

Letter to the Editor

Disposal of medical waste: a legal perspective in Zimbabwe

Sir,

The constitution of Zimbabwe provides that everyone has the right to an environment that is not harmful to their health and well-being.¹ However, the illegal dumping and inappropriate disposal of hazardous waste poses a danger to the health of scavengers who are directly exposed to it and to the environment when pollutants migrate into water sources, spread into air and ultimately causing widespread of infection and toxicity.² The safe disposal of hazardous waste is governed by legislation and regulations which in turn gives effect to the constitution.²

According to statutory instrument 268 of 2018, waste is classified as general or hazardous waste according to the public health and environmental risk it poses to humans, plants and animals. General waste is defined as waste which does not pose any significant infections and toxicity threat to public health or the environment.³ Hazardous waste, however, has the potential to have a significant infectious and toxic effects on public health and on the environment even in very low concentration. The act further provides four classes of hazardous substances, of which one or more will certainly be found in healthcare facilities.³ The classes are blue licence in respect of a disposal, which is considered to be environmentally safe, green licence in respect of a disposal that is considered to present a low environmental hazard, yellow licence in respect of a disposal which is considered to present a medium environmental hazard and red licence in respect of a disposal that is considered to present a high environmental hazard.

Neither the environmental management act (Chap 20:27) nor health professions act (Chap 27:19) specifically identify healthcare waste category as waste generated at healthcare facilities. The management of healthcare waste is envisaged by the public health act (Chap 15:07) of 2018.⁴ According to this act, healthcare waste includes infectious waste, infectious sharps, radioactive waste and pharmaceutical waste.⁴ Pharmaceutical waste is identified as expired, unused, contaminated drugs, vaccines, and their packaging materials. Furthermore, Zimbabwe has fragmented occupational health and safety legislation and regulations, which provide for good waste management practices as part of accident prevention and environmental safety. The factories and works act chapter 14:08 of 1996, provides for the registration and control of factories, the regulation of conditions of work in factories, supervision of the use of machinery and precautions against accidental injury to persons employed on structural work and this includes exposure to the

hazardous waste at the workplace. Statutory instrument 68 of 1990 (accident prevention and workers compensation) provides for a framework for promotion of safe working environment, which includes application of techniques for safe waste disposal. However, there is limited scope for an integrated approach.

GOOD HEALTHCARE PRACTICE

According to public health act, a generator of waste refers to a person (including healthcare practitioners and facilities) whose actions or activities result in healthcare risk waste.⁴ Any generator of waste has a responsibility to the society to store, transport or dispose of waste in an environmentally safe standard. This is referred to as the 'cradle-to-grave' responsibility, since it lasts throughout the whole process of waste disposal.⁵ According to the environmental management Agency, cradle-to-grave principles states that a hazardous waste generator has the responsibility for waste from initial period generation through its legal disposal. This means that the legislation does not relinquish a waste generator of the cradle-to-grave responsibility. If the generator hires an agent to transport and dispose of the waste, the responsibility is not transferred to that hired agent. Therefore, healthcare facilities have a duty to handle waste in a responsible manner. It is important that every facility to have a standard operating procedure for disposal of waste.

Waste production should be minimised and, or avoided where possible. Generated waste should be segregated at the point of generation and healthcare risk waste should not be mixed with general waste or other waste streams. This waste should be contained at its point of generation into designated containers. This entails the use of containers specifically for sharps waste and colour-coded containers and liners.³

Containers must be leak-proof, rigid, and puncture resistant. Containers must also be sealed and labelled properly and stored in a secure, designated area until released to the transporters⁶. Infectious waste should be kept cool at a temperature preferably that is not higher than 3°C to 8°C if stored for more than seven days. Unless a refrigerated storage room is available, the storage times for infectious waste (the time gap between generation and treatment) should not exceed the following periods, 24 hours in summer and 48 hours in winter from the date the container is sealed.⁶

It is important for the waste generator must ensure that waste is handled only by service agents that are legally

permitted to transport and dispose of it.⁵ Disposal of the waste must take place through a waste disposal facility that is licensed in terms of the environmental management regulations: waste act.³ Chemical waste may be treated first to minimise or eliminate hazardous characteristics before residues are landfilled. Chemical waste can be incinerated, although care has to be taken with regard to volatile chemicals.⁶ Infectious waste can incinerate or sterilised by an autoclave.⁶

According to the medicines control authority of Zimbabwe (MCAZ) relating to good pharmacy practice, a contractor specialising in the disposal of chemical or medicinal waste may be contracted to destruct medicines and scheduled substances.⁷ Expired, contaminated, left overs or unwanted study products must be disposed off safely, without harming people and the environment.

Improper disposal of products may lead to contamination of water supplies or local sources used by nearby communities or wildlife posing significant risk to the public health and the environment. These products may be destroyed using safe methods upon authorisation by the MCAZ. As such, an official request to dispose of the products, indicating the type, quantity of each product to be destroyed and the method of destruction shall be made to the authority. The reason for the disposal must be indicated in the letter.

The destruction process maybe be supervised by MCAZ officers and representatives of other relevant agencies where applicable and a destruction certificate/letter confirming destruction shall be issued. Records of medical products disposal should be kept in the pharmacy file.

Furthermore, according to the environmental management act, a generator of healthcare waste may be held liable for the costs of clearing up waste or of rehabilitating any environmental effects, if the process of waste disposal was not conducted in accordance to regulations.³ Therefore, generator has the responsibility to obtain information regarding waste disposal and as well as establishing standard operating procedures for good practice. Healthcare waste management training programmes will be required to provide personnel with knowledge regarding good practice and to prevent contravention of laws.

Furthermore, according to statutory instrument 68 of 1990 (Accident prevention and worker's compensation), an employer should maintain a working environment that is safe and without risk to the health of employees as far as is reasonably practicable.⁸

FUTURE CONSIDERATIONS

In order to fully apply the principles and practices of good waste management, it is envisaged that an integrated waste management policy is crafted, covering all sectors

generating hazardous, medical, biomedical and chemical waste. This policy will be under the purview of a joint task-force with input from the ministries of health and child care, environment and tourism, water and climate, local government and public works, rural and urban development. This integrated approach to waste management would add much impetus into the drive for capacity building and coordinated problem solving. In addition to waste management training programs, promotion of research on waste reduction and waste minimisation is key, and policy makers would do well to incentivise these key areas. The ministries of industry and international trade and, higher and tertiary, science and technology development should be at the fore, with regards to innovations and best practices and special grants be administered to foster this critical learning space. Knowledge management and monitoring and evaluation are also key to ensure there is continued support for institutions generating hazardous waste, with documented practices for use in future policy considerations. Whilst the ministry of health a dedicated department which specialises on waste management, there should be a coordinated effort with subnational structures which includes the local authorities, who fall under the scope of the ministry of local government. This will assist in taking an integrated approach to the rising issue of urban solid and waste management. Lastly, a well-coordinated multi stakeholder involvement approach is key to waste management.

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