

# Tobacco Education Specialists Role in the Environmental Health Impact of E-Cigarettes

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# Disclaimers

- This project is funded in whole or in part under a Contract with the Montana Department of Public Health and Human Services. The statements herein do not necessarily reflect the opinion of the Department.
- The Montana Tobacco Use Prevention Program focuses only on the public health issues related to commercial tobacco use, not sacred or traditional tobacco products.

# Agenda



TOBACCO INDUSTRY'S IMPACT ON THE ENVIRONMENT

ENVIRONMENTAL IMPACT OF E-CIGARETTES

BEST PRACTICE RECOMMENDATIONS

GALLATIN COUNTY E-CIGARETTE DISPOSAL PROGRAM

# Objectives

- By the end of the presentations, learners will be able to:
  - Describe the three types of waste associated with e-cigarettes
  - Articulate best practice recommendations for e-cigarette disposal
  - Have a better understanding of potential community collaborations to address the environmental impact of e-cigarette use

# Tobacco Industry & The Environment: A Brief Introduction

# Tobacco & the Environment<sup>1</sup>



The tobacco industry detrimentally impacts the environment at each major stage in the commercial tobacco lifecycle:

- Growing and curing
- Manufacturing
- Transportation
- Consumption
- Tobacco product waste

# Tobacco & the Environment

## Growing and Curing

- Deforestation
  - 600 million trees chopped down and 200,000 hectares of land cleared every year
  - 5% of deforestation worldwide
- Pesticide Use
  - Uses more pesticides than most other crops
  - Contributes to soil degradation and aquatic contamination



# Tobacco & the Environment

## Manufacturing

- Highly resource intensive process
  - Uses 22 billion tons of water every year

## Transportation

- Emissions
  - Releases carbon dioxide equivalent to driving 17 million gas powered cars each year



# Tobacco & the Environment

## Consumption

- Secondhand smoke
  - Pollution of outdoor and indoor space
  - Reduces air quality
- Thirdhand smoke
  - Materials contaminated with tobacco smoke pollute waterways and landfills



# Tobacco & the Environment

## Tobacco Product Waste

- Litter prevalence
  - Cigarette butts compromise 30-40% of all urban and coastal litter worldwide
  - Cigarette butts are the most frequently littered item on beaches and waterways within the US



<https://unsplash.com/photos/cigarette-butts-lot-zbVngERQBUK>

# Tobacco & the Environment

## Tobacco Product Waste

- Contamination
  - Microplastics in filters
  - Nicotine, heavy metals, and other chemicals
- Fire risk
  - In 2021, 7,800 residential fires, 275 deaths, 750 injuries, and \$361,500,000 in financial damage



<https://unsplash.com/photos/a-pile-of-leaves-and-twigs-0YlhKSfzvkc>

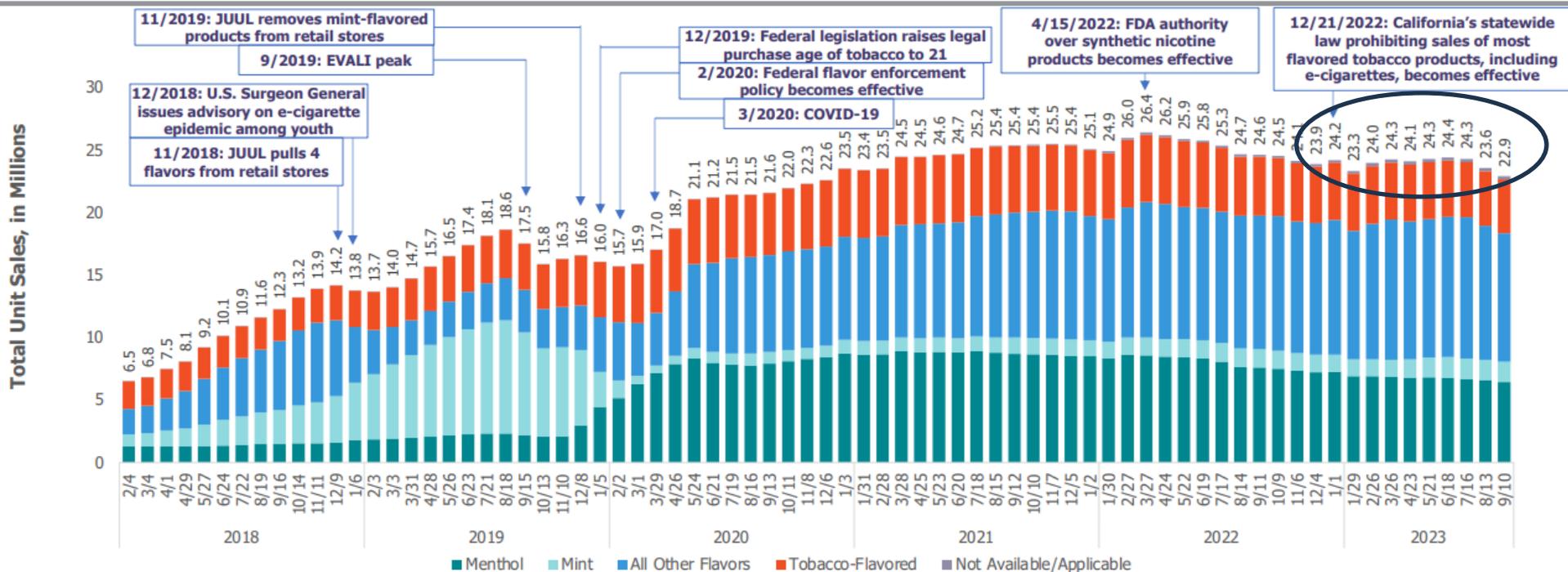
# Environmental Impact of E-Cigarettes

# E-Cigarette Waste Has Increased

- Since 2015, e-cigarette sales have increased by almost 400%

# E-Cigarette Waste Has Increased

**Figure 1. National E-Cigarette Unit Sales by Flavor, 4 Week Estimates 2/4/2018 – 9/10/2023\***



\*Sales data do not reflect sales from vape shops or online retailers; dates represent end of 4-week periods; All Other Flavors category includes fruit, clove/spice, chocolate, alcoholic drink (such as wine, cognac, or other cocktails), candy/desserts/other sweets, some other flavor; e-cigarette accessories and devices sold without e-liquids were excluded (9.5% of total dollar sales in 2022). Unit sales were standardized to reflect the most common package size for each product type. A standardized unit was equal to five prefilled cartridges, one disposable device, or one e-liquid bottle.

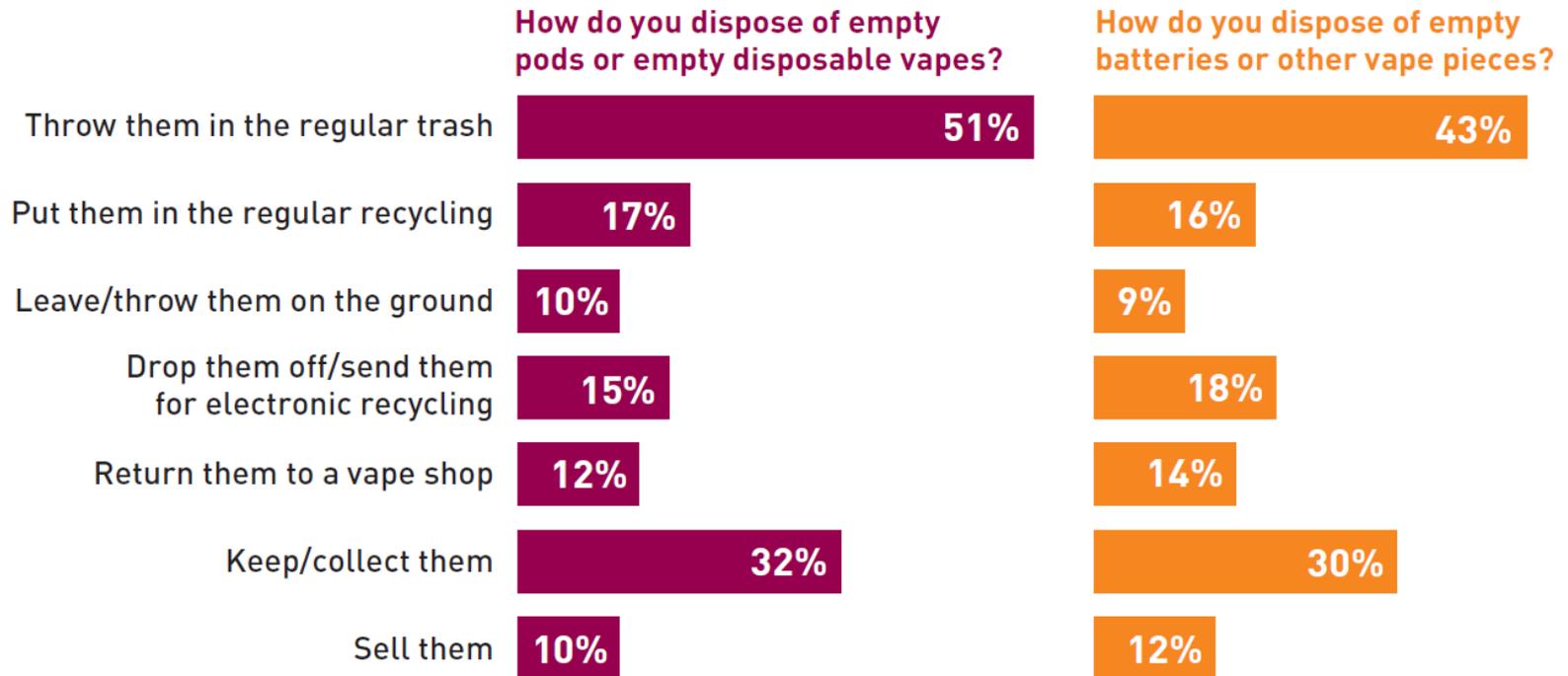
Source: CDC Foundation, *Monthly E-Cigarette Sales Data Brief, September 2023*

# E-Cigarette Disposal Data<sup>5,7</sup>

- More than 75% of e-cigarette users do not dispose of their e-cigarette pods or disposables properly
- In September 2023, 22.9 million e-cigarettes sold meaning ~ 17 million were disposed of improperly

# E-Cigarette Disposal Data <sup>5</sup>

## Methods of e-cigarette waste disposal\*



\*Data were from a survey of 15-24-year-olds fielded February – June 2020 and included 3,757 participants. Participants could select more than one response to questions.

# Waste Associated with E-Cigarettes

Chemical

Plastic

Electrical

# Chemical Waste

- E-cigarettes contain a variety of chemicals that are considered hazardous waste (PO75):
  - Nicotine
  - Heavy metals
- Can leach into the environment and water sources
  - Potential to cause nicotine poisoning

# Plastic Waste

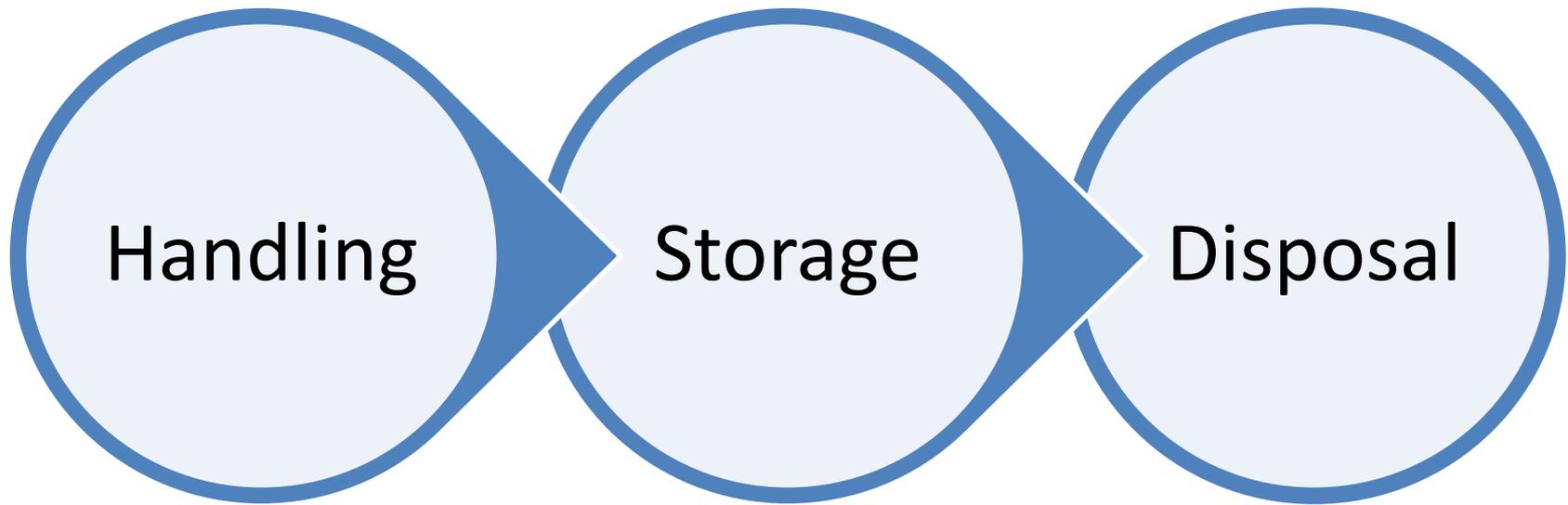
- Many e-cigarettes are pod-based devices that utilize single-use plastic cartridges
- Contributes to environmental plastic pollution
  - Plastics contain endocrine-disrupting chemicals
  - Potential to act as a choking hazard for small children or animals

# Electronic Waste

- E-cigarettes contain electronic components and lithium-ion batteries
- When improperly disposed of, toxic compounds can enter the environment
- Lithium-ion batteries can also pose a risk for explosion and fire when improperly disposed

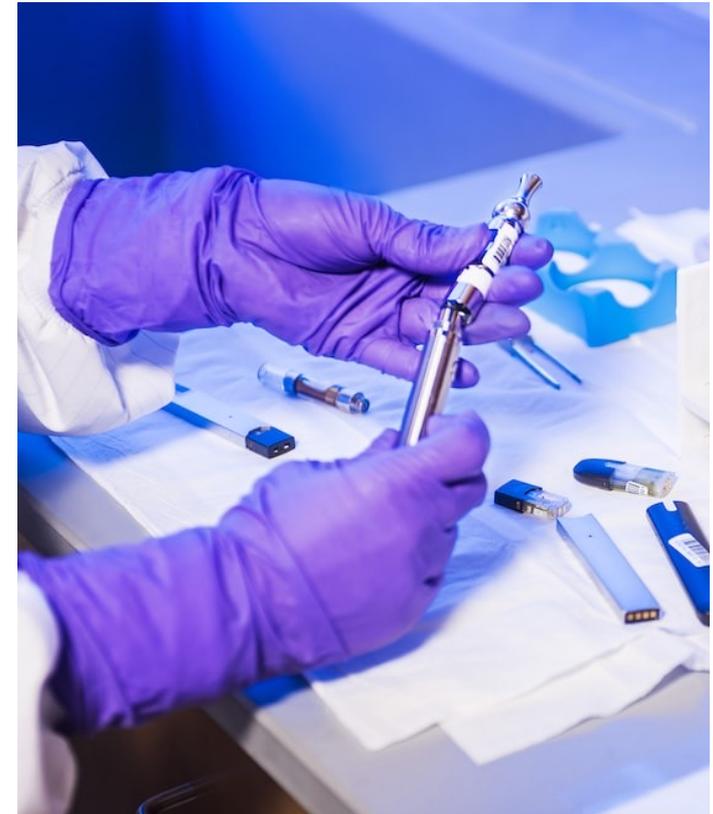
# Best Practice Recommendations for Proper E-Cigarette Disposal

# Best Practices For E-Cigarette Disposal



# E-Cigarette Handling

- Important for individuals handling e-cigarettes and/or their components to wear chemical resistant gloves
  - Prevent nicotine absorption through the skin that can cause nicotine poisoning



<https://unsplash.com/photos/person-holding-tube-XLhDvfz0sUM>

# E-Cigarette Storage

- Important to store all e-cigarettes and related products in a secure, cool, temperature-controlled environment
- Devices and products should be stored in a safe, sealed, clearly labeled hazardous waste container
  - Document accumulation date on disposal bin
- Differences depending on status of battery

# E-Cigarette Disposal

- Dispose of waste regularly in accordance with federal, state, and local laws
- Contact local health departments and local waste department's household hazardous program to see what local standards are



# Gallatin County E-Cigarette Disposal Program Overview

# Program Overview

## Disposal

- Collaborated with Gallatin Solid Waste Management to create an e-cigarette disposal process

## Education

- Education provided to Gallatin County schools, retailers and community members about safe disposal practices

## Collection

- Health Department collects e-cigarettes from schools and transport to hazardous waste
- Gallatin County Solid Waste Management includes e-cigarettes in their household hazardous waste collection days

# Program Successes

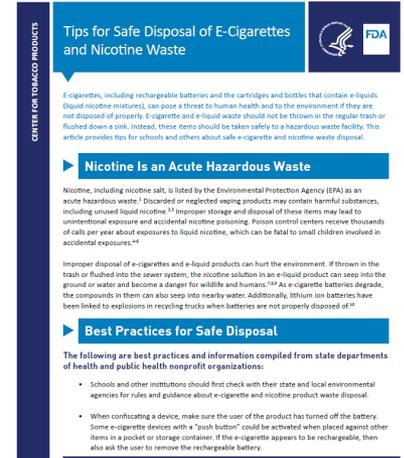
- Between October to February 2024: collected 17 gallons of e-cigarettes
  - Schools and vape retailers
- In February 2024, health department put out press release with e-cigarette disposal information
  - Resulted in six news stories
- March 20, 2024: 1,240 lbs. picked up from local vape retailer

# Next Steps

- Continue community education
- End of year school collections
- Develop further community collaborations
  - Schools, college campuses, legal system, airports
- Work on reducing barriers to disposal
  - Development of vape take back days

# Online Resources

- Public Health Law Center
- Center for Tobacco Products
- Truth Initiative
- World Health Organization





MONTANA  
**TOBACCO USE  
PREVENTION PROGRAM**

# Addressing the Public Health Crisis caused by the use of all forms of Commercial Tobacco Products



# Questions?

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