
BOULDER COUNTY'S TOBACCO PRODUCT WASTE COLLECTION AND EDUCATION CAMPAIGN: AN E-CIGARETTE POLICY CASE STUDY

Boulder County, Colorado has one of the highest youth vaping rates in the state. Historically, Colorado has had one of the highest youth vaping rates in the United States.¹ To combat this, in 2017, Boulder County Public Health Department and the Resource Conservation Division formed a partnership to properly collect and dispose of vaping products in schools across the county.

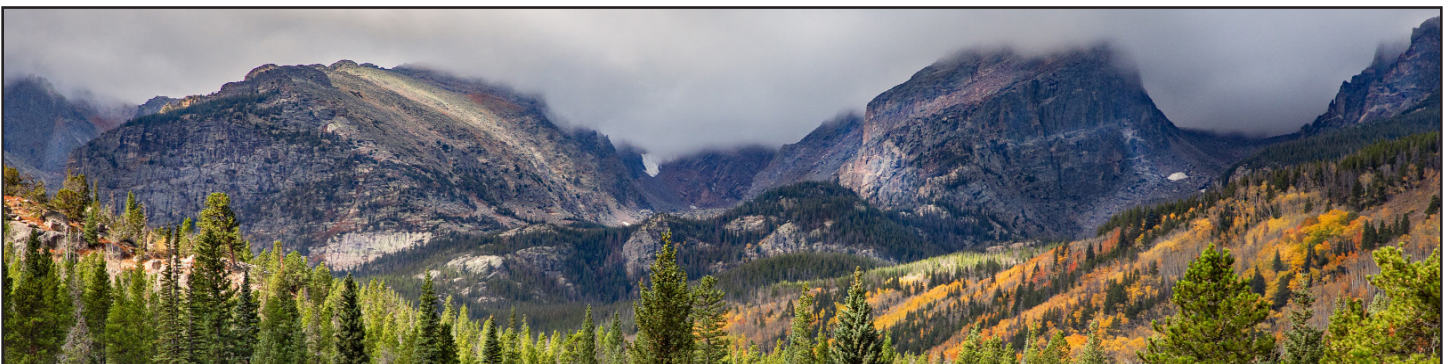
COMMUNITY SNAPSHOT

Boulder County has a population of approximately 326,000 residents. The City of Boulder is the county seat and the county's largest municipality.² The county includes the foothills and portions of the Rocky Mountains, several national forests and wilderness areas, and part of Rocky Mountain National Park. The county prides itself on its commitment to preserving open space, supporting land use and sustainability policies, and providing social support programs to foster a healthy and active community.³ In fact, Boulder County has a "Zero Waste" initiative that aims to nearly eliminate waste—in unincorporated areas as well as municipalities—by 2025.⁴ A focus on waste reduction and elimination, reuse, recycling, and composting, pervades county policy and informs staff projects and programs.

BACKSTORY

In Colorado, approximately 26 percent of high school students reported use of e-cigarettes in the past thirty days in 2019.⁵ In Boulder County specifically, e-cigarette use in the past thirty days was 27.4 percent, while the rate for students reporting having ever used an e-cigarette was nearly 47 percent in 2019.⁶ This was a slight decrease from the 2017 percentages, which were nearly 36 percent for past 30-day use and 49 percent for ever use in Boulder County.⁷

As a result of the widespread e-cigarette use throughout the state, representatives from the county's Resource Conservation Division Hazardous Materials Program and Boulder County Public Health Department staff began receiving reports of e-cigarettes accumulating at schools and in hazardous waste disposal sites starting in 2017.



Additionally, e-cigarette batteries caused a recycling truck fire in the area, raising concerns among local hazardous materials program staff about the safety of the products, as well as their impact on waste streams. At the same time, school staff were dealing with product waste on school campuses and were unclear what to do with the products after confiscating them.

As part of a leadership training program for county employees, hazardous materials program staff and Tobacco Education and Prevention Program staff had an opportunity to share their respective concerns with product confiscation and disposal, and learned that schools needed guidance and tools for proper e-cigarette disposal. To meet this need, they developed a joint campaign entitled “[VapeAware](#),” which promotes awareness about the health and safety risks associated with e-cigarettes, and shares guidance and tools for proper disposal of these products.¹⁰

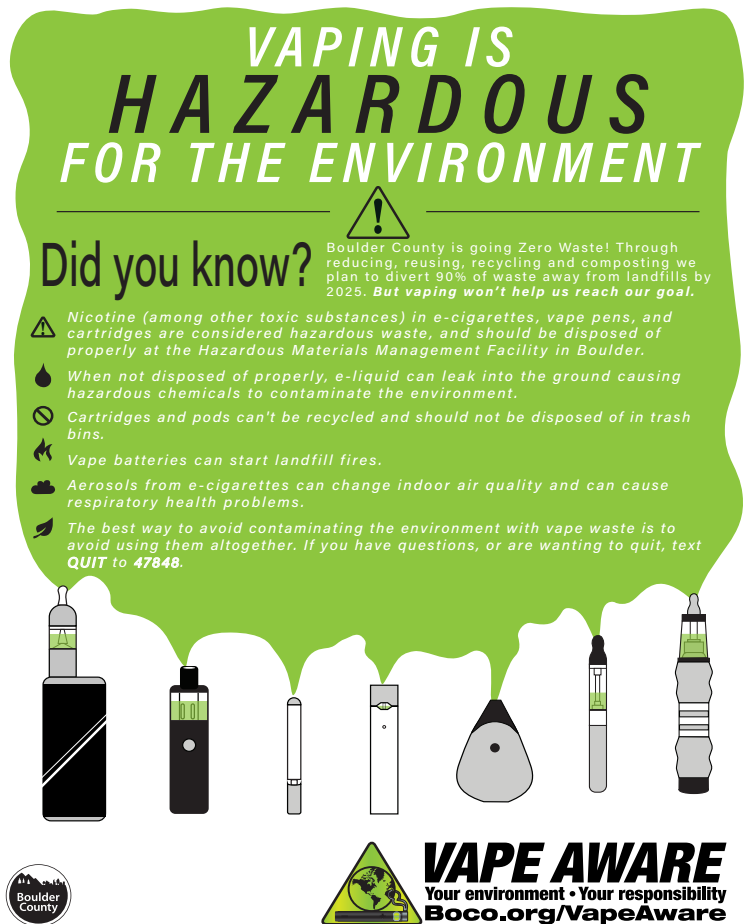
Key Takeaways

- In Colorado, approximately 26 percent of high school students reported use of e-cigarettes in the past thirty days in 2019.⁸
- In 2017, higher rates of e-cigarette use, hazardous waste disposal, and environmental concerns were reported by the Public Health Department and the Resource Conservation Division Hazardous Materials Program.
- The VapeAware campaign was created to address the needs that schools had for proper guidance and tools related to e-cigarette disposal.

SCHOOL E-CIGARETTE DISPOSAL PROGRAM







The collaboration between the hazardous materials and tobacco program department staff resulted in an e-cigarette vaping disposal project at Boulder Valley School District, one of two school districts in the county. The project distributes to staff a [disposal guide](#) and kit, including a clear plastic battery collection bin affixed with a “fill line” sticker, gloves, a hazardous waste label, clear plastic sealable bags, and a custom sticker with detailed handling guidelines. The guide contains basic information about the hazardous nature of these products, along with instructions on how to use the kit and properly dispose of the products. Confiscated products are intended to be handled carefully with gloves, placed in the plastic bags if they are leaking, and kept in the sealed container in a locked administrative area away from students. Environmental services staff retrieve the bin once the “fill line” on the bin is reached, or on a quarterly basis, whichever comes first. Regular pickup ensures that schools do not retain these products longer than applicable environmental regulations allow. The county now has collection bins at every middle and high school in the Boulder Valley School District.



Through “VapeAware,” school staff can use curated [infographics](#), available in both English and Spanish, to promote the project to students and staff.⁹



**VAPING IS
HAZARDOUS
FOR THE ENVIRONMENT**

Did you know? Boulder County is going Zero Waste! Through reducing, reusing, recycling and composting we plan to divert 90% of waste away from landfills by 2025. But vaping won't help us reach our goal.

-  Nicotine (among other toxic substances) in e-cigarettes, vape pens, and cartridges are considered hazardous waste, and should be disposed of properly at the Hazardous Materials Management Facility in Boulder.
-  When not disposed of properly, e-liquid can leak into the ground causing hazardous chemicals to contaminate the environment.
-  Cartridges and pods can't be recycled and should not be disposed of in trash bins.
-  Vape batteries can start landfill fires.
-  Aerosols from e-cigarettes can change indoor air quality and can cause respiratory health problems.
-  The best way to avoid contaminating the environment with vape waste is to avoid using them altogether. If you have questions, or are wanting to quit, text **QUIT** to **47848**.

  **VAPE AWARE**
Your environment • Your responsibility
Boco.org/VapeAware

IMPLEMENTATION

Tobacco program staff in Boulder County spent time with staff and administration at Boulder Valley School District educating them on how to implement the disposal program. They made simple, understandable informational packets and instructions, and covered the cost of the kits through a grant separate from the tobacco programs' core funding. The school district covers the cost of waste disposal, which in 2020 was \$192.05 for five pounds of e-cigarette devices (at a cost of \$38.41 per pound) and \$210.88 for four pounds of e-liquids (at a cost of \$52.72 per pound). An existing relationship with the school district's Wellness Coordinator allows tobacco program staff to work closely with the school and to meet with administration and staff. The Wellness Coordinator also ensures that information about the disposal program is included in staff newsletters. Furthermore, the Wellness Coordinator facilitates communications with the school district's environmental services staff, who conduct the product pickup at various school sites. The Boulder Valley School District already had established environmental protocols and workflows, making the e-cigarette deposit box pickup an easy addition to the current workflow, rather than creating a new protocol.

The program has motivated school staff, and provided them with an opportunity to use the program as an educational tool for staff and teachers. The program supports the school's Tobacco-Free Policy, which requires school authorities to confiscate e-cigarettes and related products when they are used in violation of the policy.

In 2019, the first year of the program, approximately 2,588 individual items were collected – meaning these products didn't end up in a landfill or otherwise cause harm to people or damage property. In 2020, a total of 270 devices were collected. However, due to the COVID-19 pandemic, the lack of consistent in-person learning made the program's impact more difficult to measure than it would have been had items been collected regularly. For the 2021-2022 school year, the program has involved youth advisors who help develop educational materials and conduct outreach work specifically targeted to youth. Following the success of this program, staff plan to expand the program to private schools and other school districts in Colorado that have not yet participated.



CHALLENGES

Due to the COVID-19 pandemic, there were unavoidable complications with collection and pickup during the extended time schools were not meeting in-person. The health department staff also learned quickly that, given many competing priorities, scheduling meetings was difficult. As a result, staff integrated messaging about the disposal program into already scheduled meetings.

Additionally, the staff faced challenges when attempting to work with the other Boulder County school district to implement the collection program. It was difficult to build the needed relationships to implement the program for multiple reasons, including high staff turnover at the district and in the internal tobacco program.

Key Takeaways

- The school district's Wellness Coordinator was key in seamless implementation, including coordinating administration needs and facilitating communication with environmental services staff.
- Approximately 2,588 individual items were collected in the first year of the program, preventing these items from ending up in a landfill.
- The COVID-19 pandemic limited measures of accuracy for collected devices in 2020; however, the program continues to be implemented in the 2021-2022 year with more targeted support to schools, and involving youth advisors.



Credit: Boulder County Health Department

CONCLUSION AND RECOMMENDATIONS

The Boulder County Vape Disposal program succeeded largely because of relationships between the County Resource Conservation Division, Tobacco Program staff at Boulder County Public Health, and the Boulder County School District. At times, those working in hazardous waste management may be less receptive to issues surrounding tobacco product waste, particularly if they are dealing with issues that they perceive as more serious environmental or public health threats. It may take perseverance and other tangible resources to find someone in this field to connect with regularly.

A reliable source of funding to help offset the cost of proper disposal can also help obtain school district buy-in. Schools may incur significant costs to properly dispose of e-cigarette waste, so assistance with those costs is likely to increase buy-in. Additionally, although Boulder County does not currently include the costs of proper disposal in its Tobacco Retail Licensing fee, a structured fee that would be paid by retailers – rather than shouldered by governments – may be beneficial. Calculating the fee would likely require some initial study and data collection to determine how much the jurisdiction spends on proper handling and disposal.¹¹

Finally, disposal of vape products can be complicated and has become an issue at many schools across the country. Boulder County was instrumental in spurring the development of statewide guidance for schools and other government entities collecting vaping waste, illustrating that one local district dealing with this issue can positively impact how others understand and approach these complicated issues.

Key Takeaways

- The Vape Disposal Program raises awareness of the environmental impacts of e-cigarettes, explains safe handling and storage practices, increases support for tobacco-free school policies, and increases disposal options for Boulder school districts. The program has received awards¹² and national news coverage.¹³
- The program was on hold during the COVID-19 pandemic, but Health Department staff and student advocates are working to expand the program to other schools and have also begun offering the program to retailers in Boulder County, gaining widespread interest and support.
- The county's Vape Disposal program was a product of a collaboration between Boulder County Hazardous Materials and Tobacco Control Program staff.

ACKNOWLEDGMENTS

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[Vaping Prevention Resource](#) is a leading online destination for vaping prevention media, research, policy, and advocacy. A non-commercial, educational resource for communities, VPR was created by UNC-Chapel Hill researchers working on the front lines of tobacco control at the Lineberger Comprehensive Cancer Center and affiliated UNC schools.



IMAGE SOURCES AND CREDITS

PAGE 1. Photo by Sonja Wilkinson on Unsplash. **PAGE 2.** Infographic by [Boulder County, Vape Aware](#) **PAGE 3.** Photo by Amy Bounds, [Boulder Daily Camera](#). **PAGE 4.** Photo provided by [Boulder County Health Department](#).

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