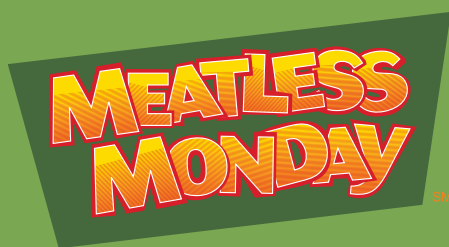


EVALUATION OF THE MEATLESS MONDAY CAMPAIGN AT NEWYORK- PRESBYTERIAN



JOHNS HOPKINS
CENTER *for* A LIVABLE FUTURE

CONTENTS

Background	3
Methods	4
Implementation.....	4
Design	5
Results	6
Discussion	15
Strengths and Weaknesses.....	15
Key Takeaways.....	16
Appendix A	17
NYP Baseline Consumer Screener	17
NYP BASELINE CONSUMER SURVEY	18
Appendix B	19
NYP FOLLOW-UP CONSUMER SURVEY	19
Appendix C	22
Meatless Monday - New York Presbyterian Creative Material as Delivered	22
References	23

RESEARCH TEAM & CONTENT CONTRIBUTORS:

Daphene Altema-Johnson - Johns Hopkins Center for a Livable Future
Ron Hernandez - The Monday Campaigns
Azure Nowara - Lerner Center for Public Health Promotion, Columbia University
Becky Ramsing - Johns Hopkins Center for a Livable Future
Gina Wingood - Lerner Center for Public Health Promotion, Columbia University

BACKGROUND

In January 2018, four hospitals in the NewYork-Presbyterian (NYP) network implemented a health communication campaign to reduce meat consumption among hospital employees. NYP hoped that this campaign could improve employee health and reduce the institution's environmental footprint. Diets high in red and processed meat, especially those low in vegetables, fruits, and whole grains, are associated with adverse health outcomes such as some cancers¹, heart disease², obesity^{3,4} and type 2 diabetes⁵. In addition, livestock production accounts for nearly 15 percent of global greenhouse gas emissions⁶, making it a major driver of climate change. Likewise, livestock agriculture uses a disproportionate amount of the world's fresh water, arable land and fossil fuel.⁷ The increasing global demand for meat drives the livestock sector furthering intensive animal confinement and misuse of antibiotics, thus contributing to the growing public health crisis of antibiotic resistance and animal-to-human spread of diseases.⁸

Reducing the amount of meat we consume globally is necessary, but a large-scale shift toward the consumption of plant-based proteins will require multiple approaches. Within the food service industry, one approach is to reduce portions of meat and incorporate more plant-based proteins into menus at schools, hospitals, work sites and restaurants. For organizations who haven't yet made the commitment to reducing meat consumption, one strategic approach is to introduce a meat reduction, plant-based initiative like Meatless Monday.

Meatless Monday is a global movement with a simple message: one day a week, cut out meat. Launched in 2003, Meatless Monday is a non-profit initiative of [The Monday Campaigns](#) (TMC). Their goal is to reduce public meat consumption in the United States by 15% for personal health and the health of the planet. Meatless Monday provides information, news, recipes and free promotional materials to help individuals, schools, restaurants, hospitals, food companies and entire communities start each week with a commitment to eating healthy, environmentally friendly, meat-free meals.

NewYork-Presbyterian (NYP) is an academic medical center with seven campuses in the New York Metropolitan area. It houses more than 6,500

physicians and over 20,000 employees among its campuses. As part of their wellness and sustainability initiatives and with the guidance of TMC, NYP launched Meatless Monday in four of its seven hospital cafeterias in early 2018. NYP's "Meatless Monday" promotion is a partnership between the Department of Food and Nutrition, NYP *BeHealthy*, and NYP *green*. It aims to educate staff, students and community members on how small adjustments in meat consumption can reduce an individual's environmental footprint as well as the risk of adverse health outcomes associated with diets high in animal proteins, such as some cancers, heart disease, obesity and type 2 diabetes. The Monday Campaigns enlisted the consultation of the Lerner Center for Public Health Promotion at Columbia University's Mailman School of Public Health and the Johns Hopkins Center for a Livable Future to design, implement, and evaluate the influence of the Meatless Monday campaign at NYP.

The Meatless Monday at NYP intervention used the socio-ecological framework to influence both personal and environmental factors that determine individual behaviors. The proposed intervention was designed to have an impact on multiple levels (community, organizational, interpersonal and individual levels) providing a comprehensive network of intervention components to reduce employee meat consumption on Mondays. All components of the intervention (figure 2) were implemented within the New York Presbyterian dining cafeterias or through New York Presbyterian's digital resources. While NewYork-Presbyterian has six main facilities, only the four facilities with NYP retail operations were included in this study. These were selected because of their higher level of engagement and patronage by NYP staff.

- ▶ NewYork-Presbyterian/The Allen Hospital (NYP/AH)
- ▶ NewYork-Presbyterian/Columbia University Irving Medical Center (NYP/CU)
- ▶ NewYork-Presbyterian Hospital/Weill Cornell Medical Center (NYP/WC)
- ▶ NewYork-Presbyterian Hospital/Westchester Division (NYP/WD)

The Meatless Monday intervention components according to their socio-ecological levels are highlighted in figure 2.

METHODS

Implementation

NewYork-Presbyterian’s Meatless Monday Intervention was initiated in February 2018 after the administration of the baseline survey two weeks prior. Outreach and promotion regarding the initiative was made on a weekly basis every Monday throughout the campaign. The communication efforts were intended to educate employees on how small adjustments in meat consumption can reduce an individual’s environmental footprint as well as the risk of adverse health outcomes associated with high-meat diets.

The program also encourages participation in Meatless Monday by promoting a vegetarian entrée as the daily featured special. This special meets the *NYPBeHealthy* nutritional guidelines and is offered for a one dollar discount. Meat options are still available in the cafeterias on Mondays. For the purpose of the program, the meatless meal is defined as a meal containing grains, beans, legumes, nuts, seeds, vegetables. A meatless meal does not include red meat (beef,



Figure 1

pork, poultry, fish, or shellfish, but may contain dairy or eggs.

Each week, a fact explaining the benefits of eating meatless is displayed via a creative graphic that was developed and verified by The Monday Campaigns (see *figure 1*), Johns Hopkins Center for a Livable Future, and the NewYork-Presbyterian Food & Nutrition team. These materials are intended

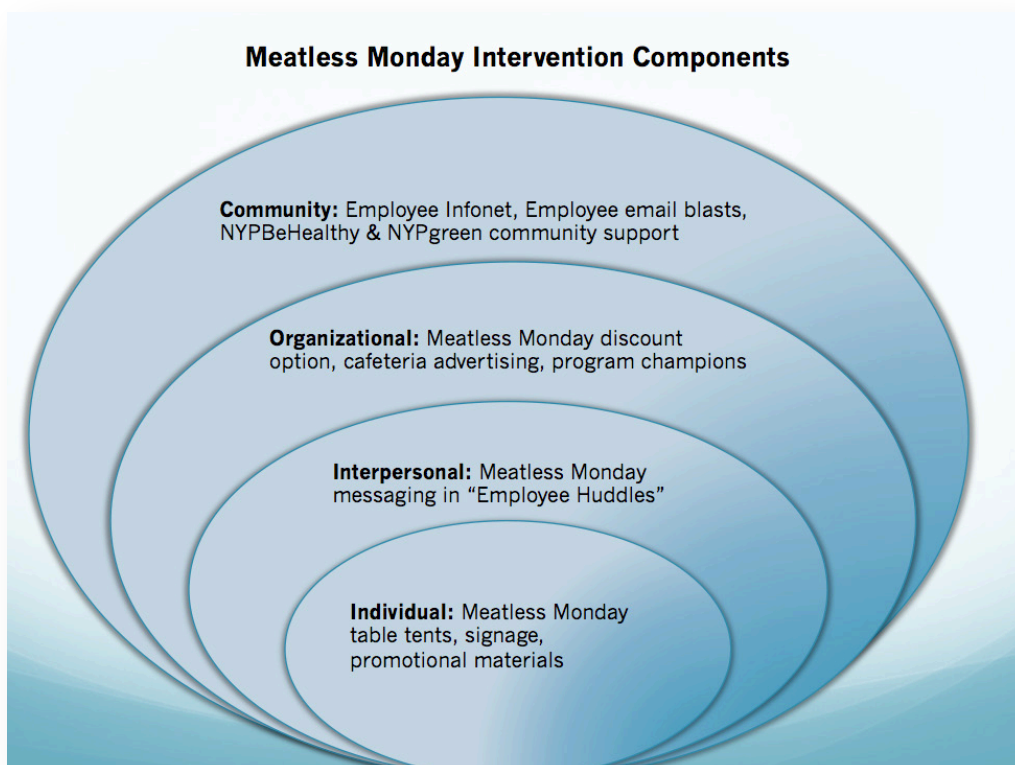


Figure 2

to educate staff and encourage participation in the Meatless Monday initiative. Statistics demonstrating the potential impact of all NYP staff participating in Meatless Monday were generated via NewYork-Presbyterian's partnership with the Monday Campaigns and The Johns Hopkins Center for a Livable Future. Citations for all claims can be accessed via [NewYork-Presbyterian's Food & Nutrition Website](#).

Design

The primary research objective of this project was to evaluate the influence of the Meatless Monday campaign after six months of implementation in four NYP hospital cafeterias, measuring self-reported awareness and reduction of meat consumption among NewYork-Presbyterian (NYP) employees. Although planned for six months initially, the program continued for 18 months due to inconsistent implementation. After adjustments to implementation were made at the sites, a second follow-up was added.

Data were collected in-person using preloaded electronic Qualtrics surveys on iPads from the NYP cafeteria sites (NYP/AH, NYP/CU, NYP/WD and NYP/WC) in an attempt to support the research objective and answer the following research questions:

1. **Over the past month**, did the Meatless Monday campaign at NYP influence your decision to not eat meat, cut back on, or consider cutting back on the amount of meat you eat?
2. **This past Monday**, did the Meatless Monday campaign at NYP influence your decision to not eat meat, cut back on, or consider cutting back on the amount of meat you eat?
3. **Yesterday**, did the Meatless Monday campaign at NYP influence your decision to not eat meat, cut back on, or consider cutting back on the amount of meat you eat?

To address the research questions of interest, the NYP data collection team (NYP Dietetic Interns, Nutrition Fellows and Health and NYP Wellbeing staff trained by Columbia University researchers from the Mailman School of Public Health, Lerner Center for Public Health Promotion) conducted a multi-site, pretest and posttest consumer survey evaluation for all quantitative endpoints (responses to research questions). The intention was to capture data at multiple time points of the initiative (baseline, and six months post-launch) in order to evaluate behavior change and sustainability. Data were recorded on tablets via the electronic Qualtrics software. All data were managed and analyzed by the Johns Hopkins Center for a Livable Future.

RESULTS

The survey was implemented three times: at baseline (February 2018), follow-up 1 (November 2018) and follow-up 2 (July 2019). Although the original research plan only included one follow up at six months, due to irregular implementation at several sites and a poor response rate for follow-up 1, the survey was implemented again to garner a wider response from participants. For the baseline survey, 751 New York Presbyterian staff participated; 174 staff participated in follow-up 1; and 461 staff participated in follow-up 2. Because the first follow-up was small, and

therefore insignificant compared to the baseline and second follow-up, it was not included in all of the comparisons below. The largest category of employees to participate in the survey were classified as ‘other clinical staff’ at 28% followed by support staff at 24%. Doctors had the lowest participation rate.

Of the employees that participated, on average, 67% reported ever purchasing a meatless entrée/ meal offered at the NYP cafeteria.

Occupation	Baseline (N=729)	Follow-up 1 (N =172)	Follow-up 2 (N=461)	Total (N=1362)	Percentage
Administrative staff	122	34	106	262	19%
Doctor	120	14	20	154	11%
Nurse	106	25	112	243	18%
Other Clinical staff	211	62	108	381	28%
Support staff	170	37	115	322	24%

Table 1

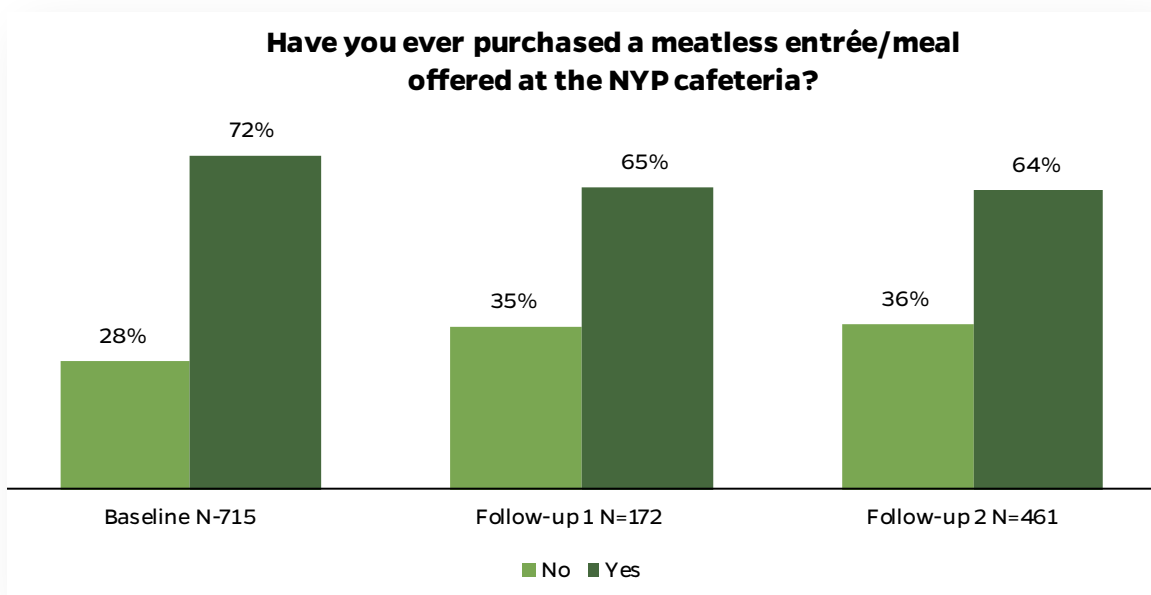


Figure 3

When participants were asked if they've seen, read, or heard messages or materials about meat reduction at NYP, 60% responded positively in follow-up 2, a 7% increase from the first follow up and a 27% increase from baseline.

When broken down by sites, an increase of campaign awareness was observed from follow-up 1 to follow-up 2 across all sites, except at Allen Hospital (AH).

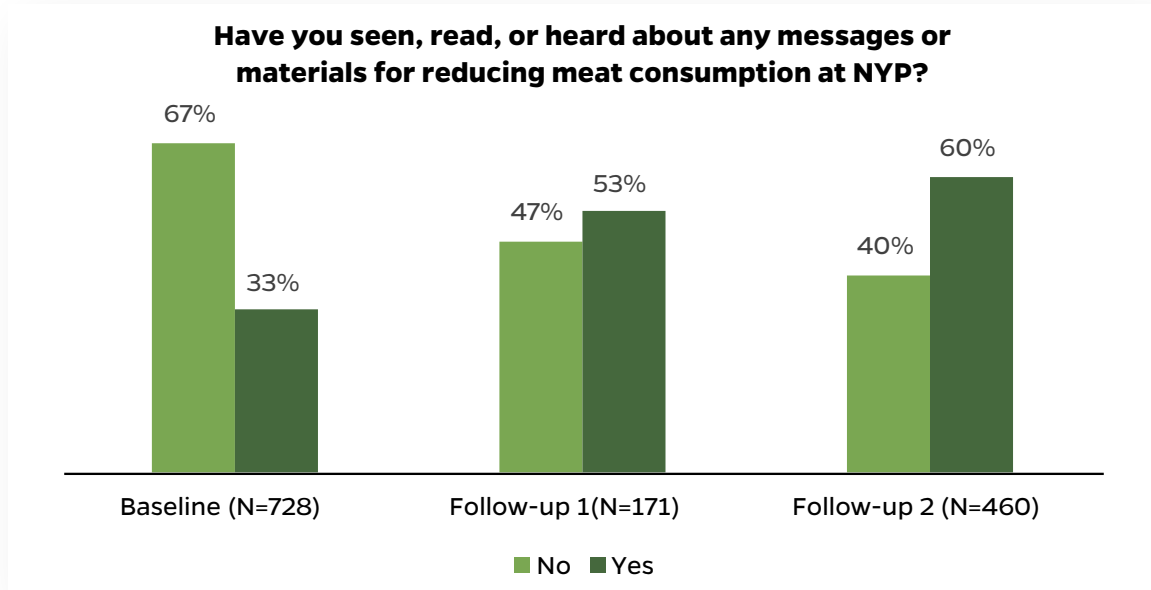


Figure 4

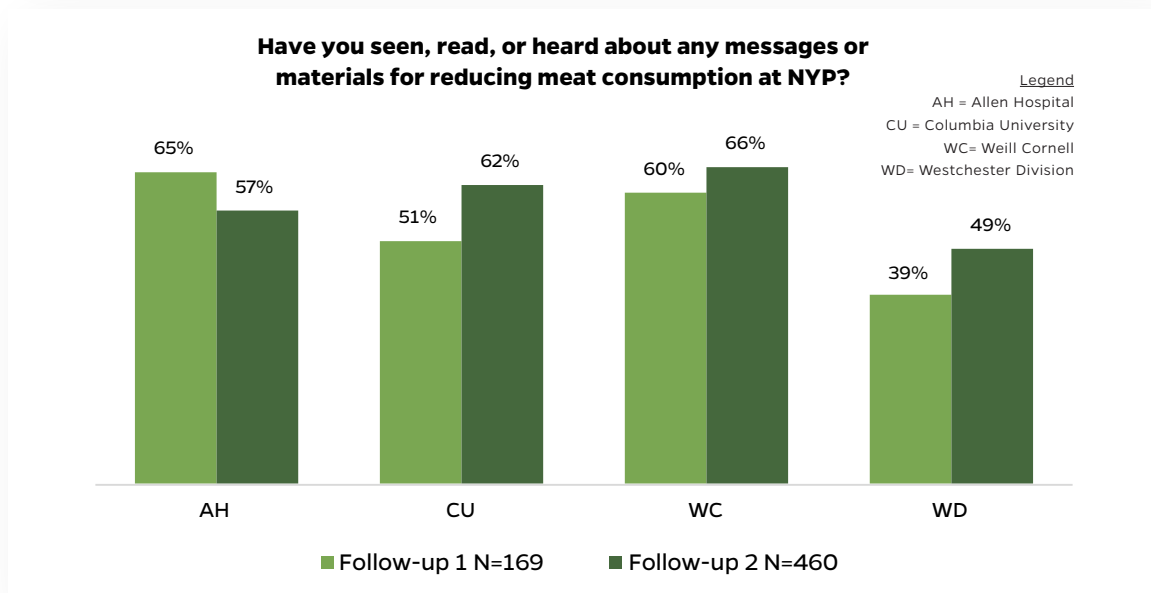


Figure 5

When participants were asked if they were actively trying to cut back on the amount of meat they eat, at follow-up 2, 45% said yes (a 4% increase from baseline), while 44% said they were not considering cutting back (a 5% decrease from baseline). The results from the NYP evaluation were compared to that of the Data Decisions Group (DDG) Biennial Monday Campaign 2017

household survey that is conducted every other year to track awareness and behavior related to TMC initiatives. Compared to the DDG survey, the NYP participants had a greater percentage of meat reducers and individuals who identified as vegetarians or vegans (3% vs. 8%) at baseline and both follow-ups.

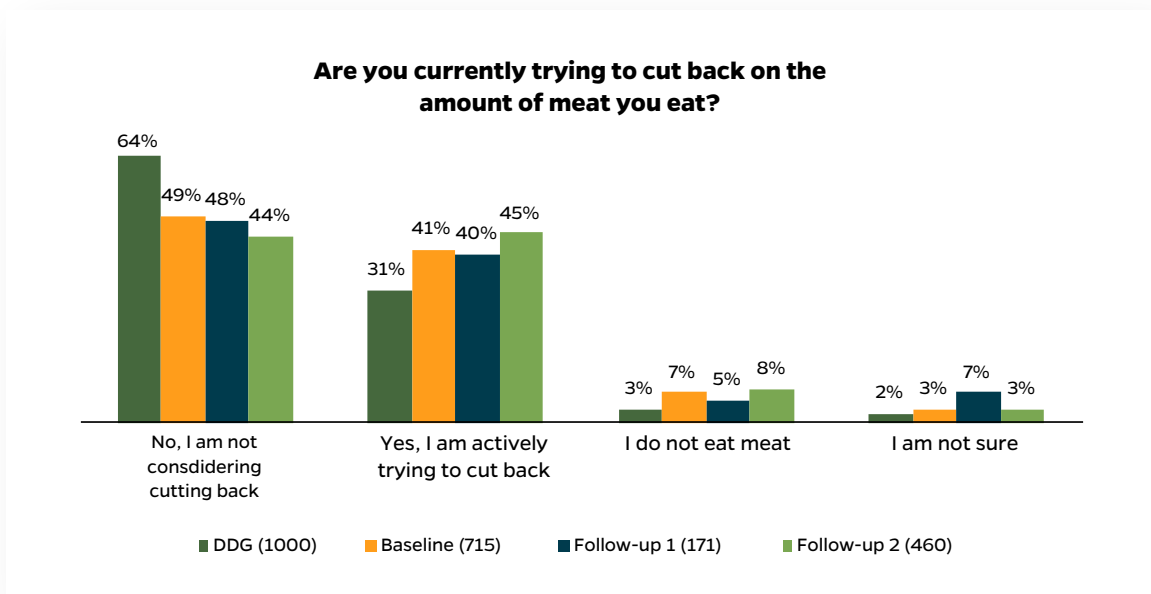


Figure 6

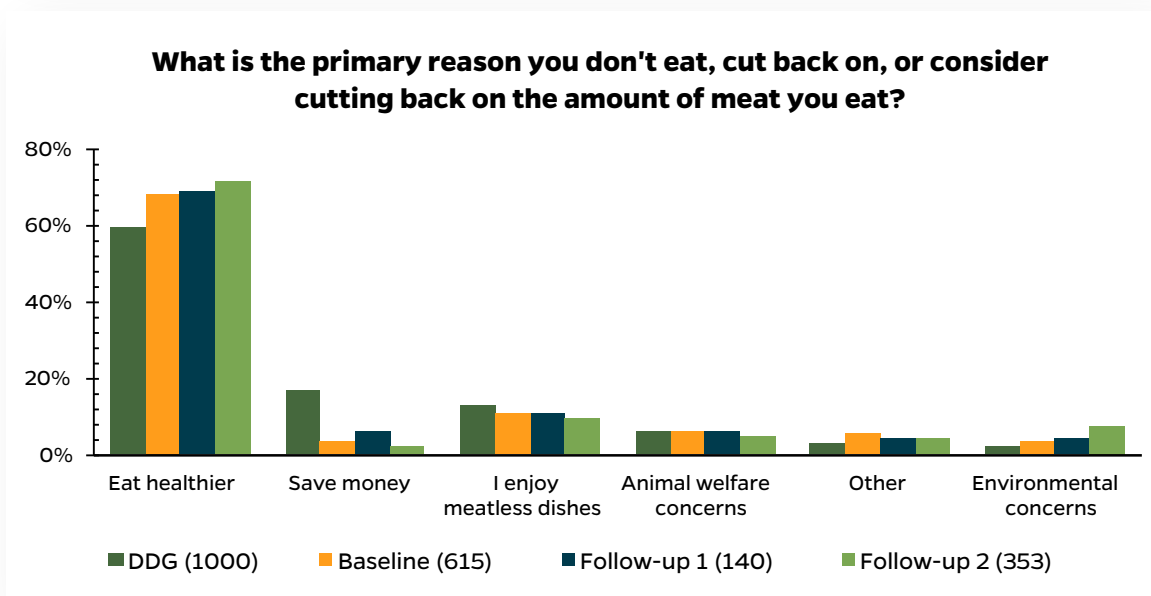


Figure 7

Subsequently, when asked for the primary reasons they don't eat, cut back on or consider cutting back on the amount of meat they eat, 72% reported 'eating healthier' as the motivation, a 4% increase from baseline. Additionally, though still a small proportion, environmental concerns doubled as a reason for not eating or considering cutting back compared to baseline (4%), which could be attributable to education and awareness. The results observed in the NYP survey results are similar to what was reported in the DDG survey.

The results presented below are aimed at answering the research questions to support the research objective.

Over the past month, did the Meatless Monday campaign at NYP influence your decision to not eat meat, cut back on, or consider cutting back on the amount of meat you eat?

Overall, the Meatless Monday campaign influenced NYP employees to not eat meat, cut back on, or consider cutting back on the amount of meat they eat as illustrated in figure 8. In follow up 1, 46% of participants stated the Meatless Monday campaign influenced meat consumption. This finding was further confirmed in the second follow-up where 53% stated the campaign had an influence on their meat consumption.

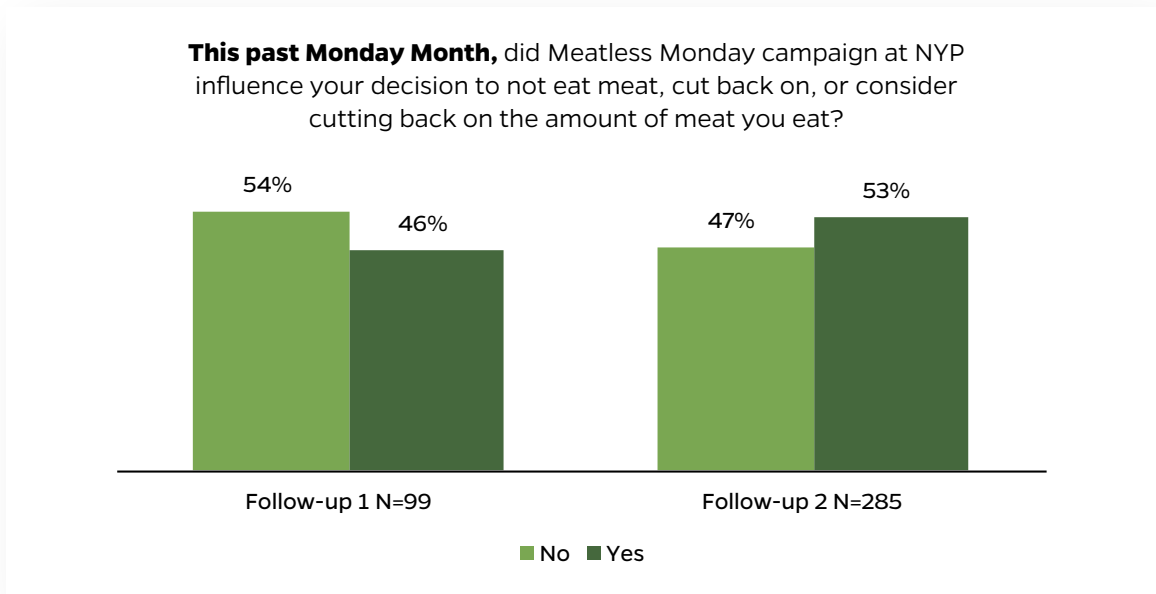


Figure 8

Additionally, over half (53%) of the respondents reported participating in the Meatless Monday campaign by selecting a meatless entry at a NYP hospital cafeteria in follow-up 2. However, those who heard the Meatless Monday message

for greater than 1 month had a slightly higher participation rate in choosing a meatless entrée compared to those that heard the message for less than 1 month (53% vs. 50%).

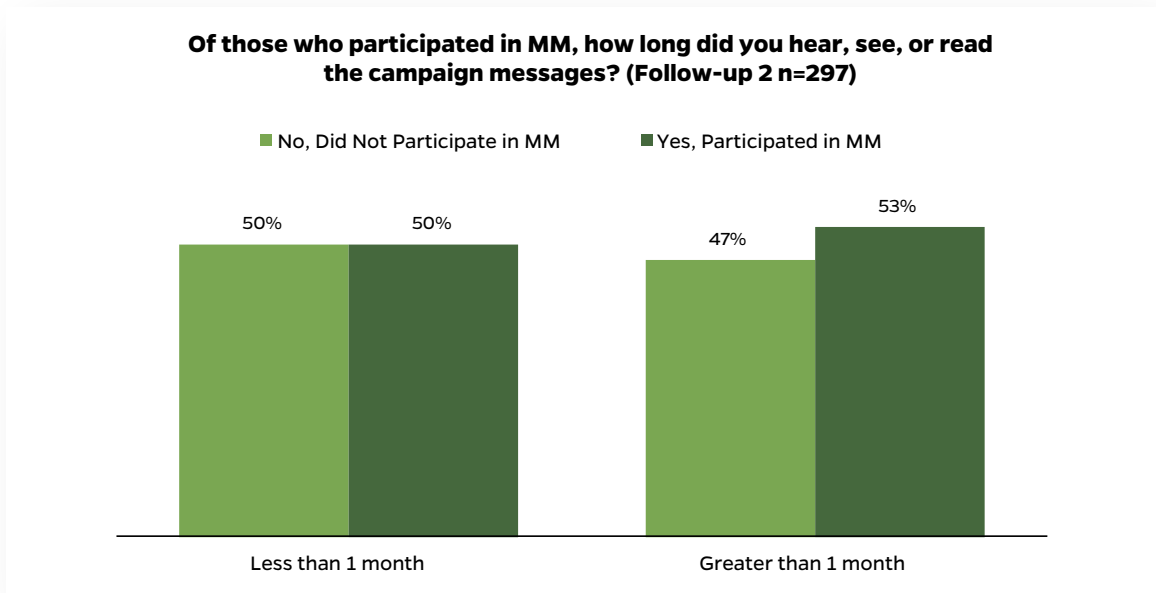


Figure 9

When the numbers are broken down by site, with the exception of Allen Hospital (AH), more than 50% of respondents across the sites par-

ticipated in the Meatless Monday campaign by choosing a meatless option in the NYP cafeteria over the past month.

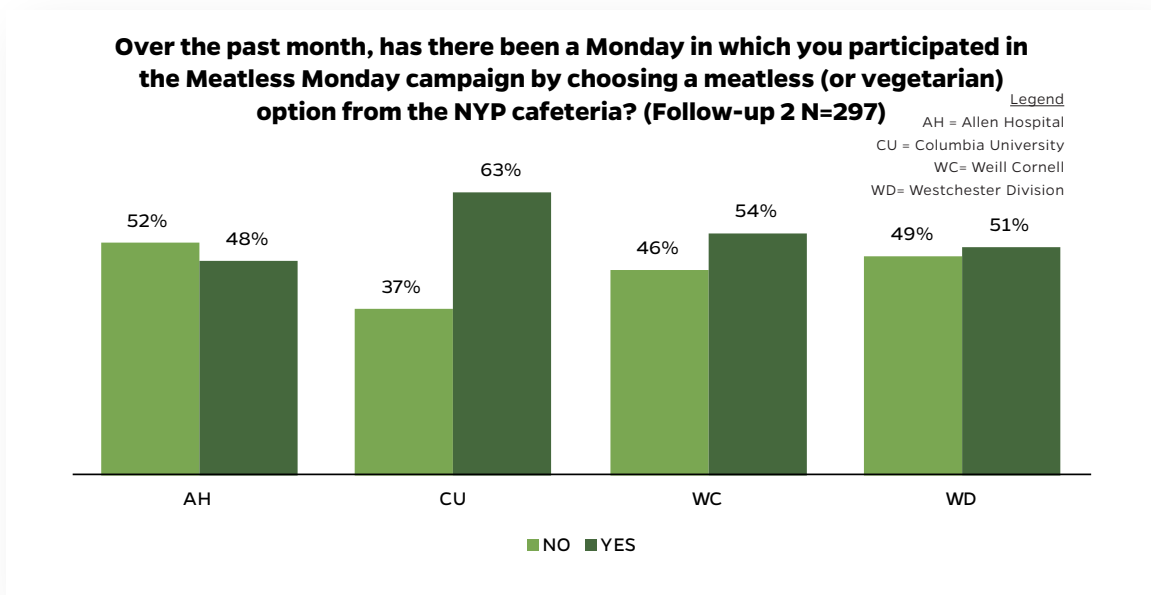


Figure 10

This past Monday, did the Meatless Monday campaign at NYP influence your decision to not eat meat, cut back on, or consider cutting back on the amount of meat you eat?

At follow-up 2, 27% stated that the Meatless Monday campaign at NYP influenced their decision to not eat meat, cut back on, or consider cutting back on the amount of meat they eat this past Monday.

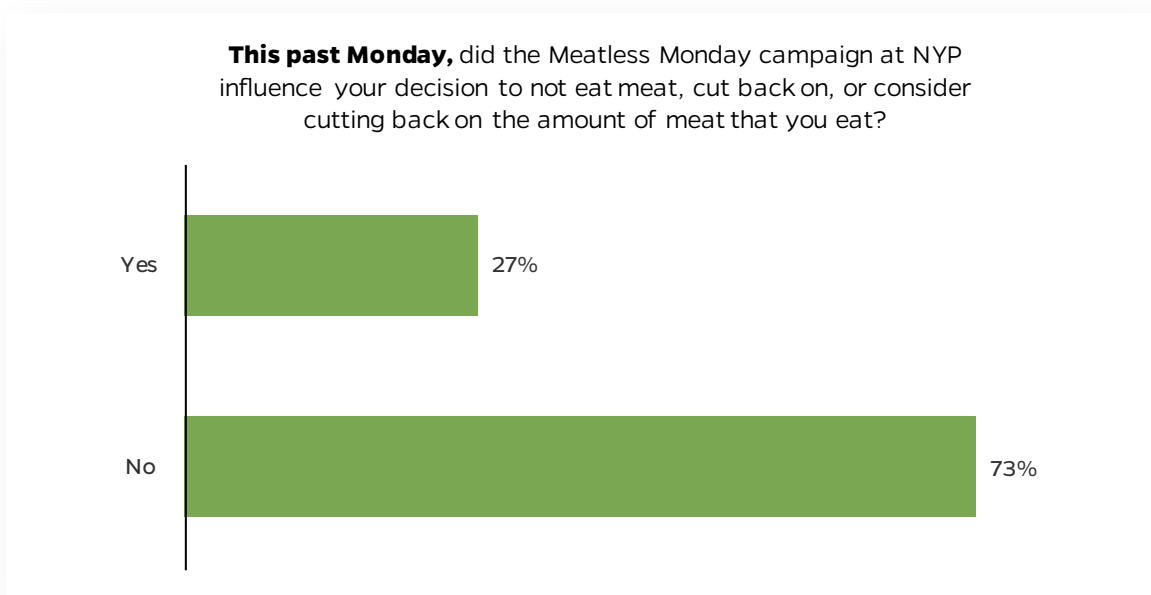


Figure 11

When broken down by sites, Columbia University site (CU) reported the greatest influence at 44% compared to the other sites for cutting back or considering cutting back on meat consumption.

The wide percentage range between the sites could be attributable to variation in promotion activities.

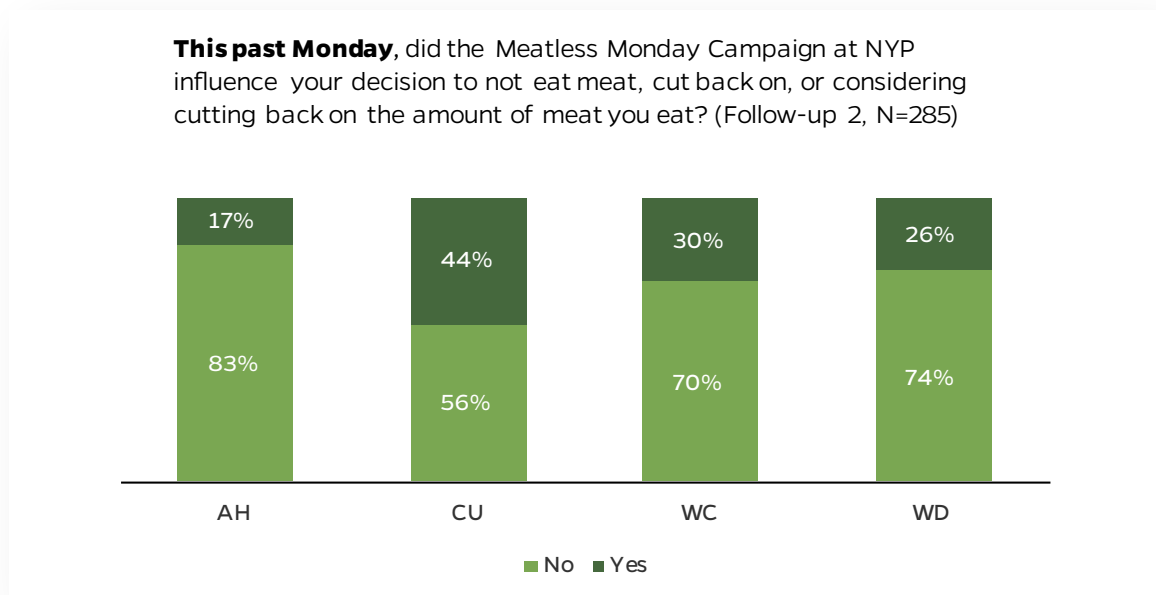


Figure 12

Yesterday, did the Meatless Monday campaign at NYP influence your decision to not eat meat, cut back on, or consider cutting back on the amount of meat you eat?

When participants were asked if the Meatless Monday campaign at NYP influenced their decision to not eat, cut back, or consider cutting back on the amount meat they eat outside of a Monday (any other day of the week), 23% responded yes in follow-up 2.

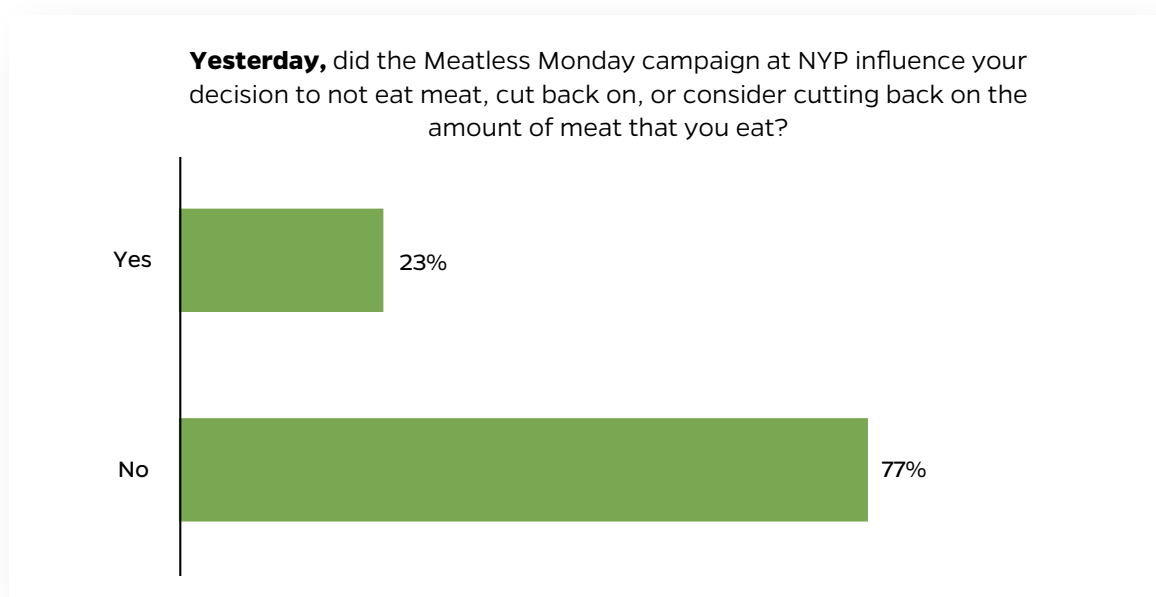


Figure 13

When the numbers were broken down by site, Allen Hospital had the highest number (86%) of participants not influenced by the Meatless

Monday Campaign at NYP to cut back or consider cutting back on meat consumption.

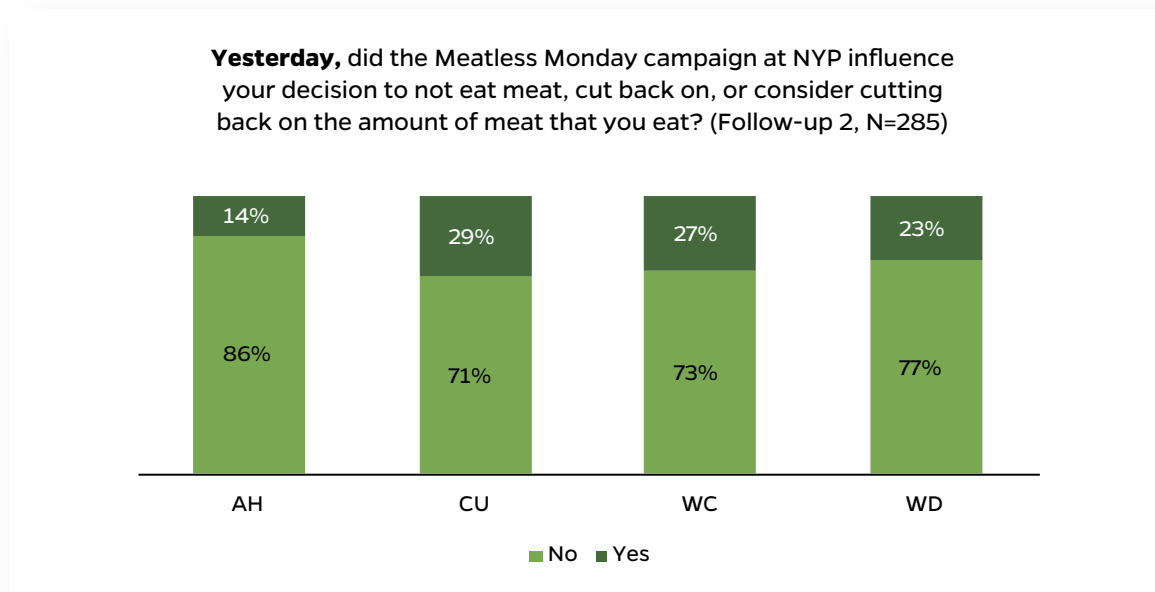


Figure 14

Has the campaign made an impact on awareness and food choices?

Fifty-four percent of the employees that saw, read, or heard the Meatless Monday message

at NYP chose a meatless or vegetarian option compared to 46% of those that did not see, read, or hear the Meatless Monday message. This is an indication that the campaign made an impact on awareness and food choices.

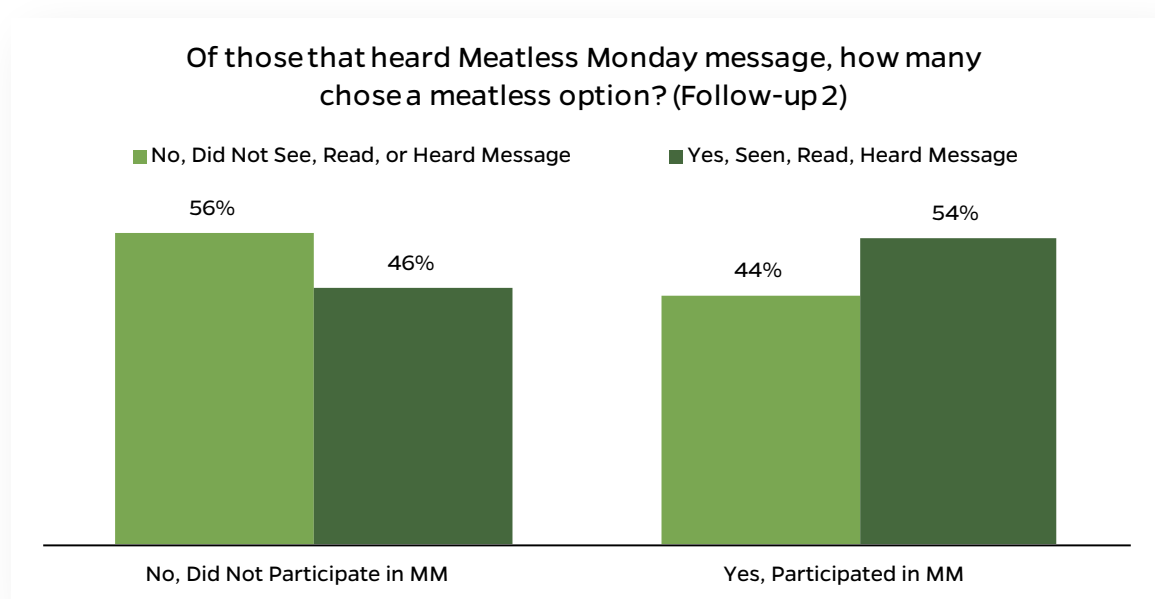


Figure 15

Additionally, across all surveys and sites, there was an increase in awareness about the messages

or materials for reducing meat consumption at NYP in both follow ups compared to baseline.

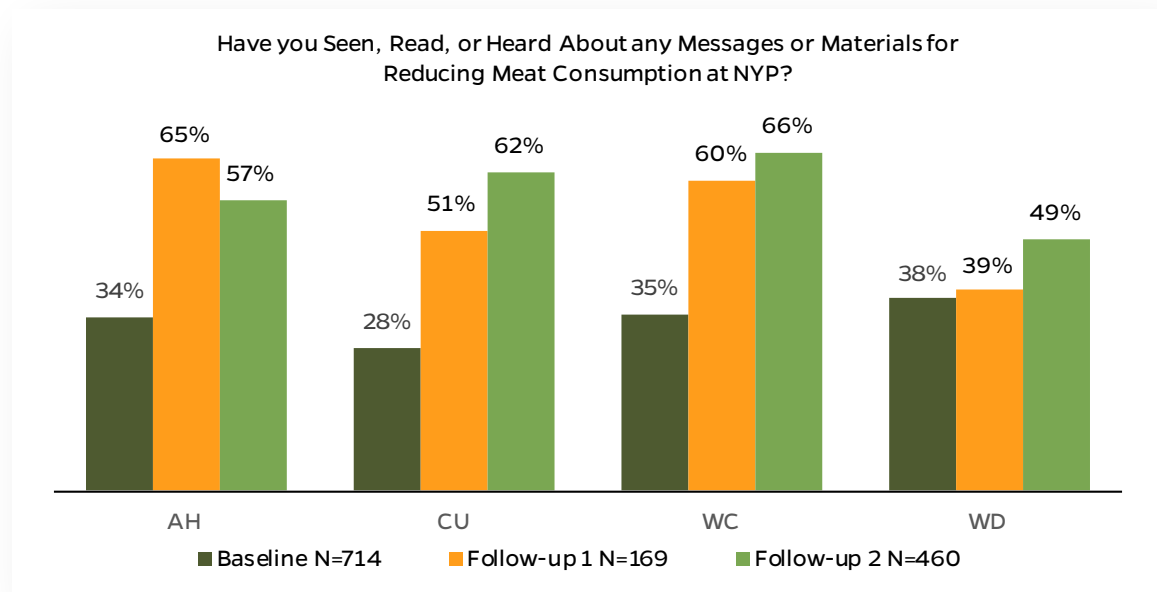


Figure 16

When asked where they've seen, read, or heard messages or materials about the Meatless Monday campaign at NYP, signs on tables and near

food items in the cafeteria and signs at entrance of cafeteria were most effective at promoting the message.

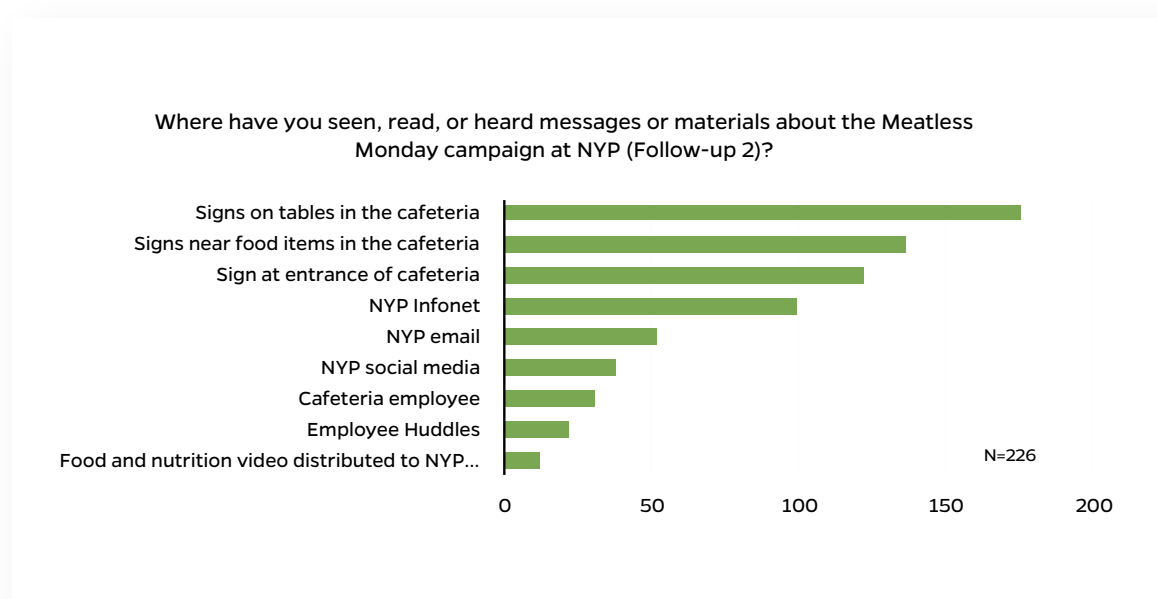


Figure 17

Lastly, when participants were asked in what way, if at all, has Meatless Monday changed your cooking and/or eating habits, the majority said they ate more fruits and vegetables and ate less meat. These behavior changes align with

the overall message of the Meatless Monday campaign—cutting meat one day a week and adding more vegetables, fruits and plant proteins to the plate.

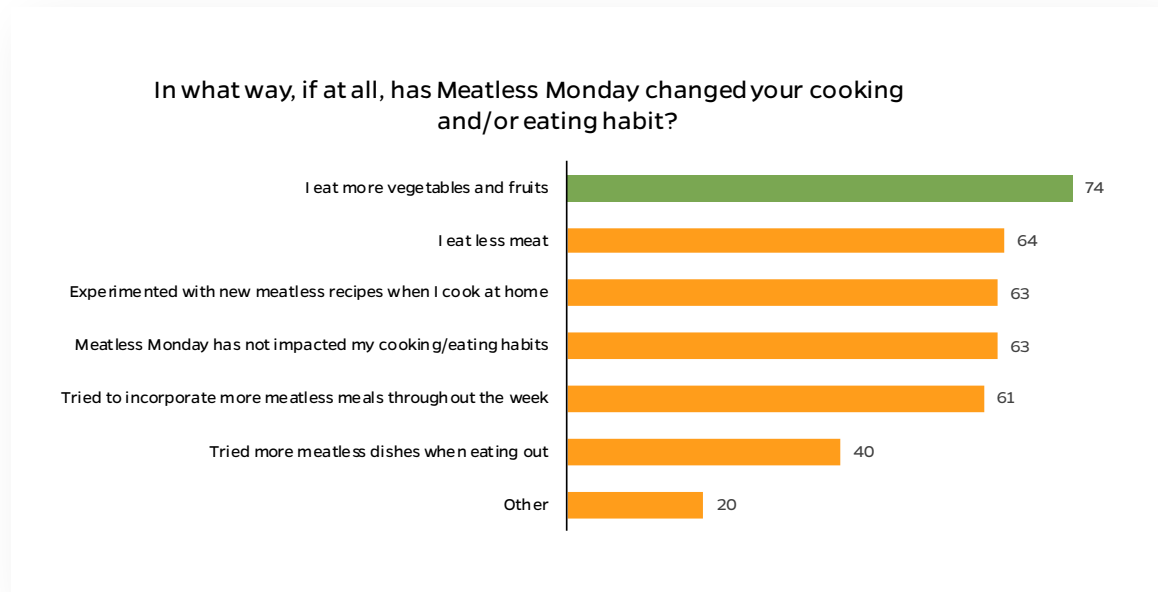


Figure 18

On average, 87% of the participants that took the survey at follow-up 1 and 2 agree that the Meatless Monday campaign at NYP shows that NYP cares about their health and the environment.

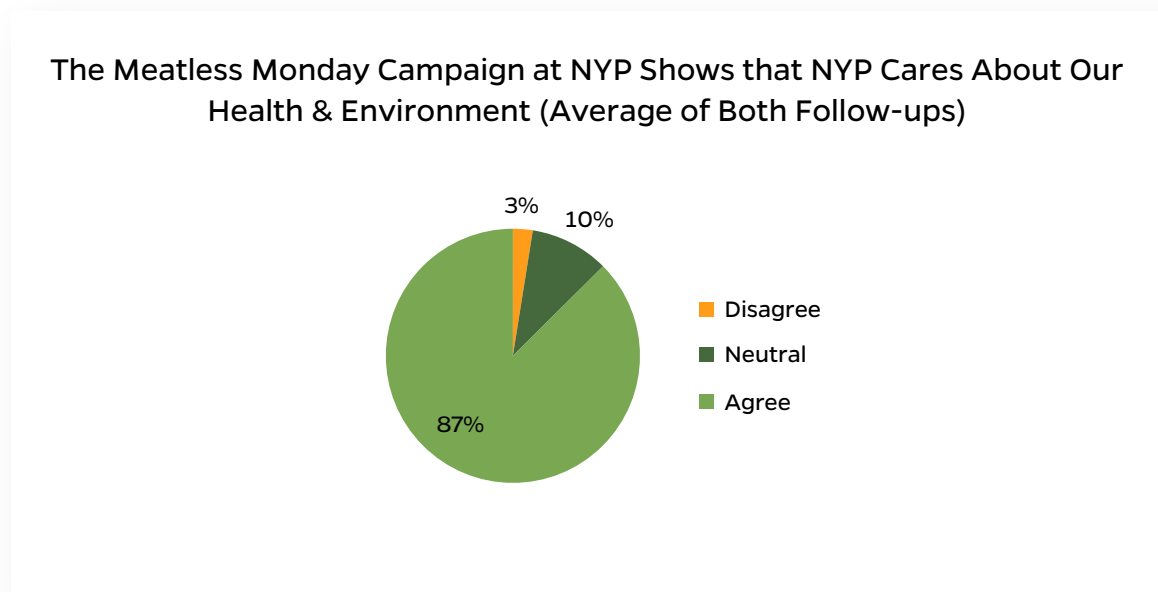


Figure 19

DISCUSSION

One goal of the Meatless Monday campaign at NewYork-Presbyterian Hospital (NYP) was to raise awareness among employees on the benefits of reducing meat consumption for their health and that of the environment through various menu changes, marketing and promotion strategies within the cafeteria setting. Simply put, the campaign succeeded. At baseline, only 33% of participants had read, heard, or seen any messages for reducing meat consumption at NYP and only 34% had heard of Meatless Monday. After implementing the campaign anywhere (i.e. also outside of NYP) (at follow-up 2), 60% reported hearing, seeing, or reading the Meatless Monday and meat reduction messages, an 82% increase. Interestingly, this varied greatly by site, with Weill Cornell having the highest awareness of the campaign messaging at 66% and Westchester having the lowest awareness at 49%.

At NYP, approximately 70% of participants noted 'eating healthy' as the primary reason for decreasing meat consumption, 10% higher than the 2017 Biennial Meatless Monday Consumer survey (DDG 2017). Enjoying meatless dishes, and environmental concerns were the second and third reasons for considering and/or decreasing meat consumption. The reasons for reducing meat did not change much over the course of the program; except for a slight increase in environmental motivation from 2% to 4% of the respondents.

Another important goal of the intervention was to influence behavior change among employees based on increased awareness and knowledge of the consequences of high meat consumption. Overall, the campaign influenced participants' decisions to eat less meat or to consider cutting back on meat consumption. However, the impact appeared to be influenced by whether or not participants heard the campaign message and the length of time the message was promoted. Several follow up questions were asked of those who had seen, heard or read about MM at NYP regarding whether the campaign had an impact on food choices at certain time points. The number one impact the campaign had on food choices was to eat more fruits and vegetables, followed by eating less meat. Many

others were also motivated to experiment with cooking meatless dishes at home.

Overall, it appears that Meatless Monday had a small, but positive impact on patrons of the NYP cafeteria with noted benefits including reduction in meat consumption as well as other changes in cooking and eating habits throughout the week; however, more can still be done as 40% of the patrons were not aware of the Meatless Monday campaign at all, even though it had been implemented for a year and a half.

Strengths and Weaknesses

Consistent implementation was the weakest part of this evaluation and created challenges for the program. In the fall of 2018 and throughout program and survey periods (Feb 2018 - July 2019), the researchers made several site visits to check implementation and visibility of the campaign. They found that implementation varied greatly across sites. High implementation was not well achieved at any of the study sites. Weill Cornell was most consistent at displaying visible signs and table tents; Columbia Milstein had moderately consistent implementation; however, Allen and Westchester did not implement consistently from week to week. As a result, Allen and Westchester were categorized as low implementers while the others are considered moderate implementers.

Among all of the sites, the most consistent promotion strategies were the discount of the Meatless Monday item on the menu, employee huddles (as reported) and signage at cafeteria entrances. In the survey results, table tents and visible signage were the most influential for customers choosing the Meatless Monday options; however, these two actions were inconsistent, not visible or discontinued at the low implementation sites.

As mentioned above, the first follow-up survey was delayed and only completed by 179 customers due to implementation issues and staff/volunteer availability. After this, the research team waited a few months to achieve more uniform implementation across sites and to conduct a second follow up. This was completed in the summer of 2019, nearly 18 months after the launch of the campaign. Consequently, this later follow-up demonstrated a small but lasting effect

of the Meatless Monday Campaign. Customers still recognized the campaign visuals, purchased vegetarian items on Monday and were more committed to reducing meat in their diet—even after nearly two years of the campaign.

Finally, due to small numbers, this analysis does not address whether changes were statistically significant.

Key Takeaways

Despite the challenges with implementation, there are several lessons/best practices we learned throughout the study:

1. Promotion and consistent implementation are key to visibility, engagement and impact. To ensure promotions are executed according to agreed upon specifications, consider standardized training for all programmatic staff.
2. Programs such as this are accepted and welcomed by consumers. The majority of employees were positive about the program and appreciated that it demonstrated NYP's concern about employee health and the environment.
3. Communication between departments is essential, as well as engagement from food service managers and staff for proper dissemination.
4. Utilize an internal "ambassador/champion" to create greater ownership and commitment to program.
5. Continuous monitoring and evaluation and corrections (where necessary) are imperative for successful implementation throughout the intervention.
6. To bring about behavior change, promotion and messaging must be relatable, health focused and continuous.

APPENDIX A

NYP Baseline Consumer Screener

Screener questions (to be asked/answered by intern) *Interns will be positioned at the cafeteria entrances

1. Would you like to complete a brief three-minute NYP survey about nutrition and receive a \$1 discount on your cafeteria purchase today?
 - 0) No (Not interested; Thank for time)
 - 1) Yes

2. Are you a NYP staff member? *Do not include: volunteers
 - 0) No (Not eligible; Thank for time)
 - 1) Yes (Start survey; Intern gives iPad to participant; Give discount ticket after survey completion)

NYP BASELINE CONSUMER SURVEY

Your participation in this survey is completely voluntary and all of your responses are anonymous. None of the responses will be connected to identifying information. Thank you!

1B. Which of the following categories best describes your occupation?

- a) Doctor
- b) Nurse
- c) Administrative staff
- d) Support staff

2B. How often do you eat at the NYP cafeteria?

- a) Every day
- b) 3-4 times a week
- c) About once a week
- d) About once a month
- e) Once or twice a year

3B. Have you ever purchased a meatless entrée/meal offered at the NYP cafeteria?

- 0) No
- 1) Yes

4B. Are you currently trying to cut back on the amount of meat you eat?

- a) Yes, I am actively trying to cut back
- b) No, but I have cut back on meat in the past
- c) No, but I am considering cutting back
- d) No, I am not considering cutting back (Skip to question 6B)
- e) I do not eat meat
- f) I'm not sure

5B. What is the primary reason you do not eat meat, cut back on, or are considering cutting back on the amount of meat you eat? Please select one.

- a) Eat healthier
- b) I enjoy meatless dishes
- c) Save money
- d) Environmental concerns
- e) Animal welfare concerns
- f) Other (please specify)

6B. Have you seen, read, or heard about any messages or materials for reducing meat consumption at NYP?

- 0) No
- 1) Yes

7B. Have you heard of Meatless Monday?

- 0) No (Skip to end; Survey completed)
- 1) Yes
- 2) I'm not sure

8B. Did Meatless Monday influence your decision to not eat meat, cut back on, or consider cutting back on the amount of meat you eat?

- 0) No
- 1) Yes

END OF SURVEY; Thank you for completing this survey!

APPENDIX B

NYP FOLLOW-UP CONSUMER SURVEY

Your participation in this survey is completely voluntary and all of your responses are anonymous. None of the responses will be connected to identifying information. Thank you!

1F. Which of the following categories best describes your occupation?

- a) Doctor
- b) Nurse
- c) Other Clinical staff
- d) Administrative staff
- e) Support staff

2F. How often do you eat at the NYP cafeteria?

- a) Every day
- b) 3-4 times a week
- c) About once a week
- d) About once a month
- e) Once or twice a year

3F. Are you currently trying to cut back on the amount of meat you eat?

- a) Yes, I am actively trying to cut back
- b) No, but I have cut back on meat in the past
- c) No, but I am considering cutting back
- d) No, I am not considering cutting back
- e) I do not eat meat
- f) I'm not sure

4F. Have you ever purchased a meatless entrée/meal offered at the NYP cafeteria?

- 0) No
- 1) Yes

5F. How appealing do you find the meatless options available in the NYP cafeteria?

- 1) Very unappealing
- 2) Unappealing
- 3) Appealing
- 4) Very appealing

6F. Have you seen, read, or heard about any messages or materials for reducing meat consumption at NYP?

- 0) No (Skip to question 9F)
- 1) Yes

7F. Do you know the name of the campaign for reducing meat at NYP?

- 0) No (Skip to question 9F)
- 1) Yes

8F. Please write the name of the campaign for reducing meat at NYP.

_____ (If correct, skip to question 10F)

- 9F. Have you seen, read, or heard any messages or materials about the Meatless Monday campaign at NYP?
- 0) No (Skip to end; Survey completed)
 - 1) Yes
- 10F. Where have you seen, read, or heard messages or materials about the Meatless Monday campaign at NYP? Select all that apply.
- a) Signs on tables in the cafeteria
 - b) Signs near food items in the cafeteria
 - c) Sign at entrance of cafeteria
 - d) Cafeteria employee
 - e) NYP social media
 - f) NYP email
 - g) NYP Infonet
 - h) Employee Huddles
 - i) Food and nutrition video distributed to NYP employees
- 11F. For how long have you seen, read, or heard messages or materials about the Meatless Monday campaign at NYP?
- a) **Less than one** month
 - b) The past **one** month
 - c) The past **two - three** months
 - d) The past **four - five** months
 - e) The past **six** months or more
- 12F. Over the past month, has there been a Monday in which you participated in the Meatless Monday campaign by choosing a meatless (or vegetarian) option from the NYP cafeteria?
- 0) No (Skip to question 14F)
 - 1) Yes
- 13F. Over the past month, how many Mondays have you participated in the NYP Meatless Monday campaign?
- a) I participated on ONE Monday this month.
 - b) I participated on TWO Mondays this month.
 - c) I participated on THREE Mondays this month.
 - d) I participated on FOUR Mondays this month.
- 14F. When you think about Meatless Monday at NYP, which statements do you agree with? Please select all that apply.
- a) Meatless Monday has a positive effect on people's health.
 - b) Meatless Monday has a positive effect on the environment.
 - c) Meatless Monday encourages people to cut out meat on Mondays.
 - d) None of the above.
- 15F. **Over the past month**, did the Meatless Monday campaign at NYP influence your decision to not eat meat, cut back on, or consider cutting back on the amount of meat you eat?
- 0) No
 - 1) Yes
- 16F. **This past Monday**, did the Meatless Monday campaign at NYP influence your decision to not eat meat, cut back on, or consider cutting back on the amount of meat you eat?
- 0) No
 - 1) Yes

17F. **Yesterday**, did the Meatless Monday campaign at NYP influence your decision to not eat meat, cut back on, or consider cutting back on the amount of meat that you eat?

- 0) No
- 1) Yes

18F. In what way, if at all, has Meatless Monday changed your cooking and/or eating habits? Select all that apply.

- a) I've experimented with new meatless recipes when I cook at home.
- b) I've tried to incorporate more meatless meals throughout my week.
- c) I've tried more meatless dishes when eating out.
- d) I eat more fruits and vegetables.
- e) I eat less meat.
- f) Meatless Monday has not impacted my cooking/eating habits.

19F. How much do you agree or disagree with the following statement? **The Meatless Monday campaign at NYP shows that NYP cares about our health and environment.**


- 1) Strongly Disagree
- 2) Disagree
- 3) Agree
- 4) Strongly Agree

END OF SURVEY; Thank you for completing this survey!

APPENDIX C

Meatless Monday - *NewYork-Presbyterian* Creative Material as Delivered

PRODUCING A 1/4 LB. BURGER USES ENOUGH H₂O TO FILL 10 BATHTUBS



#MeatlessMonday

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

LIVESTOCK PRODUCTION USES 33% OF THE EARTH'S ENTIRE LAND SURFACE



#MeatlessMonday bit.ly/MeatlessResearch

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

GLOBAL LIVESTOCK PRODUCTION CREATES MORE GREENHOUSE GAS THAN THE ENTIRE TRANSPORTATION SECTOR



#MeatlessMonday bit.ly/MeatlessResearch

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

9,775,000 GALLONS OF WATER

That's the amount of water we'd save if everyone at NewYork-Presbyterian skips just one 1/4 lb. beef burger on Monday. Let's make a splash!



#MeatlessMonday

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

MOST AMERICANS EAT 1 1/2 TIMES MORE PROTEIN THAN THEY NEED EACH DAY



This excessive amount of protein often comes from eating too much meat. Just choose to eat more vegetables throughout the day.

#MeatlessMonday

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

HOLD THE PASTRAMI! CHOOSE A HUMMUS PLATTER INSTEAD TO DECREASE YOUR RISK OF HEART DISEASE!



Eating hummus or chickpeas instead of meat can help prevent heart disease and achieve a healthy weight.

#MeatlessMonday

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

158,700 MILES DRIVEN

That's the amount of emissions we'd save if everyone at NewYork-Presbyterian chose to eat just one less serving of beef on a single Monday.



#MeatlessMonday

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

DECREASE YOUR CHANCE OF GETTING DIABETES BY ABOUT 15%



Just skip a serving of meat every day and replace it with a vegetable protein like black beans or tofu.

#MeatlessMonday

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

HEART SMART - THE INTELLIGENT CHOICE IS MEATLESS



By eating more veggies, fruits, beans and nuts - instead of meat - you can significantly lower your risk of heart disease.

#MeatlessMonday

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

LOVE YOUR VEGGIES? YOUR HEART SURE DOES

In fact, any reduction in meat consumption may improve your heart-health. Let's try a tasty meatless meal today.



#MeatlessMonday

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

POWER YOUR iPhone FOR SIX MONTHS



The energy required to produce a single 1/4 lb. burger would be enough power to charge your iPhone for six months!

#MeatlessMonday

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

SKIP THE MEAT, NOT YOUR HEART BEAT



Just replace the 2 oz. of processed meat on your sandwich every day with grilled vegetables, a ripe tomato or fresh leafy greens, and you'll reduce your risk of heart disease. Let's do lunch!

#MeatlessMonday

NYP BeHealthy **MEATLESS MONDAY** NYP green AT THE DIFFERENCE

REFERENCES

- 1 Bouvard, Véronique et al. Carcinogenicity of consumption of red and processed meat. *The Lancet Oncology*. 2015; 16(16):1599 - 1600.
- 2 Pan A, Sun Q., Bernstein AM, Schulze MB, Manson JE, Stampfer MJ, Willett WC, Hu FB. Red meat consumption and mortality: results from 2 prospective cohort studies. *Arch Intern Med*. 2012; 172(7):555-63.
- 3 Ledoux TA, Hingle MD, Baranowski T. Relationship of fruit and vegetable intake with adiposity: a systematic review. *Obesity Reviews*. 2011; 12(5):e143-50.
- 4 Vergnaud et al. Meat consumption and prospective weight change in participants of the EPIC-PAN-ACEA study. *Am J Clin Nutr*. 2010; 92(2):398-407.
- 5 Pan A, Sun Q, Bernstein AM, Manson JE, Willett WC, Hu FB. *Changes in Red Meat Consumption and Subsequent Risk of Type 2 Diabetes Mellitus: Three Cohorts of US Men and Women*. *JAMA Intern Med*. 2013;173(14):1328-1335. doi:10.1001/jamainternmed.2013.6633.
- 6 Gerber PJ, Steinfeld H, Henderson B, et al. *Tackling Climate Change through Livestock – A Global Assessment of Emissions and Mitigation Opportunities*. Rome: Food and Agriculture Organization of the United Nations; 2013.
- 7 Pimentel D., Pimentel M., *Sustainability of meat-based and plant-based diets and the environment*. *Am J Clin Nutr* September 2003 vol. 78 no. 3 660S-663S
- 8 Review on Antimicrobial Resistance. Antimicrobial Resistance: Tackling a crisis for the health and wealth of nations. 2014; https://amr-review.org/sites/default/files/AMR%20Review%20Paper%20-%20Tackling%20a%20crisis%20for%20the%20health%20and%20wealth%20of%20nations_1.pdf, Accessed June 27, 2016