

Tobacco Control Policy Impact Evaluation

Steps to Evaluating the Impact of a Flavored Product
Restriction Policy in Massachusetts

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Outline

- Background and Rationale for Evaluation
- 5 Steps to Policy Evaluation with MA Flavor Restriction Policy as Case Study
 - ① Develop Research Question and Hypotheses
 - ② Identify Specific and Measurable Process and Outcomes Indicators
 - ③ Identify Feasible Means of Gathering Reliable Data
 - ④ Develop an Appropriate Study Design
 - ⑤ Consider Potential Sources of Bias and Confounding

Background

Find the tobacco products.



CDC Competitive Grant

- In 2014, Massachusetts applied for and was awarded a CDC Competitive grant, which supports designing, implementing and evaluating innovative and/or promising practices.
- Massachusetts proposed to evaluate the impact of a flavored tobacco restriction policy that removed the sale of these youth-oriented products from youth accessible retail settings into adult-only establishments.

Flavored Product Restriction Policy



Rationale for Evaluation

- **Precedence**

- ✓ In late 2014, New York City, Providence, RI, and 9 municipalities in Massachusetts had already adopted a flavor restriction policy

- **Lack of Evidence**

- ✓ To our knowledge, at the time, no prior publication on the impact of the policy had been released.

- **Massachusetts Municipal and Retailer Surveillance Infrastructure**

- ✓ Each of the 351 Municipal Board of Health have authority to pass its own regulations.
- ✓ Tobacco permitting enabled regular monitoring and enforcement of retail establishments
- ✓ Retail surveillance (inspections, compliance checks, surveying, FDA, Synar) infrastructure allowed for primary data collection in retail setting to monitor policy compliance and environmental impact over time.

5 Steps to Policy Evaluation

Find the tobacco products.

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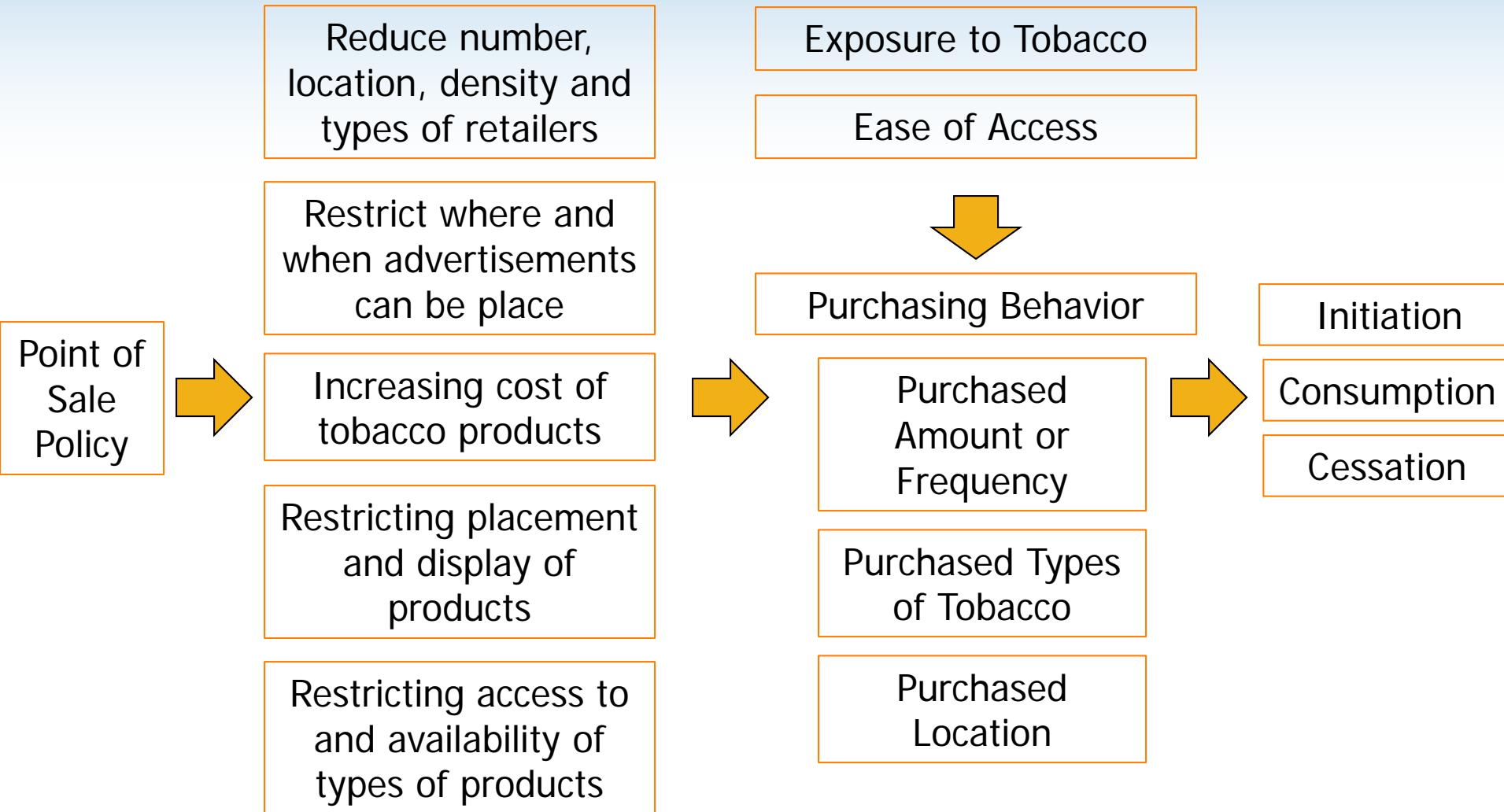
Step 1: Develop Research Question & Hypothesis

Questions to Consider:

1. How would we know if the policy was successfully implemented?
2. What is the expected impact of the policy – both short-term and longer term outcomes?
3. On what levels do we expect to see change?
 - * Individuals?
 - * Retail environment?
 - * Community-wide?
 - * County-wide?
 - * State-wide?
4. What are moderating factors that may influence the impact of the policy?

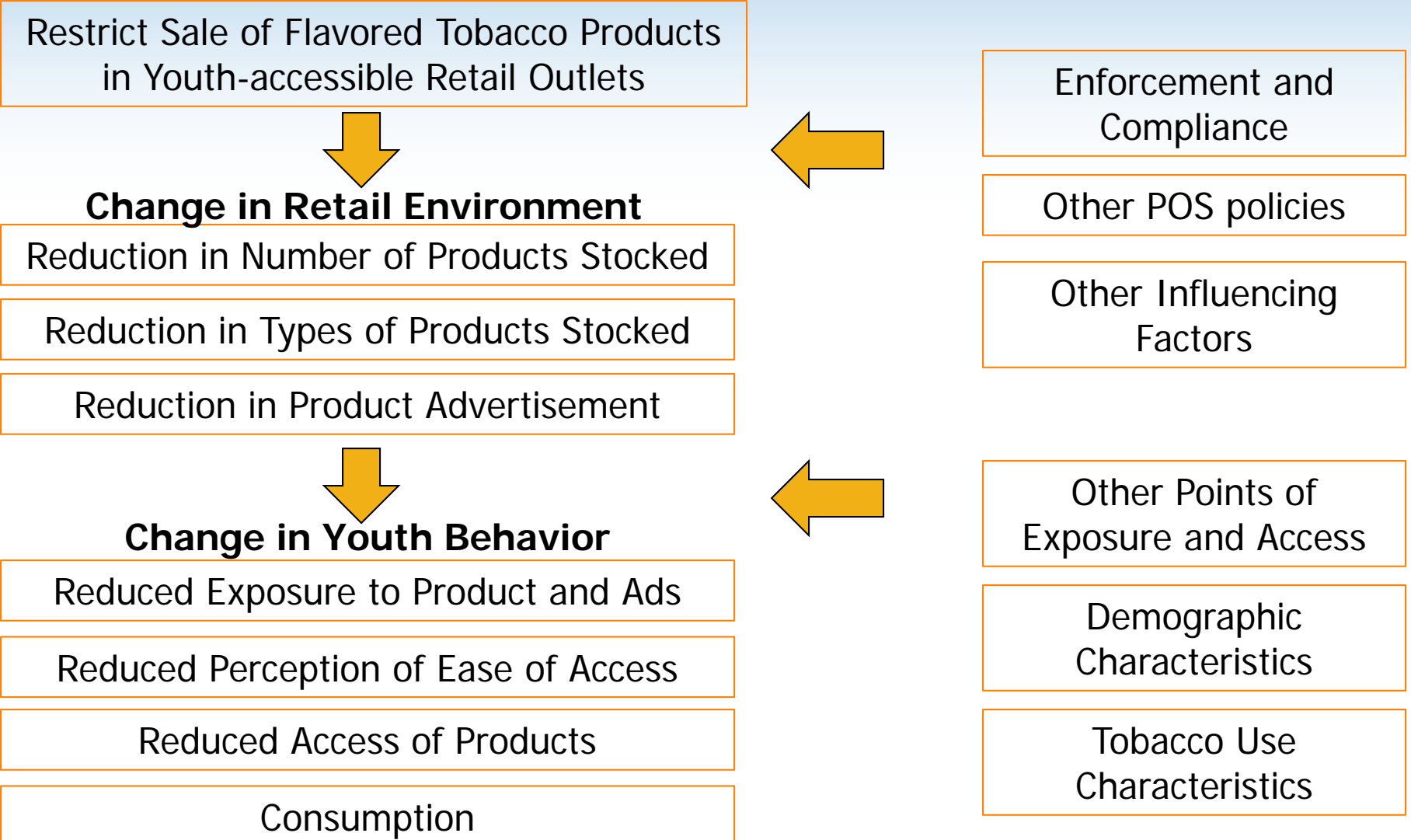
Develop Research Question & Hypothesis

Helpful to develop conceptual framework of policy impact



Develop Research Question & Hypothesis

Conceptual Framework for Impact of Flavor Restriction



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Step 2: Identify Specific and Measurable Process and Outcome Indicators

Factors Contributing to Policy Success (Moderators)

- % of retailers receiving education and other training before policy
- % of retailers who complied with previously passed policies and associated barriers to compliance

Policy is Successfully Implemented (Process Measures)

- Reduction in % of retailers no longer carrying flavored tobacco products after policy
- Reduction in average number of products and types of products sold after policy
- Reduction in flavored product advertising outside/inside store

Policy Had Impact (Outcome Measures)

- Reduction in % of youth who believe it's easy to obtain flavored tobacco products
- Reduction in % of youth who obtained flavored tobacco products directly from store
- Reduction in 30 day use of any flavored tobacco products and number of products

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Step 3: Feasible & Reliable Data Collection

- Is there primary and/or secondary data sources already available?
- What additional data is needed? At what time points? Will budget allow for this data to be collected?
- How do we collect the additional data?
 - Sampling Frame
 - Execution of data collection
 - Where and how data is stored
 - Data privacy and confidentiality standards
- What survey instruments are needed?

Feasible & Reliable Data Collection: Retailer Survey

Retailer Flavored Product Survey

Community: ATTLEBORO

Stage of Survey: BASELINE

Date of Visit:

Survey Start Time:

Survey End Time:

A. Flavored Product Advertising (Check all that apply)

- No ads anywhere
- Ads outside
- Ads inside

B. Inventory Assessment

Store does not sell flavored products

1. Did store previously sell flavored products?

- YES
- NO
- DON'T KNOW

2. If YES, how did the retailer eliminate existing flavored products?

- Sold down stock (please indicate # of Days _____)
- Returned to Distributor/Transferred to another store
- Don't Know

Establishment:

Employee Name:

Employee Title: Owner Manager
 Supervisor Clerk

Unable to Complete: Out of Business

- Closed
- Refused
- Not Selling Tobacco
- Other _____

C. How Many Activities Done PRIOR to this Visit?

_____ # of Letters Sent _____ # of Educational Visits
_____ # of Written Warnings _____ # of Fines
_____ # of Retailer handouts _____ # of FPL distributed

Feasible & Reliable Data Collection: Retailer Survey

If store is not selling flavored products, skip to Part C

- Store sells products designated OR undesignated as flavor (e.g. Strawberry, Grape, Jazz, Blue, etc.)**

STEP 1: Go to attached Flavored Product List and check off ALL flavored products sold at this establishment.

The list is organized:

Blue = Cigars/Cigarillos/Blunt Wraps

Green = E-Cigarettes/Liquid Nicotine

Yellow = Smokeless/Dissolvable

Pipe Tobacco

Hookah/Shisha

STEP 2: Go to the last sheet in this packet and complete table for all products you believe are flavored but NOT on the Flavored Product List.

Please include all products you believe are flavored, whether or not the product is designated a flavor.

Designated flavor: Peach, blackberry, pina colada

Undesignated flavor: Island Bash, Blue breeze

E. General Activities Completed During Visit (Check all that apply)

- Gave copy of regulation and provided explanation
- Gave copy of retailer handout and FPL
- Answered questions from retailers
- Showed retailer product(s) in violation
- Took photos of product(s) in violation/suspected
- Purchased suspected flavored products not on FPL
- None of the above
- Others _____

F. Barriers You Experienced During Visit (Check all that apply)

- Retailer did not speak English
- Retailer/clerk not knowledgeable of products
- Retailer/clerk unwilling to sell me products
- Manager/Owner Unavailable
- None
- Others _____

Feasible & Reliable Data Collection: Flavored Product List

MAHB Guidance Flavored Product List: Updated as of 1/5/16

PRODUCT TYPE	BRAND	NAME	DATE ADDED
Cigar/Cigarillo/Blunt Wrap	1839	BLACKBERRY	10/1/2015
Cigar/Cigarillo/Blunt Wrap	1839	CHERRY	10/1/2015
Cigar/Cigarillo/Blunt Wrap	1839	VANILLA	10/1/2015
Cigar/Cigarillo/Blunt Wrap	1882	BOURBON	10/1/2015
Cigar/Cigarillo/Blunt Wrap	1882	HONEY BERRY	10/1/2015
Cigar/Cigarillo/Blunt Wrap	1882	WHITE GRAPE	10/1/2015
Cigar/Cigarillo/Blunt Wrap	38 SPECIAL	CHERRY	10/1/2015
Cigar/Cigarillo/Blunt Wrap	38 SPECIAL	GRAPE	10/1/2015
Cigar/Cigarillo/Blunt Wrap	38 SPECIAL	PEACH	10/1/2015
Cigar/Cigarillo/Blunt Wrap	38 SPECIAL	PINEAPPLE	1/5/2016
Cigar/Cigarillo/Blunt Wrap	38 SPECIAL	VANILLA	10/1/2015
Cigar/Cigarillo/Blunt Wrap	4 KINGS	MANGO	10/1/2015
Cigar/Cigarillo/Blunt Wrap	ACID	GREEN	10/1/2015
Cigar/Cigarillo/Blunt Wrap	ACID	RED	10/1/2015
Cigar/Cigarillo/Blunt Wrap	AL CAPONE	COGNAC	10/1/2015
Cigar/Cigarillo/Blunt Wrap	AL CAPONE	JAMAICAN BLAZE	10/1/2015
Cigar/Cigarillo/Blunt Wrap	AL CAPONE	RUM	10/1/2015
Cigar/Cigarillo/Blunt Wrap	AMERICAN MADE	BLACK CHERRY	10/1/2015
Cigar/Cigarillo/Blunt Wrap	AMERICAN MADE	SWEET PEACH	10/1/2015
Cigar/Cigarillo/Blunt Wrap	AMERICAN MADE	TROPICAL COCONUT	10/1/2015
Cigar/Cigarillo/Blunt Wrap	AMERICAN MADE	VANILLA	10/1/2015
Cigar/Cigarillo/Blunt Wrap	ANTONIO Y CLEOPATRA GRENADIER	HONEY	10/1/2015
	ANTONIO Y CLEOPATRA		

Feasible & Reliable Data Collection: Youth Survey

THE 84 SURVEY

Please answer ALL questions #1—19

1. What is your current age?

- A. 13 or younger E. 17
 B. 14 F. 18
 C. 15 G. 19 or older
 D. 16

2. What grade are you in?

- A. 8th D. 11th
 B. 9th E. 12th
 C. 10th

3. What is your sex?

- A. Male B. Female C. Other: _____

4. Do you consider yourself to be transgender?

- A. Yes B. No C. Don't Know

5. What is your race? (Circle ALL that apply)

- A. American Indian or Alaska Native
 B. Asian
 C. Black or African American
 D. Native Hawaiian or Pacific Islander
 E. White
 F. Other: _____

6. Are you Hispanic or Latino?

- A. Yes B. No

7. What Boston neighborhood do you live in (i.e. Dorchester, Roxbury)?

8. Which of the following best describes you?

- A. Heterosexual (straight) D. Not Sure
 B. Gay or lesbian E. Other: _____
 C. Bisexual

9. Does anyone you live with currently use tobacco (for example, cigarettes, cigars, e-cigarettes, chew, dip, snus, pipe tobacco, etc.)? A. Yes B. No C. Don't know

Feasible & Reliable Data Collection: Youth Survey

10. For each NON-FLAVORED tobacco product below, please check if you have used it at least once.
Please also check if you have used it in the last 30 days.
(If you have never used the product, please check "Never used before")

(Non-flavors include: plain, tobacco, regular, menthol and mint)	Used at least once before	Used in last 30 days	Never used before
Non-flavored cigarette	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-flavored cigar or cigarillo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-flavored e-cigarette, e-hookah, e-pen or vape pen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-flavored blunt or blunt wraps	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Non-flavored smokeless tobacco that is chewed, sniffed, or held in the mouth	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

11. For each FLAVORED tobacco product below, please check if you have used it at least once.
Please also check if you have used it in the last 30 days.
(If you have never used the product, please check "Never used before")

(Flavors include: grape, cherry, watermelon, berry, vanilla, rum, red, tropical crush, caramel, honey, banana, etc.)	Used at least once before	Used in last 30 days	Never used before
Flavored cigarette	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flavored cigar or cigarillo	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flavored e-cigarette, e-hookah, e-pen or vape pen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Feasible & Reliable Data Collection: Youth Survey

12. In the past thirty days, have you used any mint or menthol tobacco products?

- A. Yes
- B. No
- C. Don't Know

13. Which tobacco product (including e-cigarettes) did you try FIRST, if any?

- A. I have never tried any tobacco products
- B. Cigarette
- C. Cigar or cigarillo
- D. E-cigarette, e-hookah, e-pen or vape pen
- E. Blunt or blunt wraps
- F. Smokeless tobacco that is chewed, sniffed or held in the mouth

14. Was the first tobacco product (including e-cigarettes) you tried FLAVORED?

- A. I have never tried any tobacco products
- B. Yes
- C. No

15. How likely is it that you will smoke a cigarette in the next year?

- A. Very likely
- B. Somewhat likely
- C. Somewhat unlikely
- D. Very unlikely

16. How often do you visit convenience, corner or mini-mart stores?

- A. Every day
- B. A few times per week
- C. A few times per month
- D. Never / Rarely

17. How easy do you think it is to get FLAVORED tobacco products?

- A. Very easy
- B. Somewhat easy
- C. Somewhat difficult
- D. Very difficult

18. Please explain your answer in Question 17:

19. Which ONE (1) statement below BEST describes you?

- A. I have never tried any tobacco products (tobacco products include e-cigarettes, e-hookah, cigars, cigarettes, etc).
- B. Even if I go very long without using tobacco products, I do not have any desire to use a product.
- C. If I go too long without using tobacco products the first thing I will notice is a mild desire to use a product that I CAN ignore.
- D. If I go too long without using tobacco products, the desire to use a product becomes so strong that it is hard to ignore and it interrupts my thinking.

Feasible & Reliable Data Collection: Youth Survey



ONLY ANSWER QUESTIONS #20-25 IF YOU USED **FLAVORED** TOBACCO PRODUCTS
IN THE LAST 30 DAYS



If you have not used flavored tobacco products in the last 30 days, turn in survey now.

20. In the last 30 days, on how many days did you use **FLAVORED** tobacco products?

_____ days (Fill in a value 1 through 30)

21. What is the **ONE** main reason you currently use **FLAVORED** tobacco products?

- A. I like the flavor C. It is easy to buy E. Other: _____
B. It is cheap D. My friends use them

22. In the last 30 days, how did you get your **FLAVORED** tobacco products? (Circle **ALL** that apply)

- A. I bought them from a store (convenience store, gas station, etc.)
B. I gave someone money to buy them for me
C. I got them from a family member
D. I got them from friend(s)/I used a friend's
E. Other: _____

**ONLY ANSWER IF YOU GOT THEM FROM FRIEND(S)
OR USED A FRIEND'S**

23. How old was your friend? (Select all that apply if you got them from more than 1 friend)

- Under 18 18 or older Not sure

24. In the last 30 days, what Boston neighborhood(s) (for ex: Dorchester, Roxbury) did you get your **FLAVORED** products from?

Neighborhoods: _____

25. If tobacco products were **NOT** available in flavors, would you still use them?

- A. Yes B. No C. Not sure

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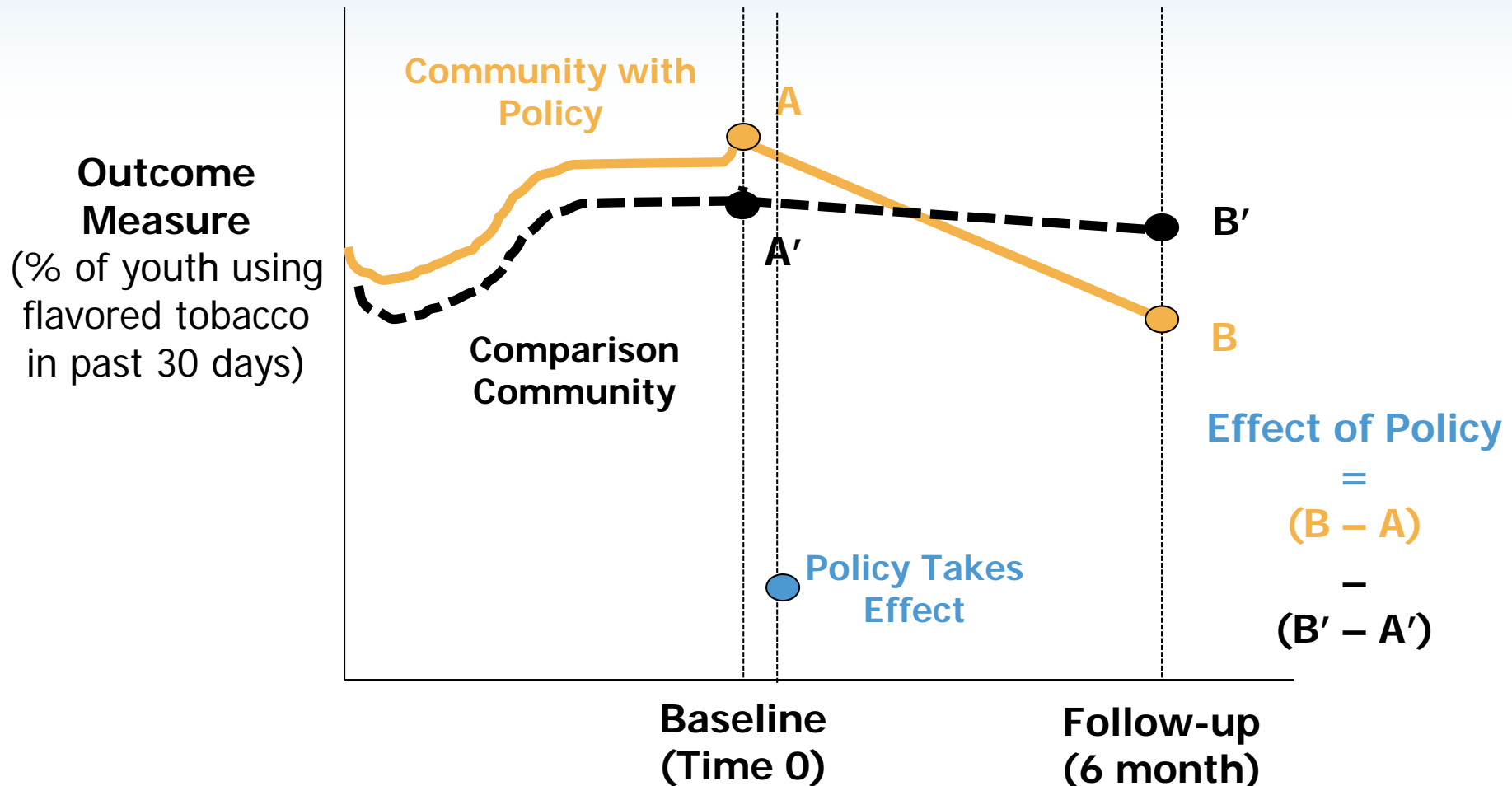
Step 4: Appropriate Study Design

- How the study is set up is critical to the validity of study findings
- Goal: Minimize bias and confounding to accurately isolate the effect of the policy
- Important Considerations:
 - Time points at which data is collected
 - Selection of Appropriate Comparison Group(s)
 - Sample size and representativeness of sample

Study Design

We utilized a quasi-experimental study design:

- * Pre-post policy measurements taken
- * At least one "comparison" community selected via matching method

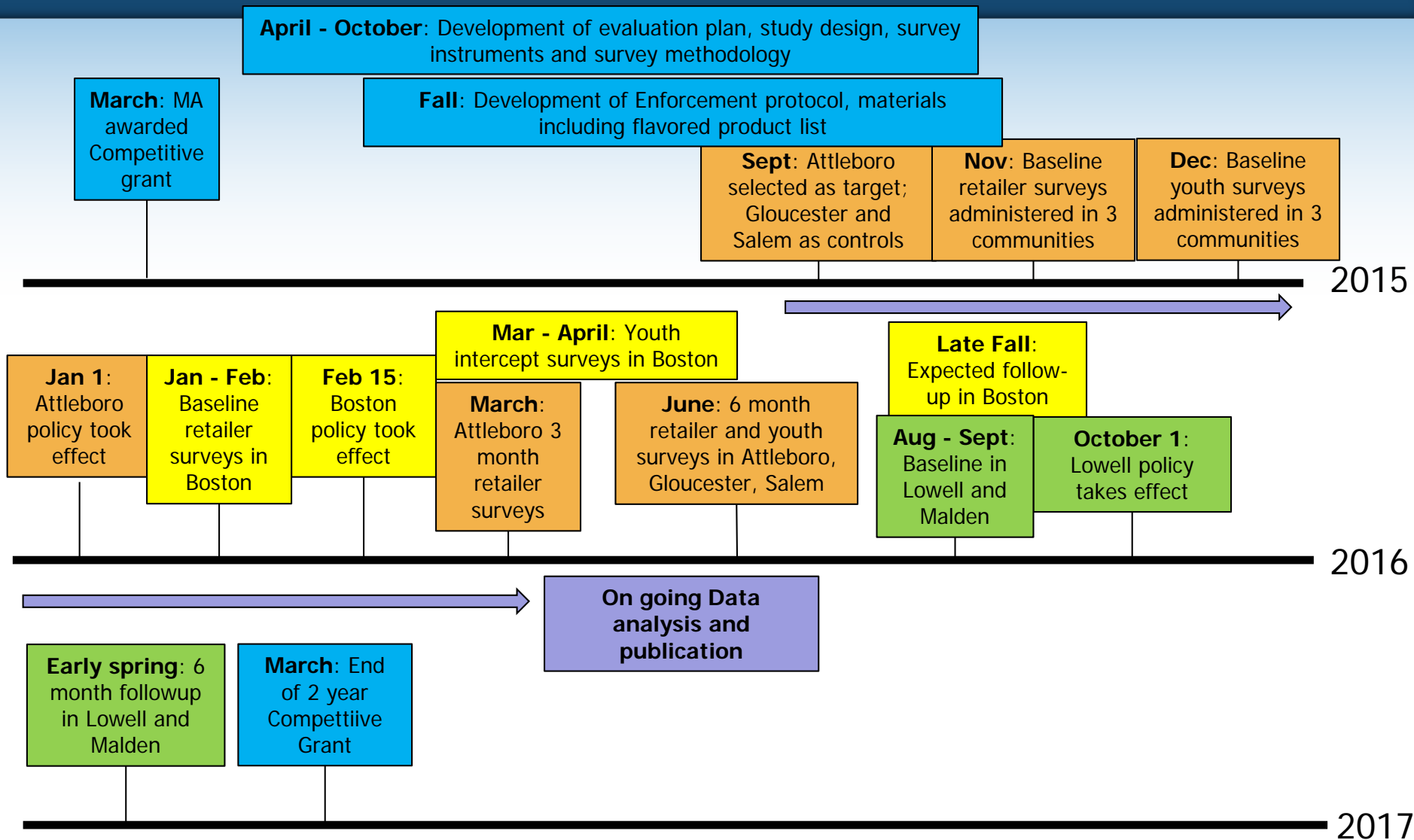


Control Community Selection

Selection of a "Comparison" Community similar to the Target Community

Funded Community Greater than 15K_City/Town	Town ID	Demographics/SES					Smoking Rates			Retailer Info: Retail Density, Illegal sales rates, % of retailers selling flavor products					Other POS Policies in Place: Cigar packaging, MLSA 21, Capping, Pharmacy ban, etc				
		Tot pop	pct_male	white_pct	pct_youth	smoking	Median_income	pct_below_poverty	Overall Retail Density	illegal sales to minors	pct retailers that carry flavor	single cigar price	pct independent stores	Cigar reg	Pharmacy ban	under 21	NDP to minors	Ban flavors	Cap
Easthampton	87	16053	47.5	93.6	18.0%	0.199	54657	6.2	1	0	75	2.58	68.4	Yes	Yes	No	Yes	No	No
Falmouth	96	31531	46.8	91.9	17.3%	0.133	62392	6.5	1.14	100	67		53.1	Yes	Yes	No	Yes	No	No
Fitchburg	97	40318	48.6	78.2	22.9%	0.245	47019	19.4	1.34		85	2.54	62.5	Yes	Yes	No	Yes	No	No
Gloucester	107	28789	48.1	95.7	18.6%	0.189	60506	7.8	1.08	4.1	87	2.5	60.7	Yes	Yes	No	Yes	No	No
Lawrence	149	76377	48.1	42.8	29.0%	0.148	31631	26.5	1.65	0	94	2.55	90	Yes	Yes	Yes	Yes	No	No
Lowell	160	106519	49.6	60.3	23.7%	0.216	50192	17.5	1.22	2.3	78	2.54	79.8	Yes	Yes	No	Yes	No	No
Malden	165	59450	48.4	56.7	19.7%	0.189	56347	12.8	1.04	8	76	2.5	85.9	Yes	Yes	Yes	Yes	No	No
Newburyport	206	17416	46.5	96.4	20.8%	0.158	76300	5.8	0.8	21.4	33	3.57	47.4	Yes	Yes	No	Yes	No	Yes
Northampton	214	28549	43.1	87.7	16.2%	0.169	52868	13.1	0.91	5.3	84	2.61	65.1	Yes	Yes	No	Yes	No	Yes
Pittsfield	236	44737	48	88.3	21.2%	0.217	43188	16	1.12	6.9	84	2.5	66.2	Yes	Yes	No	Yes	No	Yes
Plymouth	239	56468	49.4	93.8	22.1%	0.198	74767	6.5	1.13	13.4	72	0.96	56.8	Yes	Yes	No	Yes	No	Yes
Salem	258	41340	46.5	81.5	18.7%	0.189	56979	10.8	1.21	11.7	79	2.5	68.7	Yes	Yes	Yes	Yes	No	Yes
South Hadley	275	17514	41	90	16.9%	0.162	62236	6.9	0.69	5	50	2.5	70.6	Yes	Yes	Yes	Yes	No	Yes
Westport	334	15532	48.7	97.7	19.4%	0.17	68713	4.7	1.09	23.8	82	2.78	71.4	Yes	Yes	No	Yes	No	Yes

Timeline of Study Design



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Step 5: Consider What Else Could Explain What Was Observed?

- Consideration of potential sources of bias and confounding should be incorporated into each of the 5 evaluation steps:
 - Are there other policies passed concurrently that may have increased or decreased the observed impact?
 - Are there natural changes over time not associated with the policy?
 - Modifiers on change in retail environment
 - Modifiers on change in tobacco access
 - Modifiers on change in tobacco use
 - Are there limitations to the study design, sampling method or data collection process that undermines our ability to accurately measure the effect of the policy?

Tobacco Policy Evaluation Resources

- Overview of Tobacco Control Policies

Many resources developed by the Public Health Law Center for many tobacco control policies

- <http://publichealthlawcenter.org/topics/tobacco-control>

- “Methods for Evaluating Tobacco Control Policies”, IARC Handbooks of Cancer Prevention, Volume 12

- Available online at https://www.iarc.fr/en/publications/pdfs-online/prev/handbook12/Tobacco_vol12.pdf

- Policy Evaluation Conducted by Other States and Researchers

- Flavored Tobacco Restriction (New York City):
<http://tobaccocontrol.bmj.com/content/early/2016/02/12/tobaccocontrol-2015-052418.abstract>

- Evaluation Tools and Instruments

- CounterTobacco.org <http://countertobacco.org/store-assessment-tools>

Questions?

Make smoking history.