Review

The 'just transition' and health in South Africa

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Background

South Africa's long history of dependence on coal-fired power has had severe impacts on climate, environmental health, and public health. Global pressures and local demands for a planned just transition in South Africa have been growing. People are calling for a transition to clean renewable energy that optimises socio-economic and local ecological benefits. The Just Transition Open Agenda is a contribution to the national debate by the Life After Coal civil society campaign. The Open Agenda proposes radical changes leading to a new health system for all. This is needed, especially to address the differential and continual health impacts of unsafe levels of air pollution especially where most of South Africa's coal-fired power stations are located.

Approach

This paper reviews South Africa's climate change response and the role that the healthcare sector (as a significant source of emissions and environmental pollution) can play in reducing global carbon emissions and helping societies to adapt and become more 'climate resilient'. The chapter considers some of the recommendations for public health within the just transition movement in South Africa, with a particular focus on the heavily polluted Highveld Priority Area in Mpumalanga, and the implications of these recommendations for the healthcare sector.

Conclusions

A comprehensive public health plan for the Highveld Priority Area, guided by the principles of communication, collaboration, and active participation, would begin to provide some measure of restorative justice for the communities most affected by coal-related pollution. The plan should include effective health surveillance and air pollution early-warning systems, community outreach programmes, and well-resourced and accessible public health facilities prepared to deal with respiratory emergencies. The Global Green and Healthy Hospitals network agenda's 10 goals towards 'climate-smart' health care, which provide practical guidance for achieving sustainable, low-carbon, and climate-resilient health systems must be urgently pursued as part of global and local efforts towards greater climate justice and health equity.

Introduction

Globally, climate change is recognised as a growing threat to public health in the 21st century, as it amplifies multiple environmental risks to health. However, the climate crisis provides a significant opportunity to achieve meaningful co-benefits for climate, health, and well-being, through mitigating emissions and adapting societies to the multiple impacts of climate change.[1-3] Due to its heavy dependence on fossil fuel-based energy, South Africa is a significant emitter of the greenhouse gases that cause global warming. The country is alarmingly vulnerable to adverse climate impacts, such as extreme heat, increased frequency of drought, and flooding, which are exacerbated by high levels of ill health, malnutrition, homelessness, unemployment, and deep-rooted poverty.[4] South Africa's climate policies and plans therefore recognise the need for urgent climate action through increased climate change mitigation, adaptation, and advocacy efforts.[5,6]

Global pressures and local demands for a planned just transition in South Africa have been growing. People are calling for a transition to clean renewable energy that minimises the socio-economic impacts on those who depend on the coal value chain, and that optimises job creation and local ecological benefits. Furthermore, the economic and health impacts of the current energy supply crisis in South Africa, characterised by frequent load

shedding and use of diesel-fired 'peaking plants' and private generators, have strengthened these calls for transition.[4] The framework for this 'just transition' to green the economy in a fair and inclusive manner, has been the subject of much recent debate and stakeholder consultation.[7,8]

The healthcare sector has a key role to play in reducing global carbon emissions and helping societies to adapt and become more 'climate resilient'. If the health sector was a country, it would be the fifth-largest emitter of carbon emissions on the planet, with more than half of these emissions due to its energy use.[9] Yet health workers are generally well placed and trusted to protect public health from climate and environmental changes, given their proximity and ability to assist those most affected.[10] Strong leadership in the health sector is needed to reduce the huge planetary impact of this sector, including its use of non-renewable energy, water, and transport, as well as its use of large amounts of toxic and plastic waste, which were so evident during the COVID-19 pandemic.[11]

The objective of this chapter is to present some of the recommendations for public health within the just transition movement in South Africa, with a particular focus on the heavily polluted Highveld Priority Area in Mpumalanga, and the implications of these recommendations for the healthcare sector.

Open Agenda for the Just Transition in South Africa

The South African economy has long been dominated by what is known as the 'minerals-energy complex'.[12] The country's reliance on coal as its primary energy source and its long-term policy of providing cheap electricity to heavily polluting industries and mines has resulted in a highly unequal and carbon-intensive economy.[13] Income inequality and high levels of extreme poverty, defined by race, class, gender and geography, have been intensifying since the democratic transition in 1994. The COVID-19 pandemic highlighted these divides, as it exerted its biggest impact in places with the highest levels of inequality in the country.

The Presidential Climate Commission (PCC) was established in 2020 to advise on South Africa's climate change response and transition to a low-carbon and climate-resilient economy and society. The PCC facilitates dialogue between a wide range of stakeholders to define the desired type of economy and how to achieve it. The Just Transition Framework seeks to provide a road map for this process, based on evidence from research and extensive stakeholder and public consultation.[8]

The founding partners of the Life After Coal Campaign (Earthlife Africa, groundWork and the Centre for Environmental Rights) developed an Open Agenda for a Just Transition as a formal declaration of their position on a just and equitable transition. The Open Agenda was launched in May 2022 as a contribution to the national consultative process. It includes 12 key demands (Box 1).

Box 1: Demands for a just transition in South Africa, May 2020

1. A new, sustainable energy system to replace polluting fossil fuels that serve the elite.
2. The end of financing for coal and other fossil fuel investments, including gas.
3. The rehabilitation of land and water ruined by coal mining and burning.
4. Concerted efforts to prepare for and deal with the impacts of climate change.
5. A new health system that works for the health of all people.
6. Transport and communication systems that are inclusive and enable all people to participate in public debates and decision making.
7. Food sovereignty and food security for all people.
8. Local service delivery, and an undertaking to use open democracy and self-provision to achieve this.
9. A new economic system in which economic decision making starts by asking people what their needs are, and how to fulfil them, rather than having an economy that serves profit alone.
10. A society rooted in gender justice.
11. Special attention to youthful citizens and their futures.
12. Open democracy as the basis for decision making.

Source: Life After Coal, Just Transition Open Agenda, 2022.[14]

The Open Agenda's demand for a new health system proposes radical changes to address current public health challenges, as well as the losses and damages incurred by slow-onset and rapid climate events (Box 2).

A public health plan for the just transition

The Open Agenda calls for leadership to address the "ongoing public health disaster caused by unsafe levels of air pollution" as a matter of urgency.[14] Air pollution from the burning of fossil fuels, like coal, is the leading global cause of climate change and among the world's greatest risks to health.[15] Besides causing mortality from multiple causes, air pollution is strongly associated with allergies, colds, coughs, headaches, dizziness, fatigue, absenteeism, impaired productivity, and mental ill-health.[16] Linked action against climate change and air pollution, such as investment in universal clean energy, therefore has the potential for significant co-benefits to the climate, the environment, and human health.

Extreme air pollution on the Mpumalanga Highveld has long been a feature of that landscape due to the concentration of coal-fired power stations in the area.[17,18] The Mpumalanga Highveld was declared the Highveld Priority Area (HPA) in November 2007, acknowledging that the ambient air quality regularly exceeded national standards and hence required specific action.[19] However, only a few studies have assessed the health risks of air pollution in the HPA and no respiratory health studies have been carried out.[20] In 2019, the 'Deadly Air' case

Box 2: Required health-system changes for a just transition in South Africa, 2020

1. Internalising the public health costs of coal and other fossil fuels to the polluters' accounts, i.e. the 'polluter pays' principle.
2. Active and accountable leadership to urgently acknowledge and address the ongoing public health disaster caused by unsafe levels of air pollution.
3. Recognition by policy and decision makers that economic activity that sacrifices people's health can never be deemed sustainable or justifiable.
4. Mobilising affected people and health professionals to urge government action.
5. Assisting health workers to understand that their actions could have significant climate and health benefits.
6. Building a fully functional health care system that realises the Preamble and objectives of the National Health Act of 2004, which includes sections 24(a), 27, and 28 of the Constitution.
7. Recognising that climate change will bring further pressure to bear on the South African health system, which is already unable to cope with the current burden of disease.
8. Educating health professionals in adaptive management to deal with emergent health threats such as COVID-19.
9. Implementing the Department of Health's Climate Change Health Adaptation Plan by ensuring co-operation between all responsible government authorities.
10. Building a functioning cooperative governance system of industry, government, health, and education role players, informed by a public health approach.
11. The effective and transparent monitoring of environmental health data.

Source: Life After Coal, Just Transition Open Agenda, 2022.[14]

highlighted evidence of the health impacts on local communities and compelled the Minister of Environmental Affairs to act (Box 3).[21]

Despite this, the National Climate Change and Health Adaptation Plan is silent in outlining the concrete steps needed to protect people living in the HPA from the continual impacts of coal-fired electricity and coal mining, and for an ailing public health system to provide better health services.[5] In 2022, a community health needs assessment was conducted in the HPA to explore the health challenges of pollution from coal mining and burning.[1] It found that clinics near the major sources of pollution had no specialised care for people with respiratory disorders, who are most likely to become seriously ill. The available clinics were constantly full, and patients had no guarantee of being seen on the day of presentation, which results in additional lost days and lost income. Shortages of human resources and medications, and limited ambulance services, compel patients to hire expensive transport to health services in emergency situations, and/or to purchase their own medications.

Every community consulted by the PCC during its community and stakeholder engagement on the Just Transition Framework called for reparations and for affordable and effective health services to treat the widespread health impacts from mining and energy operations, particularly respiratory issues.[7]

A health plan for the HPA should be guided by the *Batho Pele* principles for transforming South African service delivery of consultation, redress, and accurate information.[24] Accordingly, the health burden should be determined in affected communities. Exposure data from the National Ambient Air Quality Monitoring Network could be used as an early-warning system and to inform appropriate health management. Better regulation of mining activities could facilitate companies building local hospitals and compensate affected individuals and communities. The provision of free health care to affected communities would also help to redress the long and deadly legacy of air pollution and achieve some restorative justice. The 2022 groundWork report concludes that "restorative justice is crucial for ecosystem health, healthy water sources and people's health. These projects must be designed with effective community participation and create economic and livelihood opportunities for communities".[4]

Decarbonising health care

As understanding grows regarding the vital role of the health sector in mitigating and adapting to climate change, so decarbonisation of the sector has been increasingly championed by health professionals. The COP26 Health Programme, or Alliance for Transformative Action on Climate and Health (ATACH), with 61 member

Box 3: The 'Deadly Air' case, Mpumalanga, South Africa, 2019

A 2017 study of the health impacts of coal-fired power plants in South Africa reported a broad spectrum of consequences, including mortality and cardiovascular and respiratory illness.[18] It estimated that 2 239 human deaths per year, and more than 9 500 cases of bronchitis among children aged 6-12 years, could be attributable to coal-related air pollution. This evidence formed the basis for the 'Deadly Air' case, a legal challenge in 2019 by two environmental justice organisations in South Africa. The organisations alleged that consistently poor air quality in Mpumalanga has violated the section 24(a) constitutional right to a healthy environment for people living on the Highveld.[22] On 18 March 2022, judgment was delivered in their favour, declaring a breach of the constitutional rights of residents. Furthermore, it was found that the Minister of Environmental Affairs has a legal duty to prescribe regulations under section 20 of the National Environmental Management: Air Quality Act 39 of 2004.[23]

1 Patrick S, Shirinde J. Steps Towards Developing a Community Health Plan for Mpumalanga using a Just Transition Lens. Unpublished report for the Centre for Environmental Rights, 2022.

countries to date, includes national commitments to low-carbon and climate-resilient healthcare systems, or 'climate-smart' health care. The ATACH Programme is informed by baseline assessments of emissions, includes a comprehensive understanding of supply chains, and has both established and developing action plans for sustainable health systems and reduced air pollution.[25]

The Global Green and Healthy Hospitals (GGHH) programme is a well-established global initiative that is active in South Africa to promote 'climate-smart' health care.[26] The GGHH agenda has 10 interlinked goals encompassing healthcare leadership, chemicals, waste, energy, water, transportation, food, pharmaceuticals, buildings and purchasing. These goals provide practical guidance on how a health system or health facility can reduce its carbon footprint and become more climate-resilient.

Many hospitals in South Africa have joined the global GGHH network of over 1 700 members and have made good progress towards some of these goals. Network members document their initiatives in the form of case studies, which are published on an online platform to facilitate collaboration or guidance on best practices. Management of healthcare waste is a 'low-hanging fruit' on the GGHH agenda, as it has a large carbon footprint and is a major cost driver for public health facilities. Several South African hospitals have well-documented case studies on healthcare waste-management reduction and improved waste segregation.[27]

Groote Schuur Hospital in Cape Town has been a member of GGHH since 2014, with a vision to reduce its emissions and move towards low-carbon or even carbon-neutral health care.[28] Working with different departments and limited resources in the public healthcare system, the hospital managed to reduce its water and coal consumption, eliminate polystyrene, reduce pharmaceutical waste, and introduce recycling initiatives. Khayelitsha Hospital in the Western Cape was the first GGHH member in South Africa to pilot microwave and frictional heating technology as an alternative to the incineration of waste.[29] Based on experience from this hospital, George Hospital followed suit and piloted on-site treatment. Emission reduction was the biggest win, with volume reduction leading to less waste to landfill. However, the alternative treatment of healthcare waste is still under-researched, and sustainable alternatives to incineration must be fully evaluated to determine the most efficient and cost-effective method.

The energy supply crisis and increasing electricity costs in South Africa have driven hospitals to seek alternative sources of energy and to reduce energy consumption without compromising the quality of health care. Netcare Limited, a private hospital group, replaced lighting systems nationwide with more efficient lighting and installed solar photovoltaic panels on hospital rooftops. Khayelitsha Hospital has also harnessed solar and wind energy. Passionate environmental health practitioners and health workers have led other initiatives, such as food gardens; diverting food waste to piggeries; promotion of water, energy, and waste recycling; and reducing pharmaceutical waste.

The GGHH network is a collaborative learning environment, open to new research evidence and the sharing of best practices. However, strong political leadership, supportive government policies, and funding are all required for public hospitals to urgently tackle the exponentially increasing costs related to climate change and its impacts on health and health care.[29] Achieving greater climate justice and health equity relies on climate-smart health care and on committed and competent healthcare professionals to manage the transformation.

Education for sustainable health care

Educating and training health workers for climate action is a key component of national commitments to low-carbon and climate-resilient healthcare systems.[30] An increasing number of global initiatives incorporate climate change and planetary health into education curricula, striving to create a cohort of 'eco-ethical' health professionals who are leaders and advocates for greater climate justice and health equity.[31,32] The World Health Organization-Civil Society Working Group to Advance Action on Health and Climate Change has called on health-education stakeholders to incorporate climate change into curricula and prepare health professionals to ensure functioning healthcare systems in a climate-changed future.[33]

Education for sustainable health care within health-professions education seeks to develop the necessary knowledge, skills, and attitudes regarding the interdependence of human and planetary health. It addresses the health impacts of climate and environmental changes, as well as the environmental footprint of health care.[34] The Consensus Statement on Planetary Health and Education for Sustainable Healthcare by the Association for Medical Education in Europe urges health professionals to systemic planetary health action to help meet environment-related Sustainable Development Goal targets by the year 2030.[35] The need for education on planetary health and sustainable health care in South Africa is consistent with calls for health professionals to be more socially and environmentally accountable.[36,37] As a potential leader and beneficiary of the just energy transition worldwide, South Africa should not delay in investing in education and capacity-building for a more secure climate future.

Conclusion

The just transition will continue to be a dominant feature of the national political and public-health landscape of South Africa in future. The Just Transition Open Agenda produced by the Life After Coal civil society campaign has proposed radical changes to improve the response of the public health system to the severe and continual

impacts of coal-related pollution in South Africa. This is especially needed in the heavily polluted Highveld Priority Area that generates most of South Africa's coal-fired electricity. New knowledge, skills, and values are required from healthcare leaders and health workers in South Africa to act with urgency to realise our constitutional right to a healthy environment and safe climate future.

The promising global and local initiatives to decarbonise the healthcare sector require strong leadership, enabling policies, and funding. Education on planetary health and sustainable health care is needed to develop health worker agency in protecting public health from climate change and environmental degradation, and for leadership in climate-smart health care.

Recommendations

Active and accountable leadership is needed in South Africa to place health firmly on the agenda of the 'just transition', to redress the injustices of coal-related pollution and climate change impacts on already-vulnerable communities, and to develop the capacity of health workers and healthcare institutions towards a low-carbon and climate-resilient healthcare system.

Abbreviations

Abbreviation	Description
ATACH	Alliance for Transformative Action on Climate and Health
GGHH	Global Green and Healthy Hospitals
HPA	Highveld Priority Area
PCC	Presidential Climate Commission

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