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Legal Challenges in the Management of Medical Waste in Post-Pandemic Contexts in Ghana and South Africa

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Abstract

The novel coronavirus pandemic brought about an unprecedented rise in medical waste in both Ghana and South Africa, highlighting the need for effective legislation on medical waste management. This research paper explores the legal challenges facing post-pandemic medical waste management. The central issue is the rise of medical waste that is difficult to dispose of, especially waste containing plastic PPE. This study examines how effective national and international laws can ensure medical waste is disposed of safely. Using a doctrinal approach, the research will analyse primary and secondary sources through a systematic literature review. The findings show that although regulations are in place, implementation has been difficult because of resource constraints, lack of training, and ineffective monitoring procedures. Both countries have suffered adverse effects, including increased health risks and environmental pollution. Hence, the legal framework for managing medical waste needs to be strengthened and improved in the post-pandemic Period. Relevant stakeholders and institutions should also ensure effective enforcement of the laws.

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1. Introduction

The unexpected emergence of the coronavirus resulted in an influx of disposable personal protective equipment in both Ghana and South Africa. This created an unprecedented burden of infectious plastic waste produced not only by hospitals but also by households (Agyekum & Tuglo, 2023; Aidonojie, 2023). High demand for PPE, such as facemasks and gloves, was coupled with stock shortages in Ghana. As a result, health workers implementing environmental safety measures faced safety risks. In South Africa, the country has always been at risk of bringing diseases from abroad due to the number of flights from other countries (Anani et al., 2022; Ansah et al., 2024). As a result, mandatory mask regulations led people to discard hundreds of masks per day, creating another environmental issue. In any case, this unexpected influx of infectious waste threatened the existing waste management infrastructure in both nations. A considerable part of this waste was illegally dumped in public places and mixed with regular household waste (Gowreesunkar et al., 2022; Koutsoukou, 2025). This phenomenon can be referred to as "PPE pollution."

In the post-COVID scenario, healthcare waste generation in Ghana and South Africa remains higher than in pre-pandemic times. The challenge persists despite the need to address its consequences, as existing infrastructure cannot keep up with the increased waste produced (Luhar et al., 2022; Mubangizi, 2024). For instance, in Sub-Saharan Africa, segregation practices do not fully comply with the established acceptable standards. Additionally, waste is still often burned openly or buried. Both of these processes negatively affect the environment and public health. Moreover, inadequate training among healthcare workers involved in handling healthcare waste remains a major challenge, as staff lack the knowledge and equipment needed to manage hazardous waste (Fouksman & Dawson, 2024). The adoption of disease-specific vertical health systems also challenges the development of resilient infrastructure for healthcare waste management. Healthcare legislation, including the Biomedical Waste Management Regulations, became ineffective during the pandemic because it lacked strict compliance measures. The key issue is that many existing laws lack strict sanctions for noncompliance. For instance, while the Public Health Act in Ghana stipulates that certain officers be assigned to manage infectious bodies and biomedical waste, these people may lack the logistical and psychological preparation to do so (Olayele & Samy, 2022; Pavone et al., 2024). Similarly, despite relatively high pandemic preparedness in South Africa at the beginning, the scale of biomedical waste produced became so great that local municipalities could not control it under their solid waste legislation. As a result, hazardous waste began to flow into the regular municipal waste, posing health hazards to both recyclers and local communities.

This topic is unique because it addresses the legal crisis in the aftermath of a global pandemic within the socioeconomic contexts of Ghana and South Africa. While earlier studies have examined healthcare waste management, this paper argues that the "new normal" requires a shift from emergency decrees to more legally and ethically sustainable healthcare waste management (Mukhlis et al., 2024; Nyasulu et al., 2025). It further focuses on the legal aspects of home-based medical waste, which has become a major issue due to the pandemic-driven trend of self-isolation, although it has yet to be legislated in Sub-Saharan African countries. Comparing two of the region's most

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industrially advanced countries, the current study explores how varying degrees of preparedness affect regional sustainability (Bino & Aidonojie, 2025; Chaturvedi & Chowbe, 2025). It also examines how political determinants of health affect the recruitment of waste handlers and compliance with international treaties such as the Basel Convention. The overall aim of this research is to conduct a comprehensive evaluation of the legal and ethical dilemmas facing medical waste disposal in Ghana and South Africa following the pandemic. In particular, the study will assess the effectiveness of current legal systems at both the national and international levels in mitigating emerging problems related to medical waste and PPE. There is a need to address possible constraints to complying with such laws, including inadequate infrastructure and a lack of training for key personnel, which could negatively affect human and environmental health. The study will also explore the responsibility of health care institutions as producers of medical waste, along with the possible economic consequences of poorly implemented waste management policies in the respective societies.

2. Method

A doctrinal approach to research will be adopted in this study. The technique entails analyzing, interpreting, and synthesizing relevant sources to answer legal problems relating to the management of biomedical waste. It is a traditional form of academic research that requires identifying applicable legislation, case law, and treaties to formulate legal theories. To ensure a thorough review, a systematic review process will also be used alongside doctrinal research to identify recent literature. For primary doctrinal research sources, a systematic process was used to identify national laws, such as the Public Health Act and Biomedical Waste Management Regulations in Ghana and South Africa, as well as international treaties, such as the Basel, Bamako, and Stockholm Treaties.

Secondary research resources were sourced from bibliographic databases such as Springer, Elsevier, and Google Scholar, using terms such as "medical waste", "post-pandemic", and "legal challenges". These resources include journal articles, books, and research papers published by international organisations such as WHO and UNEP. The methodology will be qualitative and analytical. The analysis will include a rational assessment of the current legal regime to evaluate its successes and failures in addressing medical waste surges. Drawing on both philosophical and practical resources, the study's findings inform normative recommendations for legal reform. By evaluating the gap between legality and morality, the study will clarify the responsibilities of states and companies in the fight against medical waste surges.

3. Results and Discussion

3.1. Adverse Effects of Carbon Emissions on the Environment and Public Health Safety

The unexpected emergence of the SARS-CoV-2 epidemic was followed by a dramatic increase in the production and consumption of disposable PPE and other plastics in Ghana and South Africa (Silva et al., 2025; Ukhurebor et al., 2024). According to estimates, facemask use in Africa peaked at about 700 million masks daily as authorities in multiple countries in the region, such as South Africa, Ghana, and Nigeria, imposed mandatory use due to high infection

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risks across multiple settings (Haque et al., 2021). These measures threatened existing waste management systems because the volume of potentially infectious plastics in medical facilities and households became overwhelming, triggering the emergence of the "PPE pollution" effect on land surfaces and in marine ecosystems (Berihun et al., 2025; Nkansah-Dwamena, 2024). Studies show that improper disposal of 1% of these objects pollutes the environment with 10 million plastic masks every day (equivalent to 30,000-40,000 kg of daily waste). The issue has evolved into a new type of pollution; previously associated only with the medical sector, it now occurs in private households due to quarantine restrictions.

The efforts put in place by the government in Ghana to contain the spread of COVID-19 posed serious challenges for environmental health officers (EHOs), especially regarding the legal mandate to manage infectious fatalities and waste (Mensah et al., 2024; Nyuur et al., 2026). By late 2023, the country had registered 171,889 cases of the disease with 1,464 deaths, with the majority of the infections being reported in Greater Accra. Infectious waste management was mostly haphazard due to infrastructure deficits. For instance, in some burial places, EHOs would burn nose masks, head coverings, and gloves in the graveyard (Aidonojie et al., 2025; Akomea-Frimpong et al., 2023). Moreover, several logistical difficulties in disposing of infectious waste were noted, with PPE shortages identified as a major issue among the disposal team. Due to inadequate supplies, workers resorted to "double gloving," which used up most of the available equipment (Renzaho, 2020; Silva et al., 2022). In addition, the shortage of protective equipment compromised workers' health, leading to COVID-19 infections as part of their official duties.

One of the hardest-hit countries in sub-Saharan Africa was South Africa, which, given its extensive international travel and trading connections, was prone to importing the virus. While initial assessments indicated that South Africa was better prepared for pandemics than other countries in the region (Salem et al., 2024; Grant et al., 2024), with a pandemic preparedness index of 79%, the volume of medical waste eventually strained these measures. Because personal protective equipment was required for the entire population and health care personnel, large amounts of used PPE were discarded, much of it ending up in municipal solid waste (Asempapa, 2022; Das et al., 2021). The health care system was also stretched, with bed capacity across the country estimated at 187 per 100,000 inhabitants, and each facility producing around 3.40 kg of medical waste per day. These hazardous waste products were added to solid waste collection processes already strained by an inability to manage the increased number of patients (da Silva et al., 2022).

However, the composition of healthcare waste stayed quite similar to its typical proportions before the COVID era – about 85% non-dangerous and 15% dangerous types of waste, but their volumes were drastically increased (Musavengane et al., 2025). The biggest problem in Ghana and South Africa involved mixed waste streams. Most quarantined households disposed of contaminated masks and tissues with regular waste, which increased risks for waste collectors and local municipal workers. In South Africa, despite some solid waste management programs developed by government agencies (Sidii, 2024; Wahba, 2022), mixing 80% of general waste with hazardous elements created additional risks for local populations. According to reputable WHO publications, using contaminated items, such as bottles and other packaging waste, in developing countries can pose serious public health risks.

Occupational health and safety (OHS) threats for waste collectors in Ghana and South Africa remained prevalent throughout the pandemic (Sepadi & Hutton, 2025; Khan et al.,

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2022). In Ghana, it was revealed that EHOs experienced both physical and chemical dangers in the course of their duties, with deep cuts obtained when coffins fell and also burns caused by the use of chlorine during disinfection. Additionally, no form of psychological intervention was provided for waste collectors in these two countries as they dealt with stigma, as well as fear of transmitting the disease to their families (Odhiambo et al., 2026; Angom, 2021). In both Ghana and South Africa, most waste management personnel in the informal sector had no protective equipment or specialised training on how to handle potentially infectious materials on plastic and metal items. According to some recent findings, it has been discovered that SARS-CoV-2 is able to persist on such surfaces, like PPE and plastics, for up to 7 days, exposing those without immunity or protection to danger.

3.2. Management of Medical Waste in Post-Pandemic in Ghana and South Africa

However, since the post-pandemic era, the healthcare environment in Ghana and South Africa has changed irreversibly. It should be noted that HCWM has become an urgent need as part of environmental law and ethics that has come to prominence in this regard (Musavengane et al., 2022). Even if the emergency phase is over, waste generation continues to increase. Case studies of hospitals in other regions with similar situations show that hazardous waste production increased from about 260 kg to 436 kg on average per day after the end of the pandemic. This is due to high demand for PPE and medical tests, as well as strict infection control procedures (El Gueriri et al., 2023). The new normal demands appropriate waste disposal practices; otherwise, it threatens the environment and human habitats. Unfortunately, in sub-Saharan Africa, the problem is complicated by a lack of necessary infrastructure and proper training for medical professionals. Current laws on managing infectious medical waste after the pandemic largely rely on international agreements, such as the Basel, Bamako, and Stockholm Conventions (Willie, 2025). According to the Basel Convention (1989), infectious waste is considered hazardous material, and states are obliged to ensure environmentally safe disposal. One legal issue that remains a concern for many countries, including Ghana and South Africa, is the lack of punitive action for violations of the law's provisions (Lyon, 2021; Litheko, 2024). Although acts such as the Public Health Act regulate the handling of infectious waste, Environmental Health Officers have reported considerable deficiencies in emergency response and team composition in Ghana. In South Africa, however, the issue stems from non-standardised waste classification in both public and private hospitals, resulting in non-compliance with national guidelines (Porter et al., 2021).

Post-pandemic, investments in infrastructure and technology pose a significant challenge to HCWM in both countries. For effective HCWM, modern non-incineration technologies, such as autoclaves, microwave treatment, and chemical disinfection, are essential to avoid the toxic emissions that result from incineration (Fagbayibo & Owie, 2021). However, sub-Saharan African countries lack these resources due to financial and technological limitations. Equipment and material shortages are a major factor limiting 84.7% of workers at regional hospitals. In addition, post-pandemic budgetary constraints prevent an adequate supply of even basic personal protective equipment (PPE) for waste handlers (Luhar et al., 2022; Mubangizi, 2024). Open burning or disposal in poorly managed landfills contaminates local communities with toxic substances such as dioxins and furans. To build a strong HCWM system after the pandemic, Ghana and South Africa must shift from temporary, crude approaches to sustainable HCWM using advanced treatment technologies.

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One major post-pandemic challenge, and one that is not adequately considered, is handling waste generated at home (Gowreesunkar et al., 2022; Koutsoukou, 2025). Self-isolation and self-quarantine at home resulted in a large amount of harmful waste being generated in residential settlements. In countries such as Ghana and South Africa, waste generated at home care facilities is normally disposed of with general household waste, either incinerated or dumped in shallow backyard pits (Mukhlis et al., 2024; Nyasulu et al., 2025). Such improper handling and disposal can lead to infection for both relatives and municipal staff, as potentially infectious waste includes used gloves, bandages, and needles. According to international standards issued by the World Health Organisation, potentially infectious waste, including waste contaminated during recovery at home care facilities, should be handled and isolated in a special way (Berihun et al., 2025; Nkansah-Dwamena, 2024), but no laws regulating this matter have been issued by countries in sub-Saharan Africa.

To overcome these issues, a roadmap outlining a process to ensure post-pandemic reforms should be considered. Evidence shows that fewer than 50% of health care professionals in sub-Saharan Africa adopt efficient waste disposal practices because of limited knowledge and a lack of internal guidelines for waste management operations (Mensah et al., 2024; Nyuur et al., 2026). The experts recommend including clinical psychologists and security officers in future health-care waste disposal teams to address the psychological impacts on workers resulting from improper handling of medical waste. In-service training and the issuance of working manuals to both private and public medical institutions are also needed (Silva et al., 2025; Ukhurebor et al., 2024). Cooperation between nations and information exchange are also vital if circularity principles are to be applied in the medical field. Focusing on public welfare, establishing proper operational monitoring systems, and adopting efficient green treatment technologies will help develop an efficient and ethical healthcare waste disposal system in Ghana and South Africa.

3.3. Legal Framework in the Management of Medical Waste in Post-Pandemic in Ghana and South Africa

Both Ghana and South Africa have legal frameworks governing medical waste management rooted in constitutional provisions that ensure the people's right to a clean and healthy environment. In Ghana, the 1992 Constitution contains directive principles of State policy that direct the State to take measures necessary to protect and safeguard the national environment for future generations (Renzaho, 2020; Silva et al., 2022). Equally, South Africa's Section 24 of the Constitution guarantees everyone the right to an environment that is not detrimental to their health or well-being, thereby mandating the legislature to enact laws that prevent pollution (Salem et al., 2024; Grant et al., 2024). The Constitution therefore imposes a "duty of care" on both countries through regulations that should apply to hazardous substances like medical waste produced during and after any health crisis (Musavengane et al., 2025). An examination of these constitutional provisions, however, shows a disconnect between how they operate in practice and reality. South Africa has adopted a largely rights-based model, with environmental protection as a pillar of democracy (Asempapa, 2022; Das et al., 2021). On the other hand, environmental obligations form part of the main pillars of citizenship in Ghana, implying that people are duty-bound to protect and conserve the environment.

Laws and regulations governing medical waste in Ghana include the Health Institutions and Facilities Act, 2011 (Act 829), and the Public Health Act, 2012 (Act 851). Under Act 829, any healthcare facility must obtain a license, which requires detailed information about its

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medical waste disposal process (Sidii, 2024; Wahba, 2022). The Health Facilities Regulatory Agency manages the process and can revoke licenses for non-compliance. Additionally, under the Public Health Act, health officers can establish methods for disposing of human remains or refuse (Musavengane et al., 2022). The Hazardous and Electronic Waste Control and Management Act, 2016 (Act 917) establishes regulations for the disposal and control of hazardous waste, including biomedical waste. Lastly, the Environmental Protection Agency (EPA), under its 1994 Act, issues permits for waste discharge and coordinates with other agencies responsible for generating it. Nevertheless, despite these comprehensive regulations, issues arise in the post-COVID context.

South Africa employs a broad range of national laws, including the National Environmental Management: Waste Act, 2008 (Act 59), and the National Health Act, 2003 (Act 61). Act 59 provides the legal backbone for waste management, setting national standards and norms for categorising, storing, and disposing of hazardous waste (Olayele & Samy, 2022; Pavone et al., 2024). The Act prohibits illegal waste dumping and requires the holder of any waste to ensure its proper and safe disposal, a "cradle-to-grave" requirement. In addition, the National Health Act defines "municipal health services" to include operations such as waste management and environmental pollution control (da Silva et al., 2022). Under this law, the Minister can issue regulations on health nuisances and the handling of medical waste. Finally, the Occupational Health and Safety Act requires that people involved in managing this waste be provided with appropriate protective gear and training. Provincial acts, such as the Northern Cape Policy on Health Care Waste Management, go a step further by detailing procedures for the segregation, labelling, and storage of such waste.

A critical review of these frameworks highlights common legal issues in the post-pandemic context, especially those concerning "priority wastes." In South Africa, the country's Waste Act allows certain wastes to be designated as priority when they pose substantial risks to public health and/or environmental protection, thereby requiring strict handling procedures (Fouksman & Dawson, 2024). Likewise, Ghana's Hazardous Waste Act, Act 917, designates biomedical wastes as priority wastes requiring special handling through its regulatory schedules. Nevertheless, the unprecedented increase in medical waste due to the pandemic stretched both countries' licensing regimes. For instance, in Ghana, facilities need to obtain clearance from the EPA and submit proposals on how to dispose of waste to operate (Sepadi & Hutton, 2025; Khan et al., 2022). In South Africa, a waste management license is mandatory for activities like waste incineration and treatment. The legal issue here is that an emergency situation (as described by South Africa's laws), necessitating urgent action that might not follow conventional environmental authorization processes, presents a major challenge (Odhiambo et al., 2026; Angom, 2021). Both nations have a common legal obligation to ensure "environmentally sound management" (taking all practical measures to protect health and the environment).

Enforcement remains a legal challenge for both countries. For instance, under the Public Health Act, anyone found guilty of violating refuse disposal regulations and/or infectious material regulations may face penalties such as fines and jail time. On the other hand, under Act 829, the court can order the health care facility to close temporarily or permanently, depending on whether a violation was committed (Bino & Aidonojie, 2025; Chaturvedi & Chowbe, 2025). In South Africa, the Waste Act imposes hefty penalties: anyone found guilty of breaking any provision can be imprisoned for ten years or fined R10 million. Additionally,

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waste management officers and environmental management inspectors are appointed with the sole responsibility of issuing orders to address environmental problems (El Gueriri et al., 2023). Even though the penalties seem harsh, it may prove difficult to force institutions to bear costs for the "polluter pays" principle. "Waste impact reports" can be sought when there is a need to determine the impact on health.

In light of post-pandemic conditions, the law needs to move toward more sustainable approaches, such as integrated and more cyclical waste management models. Under Act 917 of Ghana, new techniques should be introduced, along with establishing a financing mechanism for emergency waste (Lyon, 2021; Litheko, 2024). The National Waste Management Strategy of South Africa focuses on minimising, reusing, and recovering waste, rather than treating waste management as an alternative measure. A major concern is the lack of legal mechanisms that define protocols for handling transboundary infectious waste in the region. As signatories to the Basel Convention, the two countries have legal instruments regulating the export and transit of hazardous waste (Fagbayibo & Owie, 2021). In the future, the focus should shift from legislation to implementation by facilitating PPPs in waste management. This is exemplified by the South African Provincial Guideline for Infectious Waste Management, which details the responsibilities of contracted companies. The greatest challenge is translating complex legislation into practical standards for handling medical waste effectively.

3.4. Legal Challenges in the Management of Medical Waste in Post-Pandemic in Ghana and South Africa

A major problem in the post-pandemic management of medical waste in South Africa and Ghana is the contradiction between constitutional environmental rights and the reality of waste management. Article 24 of the South African Constitution states that everyone has the right to an environment which is not detrimental to their health or well-being (Haque et al., 2021). In Ghana's Constitution, the State is obligated to take appropriate measures to protect and safeguard the environment. The "enforcement gap" in the post-pandemic Period has resulted from inadequate infrastructure, which often leads to supreme laws being disregarded. The NEMA of South Africa requires polluters to pay for any harm they may have done to the environment according to the "polluter pays" principle (Agyekum & Tuglo, 2023). However, it is difficult to apply the same to public healthcare facilities overwhelmed during the pandemic. Similarly, in Ghana, each citizen is required to protect and safeguard the environment. But the question is how to enforce these constitutional duties as the volume of infectious medical waste increases.

Licensing and regulatory hurdles in the healthcare system represent yet another pressing problem. Under Ghanaian legislation, for example, the Health Institutions and Facilities Act of 2011 (Act 829) requires licensing of all health institutions and facilities, which must provide detailed information on their planned waste disposal (Agyekum & Tuglo, 2023). If this requirement is not met, Section 15 of Act 829 removes the facility's right to operate; moreover, Section 23 allows the court, on request, to impose provisional or final closure. Similarly, under South African legislation, the Waste Act (Act 59) mandates a comprehensive licensing process for various aspects of waste management, such as waste treatment and incineration. The pandemic-related increase in waste generation tests existing administrative procedures (Aidonojie et al., 2025; Akomea-Frimpong et al., 2023). Namely, under Section 30A of NEMA, the Minister may allow certain activities under an "emergency situation." However, this requires

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meeting a specific standard, which is difficult to prove in court. Thus, the challenge lies in balancing the time-consuming licensing procedure with the need to dispose of hazardous waste.

The segregation and categorization of medical waste offer a third legal issue. The Waste Act of South Africa designates priority wastes as those that pose a considerable threat to human health and the environment, underscoring the need for a robust plan of action (Anani et al., 2022; Ansah et al., 2024). Again, under Act 917 of Ghana, biomedical waste is recognised as hazardous waste and must be handled accordingly. Nevertheless, post-pandemic reports indicate that waste holders have failed to fulfil their obligations to take responsibility for the cradle-to-grave cycle of waste, from generation to final disposal (Porter et al., 2021). It should also be noted that one legal impediment is that mixing any form of hazardous waste with non-hazardous waste is prohibited unless it is otherwise environmentally sound. The high levels of personal protective equipment used during the pandemic led to the mixing of general and infectious waste, creating confusion about the waste generator's legal responsibilities.

The enforcement and penalty mechanisms are among the major challenges that will face post-pandemic law-making (Willie, 2025). Each State has imposed stringent penalties for violations of its laws (Sepadi & Hutton, 2025; Khan et al., 2022). Under Section 68 of the Waste Act of South Africa, any contravention is punishable by a fine of up to R10 million or imprisonment for ten years. Similarly, Ghana's Act 917 states that offenders will pay very heavy penalties, fines of up to the equivalent of two million US dollars in cedi, besides being imprisoned for a Period of up to twenty years (Odhiambo et al., 2026; Angom, 2021). Despite these strong punitive measures, no prosecutions have been brought for the criminal activities involved. The major problem lies in the concept of duty of care under Section 28 of NEMA. The legislation requires that every individual causing pollution must use all reasonable efforts to stop it. It becomes difficult to ascertain the culprit, especially when such waste management activities are subcontracted (Musavengane et al., 2022). Although Act 917 prohibits the use of diplomatic immunity in prosecuting offences, this is often impossible because of a lack of adequate expertise to conduct investigations.

Occupational safety issues for waste handlers have been among the most critical legal concerns, yet are often ignored in post-COVID assessments. For example, in South Africa, the Occupational Health and Safety Act and NEMA Section 29 guarantee workers' right to refuse any unsafe job and to receive appropriate protection (Asempapa, 2022; Das et al., 2021). It means that health institutions are supposed to develop systems and methods aimed at ensuring that injuries and possible disease transmission among personnel can be minimized. EPA in Ghana also regulates facility safety standards and the special attire used when handling hazardous materials. In the post-COVID era, a key challenge is consistently providing and legally requiring Personal Protective Equipment (PPE). Because waste handlers are often low-skilled workers who are unaware of their rights, they are especially vulnerable regarding PPE (Salem et al., 2024; Grant et al., 2024). By law, "waste impact report[s]" should be developed when potential health risks are suspected, although such reports are rarely produced for marginalized workers. Enforcing employers' "duty of care" through proper training is a common legal battle.

Lastly, the cross-border movement of medical waste poses an international legal problem. Both Ghana and South Africa have subscribed to the Basel Convention, which governs the export and transportation of hazardous wastes (Sidii, 2024; Wahba, 2022). According to Act

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917 in Ghana, any transportation of hazardous waste must be approved in writing by the Minister of Ghana, with at least three months' prior notice. The Act defines any unapproved transport as 'illegal traffic,' which attracts stiff penalties (El Gueriri et al., 2023). Post-COVID-19, global supply chains have experienced many disruptions, leading to stockpiling of waste that the facility sought to move across borders for disposal. The problem is ensuring that waste movements are carried out through environmentally sound management practices, with a requirement to take practicable steps to protect human health (Lyon, 2021; Litheko, 2024). International collaboration is required to prevent dumping of medical waste in poorly regulated countries. Since medical waste generation will continue, legal instruments must be put in place to promote regional collaboration while observing international rules and guidelines.

4. Conclusion

An evaluation of medical waste management regulation in South Africa and Ghana demonstrates a sound regulatory framework that, unfortunately, suffers from inadequate implementation and enforcement in the post-pandemic Period. Both states have recognised the importance of safeguarding the environment in their constitutions through Section 24 of the South African Constitution and the Directive Principles of the Ghanaian Constitution, but they face challenges implementing these provisions amid the overwhelming increase in infectious waste in the wake of the pandemic. Challenges to implementing these policies include the complicated licensing process required by Act 829 and Act 59, the lack of "cradle-to-grave" accountability during emergencies, and the minimal prosecution of environmental offenders despite serious penalties in the relevant statutes. The two states should consider streamlining environmental health statutes to eliminate redundancies and improve implementation effectiveness. Also, the introduction of an Environmental Management Fund like the Electronic Waste Management Fund in Ghana for financing autoclaving processes should be explored as a possible solution. Lastly, there is a need to increase the number of Environmental Management Inspectors and health officers conducting surprise audits in public

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The authors State that they have no conflicts of interest.

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