



Moms' Attitudes and Beliefs Related to Fruit & Vegetable Consumption
2007-2014



We're on a Mission!

Produce for Better Health Foundation

Produce for Better Health Foundation (PBH) is a non-profit 501 (c) (3) consumer education foundation whose mission is to motivate Americans to eat more fruit and vegetables to improve public health. PBH partners with government agencies like CDC, non-profit organizations, health professionals, educators, and members of the fruit and vegetable industry to promote increased consumption of fruit and vegetables. We leverage private industry and public sector resources, influence policy makers, motivate key consumer influencers, and promote fruit and vegetables directly to consumers.

Fruits & Veggies—More Matters®

Managed by PBH, Fruits & Veggies—More Matters is the nation's largest public-private fruit and vegetable nutrition education initiative. The foundation of Fruits & Veggies—More Matters is a brand logo and messaging designed to motivate Americans to eat more fruit and vegetables. Fruits & Veggies—More Matters materials and messages are widely featured in print, on websites, and on social media platforms like Facebook, Twitter, Pinterest, YouTube, and blogs. Since its inception in 2007, it is estimated that the Fruits & Veggies—More Matters logo has been seen an average of 108 times by every American.



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Executive Summary

For several years, recommendations in public health policy have encouraged an increase in fruit and vegetable consumption by adults and children in the US.^{1,2} The health benefits of increasing fruit and vegetable consumption continue to grow³, despite the daily intake of fruits and vegetables remaining well below recommended levels for most Americans.^{4,5}

Since 1991, Produce for Better Health Foundation (PBH) has been dedicated to producing a healthier America through increased fruit and vegetable consumption. PBH, Centers for Disease Control and Prevention (CDC), and other national partners launched a call to action, Fruits & Veggies—More Matters, in March of 2007. Fruits & Veggies—More Matters is a branded social marketing campaign that replaced the previous national 5 A Day program⁶ as the rallying cry to deliver the

benefits of fruits and vegetables to consumers in a way that is designed to change and sustain their behavior over the long term. Fruits & Veggies—More Matters was developed with moms as the primary target audience.⁷ It was further tested with male and female adults, Caucasian, Hispanic and African Americans, and was found equally appealing among all groups.

As part of a comprehensive research plan for Fruits & Veggies—More Matters, that includes both process and evaluation components, PBH conducted a baseline survey and subsequent annual follow-up surveys to identify psychosocial factors associated with fruit and vegetable consumption of moms as it relates to their own consumption and their behavior with their families.

Baseline results indicated that moms value the importance of fruits and vegetables in the diet, believe that as a mom it is important to include them in family meals, and say that they intend to do so, although fewer think it will be easy. The most common barriers were different likes and dislikes of family members, and difficulty including them when at restaurants. Respondents also said it was more difficult to include fruits and vegetables at meals where they are not traditionally served, when away from home, and in the context of their everyday responsibilities.

Key findings over time indicate that moms continue to strongly believe in the benefits of fruits and vegetables and continue to be concerned that their families are not consuming enough of them. The 2008-2009 recession had a significant negative impact on moms' attitude and behavior regarding fruits and vegetables. In addition, while the Internet remains the top preferred source of information regarding fruits and vegetables, family members were becoming more influential, while other sources were becoming less so.

Providing moms with practical information to increase their family's consumption of fruits and vegetables, especially while on a budget, will help them follow through with their intentions. PBH's consumer website, MoreMatters.org, developed specifically with moms in mind, continues to be a growing, reliable source of information for this audience. Insight gleaned from the annual surveys, outlined in this report, assist PBH in our effort to reach moms; we also hope that it helps you in your effort to increase fruit and vegetable consumption.



Key Trends

Behavior-based interventions that apply various behavior theories or constructs have demonstrated success at influencing fruit and vegetable consumption among adults and children.⁸⁻¹¹ Perceived obstacles (including social, personal and economic challenges), intrinsic and or extrinsic motivation, normative beliefs, confidence in coping with barriers to change behavior (self-efficacy), and self-management are all examples of constructs that are used to effect change in fruit and vegetable intake.

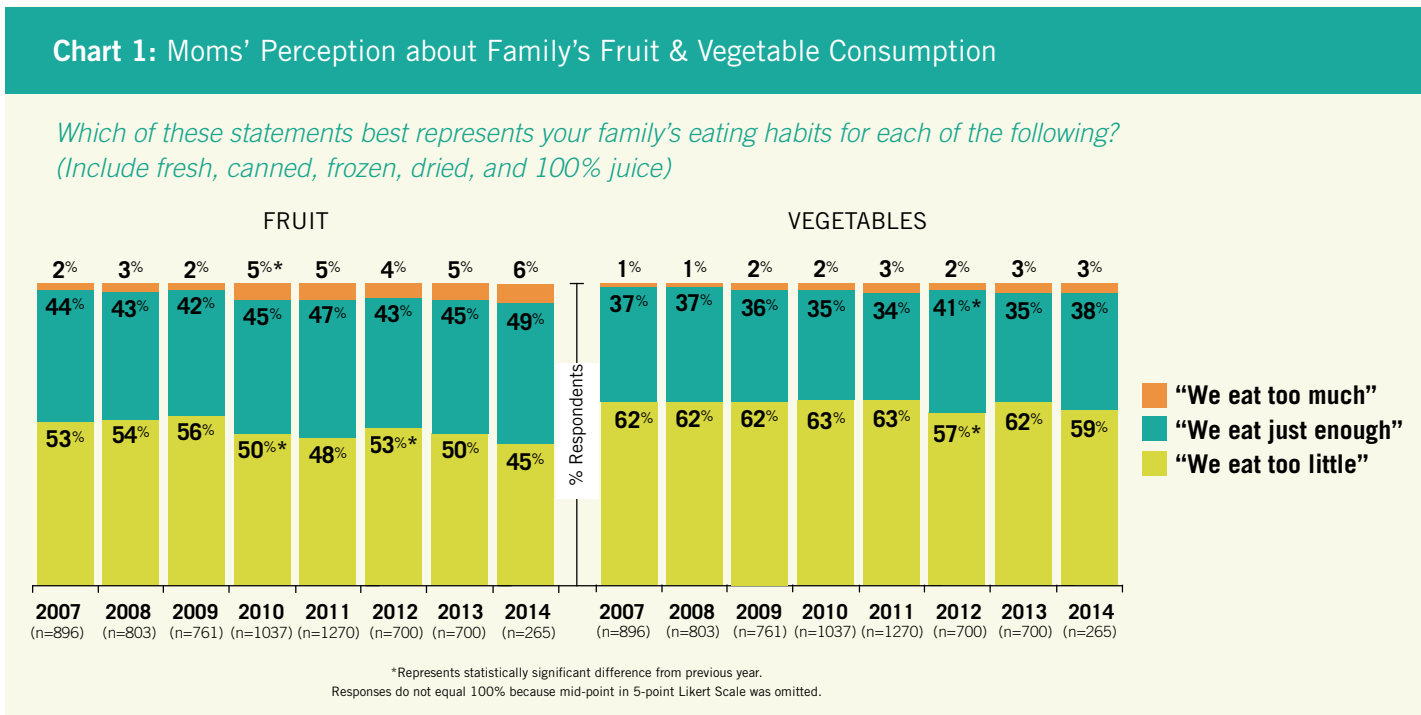
In an effort to understand these various factors related to fruit and vegetable consumption among moms, a 2007 baseline survey was conducted with Generation X (Gen X) moms, born between 1965 and 1979. Gen X moms were chosen, in part, because they were especially involved in their families' health and were concerned with disease prevention and holistic health. They actively sought information, especially regarding family health and well-being. Additionally, they tended to be very influential on their spouse or significant other as well as their parents.¹²

Generation Y (Gen Y) moms, born between 1980 and 1990, were included beginning in 2010. However, given that Gen X and Gen Y moms continue to age, as do their children, PBH reanalyzed

the data to compare year to year only those moms with children ages 10 and under. Throughout this document, therefore, moms will be referenced as those with children ages 10 and under, regardless of when the moms were born. For more information about methodology and demographics, see Appendix A and B. Moms' responses to questions about various factors related to fruit and vegetable consumption are outlined below.

Attitudes

The majority of moms have traditionally felt that they and their families eat too little fruit and vegetables, but it appears this trend may be changing. Whether because of perceived or actual consumption, more moms are beginning to believe their families eat just enough fruit and vegetables, even though there is still great room for improvement (Chart 1). Moms personal attitudes towards eating fruits and vegetables have remained fairly consistent since 2007, though more moms indicate that they find eating fruits and vegetables enjoyable, but also a chore (Chart 2). When asked about fruit separately from vegetables, we find that vegetables are less popular among moms than fruit consistently over time (Chart 3).



Intention

Between the 2007 baseline and 2008 follow-up survey, moms were showing higher purchase intention (Chart 4). However, in 2009 and 2010, moms were showing lower purchase intention, which was probably directly related to the economic climate and related pressures occurring during the recession. After three years of stability, between 2011-2013, moms intention

to include more fruits and vegetables in meals and snacks dropped significantly in 2014. This is consistent with responses to a separate series of questions about behavioral intentions, where moms reported that getting their family to eat more fruits and vegetables was not among their most pressing concerns in 2014 (Chart 5).

Chart 2: Moms' Personal Attitudes About Fruits & Vegetables

Please rate your level of agreement or disagreement with the following statements:

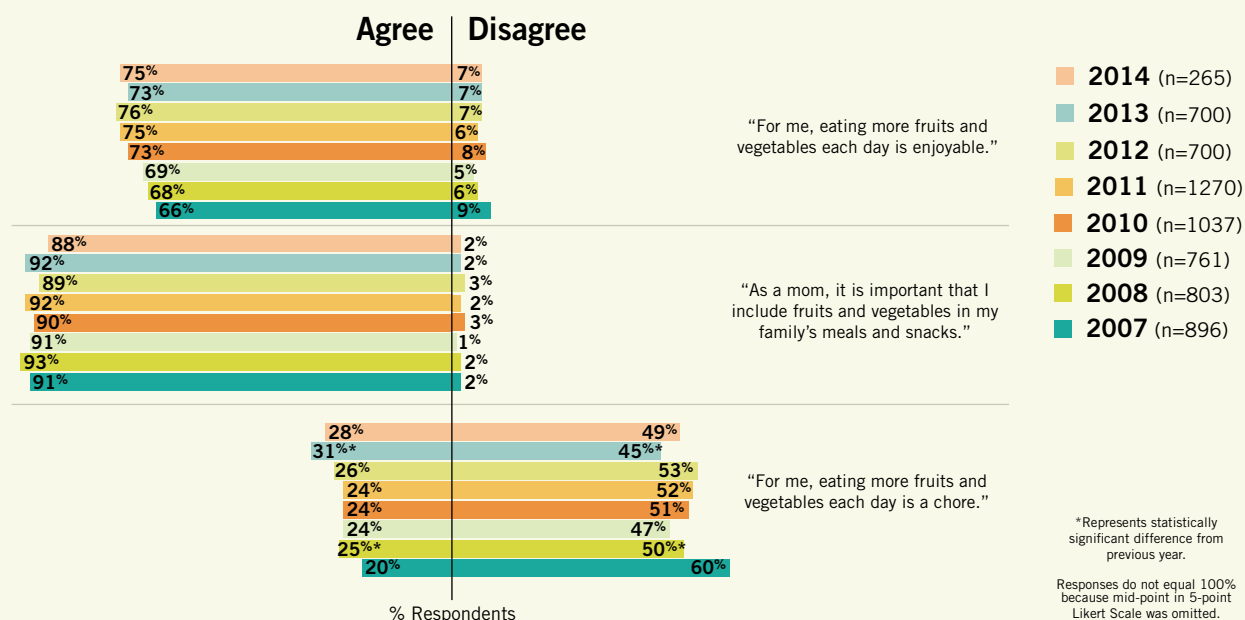


Chart 3: Moms' Attitudes Toward Eating Fruits & Vegetables

Which of the following best describes your attitude toward eating fruits and vegetables?

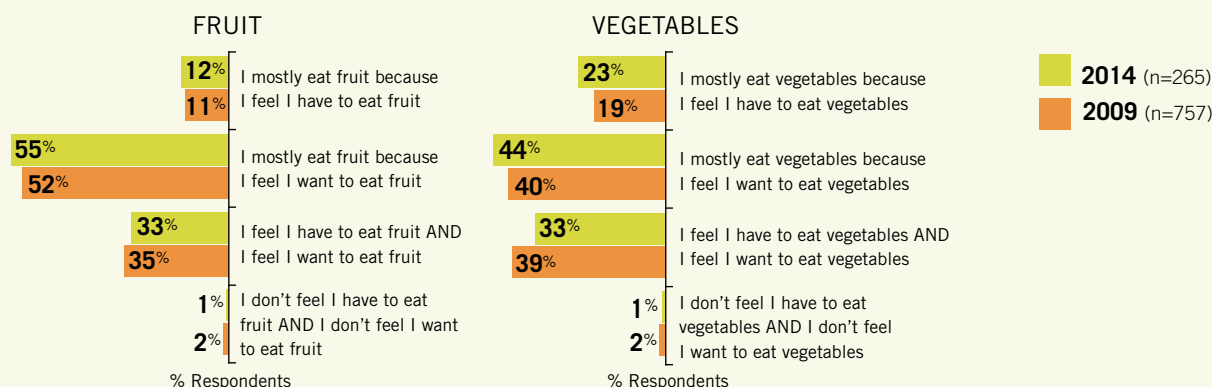
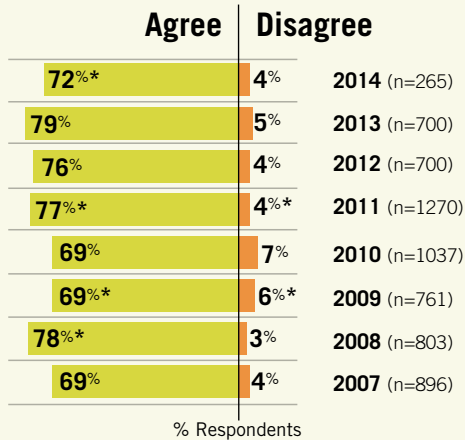


Chart 4: Moms' Intentions about Fruit & Vegetable Purchases

Please rate your level of agreement or disagreement with the following statement:

"In the next 3 months, I intend to include more fruits and vegetables in my family's meals and snacks."

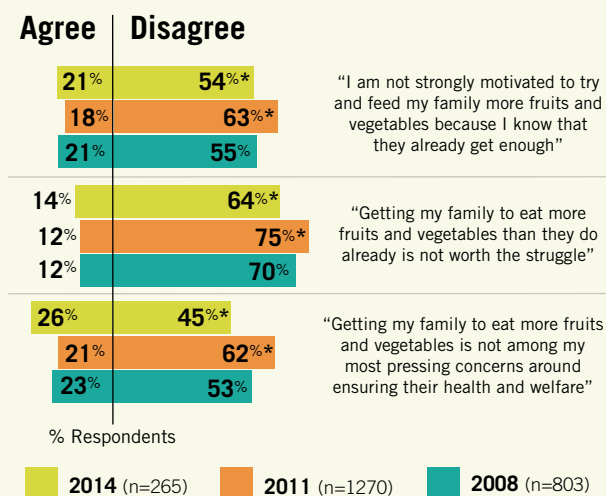


*Represents statistically significant difference from previous year.
Responses do not equal 100% because mid-point in 5-point Likert Scale was omitted.

... moms reported that getting their family to eat more fruits and vegetables was not among their most pressing concerns in 2014.

Chart 5: Moms' Level of Motivation About Introducing More Fruits & Vegetables

Please indicate your agreement or disagreement with these statements:



*Represents statistically significant difference from previous year.
Responses do not equal 100% because mid-point in 5-point Likert Scale was omitted.



Self-Efficacy

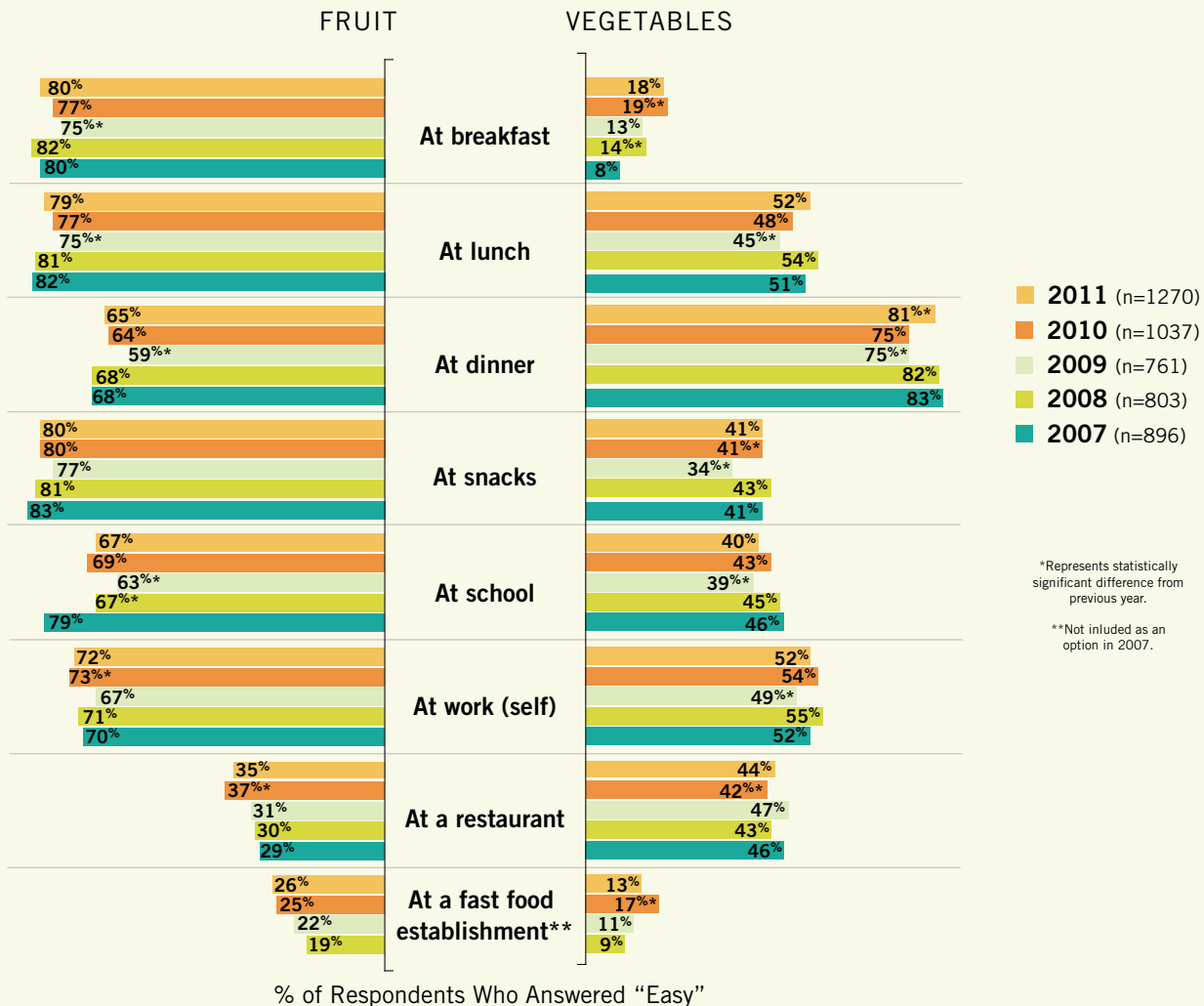
In the 2007 baseline study, higher levels of self-efficacy were reported for including fruit and vegetables at meals where they are traditionally served (e.g. vegetables at dinner, fruit at breakfast). Levels of self-efficacy were lower and showed more variability for meals where they are not traditionally served (e.g. vegetables at breakfast), when eating in situations away from home, or in the context of common daily situations of moms, such as running errands or taking children to activities. By 2009, however, moms were increasingly finding it harder to get their family to eat fruits and vegetables during all eating occasions (Chart 6). This is likely a result of the difficult economic period,

since it trended back up a bit in all situations by 2011. This question was asked each year from 2007-2011 for all eating occasions, and will be asked again in 2015.

One particular area of interest was showing steady improvement and was therefore asked in 2012-2014. Moms' level of reported ease in getting their family to eat fruits and vegetables at restaurants and quick service restaurants has shown steady improvement over time (Chart 7). This coincides with the addition of fruit in quick service restaurants during this period of time and the expansion of healthy entrées on restaurant menus.¹³

Chart 6: Moms' Ability to Increase Family Fruit & Vegetable Consumption Throughout the Day

How easy is it for you to get your family to eat fruits and vegetables at the following times?

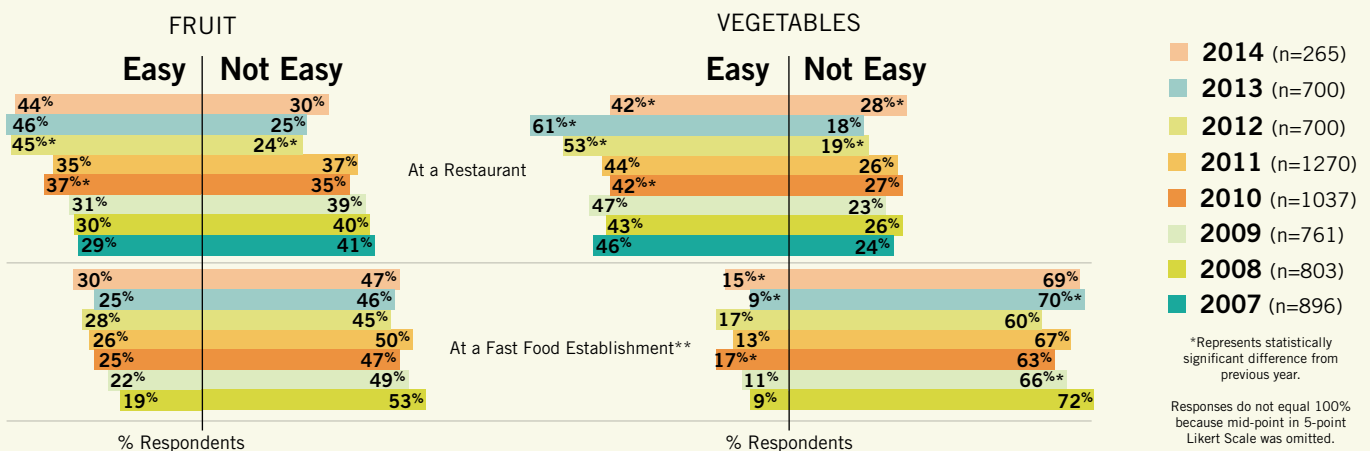


Moms level of reported ease in getting their family to eat fruits and vegetables at restaurants and quick service restaurants has shown steady improvement over time. This coincides with the addition of fruit in quick service restaurants during this period of time and the expansion of healthy entrées on restaurant menus.¹³



Chart 7: Moms' Ease in Getting Family to Eat Fruits & Vegetables When Eating Out

How easy is it for you to get your family to eat fruits and vegetables at the following times?



*Represents statistically significant difference from previous year.

Responses do not equal 100% because mid-point in 5-point Likert Scale was omitted.

**Not included as an option in 2007.

Beliefs & Social Support

Generally moms indicate they would like to be able to include a variety of fruits and vegetables in their families' meals and snacks, and they feel they know how to prepare fruits and vegetables in different ways though they remain interested in knowing how to prepare fruits and vegetables in new ways. In years when more moms responded that they didn't know how

to prepare fruits and vegetables in different ways, such as year 2008 and 2011, we also saw a greater interest in knowing how to prepare them in new ways (Chart 8). Combined, this is likely an indication that moms wanted to move more toward action and realized that they needed to know more about fruits and vegetables in order to do so.

Chart 8: Moms' Attitudes toward Fruits & Vegetables

Please rate your level of agreement or disagreement with the following statements:

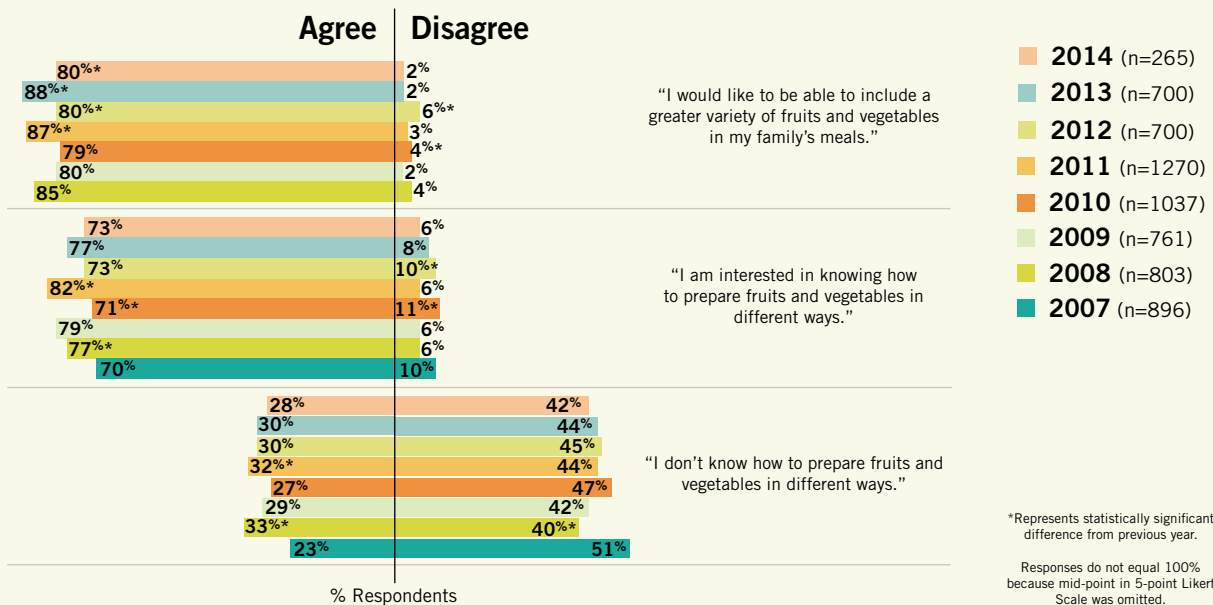
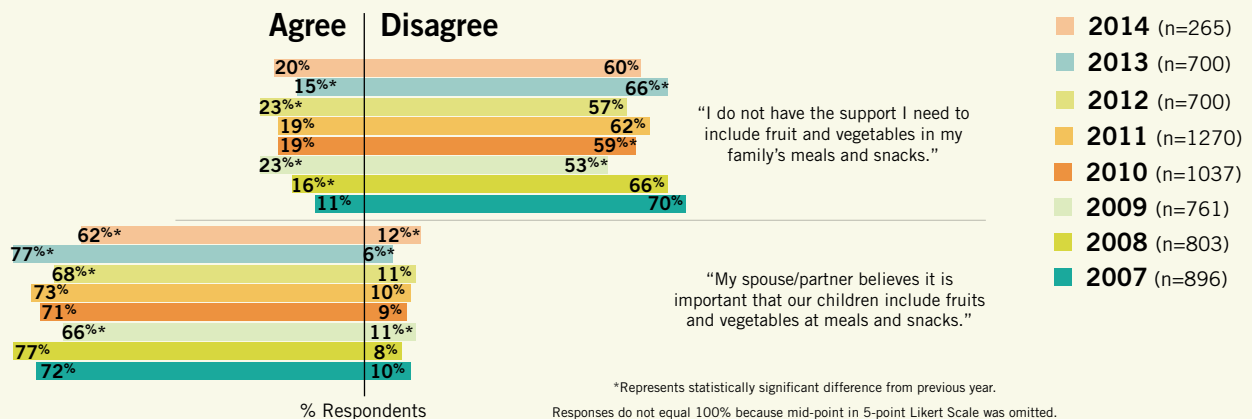


Chart 9: Sense of Social Support In Efforts to Increase Family Fruit & Vegetable Consumption

Please rate whether you agree or disagree with the following statements:



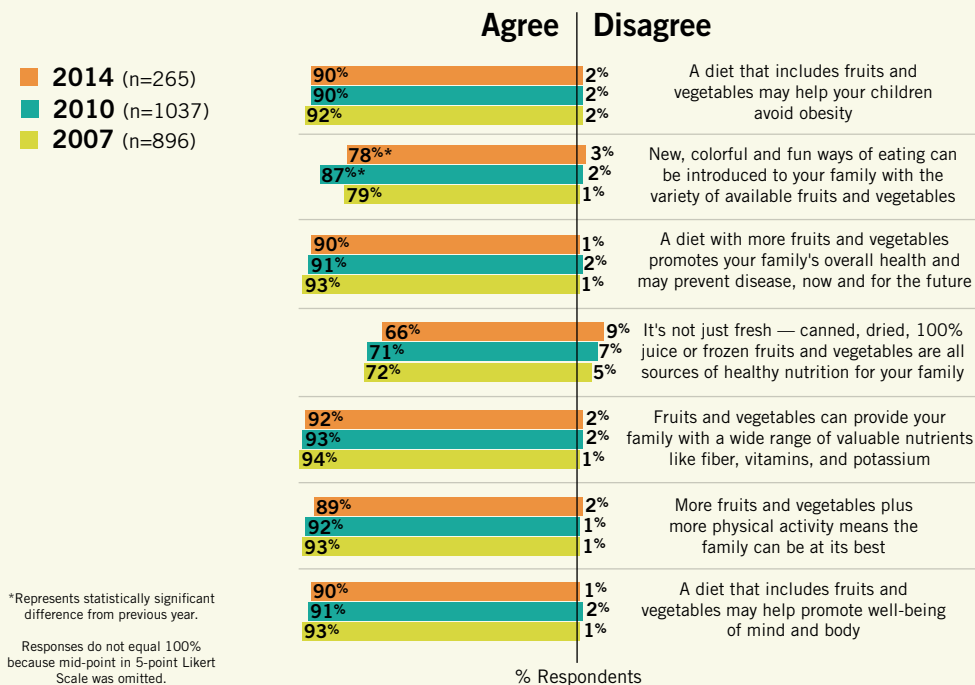
Generally moms indicate they have the support they need to include fruits and vegetables in their families' meals and snacks, and their spouse/partner believes it is important to do so (Chart 9). Worth noting is that in years when fewer moms felt like their spouse believed it was important to feed the children fruits and vegetables (2009, 2012 and 2014), these were also the years moms reported not having the support they needed to include more fruits and vegetables in meals and snacks, suggesting that dads are an important social support in some households. Conversely, years when moms felt they had the most support to include fruits and vegetables in meals and snacks were also the years they reported that their spouse thought it was important (2008 and 2013).

An open-ended question was asked in 2010 to better understand what moms meant by 'support' if they indicated that they needed it. In response, moms reported that they were lacking spousal/family support, had various dislikes of fruit or vegetables within the family, needed different ideas/recipes, cost reduction or financial support, and more time. This open-ended question helped frame future questions in the annual survey to understand barriers to consumption (see page 21 on Barriers).



Chart 10: Moms' Perception of Key Fruit & Vegetable Benefit Statements

Please rate your level of agreement or disagreement with the following statements:



*Represents statistically significant difference from previous year.
 Responses do not equal 100% because mid-point in 5-point Likert Scale was omitted.

Perceived Benefits

The perception of fruits and vegetables and various health and nutrition issues can be seen in Chart 10. Agreement scores, for the most part, have been stable since 2007 with respect to health and nutrition issues, with only one exception.

A decrease in agreement that 'new, colorful and fun ways of eating can be introduced to your family with the variety of available fruits and vegetables.' This could be, in part, because Produce for Better Health Foundation didn't focus on eating a variety of colorful fruits and vegetables as much upon introduction of the Fruits & Veggies—More Matters campaign.

Questions pertaining to diseases that fruits and vegetables may be beneficial for preventing (Chart 11) and which components of fruits and vegetables provide health benefits (Chart 12) were part of the 2009-2012 survey. In 2012, the addition of the option ‘premature death’ impacted responses to all other categories (Chart 11) despite the fact that respondents could select ‘all that applied’ and were not limited in their number of choices. Regardless, the role that fruits and vegetables play in preventing weight gain and heart disease ranked higher than their prevention of any other disease state.

A recent review of the health benefits of fruits and vegetables in a number of disease states suggests that benefits continue to grow.³ Diseases with convincing or probable evidence of a health benefit have been those primarily communicated by PBH to consumers. A summary of these health benefits includes:

Convincing evidence that increasing the consumption of fruit reduces the risk of hypertension, coronary heart disease and stroke.

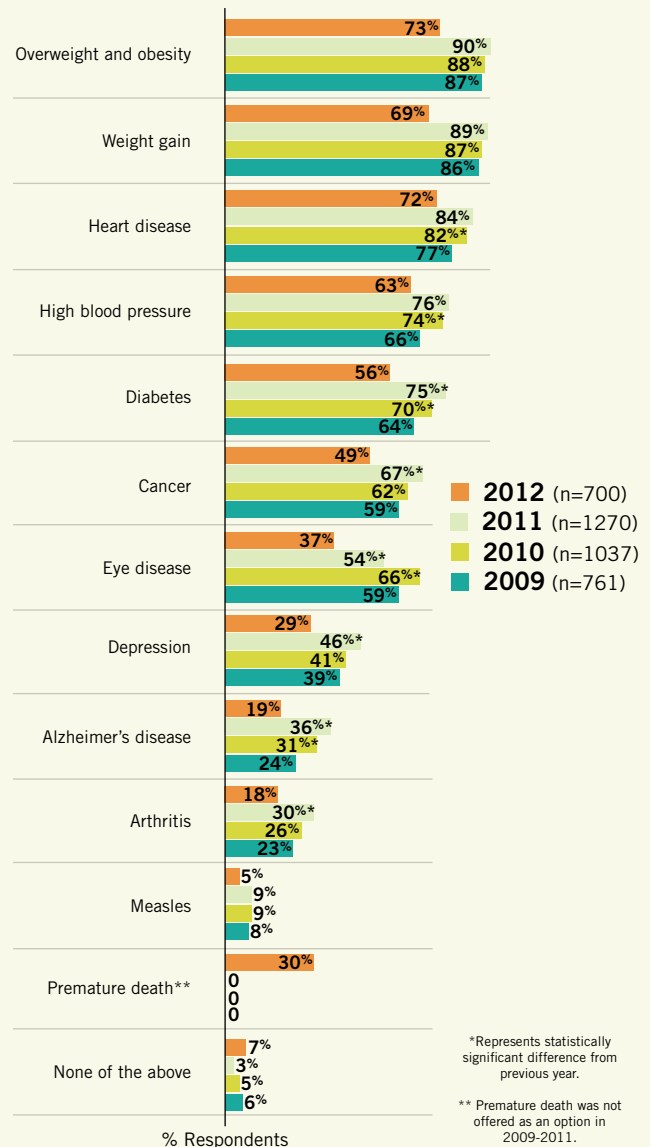


Probable evidence that

- The risk of cancer in general is inversely associated with fruit and vegetable consumption.
- There is no influence of increased consumption on the risk of type 2 diabetes mellitus, independent of overweight.

Chart 11: Moms’ Perceived Disease-Prevention Benefits of Fruits & Vegetables

Which of the following do you believe consuming fruits and vegetables may be beneficial for preventing? (Please select all that apply.)



Possible evidence that

- Increased consumption of vegetables and fruit may prevent body weight gain, perhaps indirectly reducing the incidence of type 2 diabetes mellitus, since overweight is the most important risk factor for this disease.
- Increasing the consumption of vegetables and fruit lowers the risk of certain eye diseases, dementia, and the risk of osteoporosis.
- An increase in vegetable and fruit consumption may contribute to the prevention of asthma, chronic obstructive pulmonary disease, and rheumatoid arthritis.

Possible evidence regarding an association between the consumption of vegetables and fruit and irritable bowel diseases, glaucoma, and diabetic retinopathy.

Vitamins, antioxidants, fiber and minerals were the components that moms thought provided the greatest health benefits (Chart 12). Water and protein were seen as beneficial components over time, while the term 'phytonutrients' lagged behind the others as a component in fruits and vegetables that seemed to provide health benefits.

The high level of agreement about the benefits of consuming fruits and vegetables is consistent with observations from other studies showing that fruits and vegetables are recognized as part of a healthy eating pattern.^{14, 15} Thus, there is an inherent advantage that can be leveraged in messages and programs without the challenge of having to convince about benefits. In terms of consumption, knowledge of health benefits and recommendations are an important mediating variable in children's and mother's intake of fruits and vegetables.¹⁶ Further, positive attitudes and beliefs about the relationship of consumption of fruits and vegetables to disease prevention have predicted intake of children, of moms and of adults in general.¹⁶⁻¹⁹

When asked for the most important reasons why moms eat fruits and vegetables themselves, the primary reasons remained consistent between 2012 and 2014 (Chart 13). These included to stay healthy, that fruits and vegetables are part of a balanced diet, and they like the taste. In 2014, Moms cited losing weight significantly less often as an important reason they eat fruits and vegetables.

Chart 12: Moms' Perception of Healthy Components Associated with Fruits & Vegetables

Which of the following components of fruits and vegetables do you believe may provide health benefits? (Please select all that apply.)

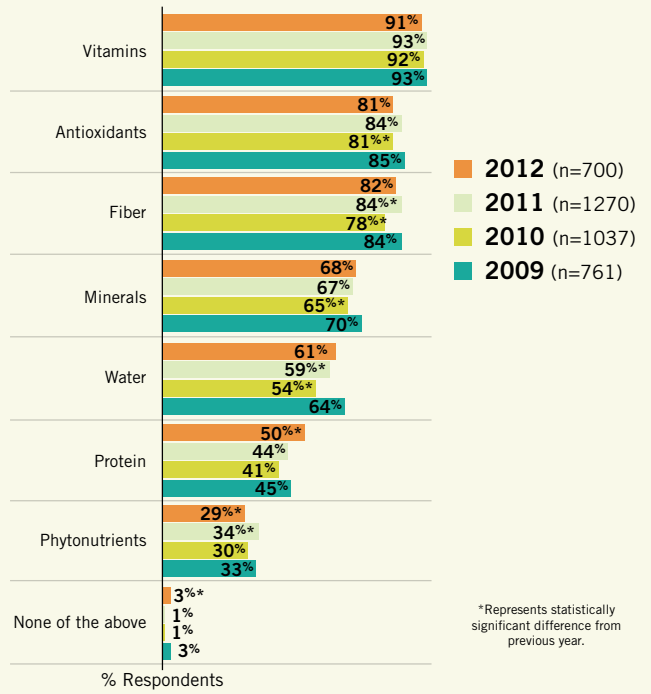
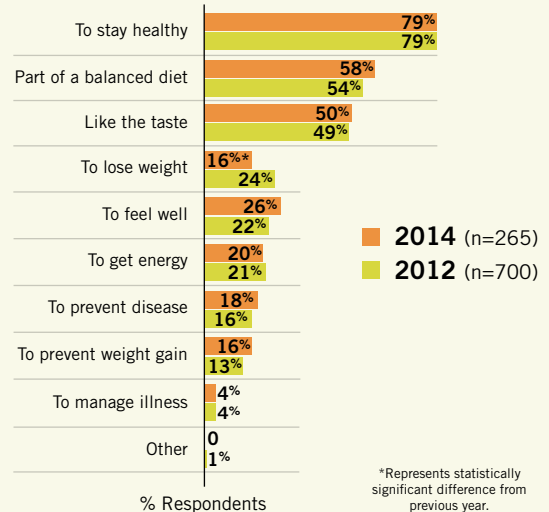


Chart 13: Moms' Reported Reasons Why They Eat Fruits & Vegetables

Please select up to three of the most important reasons why you, yourself, eat fruits and vegetables.



All Forms

A recent literature review noted earlier, that summarized the health benefits of fruits and vegetables, was not specific to populations only eating fresh produce.³ All forms of fruits and vegetables provide much needed nutrients that are currently under-consumed in the United States, including folate, magnesium, potassium, dietary fiber, and vitamins A, C, and K.² All forms of fruits and vegetables also contain various phytochemicals that are thought to play an important role in disease prevention.²⁰⁻²⁵

Perception of Healthy

Despite the health benefits of eating more fruits and vegetables, however, canned, dried, and frozen fruits and vegetables are not perceived by moms as healthy as fresh (Chart 10, pg 11). In fact, moms view that frozen, 100% juice, dried, and canned fruits and vegetables are less healthy than fresh produce has continued to grow over time (Chart 14). This despite the fact that the US Dietary Guidelines emphasize fresh, frozen, canned and dried fruits and vegetables, as do the Fruits & Veggies—More Matters brand Guidelines, whose criteria for products that can carry the Fruits & Veggies—More Matters brand were developed by CDC.²⁶ Additionally, Walmart and Disney’s grading systems that include all forms of fruits and vegetables have received recognition by the *Let’s Move* initiative at LetsMove.gov.^{27, 28}

Other forces existed between 2007 and 2014 that could be a factor in the negative perceptions about packaged fruits and vegetables. These included greater emphasis on fresh fruits and vegetables in the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) and through expansion of the USDA Fresh Fruit & Vegetable Program in schools.^{29, 30} Simultaneously, supermarket shelf-labeling programs were expanding, especially NuVal.³¹ These programs rank foods according to algorithms and any fruit or vegetable that has added sodium or added sugar is scored significantly lower than their fresh counterparts, despite the fact that these products still contain beneficial flavonoids, carotenoids, fiber, vitamins, minerals and other phytochemicals that work synergistically to benefit health. These algorithms rely only on ‘nutrients’ and give no credit to the ‘food’ that is provided. More focus on organic and locally grown produce has also fueled interest in fresh and avoiding anything ‘processed.’³² Finally, moms report that their families simply prefer fresh (Chart 15, 16).



Chart 14: Moms’ Perceived Healthfulness of Different Forms of Fruits & Vegetables

In general, how healthy do you consider the following foods to be?

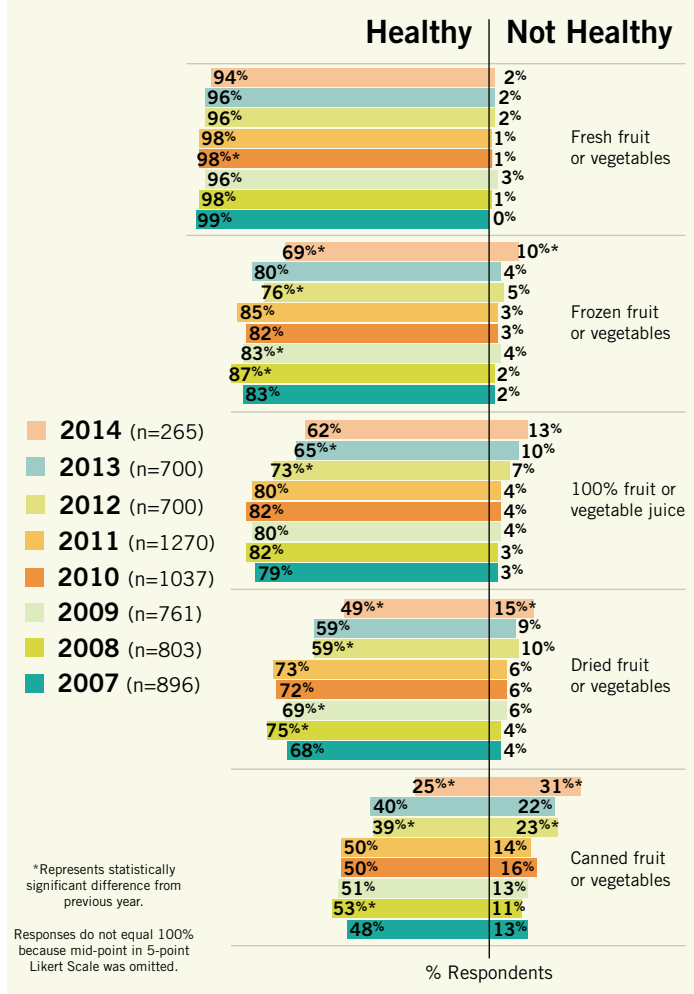
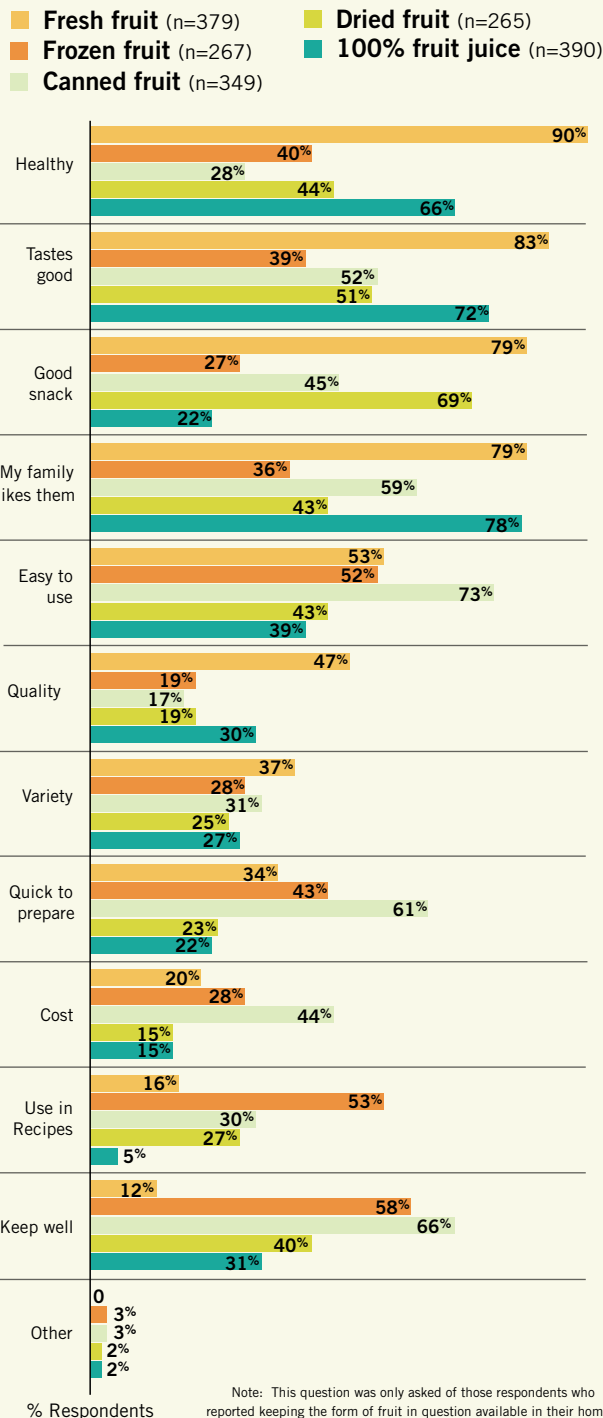


Chart 15: Moms' Reasons for Purchasing Various Forms of Fruit, 2012

Why do you purchase fresh, frozen, canned, dried, and 100% fruit juice? (Please select all that apply.)



... moms feel relieved to know that canned, frozen, dried, and 100% juiced fruits and vegetables help them meet their dietary goals.⁷ They feel more empowered and that they can actually eat the recommended amount of fruits and vegetables.

No doubt expansion of fresh produce is a very positive step forward. However, if moms on tight budgets perceive that being a 'good mom' means providing only fresh, organic, locally grown produce, and if this is too difficult to do, it's possible that some moms pay less attention or give up completely as it's one more thing to add to the list of things that 'good moms' do. In fact, moms feel relieved to know that canned, frozen, dried, and 100% juiced fruits and vegetables help them meet their dietary goals.⁷ They feel more empowered and that they can actually eat the recommended amount of fruits and vegetables. Simply put, eating any form of fruit and vegetable is helpful in the effort to improve the American diet.

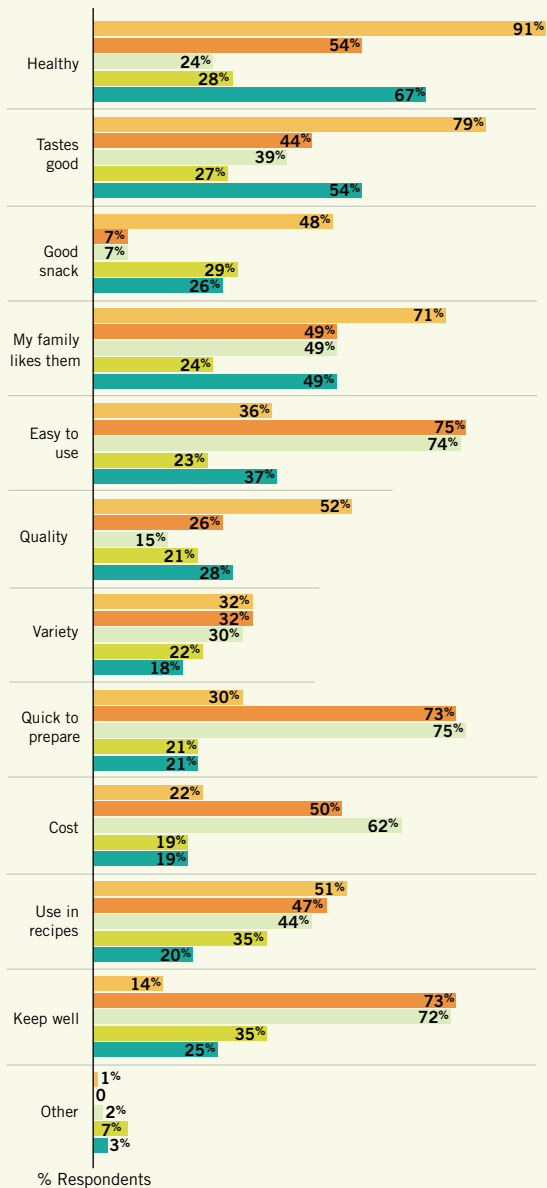
Concern over a decline in canned and frozen fruit and vegetable consumption, in part, led the Can Manufacturers Institute to launch a *Cans Get You Cooking* campaign in early 2013 and the Frozen Food Roundtable to launch a similar campaign to promote frozen fruits and vegetables in 2014.^{33, 34} The full impact of these efforts remains to be seen.

Purchase Drivers A question was added to the annual survey in 2012 to learn more about purchase drivers and usage of different forms of fruits and vegetables (Chart 15, 16). Convenience, shelf-life, and cost are key purchase drivers of non-fresh fruit and vegetables. Healthy, tastes good, good snack and family preferences were the main reasons moms purchased fresh produce.

Chart 16: Moms' Reasons for Purchasing Various Forms of Vegetables, 2012

Why do you purchase fresh, frozen, canned, dried, and 100% vegetable juice? (Please select all that apply.)

- Fresh vegetables (n=380)
- Frozen vegetables (n=372)
- Canned vegetables (n=377)
- Dried vegetables (n=142)
- 100% vegetable juice (n=248)



Note: This question was only asked of those respondents who reported keeping the form of vegetable in question available in their homes.

Chart 17: Moms' Reported Use of Various Forms of Fruits & Vegetables, 2014

How do you use fresh, frozen, canned, dried, and 100% fruit and vegetable juice?

% Respondents

	FRUIT				
	Fresh	Frozen	Canned	Dried	100% Juice
Snacks	75%	32%	64%	84%	-
Dessert	39%	34%	28%	-	-
Smoothies/Beverages	43%	86%	13%	-	28%
Fruit Salads	28%	17%	29%	-	4%
As is	90%	25%	63%	-	95%
Baking	34%	22%	15%	38%	-
Side dish	-	5%	27%	7%	-
On cereal	29%	-	-	44%	-
Added to sauces/salsas	9%	11%	6%	0	3%
In salads	26%	1%	6%	39%	-
Trail mix	-	-	-	53%	-
Other	1%	7%	0	1%	2%

(n=93) (n=84) (n=90) (n=67) (n=90)

% Respondents

	VEGETABLES			
	Fresh	Frozen	Canned	100% Juice
Snacks	45%	-	-	-
Dessert	2%	-	-	-
Smoothies/Beverages	12%	-	-	42%
As is	60%	-	-	63%
Baking	18%	-	-	-
Side dish	78%	89%	84%	-
In salads	71%	13%	10%	-
Casseroles	33%	44%	40%	-
Soups/stews	54%	51%	53%	37%
Stir-fry	47%	51%	15%	-
Add to sauces/salsas	28%	16%	19%	31%
Other	0	2%	1%	3%

(n=85) (n=89) (n=94) (n=55)

Empty boxes indicate that the category was not presented to the respondent.

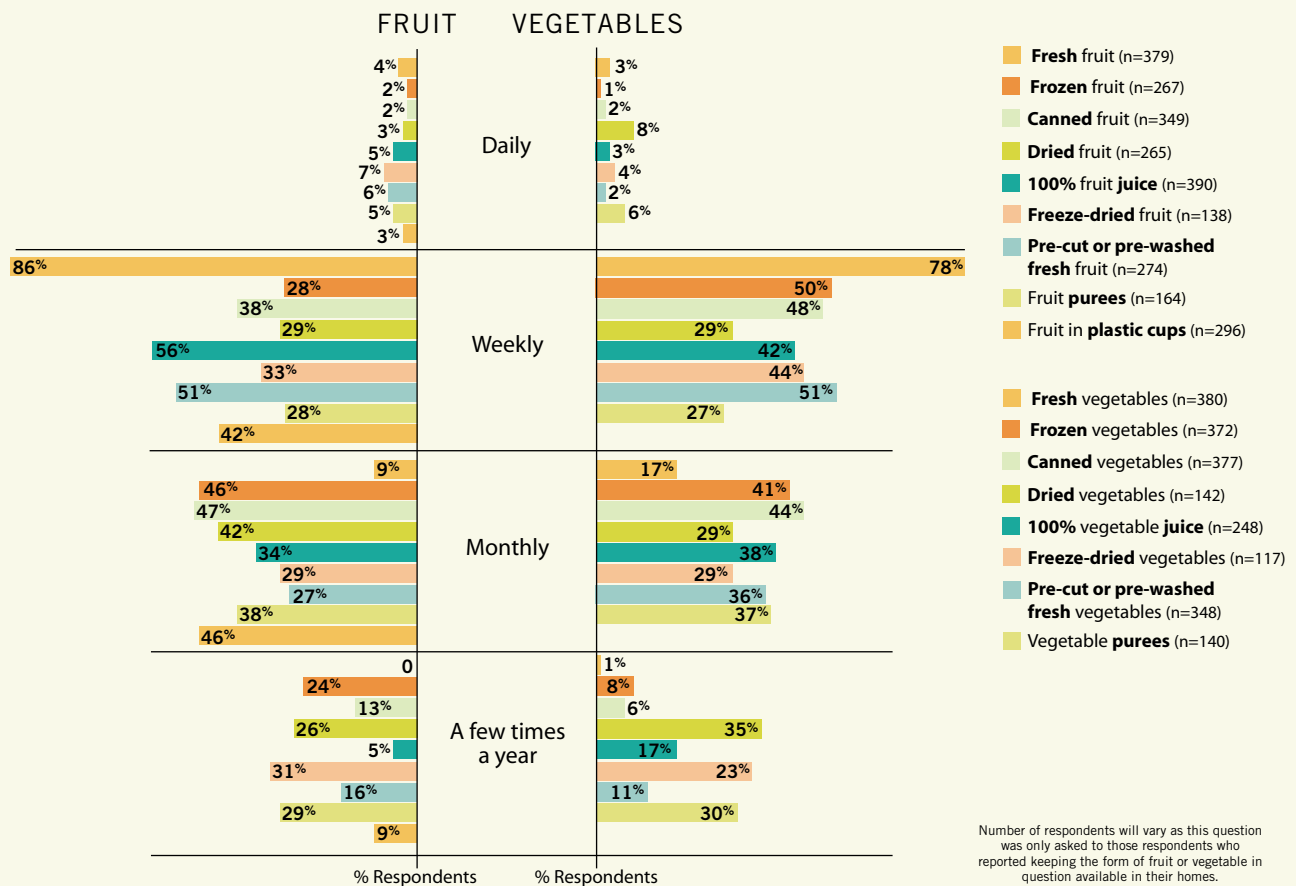
Uses As shown in Chart 17, frozen fruit is primarily used by moms in smoothies/beverages, followed by desserts and as a snack. Canned fruit was primarily used as a snack or as is. Dried fruit was primarily used as a snack, followed by use in trail mix or on cereal. Fruit juice is primarily consumed as is. Fresh fruit is primarily consumed as is or as a snack.

Frozen vegetables are primarily consumed as a side dish, followed by use in soups/stews, stir-fries and casseroles. Canned vegetables are primarily used as a side dish, followed by use in soups/stews and casseroles. Fresh vegetables are primarily consumed as a side dish, in salads, or as is, but also in soups/stews, stir-fry, and as a snack.

Purchase Frequency Fresh and fresh-cut fruit and vegetables and 100% fruit juice are the most likely forms of fruit and vegetable to be purchased weekly (Chart 18), and there is very little reported wastage for all forms of fruits and vegetables (Chart 19). Promoting the healthfulness, wide variety, and convenience of different forms of fruits and vegetables, and demonstrating creative ways to include different forms in meals and snacks will help moms carry out their intentions to include more fruits and vegetables in their families' diets.

Chart 18: Moms' Reported Frequency of Fruit & Vegetable Purchases, 2012

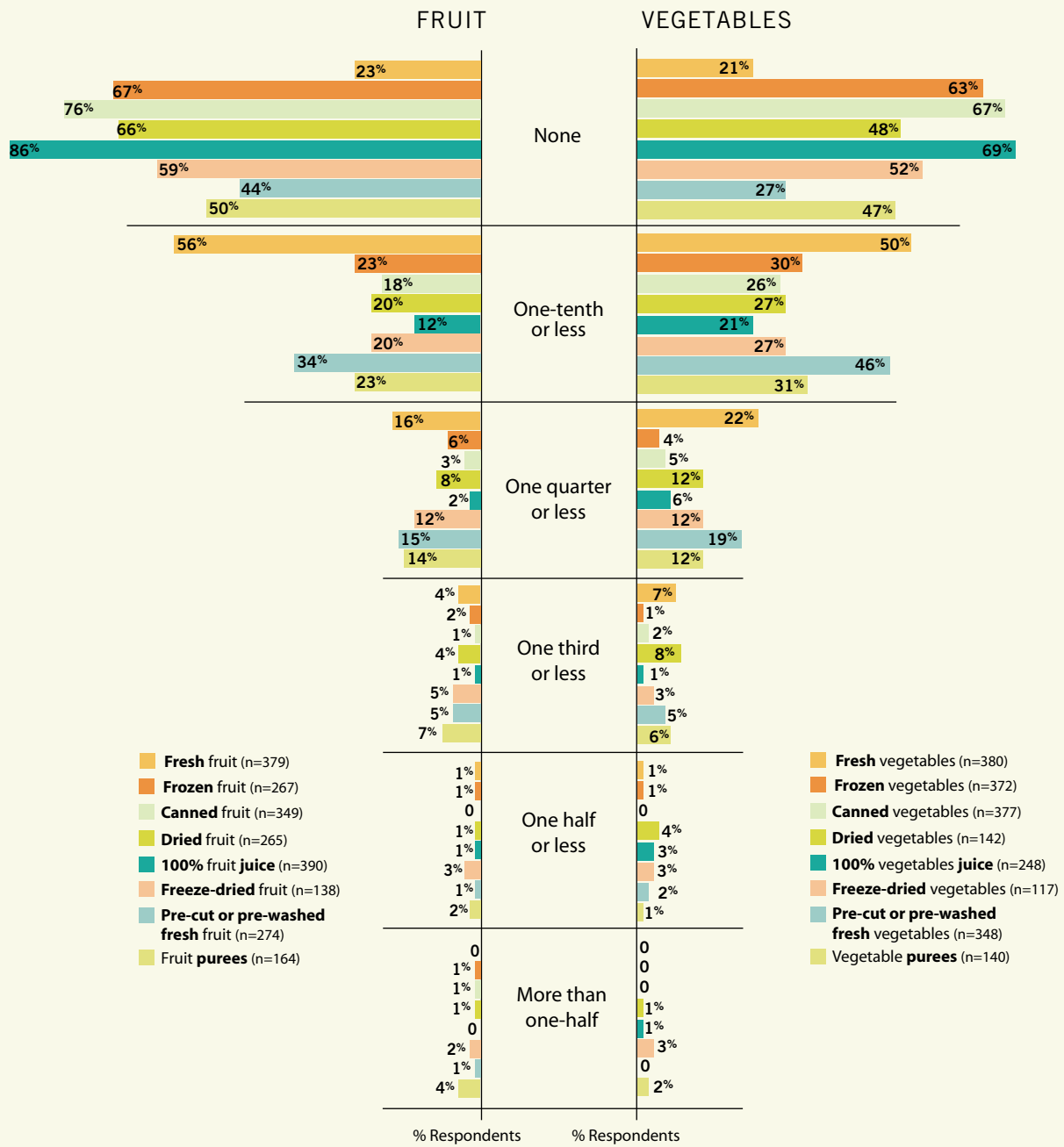
How often do you go to the store to purchase the following?



Number of respondents will vary as this question was only asked to those respondents who reported keeping the form of fruit or vegetable in question available in their homes.

Chart 19: Moms' Reported Fruit & Vegetable Wastage, 2012

How much of the various forms of fruits and vegetables that you buy do you throw out?



Number of respondents will vary as this question was only asked to those respondents who reported keeping the form of fruit or vegetable in question available in their homes.

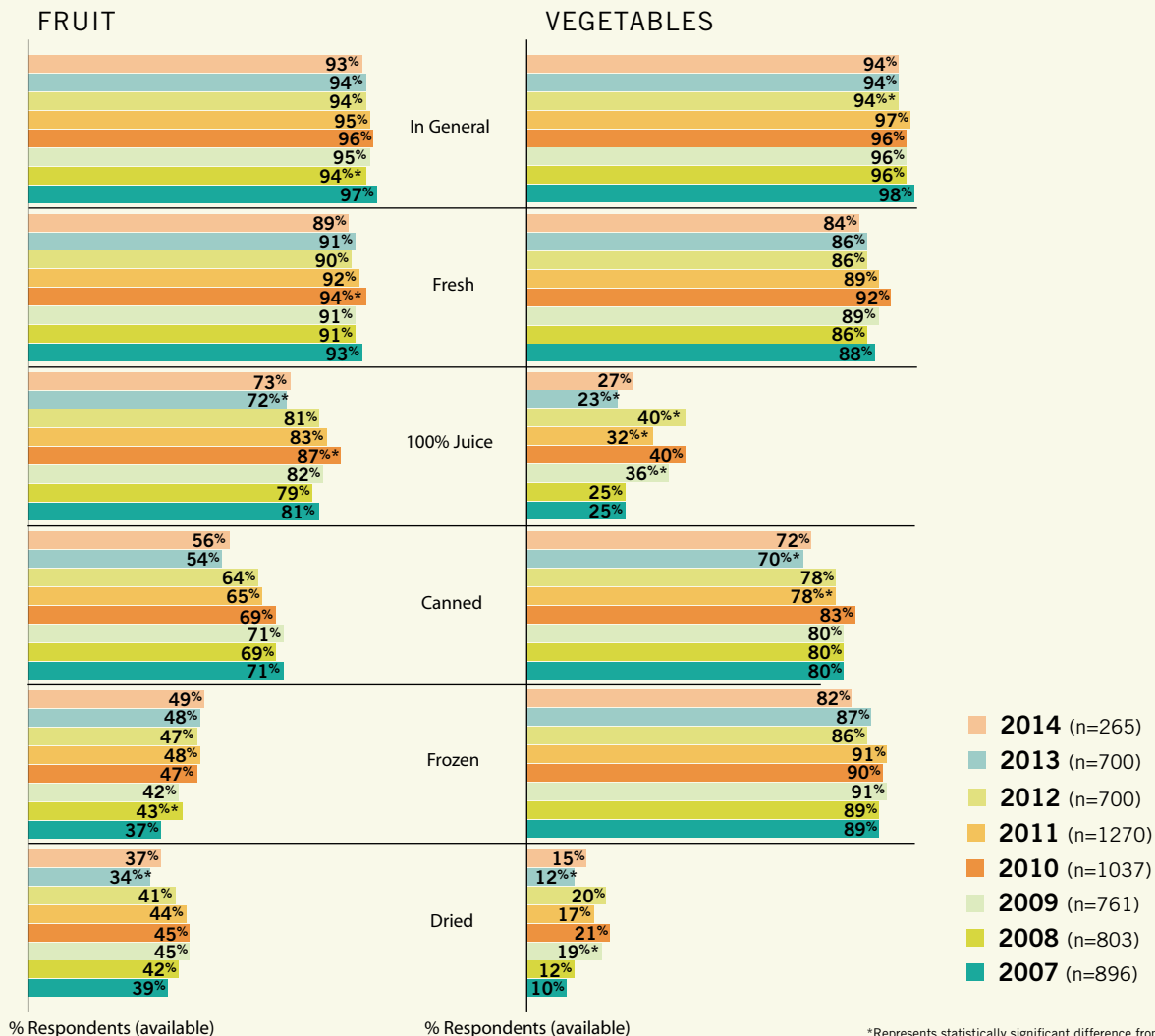
Availability in the Home

Availability of fruits and vegetables in the home has been associated with higher intakes, particularly in children.³⁵⁻³⁸ It has been suggested that availability may be a determinant of consumption by making choosing fruits and vegetables easy, stimulating consumption through visual cues, and increasing preference through consistent exposure.³⁵ Encouraging a home environment that facilitates choosing fruits and vegetables is a practical way to promote consumption. Furthermore, food familiarity has been shown to be a predictor of consumption and making fruits and vegetables available at all eating occasions will cultivate eating patterns that include them.³⁹

The majority of moms indicated that fruits and vegetables generally were always or almost always available in the home (Chart 20). Between 2007 and 2014, general fruit and vegetable availability in the home declined. There were no significant differences in availability of fresh fruit and vegetables, dried fruit, or 100% vegetable juice over that time. However, there was a significant decrease in canned fruit and vegetables, 100% fruit juice, and frozen vegetables. There was also a significant increase in availability of dried vegetables and frozen fruit at home.

Chart 20: Moms' Reported Availability of Different Forms of Fruits & Vegetables in the Home

Please rate the availability of fruits and vegetables in your home.



In 2012 a question was asked about why a particular form of fruit or vegetable was not available in the home (Chart 21). For moms who said they didn't have fresh or fresh-cut fruit and vegetables in the home, it was primarily because they were believed to be too expensive despite the fact that these seemed most preferred by families. The open-ended 'other' category elicited responses primarily about how fresh fruit and vegetables spoil too quickly or take too long to prepare.

Moms had particular concern about canned fruits and vegetables, stating that they were less healthy, and had added preservatives or artificial ingredients. The open-ended 'other' category about why canned fruit or vegetables were not available elicited responses primarily about the added sugar and sodium, or how they preferred fresh fruits and vegetables.

If frozen fruit was not in the home, it was primarily because they were believed to be too expensive or they simply didn't use them. When asked if there were other reasons, some moms said they didn't like added sugar or the "mushiness" of thawed frozen fruit. If frozen vegetables were not in the home, it was primarily because they didn't like them, were too expensive, or believed to be less healthy. A small number of moms indicated that they had limited freezer space.



Chart 21: Moms' Reported Factors Associated with Non-availability of Fruits & Vegetables in the Home, 2012

What reasons best describe why various forms of fruits and vegetables are not usually available in your home? (Please select all that apply.)

FRUIT

Fresh	Fresh-cut	Frozen	Canned	Fruit in Plastic cups	Dried	Freeze-dried	100% juice	Fruit purees
78%	65%	34%	14%	45%	35%	26%	56%	21%
(n=89)	(n=161)	(n=151)	(n=144)	(n=146)	(n=147)	(n=155)	(n=115)	(n=163)

VEGETABLES

Fresh	Fresh-cut	Frozen	Canned	Dried	Freeze-dried	100% juice	Vegetable purees
68%	68%	25%	7%	26%	23%	27%	11%
(n=105)	(n=145)	(n=122)	(n=144)	(n=161)	(n=156)	(n=170)	(n=167)

% Respondents

Note: This question was only asked if the product was not available in their homes.

If dried fruit was not available in the home, it was largely due to disliking them and finding them too expensive. If dried vegetables were not available, it was because they don't use them, don't like them, or find them too expensive.

For those moms who did not have 100% fruit juice available in the home, it was largely because it was considered expensive or less healthy. A smaller number cited 'too high in carbohydrates' as a reason. For those who did not purchase vegetable juice, disliking them was the primary reason. For the 7% who cited 'other reasons,' concerns about sodium content were expressed.

Factors identified as most important to moms when shopping for fruits and vegetables remained relatively stable between 2012 and 2014, with cost, freshness, taste, and family preferences as top factors of importance (Chart 22).

Barriers

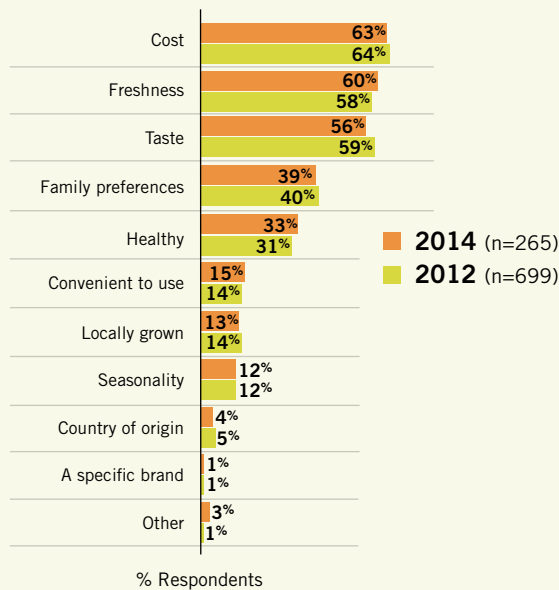
Between 2007-2009, questions about barriers to eating more fruits and vegetables varied slightly from year to year in an effort to better understand obstacles. The question remained fairly consistent since 2010 (Chart 23). The primary barrier to including more fruits and vegetables in family meals was the

different likes and dislikes of family members. In a qualitative sub-study investigating barriers to increasing intake of fruits and vegetables in an intervention study, women participants both anticipated and reported that children and male partners were obstructive to their efforts.⁴⁰ Moms will prepare only those fruits and vegetables that the family likes which may limit the variety served if children are picky eaters or the husband or significant other does not like fruit or vegetables. Furthermore, the conflict with family members over eating or even just trying a fruit or vegetable may seem overwhelming. Providing support, encouraging perseverance, and offering practical suggestions, especially from the experience of others, can assist moms in their efforts. Additionally, moms may benefit from knowing they are not alone and that the most important thing is to keep trying.

Other top barriers included needing ideas about new ways to prepare fruits and vegetables, followed by concern over cost of fruit, and spoilage (Chart 23). In other studies, cost is also reported as a barrier to healthful eating, including fruits and vegetables, especially for low income populations.⁴¹⁻⁴⁷ However, analysis by the USDA Economic Research Service (ERS) and others indicate that the total recommended cups of fruits and vegetables each day can be purchased for \$2.50, or 50 cents per cup.⁴⁸⁻⁵⁰ In fact, when measured on the basis of edible weight or average portion size, grains, vegetables, fruit, and dairy foods are less expensive than most protein foods and foods high in saturated fat, added sugars, and/or sodium.⁵¹ Only when measured on price per calorie were healthy foods higher priced, not surprising since healthy foods like fruits and vegetables are lower in calories.

Chart 22: Moms' Reported Factors of Importance When Shopping for Fruits & Vegetables

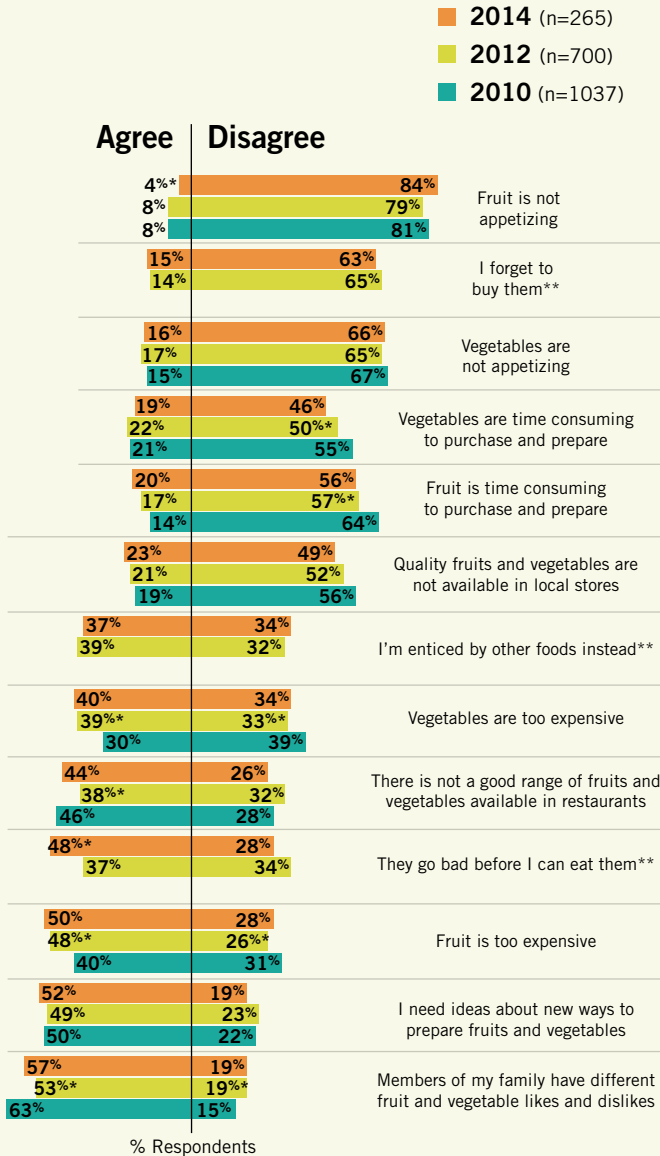
When shopping for fruits and vegetables, these factors are most important to me. (Please rank your top 3 choices.)



When moms were asked what would be most useful to help them eat more fruits and vegetables, their perceived useful tips remained relatively stable between 2012 and 2014 in terms of order. In both years, moms responded that learning some cost savings tips and having a greater variety of recipes would be most helpful (Chart 24). Two more tips were included as potential responses in 2014, including having more organics available and making them less time-consuming. Respondents could select all that applied, so a comparison between the two years is useful though not an exact comparison. Having a variety of recipes and new serving suggestions were down significantly in 2014 from 2012, though this still ranked as one of the top responses about what would aid them in eating more fruits and vegetables. For moms who used recipes, when asked about where they would normally go to find them, they continued to site cookbooks less frequently and the Internet more frequently over time (Chart 25). Then, for moms who cited the Internet

Chart 23: Moms' Perceived Barriers to Increased Fruit & Vegetable Consumption

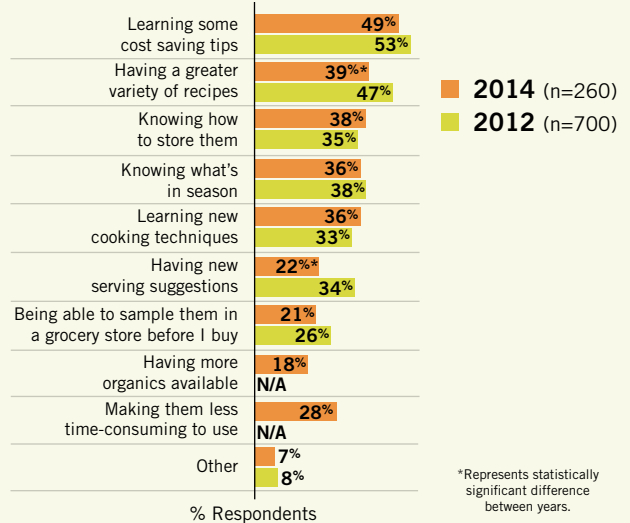
Please indicate your level of agreement or disagreement in relation to how difficult each is for you personally to include fruits and vegetables in meals and snacks.



*Represents statistically significant difference from previous year.
 **Not included as an option in 2010.
 Responses do not equal 100% because mid-point in 5-point Likert Scale was omitted.

Chart 24: Perceived Most Useful Tips to Help Moms Eat Fruits & Vegetables

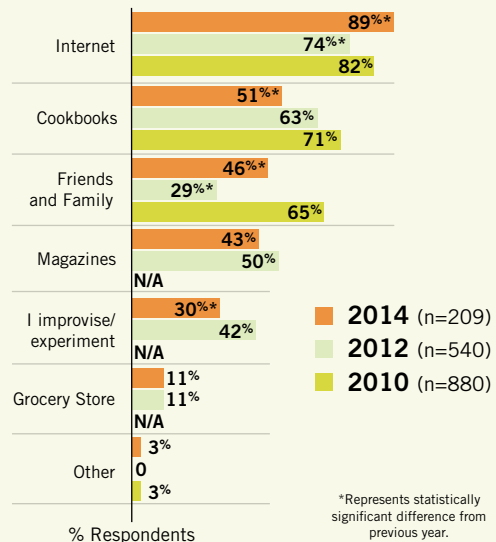
What would be most useful to help you eat more fruits and vegetables. (Please select all that apply.)



*Represents statistically significant difference between years.

Chart 25: Moms' Reported Sources of Information to Find Recipes

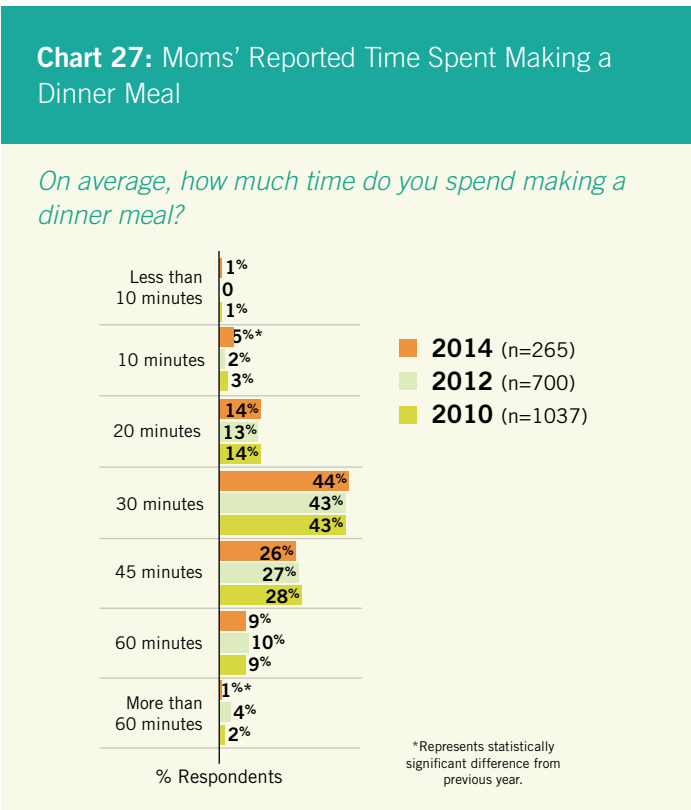
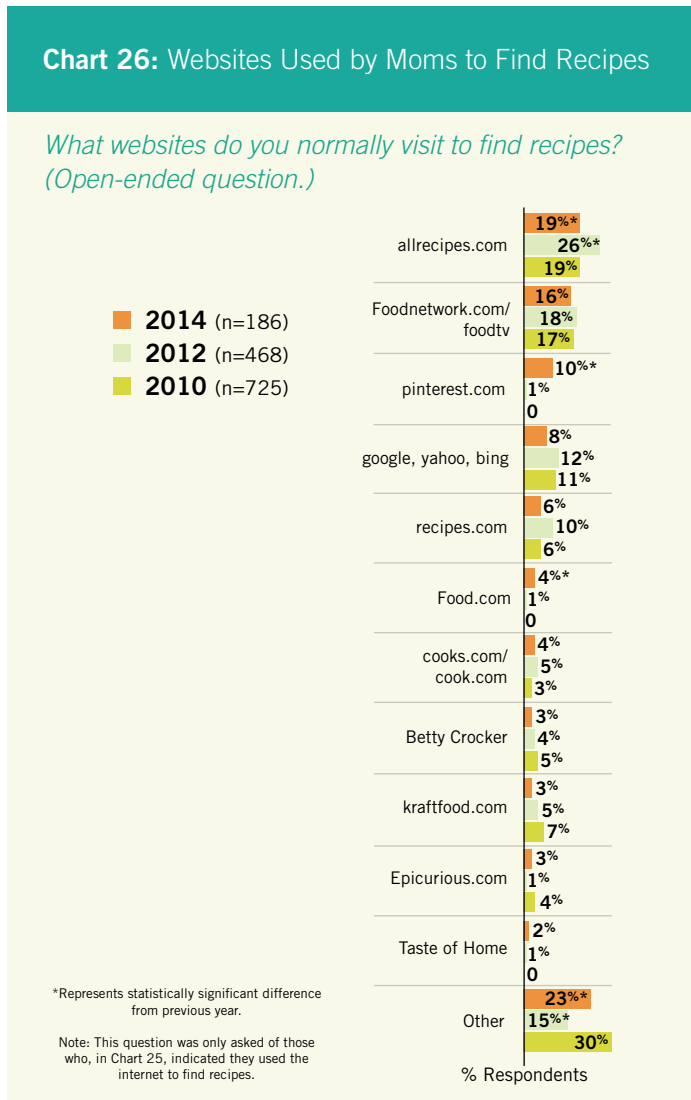
Where do you normally go to find recipes? (Please select all that apply.)



*Represents statistically significant difference from previous year.

as a source for recipes, an open ended question about which websites they visited shows increased popularity of Pinterest and Food.com and a decreased use of allrecipes.com over time (Chart 26). Other responses were primarily single mentions of other sources, primarily websites or blogs.

Finally, because time was identified as a key barrier to increased fruit and vegetable consumption, a question to understand how much time moms spend making a dinner meal was included in the survey. Responses remained fairly stable over time, with an average of 60% of moms reporting spending 30 minutes or less making a dinner meal in 2010, 2012, and 2014. In 2014, significantly more moms responded that they spent less time (10 minutes) making the dinner meal and significantly fewer moms responded that they spent more time (more than 60 minutes) making the meal (Chart 27).



Sources of Information

In 2007, the Internet was selected by 74% of respondents as either their first, second or third choice of where they would go to obtain information about fruits and vegetables. By 2014, the Internet remained the preferred source of information for 79% of respondents, but family was becoming more influential, while magazines, books, schools, and government agencies were becoming less influential (Chart 28). This isn't unexpected as more information is available electronically. The steep decline in schools and government agencies as a source of information in recent years is likely a result of shrinking budgets in these locations due to the recession that were not felt for a couple of years after federal stimulus funds were released in 2009.

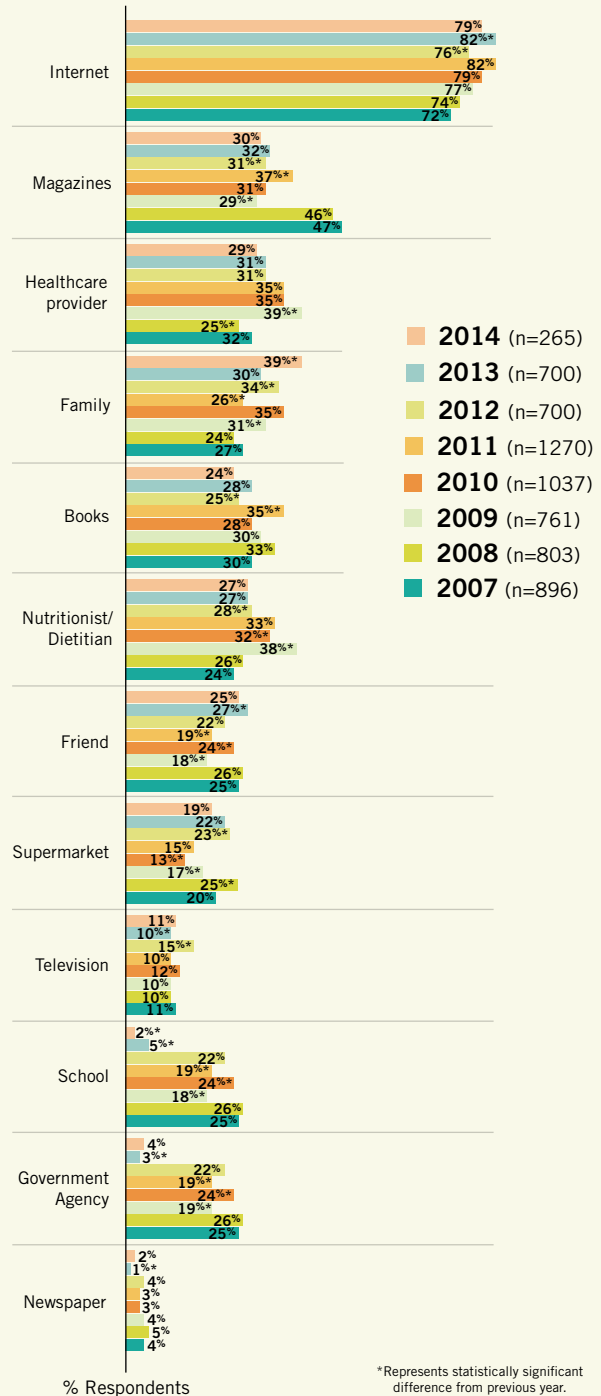
The active use of the Internet to obtain information about fruits and vegetables by moms is why PBH developed a website, MoreMatters.org, specifically for this audience. Continued promotion and expanded use of this site and leveraging social media marketing are inexpensive ways to reach moms with information that they need.

The active use of the Internet to obtain information about fruits and vegetables by moms is why PBH developed a website, MoreMatters.org, specifically for this audience.



Chart 28: Moms' Sources of Information About How to Get Their Family to Eat More Fruits & Vegetables

If you wanted information about how to get your family to eat more fruits and vegetables, where would you go to obtain it? (Please rank your top 3 choices.)



*Represents statistically significant difference from previous year.

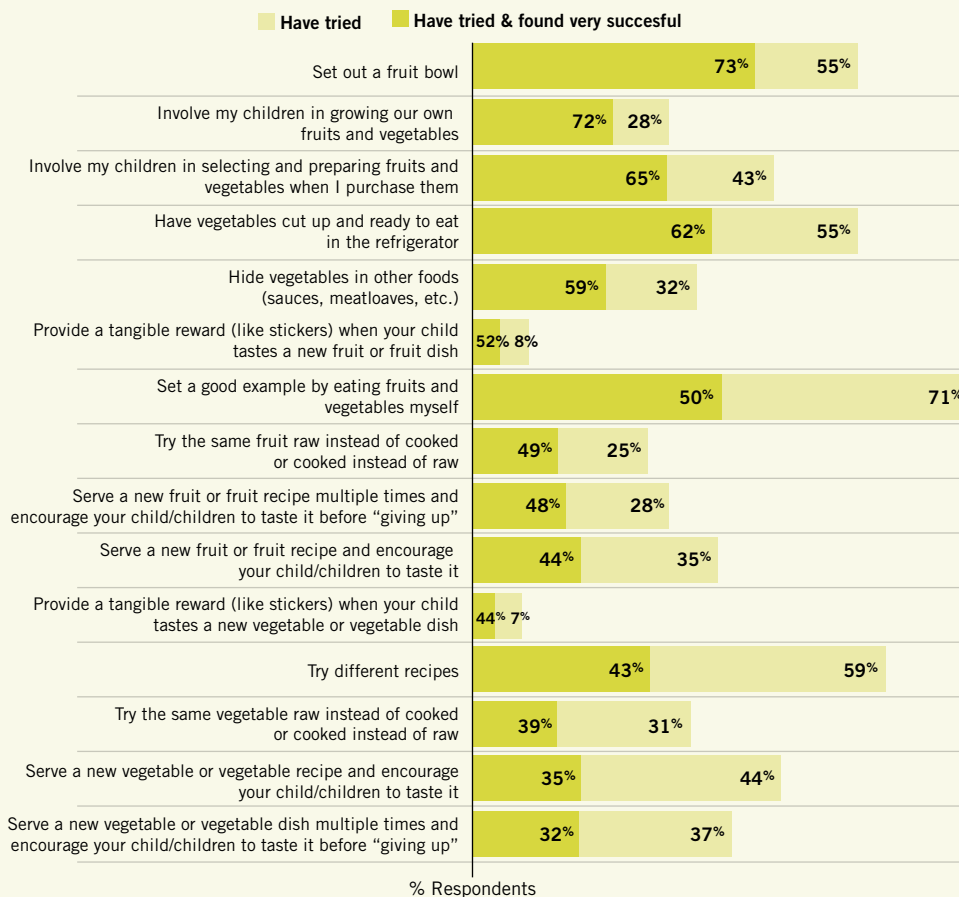
Moms Varied Approaches

The Fruits & Veggies—More Matters campaign has provided moms with various suggested approaches to encourage their families' consumption of fruits and vegetables. Moms have tried several of these different approaches with varying success (Chart 29). The approaches most successful include setting out a fruit bowl, involving children in growing, selecting, or preparing fruits and vegetables, having vegetables cut up and ready to eat in the refrigerator, and hiding them in other foods. One of the approaches tried the least, providing a tangible reward like stickers, seems to be moderately successful as well. The least successful approach seems to be serving a new vegetable or vegetable dish multiple times and encouraging their child to taste it before 'giving up.'



Chart 29: Moms' Approaches to Increasing Their Family's Fruit & Vegetable Consumption, 2012

Which of the following approaches have you tried to encourage your family to eat more fruits and vegetables? (Please select all that apply.)



The approaches most successful include setting out a fruit bowl, involving children in growing, selecting, or preparing fruits and vegetables, having vegetables cut up and ready to eat in the refrigerator, and hiding them in other foods . . . The least successful approach seems to be serving a new vegetable or vegetable dish multiple times and encouraging their child to taste it before 'giving up.'

Picking Your Battles

When asked about major ‘battles’ with their children, moms reported that getting their children to eat their vegetables was the main item that had intensified in 7 years (Chart 30). Other battles that increased during that time included time playing on the computer, not eating enough fruit, and time spent on the phone. The only ‘battle’ that significantly decreased was bickering. Moms reported that getting their children ready for school on time and having them keep their room clean appeared less of a battle though this change was not significantly different between 2007 and 2014.

Communications Methods

As shown in Chart 31, moms report that supermarket flyers, newspaper ads, and signs on supermarket displays rank slightly

higher than television, and much higher than radio, Internet advertisements, billboards, and social media in terms of which communication method they find most effective when it comes to making a food decision. In terms of overall net scores, however, the only positive increase between 2012 and 2014 was in the area of social media.

In details not shown here, 46% of moms reported that they would stop and consider signs on supermarket displays in 2014, up significantly from 38% who reported this in 2012. Fewer of them (5%), however, said they would actually purchase the product or try the suggestion in the message, down significantly from 9% in 2012. Since most fruits and vegetables consumed in the U.S. are primarily purchased through grocery stores and supermarkets continue to be the most effective food

Chart 30: Moms’ Reported “Battles” with Their Children

As a parent, to what extent are the following situations a “battle” between you and your child(ren)?

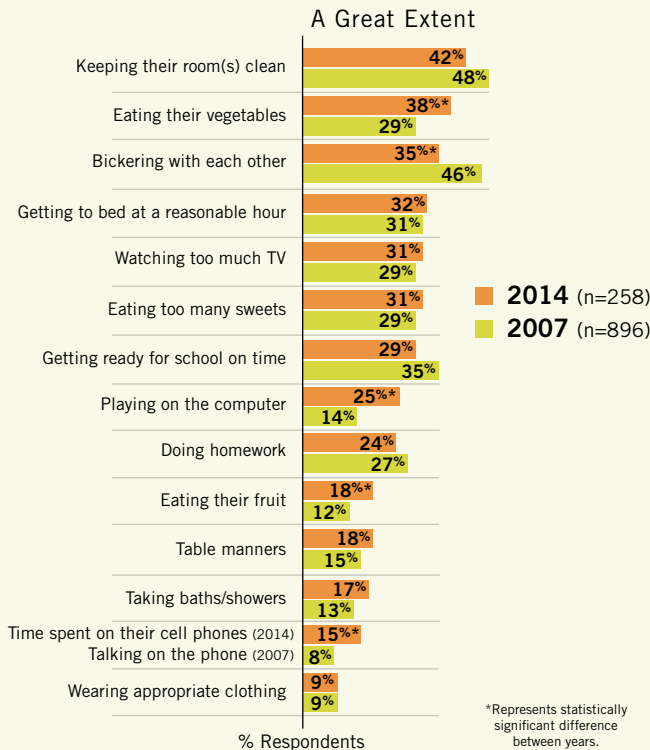
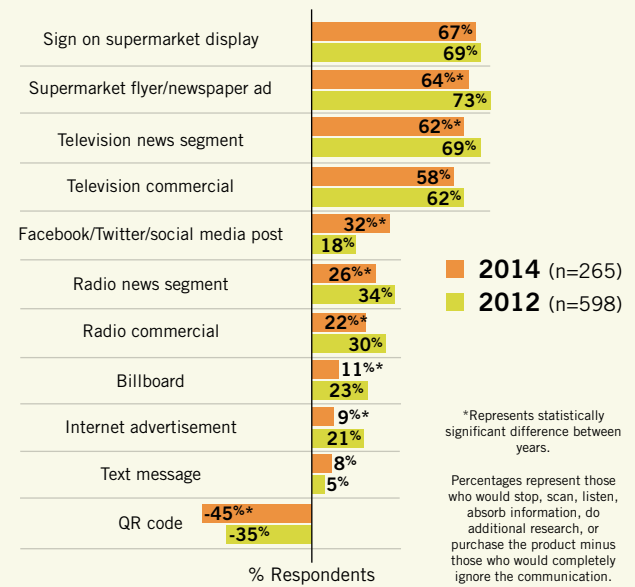


Chart 31: Moms’ Responses to Communication Methods Regarding Food

What would be your response to the following communication methods regarding a type of food that you or someone in your household may enjoy?



communication method to influence mom's purchases, retailers are key to increasing fruit and vegetable sales and consumption.

Nearly half of all moms are likely to ignore a message when delivered through a billboard, Internet ad, or QR code. With new hands-free technology like Google glasses, however, the use of QR codes could increase substantially in the future. Continued use of new communications technologies bodes well, as seen by significantly fewer moms who reported ignoring a social media post in 2014 (34%) than in 2012 (41%).

Fruits & Veggies—More Matters

Fruits & Veggies—More Matters was launched in March of 2007 with the support of many stakeholders (see Appendix C). This section describes Fruits & Veggies—More Matters awareness, its purchasing and motivational impact, how consumers became aware of the campaign, and opinions about the campaign's website. In summary,

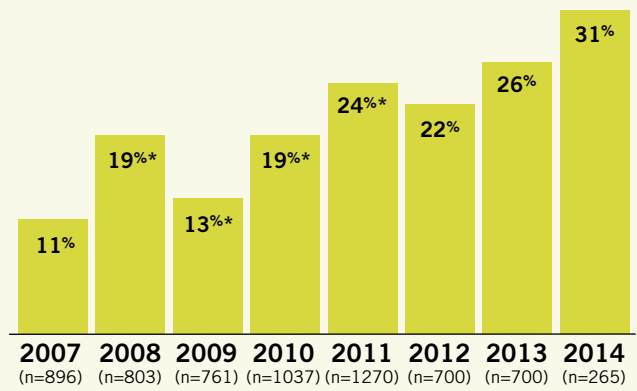
- Among moms, total “definite” awareness of the Fruits & Veggies—More Matters campaign grew from 11% in early February, 2007 prior to the March, 2007 campaign launch to 31% in 2014 seven years later.
- 56% of moms said they were more likely to purchase a product with the Fruits & Veggies—More Matters logo on it, up from 39% since 2009 when this question was first asked.
- Of those who were aware of the Fruits & Veggies—More Matters logo, 36% of moms in 2014 said it motivates them to help their family eat more fruits and vegetables, up from 24% in 2007.
- Of those who were aware of the Fruits & Veggies—More Matters logo, 64% of moms said that if they saw the Fruits & Veggies—More Matters logo on a product it would mean that the product was healthy, 56% said it meant that the food was nutritious, and 62% said that it provides a serving of fruit and/or vegetable.
- For those familiar with Fruits & Veggies—More Matters, most became familiar with it through supermarkets.

- A new question was added in 2013 to better understand how moms perceive Fruits & Veggies—More Matters. Moms particularly appreciate the campaign as a reminder to eat more fruits and vegetables and to live a healthy lifestyle. It is also perceived to be relevant.

Awareness Among moms, total “definite” awareness of the Fruits & Veggies—More Matters campaign grew from 11% in 2007 prior to the campaign launch to 31% in 2014 seven years later (Chart 32). The noticeable decline in 2009 is likely due largely to the negative impact of the economy which took much focus off of healthy eating altogether. People were also shopping less frequently, and therefore less exposed to one of the primary places where they could learn about the campaign and they were shopping in larger “discount” stores that were not promoting Fruits & Veggies—More Matters as much as other supermarkets. Also, the relatively high awareness of the campaign two months prior to the March, 2007 launch is likely a combination of some retailers and growers/processors including the logo in-store and on-package, since licensing use of the Fruits & Veggies—More Matters logo to prepare for the launch started in mid-2006. Of course, there are also those who are convinced they've seen it, but have not.

Chart 32: Moms' Awareness of the Fruits & Veggies—More Matters Logo

Which of the following statements best describes your level of familiarity with Fruits & Veggies—More Matters?



*Represents top 2 box scores in 5-point Likert Scale.
*Represents statistically significant difference between years.

Moms who were familiar with the Fruits & Veggies—More Matters campaign largely learned of it through supermarkets, TV, food packages, the Internet, and through schools.



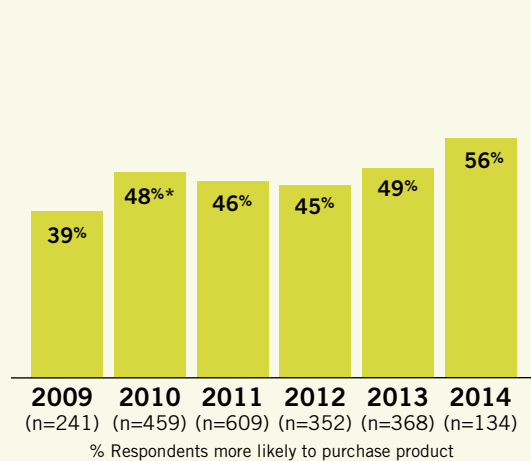
Purchasing Impact When moms in the 2014 annual survey were asked how seeing the Fruits & Veggies—More Matters logo affects their decision to purchase a product, 56% said they were more likely to purchase the product vs. 39% when this question was first asked in 2009 (Chart 33).

Motivational Impact Of those who were aware of the Fruits & Veggies—More Matters logo, when asked how well it motivates them to help their family eat more fruits and vegetables, motivation levels have increased from 24% in 2007 to 36% in 2014 (Chart 34). When these same moms were asked what use of the Fruits & Veggies—More Matters logo on a product means to them, they said that it means it was healthy (64%), nutritious (56%), and provides a serving of fruit and/or vegetable (62%) (Chart 35).

Sources of Information Moms who were familiar with the Fruits & Veggies—More Matters campaign largely learned of it through supermarkets, TV, food packages, the Internet, and through schools (Chart 36). Supermarket promotions, the logo on qualifying food packages, and the Internet have been strong campaign pushes since the launch in 2007. This is consistent with growth in the cumulative number of products carrying the Fruits & Veggies—More Matters logo, (Chart 37), and the increasing number of websites that link to MoreMatters.org (Chart 38).

Chart 33: Moms' Likelihood of Purchasing Products Carrying the Fruits & Veggies—More Matters Logo

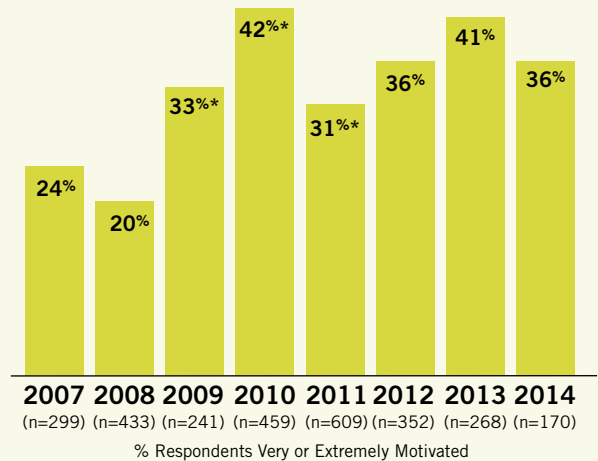
How does seeing the Fruits & Veggies—More Matters logo affect your decision to purchase the product? (Only asked of those familiar with Fruits & Veggies—More Matters.)



*Represents top 2 box scores in 5-point Likert Scale.
*Represents statistically significant difference between years.

Chart 34: How Well Fruits & Veggies—More Matters Motivates Moms

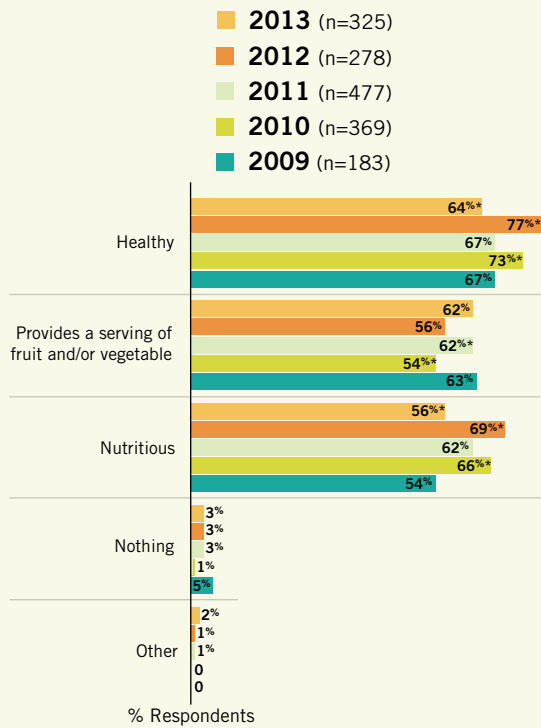
How well do you believe Fruits & Veggies—More Matters motivates you to help yourself and/or your family to eat more fruits and vegetables? (Only asked of those familiar with Fruits & Veggies—More Matters.)



*Represents top 2 box scores in 5-point Likert Scale.
*Represents statistically significant difference between years.

Chart 35: Moms' Association with the Fruits & Veggies—More Matters Brand

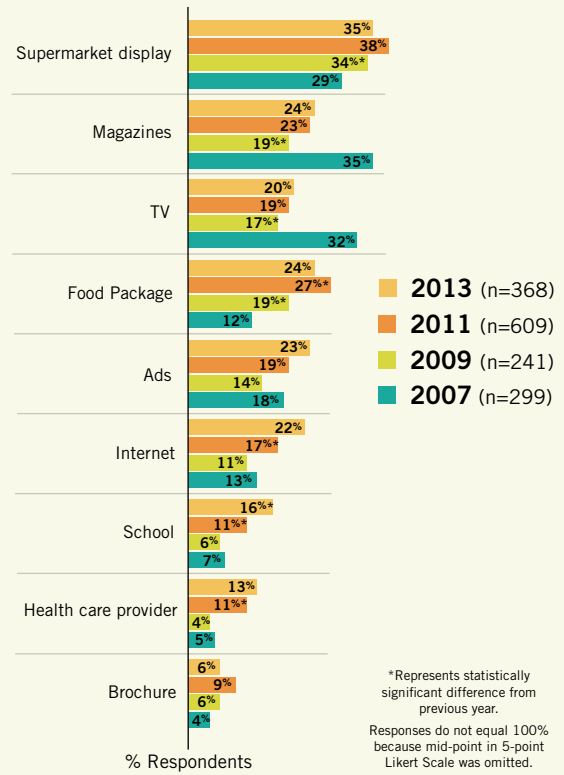
If you see the Fruits & Veggies—More Matters logo on a product, what does it say to you about the product?
(Only asked to those extremely/very/somewhat motivated by the logo.)



*Represents statistically significant difference from previous year. Responses do not equal 100% because mid-point in 5-point Likert Scale was omitted.

Chart 36: How Moms Have Become Familiar with the Fruits & Veggies—More Matters Logo

Where did you see or hear of Fruits & Veggies—More Matters? (Please select all that apply.)
(Only asked to those have definitely seen or heard about the logo.)



*Represents statistically significant difference from previous year. Responses do not equal 100% because mid-point in 5-point Likert Scale was omitted.

Chart 37: Number of Fruits & Veggies—More Matters Approved Labels

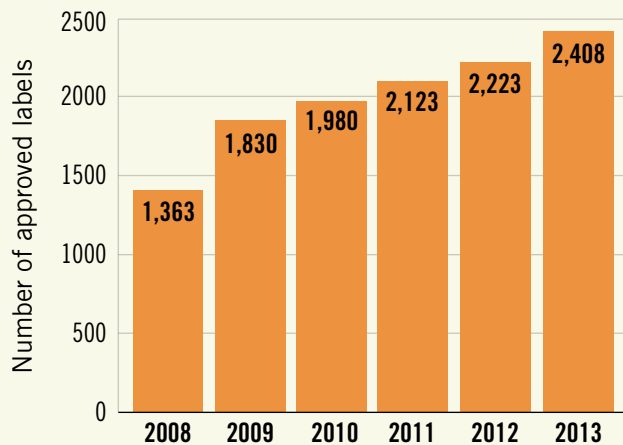
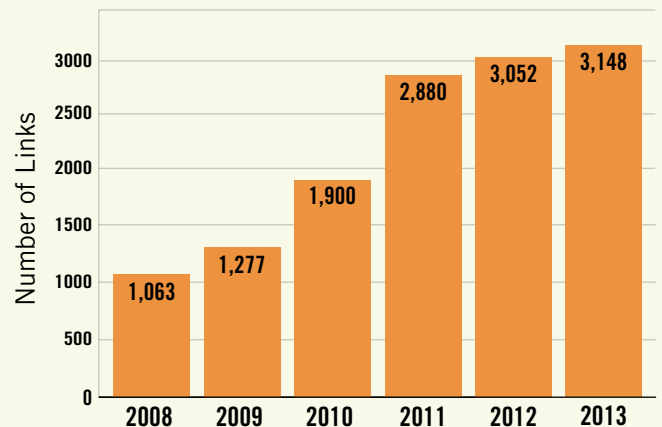


Chart 38: All Site Referrals to FruitsAndVeggiesMoreMatters.org

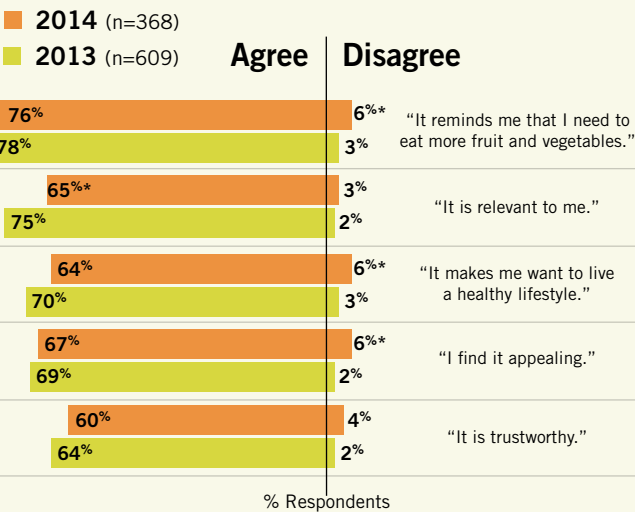


Brand Affinity A new question was added in 2013 to better understand moms' affinity to the Fruits & Veggies—More Matters brand. Moms particularly appreciate the campaign as a reminder to eat more fruits and vegetables and to live a healthy lifestyle. It is also perceived to be relevant (Chart 39).



Chart 39: Moms' Feelings About the Fruits & Veggies—More Matters Logo

Please rate your level of agreement or disagreement with the following statements regarding Fruits & Veggies—More Matters



*Represents statistically significant difference from previous year. Responses do not equal 100% because mid-point in 5-point Likert Scale was omitted.

Demographics of Internet Users

Percent of adults who use the Internet, e-mail, or access the Internet via a mobile device.

TOTAL ADULTS 87%

Men	87%
Women	86%

RACE/ETHNICITY

White	85%
African-American	81%
Hispanic	83%

AGE

18-29	97%
30-49	93%
50-64	88%
65+	57%

HOUSEHOLD INCOME

Less than \$30,000/year	77%
\$30,000-\$49,000	85%
\$50,000-\$74,000	93%
\$75,000+	99%

EDUCATIONAL ATTAINMENT

High School Graduate or Less	76%
Some College	91%
College+	97%

Source: The Pew Research Center's Internet Project Survey, Jan 9-26, 2014. (n=2008 adults)

Applications

Moms appreciate the importance of more fruits and vegetables in the diet, and recognize the relationship of fruit and vegetable consumption to health and well-being, for themselves and their families. Attitudes towards including more fruits and vegetables continue to be positive over time, with the majority of moms saying that it is important and that they intend to include more in their families' meals and snacks.

Between 2007 and 2014 moms say that eating fruits and vegetables personally is enjoyable, with fruit more enjoyable than vegetables, though they say it has become more of a chore. Moms have also reported that getting their children to eat their vegetables and fruit is significantly more of a battle in 2014 than it was in 2007, which might also explain a slight lessening in her motivation to serve more over that period of time, that 'it is not worth the struggle.'

Additionally, intentions are likely to be negatively impacted during difficult economic periods as moms shift priority away from healthy eating. While understandable, supermarkets, restaurants, and health professionals can take steps to help moms feed fruit and vegetables to their families without putting undue pressure on the family budget. Ideas include:

Supermarkets

- Emphasize double coupons on fruit and vegetables
- Demonstrate a quick-to-prepare and inexpensive vegetable based entrée, like chili, vegetable soup, or taco salad
- Market a 10 for \$10 sale on canned fruit and vegetables

Restaurants and Quick Service Restaurants

- Market a different spin on Meatless Mondays by promoting a Vegetable Platter — pick your 5 favorite vegetables for \$5
- Create and market a “Sensational Saturday Salad” where the price is half-off or is two for one
- Create a “Parent’s Meal Deal” to complement the “Kids Meal” and replace a fruit or vegetable as the default instead of fries

Health Professionals

- Emphasize how in-season fresh fruit and vegetables are budget-friendly, especially when they can be used within a few days of purchase, and demonstrate how to wash and store various fresh produce items to extend their shelf-life

- Encourage canned, frozen, dried and 100% fruit or vegetable juice, depending on the meal occasion. For example, use frozen fruit in a smoothie or for baking; canned or frozen vegetables or 100% vegetable juice in soups to save on cooking time or enhance nutrition; canned or dried fruit on salads or baking; and 100% fruit juice as a quick serving when on the go
- Continue to emphasize to moms the many positive reasons to feed her family fruits and vegetables

Other barriers to including more fruits and vegetables, such as different preferences within the family or lack of a good range in restaurants, reflect moms need for practical information, suggestions and tips that she can easily implement. Solutions to address different family preferences without also being a short-order cook could be as simple as having different salad dressings on the dinner table; offering salad ingredients in separate bowls so that each family member can add their favorite items to their own salad; or offering various herbs or spices at the dinner table for family members to flavor their vegetables. When dining out, visiting restaurants that have salad bars would allow family members to build their own salads as well. Meanwhile, more and more restaurants are offering a greater number of fruits and vegetables on menus that help make it easier for moms to get her family to eat them.

Learning from other moms' various approaches to increasing their families' fruit and vegetable consumption can also prove useful. Often the approaches that are reportedly most successful are not the ones currently tried by many moms. For example, setting out a fruit bowl, involving children in growing, selecting, or preparing fruits and vegetables, having vegetables cut up and ready to eat, hiding fruits and vegetables in other foods, and providing tangible rewards when a child tries a new dish are the most successful approaches, yet no more than half of all moms have tried these approaches.

In general, moms are primed for action-oriented messages that will help them follow through with preparing and serving more fruits and vegetables to their families. Continuing to provide actionable messages to moms through MoreMatters.org, social media, health care providers, nutritionists, dietitians, supermarkets and other media outlets will be important to assist moms in their effort to provide healthy, happy homes for their families.

In each study, a total of nearly 20,000 were asked to participate . . . Survey participants receive rewards from the panel company for participating in surveys sent to them.



Appendix A.

Methodology

OnResearch, Inc (Ontario, Canada), fielded all surveys. An initial online survey was conducted in October of 2006 with 500 moms for the purpose of preparing for the public relations launch and the baseline survey. Using 2006 survey responses, a preliminary baseline survey questionnaire was developed and pilot-tested with 73 GenX moms with one or more children under the age of 18 living in the home, who were recruited either in grocery stores (n=5) or on the former 5 A Day website (n=67). Items were analyzed using principal components factor analysis to identify 1 or 2 salient items to be included on the questionnaire for each construct. Items loading highest on a factor were selected for inclusion.

Most questions were answered using a 5 point Likert scale, with several questions that required open-ended responses. The Theory of Planned Behavior was used as a framework to ascertain psychosocial factors (social norms, perceived behavioral control, attitudes and intentions) related to consumption of fruits and vegetables.⁵² Other constructs from Social Learning Theory that have been associated with fruit and vegetable intake in the scientific literature including self-efficacy and social support were also included.^{53,54} Finally, other questions assessed perceptions about fruits and vegetables and awareness of recommendations for intake.

In an effort to understand various factors related to fruit and vegetable consumption among moms, a 2007 baseline survey was fielded online February 2-9, 2007 prior to the March 19, 2007 launch of the Fruits & Veggies--More Matters campaign. This baseline survey was conducted with Generation X (Gen X) moms, born between 1965 and 1979. Annual on-line follow-up surveys were conducted January 15-January 31 from 2008-2013. Generation Y (Gen Y) moms, born between 1980 and 1990, were included beginning in 2010. However, given that Gen X and Gen Y moms continue to age, as do their children, PBH reanalyzed data for this report to compare year to year only those moms with children ages 10 and under, regardless of when the mother was born.

A rolling survey was begun in 2014 to allow for moms to be surveyed weekly to measure real-time changes throughout the year. A total of 265 moms were surveyed between

Appendix B. Demographics

Respondent Profile: Moms with Children 10 and Under

MARITAL STATUS	2014 %	2013 %	2012 %	2011 %	2010 %	2009 %	2008 %	2007 %
Married/living with someone	81%	73%	73%	83%	82%	89%	89%	88%
Single	10%	19%	13%	9%	11%	3%	4%	5%
Separated/divorced	9%	7%	11%	7%	7%	7%	2%	7%
Widowed	-	1%	3%	1%	<1%	<1%	<1%	<1%
SPOUSE'S EDUCATION	%	%	%	%	%	%	%	%
Did not finish high school	2%	4%	5%	4%	4%	3%	1%	1%
High school graduate	17%	19%	28%	21%	22%	21%	9%	10%
Some college	20%	24%	26%	23%	26%	27%	22%	22%
College graduate	31%	30%	36%	33%	31%	28%	38%	37%
Some graduate work	4%	6%	2%	3%	2%	3%	6%	4%
Completed graduate work	21%	15%	11%	13%	12%	14%	21%	21%
Trade/vocational school	4%	2%	3%	3%	3%	4%	3%	4%
WORK OUTSIDE THE HOME	%	%	%	%	%	%	%	%
No	38%	36%	53%	56%	55%	46%	32%	32%
Yes, Part-time	17%	24%	19%	18%	18%	21%	22%	22%
Yes, Full-time	45%	40%	28%	26%	26%	34%	46%	47%
ETHNICITY	%	%	%	%	%	%	%	%
White/Caucasian	69%	68%	78%	79%	76%	85%	84%	83%
Black/African American	8%	12%	8%	8%	7%	4%	4%	4%
Hispanic/Latino	10%	12%	6%	6%	10%	5%	4%	4%
Asian/Pacific Islander	10%	5%	5%	6%	5%	5%	6%	7%
Mixed Race	2%	2%	2%	-	-	-	-	-
Other	1%	1%	1%	1%	2%	1%	2%	2%

Moms with Children 10 and Under

GENDER	2014 %	2013 %	2012 %	2011 %	2010 %	2009 %	2008 %	2007 %
Female	100%	100%	100%	100%	100%	100%	100%	100%
Male	NA	NA	NA	NA	NA	NA	NA	NA
AGE								
18-24	3%	1%	17%	6%	9%	-	-	-
25-34	53%	50%	25%	45%	46%	37%	33%	49%
35-44	38%	41%	27%	47%	45%	63%	67%	51%
45-54	6%	8%	21%	2%	-	-	-	-
55+	-	-	11%	-	-	-	-	-
HOUSEHOLD INCOME								
Less than \$25,000	19%	25%	16%	17%	18%	7%	4%	3%
\$25,000 - \$49,999	31%	25%	31%	27%	31%	25%	10%	14%
\$50,000 - \$74,999	14%	18%	26%	24%	23%	31%	21%	22%
\$75,000 - \$99,999	12%	4%	14%	16%	15%	19%	26%	25%
\$100,000 or more	24%	21%	13%	15%	13%	18%	39%	36%
OWN EDUCATION								
Did not finish high school	1%	2%	1%	2%	2%	1%	<1%	1%
High school graduate	11%	11%	23%	16%	19%	19%	9%	5%
Some college	23%	24%	33%	30%	33%	29%	22%	20%
College graduate	38%	39%	27%	33%	30%	33%	38%	44%
Some graduate work	4%	6%	4%	5%	4%	3%	6%	7%
Completed graduate work	20%	16%	8%	11%	9%	12%	22%	21%
Trade/vocational school	2%	2%	3%	3%	3%	3%	3%	2%

Appendix C.

About Fruits & Veggies—More Matters

Recommendations for fruit and vegetable intake have increased due to research suggesting numerous potential benefits of fruit and vegetable consumption to prevent chronic diseases. The increased importance of fruit and vegetable consumption is illustrated by the inclusion of fruits and vegetables in the Dietary Guidelines for Americans, 2010 as one of the “food groups to encourage” and in updated recommendations for fruit and vegetable intake that ‘half your plate’ should consist of fruit and vegetables in the new ChooseMyPlate graphic.^{2,55} This change represented an increase for most people from the previous recommendation of 5-9 servings a day.

The 5 A Day for Better Health Program (“5 A Day”) was a state-wide social marketing program begun by the California Department of Health Services in 1988 to promote increased fruit and vegetable consumption. The national 5 A Day program began in 1991 as a public-private partnership between the National Cancer Institute (NCI) and Produce for Better Health Foundation (PBH). As lead health authority, NCI determined health statements and nutrient criteria for products which could carry the brand logo, and PBH coordinated private-sector activities. In 2005, NCI transferred lead health authority to the Centers for Disease Control and Prevention (CDC).

Awareness of recommendations for fruit and vegetable consumption increased over time. In 1991, 8% of individuals reported being aware that fruit and vegetable intake should be at least 5 servings a day.⁵⁶ In 2004, that percentage had increased to 40%.⁵⁷ However, this heightened awareness had not translated into behavior change. Between 1994 and 2005, the proportion of adults eating 5 or more servings of fruits and vegetables per day remained virtually unchanged (24.6% vs. 25.0%, respectively) with an estimated decrease of 0.22 servings per day among adults.^{58, 59}

In light of new dietary recommendations, PBH, CDC, and other partners recognized the need to establish a new identity for 5 A Day with the ability to sustain itself into the future, generate a brand that would provide an emotional or inspirational connection with consumers, and transfer 5 A Day equity—increased

awareness of fruit and vegetable recommendations and the network for promoting consumption—to a new program identity, which is now Fruits & Veggies—More Matters®.

The Fruits & Veggies—More Matters® brand was developed based on comprehensive formative research with consumers. While specifically developed with moms as the primary target audience, the Fruits & Veggies—More Matters® message tested well with men, women and people of different ages, incomes, and ethnicities. Moms preferred a nurturing tone rather than a preaching, frightening, or bullying one. The most effective approach in motivating moms was to be her ally, sending a message that promotes their responsibility as family caretaker. Fruits & Veggies—More Matters® brand appeals to moms’ sense of responsibility to take care of her family in a strong, simple, and positive manner. Moms feel they can help their families eat more fruits and vegetables when they know that various forms (frozen, canned, dried, 100% juice, fresh) all help meet daily fruit and vegetable requirements.⁷ For time-starved moms, providing simple serving suggestions, tips, and recipes was also identified as important.

Ultimately the Fruits & Veggies—More Matters slogan and graphic are seen as positive reminders to eat more fruits and vegetables by the broader consumer audience. It reminds them of the known health benefits of consuming fruits and vegetables and encourages them to eat more.

Effectively replacing 5 A Day, Fruits & Veggies—More Matters was launched in March 2007 with the support of many stakeholders, including growers, supermarket retailers, state departments of health, CDC, and others.



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RESEARCH AND PUBLICATION FUNDED BY:



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