

# THE SYRINGE, THE NEEDLE AND THEIR MEDICAL WASTE

# WHEN HEALING TOOLS TURN

## PART ONE

Uganda's health facilities generate tonnes of medical waste daily, yet most of it is never safely disposed of. In the first of a three-part series, **Jackson Sewanyana** traces how poor disposal practices are exposing communities to infections, contaminating soil and water; and overwhelming a fragile waste management system.

It once supported in life; drawing blood for tests, injecting lifesaving drugs, administering vaccines and flushing out harmful bodily fluids. Yet today, this same helper has become a killer. The syringe, the needle and their medical waste companions, are now agents of danger, eating away at Uganda's health and environment.

### A DUMP IN A BANANA PLANTATION

In Mpiringisa-Maya, Wakiso district, a narrow footpath cuts through a banana plantation. Nearby, a woman carries a jerrycan of water, another cuts banana leaves for cooking. Just metres away, children are playing.

Along the path lies a heap of half-burnt medical waste that include rusty syringes and broken glass vials, dumped years ago by a clinic that has long closed. The waste is concealed under grass but is still deadly.

For 37-year-old Deborah Ahaisibwe, her five-year-old daughter was pricked by a discarded needle. "I was terrified," she says. She confronted the clinic owner, warning: "If my child is infected, you will bear the costs for life." Tests later cleared the child, but the fear lingers. "One day, my child came home with needles from that dump," recalls 34-year-old Rosemary Nabbanja. "I shouted at her never to play there again."

Moses Bukenya, the LCI chairperson of Mpiringisa-Maya, highlights another layer of the problem. He notes that residents often witness clinic owners improperly disposing of medical waste, but do not report them to the authorities. "Many people lack awareness of the dangers posed by such poor disposal practices," Bukenya explains. However, he adds that his office does not have the resources or capacity to effectively eradicate these vices from the community, leaving poor medical waste disposal largely unchecked at the grassroots level.

### HIDDEN HAZARDS IN HOMES

In another incident in Kansanga, a Kampala suburb, 42-year-old Klement

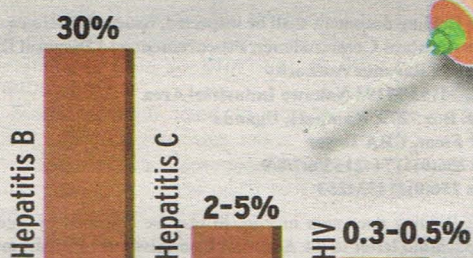


Boxes and buckets with syringes, needles and other medical waste at Luwero General Hospital. (Scan the picture using the Vision Digital Experience to watch video)

GRAPHIC BY PHILLIP NSAMBA

## Danger of a single poorly disposed needle

➡ The Health, Nutrition, and Population Global Practice, indicates that the probability that a single needle stick will lead to infection (seroconversion) is about



Niyibizi a former domestic worker, recalls how his boss used to receive bedside nursing at home. Routinely, Niyibizi would handle his boss's infectious waste without protective gear and dump it in the household garbage. "[The waste] had syringes with their needles, blood lancets from finger-prick tests, glass vials and cannulas," he says. Unknowingly,

this action turned him into a silent participant in a dangerous chain, one that exposes unsuspecting population to hidden health hazards.

### BUYALA LANDFILL: A NEW DANGER ZONE

On the outskirts of Kampala, the new Buyala landfill receives tonnes of domestic waste daily, which also includes medical waste remnants that

should not be there.

"I usually come across blood-stained cotton wool, gloves and sometimes used syringes," says one of the scrap and plastic bottle scavengers who requested anonymity. "But I thank God that so far, I have not been pierced by any of them."

For Ronnie Waluboora, another scavenger at the landfill, the experience is not any different. "I often find syringes with needles and other medical waste, but luckily, I have never been pricked by them. The only time I got hurt was when a broken medicine bottle cut one of my fingers. I went to a clinic, got the wound dressed and it healed without infection. I was lucky," Waluboora adds.

These stories are just a few that highlight the burden of poor medical waste disposal practices.

### RESEARCHER'S TAKE

Hari Lemba, an environmental scientist at Makerere University, studied pharmaceutical waste disposal in Nansana municipality in Wakiso district. His 2024 findings published in *Students' Journal of Health Research Africa (SJHR-Africa)* on the prevalence and factors associated with poor pharmaceutical waste disposal among

households in Nansana municipality, revealed alarming trends that mirror what happens in rural and urban communities across Uganda. The findings were:

- 72.2% of households disposed of expired drugs inappropriately.
- Over 90% flushed them down toilets.

- More than 80% of household heads did not know proper disposal methods.

"The problem is worsened by limited awareness and poor guidance from healthcare workers," Lemba says.

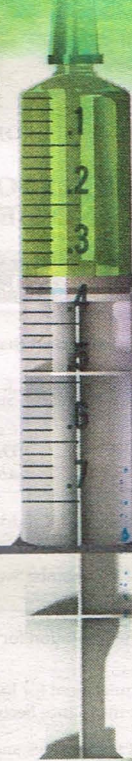
With Uganda's growing population which stands at close to 46 million with an annual average growth rate of 2.9%, he warns of a surge in improperly discarded medical waste.

### INSIDE HEALTH FACILITIES

The picture is no better at health facilities. "All public facilities, from the lowest level to national referral hospitals, must have incinerators suited to their capacity," says Dr Bruno Oyik, the medical superintendent of Luwero General Hospital. "However,

Uganda generates **50,000-60,000** tonnes of medical waste annually

■ **76%** is never safely disposed of





# COMPANIONS EATING AWAY AT UGANDA'S ENVIRONMENT

## HARMFUL

GRAPHIC BY PHILLIP NSAMBA

### Fact file on medical waste

MEDICAL WASTE IS CLASSIFIED INTO FOUR CATEGORIES:

	<b>HIGHLY INFECTIOUS WASTE</b> Blood, placentas, blood stained gloves, and bodily fluids (e.g. urine, stool, saliva, sputum, breast milk, cerebrospinal fluid, pus, and other exudates).	
	<b>INFECTIOUS WASTE</b> Contaminated items but are less hazardous, such as used cotton, dressings, or gloves	
	<b>NON INFECTIOUS WASTE</b> General waste like paper, packaging, and files.	
	<b>SHARPS</b> syringes, needles, broken glass, and slides	

**Some medicines contain toxic or radioactive chemicals that can directly injure people.**

that the probability that a single needle stick will lead to infection is about 30% for Hepatitis B, 2-5% for Hepatitis C, and 0.3-0.5% for HIV.

**R**elatedly, Nanyonga said, pharmaceutical waste added further danger. She explained that discarded medicines seep into soil and water, leaving traces of antibiotics, painkillers, hormones and other drugs in food and drinking water. These residues harm ecosystems, disrupting fish

Care Waste Management Guidance Note produced by The Health, Nutrition, and Population Global Practice, indicates

## BEYOND UGANDA

Uganda's challenges mirror what's happening elsewhere on the continent. In Rwanda, a 2019 study that focused on Kibagabaga, Masaka and Muhima district hospitals found that they generated an estimated 41,714,000 tonnes of medical waste annually, rising by 5% each year. Researchers warned of occupational health risks and urged stronger staff training and awareness. Kenya shows similar weaknesses. A 2016 study at Kenyatta National Hospital and Kikuyu Mission Hospital revealed that hazardous waste is often mixed with domestic waste. While providers had knowledge of proper handling, poor facilities and limited resources led to unsafe practices.

Across Ethiopia, Kenya, Sudan, and Uganda; a 2020 comparative study described hazardous waste levels as "unacceptably high". The literature review, which included 17 studies, highlighted that in Ethiopian health facilities, proper waste segregation is largely absent and staff awareness of appropriate healthcare waste management is low. The study also noted that many facilities rely on low-combustion incinerators or open burning and other informal disposal methods for healthcare waste.

Evidence from Tanzania reinforces the crisis: only 9.8% of facilities surveyed had waste management guidelines, and fewer than half incinerated sharps before disposal.

Another study on healthcare waste management and antimicrobial resistance published in the *Journal of Water and Health Vol 22 No 11, 2018*, indicated that the municipal solid waste generated by healthcare facilities in Ethiopia contained a significant number of antibiotic-resistant bacteria, antibiotic-resistant genes and hazardous metal-resistant genes. Together, these studies highlight a regional pattern of underfunded, weakly regulated and inconsistently implemented medical waste systems.



**Grace Kemigisha, an environmentalist, says poor handling expose workers and service providers to serious risks**



**Dr Bruno Oyik is the medical superintendent of Luwero General Hospital**

hormones, reducing frog reproduction, slowing plant growth and even causing kidney failure in vultures feeding on carcasses.

Some medicines contain toxic or radioactive chemicals that can directly injure people. Others, if not destroyed, are often repackaged and sold illegally by unscrupulous individuals.

A major concern is antimicrobial resistance (AMR). Nanyonga explained that when antibiotics are disposed of in the environment, over time, bacteria in the soil adapt and become resistant to them, spreading back to humans and animals and making infections harder to treat.

Relatedly, although incinerators used in the disposal of medical waste are effective, Nanyonga cautions that pose several challenges if not properly managed. She explained that they release harmful gases such as dioxins, furans and heavy metals into the air, contributing to

pollution.

Poorly designed or low-temperature units, she added, emit thick smoke and unpleasant odours, which pose health risks to nearby communities.

Nanyonga summarised the dangers of poor disposal as:

- Spread of infectious diseases.
  - Soil and water contamination with drugs.
  - Environmental harm to fish, frogs, plants, and birds.
  - Direct chemical injuries from toxic or radioactive drugs.
  - Risk of unsafe medicines being resold.
  - Harmful fumes from burning waste.
  - Rising anti-microbial resistance.
- Medical waste is classified into four categories:
- Highly infectious waste includes blood, placentas, bloodstained gloves, and bodily fluids (e.g. urine, stool, saliva, sputum, breast milk, cerebrospinal fluid, pus, and other exudates).
  - Infectious waste includes contaminated items but are less hazardous, such as used cotton, dressings, or gloves.
  - Noninfectious waste includes general waste like paper, packaging, and files.
  - Sharps include syringes, needles, broken glass, and slides

Additional reporting by Jill Ainebyoona

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## TOMORROW: WHAT THE LAW SAYS ABOUT MEDICAL WASTE DISPOSAL

However, the law says that medical waste should be disposed of in a safe and secure manner. The law also states that medical waste should be disposed of in a way that does not harm the environment or public health.