

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 Environment¹



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



<https://unsplash.com/photos/lighted-cigarette-stick-on-glass-ashtray-xfpWLVvBCZI>

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-0YlhKSfvkc>

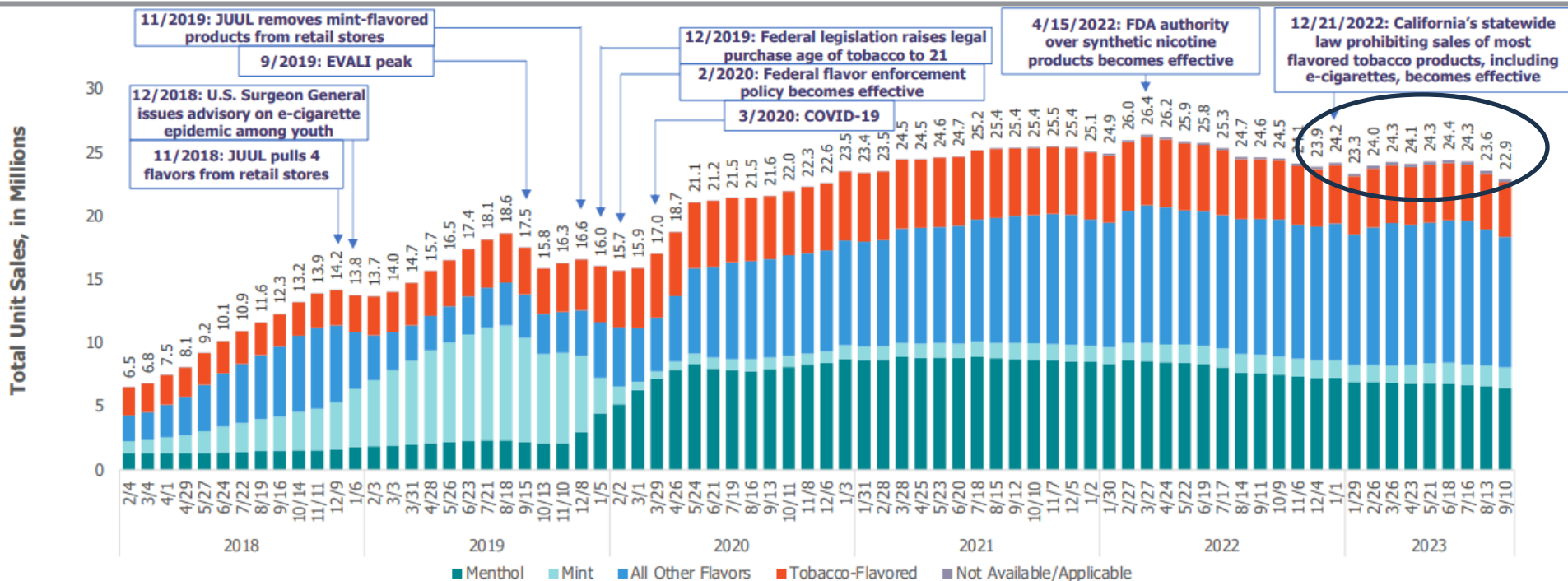
Environmental Impact of E-Cigarettes

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.

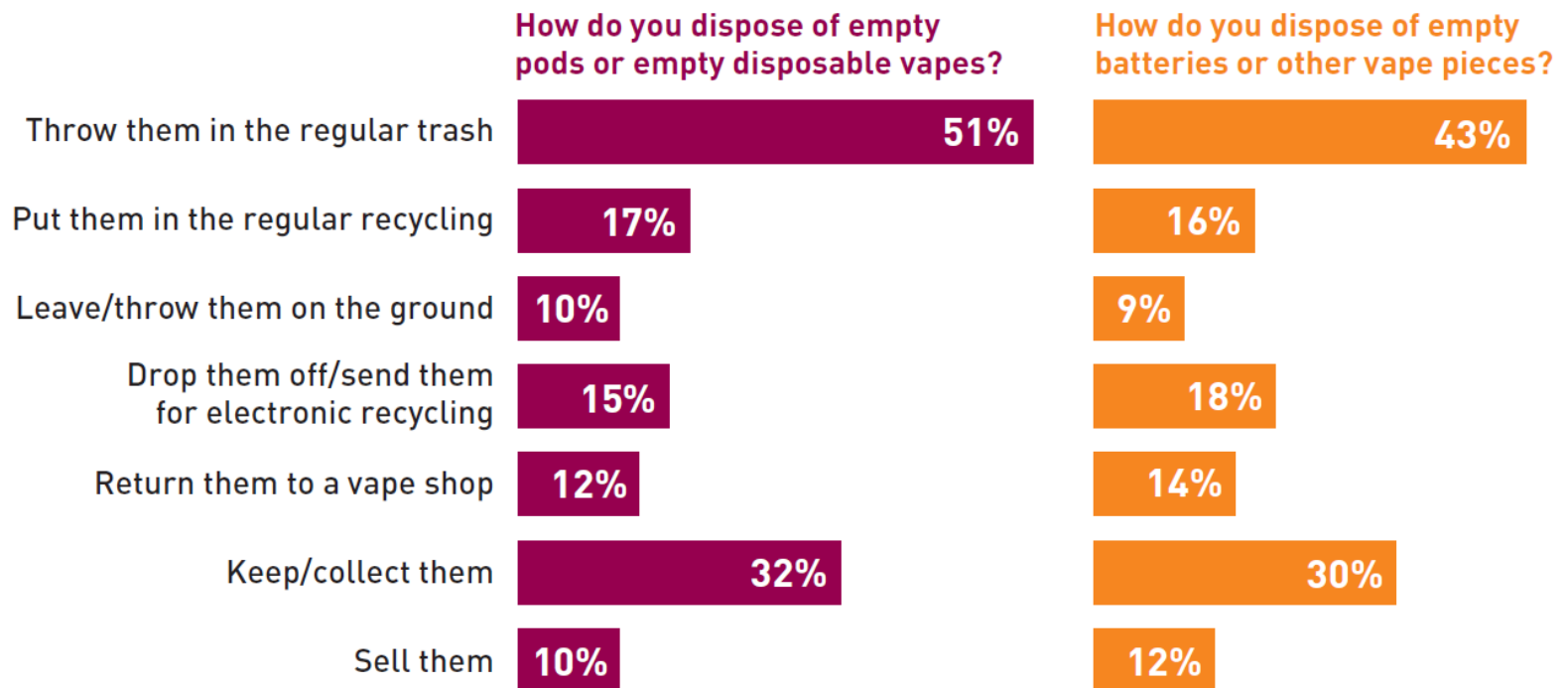
Source: CDC Foundation, *Monthly E-Cigarette Sales Data Brief, September 2023*

E-Cigarette Disposal Data^{5, 7}

- 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 Data⁵

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

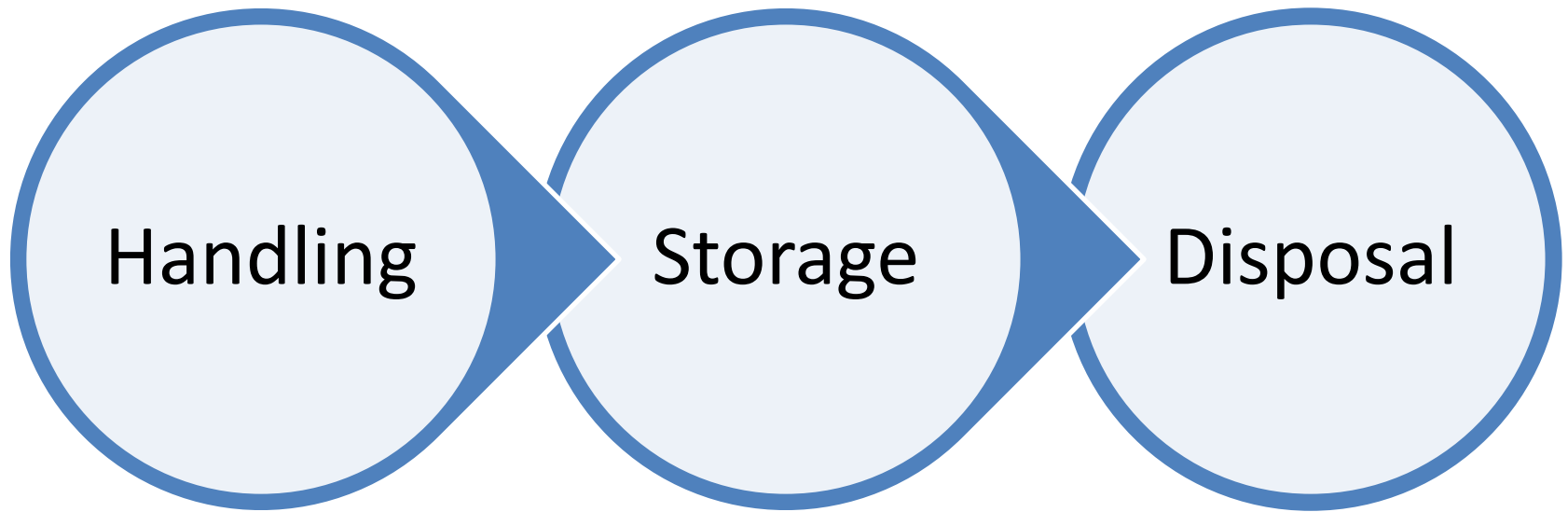
- Many e-cigarettes are pod-based devices that utilize single-use plastic cartridges
- Contributes to environmental plastic pollution
 - Plastics contain endocrine-disrupting chemicals
 - Potential to act as a choking hazard for small children or animals

Electronic Waste^{8, 10, 12}

- 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

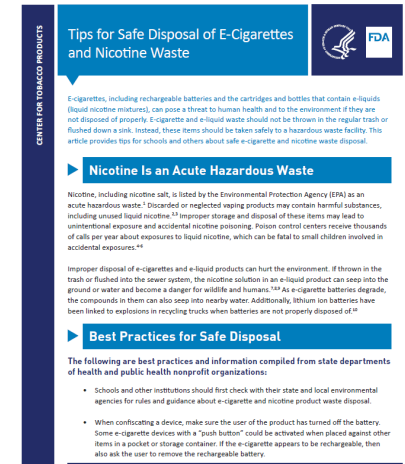
- Between October to February 2024: collected 17 gallons of e-cigarettes
 - Schools and vape retailers
- In February 2024, health department put out press release with e-cigarette disposal information
 - Resulted in six news stories
- March 20, 2024: 1,240 lbs. picked up from local vape retailer

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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