

The Nicholson Foundation

Final Campaign Evaluation Report

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TABLE OF CONTENTS

EXECUTIVE SUMMARY	3
INTRODUCTION	5
METHODS	6
<i>Online Evaluation Surveys</i>	6
<i>Analysis of Beverage Sales</i>	7
<i>Media Monitoring Analysis</i>	7
ONLINE EVALUATION SURVEYS	8
<i>Demographics</i>	8
<i>SSB Identification</i>	10
<i>Soda Consumption</i>	12
<i>Purchasing Patterns</i>	16
<i>SSB Availability in the Home</i>	18
<i>Perceptions of Consumption</i>	23
<i>SSB Attitudes</i>	26
<i>SSB Knowledge</i>	28
<i>Policy Perceptions</i>	31
<i>Limitations</i>	33
ANALYSIS OF BEVERAGE SALES	34
<i>Methods</i>	34
<i>Results</i>	36
MEDIA MONITORING	38
<i>Methods</i>	38
<i>Results</i>	39
<i>Trends in Total Mentions - New Jersey</i>	39
<i>Trends in Total Mentions - National</i>	41
<i>Trends in Themes - New Jersey</i>	42
<i>Trends in Themes - National</i>	46
CONCLUSIONS	47
APPENDIX	49

EXECUTIVE SUMMARY

One of the leading underlying causes of premature death in the U.S. is an unhealthy diet, which most often manifests itself in the form of obesity. In New Jersey, over 25% of residents are obese, and an additional 36% are overweight.¹ Similarly, about 25% of high school students are either obese or overweight.² Sugar sweetened beverages (SSBs) are the single largest source of added sugars in the American diet. In response to this, The Public Good Projects has collaborated with the Nicholson Foundation to create and implement a campaign focused on reducing consumption of SSBs and increasing water consumption among those at highest risk for negative health consequences. Year 1 of the campaign focused on pairing digital health communication materials with an on-the-ground presence, with a Community Campaign Manager (CCM) bridging the local communities with these digital efforts. Year 2 of the campaign built upon the successes from Year 1 and expanded efforts to include a focus on partnering with local businesses and organizations to change policies related to sugary drink consumption within the workplace. To examine the impact of the campaigns, PGP employs multiple evaluation methodologies, including online evaluation surveys, analysis of beverage sales, and examination of public discourse around SSBs.

Evaluation Surveys: PGP conducted three cross-sectional evaluation surveys to compare trends and changes in knowledge, attitudes, and behaviors (KABs) related to SSB consumption from a baseline pre-implementation, Year 1 follow-up, and a Year 2 follow-up. Results from the evaluation survey show positive shifts in knowledge, attitudes, and behaviors toward sugary drinks. This includes trends toward increased water consumption, decreases in purchasing SSBs,

¹ "BRFSS Prevalence & Trends Data." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 13 Sept. 2017, www.cdc.gov/brfss/brfssprevalence/.

² "New Jersey Student Health Survey, 2011." Rutgers University Bloustein Center for Survey Research for the New Jersey Department of Education, 2012, <http://www.state.nj.us/education/students/yrbs/2011/full.pdf>

decreases in social acceptability of allowing children to drink SSBs, improved self-efficacy and intentions to consume fewer sugary drinks, and significant positive shifts in knowledge of the health effects of SSB consumption. Specifically, results showed statistically significant increases in knowledge that sugary drink consumption can cause long-term health consequences for children, significant increases in desires to drink fewer SSBs, and significant decreases in SSB purchases at restaurants in Passaic county, and significant increases among the priority population that SSBs are associated with increased cancer risk.

Beverage Sales: Sales data show reductions in purchases of some types of sugary drinks, with some nuances to keep in mind. Data were examined nationally, in New Jersey, and in Passaic County specifically. Purchases of bottled water from 2018-2019 showed promising results, particularly at the state level, which showed a 2.5% increase the second year. Fruit drink mixes also showed promising patterns, with decreases across both New Jersey and Passaic County specifically. Patterns observed in Passaic County and New Jersey diverged from those nationally, suggesting specific influences in the state that were not mirrored nationally.

Media Monitoring: Media monitoring showed increases in general conversation as well as around specific themes related to campaign content. Conversation around sugary drinks in New Jersey showed substantial increases from baseline compared to Year 1 and 2 follow-ups. Conversation about specific themes also showed important shifts during the campaign period – particularly around choosing water over sugary drinks. References in this theme showed a steady increase in conversation throughout the entire period.

Results from this evaluation highlight the promising shifts in knowledge, attitudes, and behaviors around consumption and purchasing of sugary drinks. Through an examination of evaluation survey results, purchasing patterns, and media monitoring, we feel that PGP's methodology of pairing highly tailored and targeted digital content within a collective impact model has positively impacted communities across New Jersey and holds promise in reducing SSB consumption at a large scale.

INTRODUCTION

One of the leading underlying causes of premature death in the U.S. is an unhealthy diet, which most often manifests itself in the form of obesity.³ Obesity has been linked to numerous serious health conditions, including Type 2 diabetes, heart disease, and a variety of cancers. Despite the fact that this knowledge is well established, obesity rates have continued to increase, both across New Jersey and the United States. In New Jersey, over 25% of residents are obese, and an additional 36% are overweight.⁴ Similarly, about 25% of high school students are either obese or overweight.⁵ Consumption of added sugars is one of the leading contributors to the obesity epidemic. Sugar sweetened beverages (SSBs) are the single largest source of added sugars in the American diet, with the average American drinking nearly 42 gallons of sweetened beverages a year.⁶ In New Jersey, one-fifth of adults (20.3%) drink one or more SSB per day.⁷

In response to this, The Public Good Projects has collaborated with the Nicholson Foundation to create and implement a digital media campaign focused on reducing consumption of SSBs and increasing water consumption among those at highest risk for negative health consequences. An extensive literature review revealed a need to pay particular attention to low-income, Hispanic/Latino, and African American New Jersey residents, as well as the importance of leveraging the role of mothers in decreasing SSB consumption for themselves and their families. Differences not only exist within the landscape of SSB preferences, behaviors, and general health

³ "GBD Compare." Data Visualizations, Institute for Health Metrics and Evaluation, University of Washington, 2013, viz.healthmetricsandevaluation.org/gbd-compare/.

⁴ "BRFSS Prevalence & Trends Data." Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, 13 Sept. 2017, www.cdc.gov/brfss/brfssprevalence/.

⁵ "New Jersey Student Health Survey, 2011." Rutgers University Bloustein Center for Survey Research for the New Jersey Department of Education, 2012, <http://www.state.nj.us/education/students/yrbs/2011/full.pdf>

⁶ Babey SH, Jones M, Yu H, Goldstein H. Bubbling Over, "Soda Consumption and Its Link to Obesity in California." UCLA Center for Health Policy Research and California Center for Public Health Advocacy, 2009.

⁷ "New Jersey Behavioral Risk Factor Survey (NJBRFS)." New Jersey Department of Health, 2013 and 2014, <https://www.nj.gov/health/chs/njbrfs/>

beliefs between these cultural groups, but also in their lifestyle, values, and interests unrelated to SSBs. With both types of insights in mind, PGP designed campaign content separately and specifically for three distinct audience segments: African American moms (through the Natural Beauty Sugarfreed campaign), Hispanic moms (through the Sugarfreed Belleza campaign), and a general audience that included partners and individuals interested in the topic (through the NJ Sugarfreed campaign). Year 1 of the campaign focused on pairing digital health communications materials with an on-the-ground presence, with a Community Campaign Manager (CCM) bridging the local communities with these digital efforts. Year 2 of the campaign built upon the successes from Year 1 and expanded efforts to include a focus on partnering with local businesses and organizations in order to improve policies and practices related to sugary drink consumption within the workplace. All communications used tailored content to empower communities with engaging health communication messages disseminated through social media and partner organizations.

METHODS

PGP employs multiple evaluation methodologies, including online evaluation surveys, analysis of beverage sales, and examination of public discourse around SSBs.

Online Evaluation Surveys

PGP conducted three cross-sectional evaluation surveys to understand trends and changes in knowledge, attitudes, and behaviors (KABs) related to SSB consumption. A baseline survey was conducted pre-campaign implementation, from November 22 - December 2, 2017, with the Year 1 follow-up survey conducted from October 5 - November 25, 2018, and the Year 2 follow-up survey conducted from January 6 - January 26, 2020. This Year 2 Final Report will compare results from the baseline and two follow-up surveys in order to examine changes in knowledge, attitudes, and behaviors.

Analysis of Beverage Sales

Beverage sales data are purchased from IRI (Information Resources, Inc.), a market data firm that contains the world's largest set of purchase, media, and loyalty data. IRI is commonly used by for-profit industries - including beverage companies - to understand market performance and retail analytics, consumer insights, and ad performance. PGP was the first organization to use sales of SSBs as an outcome metric in a previous, and successful, SSB reduction campaign in Tennessee. With funding from Bristol-Myers Squibb Foundation, Mountain States Health Alliance, and Wellmont Health System, the Live Sugarfeed campaign encouraged consumers to drink water instead of sugary beverages and encouraged local organizations to promote healthier beverages to their employees and members. Results from sales data showed a 4.1% decline in sales of soda in the intervention area compared to a control region.⁸ For the current campaign, PGP adapted analysis methodologies employed during the previous campaign to examine sales of SSBs both in Passaic County and across New Jersey.

Media Monitoring Analysis

PGP monitors trends across all public media around SSBs as well as changes in this conversation among the general public and within media coverage and reporting. PGP employs a combination of techniques to ingest public data and structure it to be used for analysis. Public data include various media sources, such as social and digital media (Twitter, Instagram, and Facebook), YouTube, online forums, online Q&A websites, news sites and blogs, print media such as journals, magazines, newspapers, and broadcast television. Data are used to monitor and evaluate the ways that SSBs are discussed online over time.

⁸ Farley TA, Halper HS, Carlin AM, Emmerson KM, Foster KN, Fertig AR. "Mass media campaign to reduce consumption of sugar-sweetened beverages in a rural area of the United States." *Am J Public Health* (2017) 107:989–95. 10.2105/AJPH.2017.303750

ONLINE EVALUATION SURVEYS

A total of 800 respondents completed the baseline survey, 782 respondents completed the Year 1 follow-up survey, and 713 respondents completed the Year 2 follow-up survey. Throughout the report, the population of Hispanic and African American Moms across New Jersey will be referred to as the 'priority audience;' the overall sample of all respondents surveyed throughout the state will be referred to as the 'overall sample;' and residents of Passaic County will be referred to as 'Passaic.' Throughout the results presented below, statistical significance was evaluated at $p < .05$ and indicated when appropriate.

Demographics

Demographic breakdowns between the baseline and follow-up surveys were comparable. African Americans, Hispanics, and females were oversampled to allow for analyses to be conducted on the priority audience's knowledge, attitudes, and behaviors (KABs) regarding SSBs. At baseline, 75.4% of respondents were female, 24.0% were male, and 0.6% were other or preferred not to say. Similarly, at Year 1 follow-up 74.6% were female, 24.8% male, and 0.6% were other or preferred not to say. Continuing the trend, at Year 2 follow-up, 74.9% of respondents were female, 25% male, and 0.6% preferred not to say. Oversampling of Hispanic and African American respondents is reflected in the chart below. This group cumulatively reflects 57.6% of the baseline sample, 62.7% of the Year 1 sample, and 58.3% of the Year 2 sample. The high percentage of respondents who chose "Other" is reflective of overall trends in the way that individuals identify their race and ethnicity. A 2017 Pew Research report found that when race and ethnicity are asked in two separate questions, over a third of Hispanic respondents chose the "Other" category for race.⁹ Parents were also oversampled, given that the campaign targeted those with children in the home as a priority audience. This group accounted for around 50% of respondents at each time point (58.0% at baseline, 53.3% at Year 1 follow-up, and 47.8%

⁹ Cohn, D'Vera. Seeking Better Data on Hispanics, Census Bureau May Change How It Asks about Race. Pew Research Center, 20 Apr. 2017, www.pewresearch.org/fact-tank/2017/04/20/seeking-better-data-on-hispanics-census-bureau-may-change-how-it-asks-about-race/.

at Year 2 follow-up). Respondents age 35 and under also represented a majority of respondents - 67.7% at baseline, 63.1% at Year 1 follow-up, and 56.1% at Year 2 follow-up. At baseline, the average household was 3.5 individuals, compared to 3.4 at Year 1 follow-up and 3.4 at Year 2 follow-up. Information on the racial and ethnic breakdown of overall respondents at baseline and follow-up can be viewed below.

Race and Ethnicity of Respondents¹⁰

	Overall Sample			Passaic County		
	<i>Baseline</i>	<i>Year 1 Follow-Up</i>	<i>Year 2 Follow-Up</i>	<i>Baseline</i>	<i>Year 1 Follow-Up</i>	<i>Year 2 Follow-Up</i>
White	44.3%	45.3%	61.9%	44.7%	38.8%	63.1%
Black/African American	27.9%	30.7%	28.1%	31.6%	21.4%	21.5%
Asian	8.1%	5.2%	1.5%	3.9%	4.1%	3.1%
Hawaiian/Pacific Islander	0.9%	0.9%	1.0%	0.0%	2.0%	1.5%
Native American	2.3%	2.4%	2.4%	1.3%	3.1%	4.6%
Other	17.4%	16.6%	11.4%	21.2%	31.6%	15.4%
Prefer to not say	3.3%	3.2%	0.8%	1.3%	4.1%	3.1%
Hispanic	33.0%	38.2%	25.2%	53.9%	60.2%	38.5%

¹⁰ Race and ethnicity were asked in two questions. Respondents were asked to select all races that apply. Therefore, race/ethnicity percentages will total more than 100%.

Throughout the campaign, Passaic County served as the campaign hub, with a campaign manager delivering the campaign to the entire state with a particular emphasis on this county. Passaic also served as the primary source for creation of relevant content for dissemination by the campaign, such as local video or image-based content. Therefore, respondents from this area were oversampled at both baseline and follow-up: at baseline, 9.5% of respondents were from Passaic County compared to 12.5% at Year 1 follow-up, and 10.4% at Year 2 follow up. It is also important to note that respondents from Passaic County were more often Hispanic, compared to the overall sample. Within Passaic County, Hispanic and African Americans accounted for 78.9% of the baseline sample, 71.4% of Year 1 follow up, and 60.0% of Year 2 respondents. For more information on age and household characteristics at baseline and follow-ups, refer to the Appendix.

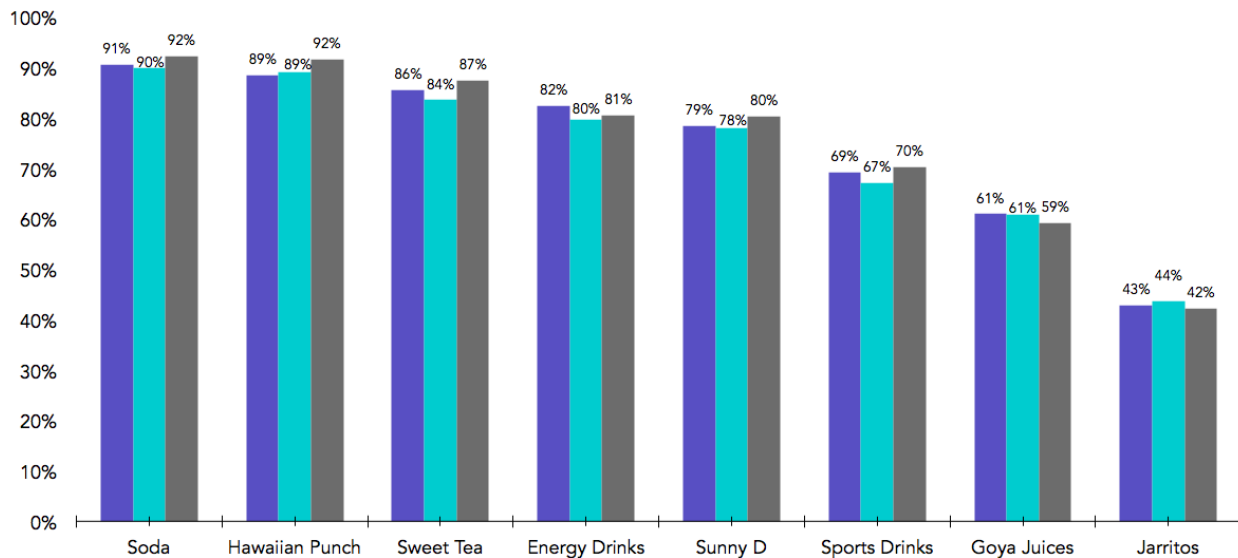
SSB Identification

To analyze general knowledge and ability to identify various types of sugar-sweetened beverages, respondents were presented with a list of beverages and asked to identify which they thought were SSBs (including some options that were not SSBs, like milk or water). At Year 2 follow-up 24% of all respondents correctly identified *all* the SSBs, compared to 25% at Year 1 follow-up and at baseline. Identification of SSBs at Year 2 follow-up showed an improvement for specific types of drinks - including soda, Hawaiian Punch, sweet tea, energy drinks, Sunny D, and sports drinks. As shown in the chart below, correct identification was highest for soda and Hawaiian Punch, followed by sweet tea, with around 90% correct identification for within the overall sample. Approximately 80% of participants correctly identified energy drinks and Sunny D, while around 70% of respondents correctly identified sport drinks.

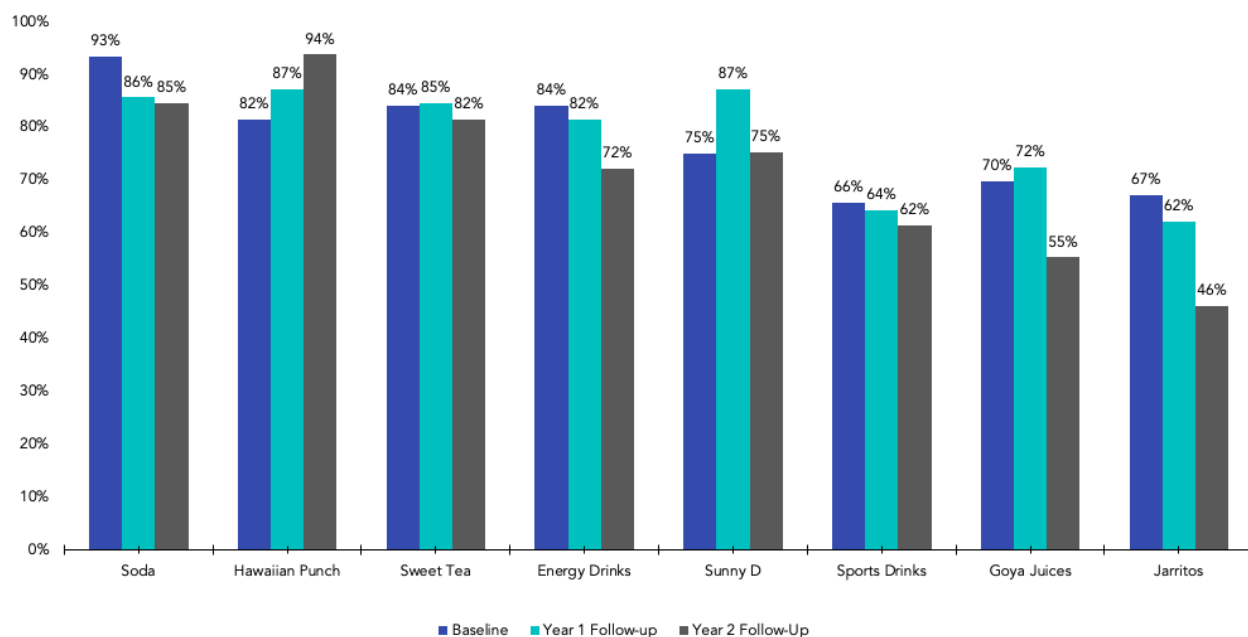
When results were examined within Passaic County, results showed an increase in correct identification of Hawaiian Punch with around 82% correct identification at baseline compared to almost 94% at Year 2 follow-up. Aside from this increase, other SSBs showed declines in correct identification, especially Jarritos, which had a 14 percentage point decrease in correct identification. Similar to the overall sample, soda and Hawaiian Punch both showed the highest

levels of correct identification. For more information on SSB identification trends for both the overall sample and Passaic, refer to the charts below.

Overall Sample - Identification of SSBs



Passaic County - Identification of SSBs



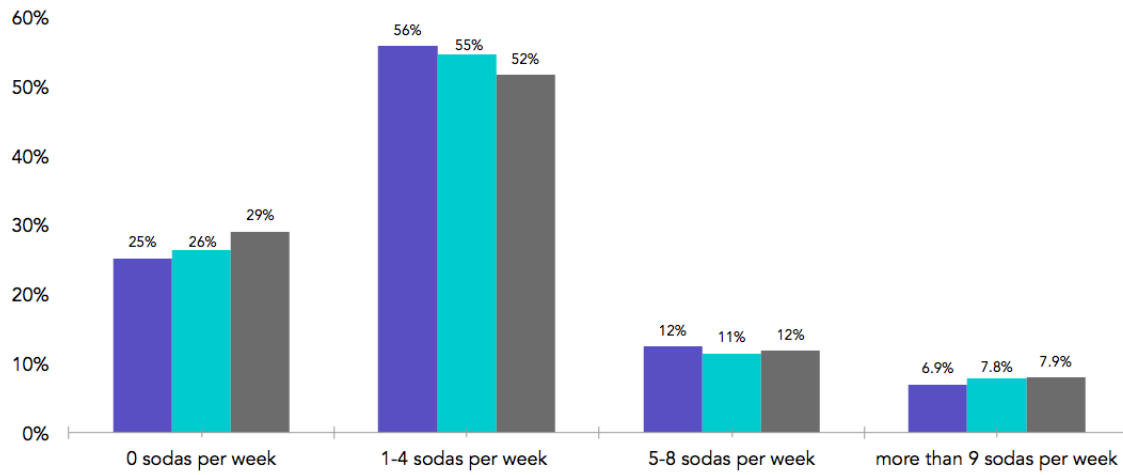
Soda Consumption

Respondents were asked to report on the average number of glasses/cans of soda that they drink per week. The priority audience of African American and Hispanic moms showed the most promising results, with an increase of 8 percentage points from baseline to Year 2 follow-up for those who reported drinking 0 glasses/ cans of soda per week. This group also showed a 1 percentage point decrease in reporting consumption of 9+ glasses/ cans of soda per week. This is an important finding considering this population traditionally shows a higher rate of SSB consumption.

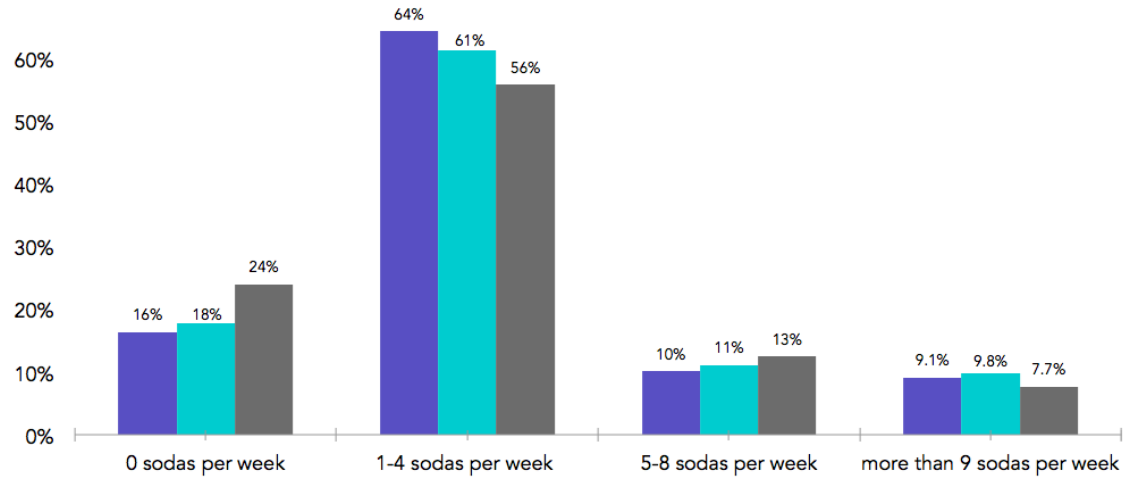
Similar to the priority audience, the overall sample showed an increase of 4 percentage points in reports of not drinking any soda during the week, with a corresponding decrease in the number reporting consumption of 1 to 4 glasses/ cans of soda per week. Respondents who reported moderate (5-8 glasses/ cans of soda per week) remained consistent from baseline to Year 2 follow-up, while heavy soda consumption (more than 9 glasses/ cans of soda per week) increased by 1 percentage point from baseline to Year 2 follow-up. Within Passaic, light (1 to 4 glasses or cans of soda per week) and moderate soda consumption (5 to 8 glasses or cans of soda per week) remained somewhat consistent from Year 1 follow-up to Year 2 follow-up.

The charts on the following page show a comparison of soda consumption trends among respondents, including the overall sample, target audience, and Passaic County.

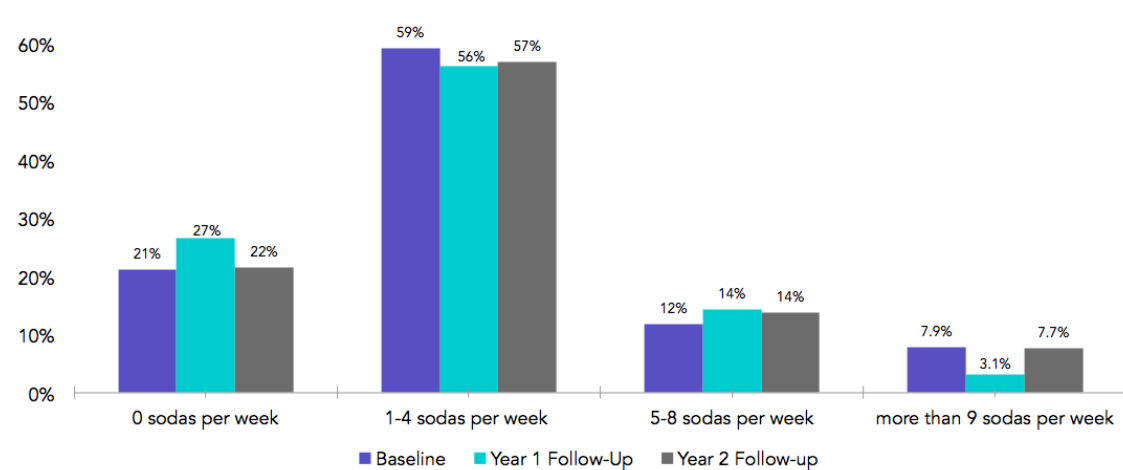
Overall Sample - Soda Consumption



Hispanic and African American Moms - Soda Consumption



Passaic County - Soda Consumption

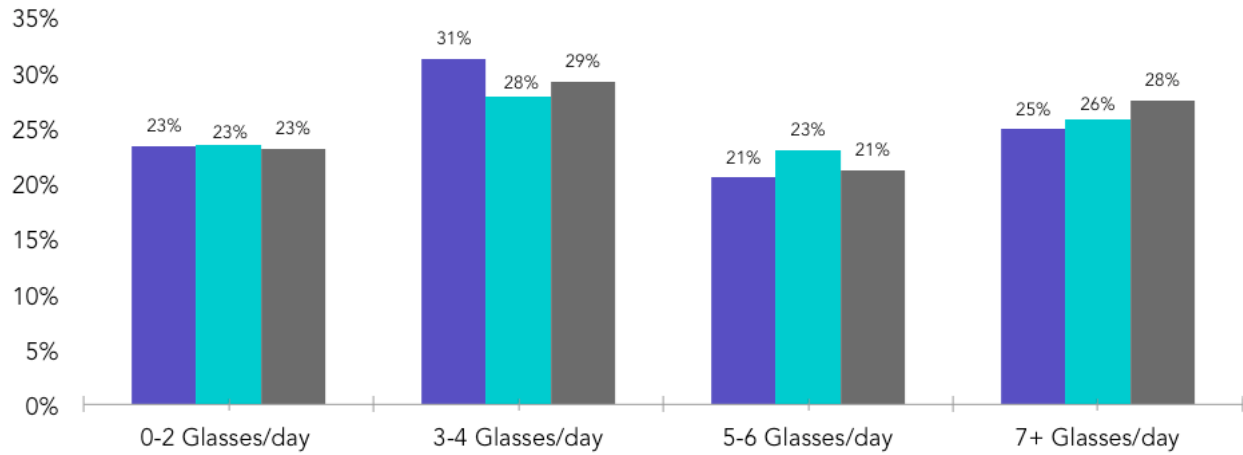


Water Consumption

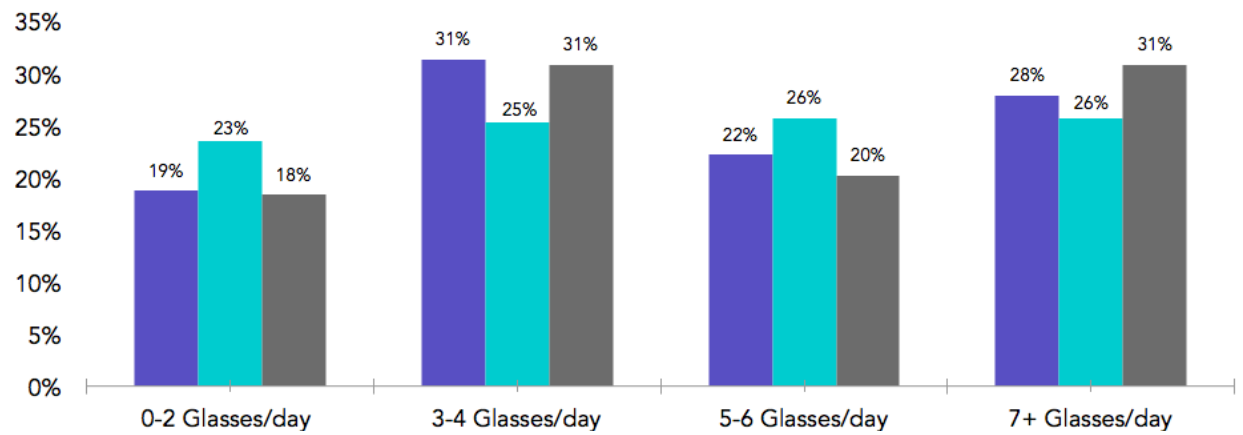
Respondents were then asked to self-report their average water consumption. Results showed an increase in consumption of 7+ glasses per day for all three populations. Encouragingly, around 30% of the overall sample, Passaic County, and the priority population of Hispanic and African American moms reported drinking 7+ glasses of water per day. Correspondingly, consumption of 0-2 glasses of water a day fell among the priority population and Passaic to around 17%. At Year 2 follow-up, the overall sample remained consistent at around 23% of respondents claiming 0-2 glasses per day. These results suggest that people across New Jersey are drinking more water than previously reported. At Year 2 follow-up, 49% of the overall sample reported drinking an average of at least 5 glasses of water per day, compared to 48% of respondents in Passaic, and 51% of the priority population.

For more information on water consumption among the overall sample, Hispanic and African American Moms, and Passaic county, refer to the charts below.

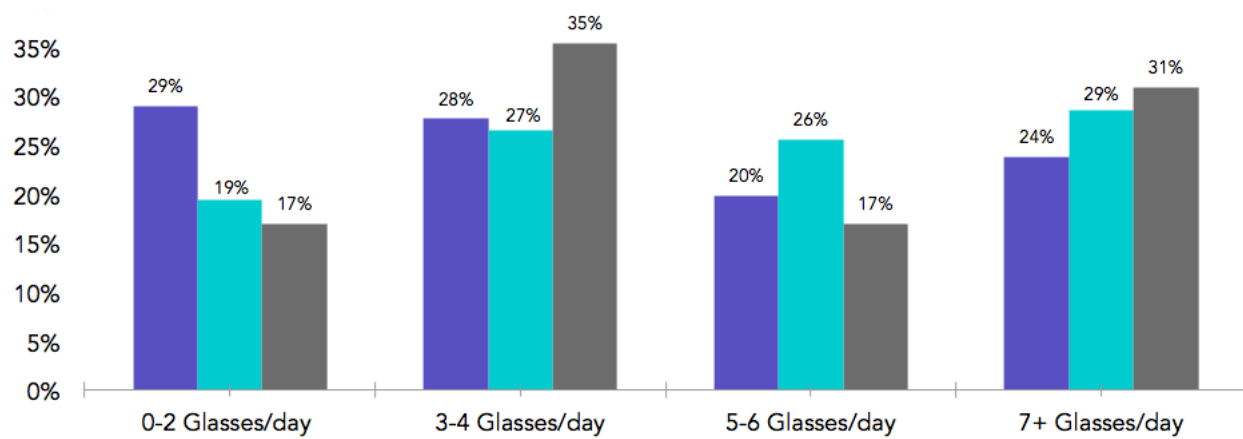
Overall Sample - Water Consumption



Hispanic and African American Moms - Water Consumption



Passaic County - Water Consumption



■ Baseline ■ Year 1 Follow-Up ■ Year 2 Follow-Up

Purchasing Patterns

Prior research has shown that the majority of SSBs consumed by children are purchased from stores and that mothers often act as gatekeepers to household decisions about spending money.^{11 12} This was a major factor in PGP's decision to target mothers as a priority audience for the campaign, given that mothers often make the grocery purchasing decisions for the family. In all three surveys, a majority of respondents reported being primarily responsible for the grocery shopping decisions in their household - 66% at baseline, 67% at Year 1 follow-up, and 66% at Year 2 follow-up. To understand the patterns of purchasing SSBs, respondents were asked how often in the past week they purchased soda and other SSBs from either a restaurant or a store. Similar to the previous surveys, among the overall sample, the priority audience, and Passaic County, respondents more often purchased SSBs from a store than from a restaurant. Results from the overall sample and priority audience showed decreasing purchasing trends from baseline to Year 2 follow-up, at both stores and restaurants. Results from the overall sample showed the most positive results, with a steady decrease in purchasing from baseline throughout the Year 1 and Year 2 follow-up surveys. From baseline to Year 2, the overall sample showed a 5 percentage point decrease in purchases of SSBs from stores and a 6 percentage point decrease in purchases from restaurants. In comparison, among the priority audience purchases from stores decreased 1 percentage point, compared to a 3 percentage point decrease of purchases from restaurants. Responses in Passaic County showed more nuance, with a non-significant increase in purchases from stores, and a significant decrease in purchases from restaurants compared to the Year 1 follow-up survey.

For more information on past week purchasing patterns, see the charts below.

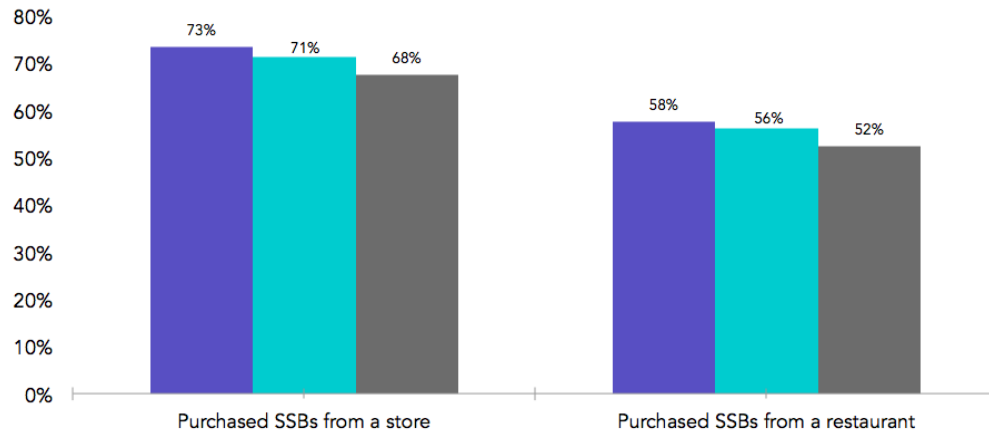
¹¹ *Audience Insights: Communicating to Moms (With Kids at Home)*. Centers for Disease Control and Prevention Department of Health and Human Services.

https://www.cdc.gov/healthcommunication/pdf/audience/audienceinsight_moms.pdf

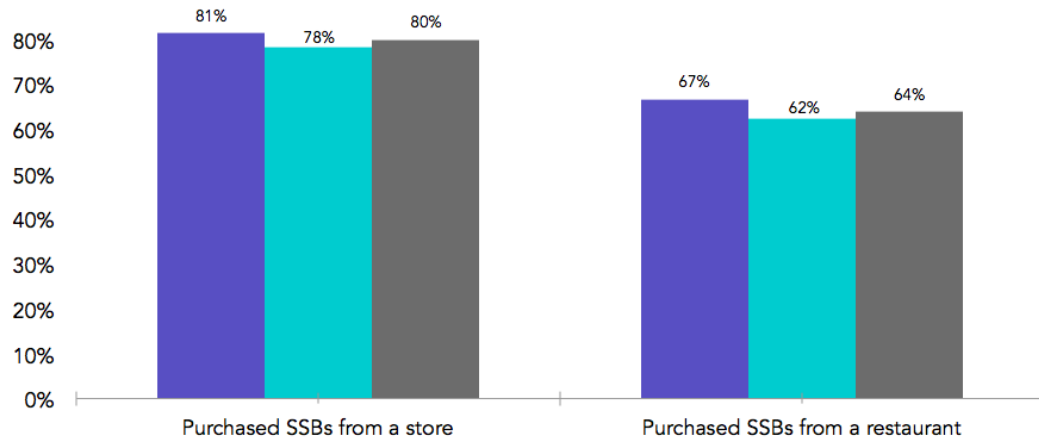
¹² Ogden, C. L., Kit, B. K., Carroll, M. D., & Park, S. "Consumption of sugar drinks in the United States." Hyattsville, MD: US Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Health Statistics, 2011, 2005-2008(p. 71)

<https://www.cdc.gov/nchs/data/databriefs/db71.pdf>

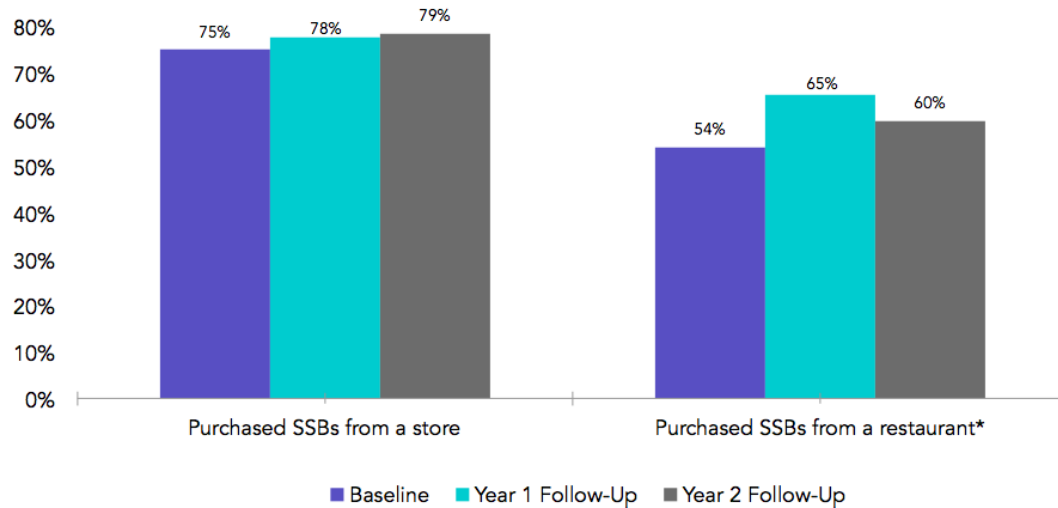
Overall Sample - Past Week Purchasing



Hispanic and African American Moms - Past Week Purchasing



Passaic County - Past Week Purchasing



SSB Availability in the Home

To provide more direct context on the availability of SSBs in the home, respondents were also asked how often they typically have soda or other SSBs available for people to drink at home. All three groups showed increases in the proportion of respondents who “never” have SSBs in the home. The overall sample showed a 2.4 percentage point increase from baseline to Year 2 follow-up, compared to a 3.0 percentage point increase among the priority population and a 3.1 percentage point increase among respondents in Passaic County. Correspondingly, the proportion of respondents who reported having SSBs available in the home “sometimes” or “half of the time,” also showed decreasing trends. Among the overall sample, the percentage declined by 7.3 percentage points over baseline to Year 2, compared to an 11.8 percentage point decline among the priority population. Although Passaic County showed a 12 percentage point increase, they also showed a 15 percentage point decrease in those who “always” have SSBs available in the home. This suggests that people may have shifted their behaviors in a positive direction, from “always” having SSBs available, to only “sometimes” having them available. While not statistically significant, these trends are encouraging, particularly in tandem with the purchasing results above that show decreases in self-reported purchasing patterns.

For more information on reported SSB availability in the home among the three groups, see the tables below.

How often do you have regular soda or other sugar-sweetened drinks available at home for people to drink?

<i>Overall Sample</i>	Baseline	Year 1 Follow-Up	Year 2 Follow-Up
Always/ Most of the time	37.0%	33.9%	40.1%
Sometimes/ Half of the time	50.8%	51.8%	43.5%
Never	12.2%	14.3%	14.6%
<hr/> <i>Hispanic & African American Moms</i>			
Always/ Most of the time	31.9%	39.6%	39.5%
Sometimes/ Half of the time	61.1%	51.8%	49.3%
Never	7.1%	8.6%	10.1%
<hr/> <i>Passaic County</i>			
Always/ Most of the time	47.4%	31.6%	32.3%
Sometimes/ Half of the time	43.4%	59.2%	55.4%
Never	9.2%	7.1%	12.3%

SSB Acceptability for Children

To evaluate beliefs regarding the appropriate age for children to consume SSBs, participants were asked “At what age do you think it is OK for children to regularly have soda.” All three groups showed increases in beliefs that it is “never” acceptable for children to regularly have soda. The largest increase in agreement was seen among the priority population with a 2.7 percentage point increase, followed by a 2.2 percentage point increase in agreement among the overall sample, and a 0.3 percentage point increase in Passaic. In tandem with these results, follow-up results showed a corresponding decrease in agreement with it being acceptable for children under 10 years old to regularly consume soda across all three groups. The largest decrease in this measure was observed among the priority population, with an 8.3 percentage point decrease from baseline to Year 2 follow-up. This was followed by Passaic with a 7.4 percentage point decrease and the overall sample with a 1.1 percentage point decrease from baseline to Year 2 follow-up. These results show encouraging trends toward decreased acceptability of sugary drink consumption in children.

A similar question was asked to gauge if respondents felt that it would be appropriate for children “to regularly have fruit punch or fruit-flavored drinks containing sugar.” Results showed similar, though less dramatic, improvements. All three groups showed an increase in the belief that it is “never” appropriate for children to have fruit flavored drinks that contain sugar, with a 3.3 percentage point increase in agreement among the overall sample, a 1.0 percentage point increase among the priority population, and a 0.9 percentage point improvement in Passaic. Similar decreases were observed in the belief that it is acceptable for children under 10 years old to regularly have fruit punch or fruit flavored drinks that contain sugar. The overall sample showed a 0.3 percentage point decrease in agreement, the priority population showed a 1.3 percentage point decrease, and Passaic showed a 5.4 percentage point decrease. These two questions are important in understanding the likelihood of behavior change, particularly among mothers who hold the keys to their children’s SSB consumption. Though not statistically

significant, these results suggest that both mothers in New Jersey, as well as the general population, are increasingly aware of the harmful effects that regular soda and sugary fruit drink consumption can have.

For more information on perceptions of acceptability for both soda and fruit drinks, refer to the tables below.

<i>At what age do you think it is OK for children to regularly have soda?</i>			
<i>Overall Sample</i>	Baseline	Year 1 Follow-Up	Year 2 Follow-Up
Under 10 yrs.	20.3%	20.1%	19.2%
Over 10 yrs.	34.0%	33.6%	33.4%
Never	40.6%	40.3%	42.8%
<hr/> <i>Hispanic & African American Moms</i>			
Under 10 yrs.	28.9%	23.5%	20.6%
Over 10 yrs.	31.6%	31.6%	34.6%
Never	38.2%	40.8%	40.9%
<hr/> <i>Passaic County</i>			
Under 10 yrs.	28.9%	23.5%	21.5%
Over 10 yrs.	31.6%	31.6%	15.4%
Never	38.2%	40.8%	38.5%

At what age do you think it is OK for children to regularly have fruit punch or fruit flavored drinks that contain sugar?

<i>Overall Sample</i>	Baseline	Year 1 Follow-Up	Year 2 Follow-Up
Under 10 yrs.	47.6%	48.2%	47.3%
Over 10 yrs.	21.1%	19.4%	20.9%
Never	23.1%	24.2%	26.4%
<hr/>			
<i>Hispanic & African American Moms</i>			
Under 10 yrs.	51.7%	53.5%	50.4%
Over 10 yrs.	18.3%	16.4%	19.7%
Never	23.5%	24.8%	24.5%
<hr/>			
<i>Passaic County</i>			
Under 10 yrs.	50.0%	50.0%	44.6%
Over 10 yrs.	22.4%	19.40%	26.2%
Never	23.7%	22.4%	24.6%

Perceptions of Consumption

To understand social norms around SSBs, respondents were asked about their perceptions of others' SSB consumption. This question provides an important window to potential behavior change, given that the influence of friends and family is a strong determinant of behavior change.^{13 14} Across all three groups, results showed a decrease in those who believe friends and family drink regular soda on a daily basis. The decrease was steady, with all three groups showing continued improvements from baseline to Year 1 follow-up, and carried through to Year 2 follow-up. Likewise, respondents showed an increase in the proportion of those who believe that friends and family drink regular soda on a monthly or less than monthly basis. Respondents were then asked the same question about perceptions of consumption patterns for Americans in general. Results mirrored those presented above, with a decrease in the belief that most Americans drink regular soda daily, and an increase in the belief that most Americans drink regular soda monthly or less. These results are encouraging, particularly when taken into context with the previously reported improvements in consumption, purchasing patterns, and beliefs about social acceptability for children to consume SSBs.

For more information on social norms around perceptions of consumption, refer to the tables below.

¹³ Institute of Medicine (US) Committee on Health and Behavior: Research, Practice, and Policy. Health and Behavior: The Interplay of Biological, Behavioral, and Societal Influences. Washington (DC): National Academies Press (US); 2001. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK43743/> doi: 10.17226/9838

¹⁴ Tomé, Gina et al. "How can peer group influence the behavior of adolescents: explanatory model" Global journal of health science vol. 4,2 26-35. 1 Mar. 2012, doi:10.5539/gjhs.v4n2p26

How often do you think your friends and family drink regular soda?

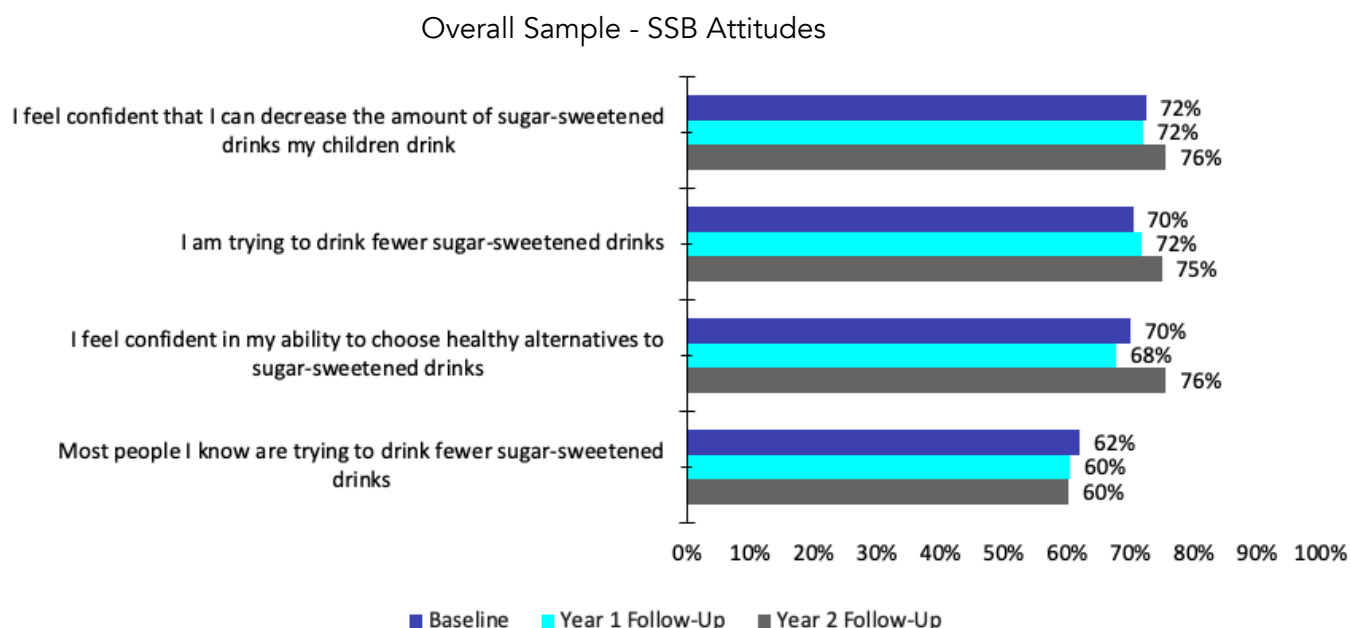
<i>Overall Sample</i>	Baseline	Year 1 Follow-up	Year 2 Follow-up
Daily	37.5%	35.8%	33.9%
Weekly	37.3%	37.7%	40.1%
Monthly/ Less than Monthly	20.8%	22.4%	21.7%
<hr/> <i>Hispanic & African American Moms</i>			
Daily	46.1%	40.7%	33.9%
Weekly	34.8%	35.4%	40.1%
Monthly/ Less than Monthly	17.0%	19.5%	20.7%
<hr/> <i>Passaic County</i>			
Daily	46.1%	39.8%	32.3%
Weekly	32.9%	36.7%	29.2%
Monthly/ Less than Monthly	17.1%	20.4%	24.7%

How often do you think most Americans drink regular soda?

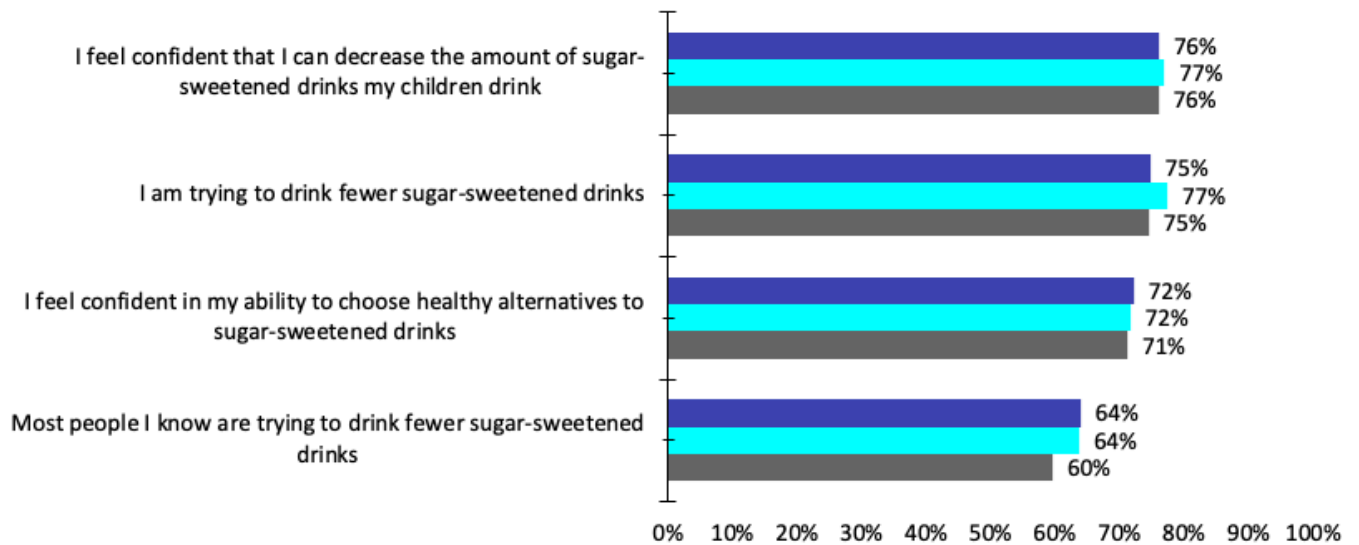
<i>Overall Sample</i>	Baseline	Year 1 Follow-up	Year 2 Follow-up
Daily	60.3%	60.0%	54.7%
Weekly	25.5%	22.9%	30.3%
Monthly/ Less than Monthly	11.1%	14.1%	12.0%
<hr/> <i>Hispanic & African American Moms</i>			
Daily	67.0%	67.3%	53.8%
Weekly	19.6%	18.6%	26.9%
Monthly/ Less than Monthly	11.3%	9.7%	17.8%
<hr/> <i>Passaic County</i>			
Daily	57.9%	55.1%	46.2%
Weekly	27.6%	27.6%	36.9%
Monthly/ Less than Monthly	13.2%	13.3%	16.9%

SSB Attitudes

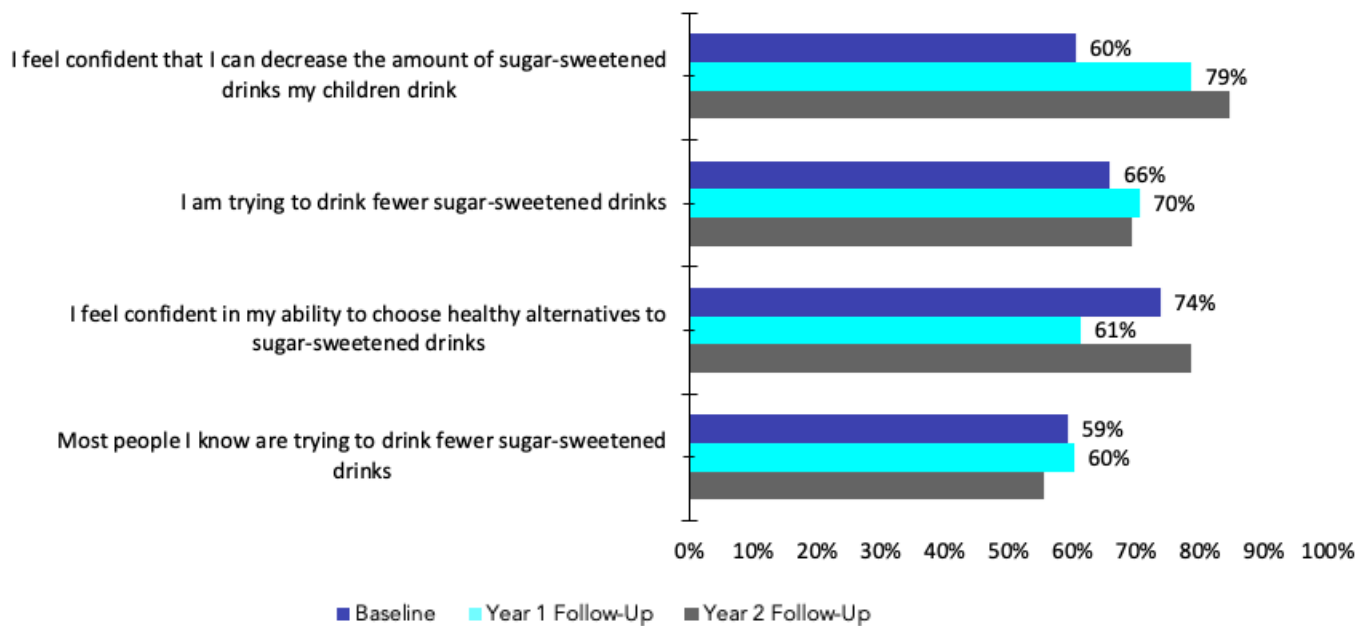
Attitudes towards SSBs were assessed by presenting respondents with a list of statements and asking how much they agree with each. The chart below shows the percentage of respondents who either “Strongly Agreed” or “Agreed” with the statements. In general, these questions showed promising results, with all of the groups showing high levels of confidence in making healthy changes for themselves and their children. Of note, questions that ask about children were only presented to respondents who reported having children. Results from the overall sample showed improvements over the first two surveys. At Year 2 follow-up, around 76% of respondents reported feeling confident that they can decrease the amount of SSBs their children drink, that they can choose healthy alternatives to SSBs, and that they are trying to drink fewer SSBs (the latter a statistically significant improvement). Within the priority audience, results were mixed with variations in confidence of decreasing the amount of SSBs their child drinks, and to choose healthy alternatives. Responses within Passaic County also yielded varied responses, with increases in the number of respondents who felt confident in their ability to choose healthy alternatives, and to decrease the amount of SSBs their children drink. For more information on agreement with questions assessing attitudes toward SSBs, see the following charts.



Hispanic and African American Moms - SSB Attitudes



Passaic County - SSB Attitudes

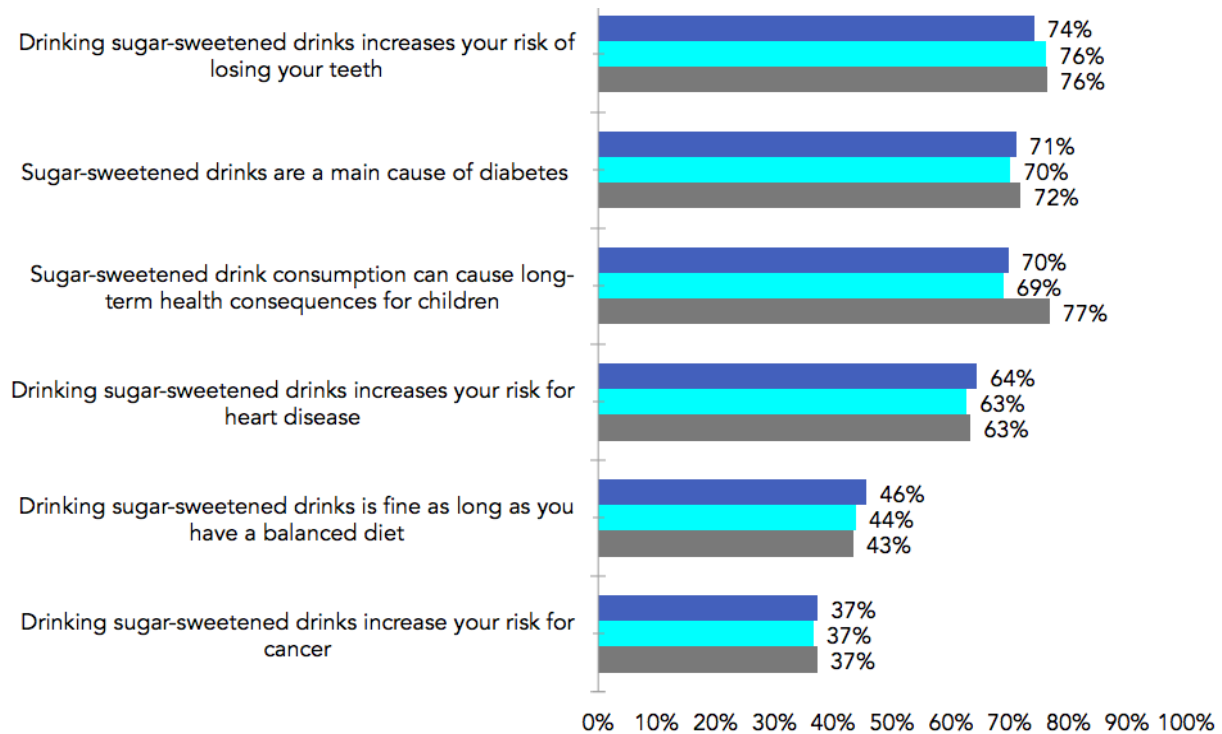


SSB Knowledge

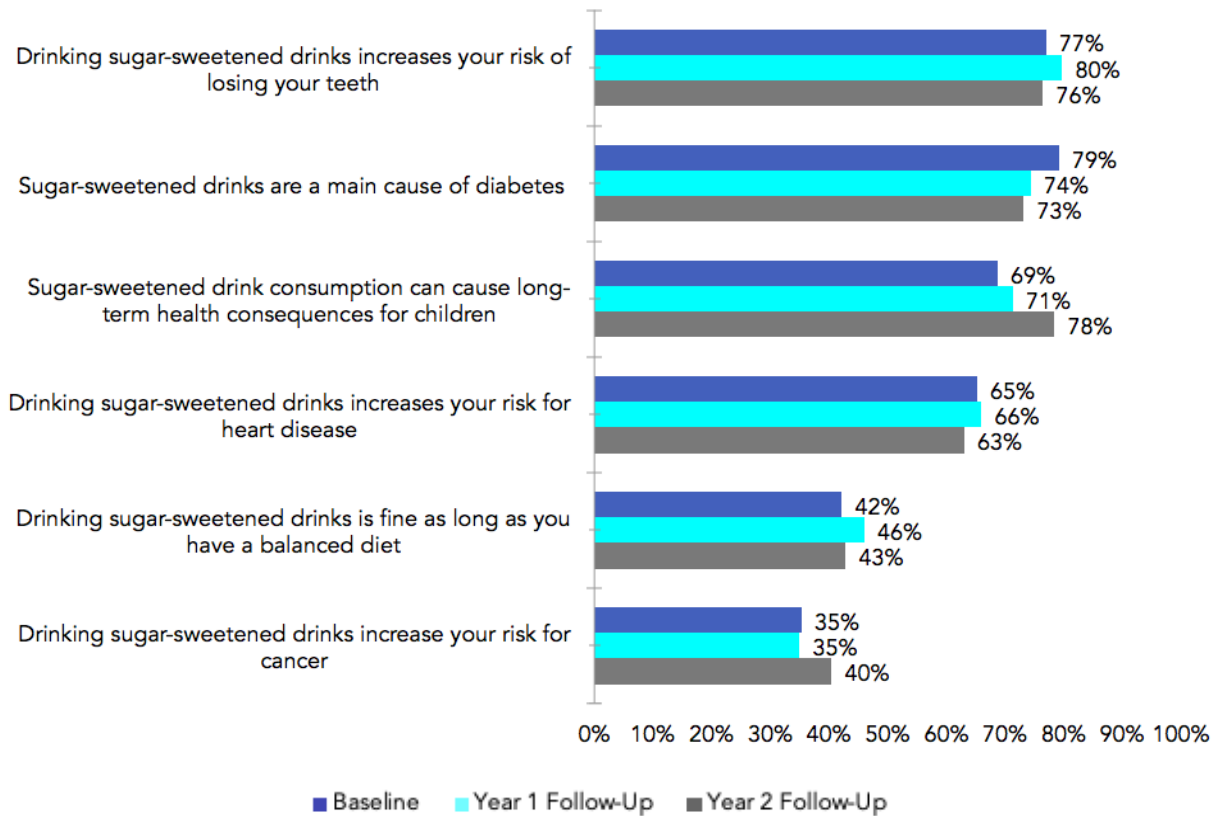
To examine general knowledge on the health consequences from consuming SSBs, participants were presented with fact statements and asked how much they agreed with them. Similar to the charts above, results presented below show those who “Strongly Agreed” or “Agreed” with the given statements. Similar to the baseline and Year 1 follow-up, at Year 2 follow-up, most respondents were aware that consuming SSBs increases the risk of tooth problems and that SSBs are a leading cause of diabetes. Interestingly, across all three groups there was a substantial shift in perceptions about the long-term health consequences of SSB consumption. At the Year 2 follow-up, agreement on this question skyrocketed, making it the top question with 77% agreement among the overall sample, 78% agreement in Passaic (both statistically significant increases), and 78% agreement among the priority population. Among the overall sample, there was a 7 percentage point increase in agreement on this measure from baseline to Year 2 follow-up, compared to a 9 percentage point increase among the priority population and a 22 percentage point increase within Passaic. The fact about the association between SSBs and an increased cancer risk remained the question with the lowest levels of agreement across all surveys, with significant improvements among the priority population. While other questions showed slight declines in knowledge about SSBs, they were not statistically significant.

Results from these questions are presented on the following page. Additional information on the knowledge and attitudes of respondents is presented in the Appendix.

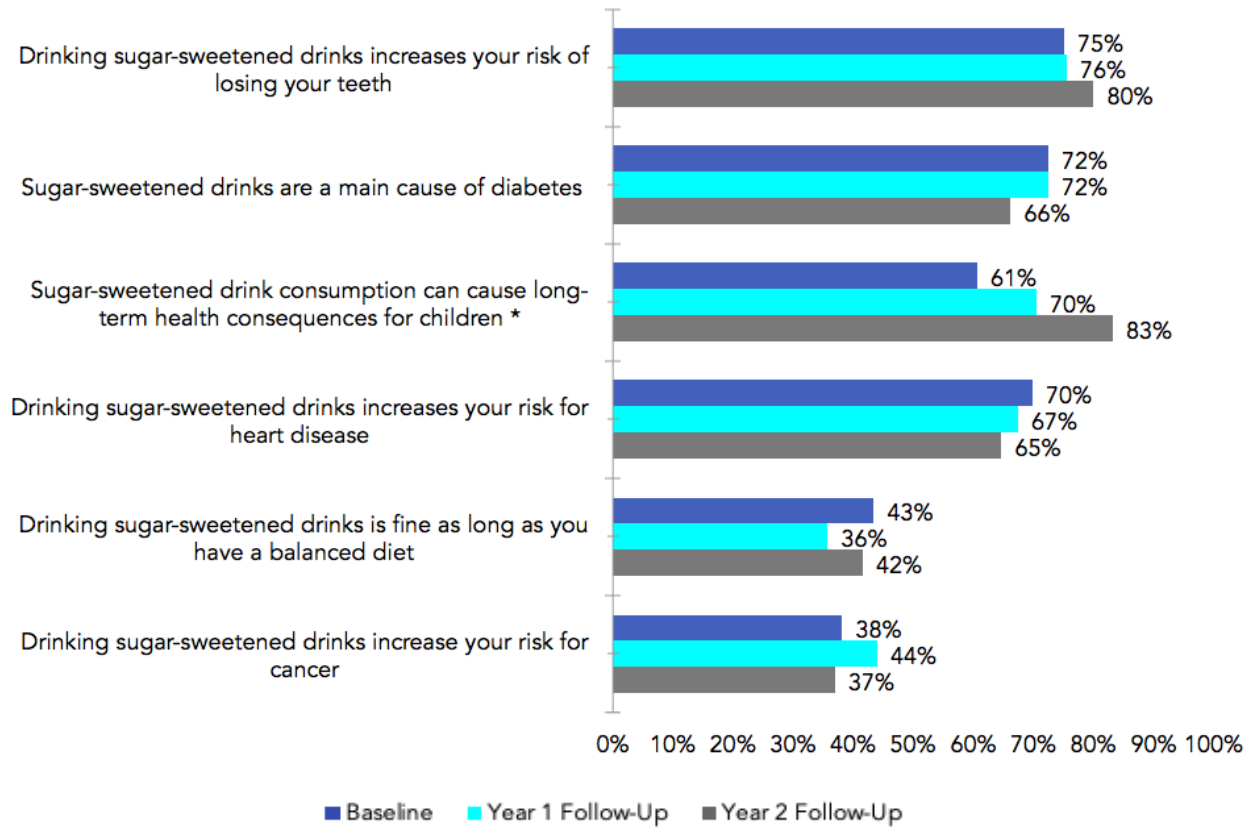
Overall Sample - SSB Knowledge



Hispanic and African American Moms - SSB Knowledge



Passaic County - SSB Knowledge



Policy Perceptions

While PGP's campaigns did not include messaging related to a tax on sugary drinks, information presented below provides a glimpse into the public opinion of such a measure. It should be noted that questions about public opinion on SSB taxes were only included in the Year 1 and Year 2 follow-up evaluations - they were not presented at baseline. Therefore, unlike other data presented throughout this report, tables below present comparisons from the follow-up surveys only. When asked if respondents would support or oppose a general tax on soda and sweetened fruit drinks, all three groups showed similar patterns. Support for taxes on sugary drinks significantly declined across the board. Although more respondents expressed support for a tax that would be allocated for childhood obesity prevention programs, when compared over time their support on this measure significantly declined as well. These results present an interesting story - respondents appear to understand the importance of reducing SSB consumption and most are actively trying to reduce their consumption, yet these improvements have not carried over into a support for policy actions. It may be possible that the results on this question have been impacted by the fact that 2020 is an election year, and data collection coincided with the Democratic presidential candidate debates. News in the past few months has heavily focused on the platforms of these candidates, with taxes on various goods (including sugary drinks) making their way into those platforms.

For more information on support and opposition toward taxes on sugary drinks, see the following page.

Do you support or oppose a tax on regular soda and sweetened fruit drinks?

	<i>Hispanic & African</i>					
	<i>Overall Sample</i>		<i>American Moms</i>		<i>Passaic County</i>	
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 1</u>	<u>Year 2</u>
	<u>Follow-Up</u>	<u>Follow-Up</u>	<u>Follow-Up</u>	<u>Follow-Up</u>	<u>Follow-Up</u>	<u>Follow-Up</u>
Support	40.5%	40.4%	38.5%	39.4%	43.9%	36.9%
Oppose	42.2%	42.8%	42.9%	40.9%	34.7%	50.8%
Undecided	17.3%	16.8%	18.6%	11.8%	21.4%	12.3%

Do you support or oppose a tax on regular soda and sweetened fruit drinks for childhood obesity programs?

	<i>Hispanic & African</i>					
	<i>Overall Sample</i>		<i>American Moms</i>		<i>Passaic County</i>	
	<u>Year 1</u>	<u>Year 2</u>	<u>Year 1</u>	<u>Year 2</u>	<u>Year 1</u>	<u>Year 2</u>
	<u>Follow-Up</u>	<u>Follow-Up</u>	<u>Follow-Up</u>	<u>Follow-Up</u>	<u>Follow-Up</u>	<u>Follow-Up</u>
Support	54.6%	54.4%	58.4%	53.9%	56.1%	49.2%
Oppose	30.1%	32.3%	25.2%	33.2%	26.5%	36.9%
Undecided	15.3%	13.3%	16.4%	13.0%	17.3%	13.8%

Limitations

Although these results present an important look at knowledge, attitudes, and behaviors (KABs) among individuals across New Jersey, there are a few limitations to note. All of the surveys were conducted through Qualtrics, a research company that conducts surveys through panels. Qualtrics recruits individuals to be part of their panel, who in order to avoid survey fatigue (over-surveying the same respondents), creates a pool of “professional” survey takers - panel members that are cycled in and out. Therefore, it is not possible to use Qualtrics panels to conduct longitudinal surveys. With this in mind, results must be interpreted as general directional findings, rather than as indications of individual behavior change. Additionally, although panels are designed to be as representative as possible, respondent views may not represent the views of their general communities. Finally, participants could have answered questions on the survey according to a social desirability bias, rather than their actual perspectives. This bias may have been mitigated by the fact that it was an online survey and could be completed in privacy. Despite these limitations, these data provide an important look into the KABs of adults across New Jersey.

ANALYSIS OF BEVERAGE SALES

Methods

IRI is a market data company that compiles sales data to understand market performance and retail analytics, consumer insights, and ad performance. In order to examine changes in purchasing patterns across different types of SSBs and water, PGP purchased sales data across 6 types of stores, including:

1. Grocery Outlets – Stores with \$2M+ annual total sales volume and market share of 0.5% or more (for example, chain grocery stores). Therefore, data do not include purchases from non-chain corner stores or bodegas.
2. Drug Outlets– All chain and independent drug retailers, such as CVS and Walgreens.
3. Mass Merchandiser Outlets – Large retail stores offering a wide variety of items, such as Target, Walmart and Kmart.
4. Club Stores – Such as BJ's or Sam's Club.
5. Dollar Stores – Such as Dollar General, Family Dollar.
6. Military Base Retail Outlets – On and off-base commissaries specifically for members of the military.

PGP purchased sales data on specific categories and brands of beverages. It is important to note that sales data on the general "Fruit Juices" category were not purchased because IRI data does not distinguish between 100% fruit juice and fruit-flavored drinks that contain a small percentage of juice. Therefore, PGP only purchased data for fruit drink mixes, such as Hawaiian Punch and Kool-Aid. In addition, PGP did not purchase data on zero calorie sodas, cocktail or alcohol mixes (such as alcohol-free Bloody Mary mix or margarita mix), or dairy-based drinks such as drinkable

yogurt or milk. The table below provides more information on the categories and brands of data that were purchased from IRI.

Category	Types of Beverages Included
Sodas / Soft Drinks	<ul style="list-style-type: none"> • Full-calorie/ regular soda and soft drinks • Low calorie / calorie reduced soft drinks which contain added sugar
Sports Drinks	<ul style="list-style-type: none"> • All sports drinks, including popular brands such as Gatorade and Powerade
Water	<ul style="list-style-type: none"> • Individually bottled water • Water sold by the gallon • Seltzer / sparkling / mineral water
Fruit Drink Mixes	<ul style="list-style-type: none"> • Hawaiian Punch • Kool-aid

Data were purchased from three 8-week time-matched periods, from September 17 - November 11, 2017 (pre-campaign), September 17 - November 11, 2018 (Year 1 follow-up) and September 17 - November 11, 2019 (Year 2 follow-up). Data were provided to PGP in ounces sold, dollars sold, and units sold. For the purposes of this report, data were only analyzed on ounces sold, given that results in dollars do not take into account annual inflation rates. Increases in costs of specific types of beverages may be due to various macroeconomic forces outside of the control of this intervention. Additionally units are sold in varying sizes - typically from 8oz to 32oz. Data were analyzed across the aforementioned beverage categories and brands to compare changes in the percentage of beverage fluid ounces sold between the periods. Analysis also compared the percentage change in ounces across Passaic County, New Jersey, and the United States. In order to compare the geographies as a whole during analysis, Passaic County was excluded as part of data for New Jersey and New Jersey was excluded as part of the data for the United States.

In order to adjust for per capita beverage sales, the ounces sold was divided by the estimated populations of each geographical area. To account for the relative differences in population change for Passaic County, New Jersey, and the United States between the pre-intervention period and the yearly follow-up periods, the estimated population sizes were calculated based on their 2018 estimates and mean 7-year annual percentage change, calculated on a monthly basis.^{15 16}



Results

Percentages below reflect percent changes in purchasing patterns of sugary drinks year over year. As shown in the table below, decreases in purchases of some types of sugary beverages continued promising trends. Purchases of bottled water from 2018-2019 showed more promising results in comparison to the 2017-2018 year. In Passaic, purchases of bottled water showed a smaller decline in the second year compared to the first year, with a 6% decrease the first year and a 0.7% decrease the second year. In comparison, throughout New Jersey as a whole, bottle water purchasing decreased 5% the first year, but increased 2.5% the second year. Additionally, fruit drink mixes showed promising results in purchasing patterns. In Passaic County, purchases of fruit drink mixes decreased almost 8% in the first year, followed by an almost 3% decrease in the second year. In New Jersey, fruit drink mixes showed similar decreases in purchasing, with a 4% decrease in the first year and a subsequent 1% decrease the following year. This decline was not mirrored nationally. Changes in beverage purchasing patterns showed some nuances, particularly in purchases of soda and sports drinks, which decreased in the first year, but increased in the second year of data collection. It is important to note that purchasing numbers may have been impacted by the water quality issues that

¹⁵ US Census Bureau. "Population and Housing Unit Estimates." Census Bureau QuickFacts, United States Census Bureau, 7 June 2018, www.census.gov/programs-surveys/popest.html.

¹⁶ "U.S. Census Bureau QuickFacts: Passaic County, New Jersey; New Jersey." Census Bureau QuickFacts, United States Census Bureau, 2017, www.census.gov/quickfacts/fact/table/passaiccountynewjersey,nj/PST045217.

were present throughout New Jersey in late 2019.¹⁷ For example, the increases in purchases of sodas and sports drinks may be due to the fact that individuals were drinking less tap or filtered water, and instead were purchasing bottled beverages – and while they may have purchased bottled water, soda and sports drinks may have also snuck into the grocery cart. It is therefore unknown whether macroeconomic or macrocultural factors have caused the various increases and decreases in SSB consumption at the different geographical levels. Due to the fact that these data are independently gathered, PGP is unable to use these results to show that awareness of the campaign has caused a direct decrease in purchasing patterns. The table below shows beverage purchasing results in Passaic County and New Jersey.

Geography	Percent Change Over Previous Year	
Passaic	2017-2018	2018-2019
Bottled Water	-5.6%	-0.7%
Sports Drinks	-7.1%	2.3%
Fruit Drink Mixes	-7.9%	-2.7%
Soda/Soft Drinks	-7.6%	5.2%
New Jersey		
Bottled Water	-4.9%	-2.5%
Sports Drinks	-6.2%	6.6%
Fruit Drink Mixes	-4.3%	-1.3%
Soda/Soft Drinks	-1.7%	1.8%
United States		
Bottled Water	-2.6%	5.3%
Sports Drinks	4.1%	3.8%
Fruit Drink Mixes	3.3%	0.2%
Soda/Soft Drinks	4.9%	1.3%

¹⁷ Oglesby, A. "New Jersey, your tap water may be contaminated with carcinogens." Asbury Park Press, 2019, <https://www.app.com/story/news/local/land-environment/2019/10/25/nj-water-contamination-your-tap-water-safe/4083549002/>

MEDIA MONITORING

Methods

PGP monitors and analyzes media mentions around sugar-sweetened beverages. Data consists of publicly available messages transmitted across multiple media sources, including; Social and digital media, Online media such as news sites and blogs, Print media such as trade journals, magazines, and newspapers, and Broadcast television. Data collected are contingent upon a keyword query constructed by PGP researchers using Boolean search methodologies (using AND and EXCLUDE terms). Words included in the keyword query are selected based on peer-reviewed literature and PGP's experience with the software tool functionality. In order to examine the full scope of conversation around SSBs, PGP initially began with a broad search query, collecting all messages written in English and Spanish that included any terms related to: sugary drinks, sugar-sweetened beverages, sweet drinks, and common types of sugar or sweeteners used in SSBs, as well as iterations and abbreviations of these terms. Types of SSBs such as soda, juice, fruit punch, etc. were also included, as well as common brand name SSBs (both mainstream brands and those specific to the Spanish-speaking audience). After gathering any mention of SSBs across all publicly available data, PGP then created a complex coding scheme to qualitatively analyze and assign those messages into main themes. For the purposes of this report, all analysis was focused on the themes that were covered in some way throughout content creation. Themes analyzed are as follows:

Theme	Definition
Fruit Juice & Fruit Drinks	Messages reference fruit juice specifically, as well as fruit flavored drinks like Hi-C or Capri Sun.
Negative Health Effects	Messages reference various categories of negative health outcomes.
Children & Teens	Messages reference the impact of SSBs on children and teens specifically, rather than on the general population.
Policy & Sugar Tax	Messages reference the policy and legislation related to SSBs.
Choose Water	Messages reference the desire to stop drinking SSBs / to drink water instead of SSBs.

Results


Analysis below provides a snapshot of how the volume and content of conversation has trended over time. The data collection period spanned from September 25, 2017 - January 31, 2020. In order to compare online discourse trends throughout the campaign period, data were analyzed and compared from three time points: 1) Pre-campaign period (September 25, 2017 - November 30, 2017); 2) Year 1 campaign period (December 1, 2017 – December 31, 2018); and 3) Year 2 campaign period (January 1, 2019 – January 31, 2020). While PGP collects Spanish and English-language posts separately, for the purposes of this report data from all posts were analyzed in aggregate. This is due to the fact that posts that used Spanish often include English-language hashtags, or include a mix of Spanish and English. Additionally, the Spanish-language data was substantially smaller than the English-language data.

Trends in Total Mentions - New Jersey

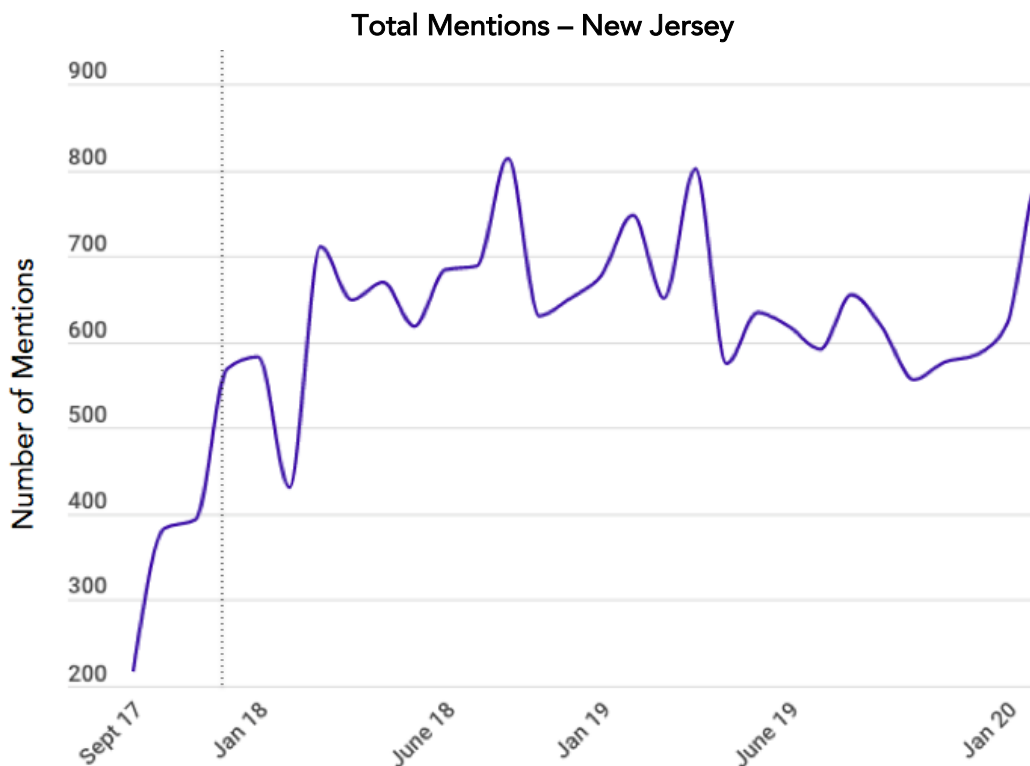
Overall online conversation about SSBs was analyzed to understand general trends in discussion. Data from total mentions about SSBs were analyzed in two ways: 1). Total mentions provide a running count of all SSB-related mentions across all sources, (i.e, all of the instances in which an individual or organization referenced or shared a post about SSBs). Total mentions were examined across the three time periods. Average mentions are calculated by dividing total mentions by the number of days during the time period examined. By calculating averages, conclusions can be made independent of the raw number of posts. 2). In order to understand how trends in overall conversation changed by month, the total mentions are also presented in a trend line that displays the total number by month.

When examining average mentions per day across New Jersey, results showed an increase of 64%, from 13.6 mentions per day at baseline, to 21.3 mentions per day during Year 1 of the campaign, and 22.3 mentions per day during Year 2 of the campaign. This sustained increase in conversation is notable; particularly the fact that it coincided with the start of the campaign and continued throughout the entirety of the campaign period. The table below presents information

on the average mentions per day and the total number of mentions per period across New Jersey.


	Baseline	Year 1	Year 2
 New Jersey	13.6 <i>Average per day</i>	21.3 <i>Average per day</i> ↑ 56.6% from baseline	22.3 <i>Average per day</i> ↑ 64.0% from baseline
	871 <i>Total mentions</i>	7,793 <i>Total mentions</i>	8,825 <i>Total mentions</i>

As a means of providing further context to the mentions by time period, the trend line below shows the total number of mentions by month, from September 1, 2017 – January 31, 2020. The start of the campaign is denoted by the dotted line. Results show that discourse around SSBs pre-campaign was considerably lower than that observed throughout the campaign period. While conversation showed peaks and valleys throughout the two years, it never dipped lower than the pre-campaign conversation levels. For the full trend line, see the chart below.



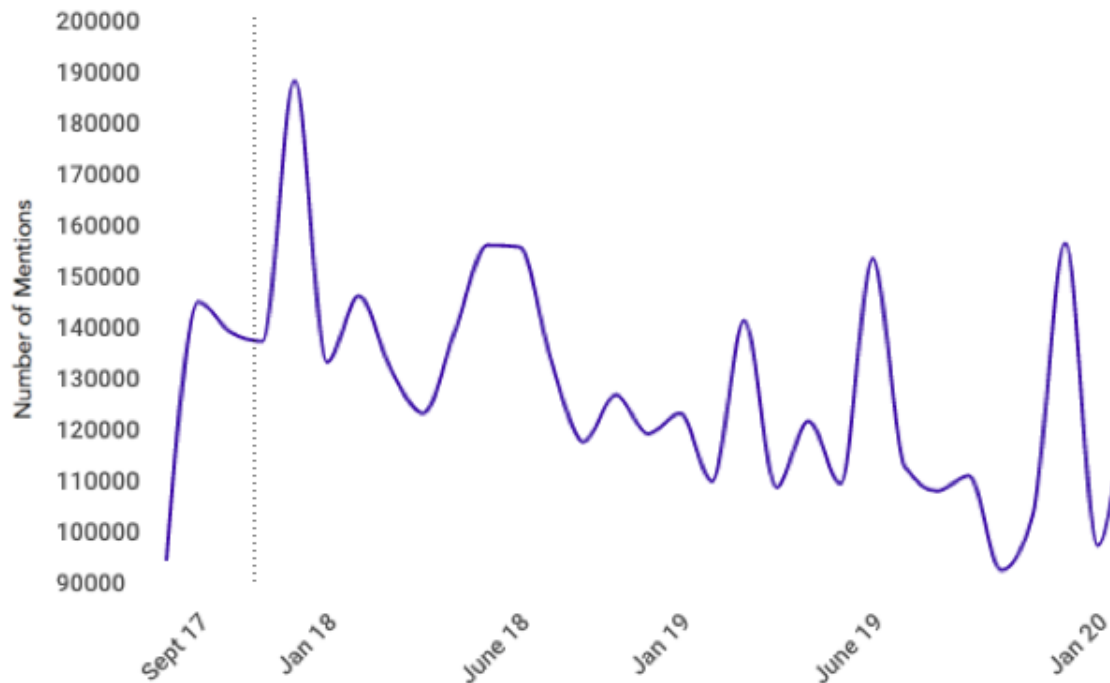
Trends in Total Mentions - National

Data from national conversation were examined as a means of comparing whether trends seen at the statewide level were replicated in national conversation, or if they were unique to New Jersey. In comparison to New Jersey's substantial increase in average mentions per day, national average mentions decreased 7% during Year 1, followed by a 19% decrease during Year 2. This confirms that New Jersey's increase was not a pattern observed nationally. The table below provides more information on total and average mentions.

	Baseline	Year 1	Year 2
	4,513 <i>Average per day</i>	4,217 <i>Average per day</i> <i>↓6.6% from baseline</i>	3,658 <i>Average per day</i> <i>↓18.9% from baseline</i>
<i>National</i>	265,721 <i>Total mentions</i>	1,539,205 <i>Total mentions</i>	1,448,568 <i>Total mentions</i>

As shown in the chart on the next page, national conversation trend lines also presented a different story than that observed in New Jersey. Unlike in New Jersey, national conversation throughout the past two years fluctuated widely, showing inconsistent patterns. Discourse frequently fell below baseline levels, and toward the end of Year 2, it sank substantially lower than at the beginning of the data collection period. This provides further evidence that New Jersey's conversation around sugary drinks appears to be a unique pattern not replicated in other areas. For more information on monthly trends in conversation throughout the data collection period at the nationwide level, see the trend line below.

Total Mentions – National



Trends in Themes - New Jersey

Examining trends in the themes discussed throughout the data collection period allows for an understanding of ways that the content of conversation has shifted. As previously mentioned, mentions about SSBs are coded into a theme using advanced qualitative analysis (a combination of hand coding, machine learning and Artificial Intelligence). It is important to note that not all conversation about SSBs can be easily coded into a theme, which is typical of qualitative analysis. The major themes related to campaign content included conversation around: children and teens; choosing water over SSBs; fruit juice or fruit drinks; negative health effects of SSBs; and SSB policy. Due to the nature of the keyword coding mechanism, which creates and analyzes themes in the platform, the system is not able to differentiate qualitative sentiment variations within a theme to separate them quantitatively. For example, messages within the “SSB Policy” theme that expressed support for taxes on sugary drinks were counted together with those that were critical of the policy. Thus, the theme represents total conversation about policy, not support or opposition. It is also important to note that one post about SSBs could be coded into

multiple themes. For example, a post about the importance of choosing water over SSBs to improve the health of children would be coded into both “Children and Teens” and “Choose Water.” Therefore, the data below do not present distinctly different conversations about the themes, but rather show the general trends in discourse over time. Data from themes were analyzed in two ways: 1). Themes were examined to understand how the percentage of all SSB conversation around certain themes changed from the baseline, Year 1 of the campaign, and Year 2 of the campaign. The proportion of conversation around each theme was calculated out of the total conversation during different campaign phases. This allows for an understanding of how the size of themes have changed, while accounting for changes in total conversation throughout the three identified time periods. 2). In order to examine how themes changed month-by-month, themes are also presented in trend lines, which show the total number of themes by month. Results below report on both methods of analysis, separated by theme.

Fruit Juice / Fruit Drinks: Conversation about fruit juices and fruit drinks was the highest proportionally throughout all three periods examined. In 2017, almost 50% of conversation referenced this theme, with the proportions steadily decreasing with time. Throughout 2019, references accounted for almost 40% of conversation. When examined by month, references showed steep increases in conversation, followed by similarly steep drops, suggesting that conversation was prompted by specific stories. For example, in January 2019, references to fruit juices and fruit drinks showed the largest increase, prompted by a story that claimed fruit juice contains arsenic.

SSB Policy: References to SSB policy conversation showed specific increases, predominantly driven by stories about the successes or criticisms of policies around the country that taxed sugary drinks. Conversation around policies increased substantially in 2018 and 2019, with the largest increase in January 2018 after Seattle began implementing a 1.75 cents per fluid ounce tax on all sugary drinks. The final increase in January 2020 was due to conversation around the Democratic presidential candidate platforms, which all focus on proposed taxes - including those on sugary drinks. It is probable that conversation about policy will increase in tandem with the

election season. In general, conversation around policy outside of these events was stable throughout the entire data collection period.

Negative Health Effects: References to negative health effects due to SSBs showed modest increases during both 2018 and 2019. Conversation throughout these two years was initially stable until June 2018, when conversation showed clear increases and decreases throughout the rest of the data collection period. The largest increases were observed in January 2019, when scientists called for taxes and limitations on marketing to children in order to curtail sugary drink consumption and its impacts on childhood obesity. The second increase was in June 2019 when a story from the New York Times reported on studies that found consumption of sugary drinks heightens the risk not only of tooth decay, obesity, fatty liver disease, and Type 2 diabetes, but also of heart disease and premature death - even in people who are free of other risk factors. For the most part, conversation about this theme followed similar patterns to references of children and teens, with many of the negative health impacts discussed referring specifically to this population.

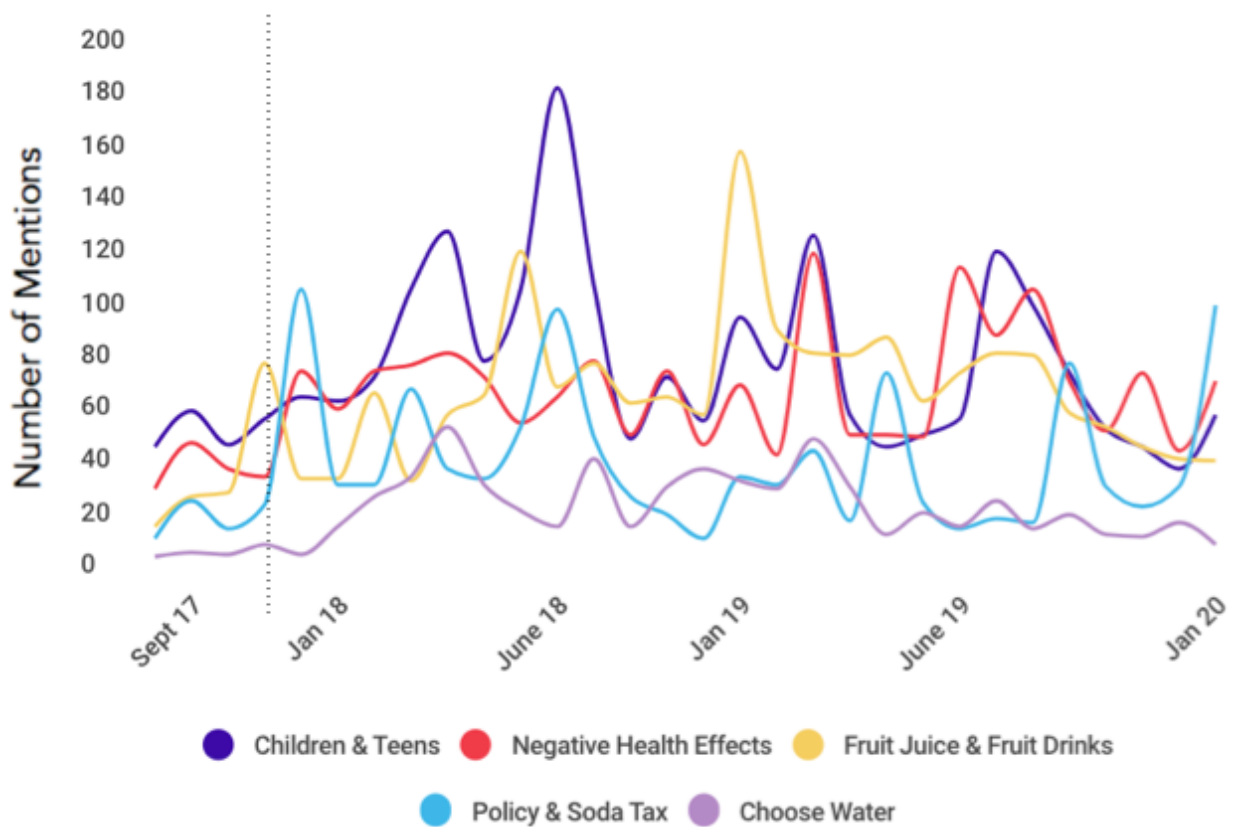
Children and Teens: Discourse related to children and teens showed increasing patterns in 2018 followed by a decrease in 2019. A sharp increase in January 2018 was followed by relatively stable conversation, punctuated by specific increases. The largest increase in June 2018 was due to a story broadcast on New York channel WNET about how consumption of sugary beverages impacts children. The last increase in August 2019 coincided with a Robert Wood Johnson Foundation report that created a set of guidelines on the type of beverages that children from birth to 5 years old should consume.

Choose Water: References to choosing water over sugary drinks increased since 2018, with steady conversation around the topic, as well as a 3.4 percentage point increase in 2018 followed by a 1.4 percentage point increase in 2019. While references to water were more common in 2018 compared to 2019, the amount of conversation was still higher than the pre-intervention

period. The table and chart below present more information on conversation trends by theme across New Jersey.

<i>Proportion of Theme Within Overall Conversation</i>			
	Baseline	Year 1	Year2
Theme	% of conversation	% of conversation	% of conversation
Fruit Juice/ Drinks	43.9%	41.5%	39.1%
Children & Teens	26.0%	27.6%	21.3%
Health Effects	20.9%	21.2%	22.1%
Policy & Tax	15.1%	18.1%	13.3%
Choose Water	5.9%	9.3%	7.3%

Total Mentions – New Jersey

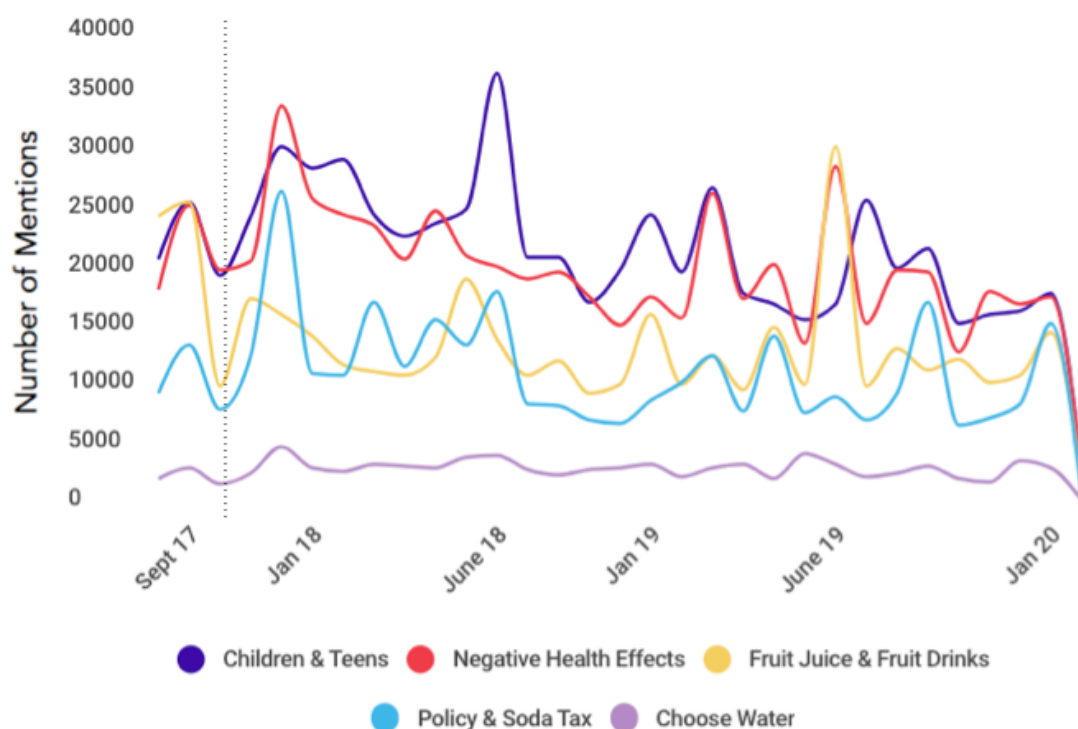


Trends in Themes - National

Conversation around sugary drinks at the national level was fairly stable throughout the data collection period. While there were some increases in references to specific themes, they were generally short-lived, as conversation returned to the baseline level. Among all themes, with the exception of choosing water, conversation around specific themes was smaller at the conclusion of data collection in 2019 than at the beginning of data collection in 2017. In particular, national conversation about choosing water was flat throughout the entire period, with few specific increases and a modest 1.4 percentage point increase. This compares to New Jersey's variable theme patterns, suggesting that the state was impacted by trends in conversation that were not replicated at the national level.

<i>Proportion of Theme Within Overall Conversation</i>			
Theme	Baseline	Year 1	Year 2
	% of conversation	% of conversation	% of conversation
Fruit Juice/ Drinks	56.2%	48.6%	50.7%
Children & Teens	35.4%	37.0%	33.4%
Health Effects	34.4%	34.6%	33.7%
Policy & Tax	23.2%	25.8%	22.5%
Choose Water	6.7%	7.8%	8.1%

Total Mentions – National



CONCLUSIONS

Through the use of traditional evaluation surveys, analysis of sales data, and examination of media monitoring data, we feel that it is highly likely that PGP's multi-pronged SSB-reduction campaign has made a positive impact on SSB-related knowledge, attitudes, and behavior in New Jersey. The following conclusions may be drawn from this evaluation:

- *Results from the evaluation survey show positive shifts in knowledge, attitudes, and behaviors toward sugary drinks.*
 - Results showed statistically significant increases in knowledge that sugary drink consumption can cause long-term health consequences for children, significant increases in desires to drink fewer SSBs, and significant decreases in SSB purchases at restaurants in Passaic county, and significant increases among the priority population that SSBs are associated with increased cancer risk. Results also showed positive trends toward increased water consumption, with increases in consumption of 7+ glasses of water per day, general decreases in reports of past week purchasing of soda or sugary drinks from both stores and restaurants, as well as increases in beliefs that it is never acceptable to regularly allow children to drink soda or fruit punch/ fruit flavored drinks that contain sugar. Respondents also showed improved perceptions of social norms around consumption of sugary beverages, with decreases in beliefs that both friends/ family and most Americans drink regular soda daily.
- *Sales data show reductions in purchases of some types of sugary drinks, with some nuances to keep in mind.*
 - Purchases of bottled water from 2018-2019 showed more promising results in comparison to the 2017-2018 year, particularly at the state level, which showed a 2.5% increase the second year. Fruit drink mixes also showed promising patterns, with decreases in Passaic County of almost 8% in the first year, followed by an

almost 3% decrease in the second year. In New Jersey, fruit drink mixes showed similar decreases in purchasing, with a 4% decrease in the first year and a subsequent 1% decrease the following year. Patterns observed in Passaic County and New Jersey diverged from those nationally, suggesting that there were specific influences in the state that were not mirrored nationally.

- *Media monitoring showed increases in general conversation as well as around specific themes related to campaign content.*
 - Conversation around sugary drinks in New Jersey showed substantial increases from baseline to Year 1 and 2. When examining average mentions per day across New Jersey, results showed an increase of 64%, from 13.6 mentions per day at baseline, to 21.3 mentions per day during Year 1 of the campaign, and 22.3 mentions per day during Year 2 of the campaign. Conversation about specific themes also showed important shifts during the campaign period – in particular, around choosing water over sugary drinks. References in this theme showed a steady increase in conversation throughout the entire period. While references to water were more common in 2018 compared to 2019, the amount of conversation was still higher than baseline.

Results from this evaluation highlight the positive shifts in knowledge, attitudes, and behaviors around consumption and purchasing of sugary drinks. Through an examination of evaluation survey results, purchasing patterns and media monitoring, we feel that PGP's methodology of pairing highly tailored and targeted digital content within a collective impact model has positively impacted communities across New Jersey and holds promise in reducing SSB consumption at a large scale.

APPENDIX

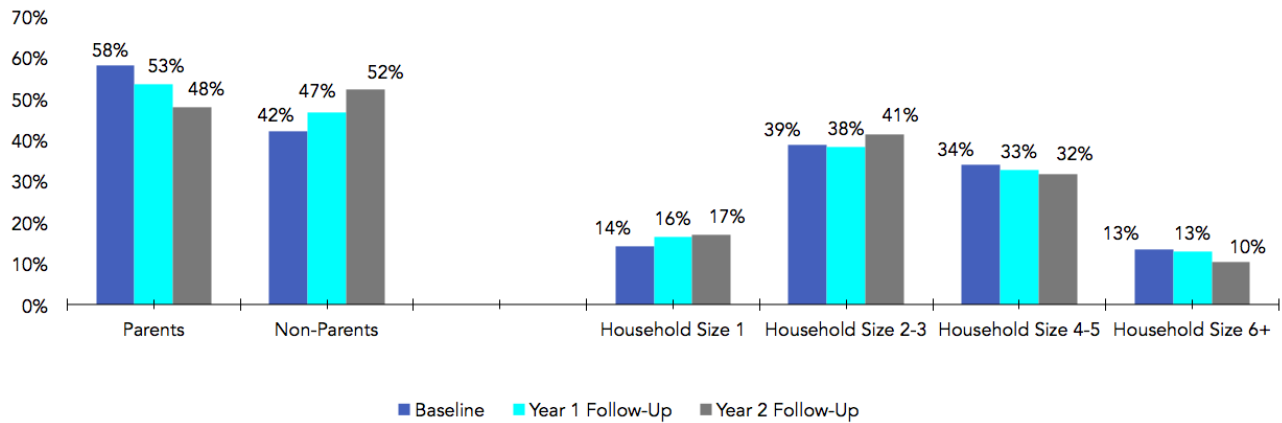
The data presented in the report reflect the topics that were most important in gauging the progress of the campaign. However, the following pages expand upon data presented.

Age & Household Characteristics

Age was categorized as 18-25 years old, 26-35 years old, and 36+ years old. At baseline and Year 1 follow-up, age was evenly distributed among all 3 categories. At Year 1 and Year 2 follow-ups, there was a slight decrease in respondents 18-25 years old and 26-35 years old, as well as a steady increase in the percentage of respondents aged 36+.

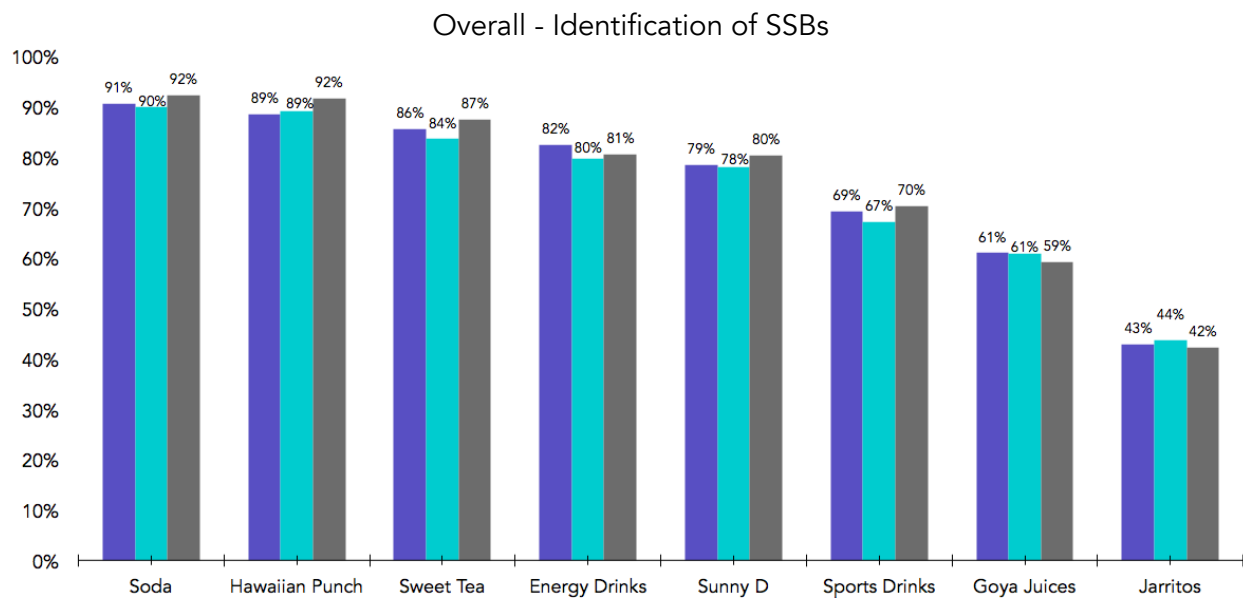
Respondent Age Groups			
	Baseline	Year 1 Follow-Up	Year 2 Follow-Up
18-25	34.9%	33.6%	31.0%
26-35	32.8%	29.5%	25.2%
36+	32.4%	36.8%	43.9%

Household sizes were similar between baseline, Year 1 follow-up, and Year 2 follow-up. The largest percentage of respondents reported having a household size of 2-3, followed by a household size of 4-5. Unlike baseline and Year 1 follow-up, less than half of respondents reported that they are parents at the Year 2 follow-up.

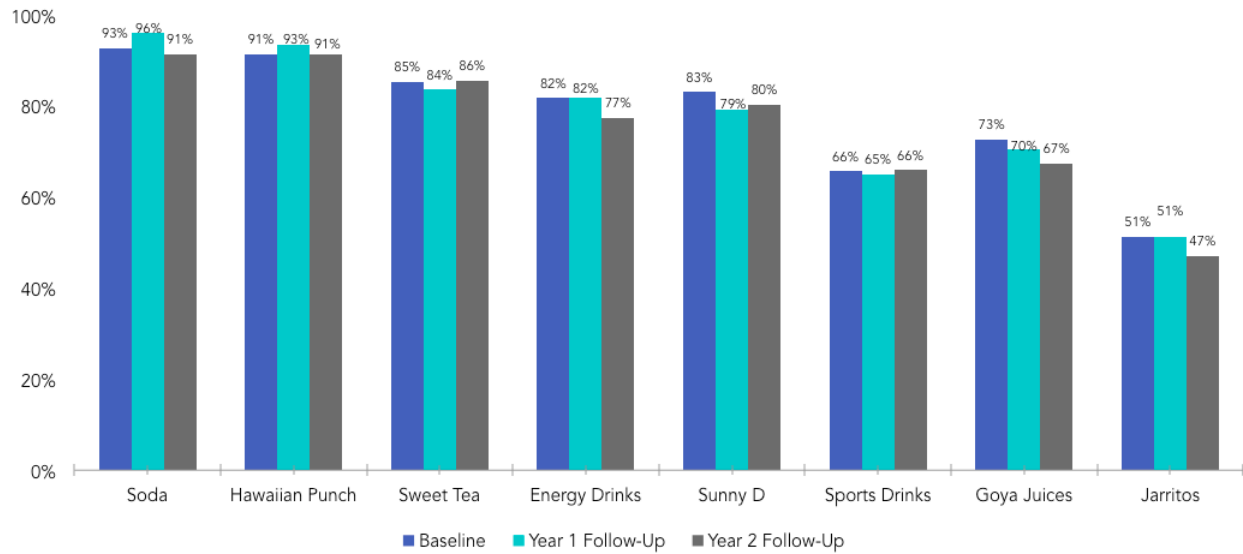


Awareness of SSBs

The charts below show the percentage of respondents who correctly identified SSBs from the overall sample, and the priority audiences.



Hispanic and African American Moms - Identification of SSBs



Consumption of SSBs Other than Soda

The table below presents more information on respondent consumption of SSBs other than soda (including Kool-aid, lemonade, sweetened teas, and sports/energy drinks).

During the past 30 days, how often did you drink sugar-sweetened drinks aside from soda (Kool-aid, lemonade, sweetened tea, sports/ energy drinks)?

	Overall Sample			Hispanic & African American Moms			Passaic County		
	Baseline	Year 1 Follow-Up	Year 2 Follow-Up	Baseline	Year 1 Follow-Up	Year 2 Follow-Up	Baseline	Year 1 Follow-Up	Year 2 Follow-Up
Always/ most of the time	24.5%	23.0%	23.2%	24.8%	32.3%	29.3%	27.6%	30.6%	27.7%
Sometimes/ Half of the time	58.6%	57.9%	53.7%	61.5%	55.9%	54.3%	56.6%	55.1%	58.5%
Never	16.9%	16.9%	21.9%	13.7%	10.1%	15.9%	14.5%	12.2%	12.3%

Agreement on Knowledge & Attitude Questions

Measures that gauged respondent knowledge and attitudes about SSBs are presented below, in order of the highest percentage in agreement to the lowest percentage in agreement, at baseline. Percentages in the table are reported for respondents who chose “Agree” or “Strongly agree.”

	Overall Sample			Hispanic and African American Moms			Passaic County		
	Baseline	Year 1 Follow-Up	Year 2 Follow-Up	Baseline	Year 1 Follow-Up	Year 2 Follow-Up	Baseline	Year 1 Follow-Up	Year 2 Follow-Up
Sugar-sweetened drinks are a main cause of weight gain.	76.9%	75.8%	78.7%	80.4%	83.2%	77.9%	81.6%	76.5%	73.8%
Drinking sugar-sweetened drinks increases your risk of losing your teeth.	74.1%	76.2%	76.3%	77.0%	79.6%	76.4%	75.0%	75.5%	80.0%
I feel confident that I can decrease the amount of sugar-sweetened drinks my children drink.	72.4%	71.9%	76.6%	76.1%	77.0%	76.0%	60.5%	78.6%	84.6%
Sugar-sweetened drinks are a main cause of diabetes.	71.1%	70.1%	71.8%	79.1%	74.3%	73.1%	72.4%	72.4%	66.2%
I am trying to drink fewer sugar-sweetened drinks.	70.0%	71.7%	74.9%	74.8%	77.4%	74.5%	65.8%	70.4%	69.2%
I feel confident in my ability to choose healthy alternatives to sugar-sweetened drinks.	70.0%	67.8%	75.6%	72.2%	71.7%	71.2%	73.7%	61.2%	78.5%
Sugar-sweetened drink consumption can cause long-term health	69.8%	68.9%	76.7%	68.7%	71.2%	78.4%	60.5%	70.4%	83.1%

consequences for children.									
Drinking sugar-sweetened drinks increases your risk for heart disease.	64.4%	62.7%	63.3%	65.2%	65.9%	63.0%	69.7%	67.3%	64.6%
<div> <div>Overall Sample</div> <div> <div>Hispanic and African American Moms</div> <div>Passaic County</div> </div> </div>									
	Baseline	Year 1 Follow-Up	Year 2 Follow-Up	Baseline	Year 1 Follow-Up	Year 2 Follow-Up	Baseline	Year 1 Follow-Up	Year 2 Follow-Up
Most people I know are trying to drink fewer sugar-sweetened drinks.	62.0%	60.5%	60.2%	63.9%	63.7%	59.6%	59.2%	60.2%	55.4%
The number of sugar-sweetened drinks I drink is not enough to cause health problems.	50.4%	47.6%	50.8%	51.7%	40.3%	48.6%	40.8%	50.0%	55.4%
The number of sugar-sweetened drinks my children drink is not enough to cause them health problems.	49.6%	51.6%	65.6%	52.6%	50.0%	48.6%	37.2%	55.4%	56.9
Drinking sugar-sweetened drinks is fine as long as you have a balanced diet.	45.6%	43.7%	43.3%	42.2%	46.0%	42.8%	43.4%	35.7%	41.5%
Sports drinks like Gatorade and Powerade are ok to drink because they are healthy.	31.4%	28.8%	43.3%	34.3%	34.1%	38.0%	30.3%	31.6%	38.5%
Drinking sugar-sweetened drinks increases your risk for cancer.	37.4%	36.6%	37.2%	35.2%	35.0%	40.4%	38.2%	43.9%	36.9%