

Main points of this presentation.

Medical waste is part of a larger solid waste problem.

Most waste generated in a healthcare facility can be classified as medical waste.

The state has a very narrow definition for what is considered to be *regulated medical waste*.

Healthcare facilities often spend more than is necessary to treat medical waste that is not defined as regulated. This increases the cost of healthcare and wastes resources.

Strategies exist to help minimize the amount of wastes and money that healthcare facilities spend on medical waste treatment.

Know where to get more info, if you need it.



The Interstate hauling of medical waste began in 1997

In 1997, the Supreme Court determined that garbage was a commodity that could be traded across state lines.

Landfills are becoming increasingly difficult to site and expensive to construct.



Landfills are the endpoint of most solid waste

Landfill Operators are the ROC (responsible operator-in-charge)

Landfill operators have the right to reject any waste for disposal in their landfill, even if state regulations allow landfill disposal of such wastes.

Modern day landfills are not dumps.

Highly regulated and highly engineered, ongoing construction projects for the life of the landfill.

No scavenging is ever allowed.

All wastes are required to be covered with soil at end of the work day.

Medical waste is part of a larger solid waste problem.



Medical Waste

Definitions

Medical waste means **any** solid waste which is generated in the diagnosis, treatment, or immunization of human beings or animals.

(does not mention care and feeding)

General Statutes 130A-309.26

15A NCAC 13B .1200





Trauma scenes excluded

Biohazardous waste generated outside this definition is not considered to be medical waste.

e.g. - trauma scenes.

the exception is animals that died from a zoonotic disease (*e.g.-rabies, BSE*) .

Medical waste types

- Unregulated – does not require treatment before disposal-may or may not contain biohazardous materials.
- Regulated –requires treatment before disposal-**biological materials**- contains biohazardous materials
- Chemical wastes- labs, pharmacy, other processes- hazardous wastes
- Radioactive waste- treatment & diagnostic procedures
- Chemotherapeutic- chemical, antibodies
- The medical waste rules only apply to regulated and unregulated medical wastes.



Regulated Medical Waste(RMW)

Regulated medical waste means blood and body fluids in individual containers in volumes greater than 20 ml (about the size of a test tube), microbiological waste, and pathological waste .

Roughly 9 percent to 15 percent of the waste stream at hospitals is regulated medical waste.

Regulated medical waste must be treated prior to disposal.

Blood and Body Fluids



Blood and body fluids means liquid blood, serum, plasma, other blood products, emulsified human tissue, spinal fluids and pleural and peritoneal fluids.

Dialysates, urine, and feces are **not** blood or body fluids under this definition.

Preferred method of treatment- dispose of in a commode.



Microbiological Waste

Microbiological waste means cultures and stocks of *infectious agents*, including, but not limited to, specimens from medical, pathological, pharmaceutical, research, commercial and industrial laboratories.

Can be autoclaved, incinerated, or treated with disinfectant chemicals (bleach 1:5).



Pathological Waste

Pathological waste means human tissues, organs and body parts; and the carcasses of animals that were ***known*** to have been exposed to pathogens ***or that died*** of a ***known*** or ***suspected*** disease transmissible to humans.

Only method of treatment- incineration
(and other approved methods).

Non-regulated medical waste or not defined as regulated in NC

Medical waste such as dressings and bandages (even when blood soaked), sponges, disposable instruments, used gloves, and tubing.

These items are not included in the definition of regulated medical waste and may be disposed of without treatment in the general solid waste stream with local gov't approval.

Many generators choose to ship and treat non-regulated medical waste such as gloves, bloody bandages, dressings, and tubing.

Disposal of Sharps

The rules do not require treatment of sharps before disposal.

They must be packaged in a container that is rigid, leak-proof when in an upright position and puncture resistant.

The package may then be disposed of with general solid waste.

Facilities should check with county or city authorities for local approval.

NORTH CAROLINA MEDICAL WASTE MANAGEMENT

INSTITUTIONALLY GENERATED MEDICAL WASTE

SHARPS

REGULATED MEDICAL WASTE

NON-REGULATED MEDICAL

PROPERLY
TAGGED
AND
PACKAGED
IN A RIGID,
PUNCTURE
PROOF
CONTAINER

PATHOLOGICAL
WASTES &
CARCASSES OF
INFECTED
ANIMALS

CULTURES &
BROTHS OF
KNOWN
PATHOGENS

BLOOD &
BLOOD
PRODUCTS,
PLEURAL,
SPINAL,
PERITONEAL
FLUIDS

URINE,
FECES,
DIALYSATES

DRESSINGS,
GOWNS,
BANDAGES
GLOVES,
TUBING,
PAPER,
PLASTIC,
AND
EVERYTHING
ELSE

With local approval

INCINERATION
(OR OTHER
APPROVED METHOD)

AUTOCLAVED,
MICROWAVED
CHEMICALS,
OR OTHER
APPROVED
METHOD.

PUBLIC WASTE
WATER
TREATMENT
PLANT

OVER 90%
OF WASTE
STREAM

With local approval

MUNICIPAL SOLID WASTE STREAM- TO THE LANDFILL

Some Needs-To-Know

Household waste (home injectors) is not included in the definition of medical waste and is not subject to the medical waste management rules. Household garbage has on average 100 times more pathogenic microorganisms than general medical waste.

Generators are responsible for ensuring that waste is disposed of properly.

There is a "50 Pound per Month" record-keeping exemption for small generators.

Needs-To-Know...continued

Hospitals are only 3% of generators, but account for 70% of medical waste.

Some facilities, such as long-term care facilities, generate medical waste but little or no regulated medical waste.

Alternative medical waste treatment technologies are listed on the website:

Alternative Medical Waste Treatment Technologies

Needs-To-Know...continued

US EPA does not regulate medical waste in North Carolina.

North Carolina does not require that sharps be incinerated.

North Carolina does not prohibit landfilling of items that contacted blood and body fluids (trauma scenes).

Transport of regulated medical waste must comply with US Dept. of Transportation and NC Waste Management rules.

Needs-To-Know...continued

North Carolina does not require cradle to grave tracking of medical waste.

This means we do not know who the generators and transporters are.

Contact a regulated waste treatment provider to find a transporter.

Waste Management regulates (permits and inspects) commercial medical waste treatment providers.

OSHA

OSHA specifies certain features of the regulated waste containers, including appropriate tagging (biohazard symbol). This is meant to protect waste industry workers.

OSHA definition of regulated waste is not intended to designate waste that must be incinerated or otherwise treated before landfilling. Does not address disposal.

OSHA - definition of regulated waste may include waste such as bloody gauze, blood saturated dressings, used gloves, or tubing.

Medical waste is not hazardous waste

- Medical waste is more properly called biohazardous waste.
- This is to distinguish it from chemical hazardous waste.
- Medical wastes come under the authority of the North Carolina's Medical waste rules and the Solid Waste Section.
- Chemical waste come under the authority of the Resource Conservation and Recovery Act (RCRA) and the Department of Environmental Quality's Hazardous Waste Section

Pharmaceutical Waste

It is no longer a “best management practice” to dispose of unwanted pharmaceuticals by flushing them down a commode.

Most Rx and OTC products can be disposed of safely in the landfill.

Before disposing of a drug in the trash determine if it is categorized as a hazardous waste.

More info at the website:

[Pharmaceutical Waste Guidance from the EPA](#)

Reduce and Reuse...

Eliminate unused items from custom surgical packs (once pack is opened, unused items are discarded).

Identify items that are not used regularly enough to justify inclusion in various packs.

Tell manufacturer when one outdated item causes entire pack to be outdated (e.g. tetracaine in spinal tray).

Estimated cost savings \$30,000/yr

Est. waste prevention: 11,000 lbs/yr

Reduce and Reuse...continued

Purchase washable surgical and isolation gowns, and sterilization trays.

Convert surgical drapes into biopsy cloths.

Consider switching to reusable medical instruments (e.g. stainless steel trays and laparoscopic instruments).

Sanitize and reuse plastic fracture pans.

Sanitize and reuse graduated measuring containers.

Estimated cost savings: \$60,000/yr
Est. waste prevention: 50,000 lbs/yr

Reduce and Reuse...continued

Determine if cloth towels can be reused and later sold as rags.

Use cloth diapers.

Use worn diapers as cleaning rags.

Contract with haulers of RMW to provide reusable containers for “red bag” wastes and sharps.

Estimated cost savings: \$200,000/yr

Est. waste prevention: 230,000 lbs/yr

Source: Ca. Waste Prevention Exchange

REMEDY is a non-profit organization that helps healthcare facilities recycle unused medical supplies. @Remedyinc.org



Who benefits from recovered medical supplies?

- **People in countries in Asia, Latin America, and Africa who are in dire need of medical supplies.**
- **Healthcare facilities save money because unused supplies are diverted from the waste stream, and therefore they do not have to pay to have supplies treated and discarded.**
- **Some charitable organizations can provide tax incentives for donations.**
- **Landfill space is preserved.**