



Analyzing Extended Producer Responsibility Legislation for Hard-To-Recycle Waste Products In New York City

An Analysis of Paint, Pharmaceuticals, and Packaging for The
Department of Sanitation in The City of New York

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*With special thanks to our advisor, Professor Louise Rosen
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Executive Summary

Many cities and countries around the world are marching towards their sustainability goals. A key component of the movement is addressing the waste stream. With Zero Waste goals becoming more commonplace and ambitious, these jurisdictions are facing the dynamic challenge of diverting waste from landfills. To achieve this, all products must be addressed, from easy-to-recycle products such as cardboard and plastic, to costly hard-to-recycle products such as electronics and paint.

Over the course of the 2018 Spring Semester, with the support of the Department of Sanitation in the City of New York (DSNY) and Professor Louise Rosen, our team investigated the feasibility of city-level extended producer responsibility (EPR) legislation for three fundamentally different products within the greater waste stream: paint, packaging, and pharmaceuticals. More specifically, we evaluated existing EPR legislation for these products in other jurisdictions and the impacts of these policies in order to craft recommendations for each product that work with New York City's unique qualities. The recommendations based on our research findings were presented to Kate Kitchener, the Acting Deputy Commissioner of DSNY, on April 13, 2018.

Within this report, we present the overarching methodology that was employed and challenges that DSNY may face in moving forward with our recommendations. Following this review, for ease of navigation, product specific findings and deliverables are presented. Each product section contains the final slide deck presented to DSNY, memorandum of recommendation, policy matrix, and literature review. It is our hope that by focusing on the enclosed results and recommendations, DSNY can continue to further Mayor de Blasio's goal within the OneNYC initiative of sending Zero Waste to landfills by 2030, while continuing to keep the city healthy, safe, and clean.

Introduction

In April 2015, Mayor Bill de Blasio announced *One New York: The Plan for a Strong and Just City* “OneNYC.”¹ While this was a dynamic plan aimed at addressing many of the city’s long term challenges, the plan specifically included a sustainable solid waste management framework and established the goal sending zero waste to landfills by 2030.² The plan also included a proposal to reduce commercial waste sent to landfills by 90% by 2030.³

The Department of Sanitation in the City of New York (DSNY) is responsible for keeping New York City (NYC) healthy, safe, and clean by collecting, recycling, and disposing of residential waste. DSNY serves NYC’s eight million plus residents and collects over 10,500 tons of residential and institutional garbage and 1,760 tons of recyclables every day.⁴ DSNY was formed in 1881 as the New York City Department of Street Cleaning. As the city has grown, so too has DSNY’s responsibilities and ambitions. Today, DSNY is responsible for managing residential and institutional waste in all five-boroughs of NYC, clearing snow from NYC streets, and its original role of street cleaning.

DSNY is a cornerstone in the city’s OneNYC Zero Waste initiative, and it has recognized the opportunity to help operationalize the Zero Waste goal by finding alternate options to current waste management practices. Within DSNY are eleven bureaus, ranging from facilities planning and engineering, to solid waste management.⁵ This report and analyses have been prepared specifically for the Bureau of Recycling and Sustainability, which is responsible for spearheading waste reduction initiatives and diverting recyclable materials from landfills. While substantial progress towards the Zero Waste goal has already been realized, fully addressing the city’s diverse waste stream requires a customized approach. Each product in the waste stream can present its own unique challenges with respect to management and can cost the city millions of dollars every year.

Every 5-10 years, DSNY completes a waste characterization study of the curbside waste stream. This information is leveraged to better understand how the waste stream has evolved, to ensure accurate waste management planning for the city, and to evaluate the greenhouse gas potential of the waste stream. This periodic study helps DSNY focus on portions of the waste stream where recycling efforts could be improved or where special processing may be required for unique products. The most recent waste characterization study was completed in 2017.⁶ As seen in Figure 1 below, 34% of the waste stream consists of curbside recyclables, 34% are organics suitable for composting, 9% are other divertible materials such as plastic bags and harmful household products, and 23% are other materials such as carpet and foam.⁷

¹ de Blasio, Bill. *One New York: The Plan for a Strong and Just City*. New York: The City of New York, 2015. Print.

² de Blasio, Bill. *Zero Waste Challenge*. New York: NYC Mayor’s Office of Sustainability, 2016. Print.

³ *Ibid.*

⁴ “About DSNY.” DSNY - The City of New York Department of Sanitation, www1.nyc.gov/assets/dsny/site/about.

⁵ “Bureaus.” DSNY - The City of New York Department of Sanitation, www1.nyc.gov/assets/dsny/site/about/bureaus.

⁶ Garcia, Kathryn. 2017 NYC Residential, School, and NYCHA Waste Characterization Study. New York: Department of Sanitation, 2017. Print.

⁷ *Ibid.*

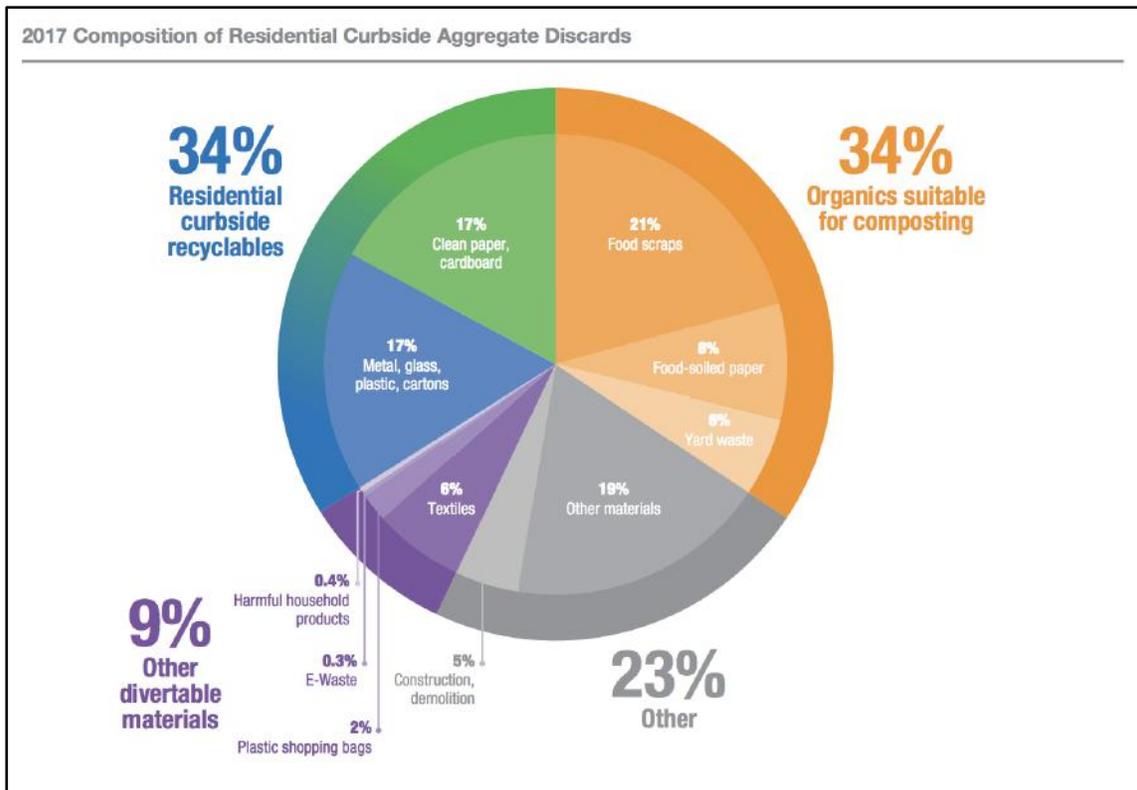


Figure 1: Results of 2017 DSNY Waste Characterization Study

Four years prior, through the completion of the 2013 Waste Characterization Study, DSNY identified an important opportunity for curbside putrescible waste collection. DSNY’s putrescible waste collection provides curbside service for food scraps, soiled paper, and yard waste.⁸ In the five years following the program’s inception, DSNY brought organic collection services to 3.3 million residents in the five boroughs, with the goal of all residents having either curbside putrescible waste collection services or neighborhood drop-off locations by the end of 2018.⁹ The success of this program serves as a model, indicating that other products in the waste stream, such as household hazardous waste, plastic shopping bags, and foam that are difficult and costly for the city to manage could be diverted from landfills through effective policy and management practices.

Project Overview

The DSNY Bureau of Recycling and Sustainability requested our team to analyze the impact and feasibility of implementing local extended producer responsibility (EPR) legislation for three fundamentally different products: paint, pharmaceuticals, and packaging. Despite their differences, the

⁸ “Food Scraps and Yard Waste.” DSNY - The City of New York Department of Sanitation, www1.nyc.gov/assets/dsny/site/services/food-scraps-and-yard-waste-page/overview-residents-organics.

⁹ “Food Scraps and Yard Waste: Overview for Residents.” DSNY - The City of New York Department of Sanitation, www1.nyc.gov/assets/dsny/site/services/food-scraps-and-yard-waste-page/overview-residents-organics.

three products are similar in that they make up distinct segments of the greater waste stream, yet they are costly for the city to manage, and each pose unique threats to the environment and human health. EPR is a product stewardship framework that extends a product manufacturer's financial and managerial responsibility to the post-consumer phase of that product, thereby extending the responsibility for the private sector as opposed to shifting it to the public sector and placing undue stress on processing infrastructure.¹⁰ Historically, once a product leaves a warehouse, it is no longer the responsibility of the producer to manage it. EPR legislation can be an effective tool to incentivize manufacturers to divert their products from landfills and move towards a circular economy model. This model takes the traditional linear economy model of producing, using, and disposing and establishes a circular model, in which resources are used for as long as possible and recovered at the end of their useful life to generate new products.¹¹

Two examples of existing EPR legislation in New York State are: 1) the NYS Electronic Equipment Recycling and Reuse Act, which requires the recycling of electronic waste, such as computers and televisions, and 2) the NYC Refrigerant Law, which holds the manufacturers of refrigerant-containing appliances responsible for the lawful recovery of refrigerators from appliances disposed of by residents. These laws are not unique to New York. EPR legislation and programs for a wide variety of products ranging from paint to tires have been implemented in thirty-two U.S. states and dozens of countries around the world.¹²

Methodology

The results of the study, detailed in the decision memo of recommendation for each product, provide specialized guidance and recommendations for the implementation of either a recycling program or EPR program for paint, an EPR program for packaging, and a redispersion program for pharmaceuticals. Despite the differences in the recommendations, a similar methodology was employed for each product, resulting in more granular similarities and differences within our results.

Each product team conducted a review of primary and secondary sources in order to gain an understanding of the existing product and EPR policy landscape, both domestically for paint, packaging, and pharmaceuticals, and internationally for paint and packaging. In many cases, the sources we found left us with complex and nuanced questions about specific program or policy components. How is existing EPR legislation structured? How are implementation programs designed? What considerations helped shape the programs? Did the legislative process face substantial pushback from stakeholder groups? In order to address these questions, each team conducted

¹⁰ "Principles of EPR." Principles of EPR - Product Stewardship Institute (PSI), www.productstewardship.us/?page=Principles_of_EPR.

¹¹ "WRAP and the Circular Economy." WRAP and the Circular Economy | WRAP UK, 24 Jan. 2013, www.wrap.org.uk/about-us/about/wrap-and-circular-economy.

¹² "State of U.S. EPR Laws." U.S. State EPR Laws - Product Stewardship Institute (PSI), www.productstewardship.us/?State_EPR_Laws_Map.

interviews with professionals at industry trade associations, third party implementation organizations, state-level environmental protection agencies, and elected officials.

Using the information compiled through research and interviews, each product team formulated a literature review and policy matrix of existing policies. The information contained within the literature review and policy matrices varied across product teams, given the current state of EPR as it relates to each product. The paint policy matrix focused on existing EPR legislation in nine jurisdictions in the United States. In each jurisdiction, the legislation is currently operationalized by a third-party implementation organization known as PaintCare. Conversely, for packaging, the policy matrix focused on existing international programs in thirteen jurisdictions. These programs are operationalized by either producer responsibility organizations (PROs) or governments. For pharmaceuticals, thirteen operational redispersion programs in the United States were reviewed. These programs are governed by state-created regulations and have seen varying levels of success. In some cases, third party intermediaries may help to implement the program.

After the literature reviews and policy matrices were finalized, each team synthesized their research and findings in order to devise product specific recommendations for DSNY, which are detailed in the memos of recommendation that follow. These deliverables informed one another, ultimately ensuring that gaps in research were addressed and minimized. The feasibility of implementation and proposed order of action will be detailed in the conclusion section.

Challenges

While conducting research, we anticipated the macro-level challenges that each product could encounter. We considered previous instances of preemption in New York State. Preemption is the idea that a higher level of government will use its authority to block a law initiated by a lower level of government when the two conflict, insisting that the higher level of government should govern on a given issue.¹³ This has been a chronic component of the relationship between NYC and the state capital of Albany for some time. For example, when the city looked to institute a fee of \$0.05 on all plastic bags carried out of retail locations, the state blocked it, instead promising to develop a uniform, statewide plan to address the plastic bag problem.¹⁴ We anticipate that the city could find itself in similar situations when trying to advance city-level legislation to address these hard to recycle products. In addition, we found that there were no existing city council or government representatives who were familiar with the products and could serve as a legislative “champion.” This can be categorized as a challenge with respect to garnering initial support and building momentum.

Enacting legislation at the city-level for each product comes with a common set of macro-level challenges, and the feasibility of implementing our recommendations further varies between paint,

¹³ Carlson, David. “Preemption.” LII / Legal Information Institute, 9 July 2017, www.law.cornell.edu/wex/preemption.

¹⁴ McKinley, Jesse. “Cuomo Blocks New York City Plastic Bag Law.” The New York Times, 15 Feb. 2017, www.nytimes.com/2017/02/14/nyregion/cuomo-blocks-new-york-city-plastic-bag-law.html.

packaging and pharmaceuticals. There will be specific barriers and setbacks if the city seeks to create, pass and implement legislation for each product.

In each jurisdiction we reviewed, with the exception of the District of Columbia, existing Paint EPR laws and programs operate at the state level via a memorandum of understanding (MOU) between the Product Stewardship Institute (PSI) and the American Coatings Association (ACA). This MOU was reached after several years of negotiations between the ACA, PSI, and other industry stakeholders. Through our conversations, we determined that PaintCare may not be amenable to a city-level program, because it would not be viewed as favorably by the industry. However, given the success in Washington D.C., it is seemingly possible to implement Paint EPR at the city-level.

There is no precedent for packaging EPR legislation in the United States, and only three states are currently experimenting with the program design. It is difficult to define the products that are considered packaging, and an EPR program would ideally cover a wide range of packaging types. Furthermore, it is difficult to recommend an EPR program structure and address necessary infrastructure upgrades to process the wide range of products that can be considered packaging. The team closely considered whether packaging EPR was the correct policy tool to address the issue in light of these difficulties coupled with industry resistance.

Lastly, the pharmaceuticals team encountered challenges with respect to the scope of analysis. Mainly, it was key to understand the differences between existing EPR programs for the disposal of residential pharmaceutical waste and programs that redispense unused medications donated by commercial entities. These are two distinct program structures, the latter of which has a greater precedent of success in the United States and involves redispensing unused medications to indigent patients. Though DSNY originally requested that the team investigate the feasibility of a pharmaceutical EPR program, we ultimately recommended establishing contact with the Department of Health to craft streamlined regulations for a redispension program at the state level.

Conclusion

Despite the observed challenges and differences between products, there are also overarching similarities. DSNY will need to work with a third-party organization, in the form of a public private partnership, to implement our recommendations for each waste stream. In addition, working with a variety of stakeholder groups is a critical component for success because without stakeholder group backing, it will be difficult to establish these partnerships. Lastly, there needs to be an ongoing dialogue with consumers to increase awareness around the concept of EPR. As was the case with each product we evaluated, the potential for a fee to cover the cost of waste management, either passed on to the consumer via manufacturers and retailers or directly assumed by the consumer, was a hurdle to moving legislation forward.

Based on our research, we recommend that DSNY focus on implementing our recommendations for either paint or pharmaceuticals first because of the current degree of progress towards EPR for paint and redispersion for pharmaceuticals. While paint EPR programs exist in nine other jurisdictions, DSNY must consider NYC-specific issues such as transportation availability, retailer space, and language diversity. Existing paint EPR programs can certainly serve as a model, providing additional guidance, but it is up to DSNY to work with city and state legislators, as well as the ACA, to craft a program that will meet the requirements of both the ACA and the city.

Meanwhile, there exists a potentially greater opportunity with pharmaceuticals because a New York State law is in place. We recommend that DSNY push for the creation of regulations that would operationalize a redispersion program. This begins with opening a dialogue with key individuals at the NYS Department of Health, with an emphasis on the potential that implementation could be the least costly of the three products we researched. When considering the spectrum of producer responsibility, redispersion does not include producer involvement.

Though packaging is equally as important to address, it will take more time given the breadth of impacted stakeholder groups, the nature of packaging in its many forms, and lack of precedence in the U.S. In addition, the process could be the costliest of the three products as packaging EPR typically involves the greatest manufacturer oversight, which given strong industry pushback would be costly for the city to negotiate. We have included international examples of successful packaging EPR legislation that have succeeded at a country or provincial level; however, these examples may not apply as easily to the city-level. Below, the findings, unique challenges, and recommendations are detailed for each product.

Paint Specific Findings

New York City is one of the few municipalities in the state that collects unused paint at a significant cost to taxpayers.¹⁵ Paint EPR legislation has been stalled at the state level for over five legislative sessions. Each year, the Senate bill passes, and the Assembly bill does not, though they are largely identical. This is purportedly because of the increased cost that consumers would bear as a result of the fee that manufacturers have to pay but is ultimately passed on. For the purpose of this project, we focused on residential latex paint products only. Our findings are detailed below.

Paint Final Slide Deck



¹⁵ Anderson, Bridget and Katherine Kitchener. Columbia University MPA ESP Workshop Proposal. The City of New York Department of Sanitation, 21 December 2017.

A PRESENTATION TO THE NYC DEPARTMENT OF SANITATION

Columbia University, School of International and Public Affairs

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Managers: Laurelle Ahn and Anne Canavati

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AGENDA

- ▶ **Explanation of Analysis**
- ▶ **Methodology**
- ▶ **Objectives**
- ▶ **Paint**
 - ▶ **Research Summary**
 - ▶ **Recommendations**
 - ▶ **SWOT Analysis**
- ▶ **Conclusion**

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New York City
Department of
Street Cleaning,
circa late 1890s.



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NYC Department of
Sanitation Truck
displaying the
OneNYC Zero
Waste goal.

ZERO WASTE

#ONENYC



RESEARCH

- ▶ Challenges of disposal/recycling
- ▶ Solutions implemented by other jurisdictions
- ▶ Applicability for NYC
- ▶ Barriers to implementation

DELIVERABLES

- ▶ Policy Matrix
- ▶ Decision Memo
- ▶ Literature Review
- ▶ PowerPoint Presentation

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**Divert waste from
landfills**



**Save municipal
money**

OBJECTIVES



**Protect
environmental and
human health**



**Encourage smarter
use of raw materials**

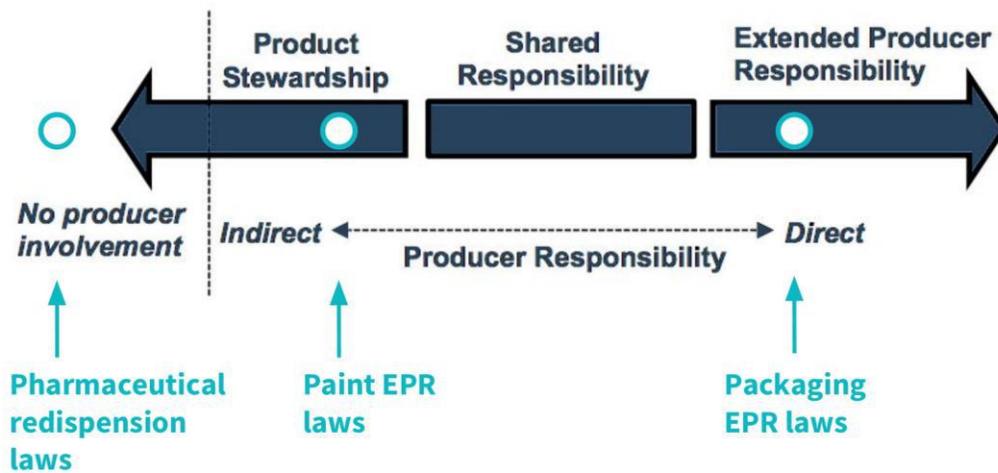
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EXTENDED PRODUCER RESPONSIBILITY



9

PRODUCER RESPONSIBILITY SPECTRUM



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PAINT

Ethan Forauer, Anna Loizeaux, and Cloud Nagy



GOAL:

Identify opportunities for extended producer responsibility for residential latex paint in New York City

SCOPE: PAINT IN NYC

750,000

POUNDS OF PAINT
COLLECTED IN 2017

\$1M

COST OF DISPOSAL
TO NYC

13

METHODOLOGY

- ▷ **10** jurisdictions with paint EPR legislation
- ▷ **14** interviews with advocates, PaintCare, Loop Paint, American Coatings Association, government representatives in CT, CA & OR, and paint retailers

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RECOMMENDATION #1

Transition from current paint disposal to paint recycling

or

Implement paint EPR legislation in NYC through a stewardship organization

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IMPLEMENTATION: PAINT RECYCLING

Establish if transition is cost effective for DSNY

Review RFPs & gauge feasibility

Issue new RFP when current contract expires for paint recycling companies

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IMPLEMENTATION: EPR LEGISLATION

**Identify local elected
official champions**



**Launch campaign
for legislation**



**Establish legislation elements for
NYC with stewardship organization**



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PAINTCARE PROGRAM COMPONENTS

- ▷ Eco-fee paid by manufacturers to PaintCare
- ▷ PaintCare:
 - ▶ Coordinates paint pick up and management
 - ▶ Completes consumer and paint retailer outreach
 - ▶ Submits annual reports to governing bodies

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PAINTCARE POTENTIAL

8.5%

AVERAGE RECOVERY RATE

33%

RETAILERS PARTICIPATE



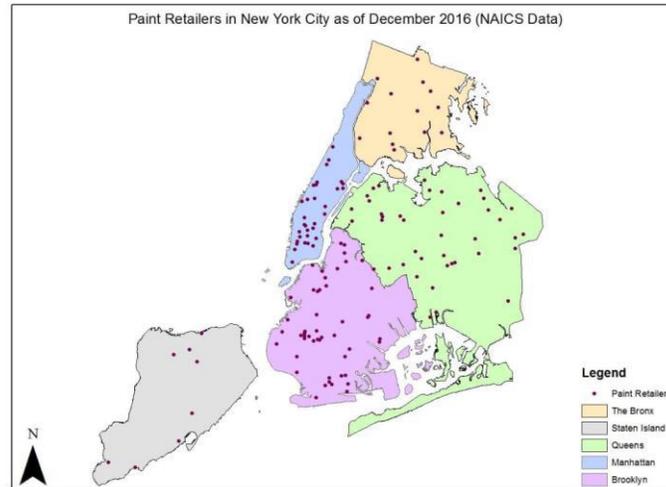
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IMPLEMENTATION: CONSIDERATIONS FOR NYC

- ⚠️ Retailer space
- 🚗 Transportation access
- 💬 Multilingual education materials

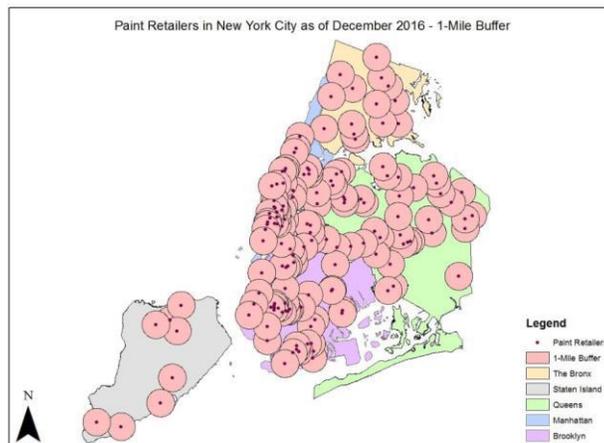
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IMPLEMENTATION: PAINT RETAILERS



21

IMPLEMENTATION: PAINT RETAILERS



- ▶ 88% of New Yorkers live within 1-mile of a paint retailer
- ▶ The Bronx is highest at 91%
- ▶ Staten Island is the lowest at 54%
- ▶ Consider other drop-off locations

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PAINT SWOT ANALYSIS

Strengths <ul style="list-style-type: none">▶ Public has more convenient avenues for disposal▶ Offsets municipal costs▶ Stewardship program already established	Weaknesses <ul style="list-style-type: none">▶ Retailer space availability▶ Potential fee visibility
Opportunities <ul style="list-style-type: none">▶ Increased paint waste disposal▶ Increased public awareness	Threats <ul style="list-style-type: none">▶ State preemption▶ Assessment viewed as tax▶ Cross border purchasing▶ Uncertain city council support/leadership▶ PaintCare buy-in

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CONCLUSION

Recycle paint DSNY collects or implement a paint stewardship program through legislation

THANK YOU

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REFERENCES

Slide 4: Image by DSNY. Oatman-Stanford, Hunter. "A Filthy History: When New Yorkers Lived Knee-Deep in Trash." *Collectors Weekly*, 24 June 2013, <https://www.collectorsweekly.com/articles/when-new-yorkers-lived-knee-deep-in-trash/>.

Slide 5: Image from: Cohen, Emily. "Zero to Hero: The ABCS of 0 Waste to Landfill." Roadrunner blog, 5 April 2016, <https://www.roadrunnerwm.com/zero-the-hero/>.

Slide 6: Paint image from: Cunningham, Enda. "New legislation likely for disposal of paint tins." *Connacht Tribune*, 17 December 2014. <http://connachttribune.ie/new-legislation-likely-for-disposal-of-paint-tins-322/>;
Packaging image from: Johnston, Rae. "The Ford Escape is made of old rubbish (in a good way)." *Gizmodo.com*, 21 November 2017, <https://www.gizmodo.com.au/2017/11/the-ford-escape-is-made-of-old-rubbish-in-a-good-way/>;

Slide 9: Image from: Moore, Darrel. "Circular Economy Package: 'Still a long way to go.'" *Chartered Institution of Wastes Management*, 3 December 2015, <https://ciwm-journal.co.uk/circular-economy-package-still-a-long-way-to-go/>.

REFERENCES

Slide 10: Modified image from: Canadian Council of Ministers of the Environment. *Progress Report on the Canada-wide Action Plan for Extended Producer Responsibility*. 2014.
<https://www.ccme.ca/files/Resources/waste/extended/CAP-EPR%20Progress%20Report.pdf>

Slide 11: Image by Colleen on Etsy, Butterfly in the Attic.

Slide 12: Image from NYC Sanitation 2017 Annual Report.
http://www1.nyc.gov/assets/dsny/downloads/pdf/about/inside-dsny/2017_AnnualReport.pdf.

Slide 13: Kitchener, Kate. Personal interview. 29 January 2018.

Slide 38: PaintCare. *About PaintCare Fees*. Mar 2017.
<https://www.paintcare.org/wp-content/uploads/docs/xx-factsheet-retailer-fee.pdf>

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REFERENCES

Slide 19: Averages taken from the following PaintCare annual reports:

Honis, Laura. *Connecticut Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.
Honis, Laura. *Rhode Island Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.
Hurd, John. *Maine Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.
Hurd, John. *Vermont Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.
Jones, Jeremy. *Oregon Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2018.
Kent, Daria et al. *California Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.
Lynch, Kevin. *Colorado Paint Stewardship Program: 2016 Annual Report*. PaintCare Inc. Washington DC. 2018.
Pincuspy, Steve. *Minnesota Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.

Image from the City and County of Denver 's PaintCare website.
<https://www.denvergov.org/content/denvergov/en/trash-and-recycling/hazardous-waste/reduce-paint-waste.html>

Slides 21 & 22: NYC Borough Shapefiles obtained from NYC Open Data, Census Data obtained from the US Census Bureau, and Paint Retailer Data obtained from the North American Industry Classification System (NAICS)

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Paint Memorandum of Recommendation

This memo of recommendation has been prepared for the Department of Sanitation in the City of New York, in response to the inquiry regarding possibilities and opportunities for extended producer responsibility (EPR) for residential latex paint products. We recommend working with local and state industry stakeholders to introduce and advance city-level legislation, with the ultimate goal of operationalizing a paint EPR implementation program, such as PaintCare, in New York City.

STATEMENT OF ISSUE

The Department of Sanitation in the City of New York (DSNY) was formed in 1881 as the New York City Department of Street Cleaning. Today, DSNY is responsible for keeping the city clean through managing residential and institutional waste in all five boroughs of New York City. In April 2015, Mayor Bill de Blasio announced One New York: The Plan for a Strong and Just City “OneNYC”.¹⁶ While this dynamic plan aims to address many of the city’s long-term challenges, the plan specifically includes a sustainable solid waste management framework with the goal of sending zero waste to landfills by 2030. A city of over 8 million people, New York City collects in excess of 10,500 tons of residential and institutional garbage and 1,760 tons of recyclables each day, which illustrates the gravity of achieving the Zero Waste goal.

Every 5-10 years, DSNY completes a waste characterization study of the curbside waste stream. This information is leveraged to better understand how the waste stream has evolved, but also to ensure accurate waste management planning for the city. This periodic study helps DSNY focus on portions of the waste stream where recycling efforts could be ramped up or where special processing may be required for unique products.

Paint is a widely used product for several applications. In New York City alone, approximately 17 million gallons of paint are purchased each year.¹⁷ Based on the 2013 Waste Characterization Study, paint comprised 0.1% of the city’s waste stream, of which latex-based paint is 90% and oil-based paint is 10%.¹⁸ While this may seem insignificant, this equates to 169,340 gallons of paint which DSNY is responsible for collecting and managing.

DSNY currently supports five Household Hazardous Waste (HHW) drop-off locations—one in each borough. These locations are available for city residents to drop off harmful products such as batteries, motor oil, or latex paint and are open every Saturday and the last Friday of each month. In addition, DSNY hosts ten Solvents, Automotive, Flammables and Electronics (SAFE) events per year—two in each borough, where residents can bring their leftover paint for responsible disposal. However, it is likely that a non-trivial quantity of paint ends up buried in collection bags or poured down the drain. This is highly toxic to the environment - harming fish and wildlife and polluting groundwater. In

¹⁶ The City of New York. *OneNYC: A Plan for a Strong and Just City*. 2015.

¹⁷ American Coatings Association. *ACA and PaintCare: Steering a Post-Consumer Paint Solution*. n.d. <https://www.paint.org/publications-resources/issue-background/aca-paintcare/>

¹⁸ New York City Department of Sanitation. *NYC Curbside Waste Characterization Study*. 2013.

addition, paint products can contain Volatile Organic Compounds (VOCs). These VOCs, released when paint is used, react with oxygen to form ground-level ozone, which in turn elevates instances of smog and respiratory ailments.

Even when paint is mixed with a highly absorptive product such as cat litter, it is still expensive for DSNY to collect and manage and poses a threat to the environment. In 2017, it cost DSNY almost \$1 million to manage the paint dropped off at SAFE Events and Special Waste Sites.¹⁹ Implementing a well-established, effective Extended Producer Responsibility (EPR) program such as PaintCare in NYC through the adoption of city-level paint EPR legislation will transfer this burden from DSNY and other NYC Departments to PaintCare, as well as reduce the amount of paint in the city's waste stream, helping the city march towards its 2030 goal. PaintCare is the nation's sole paint EPR implementation program, as it holds a majority of the market share and benefits from the backing of the American Coatings Association and Product Stewardship Institute.

Maine, Rhode Island, Connecticut, Vermont, Minnesota, Colorado, California, Oregon, and the District of Columbia have already adopted statewide paint EPR laws that utilize PaintCare for legislation implementation. The program in each state is funded through eco-fees, also called an assessment, which is ultimately assumed by the consumer. These fees are nominal and change from state to state but range from \$0.75 for a 1-gallon container to \$1.60 for a 5-gallon container.²⁰ The eco-fee is calculated by PaintCare by estimating the cost of program implementation and dividing that by the anticipated annual paint sales. It is then adjusted to respond to the amount of unused paint that PaintCare expects the program to generate. In a number of states, the eco-fee has been adjusted after implementation to better reflect program needs. Manufacturers are responsible for backing the program and paying for each can of paint sold before the can reaches retailers. The fee funds collection, transportation, and processing of unused postconsumer paint, as well as education about proper paint management. By law, the fee is passed on to retailers, who ultimately apply it to the total price of paint sold, passing it through to consumers. It is up to the individual retailer whether or not the retailer wants to include the fee as a line item on receipts.

While each state's PaintCare program is customized to meet the needs of the population, each program has experienced varying degrees of success. Looking specifically at Connecticut, the program ended the 2017 reporting period with 143 year-round drop off sites, 102 of which were paint retailers.²¹ This is estimated to represent 35% of likely paint retailer participants. This provided a drop-off site within 15-miles of 100% of Connecticut residents. In addition, the program collected over 350,000 gallons of paint. At the determined assessment schedule, this intake volume sustained program financial self-sufficiency.

¹⁹ Kitchener, Kate. Personal interview. 29 January 2018.

²⁰ PaintCare. *About PaintCare Fees*. Mar 2017. <https://www.paintcare.org/wp-content/uploads/docs/xx-factsheet-retailer-fee.pdf>

²¹ Honis, Laura. *Connecticut Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.

Since 2012, New York State has tried to join the eight other states and the District of Columbia by enacting its own paint EPR legislation, with one bill moving through the Senate²² and one through the Assembly.²³ Each bill is largely the same, with the goal of minimizing public sector involvement in the management of post-consumer paint. Each year, the Senate bill passes, but the Assembly bill does not. Opposition from the Assembly is believed to be because of the proposed assessment. The purpose of this memorandum is to recommend an approach for NYC to adopt paint EPR legislation and ultimately operationalize an implementation program such as PaintCare.

METHODOLOGY AND IMPLEMENTATION GOALS

Through a review of existing literature pertaining to latex paint, EPR legislation, and paint recycling, we identified ten jurisdictions with active and successful paint EPR legislation. Nine out of ten jurisdictions were outlined above with the last jurisdiction in Ontario, Canada. This provided the foundation for a comprehensive policy analysis, aimed to further tease apart different attributes of the paint EPR policies. Next, we conducted phone interviews with 13 industry professionals and stakeholders, including trade organizations and state and local government divisions. This allowed us to gain a better understanding of the process, answer key questions, and further identify nuances of implementing city-level paint EPR legislation.

Lastly, we conducted a review of the paint retailers in the city. We created an ArcGIS map of paint retailers in NYC using the North American Industry Classification System code number 44 for paint retailers. The map can be seen in Figure 1 below. We found that 88% of New Yorkers live within one-mile of a paint retailer. Specifically, the highest percentage is in the Bronx, where 91% of residents live within one-mile of a paint retailer and the lowest percentage is in Staten Island, where only 54% of residents live within one-mile of a paint retailer. This can be observed in Figure 2 below. With this information, we conducted in person interviews with four paint retailers in NYC to determine if they would be interested in participating in an implementation program, should legislation be enacted.

RECOMMENDATION #1

Our primary recommendation is to work with local and state political and industry stakeholders to introduce city-level paint EPR legislation. Upon successful adoption of the EPR legislation, we recommend utilizing a stewardship organization such as PaintCare for implementation. PaintCare should be engaged during the drafting process, as most of the program design should be integrated in the legislation to minimize the rulemaking process.

Following passage of legislation, the NYC PaintCare program design should be finalized within six months. This includes plan creation, public comment period, and approval by the government body tasked with regulation. This structure follows program implementation in other jurisdictions.²⁴ The finalized plan should then begin implementation within three months of program design, or nine

²² New York State Congress, Senate. Senate Bill 881. 2018.

²³ New York State Congress, Assembly. Assembly Bill A1038. 2018.

²⁴ PaintCare. *Connecticut Architectural Paint Stewardship Program Plan*. 25 April 2013. <https://www.paintcare.org/wp-content/uploads/docs/ct-program-plan.pdf>

months following legislative adoption. Our stakeholder considerations and reasoning are described below.

SWOT ANALYSIS

To arrive at this recommendation, we conducted a SWOT analysis. While there are strengths, weaknesses, opportunities, and threats to this recommendation, we believe that the strengths and opportunities outweigh the weaknesses and threats, though each are worth discussing. Key aspects are discussed in more detail below.

Strengths

- Offsets municipal costs
- Public has more convenient avenues for disposal
- Stewardship program already established

Weaknesses

- Retailer space availability
- Fee visibility

Opportunities

- Increased public awareness
- Increased paint waste disposal

Threats

- State preemption
- Assessment viewed as a tax
- Cross border purchasing
- Uncertain city council support/leadership
- PaintCare buy-in

First, in terms of recommendation strengths, a paint EPR program would offset the costs of management that are currently borne by DSNY. Given that DSNY currently spends approximately \$1 million each year to manage paint, these funds could be reallocated towards addressing another complex product in the waste stream. In addition, as discussed, there is existing industry buy-in to this initiative. In order for the first state level paint EPR law to pass, a memorandum of understanding (MOU) between the American Coatings Association and the Product Stewardship Institute had to be executed. Given that this took between five to seven years, the lengthiest piece of process has already been established. Additionally, paint manufacturers are already familiar with the structure because of successful implementation in nine jurisdictions. Therefore, expanding operations to New York City should be straightforward. In general, once paint EPR legislation is implemented, PaintCare can initiate outreach within the jurisdiction to retailers and entities already collecting HHW through

mailers and in person meetings. PaintCare will also identify how many additional paint-only drop-off events may be needed to augment the retail drop-off sites.

Next, there are many opportunities that work toward the advantage of DSNY, both with respect to working towards the 2030 Zero Waste goal and helping to devise a successful NYC PaintCare program. First, there would be increased paint collection and responsible management. Through our conversations with professionals in other states with paint EPR legislation, consumers benefit from the accessibility of more numerous drop-off locations, resulting in more convenient service. Additionally, consumers benefit from the clarity of knowing where to bring their leftover paint. No one naturally wants to pour paint down the drain, but also doesn't want it collecting in the limited space they already have in their apartment. Knowing that they are able to bring it to their neighborhood hardware store is a huge opportunity towards reducing the amount of delinquent paint in the waste stream. It is critical to ensure that information about the program is available in several languages and that as many drop-off locations or events as possible are located near transit options.

Another opportunity that exists pertains to encouraging paint retailers to participate in the PaintCare program. Informed by retailer outreach and phone interviews, an important consideration is the structure of the permitting process that paint retailers may need to go through in order to accept and manage what is traditionally deemed as household hazardous waste. As an example, in Connecticut, the Department of Energy and Environmental Protection issued a permit to PaintCare generally, rather than each small business that participates as a drop-off location. If there is a problem with collection or management, the state will alert PaintCare, who will deal directly with that business. This structure should be considered for small businesses in NYC. Additionally, PaintCare is responsible for contracting with permitted hazardous waste transporters, which alleviates this responsibility from being shouldered by pick-up sites.²⁵

A final opportunity that exists for small businesses in NYC is that large franchises such as Home Depot and Lowes have generally opted out of participating as drop-off locations. In one instance in a suburb of Atlanta, a big box retailer engaged with the program on a trial basis but was quickly overwhelmed by consumer participation. If these large retailers again opt out of participating in the city-level paint EPR program, this could conceivably help drive additional foot traffic into small businesses.

Next, we did encounter potential program weaknesses. Key concerns from the paint retailers we spoke to were space to hold recycled paint and the actual need for such legislation. Every retailer cited space as the main barrier for participation and one commented, *"This isn't something that consumers are asking for, so what incentive do we have to participate?"* These considerations, while anecdotal, may be worth keeping in mind when establishing outreach plans to retailers. In addition, as determined by our spatial analysis, only 88% of New Yorkers live within one-mile of a paint retailer. This number varies slightly from borough to borough. Bearing in mind that on average, 34% of paint retailers participate as drop-off

²⁵ Honis, Laura. *Connecticut Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.

locations in PaintCare programs, DSNY should consider other types of retailers, such as general hardware or home improvement stores, to serve as drop-off locations in order to meet the predetermined convenience standard.

Finally, there are identified threats to this recommendation, but as indicated, we believe that the strengths and opportunities are more prominent. First, there is a concern that the state may attempt to preempt paint EPR legislation implemented at the municipal level since proposed legislation already exists at the state level. However, The Solid Waste Management Act of 1988 empowered local governments to manage materials locally so legal standing to defend the local law in court may exist.

In addition, we were unable to connect directly with any city council members to discuss their interest in sponsoring paint EPR legislation. While the initiative exists at the state level, there is no city level initiative. Therefore, DSNY may have to catalyze the initiative. Based on our interviews, choosing the right legislators to work with is key to moving the process along. One such possibility is Council Member Costa G. Constantinides, a Queens Democrat and the chairperson of the New York City Council Committee on Environmental Protection.

In addition, the institution of a fee has been met with resistance by elected officials, particularly at the state level, as it is viewed as a tax. Attempts to contact local elected officials were unsuccessful so the sentiment of elected officials at the city level is still unclear. However, in states with existing paint EPR programs, initial reviews and annual plans contain projections of paint collection and costs, as well as paint sales and revenue. The assessment schedule is based on these projections. Assessments are subject to ongoing validation and review as programs mature and costs and revenues are realized. Despite initial uncertainty regarding the institution of the assessment to paint, over time, PaintCare studies show that consumers come to understand and even appreciate the cost and benefits of the program. In Minnesota and Vermont, for example, the amount of paint dropped off has exceeded the program's capacity to pay for its disposal, which implies there was a demand for the program which exceeded initial predicted participation and fund allocation. PaintCare conducts regular awareness surveys in the states where it operates. Trends include that respondents store less paint in their homes after legislation passes and that the percentage of respondents who would dispose of paint in the trash decreases annually.²⁶ Public awareness about the program and the possibility of recycling paint increases annually. These trends indicate that consumers want to dispose of their paint responsibly and post-implementation, programs continue to garner more public support.

Lastly, during several interviews, we inquired into the possibility of cross-border purchasing. An example of this would be if a resident of NYC decided to go purchase their paint in New Jersey, where there is not an active paint EPR implementation program. Each interviewee affirmed that this had been an industry concern; however, it had not played out in any of the jurisdictions with an active program, including Washington D.C.—a similar urban municipality. This is a main concern that may

²⁶ Pincuspy, Steve. *Minnesota Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.

contribute to lack of buy-in from PaintCare for a municipal versus state-wide legislation, which is also a threat to an NYC paint EPR legislation.

NEXT STEPS

As actionable next steps, DSNY should undertake the following:

- Identify elected officials who can be champions for legislation;
- Work with these officials and PaintCare to develop outreach to sway stakeholders such as other elected officials and the public to approve city-wide implementation, particularly focusing on long term fiscal and environmental advantages; and
- Conduct further interviews and surveys to gauge barriers to implementation and discern potential financial incentives to sway political and retailer opinions towards participation.

RECOMMENDATION #2

Should this recommendation be met with substantial opposition, we recommend moving to contract with a paint recycling company to provide an alternate method to collect and manage paint. This recommendation could also be implemented concurrently with recommendation #1.

It costs between 15 and 30 cents per pound to recycle paint.²⁷ This may be lower than current disposal costs, provides added environmental benefits, and would count towards the city's overall recycling rates. When the next contract with current disposal contractor, Veolia Environmental Services, expires, the city can issue a new RFP to paint recycling companies to remove this reusable product from NYC's waste stream.

One jurisdiction that has a successful paint recycling program is Metro OR, in the Portland, Oregon region. In Oregon, the PaintCare program uses the transportation provided through its contracts with Stericycle for latex paint and Clean Harbors for oil paint. Metro receives collected latex paint from its two household hazardous waste sites, and from Stericycle, which collects latex paint from statewide drop-off centers. The recycled paint is transformed into new latex paint and sold back to consumers in a standard color palette that changes as different color paints are received. Oil paint is transported from drop off locations by Clean Harbors and thus is separated from the stream before it reaches Metro OR's processing facilities. Of note, there are paint recycling companies that can take both latex and oil paint, which are then separated to create new latex and oil-based paints that come in approximately 15 different colors. The city may even consider purchasing this recycled paint for municipal projects, as it is often much less expensive.

CONCLUSIONS

Based on our research, analysis, and recommendation, we believe that once a paint EPR program is operationalized, there are three main expected outcomes:

- Consumers will have a greater awareness of what to do with leftover paint;

²⁷ Wiwcharyk, Josh. Personal interview. 29 March 2018.

- Consumers will have access to a greater number of drop-off locations with expanded availability; and
- The quantity of paint in the waste stream will decrease while concurrently decreasing the cost of management borne by DSNY.

It is our hope that by acting on our recommendations, the Department of Sanitation can continue to operationalize the overall goal of sending zero waste to landfills by 2030, while continuing to keep the city healthy, safe, and clean.

FIGURES

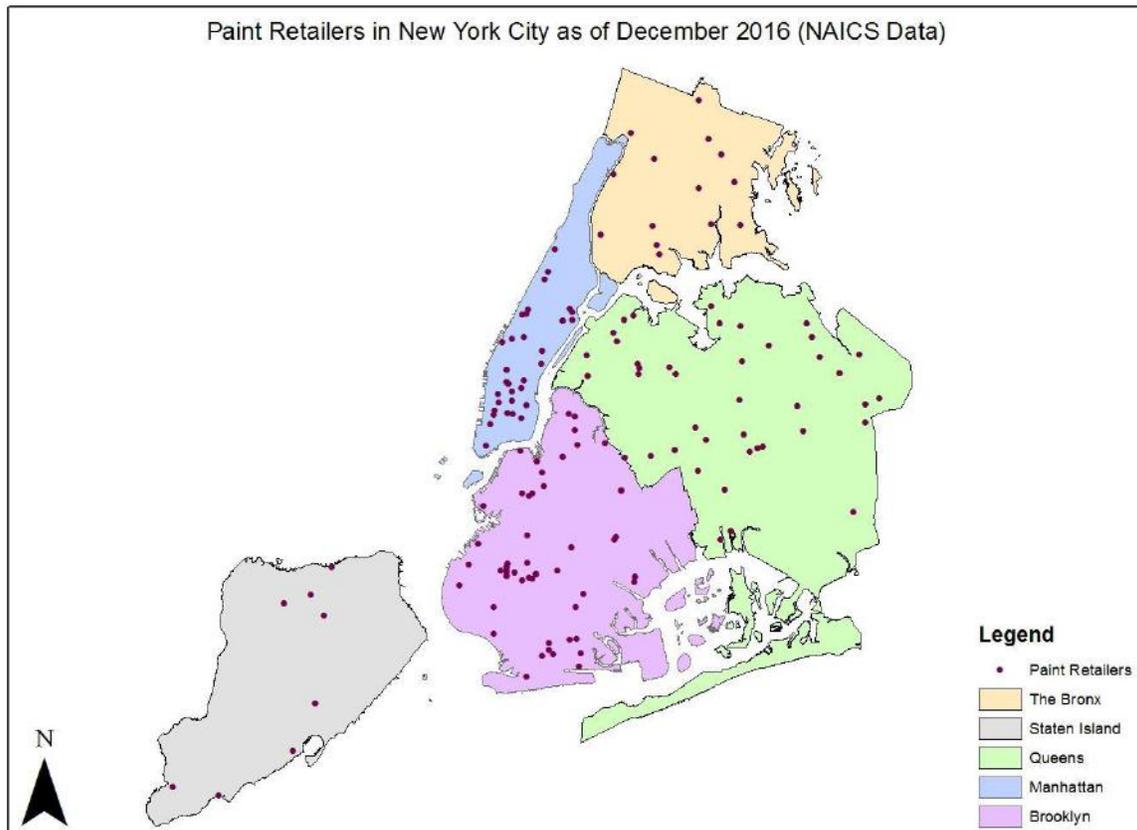


Figure 1: Paint Retailers in New York City as of December 2016, Using NAICS Code #44

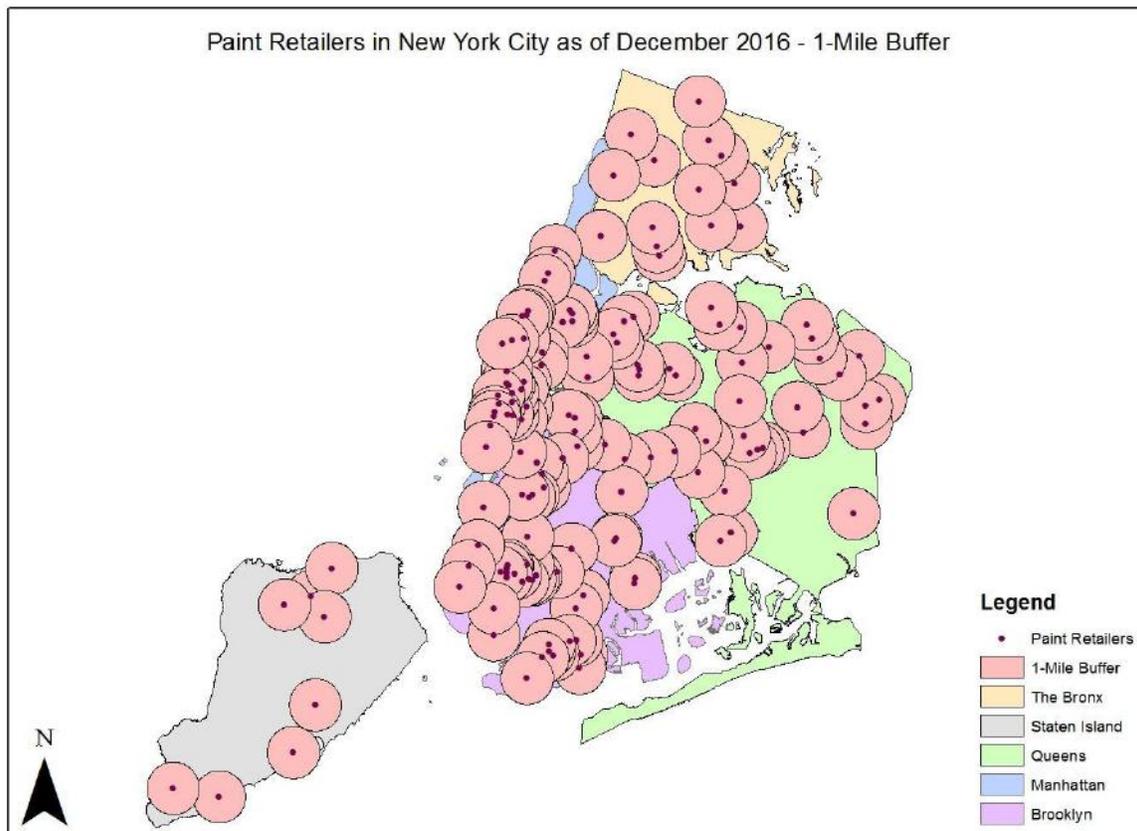


Figure 2: Paint Retailers in New York City — One-Mile Buffer (Radius)

Paint Policy Matrix

Please see Pages 35 to 45.

State	Date passed	Policy	Materials covered	Producer compliance	Annual program revenue & expenses
California	September 2010	Assembly Bill 1343	Architectural paint sold in 5 gallon containers or less; does not include aerosol spray paint or paint for industrial or original equipment use	Producers may join a stewardship organization, or fulfill requirements independently	Per 2017 Annual Report Revenue: \$34,996,367 Expenses: \$32,405,697
Colorado	June 2014	Senate Bill 14-029	Interior and exterior architectural coatings sold in containers of 5 gallons or less; does not include industrial, original equipment or specialty coatings	Producers must join a stewardship organization	Per 2016 Annual Report Revenue: \$6,778,509 Expenses: \$5,423,303
Connecticut	June 2011	Senate Bill 828	Architectural paint sold in containers of 5 gallons or less; does not include industrial, original equipment or specialty coatings	Producers must join a stewardship organization	Per 2017 Annual Report Revenue: \$3,619,770 Expenses: \$3,110,755
District of Columbia	December 2014	Council Bill 20-0886	Interior and exterior architectural coatings sold in containers of 5 gallons or less; does not include industrial, original equipment or specialty coatings	Producers may join a stewardship organization, or fulfill requirements independently	Per 2017 Annual Report Revenue: \$650,288 Expenses: \$348,998
Maine	June 2013	Legislative Document 1308	Interior and exterior architectural coatings sold in containers of 5 gallons or less; does not include industrial, original equipment or specialty coatings	Producers may join a stewardship organization, or fulfill requirements independently	Per 2017 Annual Report Revenue: \$1,473,307 Expenses: \$1,163,291
Minnesota	November 2014	House Bill 976 (Section 78)	Architectural paint sold in containers of 5 gallons or less; does not include industrial, original equipment or specialty coatings	Producers may join a stewardship organization, or fulfill requirements independently	Per 2017 Annual Report Revenue: \$5,405,124 Expenses: \$5,394,247

State	Date passed	Policy	Materials covered	Producer compliance	Annual program revenue & expenses
Ontario	June 9, 2016	Waste-Free Ontario Act, 2016, S.O. 2016, c. 12 - Bill 151	Printed materials, paper packaging, plastic packaging, steel, aluminum, e-waste, tires, paint and coatings, hazardous waste, pesticides, soda stream, automotive materials, food and organic waste	Targets for reduction, recycling, reuse and public education are set by the government. Producers and the Resource Productivity and Recovery Authority (a non-governmental not-for-profit) will negotiate agreements with municipalities or service providers to enable them to meet requirements individually, collectively or with a third-party.	n/a
Oregon	Pilot passed July 2009, permanent program passed June 2013	House Bill 2048 (A6)	Interior and exterior architectural coatings sold in containers of 5 gallons or less; does not include industrial, original equipment or specialty coatings	Producers and retailers must join a stewardship organization	Per 2017 Annual Report Revenue: \$4,831,423 Expenses: \$5,212,602
Rhode Island	June 2012	Senate Bill 2083 Substitute A	Architectural paint sold in containers of 5 gallons or less; does not include industrial, original equipment or specialty coatings	Producers must join a stewardship organization	Per 2017 Annual Report Revenue: \$933,217 Expenses: \$756,260
Vermont	May 2013	House Bill 262	Architectural paint sold in containers of 5 gallons or less; does not include industrial, original equipment or specialty coatings	Producers may join a stewardship organization, or fulfill requirements independently	Per 2017 Annual Report Revenue: \$849,925 Expenses: \$745,740

State	Implementation timeline	Site locations (as specified by the bill)	Site Locations (as implemented)
California	Manufacturer or stewardship organization to submit a stewardship plan by April 1, 2012. Department to review plan and make a determination within 90 days. Plan is to be implemented on or before July 1, 2012 or 3 months after the plan is approved.	Collection sites must be within 15 miles of 90% of the state's population. 1 additional site for every 50,000 residents in urban areas.	803 year-round drop-off sites, 628 of which are paint retailers. 98.5% of the state's population live within 15 miles of a drop-off site. (2017)
Colorado	One or more producers, or stewardship organization, to submit a program plan to the Department of Public Health and Environment by January 1, 2015. Program start date is July 1, 2015 or earlier as approved by the Director.	At least 90% of Colorado residents must have a permanent site within a 15-mile radius of their homes. For the portion of Colorado residents who will not have a permanent collection site within 15-miles of their homes, the program must provide a paint collection event at least once per year. An additional permanent collection site for every 30,000 residents of an urban area.	155 year-round drop-off sites: 137 are retailers, which represent 37% of potential retail participants. 94.6% of Colorado's residents live within 15 miles of a drop-off site. Large volume pick-up (LVP) service is available for volumes larger than 300 gallons. (2017)
Connecticut	Producers to join representative organization which is to submit proposed stewardship plan, including proposed assessment fee, on or before March 1, 2013. Commissioner to make a determination within 2 months of submission of the plan. Implementation to occur no later than 2 months after plan is approved.	No site locations specified	143 year-round drop off sites: 102 paint retailers. All CT residents live within 15 miles of a drop off site. (2017)

State	Implementation timeline	Site locations (as specified by the bill)	Site Locations (as implemented)
District of Columbia	One or more producers, or stewardship organization, to submit a program plan to the Mayor by April 1, 2016. Program start date is September 1, 2016 or or 3 months after the Mayor approves a plan.	Program must provide for convenient and available collection of postconsumer paint that, at a minimum, provides for collection rates and convenience equal to or greater than the collection programs available to consumers before the paint stewardship program and addresses coordination of the paint stewardship program with existing household hazardous waste collection infrastructure	There are 8 year-round sites, 7 of which are paint retailers, 1 of which is a HHW facility.
Maine	Producers, group of producers, or stewardship organization to submit paint stewardship plan to the Department by April 1, 2015. Department to make a determination within 120 days, and make the plan available for public review for 30 days. Implementation to begin. Program begins July 1, 2015 or 3 months after the department approves a plan.	At least 90% of state residents have a permanent (year-round) site within a 15-mile radius of their residence	106 year-round drop-off sites: 75 paint retailers (which represents 30% of potential retailers), 29 transfer stations, one is an environmental services company, and one is a reuse store. 95.3% of Maine's residents are within 15 miles of a dropoff location (2017)
Minnesota	3 months after November 1st, all paint retailers wholesalers and producers had to be enrolled to sell paint in the state	At least 90% of Minnesota residents shall have a permanent site within a 15 miles. Areas with no opportunities for permanent site will have a drop-off location. An additional site will be added for every 30,000 residents of a population center	245 year-round drop-off sites: 189 paint retailers, 51 HHW facilities, three Habitat for Humanity ReStores, one environmental services company, and one paint recycler (2017).
Ontario	The Resource Productivity and Recovery Authority and municipal government signed an MOU in 2017 and program implementation begins in 2018. Additional materials will continue to be considered for inclusion. Existing waste recovery programs will be phased out	n/a	The current paint stewardship organization, Ontario PaintRecycle, has 300 collection sites in Ontario. 13 collection events were held in 2015.

State	Implementation timeline	Site locations (as specified by the bill)	Site Locations (as implmented)
Oregon	Paint stewardship organization to submit pilot program plan to department by March 1, 2010. Implementation to begin July 1, 2010 or 2 months after the plan is approved by the department. Implementation of House Bill 2048 (A6) was a continuation of the pilot program, which was House Bill 3037.	One permanent collection site for every 30,000 residents and at least 1 event per year in geographically underserved areas	177 year-round paint drop-off sites; 96.6% of Oregon households are within 15 miles of a PaintCare site. 67 collection events were held in 2017
Rhode Island	On or berfore March 1st, 2014, each producer shall join the representative organization and such representative organization shall submit a plan for the establishment of a paint stewardship program. Department to make a determination within 60 days of submission of the plan. If approved, implementation should take place by the representative organization within 3 months.	No site locations specified	33 year-round drop off sites: 28 paint retailers. 99.9% of RI residents live within 15 miles of a drop off site. PaintCare also provided four direct large volume pickups directly at businesses (2017)
Vermont	A producer or stewardship organization representing producers shall submit a plan for the establishment of a Paint Stewardship Program to the Secretary for approval by December 1st, 2013. Beginning no later than July 14, 2014 or three months after approval of a plan, a stewardship organization shall implement the approved plan for a Paint Stewardship Program. The organization shall have a term not to exceed 5 years without review.	No site locations specified	73 year-round drop-off sites: 63 paint retailers retailers. 99.% of Vermont residents live within a drop-off site (2017)

State	Cost to consumer	Consumer behavior	Paint collection	Recovery rate
California	Half pint or smaller - \$0.00 Larger than half pint to smaller than 1 gallon - \$0.35 1 gallon - \$0.75 Larger than 1 gallon up to 5 gallons - \$1.60	Awareness survey was conducted to understand how consumers are using and disposing of paint. Consumers continue to store less paint and 48% of respondents said they knew paint could be recycled. 63% of respondents said they know where to take old paint.	3,464,149 gallons collected. 82% was latex and 18% was oil-based. 5% of latex paint was reused, 66% was made into recycled-content paint, 6% was used as alternative daily cover, and 6% was unrecyclable and sent to landfill. 3% of oil-based paint was reused and 42% was used as a fuel and 55% was incinerated. (2017)	7%
Colorado	Half pint or smaller - \$0.00 Larger than half pint to smaller than 1 gallon - \$0.35 1 gallon - \$0.75 Larger than 1 gallon up to 5 gallons - \$1.60	According to awareness survey, respondents indicated that they 45.5% knew paint could be recycled, up from 37.6% in 2015 and 38.5% in 2014.	645,232 gallons collected. 75% was latex and oil-based was 25%. 5% of latex paint was reused, 70% was made into recycled-content paint, 6% was used as alternative daily cover, and 19% was unrecyclable and sent to landfill. 4% of oil-based paint was reused and 96% was used as a fuel. (2016)	5%
Connecticut	Half pint or smaller - \$0.00 Larger than half pint to smaller than 1 gallon - \$0.35 1 gallon - \$0.75 Larger than 1 gallon up to 5 gallons - \$1.60	Awareness survey was conducted to understand how consumers are using and disposing of paint. The general trend is that, through the EPR legislation and PaintCare program, respondents store less paint. In addition, it seems that contractors are more likely to take away leftover paint when they complete a job. Lastly, the percentage of respondents that said that they would dispose of paint in the trash has decreased.	322,568 gallons collected. Latex paint made up 79% and Oil paint made up the remaining 21%. In addition 198 tons of metal and plastic paint containers were recycled. (2016)	5.50%

State	Cost to consumer	Consumer behavior	Paint collection	Recovery rate
District of Columbia	Half pint or smaller - \$0.00 Larger than half pint to smaller than 1 gallon - \$ 0.45 1 gallon up to 2 gallons - \$ 0.95 Larger than 2 gallons up to 5 gallons - \$ 1.95	Awareness survey found that from 2015 to 2017, respondents reported knowing that paint can be recycled increased to 59% from a previous 16%	35,415 gallons collected. 78% was latex and 22% was oil-based. 97% of latex paint was made into recycled-content paint, 3% was sent to a landfill. 100% of oil-based paint was used as a fuel. (2017)	3.50%
Maine	Half pint or smaller - \$0.00 Larger than half pint to smaller than 1 gallon - \$0.35 1 gallon - \$0.75 Larger than 1 gallon up to 5 gallons - \$1.60	2.22 million gallons of paint were sold in 2016. 67% of collected paint was done so at a retail location, 17% at a transfer station, 11% at a HHW drop-off site, 2% at a Large Volume Pick-Ups and 4% at environmental services companies	109,267 gallons collected in 2016. 77% was latex and 23% was oil-based. 83% of latex paint was recycled and 17% was disposed of. 100% of oil-based paint was incinerated.	4.90%
Minnesota	Half pint or smaller - \$ 0.00 Larger than half pint and smaller than 1 gallon - \$ 0.49 1 gallon up to 2 gallons - \$ 0.99 Larger than 2 gallons up to 5 gallon - \$ 1.99	9,203,140 gallons of paint sold for the reporting period of July 2016-June 2017	1,010,140 gallons collected. 81% was latex and 19% was oil-based. 12% of latex paint was reused, 38% was made into recycled-content paint, 50% was used as alternative daily cover. No latex paint was sent to a landfill. 10% of oil-based paint was reused and 90% was used as a fuel. (2017)	11%
Ontario	None - producers are responsible for all costs	Consumer awareness survey (2015) by Product Care Association of Canada revealed 62% of BC adults were aware of a program to recycle paint and HHW.	In 2015, 81% of latex paint collected was recycled. 2.81% of paint was reused (given away at no cost).	11.25%

State	Cost to consumer	Consumer behavior	Paint collection	Recovery rate
Oregon	Half pint or smaller - \$0.00 Larger than half pint to smaller than 1 gallon - \$0.35 1 gallon - \$0.75 Larger than 1 gallon up to 5 gallons - \$1.60	Awareness survey conducted in 2017 showed that 50% of respondents had taken paint to be reused, recycled, or disposed and 69% said they would be willing to take paint to a drop off site. 25% said they were willing to travel 11 or more miles to recycle paint, 40% said they were willing to travel 6-10 miles, 33% were willing to travel 1-5 miles, and 1% were not willing to travel any distance.	810,745 gallons collected. 77% was latex and 23% was oil-based. 7% of latex paint was reused, 53% was made into recycled-content paint, 40% was sent to a landfill. 6% of oil-based paint was reused and 94% was used as a fuel. (2017)	n/a
Rhode Island	Half pint or smaller - \$0.00 Larger than half pint to smaller than 1 gallon - \$0.35 1 gallon - \$0.75 Larger than 1 gallon up to 5 gallons - \$1.60	Awareness survey was conducted to understand how consumers are using and disposing of paint. The general trend is that, through the EPR legislation and PaintCare program, respondents store less paint. In addition, it seems that contractors are more likely to take away leftover paint when they complete a job. Lastly, the percentage of respondents that said that they would dispose of paint in the trash has decreased.	75,852 gallons collected in 2016 & 2017. An accurate split between latex paint and oil paint cannot be provided because of an operational error on the part of the program's transportation provided.	5%
Vermont	Half pint or smaller - \$0.00 Larger than half pint to smaller than 1 gallon - \$0.35 1 gallon - \$0.99 Larger than 1 gallon up to 5 gallons - \$1.99	Awareness survey was conducted to understand how consumers are using and disposing of paint. The general trend is that, through the EPR legislation and PaintCare program, respondents store less paint. In addition, it seems that contractors are more likely to take away leftover paint when they complete a job. Lastly, the percentage of respondents that said that they would dispose of paint in the trash has decreased.	96,109 gallons collected. 77% was latex and 33% was oil-based. 83% of latex paint was made into recycled-content paint, and 17% was disposed of. 100% of oil-based paint was used as a fuel. (2017)	9.70%

State	Approximate number of paint retailers	Percent that serve as a drop off location	Enforcement	Outreach	Other
California	n/a	n/a	Department may administratively impose a civil penalty of up to \$1000 per violation per day, or up to \$10,000 for intentional, knowing or negligent violations. Annual administrative fees charged by the department cover enforcement costs.	Producers and retailers must provide information regarding EPR and drop off sites. Much of the outreach is printed materials delivered to pick up locations. Most outreach is done online (website and drop off site locator, television, radio, newspapers, magazines, and social media). (2016)	
Colorado	547 total retailers, 371 identified as being potential drop-off sites	37%	Administrative penalties not to exceed \$1,000 per day for a first offense and \$5,000 per day for a second or subsequent offense. These penalties are subject to a hearing by an administrative law judge.	Outreach efforts were increased significantly and include the distribution of a variety of in-store print materials and signage, television, radio, digital/social, newspaper, and outdoor (billboard) advertising. PaintCare reached out to paint retailers, material reuse stores, household hazardous waste programs, and solid waste management facilities to invite them to partner with the program and serve as paint drop-off sites.	
Connecticut	291	35%	Commissioner may seek civil enforcement pursuant to chapter 439 of the general statutes.	Advanced marketing plan, utilizing press releases, print materials for consumers, radio, digital, and televised advertising, and sports sponsorships.	
District of Columbia	n/a	n/a	The Mayor may impose civil fines and penalties as sanctions for violations of the provisions of the act or any rules issued under the authority of the act	Outreach began with mailings to retailers, after which Program staff followed up	

State	Approximate number of paint retailers	Percent that serve as a drop off location	Enforcement	Outreach	Other
Maine	305 total retailers, 246 identified as being potential drop-off sites	30%	Department to enforce the program and may adopt rules as necessary. Department may charge an annual fee not more than 1% of total program costs which can be used to cover oversight and enforcement costs.	Initially, six rounds of mailings were sent to paint retailers that included information about retailer requirements under the new law and about becoming a PaintCare drop-off site. These mailings were sent either directly to the stores or to their corporate office. In addition, 4 webinars were offered to retailers and a video is posted on PaintCare's explaining the program.	In the spring 2017, PaintCare lowered the threshold amount from 300 to 200 gallons to qualify for a Large Volume Pick-Up Service (LVP)
Minnesota	952 total retailers, 722 identified as being potential drop-off sites	26%	All fees received under this section shall be deposited in the state treasury and credited to a product stewardship account in the special revenue fund. For fiscal years 2014, 2015, 2016, and 2017, the amount collected under this section is annually appropriated to the agency to implement and enforce this section.	Over 274 events were held in 181 locations. Producers and retailers must provide information regarding EPR and drop off sites. In 2016 Oregon sent a letter to every retailer to remind them to share outreach materials with their clients. Much of the outreach is in printed materials delivered to pick up locations, however most of the outreach is online. This includes a website and drop off site locator, television, radio, newspapers, magazines, and social media.	
Ontario	n/a	n/a	The Resource Productivity and Recovery Authority is a non-governmental, not-for-profit that enforces producer targets. All data on collection and enforcement are publicly available. The Authority can complete inspections, issue penalties and conduct investigations.	A comprehensive website, toll-free phone number, printed materials, TV and radio ads, are used and updated as needed to educate consumers.	

State	Approximate number of paint retailers	Percent that serve as a drop off location	Enforcement	Outreach	Other
Oregon	n/a	n/a	Civil penalty for violation not to exceed \$1000 per violation per day. Any retailer that does not provide required information to consumers at point of sale incurs a fine not to exceed \$100 per day.	Producers and retailers must provide information regarding EPR and drop off sites. Much of the outreach is printed materials delivered to pick up locations. Most outreach is done online (website and drop off site locator, television, radio, newspapers, magazines, and social media). (2016)	
Rhode Island	93	28%	A violation of any of the provisions of [this chapter] shall be punishable by a civil penalty not to exceed \$1,000. In the case of a second and any subsequent violation, the civil penalty shall not exceed \$5,000/violation.	Advanced marketing plan, utilizing press releases, print materials for consumers, radio, digital, and televised advertising, and sports sponsorships.	Unique to RI, the RI Resource Recovery Corporation provides all the state's household hazardous waste collection services through their EcoDepot. PaintCare managed paint from EcoDepots which included on year round facility open on 15 dates and 31 drop off events.
Vermont	158	40%	Any person who violates any provision of this chapter, the rules promulgated herein or the terms or conditions of any order of certification granted by the secretary, shall be subject to a criminal penalty not to exceed \$25,000.00 or imprisonment for not more than six months, or both.	Outreach was scaled back because of the financial situation of the program. This could have had an effect on the decreased collection volume observed during the 2017 FY.	The program observed a decrease of 11% in terms of volume of paint processed. The most likely explanation is that the larger portion of the paint collected during the first two program years was old, stockpiled paint that is now cleared out.

Paint Literature Review

Background Information

Dunmade, Israel. "Recycle or Dispose Of? Lifecycle Environmental Sustainability Assessment of Paint Recycling Process." *Resources and Environment*, vol. 2, no. 6, Jan. 2012, pp. 291–296., doi:10.5923/j.re.20120206.07.

Based on this life cycle assessment, all stages of the paint lifecycle have an impact on the environment and human health, though, the disposal process requires urgent attention. Paint recycling has a non-trivial global warming potential.

Environment California. *Keep the Pacific Clean Activist Tool Kit*. February 2012.

This document provides basic tool kit including strategies, resources, opposition background, articles, ordinances, media advisory template, pitch, media release sample, and sample letters for cutting down California's plastic use and pollution at the statewide level.

Laakso, Alysén. "Building Sustainability through Social Marketing: Encouraging Reusable Shopping Bag Use at Stadium Thriftway in Tacoma, WA - A Case Study." University of Washington, University of Washington, 2013, pp. 1–97.

This thesis examines the difference between effective and ineffective bag regulations and how successful regulation occurs when bag legislation proponents build community support and citizen involvement. It recommends community-based social marketing (CBSM) and directly targeting the local populace by engaging the community and promoting voluntary change.

Millano, Elise F. "Hazardous Waste: Storage, Disposal, Remediation, and Closure." *Water Environment Research*, vol. 70, no. 4, 1998, pp. 721–745. JSTOR, JSTOR, www.jstor.org/stable/25045088.

This is a historical analysis regarding the development of hazardous waste disposal, the formative guidelines and scientific analysis which set the precedent for standards of safety in waste management.

Nash, Jennifer, and Christopher Bosso. "Extended Producer Responsibility in the United States." *Journal of Industrial Ecology*, vol. 17, no. 2, Apr. 2013, pp. 175–185., doi:10.1111/j.1530-9290.2012.00572.x.

This article is a review of EPR legislative advances over the past few decades. Please note the key difference between paint and other EPR laws - widespread industry backing. Interestingly, from 1991 to 2011, US States enacted more than 70 EPR laws, and the rate continuously increased over this time period.

New York City Department of Sanitation. *NYC Curbside Waste Characterization Study*. 2013.

This report identifies the amount and content of curbside waste collected by the New York City Department of Sanitation.

New York State Department of Environmental Conservation. *Beyond Waste: A Sustainable Materials Management Strategy for New York State*. 2010.

This report outlines strategies for New York state-level and municipal entities to decrease waste production.

Slimak, Karen M. "Landfill Disposal Systems." *Environmental Health Perspectives*, vol. 27, 1978, pp. 309–316. *JSTOR*, JSTOR, www.jstor.org/stable/3428892.

This article provides a historical perspective regarding emerging perspectives and attitudes towards hazardous waste disposal in terms of landfill usage and maintenance. It also provides a foundational understanding for future legislation and methods of remediation and management.

Legislation

Legislative Assembly of Ontario. *Waste-Free Ontario Act, Bill 151*. 2016.

This law creates regulations that hold producers, including paint producers, responsible for collection and recycling, including collection targets.

New York State Congress, Assembly. *Assembly Bill A1038*. 2018.

This bill (currently pending) establishes extended producer responsibility for household paint products in New York state. It requires at least one pick-up locations for post-consumer paint within 15 miles of "incorporated cities" and "census-designated places" and establishes an assessment on all architectural paint sold in the state. Retailer participation is optional according to this bill.

New York State Congress, Senate. *Senate Bill 881*. 2018.

This bill was passed by the Senate in 2018 and establishes extended producer responsibility for household paint products in New York state. It requires at least one pick-up locations for post-consumer paint within 15 miles of "incorporated cities" and "census-designated places" and establishes an assessment on all architectural paint sold in the state. Retailer participation is optional according to this bill.

EPR Legislation Progress Reports

Canadian Council of Ministers of the Environment. *Progress Report on the Canada-wide Action Plan for Extended Producer Responsibility*. 2014.

This report outlines progress made on implementing extended producer responsibility legislation across Canada for many products, from packaging to electronics to paint.

Cheung, Mannie. *British Columbia Paint and Household Hazardous Waste Stewardship Program*. Product Care Association of Canada. 30 June 2017. <https://www.productcare.org/wp-content/uploads/2017/06/2016-BC-Paint-HHW-Annual-Report.pdf>

This report illustrates a updated list of activities pertained to Paint EPR program and regulations in British Columbia as well as key performance targets and outcomes in 2016.

Honis, Laura. *Connecticut Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.

This provides an update to the Connecticut Department of Energy and Environmental Protection on paint EPR legislation as implemented by PaintCare, Inc. in Connecticut for the time period of July 1, 2016 - June 30, 2017. Key takeaways include program cost, outreach strategies, number of drop-off sites and amount of paint recovered for 2016.

Honis, Laura. *Rhode Island Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017

This provides an update to the Rhode Island Department of Environmental Management on paint EPR legislation as implemented by PaintCare, Inc. in Rhode Island for the time period of July 1, 2016 - June 30, 2017. Key takeaways include program cost, outreach strategies, number of drop-off sites and amount of paint recovered for 2016.

Hurd, John. *Maine Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.

This provides an update to the Maine Department of Environmental Protection on paint EPR legislation as implemented by PaintCare, Inc. in Maine for the time period of July 1, 2016 - June 30, 2017. Key takeaways include program cost, outreach strategies, number of drop-off sites and amount of paint recovered for 2016.

Hurd, John. *Vermont Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.

This provides an update to the Vermont Agency of Natural Resources on paint EPR legislation as implemented by PaintCare, Inc. in Vermont for the time period of July 1, 2016 - June 30, 2017. Key takeaways include program cost, outreach strategies, number of drop-off sites and amount of paint recovered for 2016.

Kent, Daria et al. *California Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.

This provides an update to the California Department of Resources Recycling and Recovery on paint EPR legislation as implemented by PaintCare, Inc. in California for the time period of July 1, 2016 - June 30, 2017. Key takeaways include program cost, outreach strategies, number of drop-off sites and amount of paint recovered for 2016-2017.

Lynch, Kevin. *Colorado Paint Stewardship Program: 2016 Annual Report*. PaintCare Inc. Washington DC. 2018.

This provides an update to the Colorado Department of Public Health and Environment on paint EPR legislation as implemented by PaintCare, Inc. in Colorado for 2016. Key takeaways include program cost, outreach strategies, number of drop-off sites and amount of paint recovered for 2016.

Ontario Ministry of the Environment and Climate Change. *Strategy for a Waste-free Ontario: Building the Circular Economy*. Feb 2017. https://files.ontario.ca/finalstrategywastefreeont_eng_aoda1_final-s.pdf

This report outlines detailed strategy implementation for the Waste-free Ontario legislation passed in 2016.

Pincuspy, Steve. *Minnesota Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2017.

This provides an update to the Minnesota Pollution Control Agency on paint EPR legislation as implemented by PaintCare, Inc. in Minnesota for the time period of July 1, 2016 - June 30, 2017. Key takeaways include program cost, outreach strategies, number of drop-off sites and amount of paint recovered for 2016-2017.

Jones, Jeremy. *District of Columbia Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2018.

This provides an update to the Oregon Department of Environmental Quality on paint EPR legislation as implemented by PaintCare, Inc. in Oregon for the time period of January 1, 2017 - December 31, 2017. Key takeaways include program cost, outreach strategies, number of drop-off sites and amount of paint recovered for 2017.

Jones, Jeremy. *Oregon Paint Stewardship Program: Annual Report*. PaintCare Inc. Washington DC. 2018.

This provides an update to the Oregon Department of Environmental Quality on paint EPR legislation as implemented by PaintCare, Inc. in Oregon for the time period of January 1, 2017 - December 31, 2017. Key takeaways include program cost, outreach strategies, number of drop-off sites and amount of paint recovered for 2017.

PaintCare Resources

PaintCare. *About PaintCare Fees*. Mar 2017.

<https://www.paintcare.org/wp-content/uploads/docs/xx-factsheet-retailer-fee.pdf>

This document outlines the current eco fees charged to consumers in the 9 jurisdictions where paint EPR legislation is already implemented with PaintCare in the United States. Of note, it outlines that retailers are not obligated to list the eco fee on receipts to consumers, though PaintCare encourages retailers to do so as it informs the public about the program.

PaintCare. *Manufacturer Registration*. April 2017.

<https://www.paintcare.org/wp-content/uploads/docs/xx-factsheet-manufacturer.pdf>

This document states the definition of Paint Steward Program, PaintCare Fee information and registration process for manufacturers who would like to register their company and participate PaintCare program.

PaintCare. *Registration Lists for Manufacturers*. April 2018.

<https://www.paintcare.org/manufacturers/#/registration-lists>

This webpage shows the list of manufacturers and brands registered for each state that has adopted PaintCare program.

PaintCare. *Remitter Agreements for Manufacturers*. June 2015.

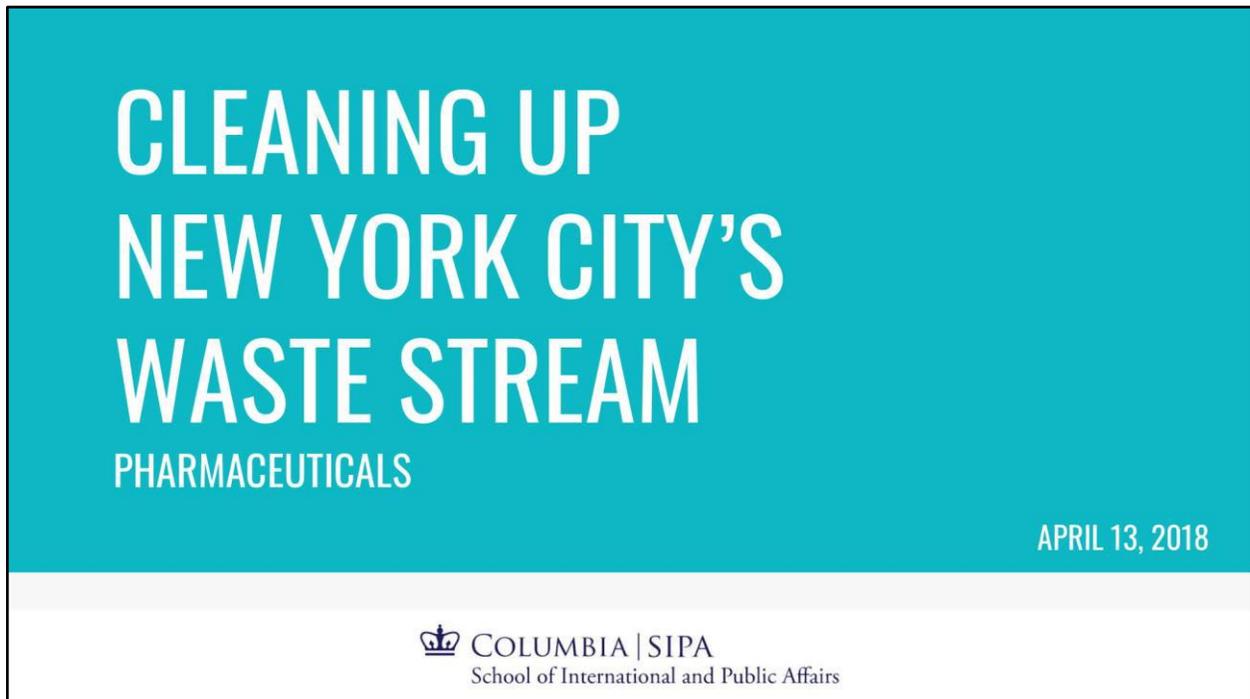
<https://www.paintcare.org/manufacturers/#/remitter-agreements>

This webpage outlines the definition of remitter agreements and different scenarios of how remitter agreements may be used for moving the reporting and fee remittance responsibility to the dealer.

Pharmaceuticals Specific Findings

DSNY seeks to address pharmaceuticals in the waste stream because of the potential dangers associated with improper handling and disposal, including the contamination of waterways and drug overdose. Instead of focusing on EPR legislation for the disposal of residential pharmaceutical waste, we focused on opportunities for the donation and redispension of prescription drugs. Our findings are detailed below.

Pharmaceuticals Final Slide Deck



A PRESENTATION TO THE NYC DEPARTMENT OF SANITATION

Columbia University, School of International and Public Affairs

Faculty Advisor: Louise Rosen

Managers: Laurelle Ahn and Anne Canavati

PHARMACEUTICALS TEAM

Sarah Burns

Janna Herndon*

Andre Turner

*Product Leader

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AGENDA

- ▶ **Explanation of Analysis**
- ▶ **Methodology**
- ▶ **Objectives**
- ▶ **Pharmaceuticals**
 - ▶ **Research summary**
 - ▶ **Recommendations**
 - ▶ **SWOT Analysis**
- ▶ **Conclusion**

3

4

New York City
Department of
Street Cleaning,
circa late 1890s.



5

NYC Department of
Sanitation Truck
displaying the
OneNYC Zero
Waste goal.

ZERO WASTE

#ONENYC





▶ Environmental contamination

▶ Threats to human health

▶ Costly for NYC to recycle

6

RESEARCH

- ▶ Challenges of disposal/recycling
- ▶ Solutions implemented by other jurisdictions
- ▶ Applicability for NYC
- ▶ Barriers to implementation

DELIVERABLES

- ▶ Policy Matrix
- ▶ Decision Memo
- ▶ Literature Review
- ▶ PowerPoint Presentation

7



Divert waste from landfills



Save municipal money

OBJECTIVES



Protect environmental and human health

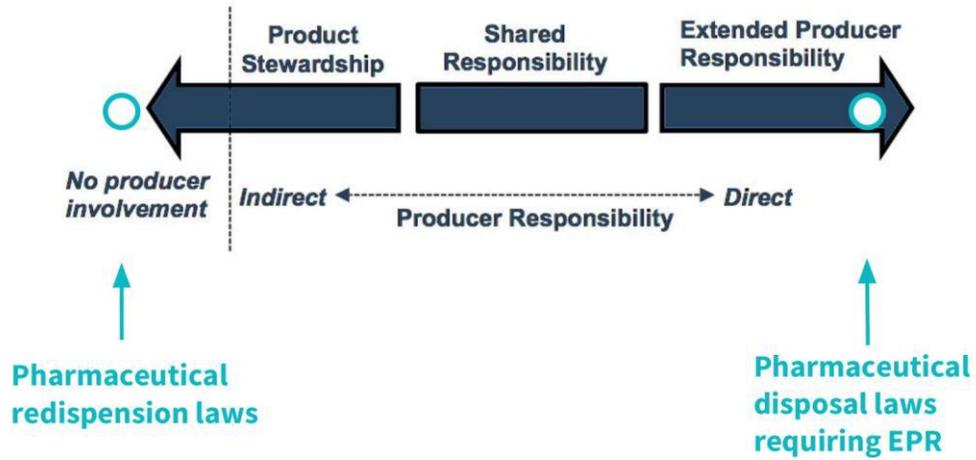


Encourage smarter use of raw materials

EXTENDED PRODUCER RESPONSIBILITY



PRODUCER RESPONSIBILITY SPECTRUM



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PHARMACEUTICALS

Sarah Burns, Janna Herndon, and Andre Turner

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GOAL:

Identify options for the redispension of prescription drugs in New York City.

12

CHALLENGES OF DRUG DISPOSAL

- ▶ Environmental contamination
- ▶ Fueling addiction
- ▶ Accidental poisoning
- ▶ Take-back events are costly
- ▶ Some drugs have strict disposal rules

13

\$5,000,000,000

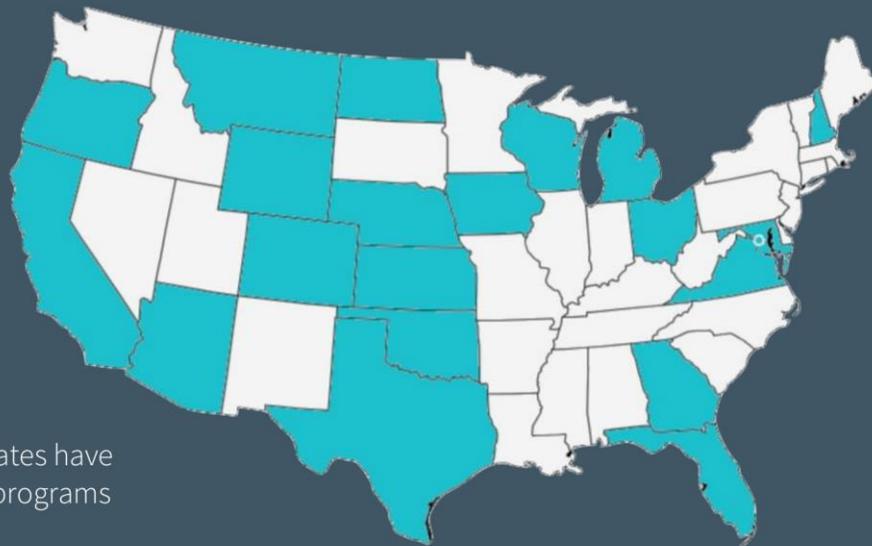
of unopened, unexpired prescription drugs are wasted annually

1 in 10

Americans cannot afford their prescription medications

14

DONATION AND REDISPENSION PROGRAMS



Blue states have active programs

15

LAW PASSED IN NEW YORK STATE, 2016

KEY COMPONENTS

- ▷ Prescription drugs
- ▷ Donations accepted from wholesalers, distributors, manufacturers, hospitals, and pharmacies
- ▷ Unused, unexpired medication redispensed to indigent patients
- ▷ Allows for a third-party intermediary

STATUS: Awaiting a Request for Information

16

METHODOLOGY

- ▷ **13** jurisdictions with operational programs
- ▷ **3** jurisdictions with non-operational programs
- ▷ **13** interviews with state officials, recipient entities and nonprofit intermediaries

17

RECOMMENDATION: NYS REGULATIONS

Regulations should:

- ▷ Exclude controlled substances
- ▷ Ensure protection from liability
- ▷ Make it as easy to donate as it is to destroy
- ▷ Allow the handling fee to include “reasonable costs” of operating the program
- ▷ Outline simple approval process
- ▷ Allow medication to be mailed to patients

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IMPLEMENTATION GOALS

- ▷ Maximize participation
- ▷ Cost savings and funding stability
- ▷ Timeliness / efficiency

19

RECOMMENDATION: IMPLEMENTATION

Work with approved intermediary (SIRUM) to:

- ▷ Recruit, train, and contract with donors
- ▷ Establish a centralized nonprofit pharmacy to streamline donations and redispension
- ▷ Provide inventory management software
- ▷ Recruit participating clinics
- ▷ Cultivate support from professional boards and large donors

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TRADE-OFFS



Participation

Cost

Time

21

PHARMACEUTICALS SWOT ANALYSIS

Strengths <ul style="list-style-type: none">▶ Municipal funding not required▶ Recycles waste from commercial entities▶ Utilizes expertise▶ Streamlined approach▶ Benefits can be quantified	Weaknesses <ul style="list-style-type: none">▶ City has limited control▶ Timing is uncertain
Opportunities <ul style="list-style-type: none">▶ Learn from existing programs▶ Groundwork is laid for participation in NYC	Threats <ul style="list-style-type: none">▶ Does not address opioid addiction crisis▶ Regulations process has stalled

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OTHER CONSIDERATIONS

- ▶ Repository model
- ▶ New law combining EPR and redispension

23

CONCLUSION

To move towards implementation of a drug redispension program in NYC, urge the NYS Department of Health to create regulations that include the recommended components.

THANK YOU

REFERENCES

Slide 4: Image by DSNY. Oatman-Stanford, Hunter. "A Filthy History: When New Yorkers Lived Knee-Deep in Trash." *Collectors Weekly*, 24 June 2013, <https://www.collectorsweekly.com/articles/when-new-yorkers-lived-knee-deep-in-trash/>.

Slide 5: Image from: Cohen, Emily. "Zero to Hero: The ABCS of 0 Waste to Landfill." Roadrunner blog, 5 April 2016, <https://www.roadrunnerwm.com/zero-the-hero/>.

Slide 6: Paint image from: Cunningham, Enda. "New legislation likely for disposal of paint tins." *Connacht Tribune*, 17 December 2014. <http://connachttribune.ie/new-legislation-likely-for-disposal-of-paint-tins-322/>; Packaging image from: Johnston, Rae. "The Ford Escape is made of old rubbish (in a good way)." *Gizmodo.com*, 21 November 2017, <https://www.gizmodo.com.au/2017/11/the-ford-escape-is-made-of-old-rubbish-in-a-good-way/>;

Slide 9: Image from: Moore, Darrel. "Circular Economy Package: 'Still a long way to go.'" *Chartered Institution of Wastes Management*, 3 December 2015, <https://ciwm-journal.co.uk/circular-economy-package-still-a-long-way-to-go/>.

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REFERENCES

Slide 10: Modified image from: Canadian Council of Ministers of the Environment. *Progress Report on the Canada-wide Action Plan for Extended Producer Responsibility*. 2014. <https://www.ccme.ca/files/Resources/waste/extended/CAP-EPR%20Progress%20Report.pdf>.

Slide 11: Image by Shutterstock.

Slide 12: Image from "Filling Prescriptions After Opioid-Related Hospitalizations." *Physician's Weekly*, 5 January 2018, <https://www.physiciansweekly.com/filling-prescriptions-after-opioid-related-hospitalizations/>.

Slide 14: Lenzer, J. "US could recycle 10 million unused prescription drugs a year, report says." *British Medical Journal*, 2014, <https://doi.org/10.1136/bmj.g7677>; Cohen, R.A. and Villarroel, M.A. *Strategies Used by Adults to Reduce Their Prescription Drug Costs: United States, 2013*. National Center for Health Statistics Data Brief, No. 814, January 2015. <https://www.cdc.gov/nchs/data/databriefs/db184.htm>.

Slide 15: Map informed by: "State Prescription Drug Return, Reuse, and Recycling Laws." National Conference of State Legislatures, 31 March 2017. <http://www.ncsl.org/research/health/state-prescription-drug-return-reuse-and-recycling.aspx>.

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REFERENCES

Slide 16: New York (State). Legislature. Assembly. An act to amend the public health law, in relation to unused prescription drug donation and redispensing. S 5903A. 2015-2016 Regular Session. June 10, 2016. *New York State Assembly*, http://assembly.state.ny.us/leg/?default_fld=&leg_video=&bn=S05903&term=2015&Summary=Y&Actions=Y&Text=Y.

Pharmaceuticals Memorandum of Recommendation

This memo of recommendation has been prepared for the Department of Sanitation in the City of New York (DSNY), in response to an inquiry regarding opportunities for the donation and redispersion of prescription drugs in New York City. We recommend working with an approved nonprofit intermediary, likely to be SIRUM, to implement a drug donation and redispersion program in NYC, with the ultimate goals of diverting pharmaceutical waste from landfills, protecting environmental and human health, saving municipal dollars, and encouraging smarter use of raw materials.

STATEMENT OF ISSUE

Improper disposal of pharmaceutical waste poses a significant risk to environmental and human health. When consumers flush unused drugs, dissolved medication can contaminate water bodies, such as the Hudson River,²⁸ threatening local ecosystems and impacting drinking water supplies.²⁹ Pharmaceuticals have also been found in landfill leachate, which is disposed to wastewater treatment facilities that are unable to filter out pharmaceutical contaminants.³⁰ A surplus of unused medication poses the risk of accidental poisoning of children or the elderly and can perpetuate the opioid addiction and overdose crisis. Those struggling with addiction may rummage through residential or commercial waste containers, searching for drugs that have been thrown away. A 2017 study found that up to 71% of opioids prescribed to surgery patients are not consumed and that under 10% of patients properly dispose of excess opioids.³¹

Another problem relevant to pharmaceutical disposal is that it wastes salvageable medication. According to the University of Chicago, an estimated \$2 billion worth of unused medication is destroyed in the U.S. each year by long-term care facilities alone.³² At the same time, 35 million Americans are unable to afford medication, resulting in a lack of adequate treatment unless they are able to receive free or discounted medication.³³

State and county governments across the United States have passed legislation creating programs to address the unsafe disposal of pharmaceuticals. There are two approaches to safely manage this waste stream: 1) establish programs that employ the strategy of extended producer responsibility (EPR) to

²⁸ Krajick, Kevin. "Researchers Map High Levels of Drugs in the Hudson River." *State of the Planet, Earth Institute, Columbia University*, 19 Feb. 2018, <http://blogs.ei.columbia.edu/2018/02/19/high-levels-of-drugs-found-dissolved-in-many-parts-of-hudson-river/>.

²⁹ Jain-Cocks, Kavita. "Pharmaceuticals in the Water Supply: Is This a Threat?" *State of the Planet, Earth Institute, Columbia University*, 5 Oct. 2011, <http://blogs.ei.columbia.edu/2011/10/05/pharmaceuticals-in-the-water-supply-is-this-a-threat/>.

³⁰ Masoner, Jason R., et. al. "Landfill Leachate as a Mirror of Today's Disposable Society: Pharmaceuticals and Other Contaminants of Emerging Concern in Final Leachate from Landfills in the Conterminous United States." *Environmental Toxicology and Chemistry*, vol. 35, no. 4, pp. 906–918, 2016, <http://onlinelibrary.wiley.com/doi/10.1002/etc.3219/abstract>.

³¹ Bicket, Mark C., et al. "Prescription Opioid Analgesics Commonly Unused After Surgery; A Systematic Review." *JAMA Surgery*, vol. 152, no. 11, 2017, pp. 1066-1071, https://calpsc.org/mobius/cpsc-content/uploads/2017/12/jamasurgery_Bicket_2017_rv_170003.pdf.

³² Gorenstein, Dan. "The Shocking Cost of Wasted Prescription Pills." *Marketplace*, 10 Dec. 2014, <https://www.marketplace.org/2014/12/10/health-care/shocking-cost-wasted-prescription-pills>. Accessed 11 Apr. 2018.

³³ Kendall, Tyler. "Drug Recycling Programs Offer Promise but Are Slow in Coming." *US News*, 19 Feb. 2016, <https://www.usnews.com/news/articles/2016-02-19/drug-recycling-programs-offer-promise-but-are-slow-in-coming>. Accessed 5 Mar. 2018.

provide for the collection, transport, and proper disposal of residential pharmaceutical waste, and 2) establish statewide regulations pertaining to the donation and redispension of unused, unexpired pharmaceuticals, from commercial entities to indigent patients. In general, the first approach assigns responsibility for designing, financing, and managing drug disposal programs to pharmaceutical manufacturers, with oversight from the government. The second approach is variable across states, with some jurisdictions funding the program and facilitating participation, and others working with third-party intermediaries to implement the program (see Appendix A). This analysis focuses on drug donation and redispension programs (also referred to as drug repository programs) and how such a program could be implemented in New York City.

Donation and Redispension Laws

Currently, 42 states have laws allowing for the establishment of a drug donation and redispension program.³⁴ Less than half of those states have operational programs. Successful examples are found in Iowa, which has served 78,000 patients and redistributed \$21.5 million in free medication and supplies since 2007,³⁵ and in Wyoming, where more than 88,000 pounds of donations worth about \$12.5 million have been redispensed since 2008.³⁶ In the states with non-operational programs, the responsible agency, usually the Department of Health or the Board of Pharmacy, has not yet created regulations governing the program.

New York falls into this non-operational category. Senate bill 5093A sponsored by Senator Kemp Hannon was introduced in June 2015 and signed in November 2016.³⁷ The Act established a donation and redispension program for prescription drugs and required the Department of Health to make regulations governing the program. Similar to laws in other states, the New York law allows commercial entities such as hospitals, nursing homes, pharmacies, distributors, and manufacturers to donate unused, unexpired prescription drugs in original, unopened, tamper-evident packaging, and to receive donations for the purpose of redispensing medication to the indigent, uninsured or underinsured patients. The state intends to publish a Request for Information from stakeholders and has not begun to draft regulations.³⁸

In addition to considering concerns from stakeholders, the NYS Department of Health must also assess conflicting public health laws. Redispension is prohibited with certain exceptions pursuant to the Rules of the Board of Regents NYS Office of the Professions, Part 29.7(a)(14) and 29.7 (a)(15)(i).³⁹ A key consideration in developing regulations is deciding how the program should be funded. The bill

³⁴ Cauchi, Richard. "State prescription drug return, reuse, and recycling laws." *National Conference of State Legislatures*, 31 March 2017, <http://www.ncsl.org/research/health/state-prescription-drug-return-reuse-and-recycling.aspx>.

³⁵ *2017 Performance Update, Iowa Drug Donation Repository*. SafeNetRx, 2018.

³⁶ "Wyoming Medication Donation Program Honored by Harvard." *Wyoming Tribune Eagle*, 10 Feb. 2017, <https://us8.campaign-archive.com/?u=cbb590d7bc0c03787f5a9d14d&id=9fd3475186>.

³⁷ New York (State). Legislature. Assembly. An act to amend the public health law, in relation to unused prescription drug donation and redispensing. S 5903A. 2015-2016 Regular Session (June 10, 2016). *New York State Assembly*, http://assembly.state.ny.us/leg/?default_fld=&leg_video=&bn=S05903&term=2015&Summary=Y&Actions=Y&Text=Y.

³⁸ Williams, Kiah. Personal Interview, 26 March 2018. Ms. Williams is a co-founder of SIRUM and has been communicating with NYS Dept. of Health about these regulations every month since May 2017.

³⁹ New York State, Office of Alcoholism and Substance Abuse Services. "Recommendations for Redispensing (Repurposing) of Patient Medications." <https://www.oasas.ny.gov/AdMed/recommend/Redispensing.cfm>. Accessed March 7, 2018.

explicitly allows for the participation of third-party intermediaries to facilitate the donation of unused drugs from eligible donors to eligible recipients. After regulations are written, the state will conduct a bidding process to approve third-party intermediaries. That process will be detailed in the regulations. In other jurisdictions, regulations do not specify a timeline for the bidding process or implementation of a program. As a result, implementation timelines have varied widely across states. More than one nonprofit may be approved as a third-party intermediary. The law also permits recipient entities to charge a handling fee for each drug dispensed. In some states, this handling fee is sufficient to cover the costs of the program. The law does not include language regarding state funding.

METHODOLOGY AND IMPLEMENTATION GOALS

Of the states with active redispersion programs, thirteen jurisdictions were analyzed, and key information from the relevant statutes and regulations were recorded in a policy matrix, which allowed for easy comparison between the programs. Three states with non-operational programs, including New York, were also analyzed. To gain further insight into the operation of certain programs, eleven interviews were conducted with state officials, recipient entities, and third-party intermediaries. Academic and private reports, news articles, and useful web resources were compiled into a literature review.

In formulating recommendations, essential components of New York's redispersion law were compared to statutes in other jurisdictions to identify similar models of operation that could be implemented in New York. Insights into program successes and challenges in other jurisdictions helped to inform recommendations for important provisions in written regulations, to be completed by the NYS Department of Health, and best practices for implementation of the program in New York City.

For all programs analyzed, there are trade-offs between participation in the program, the cost of operating the program, and time needed to implement the program. Participation is integral to the success of a program and can be measured in terms of the number of donor entities, the volume and consistency of donations, and the number of patients served by the program. Based on goals and concerns expressed by DSNY, priority was given to participation and cost when creating implementation objectives to inform recommendations.

RECOMMENDATIONS

New York State Regulations

According to Kiah Williams, a policy expert at SIRUM, recommendations sent from NYC to NYS Department of Health could have a significant impact on the substance of the regulations and the pace at which the process moves forward. Programs have been known to stall out at this point. Laws are passed, and regulations are never written, rendering programs non-operational.

Based on lessons learned from Ms. Williams and other states, NYS regulations should accomplish the following:

- **Exclude controlled substances** - New York is the only state, of those analyzed, whose law does not specifically exclude controlled substances from the types of donated drugs accepted

into the program. Exclusion would simplify implementation and address concerns from the Bureau of Narcotics.

- **Ensure protection from liability** - While the law does expressly excuse participants acting in good faith from criminal and civil liability, the regulations should reinforce this important provision in order to encourage participation in the program.
- **Make it as easy to donate as it is to destroy** - Excessive documentation and procedural requirements that impose unnecessary burdens of cost or time will discourage participation in the program. It must be at least as simple and costly for participants to donate eligible medications as it is for them to properly destroy the drugs. In other jurisdictions, this component has been a key barrier to participation.
- **Allow the handling fee to include “reasonable costs” of operating the program** - Placing a cap on the handling fee would mean that the program requires additional annual funding, from either the state or private donors, in order to operate. Without a cap, New York’s program can become self-sustaining once economies of scale are achieved. Handling fees are miniscule in comparison to the actual price of the medications, and many charitable clinics are willing to pay those fees on behalf of their patients.
- **Outline a clear and simple approval process for participants, including third-party intermediaries** - According to the law, the Department of Health is responsible for approving participation in the program by donors, recipients, and nonprofit intermediaries. In other jurisdictions, the approval process simply requires a written notice of intent to participate in the program. A similarly easy and clear process should be required in New York.
- **Allow medication to be mailed to patients** - This is an important component of the streamlined Georgia model (see Case Study below) and is recommended for New York.

Options for Implementation in NYC

These recommendations focus on strategies for implementing a donation and redispension program in New York City after regulations are created by the NYS Department of Health. They were informed by the successes and challenges of programs in other states with different approaches to program operation. The primary recommendation assumes that the regulations are written according to the above recommendations.

Option #1 (primary): Work with a nonprofit intermediary to implement a program in New York City, following the example set by Georgia (see Case Study below). While more than one intermediary may be approved by the state, we think it is highly likely that SIRUM will be approved to facilitate this program because of its expertise and unique capabilities.

SIRUM currently works in eight states⁴⁰ and offers a suite of services to help implement donation and redispension programs. Years ago, the nonprofit was approached by interested participants in New York and has been involved in the creation of a program ever since. They helped to get the law passed in 2016 and have built relationships with on-the-ground partners in New York City who have

⁴⁰ According to their website, <https://www.sirum.org/our-service/>.

expressed interested in participating in the program or funding this work. Under this recommendation, SIRUM will:

- Recruit, train, and contract with donors
- Work with a centralized, nonprofit pharmacy to streamline donations and redispension via mail order
- Provide management and inventory software
- Recruit participating charitable clinics
- Cultivate support from professional associations and large foundations

This recommendation prioritizes participation and cost at the expense of time. Examples from other jurisdictions provide evidence that donor participation increases significantly when SIRUM is involved in recruitment and training. To offset costs, SIRUM collects service fees from the organization receiving the donated medications, although the vast majority of SIRUM's funding comes from foundations. These nonprofit pharmacies are funded by foundations and individual donors with an interest in improving medical care for indigent patients. In this way, NYC will not incur any costs associated with the implementation or operation of the program. In fact, if the regulations are created and the program becomes operational, it is highly likely that SIRUM would pursue this course of action independent of the city, working with on-the-ground partners.

However, support from NYC may be necessary for the regulations to be written. The city may be able to assist in the implementation of the program by raising awareness of the program, connecting interested participants, informally encouraging participation, and reporting on successes as they relate to Zero Waste 2030. SIRUM has identified potential partners and foundations who are interested in providing seed money necessary to get the program operating, at which point handling fees may be able to completely cover the costs of operation. However, it is unclear how soon those funds will become available. If NYC determines that time is of greater priority than cost, the city can contract with SIRUM directly to expedite implementation. This alternative was proposed by SIRUM during a phone conversation.

Option #2 (alternative): Work with the state to establish a repository for donated drugs, following examples from Iowa and Kansas.

As it is written, the NYS law does not appear to allow for a drug repository, a centralized collection site that inspects and repackages all donations before shipping them to recipient entities. Recipient pharmacies order drugs from the central repository and dispense them to patients. The NYS law says that donated drugs must move directly from donor to recipient entity. An intermediary may help to facilitate donation but may not “take possession or ownership” of the drugs.⁴¹

If the regulations dictate a change of course and allow for the establishment of a drug repository, the city should consider working with the state in selecting or establishing a nonprofit pharmacy to serve

⁴¹ See footnote 10.

this purpose. The Iowa program, which requires state funding of nearly \$500,000 annually,⁴² is a successful example of this model. To ensure the success of the program, the city may consider recruiting donors to the repository and educating potential recipients on the process of ordering medication.

CASE STUDY: GEORGIA

The Georgia Donated Drug Repository Program⁴³ became operational in February 2017. The Georgia Department of Health approves recipient entities and maintains a list of them on a basic webpage,⁴⁴ but does not facilitate or fund the program. The program is operated by SIRUM, who helped to launch Good Pill Pharmacy, the only registered recipient entity in the program. SIRUM developed inventory management software to assist with back-end operations. Good Pill Pharmacy is a mail-order pharmacy and can easily dispense medications to patients all over the state.

This streamlined approach to donating medications bears resemblance to a repository program, with the notable difference that there is no intermediate possessor of the drugs. Good Pill Pharmacy receives medications directly from donors and dispenses them directly to patients. SIRUM recruits and contracts with many donors, simplifying operations for the pharmacy, who contracts only with SIRUM. SIRUM also recruits charitable clinics whose patients will benefit from the program. These clinics contract with Good Pill Pharmacy and send patient prescriptions there to be filled under the program. Clinics often cover handling fees on behalf of their patients. According to Georgia's regulations, the handling fee may cover the reasonable costs of participating in the program, including costs of educating eligible donors, providing technical support to donors, shipping and handling, labor, storage, licensing, utilities, advertising, technology, supplies, and equipment.⁴⁵ This provision will allow for the program, at a certain scale, to become self-sustaining.

SWOT ANALYSIS

Strengths: Pharmaceutical waste from commercial entities (hospitals, nursing homes, pharmacies, wholesalers, etc.) is recycled, expertise is provided by SIRUM, municipal funding is not required, a streamlined approach has the ability to serve patients regardless of location in the state, existing relationships are leveraged, and benefits can be quantified.

Weaknesses: The city has limited control, and the timeline for implementation is uncertain.

Opportunities: NYS has the opportunity to learn from existing programs in other jurisdictions, and the groundwork is already laid for participation in NYC.

⁴² Sands, Laura. "Re: Answers to your questions." Email to Sarah Burns. 1 March 2018.

⁴³ Here, the word repository is misleading. The program uses a model of direct donation from donor to recipient entity, in keeping with the structure implied by the text of the NYS law.

⁴⁴ <https://dph.georgia.gov/donated-drug-repository-program>.

⁴⁵ 511-5-12 GA R&R, Donated Drug Repository Program. Available at: <https://dph.georgia.gov/sites/dph.georgia.gov/files/511-5-12%20Donated%20Drug%20Repository%20Program%20%281%29.pdf>.

Threats: The program does not coincide with Governor Cuomo’s priorities, as it will not address the opioid addiction crisis, and the process of creating regulations has failed to progress since May 2017.⁴⁶

STAKEHOLDER CONSIDERATIONS

Bureau of Narcotics

The Bureau of Narcotics has lengthy concerns about the proposal of a redispension program because of the threat it poses to patient safety. The NYS law does not explicitly exclude controlled substances.

Recipient Entities

Pharmacists at recipient entities are responsible for inspecting donated medications to determine if they are suitable for redispension, removing personal information from labels, repackaging medication, and destroying unsuitable medication. They are generally required to keep detailed records of medications received, destroyed, and dispensed under the program. In the absence of a third-party intermediary, recipient entities bear all costs of operating the program. Costs can be offset by a handling fee charged to patients for each medication dispensed. In some jurisdictions, state governments provide grants to support the operation of the program.

Drug Recipients

Donated drugs may be dispensed to indigent patients with a valid prescription. Implementation of this program in NYC would greatly benefit low-income patients by providing access to much-needed medication that they could otherwise not afford.

Charitable Clinics

Charitable clinics in NYC are supportive of a donation and redispension program because it aligns with their missions to serve indigent patients. Interested clinics include the Brooklyn Free Clinic and RotaCare. Many clinics are willing to cover the costs of handling fees on behalf of their patients who receive redispensed medication.

Pharmaceutical Manufacturers

More information is needed to assess the position of drug manufacturers. George Wang, co-founder of SIRUM, indicated that manufacturers are supporters of drug donation and redispension programs because it allows them to act as donors. They can get rid of surplus drugs that would otherwise expire. Mr. Wang stipulates that eligible patients of drug donation programs are not normal customers for drug manufacturers because they could not afford the medication on their own. Therefore, drug donation programs do not take away from producer profits.

Patient Advocacy Groups and Foundations

Foundations and associations in New York State have expressed support for this program. Examples include the New York Academy of Medicine, the New York State Health Facilities Association, the New York State Health Foundation, the Robin Hood Foundation, and the Clinton Foundation.

⁴⁶ See footnote 11.

CONCLUSION

The results of our research suggest that coordination with a third-party intermediary, such as SIRUM, is an effective means of implementing a drug redispension program in NYC. Positive outcomes of this approach include the creation of a redispension program at no cost to the city, utilizing the expertise of a nonprofit with experience implementing successful programs. Drawbacks of this recommendation include an uncertain timeframe for implementation, as SIRUM will need to secure funds to begin this work and secure a pharmacy to act as the approved recipient entity.

We designed these recommendations with the aim of helping DSNY implement an effective and sustainable drug donation and redispension program, moving towards the goal of Zero Waste by 2030. We hope they fulfill their intended purpose, ultimately improving the health of citizens and the environment in NYC.

APPENDIX A

The concept of EPR holds that producers should be responsible for the end-of-life management of their products, which may incentivize methods to reuse or recycle materials. As it relates to pharmaceuticals, this could be reasonably interpreted to suggest that manufacturers should facilitate the recycling of unused drugs through donation and redispension programs. However, current laws do not incorporate EPR strategies into such programs. According to Vivian Fuhrman, a senior associate at the Product Stewardship Institute who specializes in EPR legislation for pharmaceuticals, there are several reasons why EPR and redispension have not be combined. The initiatives are framed as separate issues. Disposal laws incorporating EPR have a stated goal of mitigating the risks of addiction, overdose, accidental poisoning of children or the elderly, and environmental contamination. These are clear public health threats, and it can be argued that producers should bear extended responsibility for their products. Redispension laws address issues of access to healthcare by providing medication to needy individuals. The connection to producer responsibility is less clear here, as this seems like a social justice issue. Additionally, the two types of legislation have different supporters and opponents. To be successful, redispension laws require participation from healthcare professionals, such as pharmacists. It also raises issues regarding the safety of redistributing drugs that have changed hands. By contrast, EPR laws do not directly affect pharmacists, and the safety concerns are related to the secure collect and transport of the drugs and disposal methods that result in the least environmental risk. Lastly, there are different existing regulations governing disposal and reuse of pharmaceuticals.

Pharmaceuticals Policy Matrix

Please see Page 74 to 102.

Redistribution Laws						
State	Program Status	Law	Legislative History	Regulations	Regulations effective	Types of Drugs
California	Operational	HSC Division 16, 150200-150208	First law effective 2005. SB 1329 approved by governor on Sept. 28, 2012, effect Jan. 1, 2013	Counties must develop their own regulations. Example: this is the Santa Clara County ordinance	Santa Clara regulations: SCVHHS Policy & Procedure A7170-415, April 2013	Not controlled substances
Georgia	Operational	GA Code § 31-8-301 (and amends other sections)	HB 897 signed by the governor 4/27/16, effective 7/1/16	511-5-12 Donated Drug Repository Program	February 14, 2017	Over-the-counter and prescription drugs, not controlled substances
Iowa	Operational	§§ 135M.1—7	Signed by the governor on May 3, 2005	641 IAC 109.1	March 2007	Prescription drugs, over-the-counter drugs, and supplies. Not controlled substances
Kansas	Operational	KS Stat §§ 65-1668 – 1675	Signed into law by governor on March 20, 2008	KARS 68-18-1	December 1, 2008	Unused medications; excludes controlled substances.
Maryland	Operational	Health-General Article, § 15-601.609	Signed into law by governor on May 2, 2006. Effective July 1, 2006.	Chapter 10.34.33 Prescription Drug Repository Program	January 29, 2007	Prescription drugs and medical supplies, not controlled dangerous substances or previously compounded drugs
Michigan	Operational	MI Comp L § 333.17775	Approved by the governor Dec. 18, 2012, effective March 28, 2013	MI Admin. Code R 338.3601 - 338.3643	Unclear (2014?)	Prescription drugs, other than controlled substances
Michigan	Operational	MI Comp L § 333.17780	Approved by the governor Sept. 29, 2006. Effective Sept. 29, 2006	MI Admin. Code R 338.3601 - 338.3643	Unclear (2014?)	Cancer drugs and supplies. Not controlled substances
Montana	Operational	MT Code §§ 37-71401—08	SB 288 signed by the governor 4/23/01, effective 10/1/01. For cancer drugs, HB409 signed by governor 4/18/09	24.174.1141 Donated Drug Program (also 24.174.15 Cancer Drug Repository)	12/27/2002. For cancer regs, 12/24/2010	Prescription drugs, except those designated as a dangerous drug or a precursor to a controlled substance. Separate program for cancer drugs
New Hampshire	Operational	NH Rev. Stat. § 318.58	Current program effective as of July 2011.	Ch Ph 1400 Unused Prescription Drug Program Rules	December 28, 2011	Unused prescription drugs, including manufacturer's samples, and medical devices that have not been opened. No controlled substances or compounded drugs

Redistribution Laws						
State	Program Status	Law	Legislative History	Regulations	Regulations effective	Types of Drugs
Ohio	Operational	Ohio Revised Code Section 3715.87	HB 221 signed by governor in 1/6/03, effective 4/7/2004. Amended in 2007 by SB33, in 2009 by HB1, in 2012 by HB487	OH Admin Code 4729-35	Originally effective April 2004. Amended a few times	Prescription drugs (including certain "dangerous drugs") and orally-administered cancer drugs (that are not controlled substances)
Oregon	Operational	OR Rev. Stat. 689.770--830	Program established in 2009 and amended in 2015 (SB 1514), effective 3/3/16	OAR 855-044-0001	February 23, 2017	Prescription drugs, not controlled substances
Texas	Operational	TX Health and Safety Code §§ 6.442.001 et seq	The first law to pass was SB 1896 (2007). SB 1243 (2015) established a pilot program. HB 2561 (2017) allows for the continuation of the program.	25 Tex. Admin. Code Part I, Ch. 95.1--95.9	March 1, 2018	Prescription drugs, excluding controlled substances
Virginia	Operational	§ 54.1-3411.1	Signed into law on February 5th, 2009	18VAC110-20. Regulations Governing the Practice of Pharmacy	April 10, 2009	Prescription drugs, excludes controlled substances and compounded medications
Wyoming	Operational	WY Stat § 35-7-1601 et seq.	HB0194 signed by the governor 3/2/05, effective 7/1/05. Later amended to include drug disposal and to change the requirement for all donated drugs to be six months out from expiration, rather than two months.	DOH Pharmacy Services, Ch. 2 Medication Donation Program	October 10, 2006	Prescription drugs, excluding controlled substance and compounded medications
Arizona	Operational					
Colorado	Operational					
Florida	Operational					
Nebraska	Operational					Cancer drugs
North Dakota	Operational					
Oklahoma	Operational					
Wisconsin	Operational					
Alabama	Non-operational					
Arkansas	Non-operational					

Redistribution Laws						
State	Program Status	Law	Legislative History	Regulations	Regulations effective	Types of Drugs
Connecticut	Non-operational	Sec. 17b-363.	Signed into law by the governor June 21, 2000, effective July 1, 2000. Amended a few times. Repealed Oct. 1, 2003	Unclear if regulations were ever created and if this pilot program every happened. Not in current regs	Unknown	Prescription drugs, not controlled substances. A list of accepted drugs will be developed by the Commissioner of Social Services and will include the fifty drugs with the highest average wholesale price
Guam	Non-operational					
Idaho	Non-operational					
Indiana	Non-operational					
Kentucky	Non-operational					
Louisiana	Non-operational	LA Rev Stat, §§ 37:1226.2—3	A pilot program began in 1998 without statutory authority. HB 1402 was signed into law, effective August 15, 2004. SB 19 was signed into law, effective 6/29/06.	N/A	N/A	Prescription drugs
Minnesota	Non-operational					
Mississippi	Non-operational					
Missouri	Non-operational					
Nevada	Non-operational					
New Mexico	Non-operational					
New York	Non-operational	S5903A (Public Health Article 2-A, Title 2, Sec. 280B	Signed by the governor Nov. 28, 2016, took effect immediately	N/A	N/A	Prescription drugs
North Carolina	Non-operational					
Pennsylvania	Non-operational					
Tennessee	Non-operational					
Utah	Non-operational					
Washington	Non-operational					

Redistribution Laws				
State	Purpose	Who can donate	Drugs accepted by	Drugs can be redispensed to
California	Builds upon SB 798 (2005), allowing for counties to establish a prescription drug repository and donation program to redispense drugs to indigent patients. Also, to protect the health and safety of Californians while reducing waste	General acute care hospital, psychiatric hospital, skilled nursing facilities, intermediate care facilities, correctional treatment center, chemical dependency recovery hospital, psychiatric health facility, residential care facility for the elderly, mental health rehabilitation center, and wholesalers/manufacturers.	County-owned pharmacy, pharmacy that contracts with the county, primary care clinic, or pharmacy owned by primary care clinic. Primary care clinics are operated by nonprofits.	Medically indigent persons, free of charge.
Georgia	Establishes a drug repository program to accept and dispense over-the-counter and prescription drugs. The drugs can also be donated to drug repository programs operated by other states	Any person, including a drug manufacturer, wholesaler, reverse distributor pharmacy, third-party logistics provider, government entity, hospital, or health care facility	A pharmacy, hospital, federally qualified health center, nonprofit clinic, or other entity meeting the criteria established by the Department of Public Health	An individual who is indigent, uninsured, underinsured, or enrolled in a public assistance health benefits program, in accordance with criteria established by the Department of
Iowa	To improve the health of low-income Iowans and Iowans who have been victims of a state of disaster emergency through a prescription drug donation repository that authorizes medical facilities, pharmacies, and the department to redispense prescription drugs and supplies that would otherwise be	Any individual who is 18 years of age or older or organization may donate prescription drugs and supplies.	Medical facilities (physician's office, hospital, health clinic, nursing facility) or pharmacies that elect to participate in the program	Individuals who are indigent (income below 200% of federal poverty level) or uninsured, but may permit dispensing to other individuals if an uninsured or indigent individual is unavailable. Also, may dispense prescription drugs and supplies through licensed personnel during or in
Kansas	To allow the donation of unused medications by adult care homes, mail service pharmacies, and medical care facilities to Federally Qualified Health Centers, indigent health care clinics,	Adult care homes, mail service pharmacies (OptumRx is their big donor) and medical care facilities who elect to participate in the program	Central repository, indigent health care clinic, federally qualified health center or community mental health center. In practice, Community Health Center of Southeast Kansas is the sole repository	Medically indigent residents of Kansas.

Redistribution Laws				
State	Purpose	Who can donate	Drugs accepted by	Drugs can be redispensed to
Maryland	Accept prescription drugs and medical supplies donated for the purpose of dispensing to needy individuals or the purpose of proper disposal.	Anyone	Board approved drop-off sites (such as licensed pharmacies, other health care facilities). Drop-off sites must forward the drugs to a central repository (Medbank of Maryland Inc. or licensed pharmacies approved by the Board) at their own expense. Repositories can only receive drugs from approved drop-off sites. Pharmacies that receive drugs for the	A needy patient who is a resident of Maryland, as indicated by the individual's health care practitioner (whoever writes the prescription indicates if the patient is eligible for the program)
Michigan	To dispense unused or donated prescription drugs and to dispose of drugs that are ineligible for dispensing under the program.	Manufacturer, medical institution, resident of medical institution, or guardian of resident. Any person may deliver drugs for disposal.	A pharmacy, health professional, or charitable clinic that elects to participate in the program	Residents eligible to receive Medicaid or Medicare, or has no health insurance, and otherwise lacks reasonable means to purchase prescription drugs.
Michigan	Establishes and maintains a cancer drug repository program	Individuals age 18 and over; If the donated drugs have not been previously dispensed, a pharmacy, health facility, manufacturer, or wholesale distributor may also donate cancer drugs or supplies	A health facility of pharmacy may accept, store, and dispense/administer donated drugs OR may limit participation to accepting and storing, and distribute donated drugs to other repositories that will dispense/administer them. Drugs must be handed to a pharmacist - NO drop boxes	Any resident of this state who is diagnosed with cancer is eligible to receive drugs or supplies. Order of priority: 1) Individuals who are uninsured or do not have insurance coverage for those cancer drugs or supplies; 2) Individuals who are enrolled in medicaid, medicare, or any other public assistance health care
Montana	To establish a program for the donation of prescription drugs collected from long-term care	Long-term health care facilities	a provisional community pharmacy	Patients who are uninsured, indigent or have insufficient funds to obtain needed prescription
New Hampshire	To allow the voluntary donation of unused prescription drugs and medical devices to the uninsured and the underinsured individuals	The law says Any Person. But the regulations say pharmacies, licensed practitioners, nursing homes, hospice or outpatient clinic, manufacturers, distributors, and correctional facilities	Pharmacy, hospital, nursing home, outpatient clinic, veterans home, correctional facility, AND any licensed prescriber	Uninsured or underinsured persons. If there is excess, may dispense to others as well
Ohio	To allow for the donation of certain prescription and cancer drugs to needy individuals	Any person, including a pharmacy, drug manufacturer, or health care facility, or any government entity	Pharmacies, hospitals, or nonprofit clinics. In practice, Buderer Drug Co. is the only registered recipient pharmacy.	Residents of Ohio who meet certain criteria based on economic need

Redistribution Laws				
State	Purpose	Who can donate	Drugs accepted by	Drugs can be redispensed to
Oregon	Established Charitable Prescription Drug Program to distribute donated prescription drugs to needy or uninsured individuals.	Manufacturer, wholesaler, pharmacy, health facility, assisted living facility, and physician	Charitable pharmacy only	Uninsured or underinsured residents. Also qualified if is enrolled in a program of public assistance
Texas	Allows for the continuation of a drug donation and dispensation program, following the pilot program conducted by the Department of State Health Services. The pilot program established a drug repository operated by the state, but the	Donor is defined very broadly in current program. For the pilot program, donor must be a "seller or manufacturer"	A health care facility or pharmacy	Regulations do not specify that the patient must be indigent, but pilot program does (donations only through patient assistance programs)
Virginia	Program for the donation of unused prescription drugs to be redispensed to patients at free clinics.	Hospitals are authorized to donate drugs that were originally dispensed to hospital patients, but have been returned	Pharmacies, hospitals and on-site hospital pharmacies, clinics for indigent patients	Indigent patients.
Wyoming	Establishes a voluntary prescription drug donation program AND disposal program. The Department maintains drop-off sites (for disposal) and donation sites. Other entities are also allowed to accept donations	Any person or entity, including but not limited to a private citizen, drug manufacturer, physician or health care facility	Any physician's office, pharmacy, hospital, health care facility, or charitable health clinic that has voluntarily elected to accept and dispense donated medications. The Department will maintain donation sites at the same location as drop-off sites for disposal. Law enforcement agencies can also collect drugs for disposal. Drugs collected by the Dept. are delivered to a central collection facility and inventoried. List is posted on the internet and drugs can be mailed to eligible patients.	A Wyoming resident who has "limited resources" as determined with the redispensing pharmacist
Arizona				
Colorado				
Florida				
Nebraska				
North Dakota				
Oklahoma				
Wisconsin				
Alabama				
Arkansas				

	Redistribution Laws			
State	Purpose	Who can donate	Drugs accepted by	Drugs can be redispensed to
Connecticut	"Demonstration program" involving long-term care facilities. Participation is REQUIRED, and there are fines for noncompliance (\$30,000!)	Long-term care facilities	Pharmacies	Unclear. Participation for this program capped at 125 people
Guam				
Idaho				
Indiana				
Kentucky				
Louisiana	Donation and redistribution of prescrip	Any person, including a drug manufacturer, hospital, health care facility, or governmental entity	Charitable Pharmacies	Appropriately screened and qualified patients free of charge.
Minnesota				
Mississippi				
Missouri				
Nevada				
New Mexico				
New York	To facilitate the redistribution of prescription drugs	Manufacturer, wholesalers, distributor, pharmacy, or hospital (broad definition of "hospital" PBH Article 28, but does not include facilities treating mental disabilities)	Same as donors	Recipient entities shall give priority for redispensing to patients who are indigent, uninsured, or under-insured
North Carolina				
Pennsylvania				
Tennessee				
Utah				
Washington				

Redistribution Laws					
State	Restrictions	Handling Fees	Language about Disposal?	Funding (with insight from interviews, when available)	Involvement of third party?
California	Must ensure that drugs received have not been in the possession of any individual member of the public. Drugs must be in unopened, tamper-evident packaging or modified unit dose containers that meet USP standards	May NOT charge a fee	Medication that cannot be dispensed must be destroyed or returned to a reverse distributor	Nonprofits	Section 150208 authorizes involvement of "collection and distribution intermediaries" and sets rules
Georgia	Drugs must be unused, unexpired, in tamper-evident packaging	May not exceed reasonable costs of participating in the program, which can include costs of educating eligible donors, providing technical support to donors, shipping and handling, labor, storage, licensing, utilities, advertising, technology, supplies, and equipment	If drug does not meet requirements for donation, must be 1) returned to donor, 2) properly disposed of (and recorded) or 3) transferred to reverse distributor	Handling fees, offset by nonprofit funds. Handling fees are often covered by charitable clinics who send their patients to the pharmacy	"A donor or eligible recipient may contract with one another or a third party to create and/or maintain records on each other's behalf."
Iowa	Drug or supplies must be in original sealed and tamper-evident packaging. Drug must expire more than 6 months after donation	Fee must not exceed 200% of the Medicaid professional dispensing fee. Can cover stocking and dispensing costs.	Pharmacist must destroy controlled substances that are accidentally donated	According to SafeNetRx, the program is funded by the state (\$437,829 in FY18)	"The department may contract with a third party to implement and administer the program."
Kansas	The medications must come from a controlled storage unit of a donating entity and be in its original packaging or tamper-evident packaging. Uniquely, the donor must also inspect the drugs before donating them. Drugs purchased under Medicaid or SCHIP do not apply.	Fee must not exceed 200% of the Medicaid dispensing fee.	Required to destroy medication that cannot be dispensed	\$135,000 grant from the State Office of Primary Care, annually	None in language, but pilot program established a repository to facilitate donations

Redistribution Laws					
State	Restrictions	Handling Fees	Language about Disposal?	Funding (with insight from interviews, when available)	Involvement of third party?
Maryland	The drugs must be in their original unopened and sealed packaging; or packaged in tamper-evident unit dose packaging and unadulterated. Drug must not bear an expiration date within 90 days of donation. A repository may not establish a waiting list for any prescription drug or medical supply dispensed by the program	Dispensing fee cannot exceed \$10.	Repository must dispose of donated drugs that are not accepted into the program. Pharmacies can be authorized to collect drugs purely for disposal (and there are rules about proper disposal)	Unknown (not in language)	Only for disposal
Michigan	Drugs must be in their in their original sealed, tamper-evident, and unopened unit dose packaging	May not exceed 300% of Medicaid standard dispensing fee. To cover stocking and dispensing costs	If not suitable for redispension, drugs must be destroyed at waste disposal facility. Must keep a record of destroyed drugs	Unknown (not in language)	None
Michigan	Drugs must be in original, unopened, tamper-evident unit dose packaging that includes the drug's lot number and expiration date. Single unit dose drugs may be accepted if the single unit dose packaging is unopened. Drug expiration date must be at least 6 months from time of donation.	Handling fee may not exceed 250% of the medicaid dispensing fee or \$5.00, whichever is less, for each cancer drug or supply dispensed or administered.	Must keep of record of drugs that have been destroyed (considered hazardous waste)	Unknown (not in language)	None
Montana	Medications must be unopened in sealed, unaltered unit dose containers. No drug can be redispensed more than once.	A dispensing fee may be charged at the pharmacists discretion	None	Unknown (not in language)	None
New Hampshire	Minimum 3 months from expiration date. Must be contained in an unopened unit dose or other tamper evident packaging, has not been in the possession of the patient and has been stored properly and is not a radiopharmaceutical therapeutic or diagnostic drug. Medical devices shall not be unsanitary, broken, dangerous or otherwise unfit for practical use.	For redispension services, not to exceed \$15	None	Unknown (not in language)	None

Redistribution Laws					
State	Restrictions	Handling Fees	Language about Disposal?	Funding (with insight from interviews, when available)	Involvement of third party?
Ohio	With the exception of orally-administered cancer drugs, all donated drugs must be in original sealed and tamper-evident unit dose packaging. Expiration date of 6 months of greater. Special restrictions for "dangerous" drugs.	Up to \$20 to cover restocking and dispensing costs	None	There was a one-time grant to get the program started. Not currently funded by the state. It is possible that the handling fees cover the associated costs	None
Oregon	No refrigerated drugs. Minimum 9 months from expiration date. Drugs must be in original, sealed, tamper-evident packaging that displays the lot number and expiration date of the drug.	May not exceed 2.5 times Medicaid dispensing fee	Requires disposal of drugs that do not meet requirements of program	Unknown (not in language)	None
Texas	Donated drugs must be unexpired (expiration date more than 60 days after donation) in original sealed and tamper-evident unit-dose packaging, cannot require refrigeration	Maximum of \$20 to cover the costs of inspecting, storing, labeling, and dispensing the donated prescription drug	Pharmacist is responsible for destroying drugs that are not approved for redispension	Pilot program was funded by state. Unclear if continuing program also receives state funding	None
Virginia	Drugs must not expire within 90 days of donation and drugs are in manufacturers' original sealed containers or in sealed individual dose or unit dose packaging	May charge a dispensation or administrative fee	Not mentioned	Not by state. Could explain low participation rates	None
Wyoming	Drugs must be contained in unopened, sealed or tamper evident packaging. Drug can be redispensed if expiration date is more than 5 months away	Up to \$10 to cover dispensing or distributing costs	Yes, quite a bit. This statute provides for donation OR disposal of unused drugs.	Program is run by the state	None
Arizona					
Colorado					
Florida					
Nebraska					
North Dakota					
Oklahoma					
Wisconsin					
Alabama					
Arkansas					

Redistribution Laws					
State	Restrictions	Handling Fees	Language about Disposal?	Funding (with insight from interviews, when available)	Involvement of third party?
Connecticut	Drugs must be unexpired, unopened, in sealed packaging	Not allowed	None	The Department of Social Services pays for the program by reimbursing pharmacies for reasonable costs of the program	No
Guam					
Idaho					
Indiana					
Kentucky					
Louisiana	Drugs must be unexpired, in original sealed and tamper-evident packaging, including drugs packaged in single-unit doses, including blister packs	Not allowed		None	
Minnesota					
Mississippi					
Missouri					
Nevada					
New Mexico					
New York	Drugs must be unused, unexpired, in tamper-evident packaging. No restrictions on "reasonable" fee for dispensing	Yes. No maximum right now	None	Unknown (not in language)	Yes, explicitly allowed
North Carolina					
Pennsylvania					
Tennessee					
Utah					
Washington					

Redistribution Laws				
State	Program Website	State Agency	Operated by	Other Docs
California	https://www.sccgov.org/sites/phd/services/php/Pages/bhp.aspx	California State Board of Pharmacy	SIRUM	San Mateo County Ordinance March 28, 2006
Georgia	https://dph.georgia.gov/donated-drug-repository-program	Office of Pharmacy of the Department of Public Health	SIRUM	https://www.goodpill.org/
Iowa	https://safenetrx.org/drug-donation/	Iowa Department of Public Health	Government-funded repository, in collaboration with SIRUM	https://safenetrx.org/wp-content/uploads/2017/04/2016-Performance-Update-Drug-Donation-Repository-brochure.pdf
Kansas	http://www.kdheks.gov/olrh/UnusedMedicationsProgram.htm	The Kansas Department of Health and Environment, Board of Pharmacy	Nonprofit repository	Board of Pharmacy forms
Maryland	https://health.maryland.gov/pharmacy/Pages/drug-repository.aspx	Maryland State Board of Pharmacy	Nonprofit repositories	
Michigan	http://www.michigan.gov/lara/0,4601,7-154-72600_72603_27529_27548-311598--,00.html	Michigan Board of Pharmacy, Department of Licensing and Regulatory Affairs	Not government - Walgreens locations listed as participants	
Michigan	http://www.michigan.gov/lara/0,4601,7-154-72600_72603_27529_27548-311598--,00.html	Michigan Board of Pharmacy, Department of Licensing and Regulatory Affairs	Unclear, not government	
Montana	None	The board of pharmacy in consultation and cooperation with the department of public health and human services	Unclear	
New Hampshire	None	New Hampshire Board of Pharmacy	SIRUM	
Ohio	https://www.budererdrug.com/drug-repository-program/	Board of Pharmacy	Nonprofit pharmacy. SIRUM's website indicates that they are working in the state, but both the Board of Pharmacy and the pharmacy receiving donated drugs are unaware of any involvement by SIRUM.	http://pharmacy.ohio.gov/Documents/Pubs/Special/DrugRepository/Drugs%20Collected%20by%20a%20Drug%20Repository%20Program.pdf

Redistribution Laws				
State	Program Website	State Agency	Operated by	Other Docs
Oregon	None	Oregon Board of Pharmacy	SIRUM	
Texas	https://www.dshs.texas.gov/drugdonationprogram.aspx	Department of State Health Services	Unclear - no participants currently listed	
Virginia	https://www.dhp.virginia.gov/pharmacy/donationsites.asp	Virginia Board of Pharmacy	Nonprofit pharmacies	
Wyoming	https://health.wyo.gov/healthcarefin/medicationdonation/	Wyoming Department of Health, Division of Healthcare Financing	Government	
Arizona				
Colorado			SIRUM	
Florida				
Nebraska	http://dhhs.ne.gov/publichealth/Pages/cancerdrugs_index.aspx	Department of Health and Human Services		
North Dakota				
Oklahoma				
Wisconsin				
Alabama				
Arkansas				
Connecticut	None	The Department of Social Services		
Guam				
Idaho				
Indiana				
Kentucky				
Louisiana		Does not say		
Minnesota				
Mississippi				
Missouri				
Nevada				
New Mexico				
New York		Department of Health		
North Carolina				
Pennsylvania				
Tennessee				
Utah				
Washington				

Nonprofit Redistribution Organizations				
Company	Based in:	Work in:	What they do	How they operate
Sirum	Palo Alto, CA	California, Colorado, Oregon (no longer - something must have happened), Florida, New Hampshire, Iowa, Georgia, Ohio (but Ohio interviewees said no), Pennsylvania	Collect unexpired drugs from manufacturers, wholesalers, pharmacies and health facilities. Medicines go to clinics and pharmacies and are dispensed to low-income patients.	Online platform connects donors with recipients ala Match.com. Sirum sends prepaid packaging to donor. Medicine sent directly to recipient. Packages can be tracked. SIRUM also provides a suite of services for on-the-ground implementation of donation/dispension programs
SafeNetRX	Iowa	Iowa	Nonprofit established in 2001 to provide affordable medication access to lowans in need of assistance. They operate several programs, including the drug donation repository program	Central repository for the program
Dispensary of Hope	Nashville, TN	27 states. Approved to operate in 49 states	Received donated drugs from brand and generic manufacturers and distribute them to charitable clinics and pharmacies all over the US to dispense to indigent patients	Distribute donated medications to 140 dispension sites across the US
Catholic Medical Mission Board (CMMB)	New York, NY	Internationally	Deploy medicines and supplies to trust local healthcare partners in 120 countries	
Brother's Brother Foundation		Internationally	Send container shipments and supply medical mission trips	
GIVMED	Greece	Greece	This app allows users to register their excess medicines by scanning the barcode on the package and choosing where they want to donate their medication.	Operates through an online app that allows users to create a pharmacy and list medications they want to donate now and those they want to donate before their expiration date. The app enters the pharmaceuticals into its database and links them to organizations that can redistribute them free of charge.
RAMP	San Francisco, CA	Internationally	Facilitate the delivery of unused HIV medication overseas	Gathers HIV drugs from donors (individuals, health professionals, community groups) and sends to nonprofit organizations overseas at no cost. Those groups then dispense the medicine.
For animals: AAZV http://www.aazv.org/?page=818				

Nonprofit Redistribution Organizations			
Company	Costs of participation	Proclaimed impact	Operating costs/funding
Sirum	It is free to donate/receive certain approved drugs. All other drugs can be donated for a nominal fee. SIRUM can be hired to perform other services, like recruiting and training participants, providing inventory software	Provided enough for 150,000 patients to receive medicine they need. Prevented at least 240,000 pounds of waste by eliminating the need to produce new medicine.	Receives donations primarily from orgs focused on healthcare access. They also provide additional services that governments can pay for
SafeNetRX	Handling fee	As of 2016 update, over 71,000 patients served; more than \$17.7 million in donated drugs; Every \$1 used to administer the Iowa Drug Donation Repository generates over \$7 in free medications and supplies; partner with over 250 clinics and	\$437,829 in FY18 from the state
Dispensary of Hope	Organizations pay an annual fee and can order unlimited drugs from Dispensary of Hope inventory	In 2017, served 39,500 patients, filling over 744,000 prescriptions. They received donations from 17 major pharmaceutical manufacturers.	covered by fee?
Catholic Medical Mission Board (CMMB)		In 2016: \$357 million worth of products and medications were distributed worldwide, 2,634 pallets and containers were shipped to 27 countries, 120 international and domestic consignees received and distributed Healing Help donations, 50 donors including pharmaceutical and medical supply manufacturers, NGO partners, hospitals, and individuals.	
Brother's Brother Foundation		More than 16,200 tons of medical supplies, pharmaceuticals (over 45.4 million prescription units) and hospital equipment have been shipped to more than 3,000 hospitals and clinics	
GIVMED	Provides medication free of charge.	11,938 boxes of medicine worth approximately 131,441 Euros, meeting 4,620 pharmaceutical needs of patients. GIVMED is working with 38 collaborating structures.	GIVMED accepts donations online and is supported by organizations such as Refuaid.
RAMP	Medication donated for free to groups overseas, but individuals may be asked to pay a nominal fee to receive medicines for their organizations	RAMP serves thousands. All participants are volunteers.	

NYS EPR Bills							
Bill No.	Year	Body	Sponsor	Purpose	Key Definitions	Unique plan components	Funding
A01584A	2013	NYS Assembly	Maisel	Requires drug manufacturers to collect unused and expired drugs from hospitals and residential health care facilities for environmentally sound disposal thereof.	None	Very short bill. Does not contain the same level of detail	Each manufacturer shall be responsible for all costs and the security of its drug collection program. Manufacturers can contract with a third party and reimburse third party for cost of implementing the program
A10298	2016	NYS Assembly	Englebright	Requires any pharmaceutical product manufacturer selling or distributing a covered drug in the state to operate a drug stewardship program approved by the department of environmental conservation.	None	There is no specific penalty amount listed. However, mentions that a penalty may be issued.	Financed by one or a group of pharmaceutical manufacturers.
S07354	2018	NYS Assembly	Hannon	Requires pharmacies (see definition) to provide for the safe collection of drugs. Manufacturers must develop drug take back program or enter into agreement with another organization OR the Dept. of Health to operate a program on its behalf. Residential waste only.	Authorized collector can be a municipality. Pharmacies are defined as being part of a group of ten or more establishments that conduct business under the same name or operate under a common ownership or management, or pursuant to a franchise agreement AND all nonresident pharmacies that provide covered drugs to residents by mail.	Manufacturers can enter into an agreement with Dept. of Health to operate a take-back program on its behalf. Dept. of Health must consult with DEC before approving plans.	Authorized collectors will be reimbursed by manufacturers, who will reasonably allocate costs according to the number or value of drugs sold in the state. Manufacturers must pay all administrative and operational fees of program (including recycling costs) AND costs incurred by the state in administration and enforcement

NYS EPR Bills

Bill No.	Fees to consumers?	Responsibility of Collection	Accountability	Preemption Language
A01584A	No language	Every hospital and residential health care facility shall return all its unused and expired drugs to the appropriate manufacturer's drug collection program.	Every manufacturer shall, on a biannual basis, submit a written report to the department on its drug collection program, including the types and amounts of drugs collected, the methods of disposal, and the facilities where the drugs were taken for disposal.	None
A10298	No point-of-sale, point-of-collection, processing fees or other drug cost increases may be charged to individual consumers to recoup program costs	Pharmaceutical manufacturers must come up with a plan for the collection of pharmaceuticals.	Each stewardship program will file an annual report to the DOH describing the program's activities for the prior year and the volume and type of unwanted drugs collected no later than March first.	None
S07354	No manufacturer may charge a point-of-sale or other fee to consumers, or a fee that could be passed on to consumers, to recoup the cost of their program.	All pharmacies shall provide for the safe collection of drugs (on-site receptacles, mail-back, other approved methods. Participation of other authorized collectors besides pharmacies shall be voluntary.	DOH will provide list of manufacturers participating in an approved plan on its website. Each approved program shall report "at a date and manner set forth by the department." Dept. shall submit annual report to the governor, speaker of assembly, and temporary president of the senate	Any provision of any local law or ordinance, or any rule or regulation promulgated prior to, or upon the effective date of this section, shall be preempted.

EPR Laws						
County/City	State	Law	Adopted on:	Reasoning	Key Definitions	Must submit plan within:
Alameda County	California	Ordinance No. O-2012-27	July 24, 2012	Health and welfare of residents, particularly children and elderly (poisoning). Groundwater contamination	"Department" = Health	Initial plan submitted by July 1, 2013 (about one year later). All subsequent plans submitted within 180 days of beginning to sell Covered Drug in the county
Contra Costa County	California	Safe Drug Disposal Ordinance (§418-16)	December 20, 2016	Risk of poisoning or death (children, elderly)	Authority = Board of Health officer	1 year
King County	Washington	Secure Medication Return Rule & Regulation (BOH13-03.1)	June 20, 2013	Drug overdoses (prescription opiates) are a leading cause of preventable deaths. Poisoning of children and elderly. Voluntary programs are insufficient	Authority = Director of Dept of Health	1 year
Los Angeles County	California	EPR Pharmaceuticals and Sharps Ordinance	Not passed	"protects, maintains, restores, and/or enhances the environment and its natural resources." Also talks about drug abuse, addition, overdoses, poisoning. Risk of injury and infection from sharps. Previous county-run programs not enough to meet demand for proper disposal of drugs/sharps	For drugs and "sharps". "Sharp" shall mean a needle, safety engineered needle, lancet or other similar instrument that is designed to puncture the skin of individuals or animals for medical purposes. Authority = Dept. of Public Health "Participating City" shall mean an incorporated city within the County that adopts the requirements of this chapter into its respective municipal code and within which the County Health Officer is authorized to enforce said requirements.	9 months

EPR Laws						
County/City	State	Law	Adopted on:	Reasoning	Key Definitions	Must submit plan within:
Marin County	California	Safe Drug Disposal Ordinance No. 3635	August 11, 2015	Risk of poisoning or overdose (children, elderly), groundwater and surface water contamination. Previous county-run program was not sufficient to meet demand for proper disposal of drugs	Authority = Environmental Health Services division of Dept. of Marin County Community Development Agency. Ordinance does not apply to incorporated areas within the County where the governing body has authorized its own officer to administer and enforce provisions of CA health and safety code section 117800	1 year
San Francisco City and County	California	Safe Drug Disposal Stewardship Ordinance	April 25, 2015	Improper disposal of pharmaceuticals does damage to the environment. Additionally, SF wants to help eliminate drug abuse.		One year after effective date.
San Luis Obispo County	California	SLO Integrated Waste Management Ordinance	Begins on 9/1/2015	Reduce likelihood of prescription drug abuse		No specific plan to be submitted.
San Mateo County	California	San Mateo County Safe Medicine Disposal Ordinance	May 28, 2015	Increase public safety and reduce water pollution.		12 months of effective date. November 28, 2015. Producers notify of intent 6 mo. after ordinance.
Santa Barbara County	California	Extended Producer Responsibility Stewardship Ordinance	June 2016, Effective July 21, 2016	Unused medication poses harm to humans because of accidental misuse and also poses harm to the environment, specifically as it relates to water quality.		12 months of effective data (07/21/17)

EPR Laws						
County/City	State	Law	Adopted on:	Reasoning	Key Definitions	Must submit plan within:
Santa Clara County	California	Ordinance 517.91 Safe Drug Disposal	04/11/2017, passed an EPR Resolution on May 22,2007 (Resolution No. 25032)	Establishing a safe, convenient collection system for unwanted drugs will reduce unintentional poisonings and drug overdose deaths by making drugs less accessible to persons who might accidentally ingest them.	"Director" means the Director of the County of Santa Clara's Consumer and Environmental Protection Agency, or his or her designee	6 months
Santa Cruz County	California	Santa Cruz County Safe Drug and Sharps Disposal Ordinance	Proposed 08/25/16 Date adopted not clear	Placing responsibility for end-of-life management of drug and sharps products on the manufacturers of the products	"Department" means the Santa Cruz County Department of Public Works.	The initial plans must be submitted by March 1, 2016
Snohomish County	Washington	Secure Medicine Return Regulation in Snohomish County	Approved June 14, 2016	To establish a countywide secure medicine return program providing convenient and equitable access for all of the county's residents that is financed and operated by drug producers	"Director" means the Health Officer of the Snohomish Health District or the Health Officer's duly authorized representative.	4 months
Rockland County	New York	Pharmacy Take-Back Act	February 28, 2017	Protect the health, safety, and welfare of the public and the environment.		

EPR Laws					
County/City	Commence operation within:	Collection methods	Disposal methods	Funding	Fees to consumers?
Alameda County	Does not specify	collection sites, mail-back program	Medical waste or hazardous waste facilities OR superior disposal methods (if approved)	Producers must pay all administrative and operational fees of their program AND all costs incurred by Department in administration and enforcement of plan (costs split based on amount of Covered Drugs sold by each producer)	Prohibits point-of-sale and point-of-collection fees to recoup costs of program
Contra Costa County	90 days of approval	drop-off sites, mail-back services, take-back events	Medical waste or hazardous waste facilities	Submit fee with plan (determined by the board) Producers cover all administrative and operational costs	Prohibits point-of-sale and point-of-collection fees to recoup costs of program
King County	3 months after approval	drop-off sites, mail-back services, periodic collection events	Hazardous waste facility OR municipal waste combustor (requires approval) OR superior methods (if approved)	Submit plan review fees AND annual operating fees established by the Board of Health Producers cover all administrative and operational costs Some of the promotional costs AND up to 400 secure drop boxes will be covered by the local hazardous waste management program	Prohibits point-of-sale and point-of-collection fees BUT allows other methods of recouping costs, including "allocating costs to the prices of their covered drugs in King County."
Los Angeles County	3 months of approval	Drop-off sites. Mailers by request only (through toll-free number and website). Periodic take-back events are an option. Range of collection points extends to 2.5 miles beyond County boundaries. Other persons, such as retail establishments, may also be considered as Hosts for drop-off sites	hazardous waste facilities OR large municipal waste combustor (requires approval) OR superior disposal method (if approved)	Submit plan review fees. Cover all costs of program. Provide funds to DOH for implementation, operations, and enforcement	Prohibits point-of-sale and point-of-collection fees to recoup costs of program
Marin County	3 months of approval	drop-off sites, mail-back services, periodic collection events		Submit plan review fees. Producers pay all administrative and operational costs. Must also pay annual operating fees to the Director	Prohibits point-of-sale and point-of-collection fees to recoup costs of program

EPR Laws					
County/City	Commence operation within:	Collection methods	Disposal methods	Funding	Fees to consumers?
San Francisco City and County	5 weeks after signing	Collectors may include law enforcement agencies, Pharmacies, mail-back services or other entities, operating in accordance with state and federal laws and regulations (or the handling of Covered Drugs), including but not limited to those of the United States Drug Enforcement.	Permitted hazardous waste disposal facility as defined by the United States Environmental Protection Agency.	Producers are responsible for all costs of administering and operating their Stewardship Plan. They are also required to pay for the Department's costs for Plan review and oversight	No Person or Producer may charge a point-of-sale fee to consumers to recoup the costs of their Stewardship Plan. nor may they charge a specific point-of-collection fee at the time the covered drugs are collected.
San Luis Obispo County	Sept 1, 2015	Pharmacies in SLO must have both mail-back and receptacle programs for unwanted or unused drugs.		Unclear	Consumers must send in perscription drugs so they must have access to main, but envelope is prepaid, so they don't have to pay for anything themselves.
San Mateo County	18 months of effective date. November 28, 2016.	Collection sites only, no mail-in option.	Permitted hazardous waste disposal facility as defined by the United States Environmental Protection Agency.	Pharmaceutical producer companies.	No cost to consumers.

EPR Laws					
County/City	Commence operation within:	Collection methods	Disposal methods	Funding	Fees to consumers?
Santa Barbara County	3 months of plan approval (plan gets approved 90 days after submission of plan), so commencement would occur around 01/21/18	Pharmaceutical manufacturers will manage and fund a comprehensive program to collect and dispose of County residents' unwanted prescription and over-the-counter drugs. However, in the meantime, there will be collection dropboxes within the county for residents to dispose of medication. Stewardship plan must be safe, convenient, give preference to, any retail pharmacy or any law enforcement agency willing to serve voluntarily as a drop-off site for unwanted covered drugs, and have mail-in options available.		EPR, so drug manufacturers held responsible	No cost to consumers.
Santa Clara County		collection service shall include a list of Retail Pharmacies and law enforcement agencies and mail back and a list of all Collectors who agreed to participate;		Producers shall pay all administrative and operational costs related to its Stewardship Plan.	No person may charge a point-of-sale fee to consumers to recoup the costs of a Stewardship Plan.
Santa Cruz County		retail sale facilities, public health facilities, mail-back program		Producers must pay all administrative and operational fees associated with their product stewardship program	No Person may charge a point-of-sale fee to consumers to recoup the costs of a Stewardship Plan,
Snohomish County		Retail sale facilities, public health facilities, mail-back program		Producers must pay all administrative and operational fees associated with their product stewardship program	No Person may charge a point-of-sale fee to consumers to recoup the costs of a Stewardship Plan,
Rockland County					

EPR Laws				
County/City	Unique plan requirements	Unique approval components	Public hearing/comments?	Required updates
Alameda County	Plan must contain: "a description of how the scope and extent of the [program] are reasonably related to the amount of Covered Drugs that are sold in Alameda County."	The Department may develop, approve and impose its own Product Stewardship Plan or an approved plan submitted by other producers	Public hearing	every 3 years
Contra Costa County	Drug wholesalers have 60 days to submit list of all manufacturers who sell or distribute covered drugs in the county. Plan must "give preference to" having retail pharmacies and law enforcement agencies serve as collectors	None	None	None
King County	Drug wholesalers have 60 days to submit (to local hazardous waste management program) a list of all manufacturers who sell or distribute covered drugs in the county. Collectors may participate voluntarily OR in exchange for incentives or payment offered by producers. Plan must ("shall") include retail pharmacies and law enforcement agencies willing to voluntarily participate as drop-off sites, who can meet requirements within 3 months. Must also accept other voluntary collectors (no time frame)	A standard stewardship plan is approved by the Director, and producers are required to comply with it UNLESS they develop an independent plan to be approved by the Director. "the Director may exercise reasonable discretion to waive strict compliance with the requirements of this chapter that apply to producers in order to achieve the objectives of this chapter."	Written public comments	every 4 years
Los Angeles County	Have the option to submit separate plans for each type of Covered Drug or Sharp. Producers may not discriminate against small pharmacies and must make best efforts to allow them to participate. Collectors may participate voluntarily or accept compensation. Any person who is not a manufacturer ("such as a person providing covered drugs and sharps free of charge") may choose to participate in the program. Producers are required ("shall") to notify the Director if they become aware of other producers not in compliance (selling drugs in the county and not participating in a stewardship plan). This requirement is unique - other EPR bills say that producers "may" report such things.	None	None	every 3 years