

Evaluation Summary

Four Studies Conducted for the Partnership for a Healthier America's Fruits & Veggies (FNV) Campaign in California and Virginia, 2015 - 2017



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**Brief evaluation summary of four studies submitted to the Robert Wood Johnson
Foundation that comprise an independent evaluation of the
Partnership for a Healthier America's FNV Campaign**

February 2018



Suggested citation:

Kraak VI, Englund TR, Zhou M, Duffey KJ. *Evaluation Summary. Four Studies Conducted for the Partnership for a Healthier America's Fruits & Veggies (FNV) Campaign in California and Virginia, 2015 – 2017.* Blacksburg, VA: Virginia Tech. February 2018.

Layout and design by Juan Quirarte at [QDesign](#).



Table of Contents

Acknowledgments	2
Abbreviations and Acronyms	3
Figures and Tables	4
Executive Summary	5
Study 1: Branded Marketing and Media Campaigns Review	6
<i>Recommendations for diet-related marketing and media campaigns</i>	7
Study 2: Stakeholders' Views about the FNV Campaign	11
<i>Recommendations for future research, evaluation and marketing</i>	12
Study 3: Evaluation for Buying and Eating Fruits and Vegetables among Teens and Moms Exposed to the FNV Campaign in California and Virginia	15
<i>Recommendations for future research, evaluation and marketing</i>	16
Study 4: Profile of FNV Campaign Celebrities	18
<i>Recommendations for future research, evaluation and marketing</i>	19

Acknowledgments

We thank Victoria Kumpuris-Brown and Laura Leviton at the Robert Wood Johnson Foundation (RWJF) for awarding a grant to researchers at Virginia Tech in Blacksburg, VA to design and implement four studies that comprised an independent evaluation of the FNV Campaign. We also appreciate the financial and administrative support provided by Jan Mihalow and Jill Cunningham at RWJF, and Suzanne Miller in Virginia Tech's Office of Sponsored Programs, during the grant period from September 2015 through December 2017. This work was also supported by the U.S. Department of Agriculture National Institute for Food and Agriculture Hatch Project 1014256. We would like to recognize several Partnership for a Healthier America (PHA) staff, especially Caitlin Simon, Stacy Molander and Aaron Lichtig, who provided useful information included in this summary report. We would like to acknowledge the support from faculty, staff and students in Virginia Tech's Department of Human Nutrition, Foods, and Exercise who assisted with data collection, analysis and summary of the survey administered to moms and teens in Virginia and California including Valisa Hedrick, Lauren Kennedy, Lucinda Shewchuk and Sofia Rincon Gallardo Patino. We thank the stakeholders who generously gave their time to share insights for this comprehensive evaluation. Finally, we are deeply grateful for the graphic design services and tremendous patience provided by Juan Quirarte at QDesign who completed the layout, tables and figures included in the four reports described in this summary.



Abbreviations and Acronyms

DC	District of Columbia
DGA	Dietary Guidelines for Americans
FNV	Fruits & Veggies Campaign
IMC	Integrated marketing communications
PHA	Partnership for a Healthier America
RWJF	Robert Wood Johnson Foundation
SNAP	Supplemental Nutrition Assistance Program
SNAP-Ed	Supplemental Nutrition Assistance Program Education
US	United States
USDA	United States Department of Agriculture



Figures and Tables

- Figure 1** Definitions used for target markets for different generations
- Figure 2** FNV Campaign evaluation framework
- Figure 3** Celebrities associated with the PHA's FNV Campaign, 2015 to 2016
- Figure 4** Food and beverage brand endorsements by the FNV Campaign celebrities, 2015 to 2016

- Table 1** Branded marketing and media campaigns used to promote healthy foods and beverages to support a healthy diet to Americans, 1990 to 2016
- Table 2** Marketing and media campaign variables organized in the health-branding framework
- Table 3** Definitions of dimensions of interest used in the stakeholder interviews
- Table 4** Number and percent of respondents who were familiar with the FNV brand or logo in the test locations of California and Virginia, 2017



Executive Summary

People who consume 4.5-cup equivalents or more of fruits and vegetables daily will significantly reduce their risk of developing diet-related non-communicable diseases such as cardiovascular diseases, type 2 diabetes and certain cancers. The United States Department of Agriculture's (USDA's) *Choose MyPlate* encourages Americans to “make half your plate fruits and vegetables.” About 60 percent of adults report that they remember this message. Yet most American children, teens and adults do not consume the minimum daily servings of fruits and vegetables recommended by the Dietary Guidelines for Americans and the U.S. Department of Health and Human Services' Healthy People 2020 to promote optimal health, prevent overweight and obesity, and reduce diet-related NCD rates.

FNV Campaign Launch

In February 2015, the Partnership for a Healthier America (PHA) launched a \$5 million dollar branded FNV (Fruits & Veggies) Campaign in two lead cities or test locations—Fresno in the Central Valley region of California and the Hampton Roads region of southeastern Virginia. The PHA designed the FNV Campaign as a new brand to increase the sales and consumption of all forms of fruits and vegetables (e.g., fresh, canned, dried and frozen) to reach Millennial moms, ages 21 to 34 years, and Generation Z teens, ages 15 to 20 years, in the two test locations. The PHA also explored how the FNV Campaign could reach racially, ethnically and culturally diverse populations.

During phase one of the FNV Campaign (May 2015 to September 2016), the PHA reported using commercial and behavioral branding principles and integrated marketing communication (IMC) strategies to raise awareness and encourage fruit and vegetable sales and intake among targeted populations in the two test locations. Commercial businesses often use IMC strategies in campaigns that combine advertising, public relations, sales promotion, direct marketing, sponsorships, celebrity endorsement, and point-of-purchase in retail settings across different communication platforms to build brand awareness and loyalty among targeted groups for products, services and ideas.

FNV Campaign Evaluation

In September 2015, the Robert Wood Johnson Foundation provided a grant to a research team in the Department of Human Nutrition, Foods, and Exercise at Virginia Tech in Blacksburg, Virginia to conduct a multi-faceted and independent evaluation of the FNV Campaign in the two pilot locations of Fresno, California and Hampton Roads, Virginia during phase one. This report summarizes the results of four studies that comprise an independent evaluation of the FNV Campaign conducted between September 2015 and December 2017.

During phase two of the FNV Campaign (October 2016 to the present), the PHA announced the FNV Campaign's expansion to 13 states and cities. These locations included: Fresno, Los Angeles and San Francisco, California; Boise, Idaho; Dallas, Texas; Chicago, Illinois; Mason City, Iowa; Syracuse, New York; Washington, DC; Boston and Springfield, Massachusetts; Norfolk/Hampton Roads, Virginia; Raleigh, North Carolina; Atlanta, Georgia; Miami, Florida; and Madison, Wisconsin. By May 2017, the PHA had reported more than 25 public- and private-sector partners who supported the FNV Campaign. These included partnerships with state health departments and USDA Cooperative Extension offices in California, Colorado, Georgia and Wisconsin to reach participants in Supplemental Nutrition Assistance Program (SNAP) and SNAP-Education (SNAP-Ed) to encourage fruits and vegetables. We anticipate that the collective findings from this evaluation will be useful as the PHA and partners aim to expand, scale up and sustain the FNV Campaign in other states and nationwide.



Study 1

Branded Marketing and Media Campaigns Review

Context: Since 1980, the eight editions of the Dietary Guidelines for Americans (DGA) have recommended that Americans consume at least a diet rich in fruits and vegetables, whole grains, lean meats and plant-based proteins (i.e., beans and legumes); and limit the consumption of processed food and beverage products high in fat, sugar and sodium. The U.S. government, private-sector businesses and non-governmental organizations have used marketing and media campaigns over 25 years to encourage Americans to consume a healthy diet consistent with the DGA to reduce their risk of obesity and non-communicable diseases. Insights from these campaigns have not been summarized in the published literature. This study describes the available evidence for 12 branded marketing and media campaigns used to promote the sales and consumption of fruits and vegetables, whole grains, peanuts, milk and water; and to reduce meat consumption in the United States.

Methods: A three-step, mixed-methods research design was used to identify relevant evidence. Step one was a scoping review of branded, diet-related campaigns launched in two or more states or nationally in the U.S. We reviewed eight electronic databases and relevant gray literature and media releases between January 1990 and October 2016. Evidence selection was guided by the National Academy of Medicine's LEAD principles (i.e., locate, evaluate, and assemble evidence to inform decisions), five qualitative-research criteria, and validated by data and investigator triangulation. Step two was a comprehensive literature review for these campaigns. Evidence (n=62) included published articles (n=24), gray-literature reports (n=12), and media releases (n=26), which was organized into and a health-branding framework (i.e., brand development, brand marketing execution, and campaign monitoring and evaluation). Step three involved conducted key informant interviews (n=11) with stakeholders knowledgeable about the planning, design, implementation, monitoring and evaluation of nine of the 12 campaigns. The interviews were analyzed using NVivo 11.0 software. We used grounded theory to identify themes to complement the comprehensive evidence review.

Results: Table 1 summarizes the selected diet-related campaigns used to promote healthy food and beverage groups to Americans from 1990 to 2016. Table 2 summarizes the variables of interest for the marketing and media campaigns in the health-branding framework. Nine campaigns had used either health behavior (n=4) or communication (n=3) theories, or marketing concepts (n=2) for brand development. Eight campaigns had used formative research to guide the brand development; and nine campaigns had the assistance of a creative advertising campaign. For brand marketing execution, all 12 campaigns had used taglines, images, or logos to convey dietary messages. Five campaigns reported using celebrity endorsement. Marketing execution included the use of paid (n=10) or unpaid (n=12) mass media, earned media (n=12), community outreach (n=6), audience segmentation (n=8), and integrated marketing communications (IMC) (n=10). Consumer-targeted communications conveyed diet-related messages that emphasized health, convenience, relevance, and environmental benefits. Nine campaigns were monitored and/or evaluated and reported metrics that examined changes in consumers' awareness (n=5), attitudes (n=3), consumption (n=5) and product sales (n=6).

Conclusions: The 12 campaigns examined used various health-branding strategies. No campaign used all health-branding framework components. Increased commercial marketing and public health sector collaboration may improve the design of healthy diet campaigns by leveraging each sector's unique assets and expertise. We offer eight recommendations below to understand the impact of branded marketing and media campaigns on the dietary behaviors and health outcomes of Americans.

Figure 1 Definitions used for target marketing of different generations

				
Generation Z	Millennials	Generation X	Boomers	Silent Generation
15-20 years Born 1995-2005	21-34 years Born 1981-1994	35-49 years Born 1966-1980	50-64 years Born 1951-1965	65+ years Born 1950 or earlier

Source: Adapted from Nielsen. *Millennials: Breaking the Myths*. January 27, 2014.

Recommendations for diet-related marketing and media campaigns

1. Conduct rigorous formative, process and outcomes research to guide and improve the relevance, awareness, attitudes and understanding of the FNV Campaign’s graphics, logos, and use of celebrities and other IMC elements to encourage consumers to interact with and build an emotional bond with the FNV brand to buy and eat fruits and vegetables.
2. Identify diverse media platforms and test communication messages that resonate with diverse populations to buy and consume fruits and vegetables based on existing consumer values and market trends.
3. Analyze the effectiveness of advertising to consumers versus more embedded forms of marketing such as partnerships and supply-chain activities or market research to inform the fruit and vegetable marketing expenditures of businesses.
4. Identify policies and actions that government, private-sector actors, and non-governmental organizations can use to encourage a healthy diet and healthy food environments and to increase the proportion of healthy food and beverage products marketed to Americans as the norm and not the exception.
5. Explore how government, industry actors and non-governmental organizations can collaborate to develop effective behavioral messages based on a health-branding framework that the commercial sector can adopt and amplify.
6. Describe the purchase and consumption patterns of fruits and vegetables for SNAP-Ed participants and identify opportunities for using the FNV Campaign effectively within the context of SNAP-Ed.
7. Raise awareness about how dietary choices may influence sustainability goals given the increasing importance of supporting a healthy and sustainable diet and food systems in the U.S. and globally.
8. Incorporate actionable and memorable messages to highlight the interconnections between a healthy and sustainable diet for people and planet.

Source: Kraak VI, Englund TE, Zhou M, Duffey KJ. *Branded Marketing and Media Campaigns to Support a Healthy Diet in the United States, 1990-2016: Insights to Inform the Partnership for a Healthier America’s Fruits & Veggies (FNV) Campaign*. Final report submitted to the Robert Wood Johnson Foundation for the Partnership for a Healthier America’s FNV Campaign Evaluation. Blacksburg, VA: Virginia Tech. March 2017.

Table 1 Branded marketing and media campaigns used to promote food and beverage groups to support a healthy diet to Americans, 1990 to 2016

Branded Campaign (Website)	Goal	Sponsor(s)	Timeline Implemented	Estimated Funding (U.S. Dollars)	
FRUIT & VEGETABLE PROMOTION					
	1. Five a Day www.fiveaday.gov	Promote 5-9 servings of fruits and vegetables/day for all Americans	National Cancer Institute and Produce for Better Health Foundation (PBH)	California (1988) Nationwide (1991-2007)	\$2 to \$5 million/year x 16 years
	2. Fruits and Veggies—More Matters www.fruitsandveggiesmorematters.org	Promote 7-13 servings of fruits and vegetables/day for all Americans	Centers for Disease Prevention and Control (CDC) and PBH and other organizations	Nationwide (2007-present)	\$2.5 to \$4 million/year
	3. Eat 'Em Like Junk Food www.babycarrots.com	Change the way people think about carrots by creating a new brand and building brand awareness and loyalty for baby carrots Increase sales and consumption of baby carrots among children, teens and adult women	National Fruit & Vegetable Alliance members (15 members)	Syracuse, NY (2013) Cincinnati, OH (2010)	\$25 million x 3 years
	4. Cans Get You Cooking www.cansgetyoucooking.com	To inform, educate, and inspire current canned food users to use canned food more often	Bolthouse Farms (acquired by Campbell's Soup Company in 2012) and an alliance of carrot producers comprised of 50 members	Nationwide (2013-present)	\$5.2 million x 3 years \$4 million x 2016 year
	5. Frozen. How Fresh Stays Fresh www.howfreshstaysfresh.com	Change the way people think about frozen foods by changing negative perceptions around frozen foods to increase sales and consumption	American Frozen Food Institute	Nationwide (2013-present)	\$30 million x 3 years
WHOLE GRAINS PROMOTION					
	6. Just Ask for Whole Grains www.wholegrainscouncil.org	U.S. restaurant and foodservice operations will offer at least one whole grain choice on their menus to increase consumer demand, sales and intake of whole grains	Whole Grains Council, Oldways (150 members)	Nationwide (2007)	\$10,000 x 1 year
NUT/LEGUME PROMOTION					
	7. Energy for the Good Life and The Perfectly Powerful Peanut www.perfectlypowerfulpeanut.com	Promote the sales and consumption of peanuts among Americans	National Peanut Board	Nationwide (2010-2014) Nationwide (2014-present)	\$2 million x 2 years \$4.7 million in 2014 \$5.2 million in 2015
FLUID MILK PROMOTION					
	8. Got milk? www.gotmilksales.org	Promote the sales and consumption of fluid milk among Americans	California Milk Processor Board Milk Processor Education Program (MilkPEP) National Fluid Milk Processor Promotion Board	California (1993-1994) Nationwide (1995-2014)	The National Fluid Milk Processor Promotion Board's check-off program, about \$100 million dollars/year x 20 years
	9. 1% or Less www.cspinet.org	To encourage Americans to switch from drinking high-fat (whole and 2% milk) to low-fat (1% or skim) to reduce saturated fat consumption and reduce cardiovascular disease risk	Center for Science in the Public Interest and West Virginia University California Adolescent Nutrition and Fitness program University of Hawaii at Manoa	West Virginia (1995-1996) Los Angeles, CA (2000) Hawaii (2004)	\$51,000 in Beckley, WV \$51,000 in Parkersburg, WV \$61,000 in Clarksburg, WV \$50,000 for CA campaign \$140,000 x 6 weeks in Hawaii
	10. Milk Life www.milklife.com	Promote the sales and consumption of fluid milk among Americans	Milk Processor Education Program, National Milk Processor Board	Nationwide (2015-present)	Not Available
WATER PROMOTION					
	11. Drink Up www.youarewhatyoudrink.org	Promote the sales and consumption of water among Americans	Partnership for a Healthier America	Nationwide (2013-present)	Not Available
REDUCE MEAT CONSUMPTION					
	12. Meatless Monday www.meatlessmonday.com	Encourage Americans' to skip eating meat once a week to reduce saturated fat intake and decrease diet-related NCD Raise Americans' awareness about the relationships among human, environmental and ecological health and sustainability of the U.S. and global food system	Johns Hopkins University Center for a Livable Future Lerner Center for Health Promotion and Maxwell School of Citizenship and Public Affairs, Syracuse University	Nationwide (2003-present)	No money spent on advertising, only staffing and evaluation



Table 2 Marketing and media campaign variables organized in the health-branding framework

Branding Framework	Results Across 12 Campaigns	Campaign Brands
Brand Development		
1. Used a theory or conceptual framework	Campaigns (n=6) used various theories or frameworks (i.e., theory of planned behavior, theory of reasoned action, marketing mix, means ends values ladder model, or health belief model)	<i>Five A Day for Better Health, Fruits & Veggies—More Matters, Cans Get You Cooking, 1% or Less, Drink Up and Meatless Mondays</i>
2. Conducted formative research	Campaigns (n=8) used formative research to guide the brand and campaign development	<i>Five A Day for Better Health, Fruits & Veggies—More Matters, Cans Get You Cooking, The Perfectly Powerful Peanut, Got Milk?, 1% or Less, Milk Life and Meatless Mondays</i>
3. Used a creative advertising firm	Campaigns (n=9) used a creative advertising firm to guide brand development and creative execution	<i>Five A Day for Better Health, Fruits & Veggies—More Matters, Eat 'Em Like Junk Food, Frozen. How Fresh Stays Fresh, The Perfectly Powerful Peanut, Got Milk?, 1% or Less, Milk Life and Drink Up</i>
Brand Marketing Execution		
4. Used diverse campaign design elements (n=12 elements)	All campaigns used aspirational images, logos and graphics (n=12) in their materials	<i>Five A Day for Better Health, Fruits & Veggies—More Matters, Cans Get You Cooking, Eat 'Em Like Junk Food, Frozen. How Fresh Stays Fresh, Just Ask for Whole Grains, The Perfectly Powerful Peanut, Got Milk?, 1% or Less, Milk Life, Drink Up and Meatless Mondays</i>
	All campaigns (n=12) used a variety of taglines and common messages in their promotional materials	<i>Five A Day for Better Health, Fruits & Veggies—More Matters, Cans Get You Cooking, Eat 'Em Like Junk Food, Frozen. How Fresh Stays Fresh, Just Ask for Whole Grains, The Perfectly Powerful Peanut, Got Milk?, 1% or Less, Milk Life, Drink Up and Meatless Mondays</i>
	Campaigns (n=6) used either co-promotion (n=4) or co-branding (n=2) with other products or brands	<i>Co-promotion: Fruits & Veggies—More Matters, 1% or Less, Drink Up and Meatless Mondays</i> <i>Co-branding: Cans Get You Cooking, Got Milk?</i>
	Campaigns (n=5) used celebrity endorsement or participation in their materials and promotions	<i>Five A Day for Better Health, Cans Get You Cooking, Got Milk?, Drink Up and Meatless Mondays</i>
	Campaigns (n=3) used brand mascots and/or media characters in their materials	<i>Got Milk?, 1% or Less and Meatless Mondays</i>
5. Used diverse marketing channels or platforms (n=12)	Campaigns (n=10) used paid mass media in their marketing	<i>Five A Day for Better Health, Fruits & Veggies—More Matters, Cans Get You Cooking, Eat 'Em Like Junk Food, Frozen. How Fresh Stays Fresh, The Perfectly Powerful Peanut, Got Milk?, 1% or Less, Milk Life and Drink Up</i>
	Campaigns (n=12) used earned and unpaid mass media in their marketing	<i>Five A Day for Better Health, Fruits & Veggies—More Matters, Cans Get You Cooking, Eat 'Em Like Junk Food, Frozen. How Fresh Stays Fresh, Just Ask for Whole Grains, The Perfectly Powerful Peanut, Got Milk?, 1% or Less, Milk Life, Drink Up and Meatless Mondays</i>
	Campaigns (n=9) used social media in their marketing that was not available when the other three campaigns were implemented	<i>Fruits & Veggies—More Matters, Cans Get You Cooking, Eat 'Em Like Junk Food, Frozen. How Fresh Stays Fresh, The Perfectly Powerful Peanut, Got Milk?, Milk Life, Drink Up and Meatless Mondays</i>
	Campaigns (n=8) used audience segmentation in their marketing efforts	<i>Five A Day for Better Health, Fruits & Veggies—More Matters, Eat 'Em Like Junk Food, The Perfectly Powerful Peanut, Got Milk?, 1% or Less, Drink Up and Meatless Mondays</i>
Campaign Monitoring and Evaluation		
6. Used an evaluation design (n=9)	Campaigns (n=5) measured brand or campaign awareness	<i>Five A Day for Better Health, Fruits & Veggies—More Matters, Cans Get You Cooking, Got Milk? and Meatless Mondays</i>
	Campaigns (n=5) measured changes in consumption	<i>Five A Day for Better Health, Fruits & Veggies—More Matters, The Perfectly Powerful Peanut, 1% or Less and Drink Up</i>
	Campaigns (n=6) measured changes in sales	<i>Cans Get You Cooking, The Perfectly Powerful Peanut, Got Milk?, 1% or Less, Drink Up and Meatless Mondays</i>



Study 2

Stakeholders' Views about the FNV Campaign

Context: In 2015, the PHA launched the branded FNV (*Fruits & Veggies*) Campaign in California and Virginia to increase sales and consumption of fruits and vegetables among Millennial moms (21-34 years) and Generation Z teens (15-20 years). This study explored diverse stakeholders' views and expectations about the FNV Campaign's design, implementation and effectiveness in the test locations—Fresno in the Central Valley region of California and the Hampton Roads region of southeastern Virginia (May 2015 to September 2016); and their perspectives about future expansion, scaling up and sustainability.

Methods: We used a purposive sampling strategy to recruit and interview diverse stakeholders (n=22) (i.e., government, business, trade associations, public-interest non-governmental organizations, private foundations, and academic institutions) by phone (n=18) or in-person (n=4) between July and October 2016. A 15-item interview guide was used to explore the stakeholders' views and expectations about eight dimensions of interest (i.e., design, reach, adoption, effectiveness, impact, expansion, scaling up and sustainability) for the FNV Campaign. The interviews were analyzed using qualitative research principles and NVivo 11 software. The written transcripts were coded and analyzed for emergent themes. Results were summarized as perceived opportunities and challenges for the eight dimensions.

Results: Stakeholders represented national, state or local government agencies (36.4%; n=8), private-sector businesses (18.2%; n=4), industry trade associations (9.1%; n=2), public-interest organizations (9.1%; n=2), academic researchers (13.6%; n=3) and private foundations (13.6%; n=3). *Design* opportunities included breadth of creative marketing strategies including celebrities. Challenges were inadequate formative research conducted and confusion about the FNV brand and message content. *Reach* opportunities were social media and in-store fruit and vegetable retail potential, whereas challenges were underutilization of food-retail partnerships and desire for objective and rigorous evaluation data. *Adoption* opportunities were diverse sponsorship, assistance of local partners, and community excitement generated by FNV association. Adoption challenges were lack of a clear long-term communication plan between PHA and partners, limited flexibility for local adaptation, and lack of evidence to show that FNV brand or messages had increased fruit and vegetable sales or intake. *Effectiveness* and *impact* opportunities were some positive sales data from Virginia and public relations impressions. Challenges were a lack of targeted outcomes, limited transparency to share sales data and Campaign results with funders, and one-year pilot was inadequate to show positive effects. *Expansion* opportunities included potential to expand partnerships with SNAP retailers and untapped community-based supporters. Perceived challenges were that FNV targeted high-income food retailers were SNAP participants did not shop, and more than a campaign is needed to reach low-income consumers where they shop for food. *Scaling up* opportunities included the potential to adapt the FNV Campaign marketing materials and significant national media attention, supported in part by the celebrity involvement. Challenges were that there was no clear plan articulated by the PHA to scale up the FNV Campaign to states and nationwide from local efforts. Additionally, there was a perceived need for improved and streamlined management, resources and partnership development. *Sustainability* opportunities were well-resourced national partners and community-based organizations that could play a central role and potential for commodity produce groups to support the Campaign. Challenges were sustaining clear communication with partners over time, fundraising, and keeping FNV brand and messages resonating with diverse audiences.

Conclusions: This qualitative evaluation can inform the PHA partnership engagement strategy and FNV campaign design as it is expanded to other locations to increase fruit and vegetable sales and consumption among ethnically, racially and culturally diverse Americans. We offer several recommendations below to evaluate the FNV Campaign’s effectiveness, impact and sustainability in other locations.

Recommendations for future research, evaluation and marketing

1. Use a conceptual framework to plan and conduct a process evaluation of the views and expectations of stakeholders for the FNV Campaign as it is adapted, expanded and tested in other U.S. locations.
2. Evaluate the FNV Campaign’s *effectiveness* for combining in-store promotional activities (e.g., celebrity endorsement, placard placement, and taste tests) with creative descriptors for fruits and vegetables that emphasize their flavor and indulgent qualities or sustainability aspects instead of encouraging people to buy them for health.
3. Evaluate how the FNV Campaign’s *marketing design elements* can be used to raise awareness and influence the target populations to buy and eat seasonal produce around the time it is harvested, support local and regional farmers, and community food systems while also promoting fruits and vegetables to consumers.
4. Evaluate the FNV Campaign’s influence on *cognitive outcomes* (e.g., awareness, knowledge and beliefs of target populations related to fruits and vegetables); *affective outcomes* (e.g., feelings and self-efficacy related to confidence in buying and preparing fruits and vegetables); and *behavioral outcomes* (e.g., purchasing and eating fruits and vegetables).
5. Evaluate the FNV Campaign’s impact on *economic outcomes* (e.g., increasing the cost-effectiveness of the Campaign, and sales and revenues for fresh and dried fruit and vegetable commodities, and frozen and canned fruit and vegetable products) to maximize the return on investment for food retailers and other business stakeholders.
6. Earmark at least 10 percent of total funding to evaluate the short- and long-term effectiveness and impact of the FNV Campaign on various outcomes as it is adapted, expanded and tested in other cities, states and scaled up nationwide.
7. Work with major SNAP-authorized food retailers to adapt and test the FNV Campaign design and marketing elements to reach ethnically, racially, and culturally diverse SNAP-Ed populations in various U.S. urban, suburban and rural locations.

Source: Kraak VI, Englund TR, Zhou M, Duffey KJ. *Stakeholders’ Views About the Partnership for a Healthier America’s Fruits & Veggies (FNV) Campaign in California and Virginia, 2015-2016*. Blacksburg, Virginia: Virginia Tech. December 2017.



Figure 2 FNV Campaign evaluation framework

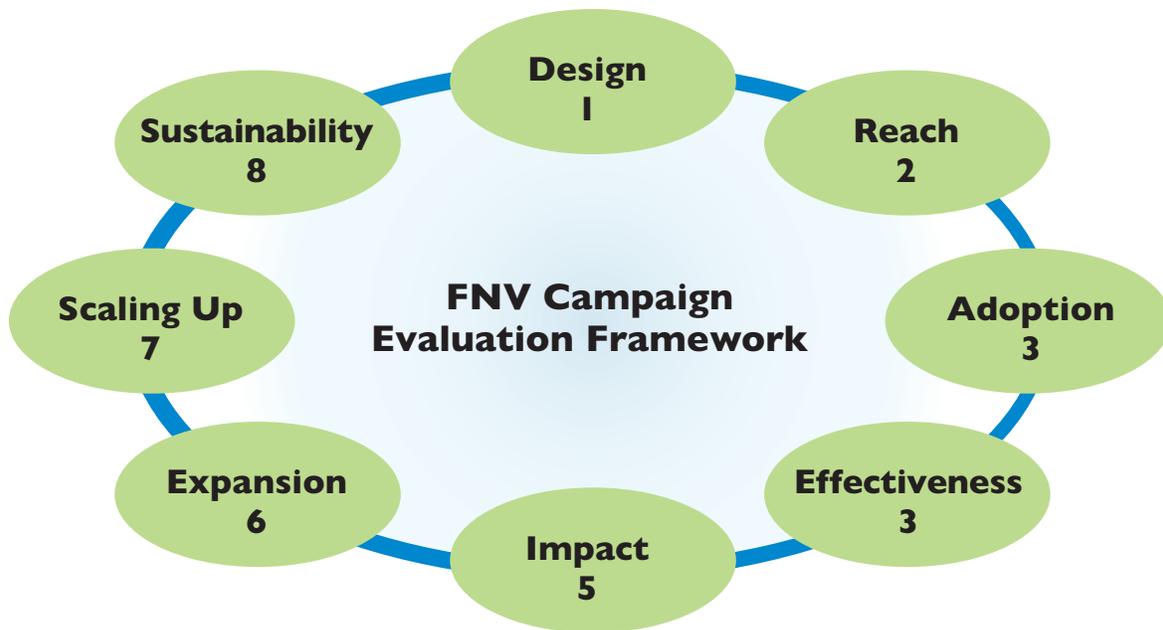


Table 3 Definitions of the dimensions of interest in the evaluation framework used to guide the stakeholder interviews

Dimension	Definition
FNV Campaign design, reach, adoption and effectiveness	<p>Campaign qualities explored included targeting, content, simplicity, focus, measurable, actionable, memorable and profitable. Questions were asked about three target groups in the test locations where the FNV Campaign was launched and implemented that included:</p> <ul style="list-style-type: none"> ■ Generation Z teens (ages 15-20 years) ■ Millennial moms (ages 21-34 years) ■ Ethnically, racially and culturally diverse, low-income consumers eligible to participate in federal food and nutrition programs such as SNAP or SNAP-Ed
FNV Campaign impact	<p>Short-term impact was measured by the target populations' <i>cognitive outcomes</i> (e.g., awareness of the FNV brand, linking the FNV brand with fruits and vegetables, and improved knowledge or beliefs about buying and eating fruits and vegetables); and <i>affective outcomes</i> (e.g., positive views about buying or eating fruits and vegetables or improved self-efficacy or confidence in buying and preparing fruits and vegetables).</p> <p>Long-term impact was measured by the target population's <i>behavioral outcomes</i> (i.e., increased level of buying or consuming fruits and vegetables) and <i>economic outcomes</i> (e.g., increased cost-effectiveness and profitability or revenues related to fruit and vegetable sales for food retailers and other business stakeholders).</p>
FNV Campaign expansion and scaling up	<p>The effective expansion of the FNV Campaign to other populations and/or locations, and the likelihood that the FNV Campaign will expand and scale out or scale up nationally after 2016.</p>
FNV Campaign sustainability	<p>The ability to raise support and funding to continue the FNV Campaign in the same locations or expand to other locations beyond 2016.</p>

Study 3

Evaluation for Buying and Eating Fruits and Vegetables Among Teens and Moms Exposed to the FNV Campaign in California and Virginia, 2015-2017

Context: In 2015, the PHA launched the branded FNV (*Fruits & Veggies*) Campaign in California and Virginia to increase sales and consumption of fruits and vegetables among Millennial moms (21-34 years) and Generation Z teens (15-20 years). This study summarizes trends in U.S. fruit and vegetable consumption behaviors. We also describe the survey results that examined the familiarity of the FNV Campaign among Generation Z teens and Millennial moms in the two lead cities or test locations—Fresno in the Central Valley region of California and the Hampton Roads region of southeastern Virginia.

Methods: A 35-item Qualtrics survey was administered either in person or online to Millennial moms and Generation Z teens in the two lead cities (n= 1604; Fresno, California: n= 746; Hampton Roads, Virginia: n=858) between February 1, 2017 and July 31, 2017. Data were analyzed using SPSS version 24 for Windows (IBM Corporation, USA, 2016). We analyzed differences in cognitive, affective, and behavioral outcomes by each test location. Differences within each city were compared between those who were familiar versus unfamiliar with the FNV Campaign.

Results: About a quarter (25%) of respondents in each lead city (25.2% in Fresno, California and 25.8% in Hampton Roads, Virginia) were familiar with the FNV Campaign. In Hampton Roads, Virginia, a larger percentage of respondents reported having seen the FNV logo, while in Fresno, California, respondents reported an equal distribution between seeing the logo online or in the community, or just having heard of FNV. Apples, bananas and carrots were the most commonly recognized foods by participants surveyed who recalled seeing the FNV Campaign. There were no statistically significant differences between respondents familiar with the FNV Campaign and their awareness of previous campaigns that encouraged fruits and vegetables (e.g., *Five a Day and Fruits and Veggies—More Matters*). Respondents familiar with the FNV Campaign were not more knowledgeable about U.S. government-recommended servings of fruits and vegetables (e.g., 4.5 cup equivalents/day) compared to those who were unfamiliar with FNV Campaign. Respondents in both test locations were significantly more likely to agree that they found it hard to purchase fruits and vegetables in their neighborhood and that eating fruits and vegetables affected their health. In Fresno, California but not Hampton Roads, Virginia, respondents familiar with FNV were significantly more confident in their ability to purchase but not prepare fruits and vegetables.

There were statistically significant differences between respondents in Fresno, California who were familiar with the FNV Campaign. These respondents reported more daily servings of 100% vegetable juice, dark-green leafy vegetables and orange-colored vegetables compared to those who were unfamiliar with FNV, although the latter differences were not significant. No differences were observed between respondents who were familiar or unfamiliar with the FNV Campaign in Hampton Roads, Virginia. We found no differences in the fruit and vegetable purchasing behaviors of those familiar versus unfamiliar with the FNV Campaign in either test location. Large supermarkets and farmers' markets were the two most common locations where respondents' reported always or mostly shopping for food.

Conclusions: While a quarter of respondents interviewed were familiar with the FNV brand, more work is needed to influence the target populations' awareness about the FNV Campaign. There is also a need to understand how to use IMC to promote actionable and memorable messages to encourage target groups to purchase and consume more fruits and vegetables regularly that align with the DGA. We offer six recommendations below to inform future research, evaluation and marketing of the FNV Campaign.



Recommendations for future research, evaluation and marketing

1. Articulate clear goals for the FNV Campaign (e.g., buy and consume new or more fruits and vegetables) and align the IMC strategies to achieve these goals.
2. Collect cross-sectional baseline data on the fruit- and vegetable-related attitudes, knowledge, beliefs, self-efficacy, and buying and consumption behaviors of the target groups in a specific city or state to build the evidence base that can be used to evaluate whether behavioral changes can be attributed to the FNV Campaign.
3. Evaluate whether and how the personal preferences for various fruits and vegetables of the target populations may influence their perceptions about the FNV Campaign effectiveness.
4. Examine the interactions between fruit and vegetable availability and access, nutrition and health knowledge, food preferences, and IMC strategies to understand how target populations may respond to the FNV Campaign and other campaigns that encourage healthy dietary patterns and behaviors.
5. Compare the influence of fruit and vegetable marketing strategies on the consumption patterns of the target populations by age, sex, educational status, and income (measured indirectly through participation in federal food and nutrition programs) to understand the role of socio-demographic factors on fruit and vegetable purchasing and consumption behaviors.
6. Conduct longitudinal surveys administered over a designated time frame to determine whether and how the attitudes, beliefs, knowledge and self-efficacy of the target groups influence the fruit and vegetable purchasing and consumption behaviors of the target groups over time, and whether these changes can be attributed to the FNV Campaign or other influential factors such as community or statewide programs and activities.

Source: Duffey KJ, Kennedy LE, Englund TR, Rincon Gallardo S, Hedrick VE, Kraak VI. *Evaluation For Buying and Eating Fruits and Vegetables Among Teens and Moms Exposed to the Fruits & Veggies (FNV) Campaign in California and Virginia, 2015-2017*. Blacksburg, Virginia: Virginia Tech. December 2017.



Table 4 Number and percent of respondents who were familiar with the FNV brand or logo in the test locations of California and Virginia, 2017^{a,b}

	Fresno, CA (n=231) %	Hampton Roads, VA (n=252) %
Location		
Social Media Ads	34	38
Grocery Store Promotions	23	25
Family or Friends	17	17
Community Sponsored Activities	16	15
Other	10	6
Billboards	3	0
Radio	2	0
Television	0	1
Teens with a Purpose	0	1

^a Respondents were allowed to select more than one location, so the n represents the total number of instances the FNV Campaign was recalled for each location. Familiarity was defined as a mom or teen respondent who recognized the FNV brand or logo or reported seeing or hearing about the FNV Campaign in the community such as sponsored events, online through social media, through family or friends, or through promotions in grocery stores.

^b Total sample: n=1,825 (n=746 in Fresno, CA and n=1,079 in Hampton Roads, VA).



Study 4

Profile of FNV Campaign Celebrities

Context: Most Americans do not consume the minimum daily 4.5-cup equivalent servings of fruits and vegetables recommended by the Dietary Guidelines for Americans 2015-2020 (DGA). In 2015, the Partnership for a Healthier America (PHA) launched a \$ 5 million dollar, branded, integrated marketing communications campaign called FNV (*Fruits & Veggies*) in Fresno, California and Hampton Roads, Virginia to increase fruit and vegetable sales and consumption among Millennial moms (21-34 years) and teens (15-20 years). *Pro bono* celebrity endorsement was part of the FNV marketing strategy along with print, broadcast and social media; sponsored community events; and in-store food retail marketing. A Virginia Tech evaluation team examined the FNV Campaign celebrities' demographic profile (i.e., race, ethnicity, sex and age); food category and brand endorsements; and company or organization partnerships between April 2015 and December 2016.

Methods: The FNV Campaign celebrity names (n=82) were obtained from the FNV website, verified by PHA staff, and entered into an Excel database of celebrities (n=552) associated with food and beverage group, brand or product endorsements in the United States between 1990 and 2016. We used a python-based scripting engine and data visualization tools to analyze and display relationships among each FNV celebrity; company, organization or campaign association; and brand or product category endorsement. We created two interactive dendrograms to illustrate FNV celebrity endorsement relationships among products, brands and companies. We created scatterplots to show each celebrity's food and beverage category or product endorsements and compliance with the Dietary Guidelines for Americans (DGA) 2015-2020 and U.S. Smart Snacks in School standards.

Results: Unique celebrities (n=552) were associated with 745 endorsements representing 159 brands across 13 food and beverage categories. FNV celebrities (n=82) represented 15% of the database, of which two thirds were male (68%; n=56), and primarily white (46%; n=38) or African American (43%; n=35). FNV celebrities were involved with 121 endorsements across 12 food and beverages categories. A quarter (23%; n=37) of brands promoted fruits and vegetables; water, low- or no-calorie beverages ≤60 calories/12 ounce-serving; and dairy or milk. Three quarters (76%; n=62) of celebrities endorsed only FNV; 12% (n=10) endorsed FNV and another brand; and 10% (n=8) endorsed FNV and 2-3 brands. Two sports celebrities endorsed FNV and 4 or more brands. One fifth (21%; n=17) of the FNV celebrities were associated with brands (n=24) that include one or more high-fat, -sugar and -sodium products that did not comply with the DGA and USDA Smart Snack Standards.

Conclusions: Future empirical research is needed to evaluate whether targeted populations recognize and are influenced by the FNV celebrities to buy and consume more fruits and vegetables; and how target populations view multiple celebrity endorsements for healthy versus unhealthy nutrient-profile food and beverage products.

Recommendations for future research, evaluation and marketing

1. Use existing theoretical frameworks and conceptual models to understand whether racially, ethnically and culturally diverse groups recognize the celebrities involved in the FNV Campaign; and whether the target groups can associate the celebrities with fruits and vegetables versus other food and beverage groups, product categories and brands.
2. Examine how Americans exposed to the FNV Campaign across various U.S. geographic locations view the credibility (i.e., trust, attractiveness and expertise) of celebrities involved in the FNV Campaign, and congruence or “fit” between the celebrity and target groups, as well as the celebrity and the FNV brand.
3. Explore how targeted populations think about celebrities who serve as multiple endorsers for brands associated with healthy food and beverage groups (i.e., fruits and vegetables and non-fat dairy) versus energy-dense and nutrient-poor food and beverage categories (i.e., sugar-sweetened beverages, chain restaurant meals, and salty or sugary snacks).
4. Compare the effectiveness of celebrity endorsement associated with the FNV Campaign across different age and ethnic/racial groups, as well as marketing and media channels (i.e., print and broadcast media; social and digital interactive media; sponsored community events; and in-store food-retail marketing).
5. Assess consumers’ views about the in-store food retailer messages delivered by the FNV Campaign celebrities through posters and placards.
6. Analyze the policy landscape to inform smarter policies and comprehensive actions that can be taken by the U.S. government, private-sector actors, and non-governmental organizations to leverage celebrity marketing to promote only brands associated with healthy food and beverage product profiles and that support healthy food environments.

Source: Kraak VI, Zhou M, Duffey KJ, Williams JD. *A Profile of Celebrities Involved in the Partnership for a Healthier America’s Fruits & Veggies (FNV) Campaign 2015-2016*. Report submitted to the Robert Wood Johnson Foundation for the Partnership for a Healthier America’s FNV Campaign Evaluation. Blacksburg, Virginia: Virginia Tech. January 2017.



Figure 3 Celebrities associated with the PHA's FNV Campaign, 2015-2016

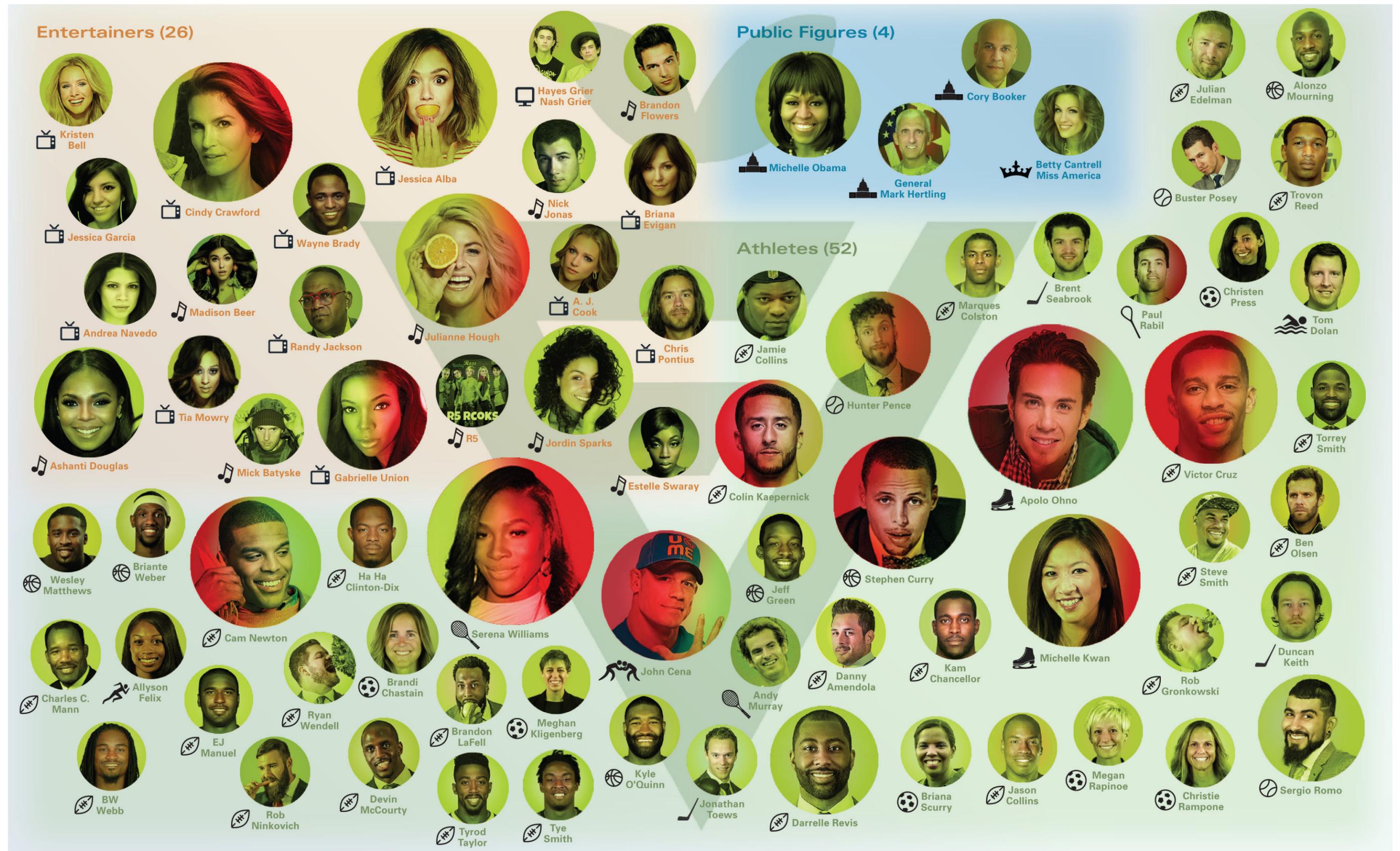


Figure 4 Food and beverage brand endorsements by the FNV Campaign celebrities, 2015-2016





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