceptions on National Health Insurance primary healthcare re-engineering in South Africa: A qualitative study. *Journal of Primary Care & Community Health, 15*, Article 21501319241237044. https://doi.org/10.1177/21501319241237044
19. Nematswerani, N., Steenkamp, L., Haneef, S., Naidoo, R. M., & Fonn, S. (2023). Understanding the impact of the COVID-19 pandemic on healthcare services for adults during three waves of COVID-19 infections: A South African private sector experience. *South African Medical Journal, 113*(4), Article e16505. https://doi.org/10.7196/SAMJ.2023.v113i4.16505

20. Nyasulu, J., & Pandya, H. (2020). The effects of coronavirus disease 2019 pandemic on the South African health system: A call to maintain essential health services. *African Journal of Primary Health Care & Family Medicine, 12*(1), e1–e5. https://doi.org/10.4102/phcfm.v12i1.2480
21. Ohene-Kwofie, D., Chironda, C., Bashingwa, J., Seabi, T., Dube, A., Tippett-Barr, B., Gómez-Olivé, F. X., Kahn, K., Tollman, S., & Kabudula, C. W. (2025). The impact of COVID-19 pandemic on mortality among adults receiving care for chronic health conditions in rural South Africa: Findings from Agincourt health and socio-demographic surveillance system. *Population Health Metrics, 23*(Suppl. 2), Article 30. https://doi.org/10.1186/s12963-025-00388-8
22. Pilusa, T. D., Ntimana, C. B., & Maimela, E. (2025). The prevalence and behavioral risk factors contributing to non-communicable diseases in Bushbuckridge, Mpumalanga Province, South Africa. *Frontiers in Epidemiology, 5*, Article 1560971. https://doi.org/10.3389/fepid.2025.1560971
23. Ramalivhana, F. W., Veldsman, T., & Moss, S. J. (2024). Assessment of non-communicable disease risk factors, functional performance, and health-related quality of life in adults: A comparative analysis in low-resourced urban and rural areas of South Africa. *BMC Public Health, 24*(1), Article 1580. https://doi.org/10.1186/s12889-024-18964-2
24. Samodien, E., Abrahams, Y., Muller, C., Louw, J., & Chellan, N. (2021). Non-communicable diseases—A catastrophe for South Africa. *South African Journal of Science, 117*(5–6), 1–6. https://doi.org/10.17159/sajs.2021/8638
25. Silubonde, T. M., Knight, L., Norris, S. A., van Heerden, A., Goldstein, S., & Draper, C. E. (2023). Perceptions of the COVID-19 pandemic: A qualitative study with South African adults. *BMC Public Health, 23*(1), Article 684. https://doi.org/10.1186/s12889-023-15450-z
26. Solanki, G., Brijlal, V., Morar, R., Cornell, J., Myburgh, N., & Cleary, S. (2025). The National Health Insurance Act: Possible private health funding reform scenarios. *South African Medical Journal, 115*(5), Article e2550. https://www.samajournals.co.za/index.php/samj/article/view/2550
27. Solanki, G., Wilkinson, T., Myburgh, N. G., Cornell, J. E., & Brijlal, V. (2024). South African healthcare reforms towards universal healthcare—Where to next? *South African Medical Journal, 114*(3), Article e1571. https://doi.org/10.7196/SAMJ.2024.v114i3.1571
28. Van Ryneveld, M., Schneider, H., & Lehmann, U. (2020). Looking back to look forward: A review of human resources for health governance in South Africa from 1994 to 2018. *Human Resources for Health, 18*(1), Article 92. https://doi.org/10.1186/s12960-020-00536-1
29. van Vuuren, C. J., Lowe, Z., & Bodenstein, K. (2025). Moving towards a South African NHI system of excellence: Recommendations based on the insider perspectives of CHWs as key role-players. *International Journal of Environmental Research and Public Health, 22*(5), Article 807. https://doi.org/10.3390/ijerph22050807
30. Whyle, E. B., & Olivier, J. (2023). A socio-political history of South Africa's National Health Insurance. *International Journal for Equity in Health, 22*(1), Article 247. https://doi.org/10.1186/s12939-023-02058-3
31. Whyle, E. B., & Olivier, J. (2024). Health system reform and path-dependency: How ideas constrained change in South Africa's National Health Insurance policy process. *Policy Sciences, 57*, 663–690. https://doi.org/10.1007/s11077-024-09541-w
32. World Health Organization Regional Office for Africa. (2024). *Trends in communicable and non-communicable disease burden and control in Africa*. https://www.afro.who.int/publications/trends-communicable-and-noncommunicable-disease-burden-and-control-africa