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# Cancer Nutrition Study

Sponsored by Delaware North Companies

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Providing **Marketing Research** with  
**Wisdom, Honesty, and Precision**

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# **Executive Summary**

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**Research Background and Objectives**  
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## Research Background and Objectives

Cancer patients struggle with nutrition during treatment, and the symptoms related to eating during treatment might include decreased or increased appetite, altered taste and smell, early satiety, mouth sores, nausea, extreme fatigue, constipation/diarrhea and other symptoms. This survey will explore the impact of taste and smell on nutritional intake and quality of life, and will ask questions about consumption of food, intake of fluids, food preparation and barriers to cooking and shopping for food during cancer treatment.

Specifically, the research:

- Provides a profile of patients on active cancer treatment
  - Type of cancer, when diagnosed, type of treatments
  - Eating drinking preferences, usage of supplements, activity levels
  - Symptoms experiencing and what precludes them from having healthy diets
  - Demographic information
- Assesses the appeal of different foods and beverages (ones avoiding and preferring)
- Assesses appeal of products and services
- Generates a list of recipes or food dishes that appeal to them during treatment
- Identifies differences, if any, by type of traveler or demographic information

Results will be shared with the Culinary Institute of America master chefs to identify products, develop recipes or tips, products or services that will appeal to cancer patients.

Further research is then recommended to gain reactions to the food products, recipes and preparation of in-home meals via in-home or in-patient taste tests or placements.

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## Methodology

- This research is a joint effort between Delaware North Companies, the Culinary Institute of America, WHP Research and seven medical centers.
- The survey was developed in partnership to bring together medical and marketing research expertise. Once the centers received IRB approval, surveys were collected from cancer patients who were actively undergoing treatment. Paper surveys were distributed and collected by nurses, therapists or nutritionists in waiting areas or other clinical areas. Surveys were completed anonymously, with the option for patients to answer any or all questions. All participants are 18 years of age or older.
- A total of 1,203 surveys were collected and analyzed from seven medical centers:
  - Roswell Park Cancer Institute (302)
  - New York University Clinical Cancer Center (298)
  - Dana Farber/Brigham and Women's Cancer Center (199\*)
  - Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins (118)
  - University of Chicago Comprehensive Cancer Center (109)
  - Mayo Clinic Cancer Center (100)
  - Cedars-Sinai / Samuel Oschin Comprehensive Cancer Institute (77)
- Surveys were collected between April and December, 2012.

*See Appendix for questionnaire.*

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\* A survey completed by a participant <18 years old was not included.

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## Considerations and Suggestions

**Based on this research study, the following suggestions are offered or the following factors ought to be considered when designing menus and recipes to best serve cancer patients.**

- Most patients feel it would be extremely or very helpful to have recipes to better manage their symptoms. Most of them also feel it would be helpful to have written information on how to eat better during cancer treatment. In addition, having pre-packaged or prepared meals available for sale would be helpful, especially when the meals are designed and promoted specifically for cancer patients.
- Given that different cancer patients might have different symptoms related to food, the Team might want to design some menu items geared to specific types of patients (e.g., avoiding constipation-causing menu items with lung cancer patients or diarrhea-causing menu items with gastrointestinal cancer patients). In addition, menus also need to take into account patients' other health problems, such as diabetes and/or heart disease.
- The majority of patients have less energy. Patients who have less energy or have lost weight unintentionally since beginning treatment are the most likely to have symptoms and are the most likely to have decreased appetites and lower food consumption. These patients are most in need of nutrients to help them feel better and to help increase energy levels. Those with low energy levels especially desire recipes that will help them manage their symptoms. However, these recipes must be easy to prepare, not requiring a lot of energy. In addition, liquid nutrition that tastes good might entice those with unintentional weight loss to consumer more calories, especially breast and hematological patients who are the most likely to have an increased desire for beverages.
- Most patients have increased taste sensitivities; decreased taste sensitivities is less of an issue. Patients preferring food served at room temperature are the most likely to have increased taste sensitivities. The most often increased taste sensitivities are metallic, salty and sweet.
- Since greasy and fried foods are being avoided by about one-half of the patients, menus should not feature too many of these types of foods. Although spicy foods are also being avoided by a sizeable number of patients, other patients seek spicy foods. Thus, labeling on a menu is critical, identifying if its a "spicy" or "bland" recipe/dish.

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## Considerations and Suggestions, Cont'd.

- Some ethnic differences are noted. Most Caucasians are not avoiding meat. African Americans are the most likely to be avoiding salty foods. Once again, labeling and identifying foods are critical, such as if low salt, low sugar, low fat, all natural (not processed), easy to digest and organic.
- When designing menus for patients, the aromas/smells that might arise when cooking ought to be considered. In particular, six out of ten breast patients find aromas/smells annoying. These patients also are the least likely to find food appetizing when prepared at home.
- Creating hot food items will have the most appeal since hot foods are most desired, among those with a food temperature preference.
- Foods with the greatest appeal are fruits and vegetables, soups, poultry, pasta and fish. Those eating less food since beginning treatment are the least likely to prefer fish and meat.
- Based on analysis of all the recipes and food preferences provided, recipes ought to be designed taking into consideration the following categories and the recipes suggested by cancer patients (see verbatim comments):
  - Carb-heavy foods (e.g., pastas, casseroles, rice, breads, potatoes)
  - Comfort foods (e.g., soups, stews, eggs, pastas)
  - Soft, smooth and creamy foods (e.g., smoothies, ice cream, pudding, yogurts, eggs)
  - Sweets (e.g., fruit pies, cakes, cookies, ice cream)
  - Spicy or flavorful (e.g., Asian, Mexican, Indian, Thai, Chinese, Italian)
  - Salty (e.g., popcorn, chips, nuts, crackers, pretzels)
  - Bland (e.g., mashed potatoes, rice, toast, bananas, eggs, soup, oatmeal)
  - Meats/seafood (e.g., steak, chicken, fish)
  - Fruits/vegetables (e.g., bananas, apples, oranges, potatoes, green vegetables)

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## Summary of Findings

### Participant Profile

- Survey participants represent a mix of patients with different types of cancer, primarily: solid (29%), hematologic malignancies (21%), breast (19%), gastrointestinal (15%) and lung (14%).
    - Solid tumors are most often gynecological (42%), prostate, kidney or bladder (22%), head or neck (17%) or brain or spinal (13%).
    - Hematologic malignancies are most often lymphoma (40%), multiple myeloma (35%) or leukemia (27%).
  - On average, they were first diagnosed about nine months ago, with almost one-half of them (47%) diagnosed more than one year ago. About 10% were diagnosed within the past two months.
  - Nine out of ten survey participants are undergoing chemotherapy. About one-third of those with solid or lung cancer are receiving a mix of chemotherapy, hormone therapy and/or radiation.
  - Most participants do not have other health problems (61%). Among those with other conditions, diabetes and heart disease are most prevalent.
  - A mix of men (39%) and women (61%) participated, with about one-half between 45 to 64 years (48%), and most Caucasian (80%).
  - Survey participants are likely to be taking prescriptions, with anti-nausea (45%), pain medication (33%) and steroids (26%) being most common.
  - About one-third of the participants are taking nutritional supplements, with one-fifth taking Ensure/Boost.
  - About seven out of ten participants are taking vitamins or minerals, with vitamin D (30%), calcium (23%), and multi-vitamins (22%) having the highest usage.
  - Only about three out of ten participants are taking dietary supplements or herbs. Fish oil (12%) and herbal tea (9%) are mentioned most often.
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## Summary of Findings, Cont'd.

### Symptoms

- Symptoms vary somewhat based on the type of cancer a participant has. Symptoms most prevalent are:
  - GI: significant fatigue, poor appetite, diarrhea, nausea and/or vomiting, dry mouth, gas/bloating
  - Lung: significant fatigue, poor appetite, constipation, shortness of breath/no oxygen, dry mouth
  - Solid: significant fatigue, constipation, poor appetite, nausea and/or vomiting, dry mouth
  - Breast: significant fatigue, constipation, dry mouth, reflux/indigestion
  - Hema: significant fatigue, constipation, dry mouth, poor appetite
- Symptoms are most likely to occur among those ...
  - Experiencing less energy since beginning treatment
  - Losing weight unintentionally
  - Consuming less food and beverages since beginning treatment

### Changes

- In terms of weight changes, more patients have lost weight (45%) than gained weight (24%).
  - However, breast patients are about equal, with 32% losing weight and 29% gaining weight.
  - Weight change tends to be unintentional (88%) versus intentional (12%). However, for 19% of GI patients their weight change has been intentional.
  - About one-half of those with less energy have lost weight.
- More than three-fourths of the patients (78%) have less energy, two-thirds (67%) are working less often and three-fifths (60%) are exercising less often since beginning treatment.
- Two-thirds of the patients (67%) are able to shop for food all or most of the time, 59% are able to prepare meals, and 53% consider themselves to be the primary food preparer.
  - About one-fifth of those 75 years or older are not able to shop for food (17%) or prepare meals (19%).
  - As would be expected, those with less energy and unintentional weight loss are the least likely to shop for food and/or prepare meals.

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## Summary of Findings, Cont'd.

### Food and Beverage Behavior

- Since beginning treatment, food appetites have lessened (39% vs. 15% increased) and food consumption is more likely to have waned (30% eating less often vs. 22% eating more often).
    - Decreases in appetite are most prevalent among GI and lung patients.
    - However, about the same number of GI (and also hema) patients are eating more often as are eating less often.
    - Those with less energy and those with unintentional weight losses are the most likely to have decreased appetites and lower food consumption.
  - Since beginning treatment, increases are noted on the desire for beverages (31% vs. 16% decreased) and beverage consumption (49% more often vs. 11% less often).
    - Increases in thirst are most realized among breast and hema patients.
    - Although those with less energy and unintentional weight losses are more likely to have increases (versus decreases) in desire for beverages and beverage consumption, when compared to those with the same/more energy or the same/more weight gains, significantly more of the less energy/weight loss individuals have declines on these measures.
  - Since beginning treatment, alcoholic beverage intake has dropped (78% drinking less often).
  - About one-half of the patients (51%) are drinking/eating about the same as they were before treatment.
    - Those with less energy and unintentional weight losses are the most likely to have had dietary changes.
  - Almost 60% of the patients have increased taste sensitivities; 18% have decreased taste sensitivities.
    - Increased sensitivities are most often metallic (19%), salty (15%), and sweet (14%).
    - Those 75 years or older are most likely to have increased taste sensitivities (75%).
    - Those with less energy and unintentional weight losses are the most likely to have increased and/or decreased taste sensitivities. About one-half of them have increased taste sensitivities; one-fifth have decreased taste sensitivities.
    - Those with reduced food and beverage consumption are the most likely to have increased taste sensitivities.
    - Patients preferring food served at room temperature are also most likely to have increased taste sensitivities.
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## Summary of Findings, Cont'd.

### Foods Avoiding

- Most patients (80%) are avoiding some types of foods, especially greasy/fried foods (52%) and spicy foods (42%).
  - About 47% of patients avoid foods that they used to eat due to medical advice; 57% due to intolerance; 70% for other reasons.
  - Those with less energy and those with unintentional weight losses tend to avoid more foods than others, especially greasy, spicy, acidic, Indian and Mexican foods.
  - Those 75 years or older are less likely to avoid foods than younger patients.
  - Caucasians are the least likely to avoid meat (only 20% avoiding).
  - African Americans are the most likely to avoid salty foods (42%).
- When asked open-ended, other foods avoiding (not already listed) include foods that are high fat/rich, processed, hard to digest, high sugar content, cold temperatures, raw fish, shellfish and non-organic fruits/vegetables.

### Beverages Avoiding

- Alcoholic beverages (50%+), soda/pop/tonic (39%) and coffee (28%) are the beverages most often avoided.
  - Lung patients are the least likely to avoid coffee (only 16% avoiding).
  - Coffee is especially being avoided among those with low energy levels and weight losses.
  - Those 75 years or older are the least likely to avoid specific beverages.
  - Caucasians are the least likely to avoid soda/pop/tonic and coffee.

### Aromas/Smells Avoiding

- About one-half (48%) of all patients are bothered by aromas/smells, with the most annoying aromas/smells being cleaning solutions and perfumes/colognes.
    - Breast patients are the most likely to find aromas/smells annoying (60%).
    - Those 75 years or older are the least likely to be bothered by aromas/smells.
    - Other ethnicities (not White or Black) are most sensitive to the smell of fish and food cooking.
    - Those with less energy, weight losses and dietary changes are most sensitive to aromas/smells.
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## Summary of Findings, Cont'd.

### Food Preference

- Most patients (65%) do not have a food temperature preference. Those with a preference, desire hot foods.
  - African Americans are the most likely to prefer hot foods (43%), followed by those 75 years or older (30%).
  - Those with less energy and those with weight losses are more likely than others to have a food temperature preference.
- Food is more appetizing when prepared at home (43%) versus eating out (13%) or bringing in (5%). The remainder do not have a preference.
  - Breast cancer patients are the least likely to find food more appetizing when prepared at home (only 35%).
  - African Americans are the most likely to find food more appetizing when prepared at home (52%).
  - One-fifth (19%) of those with weight gain are most likely to prefer eating out.
- Fruits/vegetables (69%), soups (62%), poultry (61%), pasta (55%) and fish (53%) are most favored.
  - Those 75 years and older prefer soups, poultry, pasta and meat, while others prefer more ethnic/spicy foods.
  - African Americans have a strong preference for fish (70%).
  - Those with more energy are more likely to find more foods appealing.
  - Those eating less food since beginning treatment are less likely to prefer fish and meat versus those eating the same or more food.
- When asked unaided, foods that are most appealing to patients can be grouped as:
  - Carb-heavy foods (e.g., pastas, casseroles, rice, breads, potatoes)
  - Comfort foods (e.g., soups, stews, eggs, pastas)
  - Soft, smooth and creamy foods (e.g., smoothies, ice cream, pudding, yogurts, eggs)
  - Sweets (e.g., fruit pies, cakes, cookies, ice cream)
  - Spicy or flavorful (e.g., Asian, Mexican, Indian, Thai, Chinese, Italian)
  - Salty (e.g., popcorn, chips, nuts, crackers, pretzels)
  - Bland (e.g., mashed potatoes, rice, toast, bananas, eggs, soup, oatmeal)
  - Meats/seafood (e.g., steak, chicken, fish)
  - Fruits/vegetables (e.g., bananas, apples, oranges, potatoes, green vegetables)

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## Summary of Findings, Cont'd.

### Beverage Preference

- Water is the most preferred beverage (74%), followed by fruit juice (48%), tea (44%) and coffee (40%).
  - GI patients are the most likely to prefer fruit juice (58%).
  - About one-half of breast patients (51%) prefer tea.
  - African Americans also have a great desire for tea (54%).
  - Coffee has the greatest appeal among those 75 years or older (54%).
  - Those who have lost weight prefer sports drinks (25%) more than other patients.

### Appeal of Products and Services

- When asked about specific products and services, interest in recipes and written information is the highest:
    - Recipes that help you manage your symptoms (59% would find it extremely or very helpful)
    - Written information on eating better during cancer treatment (59%)
    - Pre-packaged or prepared meals to purchase that are full of nutrients needed to help you feel better (46%)
    - Videos on creating easy, highly nutritional meals (32%)
    - Liquid nutrition that tastes like food instead of milk shakes (18%)
  - Some differences are found by type of patients:
    - Breast patients are the most likely to find these products and services helpful.
    - Adults under 75 years are more likely to feel that these products and services would be helpful than those 75 years or older.
    - Caucasians are less interested in these products and services than others.
    - Recipes that would help manage symptoms would be most helpful to those with less energy and unintentional weight loss.
    - Having pre-packaged or prepared meals would be most helpful to those lacking energy while having better tasting liquid nutrition might entice those with unintentional weight loss to consume more calories.
    - Those with changes in food consumption are most likely to find recipes helpful.
    - Those who are eating less food are also the most likely to find tasty liquid nutrition helpful versus others.
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## **Detailed Findings**

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**Participant Profile**

**Symptoms**

**Behavior Changes**

**Experience with Food and Beverages since beginning Treatment**

**Foods and Beverages Avoiding**

**Foods and Beverages Preferring**

**Appeal of other Products and Services**

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## Participant Profile

## First Diagnosis

On average, patients were first diagnosed with cancer 9.4 months ago. Survey participants represent a mix of different types of cancer. Those with hematologic malignancies were diagnosed on average 10.6 months ago, while those with gastrointestinal cancers were diagnosed on average 8.1 months ago.

	Type of Cancer					
	<u>Total</u>	<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Within past 2 months	11	15	11	11	7	12
Within past 4 months	16	17	14	16	20	12
Within past 6 months	12	15	12	12	13	10
Within past 9 months	6	12	8	6	6	2
Within past year	7	9	9	5	7	6
More than one year ago	47	32	46	49	47	58
<b>Mean</b>	<b>9.4 mo.</b>	<b>8.1 mo.</b>	<b>9.5 mo.</b>	<b>9.6 mo.</b>	<b>9.6 mo.</b>	<b>10.6 mo.</b>

= Significantly higher than all numbers
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q4 - When were you first diagnosed with cancer?

## Type of Cancer

A mix of different types of cancer patients participated. Gynecological cancer represents the largest group among those having solid tumors.

	Type of Cancer					
	<u>Total</u>	<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
<b><u>Type of Cancer</u></b>						
<b>Solid tumors - Net</b>	<b>29</b>	<b>5</b>	<b>16</b>	<b>100</b>	<b>5</b>	<b>2</b>
Gynecological	12	1	1	42	2	1
Prostate, kidney or bladder	6	1	5	22	1	1
Head or neck	5	1	2	17	0	0
Brain or spinal	4	2	8	13	2	0
Soft tissue sarcoma	2	1	1	6	0	0
Osteosarcoma	*	1	1	2	0	0
<b>Hematologic malignancies - Net</b>	<b>22</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>100</b>
Lymphoma	9	1	2	1	*	40
Multiple myeloma	8	0	1	1	0	35
Leukemia	6	0	0	*	1	27
<b>Breast cancer</b>	<b>19</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>100</b>	<b>1</b>
<b>GI cancers - Net</b>	<b>15</b>	<b>100</b>	<b>5</b>	<b>3</b>	<b>1</b>	<b>1</b>
Gastrointestinal	9	61	2	1	*	1
Pancreatic, liver or gall bladder	7	44	5	2	*	*
<b>Lung cancer</b>	<b>14</b>	<b>5</b>	<b>100</b>	<b>8</b>	<b>2</b>	<b>2</b>
<b>Bone marrow transplant</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>*</b>	<b>0</b>	<b>5</b>
<b>Other malignancies</b>	<b>8</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>1</b>

Q5 - What type of cancer do you have? *Multiple answers accepted.*

# Treatment

Nine out of ten patients surveyed are undergoing chemotherapy. About one-third of those with solid or lung cancer are receiving a mix of chemotherapy, hormone therapy and/or radiation.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Treatment</u></b>						
Chemotherapy	90	99	97	90	85	89
Radiation	15	11	27	25	11	4
Surgery	8	7	8	14	9	4
Hormone Therapy	5	1	1	8	13	*
Transplant	2	1	0	*	0	5
None at this time or between treatments	4	1	2	2	4	9
<b><u>Nets:</u></b>						
Only chemotherapy	71	82	66	59	70	81
Only hormone therapy	2	0	0	3	7	0
Only radiation	2	0	1	3	3	0
Only chemo and radiation	2	1	1	4	3	0
Mix of chemo, hormone and/or radiation	21	17	31	34	17	9

= Significantly higher than all numbers
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q6 - Which of the following treatments, if any, are you currently receiving? **Multiple answers accepted.**

# Gender, Age and Ethnicity

On average, the patients are 60 years old. Eight out of ten patients who participated in the survey are Caucasian. GI and Hema patients skew male. Breast cancer patients are the most ethnically diverse and youngest, on average.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Gender</u></b>						
Female	61	43	61	60	98	44
Male	39	57	39	40	2	56
<b><u>Age</u></b>						
18 to 24	1	1	0	2	0	2
25 to 34	3	4	0	4	4	1
35 to 44	9	5	4	6	23	7
45 to 54	20	20	12	19	27	17
55 to 64	28	32	29	30	23	23
65 to 74	27	25	40	28	16	34
75+	13	14	15	11	7	15
<b>Average</b>	<b>60 yrs.</b>	<b>61 yrs.</b>	<b>65 yrs.</b>	<b>60 yrs.</b>	<b>53 yrs.</b>	<b>65 yrs.</b>
<b><u>Ethnicity</u></b>						
Caucasian	80	84	83	82	76	81
African American	9	5	11	6	14	10
Hispanic	4	4	2	5	4	4
Asian	3	3	2	3	4	1
Other	4	5	2	5	3	4

= Significantly higher than all numbers  
 = Significantly higher than lowest number  
 = Significantly lower than all numbers

- Q1 - Are you:
- Q2 - What is your age?
- Q3 - What is your ethnicity?

## Other Health Problems

About six out of ten patients do not have any other health problems. One in ten patients have diabetes and/or heart disease. About one-fifth of GI patients also have diabetes. Many lung cancer patients also have lung and/or heart disease.

	<b>Total</b>	<b>Type of Cancer</b>				
		<b>GI</b>	<b>Lung</b>	<b>Solid</b>	<b>Breast</b>	<b>Hema</b>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Other Health Problems</u></b>						
Diabetes	13	19	14	11	11	13
Heart disease	10	9	15	10	3	11
Lung disease	5	2	20	5	3	5
Kidney disease	2	0	4	2	1	3
Liver disease	2	6	1	2	3	2
HIV/AIDS	1	2	0	*	1	1
None of the above	61	58	56	61	66	62
Other	17	14	13	19	21	17

= Significantly higher than all numbers    
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q8 - Which of the following health problems, if any, do you have? **Multiple answers accepted.**

# Medications and Nutritional Supplements

Anti-nausea, pain medications and steroids are most prescribed. Three out of ten patients are not taking any medications. Two-thirds are not taking any nutritional supplements. Breast cancer patients are the least likely to be on prescription medications and/or nutritional supplements.

	Total	Type of Cancer				
		GI	Lung	Solid	Breast	Hema
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Prescription Medications</u></b>						
Anti-nausea	45	58	48	50	36	39
Pain medication	33	31	37	36	30	33
Steroids	26	20	29	26	21	34
Antibiotics	15	9	12	13	10	31
Sedatives	9	7	12	11	11	7
Appetite stimulants	3	7	2	2	3	2
Anticonvulsants	2	1	2	5	1	1
Neuroleptics	2	1	2	1	1	3
None of the above	29	26	27	24	41	25
<b><u>Nutritional Supplements</u></b>						
Ensure/Boost	20	28	31	21	11	18
Protein Shake	6	9	6	6	3	5
Carnation Instant Breakfast	5	5	6	7	3	5
Protein Powder	5	6	6	6	5	4
Glucerna	2	6	3	2	1	2
Muscle Milk	1	3	0	1	1	1
BeneCalorie	*	2	1	*	0	0
Nepro	*	0	0	*	0	0
None of the above	65	52	57	64	76	70
Other	7	9	7	7	8	4

= Significantly higher than all numbers  
 = Significantly higher than lowest number  
 = Significantly lower than all numbers

Q9 - Which of the following prescription medications, if any, are you taking? **Multiple answers accepted.**

Q10 - Which of the following nutritional supplements, if any, are you taking? **Multiple answers accepted.**

## Vitamins/Minerals

Vitamin D and Calcium are most often taken. Compared to other patients, those with Solid or Breast cancer are more likely to be taking calcium. Lung patients are most likely to take folic acid.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Vitamins / Minerals</u></b>						
Vitamin D	30	25	23	30	36	34
Calcium	23	14	16	26	31	20
Multi-vitamins (MVI)	22	26	23	19	19	29
Multi-vitamins with minerals	13	15	12	12	14	12
Vitamin B12	12	9	17	12	9	14
Folic Acid	10	6	28	7	4	12
Magnesium	10	5	6	15	7	10
Vitamin B - complex	10	7	7	10	11	14
Vitamin C	10	6	9	13	14	8
Potassium	8	7	6	7	9	9
Iron	7	12	5	5	6	5
Vitamin B6	6	5	6	9	8	3
Vitamin E	5	3	6	5	5	5
Zinc	3	2	3	2	4	3
Biotin	2	2	1	2	3	2
Vitamin A	1	1	1	2	1	1
None of the above	31	36	28	31	34	29
Other	6	3	5	7	7	6

= Significantly higher than all numbers  
 = Significantly higher than lowest number  
 = Significantly lower than all numbers

Q11 - Which of the following vitamins/minerals, if any, are you taking? **Multiple answers accepted.**

## Dietary Supplements/Herbs

Most patients are not taking dietary supplements or herbs. Fish oil and herbal teas are the most often mentioned dietary supplements/herbs.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Dietary Supplements / Herbs</u></b>						
Fish oil	12	7	13	13	11	14
Herbal tea	9	7	12	11	12	6
Flaxseed	6	5	4	6	5	7
Co Q10 enzyme	4	3	4	4	5	3
Fiber	4	5	5	5	3	4
L-Glutamine	3	4	2	5	1	2
Milk Thistle	2	2	1	2	3	1
Wheat Grass	2	3	2	2	4	*
Alpha Lipoic Acid	1	2	1	2	1	1
Chinese herbals	1	2	2	1	1	*
L-Carnitine	1	1	1	1	1	1
L-Lysine	1	1	1	*	1	1
Lutein	1	1	3	1	2	2
Saw Palmetto	*	2	0	0	0	*
Black Cohosh	*	1	1	*	0	0
St. John's wort	*	0	1	0	1	0
None of the above	71	76	72	68	71	71

= Significantly higher than all numbers  
 = Significantly higher than lowest number  
 = Significantly lower than all numbers

Q12 - Which of the following dietary supplements/herbs, if any, are you taking? **Multiple answers accepted.**

---

# Symptoms

## Symptoms

At least one-fourth of the cancer patients' are experiencing significant fatigue, constipation, poor appetite, dry mouth and/or nausea and/or vomiting. The top four symptoms by type of cancer are circled.

	<b>Total</b>	<b>Type of Cancer</b>				
		<b>GI</b>	<b>Lung</b>	<b>Solid</b>	<b>Breast</b>	<b>Hema</b>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b>Symptoms</b>						
Significant fatigue	41	40	46	44	42	42
Constipation	33	27	32	41	33	30
Poor appetite	31	35	35	33	25	24
Dry mouth	27	30	27	29	28	25
Nausea and/or vomiting	26	34	21	31	20	22
Gas/bloating	23	29	23	26	26	15
Quickly feeling full	21	24	20	24	20	16
Reflux/indigestion	21	21	22	23	28	13
Diarrhea	20	35	15	20	24	15
Increased sensitivity to smells	17	17	16	18	25	13
Shortness of breath, no oxygen	17	12	28	18	16	19
Mouth/tongue sores	12	13	10	14	15	9
Trouble swallowing	9	7	14	13	8	5
Sore throat	8	5	7	10	8	7
Severe pain (6+ out of 10)	7	5	10	9	8	6
Sore/bleeding gums	6	6	7	9	5	2
Decreased sense of smell	6	6	5	9	3	8
Trouble chewing	3	3	2	5	1	2
Loss of teeth	2	1	4	3	*	2
Shortness of breath, require oxygen	2	1	7	1	1	3
None of the above	16	14	14	14	19	18

Q7 - What symptoms, if any, do you have? **Multiple answers accepted.**

○ = Top 4 symptoms by type of cancer

Those experiencing less energy since they began treatment and those who have lost weight, unintentionally, are the most likely to experience symptoms.

	<b>Total</b>	<b>Energy Level</b>		<b>Weight Change (unintentional)</b>		
		<b>More/Same</b>	<b>Less</b>	<b>Gain</b>	<b>Same</b>	<b>Loss</b>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	%	%	%	%	%	%
<b>Symptoms</b>						
Significant fatigue	41	12	51	39	35	53
Constipation	33	22	36	35	32	34
Poor appetite	31	15	35	13	21	50
Dry mouth	27	16	30	22	22	35
Nausea and/or vomiting	26	14	29	21	19	36
Gas/bloating	23	14	26	27	18	26
Quickly feeling full	21	10	24	13	16	33
Reflux/indigestion	21	13	24	22	20	23
Diarrhea	20	13	23	16	18	24
Increased sensitivity to smells	17	7	20	14	17	20
Shortness of breath, no oxygen	17	7	20	20	15	20
Mouth/tongue sores	12	6	14	12	10	13
Trouble swallowing	9	5	10	5	6	12
Sore throat	8	5	8	7	6	9
Severe pain (6+ out of 10)	7	3	9	8	4	11
Sore/bleeding gums	6	2	7	8	5	7
Decreased sense of smell	6	4	7	6	3	8
Trouble chewing	3	3	3	1	2	5
Loss of teeth	2	1	2	2	1	2
Shortness of breath, require oxygen	2	2	3	1	1	5
None of the above	16	36	10	21	22	8

Q7 - What symptoms, if any, do you have? **Multiple answers accepted.**

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Almost all of the patients who are consuming less food/beverages since beginning treatment are experiencing some symptoms.

	<u>Total</u>	<u>Eating Behavior</u>			<u>Drinking Behavior</u>		
		<u>More</u>	<u>Same</u>	<u>Less</u>	<u>More</u>	<u>Same</u>	<u>Less</u>
Base sizes:	(1198)	(251)	(565)	(349)	(570)	(469)	(126)
	%	%	%	%	%	%	%
<b><u>Symptoms</u></b>							
Significant fatigue	41	45	32	57	43	38	55
Constipation	33	36	28	39	36	26	44
Poor appetite	31	18	13	68	27	28	57
Dry mouth	27	33	17	41	31	19	41
Nausea and/or vomiting	26	25	17	41	27	20	46
Gas/bloating	23	29	19	26	24	22	25
Quickly feeling full	21	18	12	38	21	18	34
Reflux/indigestion	21	22	17	28	21	18	33
Diarrhea	20	20	17	27	21	18	30
Increased sensitivity to smells	17	24	9	24	19	11	29
Shortness of breath, no oxygen	17	17	14	23	21	14	17
Mouth/tongue sores	12	13	8	17	12	8	21
Trouble swallowing	9	7	5	16	9	7	15
Sore throat	8	6	6	12	8	6	11
Severe pain (6+ out of 10)	7	6	3	15	8	6	13
Sore/bleeding gums	6	6	4	9	6	4	10
Decreased sense of smell	6	6	4	9	5	7	6
Trouble chewing	3	1	2	5	3	3	6
Loss of teeth	2	2	1	3	2	2	1
Shortness of breath, require oxygen	2	2	2	3	2	3	3
None of the above	16	14	23	4	13	20	6

Q7 - What symptoms, if any, do you have? **Multiple answers accepted.**

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

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## **Behavior Changes**

## Weight Changes

More patients have lost weight, unintentionally, than have gained weight. When looking at gains versus losses, more patients have lost weight than gained weight, except for Breast patients who are divided. The weight change tends to be unintentional; however, for GI patients, one-fifth of their weight change is intentional.

	<b>Total</b>	<b>Type of Cancer</b>				
		<b>GI</b>	<b>Lung</b>	<b>Solid</b>	<b>Breast</b>	<b>Hema</b>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Gained</u></b>	<b><u>24</u></b>	<b><u>20</u></b>	<b><u>27</u></b>	<b><u>25</u></b>	<b><u>29</u></b>	<b><u>22</u></b>
Gained more than 20 pounds	4	6	6	4	4	3
Gained 11 to 20 pounds	6	2	4	7	10	5
Gained 5 to 10 pounds	14	12	17	14	15	14
<b><u>Stayed about the same weight</u></b>	<b><u>31</u></b>	<b><u>30</u></b>	<b><u>24</u></b>	<b><u>32</u></b>	<b><u>39</u></b>	<b><u>29</u></b>
<b><u>Lost</u></b>	<b><u>45</u></b>	<b><u>51</u></b>	<b><u>50</u></b>	<b><u>43</u></b>	<b><u>32</u></b>	<b><u>49</u></b>
Lost 5 to 10 pounds	19	16	17	17	18	22
Lost 11 to 20 pounds	13	15	14	11	9	15
Lost more than 20 pounds	13	20	18	16	6	13
<b><u>Weight Change</u></b>						
Intentional	12	19	11	9	9	14
Unintentional	88	81	89	91	91	87

= Significantly higher than all numbers
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q32 - Since you began treatment, have you:

Q33 - Was this weight gain or loss:

One-half of the patients who have experiencing less energy since treatment began have lost weight. About nine out of ten said their weight change was unintentional. African Americans are the most likely to have gained weight, but most of them are still more likely to have lost weight (31% vs. 45%, respectively).

	<u>Total</u>	<u>Energy Level</u>		<u>Ethnicity</u>		
		<u>More/Same</u>	<u>Less</u>	<u>White</u>	<u>Black</u>	<u>Others</u>
Base sizes:	(1198)	(253)	(892)	(954)	(111)	(132)
	%	%	%	%	%	%
<b><u>Gained</u></b>	<b><u>24</u></b>	<b><u>28</u></b>	<b><u>23</u></b>	<b><u>24</u></b>	<b><u>31</u></b>	<b><u>19</u></b>
Gained more than 20 pounds	4	3	4	4	5	3
Gained 11 to 20 pounds	6	7	6	6	4	7
Gained 5 to 10 pounds	14	17	13	13	22	10
<b><u>Stayed about the same weight</u></b>	<b><u>31</u></b>	<b><u>42</u></b>	<b><u>28</u></b>	<b><u>31</u></b>	<b><u>25</u></b>	<b><u>33</u></b>
<b><u>Lost</u></b>	<b><u>45</u></b>	<b><u>31</u></b>	<b><u>49</u></b>	<b><u>45</u></b>	<b><u>45</u></b>	<b><u>48</u></b>
Lost 5 to 10 pounds	19	16	20	18	21	25
Lost 11 to 20 pounds	13	8	14	14	9	12
Lost more than 20 pounds	13	6	15	14	15	11
<b><u>Weight Change</u></b>						
Intentional	12	24	9	13	5	9
Unintentional	88	76	91	87	95	91

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q32 - Since you began treatment, have you:

Q33 - Was this weight gain or loss:

## Exercise, Energy and Work

Six out of ten patients are exercising less often, not surprising since the majority (78%) have less energy. Most patients are also working less often. Two-thirds of the Lung patients are exercising less often; most of them (82%) have less energy.

	<b>Total</b>	<b>Type of Cancer</b>				
		<b>GI</b>	<b>Lung</b>	<b>Solid</b>	<b>Breast</b>	<b>Hema</b>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
<b>Exercising</b>						
More often	7	8	7	6	9	6
About the same	33	35	28	31	36	36
Less often	60	57	66	62	56	58
<b>Energy Level</b>						
More	4	7	3	1	2	6
About the same	18	19	15	18	17	20
Less	78	74	82	81	80	74
<b>Working</b>						
More often	2	4	0	2	1	2
About the same	31	27	33	24	38	30
Less often	67	70	67	75	60	68

= Significantly higher than all numbers    
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q34 - Since you began treatment, are you exercising:

Q35 - Since you began treatment, do you have:

Q36 - Since you began treatment, are you working:

Among those with less energy, about seven out of ten are exercising less often and about three-fourths of them are working less often. About nine out of ten patients who have unintentionally lost weight have less energy.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	%	%	%	%	%	%
<b><u>Exercising</u></b>						
More often	7	16	4	7	7	5
About the same	33	54	27	29	39	29
Less often	60	30	69	64	54	66
<b><u>Energy Level</u></b>						
More	4	17	0	3	3	2
About the same	18	83	0	19	26	11
Less	78	0	100	78	71	87
<b><u>Working</u></b>						
More often	2	7	1	2	1	1
About the same	31	57	24	28	44	22
Less often	67	36	76	70	56	77

Although the majority of patients (78%) have less energy, patients who are eating less often and drinking less often (90%+) have significantly less energy, are working less often (80%+), and exercising less often (72%+) vs. those eating/drinking the same or more since beginning treatment.

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q34 - Since you began treatment, are you exercising:

Q35 - Since you began treatment, do you have:

Q36 - Since you began treatment, are you working:

## Food Shopping and Preparation

Two-thirds of the patients indicate that they are able to shop for food. Only 10% said they are not able to prepare meals at all. However, only about one-half of them consider themselves to be the primary food preparer. About 12-16% of Lung, Solid and Hema patients indicate they are not able to shop for food and/or not able to prepare meals. Not surprisingly, the women Breast patients are more likely to be the primary food preparer and shop for food.

	Total (1198)	Type of Cancer				
		GI (182)	Lung (169)	Solid (343)	Breast (226)	Hema (255)
Base sizes:						
	%	%	%	%	%	%
<b><u>Ability to Shop for Food</u></b>						
Yes	67	63	64	66	74	66
Sometimes	23	29	23	23	21	21
No	10	9	14	12	6	14
<b><u>Ability to Prepare Meals</u></b>						
Yes	59	57	54	56	63	60
Sometimes	31	36	30	32	35	26
No	10	7	16	12	3	15
<b><u>Primary Food Preparer</u></b>						
Self	53	46	49	52	72	49
Spouse/significant other	33	43	35	34	16	39
Family member(s)	10	8	14	9	9	10
Caregiver	1	2	0	2	1	1
Friend(s)	1	1	1	1	2	0
Central dining or delivery	1	1	2	2	1	1

= Significantly higher than all numbers  
 = Significantly higher than lowest number  
 = Significantly lower than all numbers

Q37 - Are you able to shop for food?

Q38 - Are you able to prepare meals for yourself and/or your family?

Q39 - Who is the primary food preparer at home?

Those 75+ years and “other” ethnicity are the least likely to shop for food or prepare meals. African Americans are the least likely to have a spouse or significant other helping with food preparation, but one-fifth of them have another family member serving as the primary food preparer.

	<u>Total</u>	<u>Age</u>		<u>Ethnicity</u>		
		<u>18-74</u>	<u>75+</u>	<u>White</u>	<u>Black</u>	<u>Others</u>
Base sizes:	(1198)	(1043)	(151)	(954)	(111)	(132)
	%	%	%	%	%	%
<b><u>Ability to Shop for Food</u></b>						
Yes	67	67	66	69	64	55
Sometimes	23	24	17	21	32	26
No	10	9	17	10	4	19
<b><u>Ability to Prepare Meals</u></b>						
Yes	59	59	56	61	56	52
Sometimes	31	32	25	30	39	32
No	10	9	19	10	5	17
<b><u>Primary Food Preparer</u></b>						
Self	53	54	48	54	61	45
Spouse/significant other	33	33	39	36	17	30
Family member(s)	10	10	9	8	21	19
Friend(s)	1	1	1	1	0	1
Caregiver	1	1	1	1	0	4
Central dining or delivery	1	1	3	1	1	2

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q37 - Are you able to shop for food?

Q38 - Are you able to prepare meals for yourself and/or your family?

Q39 - Who is the primary food preparer at home?

Those with less energy and unintentional weight loss are the least likely to shop for food and prepare meals.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
		(1198)	(253)	(892)	(215)	(354)
Base sizes:	%	%	%	%	%	%
<b><u>Ability to Shop for Food</u></b>						
Yes	67	83	63	70	74	59
Sometimes	23	12	26	22	20	26
No	10	6	12	8	7	15
<b><u>Ability to Prepare Meals</u></b>						
Yes	59	80	53	66	66	48
Sometimes	31	14	36	29	28	37
No	10	6	11	5	6	16
<b><u>Primary Food Preparer</u></b>						
Self	53	55	52	57	54	49
Spouse/significant other	33	34	34	30	34	36
Family member(s)	10	8	11	9	9	12
Friend(s)	1	1	1	1	1	0
Caregiver	1	1	2	1	1	2
Central dining or delivery	1	1	1	3	1	0

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q37 - Are you able to shop for food?

Q38 - Are you able to prepare meals for yourself and/or your family?

Q39 - Who is the primary food preparer at home?

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## **Experience with Food and Beverages since beginning Treatment**

## Appetite and Eating Habits

Since beginning treatment, more patients have experienced a decreased appetite and are eating less often. Decreases in appetite are most prevalent among GI and Lung patients. However, about the same number of GI (and Hema) patients are eating more often as are eating less often.

	<b>Total</b>	<b>Type of Cancer</b>				
		<b>GI</b>	<b>Lung</b>	<b>Solid</b>	<b>Breast</b>	<b>Hema</b>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Appetite</u></b>						
Increased	15	13	16	15	19	16
Stayed about the same	45	41	36	43	45	55
Decreased	39	47	48	42	36	29
<b><u>Eating</u></b>						
More often	22	27	20	19	22	21
About the same	49	43	44	46	47	58
Less often	30	31	36	35	31	20

= Significantly higher than all numbers    
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q13 - Since you began treatment, has your appetite most often:  
 Q14 - Since you began treatment, are you eating:

Compared to others, patients experiencing less energy since they began treatment and those who have lost weight, unintentionally, are significantly more likely to have a decrease in appetite and are eating significantly less often.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	%	%	%	%	%	%
<b><u>Appetite</u></b>						
Increased	15	22	13	40	9	6
Stayed about the same	45	65	40	47	67	28
Decreased	39	13	47	13	24	67
<b><u>Eating</u></b>						
More often	22	28	20	36	20	14
About the same	49	64	45	54	64	34
Less often	30	8	36	10	16	52

 = Significantly highest or higher than both numbers

 = Significantly higher than lowest number

Q13 - Since you began treatment, has your appetite most often:

Q14 - Since you began treatment, are you eating:

## Desire for Beverages and Beverage Habits

Since beginning treatment, their desire for fluids has increased and almost one-half of patients are drinking beverages more often. The desire for beverages and consumption has increased the most among Breast and Hema patients.

	<b>Total</b>	<b>Type of Cancer</b>				
		<b>GI</b>	<b>Lung</b>	<b>Solid</b>	<b>Breast</b>	<b>Hema</b>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Desire for Beverages</u></b>						
Increased	31	23	25	30	38	36
Stayed about the same	54	56	59	50	51	57
Decreased	16	22	17	20	11	8
<b><u>Drinking Beverages / Fluids</u></b>						
More often	49	41	45	45	57	58
About the same	40	45	43	42	36	36
Less often	11	15	12	13	7	6

= Significantly higher than all numbers    
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q15 - Since you began treatment, has your desire for beverages (fluids):  
 Q16 - Since you began treatment, are you drinking beverages (fluids):

Although about three out of ten patients have an increased desire for fluids, a sizeable number of patients who have experienced less energy since they began treatment and patients who have lost weight, unintentionally, have a decreased desire for beverages than others.

	<b>Total</b>	<b>Energy Level</b>		<b>Weight Change (unintentional)</b>		
		<b>More/Same</b>	<b>Less</b>	<b>Gain</b>	<b>Same</b>	<b>Loss</b>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
<b><u>Desire for Beverages</u></b>						
Increased	31	29	31	36	28	30
Stayed about the same	54	65	50	54	61	46
Decreased	16	6	19	10	11	24
<b><u>Drinking Beverages / Fluids</u></b>						
More often	49	45	50	58	51	45
About the same	40	50	37	36	44	38
Less often	11	4	13	7	6	17

 = Significantly highest or higher than both numbers

 = Significantly higher than lowest number

Q15 - Since you began treatment, has your desire for beverages (fluids):

Q16 - Since you began treatment, are you drinking beverages (fluids):

# Alcoholic Beverage Consumption

Among those who consumed alcoholic beverages before treatment, the majority of them are now drinking alcoholic beverages less often since they began treatment. GI and Solid patients are most notably drinking alcoholic beverages less often.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
<b><u>Drinking Alcoholic Beverages</u></b>						
More often	2	2	2	2	1	1
About the same	20	14	18	15	25	27
Less often	78	85	81	83	74	72

**Patients experiencing less energy and losing weight are drinking alcoholic beverages less often (>80%).**

= Significantly higher than all numbers    
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q17 - Since you began treatment, are you drinking alcoholic beverages:

## Dietary Changes

About one-half of the patients are drinking/eating similarly to how they were before treatment. Most of them have no preference in terms of food temperature. Breast and Hema patients are the most likely to be drinking/eating the same.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b>Normal / no changes</b>	<b>51</b>	<b>46</b>	<b>49</b>	<b>47</b>	<b>57</b>	<b>55</b>
<b><u>Changes - Net</u></b>	<b>49</b>	<b>54</b>	<b>51</b>	<b>53</b>	<b>43</b>	<b>45</b>
Solids	39	41	40	38	34	42
Liquids	36	41	37	39	33	33
Liquids Only	2	1	1	3	1	1
Soft solids	25	31	28	29	20	17
Soft solids and liquids only	5	8	7	7	6	2
Nutritional supplements	12	19	14	13	6	7
Tube feedings	2	3	3	6	1	0

= Significantly higher than all numbers    
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q18 - Which types of foods/beverages are you drinking/eating? **Multiple answers accepted.**

Consistent to other results, patients experiencing less energy and those losing weight are the most likely to have had dietary changes.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	%	%	%	%	%	%
Normal / no changes	51	60	49	56	60	43
<b><u>Changes - Net</u></b>	<b>49</b>	<b>40</b>	<b>51</b>	<b>44</b>	<b>40</b>	<b>57</b>
Solids	39	35	40	39	34	42
Liquids	36	29	38	31	31	42
Liquids Only	2	1	2	0	2	3
Soft solids	25	18	27	17	19	31
Soft solids and liquids only	5	3	6	4	3	8
Nutritional supplements	12	8	12	7	8	17
Tube feedings	2	1	3	1	1	4

= Significantly highest or higher than both numbers   
 = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q18 - Which types of foods/beverages are you drinking/eating? **Multiple answers accepted.**

## Taste Sensitivity

About four out of ten patients have increased taste sensitivities, most often to metallic, salty or sweet items. About eight out of ten patients do not have any decreased taste sensitivities. Hema patients are the least likely to have increased taste sensitivities. One-fourth of Solid patients have decreased taste sensitivities, most often to sweet and salty items.

	<b>Total</b>	<b>Type of Cancer</b>				
		<b>GI</b>	<b>Lung</b>	<b>Solid</b>	<b>Breast</b>	<b>Hema</b>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b>Increased Taste Sensitivity</b>						
Metallic	19	24	16	23	21	13
Salty	15	15	14	19	15	13
Sweet	14	14	12	15	16	14
Bitter	10	11	12	9	11	9
Sour	8	11	8	10	8	5
None of the above	59	53	61	54	58	64
<b>Decreased Taste Sensitivity</b>						
Sweet	10	6	8	14	7	10
Salty	9	8	8	10	11	9
Bitter	5	3	4	8	6	4
Sour	5	3	3	7	6	5
None of the above	82	87	80	76	81	83

= Significantly higher than all numbers
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q20 - Which of the following, if any, are you having increased taste sensitivity to? **Multiple answers accepted.**  
 Q21 - Which of the following, if any, are you having decreased taste sensitivity to? **Multiple answers accepted.**

Older patients are less likely than others to have increased taste sensitivities.  
Some differences are noted by ethnicity.

	<b>Total</b>	<b>Age</b>		<b>Ethnicity</b>		
		<b>18-74</b>	<b>75+</b>	<b>White</b>	<b>Black</b>	<b>Others</b>
Base sizes:	(1198)	(1043)	(151)	(954)	(111)	(132)
	%	%	%	%	%	%
<b><u>Increased Taste Sensitivity</u></b>						
Bitter	10	10	6	10	7	7
Metallic	19	21	8	21	15	13
Salty	15	16	10	13	25	20
Sour	8	8	3	7	6	10
Sweet	14	15	8	13	22	14
None of the above	59	56	75	59	52	58
<b><u>Decreased Taste Sensitivity</u></b>						
Bitter	5	5	3	4	7	7
Salty	9	9	8	8	8	15
Sour	5	5	4	4	11	8
Sweet	10	11	4	9	12	18
None of the above	82	81	84	84	75	70

= Significantly highest or higher than both numbers    
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q20 - Which of the following, if any, are you having increased taste sensitivity to? **Multiple answers accepted.**  
 Q21 - Which of the following, if any, are you having decreased taste sensitivity to? **Multiple answers accepted.**

Patients experiencing less energy and those losing weight are the most likely to have increased and/or decreased taste sensitivities. About one-half of them have increased taste sensitivities; about one-fifth have decreased taste sensitivities.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	%	%	%	%	%	%
<b><u>Increased Taste Sensitivity</u></b>						
Metallic	19	13	21	20	16	23
Salty	15	8	17	14	12	18
Sweet	14	9	15	16	11	16
Bitter	10	5	11	9	9	11
Sour	8	4	9	7	7	8
None of the above	59	72	55	63	64	52
<b><u>Decreased Taste Sensitivity</u></b>						
Sweet	10	7	11	10	7	12
Salty	9	4	11	10	9	9
Bitter	5	2	6	5	4	6
Sour	5	2	6	4	3	7
None of the above	82	90	79	81	86	79

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q20 - Which of the following, if any, are you having increased taste sensitivity to? **Multiple answers accepted.**  
 Q21 - Which of the following, if any, are you having decreased taste sensitivity to? **Multiple answers accepted.**

Patients who have eating and drinking habits that are the same as prior to treatment are the least likely to be experiencing taste sensitivities. Increased taste sensitivities are most prevalent among those with reduced consumption.

	<u>Total</u>	<u>Eating Behavior</u>			<u>Drinking Behavior</u>		
		<u>More</u>	<u>Same</u>	<u>Less</u>	<u>More</u>	<u>Same</u>	<u>Less</u>
Base sizes:	(1198)	(251)	(565)	(349)	(570)	(469)	(126)
	%	%	%	%	%	%	%
<b><u>Increased Taste Sensitivity</u></b>							
Metallic	19	24	13	26	21	15	30
Salty	15	17	10	22	16	11	24
Sweet	14	16	9	21	16	11	18
Bitter	10	14	6	13	11	7	15
Sour	8	8	4	13	8	6	16
None of the above	59	55	70	44	56	66	44
<b><u>Decreased Taste Sensitivity</u></b>							
Sweet	10	13	6	14	11	7	14
Salty	9	9	7	13	11	6	12
Bitter	5	3	4	7	4	4	6
Sour	5	4	3	9	5	4	7
None of the above	82	79	88	72	80	86	75

= Significantly highest or higher than both numbers   
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q20 - Which of the following, if any, are you having increased taste sensitivity to? **Multiple answers accepted.**  
 Q21 - Which of the following, if any, are you having decreased taste sensitivity to? **Multiple answers accepted.**

Although few patients prefer food served cold,\* those who have this preference are the most likely to have increased and/or decreased taste sensitivities. Patients who prefer food served at room temperature are more likely to have increased taste sensitivities versus those preferring food served hot or those with no preference.

	<u>Total</u>	<u>Temperature Preference for Food</u>			
		<u>Hot</u>	<u>Cold</u>	<u>Room</u>	<u>None</u>
Base sizes:	(1198)	(256)	(35)*	(123)	(752)
	%	%	%	%	%
<b><u>Increased Taste Sensitivity</u></b>					
Metallic	19	23	40	39	15
Salty	15	21	29	22	11
Sweet	14	16	17	21	12
Bitter	10	10	23	18	7
Sour	8	8	11	18	6
None of the above	59	50	26	39	66
<b><u>Decreased Taste Sensitivity</u></b>					
Sweet	10	14	29	25	5
Salty	9	12	27	13	6
Bitter	5	6	27	11	2
Sour	5	8	12	9	3
None of the above	82	72	47	67	89

 = Significantly highest or higher than both numbers     = Significantly lowest or lower than both numbers

 = Significantly higher than lowest number

\* Use caution since sample size is extremely low (n=35).

Q20 - Which of the following, if any, are you having increased taste sensitivity to? **Multiple answers accepted.**

Q21 - Which of the following, if any, are you having decreased taste sensitivity to? **Multiple answers accepted.**

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## **Foods and Beverages Avoiding**

## Foods Avoiding

Eight out of ten patients avoid some types of foods. Greasy/fried foods and spicy foods are most avoided. GI patients avoid significantly more foods than Hema patients.

	<u>Total</u> (1198)	<u>Type of Cancer</u>				
		<u>GI</u> (182)	<u>Lung</u> (169)	<u>Solid</u> (343)	<u>Breast</u> (226)	<u>Hema</u> (255)
Base sizes:						
	%	%	%	%	%	%
<b><u>Foods Avoid (Net)</u></b>	<b>80</b>	<b>85</b>	<b>78</b>	<b>82</b>	<b>81</b>	<b>75</b>
Greasy/fried foods	52	58	46	52	58	46
Spicy foods	44	54	40	48	43	33
Citric/acidic foods	31	35	28	33	33	26
Indian	30	36	27	35	34	24
Mexican	30	36	29	32	31	25
Salty foods	27	23	27	30	26	26
Sweets	23	24	20	23	23	24
Meat	22	25	16	27	26	16
Soy	22	26	20	23	24	19
Asian	21	29	18	21	22	16
Dairy	19	19	19	20	23	15
Some fruits and vegetables	18	25	11	18	15	19
Bland foods	18	18	20	17	16	19
Crunchy foods	15	16	17	20	13	9
Chewy foods	13	15	17	18	9	8
High fiber foods	12	20	12	16	8	7
Fish	12	13	8	12	14	12
Vegetarian	10	12	11	12	8	8
Pasta	9	9	5	12	9	8
Poultry	8	11	6	8	8	8
Soups	6	7	4	5	4	9
<b>None of the above</b>	<b>20</b>	<b>15</b>	<b>22</b>	<b>18</b>	<b>19</b>	<b>25</b>

= Significantly higher than all numbers  
 = Significantly higher than lowest number  
 = Significantly lower than all numbers

Q22 - Since you began treatment, which of the following types of foods, if any, are you intolerant to?

Q23 - Which of the following types of foods, if any, are you avoiding that you used to eat?

Q24 - Which of the following types of foods, if any, are you avoiding due to medical advice? **Multiple answers accepted.**

Most patients (53%) are not avoiding specific foods due to medical advice. Some of them are intolerant to specific foods or are just avoiding them.

	For any reason	Avoiding ...		
		Since intolerant to it	But used to eat it	Due to medical advice
		%	%	%
Greasy/fried foods	52	25	37	19
Spicy foods	44	28	28	14
Citric/acidic foods	31	17	16	14
Indian	30	17	22	5
Mexican	30	16	21	6
Salty foods	27	11	17	12
Sweets	23	8	15	9
Meat	22	10	15	5
Soy	22	8	15	5
Asian	21	10	14	4
Dairy	19	9	11	6
Some fruits and vegetables	18	10	9	10
Bland foods	18	8	13	1
Crunchy foods	15	8	9	3
Chewy foods	13	6	9	2
High fiber foods	12	7	7	5
Fish	12	6	7	1
Vegetarian	10	4	7	2
Pasta	9	4	6	2
Poultry	8	5	5	1
Soups	6	4	3	2
None of the above	20	43	30	53

= Significantly highest or higher than both numbers   
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Patients having less energy and unintentional weight loss tend to avoid more foods than others, especially greasy, spicy, acidic, Indian and Mexican foods.

	<b>Total</b>	<b>Energy Level</b>		<b>Weight Change (unintentional)</b>		
		<b>More/Same</b>	<b>Less</b>	<b>Gain</b>	<b>Same</b>	<b>Loss</b>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	%	%	%	%	%	%
<b><u>Foods Avoid (Net)</u></b>	<b>80</b>	<b>73</b>	<b>82</b>	<b>78</b>	<b>74</b>	<b>87</b>
Greasy/fried foods	52	42	54	45	48	57
Spicy foods	44	37	46	37	40	52
Citric/acidic foods	31	25	33	30	29	35
Indian	30	22	33	29	27	35
Mexican	30	20	33	26	26	35
Salty foods	27	23	29	29	23	29
Sweets	23	23	23	18	22	25
Meat	22	20	22	19	19	26
Soy	22	13	24	24	17	25
Asian	21	14	23	19	16	25
Dairy	19	15	20	16	16	22
Some fruits and vegetables	18	11	19	14	14	24
Bland foods	18	15	19	17	17	19
Crunchy foods	15	10	16	10	15	18
Chewy foods	13	7	15	9	12	17
High fiber foods	12	7	13	12	9	16
Fish	12	8	12	10	9	14
Vegetarian	10	6	11	10	7	13
Pasta	9	7	10	9	6	11
Poultry	8	7	8	6	5	11
Soups	6	4	6	4	4	9
<b>None of the above</b>	<b>20</b>	<b>27</b>	<b>18</b>	<b>22</b>	<b>26</b>	<b>13</b>

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Older patients are less likely to avoid foods than others. Caucasians are less likely to avoid meat than others. Four out of ten African American patients are avoiding salty foods.

	<b>Total</b>	<b>Age</b>		<b>Ethnicity</b>		
		<b>18-74</b>	<b>75+</b>	<b>White</b>	<b>Black</b>	<b>Others</b>
Base sizes:	(1198)	(1043)	(151)	(954)	(111)	(132)
	%	%	%	%	%	%
<b>Foods Avoid (Net)</b>	<b>80</b>	<b>81</b>	<b>73</b>	<b>80</b>	<b>82</b>	<b>82</b>
Greasy/fried foods	52	52	45	50	59	58
Spicy foods	44	44	45	43	39	52
Citric/acidic foods	31	32	25	30	34	38
Indian	30	30	33	31	27	33
Mexican	30	29	38	30	25	29
Salty foods	27	27	33	25	42	33
Sweets	23	24	19	21	31	28
Meat	22	23	15	20	30	32
Soy	22	21	26	22	19	21
Asian	21	20	26	21	22	22
Dairy	19	19	15	17	30	22
Some fruits and vegetables	18	18	16	18	17	18
Bland foods	18	18	14	18	26	13
Crunchy foods	15	15	14	14	16	20
Chewy foods	13	12	18	12	14	16
High fiber foods	12	12	13	12	13	13
Fish	12	12	11	10	13	23
Vegetarian	10	10	10	9	11	13
Pasta	9	10	8	8	12	15
Poultry	8	9	4	7	11	13
Soups	6	6	6	5	8	10
<b>None of the above</b>	<b>20</b>	<b>19</b>	<b>27</b>	<b>20</b>	<b>18</b>	<b>18</b>

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Nine out of ten patients who are eating less food since beginning treatment are avoiding some type of food.

	<u>Total</u>	<u>Eating Behavior</u>		
		<u>More</u>	<u>Same</u>	<u>Less</u>
Base sizes:	(1198)	(251)	(565)	(349)
	%	%	%	%
<b><u>Foods Avoid (Net)</u></b>				
Greasy/fried foods	52	56	44	61
Spicy foods	44	50	34	55
Citric/acidic foods	31	36	23	40
Indian	30	30	24	40
Mexican	30	31	23	39
Salty foods	27	26	24	33
Sweets	23	25	19	28
Meat	22	20	16	34
Soy	22	21	17	29
Asian	21	20	14	32
Dairy	19	21	14	25
Some fruits and vegetables	18	20	11	27
Bland foods	18	15	15	23
Crunchy foods	15	14	9	24
Chewy foods	13	10	9	22
High fiber foods	12	11	7	20
Fish	12	8	7	22
Vegetarian	10	9	6	17
Pasta	9	8	7	14
Poultry	8	7	4	15
Soups	6	6	3	11
None of the above	20	17	27	10

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

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## Other Foods Avoided

Patients mention explain the types of foods that they are avoiding ...

- **Acidic / spicy foods**
  - *Spicy foods, Cajun, Creole*
  - *Pizza*
  - *Tomato sauce, salsa, chili*
  - *Garlic, onions, hot peppers, hot sauces*
  - *Spicy food because it makes my mouth sore*
  - *Grapefruit*
- **Fried / greasy / high fat or rich foods**
  - *Any dishes that are too rich, oily or greasy, e.g. pastas with creams, chicken wings*
  - *Fats, including cooking oil and fatty oils*
- **Processed / salty foods**
  - *Processed foods; preservatives; deli meats; white bread*
- **Foods hard to digest or hard to chew**
  - *Constipation issues: anything high in fiber, breads, dairy*
  - *Hard to chew foods: chips, crackers, stringy vegetables, red meat, steak*
- **Sweets and foods with high sugar content**
- **Cold beverages or cold foods**
  - *Ice cream or frozen desserts; ice water or cold beverages*
- **Other foods and beverages include ...**
  - *Raw fish/sushi, shellfish; avoiding fruits/veggies, salads unless organic; meats that are not grass-fed, anything with hormones; coffee, alcohol*

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Q26 - Since you began treatment, what other foods, if any, are you avoiding? **Sample of verbatim comments shown above.**  
**See Appendix for all verbatim comments.**

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## Patients describe the foods that they are avoiding ...

- *Anything that I really liked before treatment, I don't want to ruin my future experience, I know it's going to taste terrible so why eat it.*
- *If I can smell cooking (even good cooking) it kills my appetite.*
- *Fresh fruit and veggies due to bacteria*
- *Fruit and veggies that are difficult to clean by soap and water such as berries, grapes, grape tomatoes, salad*
- *Anything with seeds unless cut out - cucumbers, tomatoes etc.*
- *Foods with skin, seeds, pulp, whole grains*
- *Breads, though I love them. Too hard to swallow. Meats. Crunchy things. No taste. They hurt to swallow*
- *Can't have cold drink or ice after the chemo treatments for about four days. It burn my throat to drink them*
- *Chemo makes it painful to eat strongly spiced prepared food. Dairy is difficult as well but not painful*
- *In patient and out patient facilities - too much sugar, salt and simple carbs*

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Q26 - Since you began treatment, what other foods, if any, are you avoiding? **Sample of verbatim comments shown above.**  
**See Appendix for all verbatim comments.**

## Beverages Avoiding

Patients are most likely to avoid alcoholic beverages, followed by soda, pop or tonic. Lung patients are the least likely to avoid coffee.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Beverages Avoid</u></b>						
Other alcoholic drinks	54	61	51	57	51	50
Beer	51	61	47	55	46	48
Wine	50	57	41	55	47	49
Soda, pop or tonic	39	45	35	39	41	32
Coffee	28	31	16	28	33	28
Soy milk	24	19	28	26	25	23
Sports drinks	23	22	21	24	25	24
Milk	19	22	18	22	23	14
Vegetable juice	17	20	18	17	15	15
Flavored water	16	14	18	17	17	18
Fruit juice	15	13	15	14	14	14
Tea	12	12	11	14	10	16
Water	5	6	4	5	6	3
None of the above	18	12	23	17	18	21

= Significantly higher than all numbers
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q28 - Since you began treatment, which beverages, if any, are you avoiding that you used to drink? **Multiple answers accepted.**

Patients 75+ years are less likely to avoid beverages than others. Caucasians are significantly less likely to avoid soda/pop/tonic and coffee than others.

	<u>Total</u>	<u>Age</u>		<u>Ethnicity</u>		
		<u>18-74</u>	<u>75+</u>	<u>White</u>	<u>Black</u>	<u>Others</u>
Base sizes:	(1198)	(1043)	(151)	(954)	(111)	(132)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
<b><u>Beverages Avoid</u></b>						
Other alcoholic drinks	54	54	50	54	58	50
Beer	51	53	42	50	57	54
Wine	50	51	44	50	54	51
Soda, pop or tonic	39	40	32	37	47	49
Coffee	28	29	19	26	36	36
Soy milk	24	24	26	25	23	22
Sports drinks	23	23	25	23	23	24
Milk	19	20	18	18	24	22
Vegetable juice	17	16	21	17	15	16
Flavored water	16	16	17	15	18	23
Fruit juice	15	15	13	14	16	19
Tea	12	13	8	12	6	17
Water	5	5	5	4	2	8
None of the above	18	17	27	18	15	22

= Significantly highest or higher than both numbers    
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q28 - Since you began treatment, which beverages, if any, are you avoiding that you used to drink? **Multiple answers accepted.**

Coffee is being avoided more among patients with low energy levels and weight loss versus others.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	%	%	%	%	%	%
<b><u>Beverages Avoid</u></b>						
Other alcoholic drinks	54	42	57	54	49	56
Beer	51	42	54	50	47	54
Wine	50	39	53	46	46	54
Soda, pop or tonic	39	32	41	37	36	43
Coffee	28	17	31	19	23	35
Soy milk	24	15	26	26	21	23
Sports drinks	23	21	23	25	23	21
Milk	19	14	21	16	19	21
Vegetable juice	17	11	18	15	15	19
Flavored water	16	14	17	16	16	18
Fruit juice	15	11	16	13	13	17
Tea	12	5	14	11	10	15
Water	5	2	5	3	5	5
None of the above	18	34	14	20	25	13

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q28 - Since you began treatment, which beverages, if any, are you avoiding that you used to drink? **Multiple answers accepted.**

More than nine out of ten patients (92%) who are drinking less beverages since treatment began are avoiding some type of beverage, especially alcoholic and carbonated beverages.

	<u>Total</u>	<u>Drinking Behavior</u>		
		<u>More</u>	<u>Same</u>	<u>Less</u>
Base sizes:	(1198)	(570)	(469)	(126)
	%	%	%	%
<b><u>Beverages Avoid</u></b>				
Other alcoholic drinks	54	56	50	60
Beer	51	53	47	61
Wine	50	53	45	56
Soda, pop or tonic	39	42	31	51
Coffee	28	29	25	37
Soy milk	24	23	23	32
Sports drinks	23	22	22	29
Milk	19	19	16	31
Vegetable juice	17	16	14	29
Flavored water	16	17	15	19
Fruit juice	15	15	12	23
Tea	12	13	8	21
Water	5	2	4	16
None of the above	18	15	25	8

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q28 - Since you began treatment, which beverages, if any, are you avoiding that you used to drink? **Multiple answers accepted.**

## Bothersome Smells/Aromas

The most annoying smells and aromas are cleaning solutions and perfume or cologne. Six out of ten Breast cancer patients try to avoid aromas, especially perfume/cologne and cleaning solutions.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
Cleaning solutions	25	23	24	27	32	22
Perfume/cologne	24	17	22	24	37	24
Fish	12	10	7	15	14	10
Food cooking	12	17	12	12	15	8
Hand sanitizers	9	7	6	8	12	11
Meat	6	10	5	6	7	4
Plastic	6	6	2	6	10	6
Poultry	4	8	2	5	6	3
Dairy	2	4	4	3	2	2
None of the above	52	53	56	50	40	53
Other	9	9	9	11	7	9

**Most often mentions are:**

Foods and Beverages: *garlic, onions, coffee*

Other smells: *cigarette/cigar smoke, gasoline, scented candles/incense*

- = Significantly higher than all numbers
- = Significantly higher than lowest number
- = Significantly lower than all numbers

See Appendix for all "Other" comments.

Q31 - Since you began treatment, which of the following aromas/smells bother you or do you try to avoid? **Multiple answers accepted.**

Only one-fourth of those 75+ years are bothered by aromas/smells. Other ethnicities (not White or Black) are most sensitive to the smell of fish and food cooking aromas.

	<b>Total</b>	<b>Age</b>		<b>Ethnicity</b>		
		<b>18-74</b>	<b>75+</b>	<b>White</b>	<b>Black</b>	<b>Others</b>
Base sizes:	(1198)	(1043)	(151)	(954)	(111)	(132)
	%	%	%	%	%	%
Cleaning solutions	25	26	14	24	28	27
Perfume/cologne	24	26	10	25	18	20
Fish	12	12	7	11	9	20
Food cooking	12	13	5	11	13	20
Hand sanitizers	9	10	1	9	4	10
Meat	6	6	1	6	5	6
Plastic	6	6	3	6	6	7
Poultry	4	5	1	4	4	6
Dairy	2	3	1	2	1	5
None of the above	52	48	76	52	52	46
Other	9	9	6	9	4	12

 = Significantly highest or higher than both numbers

 = Significantly higher than lowest number

Q31 - Since you began treatment, which of the following aromas/smells bother you or do you try to avoid? **Multiple answers accepted.**

Patients experiencing less energy since treatment began are the most sensitive to aromas and smells. More than one-half of them mention a specific type of aroma or smell that they try to avoid.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Cleaning solutions	25	16	27	28	22	27
Perfume/cologne	24	19	25	23	22	26
Fish	12	5	13	11	9	14
Food cooking	12	4	14	8	8	18
Hand sanitizers	9	7	9	9	6	11
Meat	6	3	6	7	6	6
Plastic	6	2	7	9	4	7
Poultry	4	2	5	5	3	6
Dairy	2	2	2	2	2	3
None of the above	52	68	47	52	57	46
Other	9	7	9	7	8	10

 = Significantly highest or higher than both numbers

 = Significantly higher than lowest number

Q31 - Since you began treatment, which of the following aromas/smells bother you or do you try to avoid? **Multiple answers accepted.**

Since beginning treatment, those who have had eating changes are the most likely to be bothered by aromas/smells.

	<b>Total</b>	<b>Eating Behavior</b>		
		<b>More</b>	<b>Same</b>	<b>Less</b>
Base sizes:	(1198)	(251)	(565)	(349)
	%	%	%	%
Cleaning solutions	25	29	18	33
Perfume/cologne	24	30	19	28
Fish	12	12	7	19
Food cooking	12	13	5	23
Hand sanitizers	9	9	7	11
Meat	6	6	3	10
Plastic	6	6	4	9
Poultry	4	3	3	7
Dairy	2	2	1	5
None of the above	52	46	63	37
Other	9	10	6	11

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q31 - Since you began treatment, which of the following aromas/smells bother you or do you try to avoid? **Multiple answers accepted.**

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## **Foods and Beverages Preferring**

## Temperature of Food Preferred

Among those having a preference for how foods are served, most of them prefer foods served hot.

	<b>Total</b>	<b>Type of Cancer</b>				
		<b>GI</b>	<b>Lung</b>	<b>Solid</b>	<b>Breast</b>	<b>Hema</b>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Hot	22	32	29	17	14	23
Room temperature	11	12	11	17	9	5
Cold	3	3	1	4	3	3
No preference	65	53	59	62	74	69

= Significantly higher than all numbers    
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q19 - Since you began treatment, do you prefer foods that are served:

Older patients and non-Caucasian patients have a strong preference for hot foods. Two-thirds of Caucasians do not have a preference for the temperature that food is served.

	<b><u>Total</u></b>	<b>Age</b>		<b>Ethnicity</b>		
		<b><u>18-74</u></b>	<b><u>75+</u></b>	<b><u>White</u></b>	<b><u>Black</u></b>	<b><u>Others</u></b>
Base sizes:	(1198)	(1043)	(151)	(954)	(111)	(132)
	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>	<b>%</b>
Hot	22	21	30	19	43	27
Room temperature	11	11	5	10	14	15
Cold	3	3	2	3	2	3
No preference	65	65	63	68	41	55

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q19 - Since you began treatment, do you prefer foods that are served:

Patients experiencing less energy and those losing weight are more likely than others to have a preference on food temperature.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Hot	22	21	22	18	17	27
Room temperature	11	6	12	11	10	12
Cold	3	1	4	2	3	4
No preference	65	71	63	68	70	58

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q19 - Since you began treatment, do you prefer foods that are served:

## Appeal of Food

Food is more appetizing when prepared at home versus eating out or bringing in (43% vs. 18%, respectively). Breast cancer patients are the least likely to indicate that food is most appetizing when prepared at home.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Prepared at home	43	43	43	42	35	49
Eaten out	13	15	17	13	17	10
Brought in	5	6	4	7	6	1
No preference	39	37	37	38	42	40

= Significantly higher than all numbers    
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q40 - Is food more appetizing when prepared at home, brought in, or eaten out?

African Americans are significantly more likely than Caucasians to feel that food is more appetizing when it is prepared at home.

	<u>Total</u>	<u>Age</u>		<u>Ethnicity</u>		
		<u>18-74</u>	<u>75+</u>	<u>White</u>	<u>Black</u>	<u>Others</u>
Base sizes:	(1198)	(1043)	(151)	(954)	(111)	(132)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Prepared at home	43	42	49	41	52	48
Eaten out	13	13	16	13	18	13
Brought in	5	5	2	5	5	5
No preference	39	40	34	41	25	35

 = Significantly highest or higher than both numbers

 = Significantly higher than lowest number

Q40 - Is food more appetizing when prepared at home, brought in, or eaten out?

Those with unintentional weight gain are significantly more likely than others to find food more appetizing when it is eaten out.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	%	%	%	%	%	%
Prepared at home	43	41	44	36	42	47
Brought in	5	2	6	3	4	6
Eaten out	13	13	13	19	11	12
No preference	39	44	38	42	42	35

 = Significantly highest or higher than both numbers

 = Significantly higher than lowest number

Q40 - Is food more appetizing when prepared at home, brought in, or eaten out?

## Food Preferences

Fruits and vegetables, soups, poultry, pasta and fish are the most preferred types of foods.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Foods Prefer</u></b>						
Some fruits and vegetables	69	72	63	69	70	73
Soups	62	65	69	64	58	62
Poultry	61	63	65	58	60	62
Pasta	55	62	61	53	53	56
Fish	53	54	57	52	52	55
Meat	46	49	49	44	42	51
Dairy	44	45	45	44	43	47
Sweets	41	47	43	41	41	39
High fiber foods	35	37	34	33	36	36
Crunchy foods	29	32	23	28	32	30
Asian	26	28	28	29	23	24
Salty foods	26	26	24	23	31	26
Vegetarian	24	25	22	25	33	19
Mexican	22	27	19	23	24	21
Spicy foods	22	20	22	23	22	23
Chewy foods	21	24	17	19	24	23
Citric/acidic foods	19	18	19	20	19	20
Bland foods	14	15	14	16	16	12
Greasy/fried foods	13	13	21	13	10	12
Indian	10	11	10	13	10	8
Soy	9	12	11	10	10	5
None of the above	9	4	8	9	7	14

= Significantly higher than all numbers  
 = Significantly higher than lowest number  
 = Significantly lower than all numbers

Q25 - Which of the following types of foods, if any, do you prefer? **Multiple answers accepted.**

Preferences vary by age and ethnicity. Those 75+ years have a greater preference for soups, poultry, pasta and meat while other adults have stronger preferences for more ethnical foods. Preference for fish is strong among African Americans.

	<u>Total</u>	<u>Age</u>		<u>Ethnicity</u>		
		<u>18-74</u>	<u>75+</u>	<u>White</u>	<u>Black</u>	<u>Others</u>
Base sizes:	(1198)	(1043)	(151)	(954)	(111)	(132)
	%	%	%	%	%	%
<b><u>Foods Prefer</u></b>						
Some fruits and vegetables	69	69	71	70	73	62
Soups	62	61	72	63	55	62
Poultry	61	59	69	61	72	47
Pasta	55	54	64	58	47	40
Fish	53	53	54	52	70	47
Meat	46	45	58	49	44	30
Dairy	44	43	49	47	35	29
Sweets	41	40	47	42	45	32
High fiber foods	35	35	36	34	39	35
Crunchy foods	29	29	32	31	24	22
Asian	26	27	17	27	23	24
Salty foods	26	26	19	27	14	23
Vegetarian	24	25	21	24	29	20
Mexican	22	24	6	23	20	12
Spicy foods	22	23	14	22	27	16
Chewy foods	21	21	20	22	22	12
Citric/acidic foods	19	19	24	20	17	17
Bland foods	14	14	13	15	4	13
Greasy/fried foods	13	14	11	14	16	9
Indian	10	11	3	11	5	4
Soy	9	9	7	9	5	9
None of the above	9	8	12	9	4	10

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q25 - Which of the following types of foods, if any, do you prefer? **Multiple answers accepted.**

Food preferences are similar, regardless of energy level and weight changes. However, food appeal is greater among those with more energy.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
<b><u>Foods Prefer</u></b>						
Some fruits and vegetables	69	75	68	70	72	67
Soups	62	60	64	60	58	66
Poultry	61	67	59	62	64	58
Pasta	55	58	55	59	54	57
Fish	53	60	51	56	53	52
Meat	46	52	45	51	47	43
Dairy	44	49	42	41	46	43
Sweets	41	43	41	47	37	41
High fiber foods	35	36	34	33	38	33
Crunchy foods	29	32	28	33	30	25
Asian	26	26	26	27	27	23
Salty foods	26	31	24	29	26	23
Vegetarian	24	23	24	25	25	23
Mexican	22	21	22	20	25	20
Spicy foods	22	25	21	23	21	21
Chewy foods	21	27	19	20	21	20
Citric/acidic foods	19	22	19	20	20	18
Bland foods	14	11	15	15	10	16
Greasy/fried foods	13	17	12	14	15	12
Indian	10	11	9	11	11	8
Soy	9	10	8	11	10	6
None of the above	9	9	9	8	11	8

 = Significantly highest or higher than both numbers

 = Significantly higher than lowest number

Q25 - Which of the following types of foods, if any, do you prefer? **Multiple answers accepted.**

Food preferences do not vary much by quantity of food being consumed. However, those eating less food are significantly less likely to prefer fish and meat than others.

	<u>Total</u>	<u>Eating Behavior</u>		
		<u>More</u>	<u>Same</u>	<u>Less</u>
Base sizes:	(1198)	(251)	(565)	(349)
	%	%	%	%
<b><u>Foods Prefer</u></b>				
Some fruits and vegetables	69	74	69	66
Soups	62	66	59	66
Poultry	61	66	61	55
Pasta	55	58	52	57
Fish	53	58	55	45
Meat	46	54	47	38
Dairy	44	45	43	44
Sweets	41	46	40	40
High fiber foods	35	40	33	33
Crunchy foods	29	34	28	27
Asian	26	27	26	25
Salty foods	26	28	23	27
Vegetarian	24	24	25	23
Mexican	22	23	22	20
Spicy foods	22	22	23	21
Chewy foods	21	22	21	21
Citric/acidic foods	19	20	19	19
Bland foods	14	14	11	20
Greasy/fried foods	13	15	12	15
Indian	10	11	11	8
Soy	9	8	10	8
None of the above	9	6	13	5

  = Significantly highest or higher than both numbers  
   = Significantly lowest or lower than both numbers  
  = Significantly higher than lowest number

Q25 - Which of the following types of foods, if any, do you prefer? **Multiple answers accepted.**

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## Most Appealing Foods

Patients describe foods that are most appealing to them.

- **Carb-heavy foods**

- *Pasta, noodles, macaroni, mac and cheese, linguine, spaghetti, fettuccini, lasagna,*
- *Casseroles, rice, risotto*
- *Cereal, breads, crackers, rolls, bagels, muffins*
- *Potatoes, mashed potatoes, sweet potatoes*

- **“Comfort” foods**

- *Soups, homemade soups, stews, chili, eggs, pastas/carb-heavy foods*
- *Warm, comforting, simple*
- *I love comfort foods right now*

- **“Soft, Smooth and Creamy” foods**

- *Smoothies, shakes, frozen yogurt, ice cream, cottage cheese, pudding, baby food, apple sauce, yogurts, creamy soups, oatmeal, custards, rice pudding, jello, eggs, eggs soft cooked*
- *Foods which are easy to swallow, don’t require lots of chewing*
- *Soft easily digested versions of old time favorites*

- **Sweets**

- *Chocolate, cookies, candy, cakes, ice cream, frozen yogurt, sherbet, smoothies, fruit pies, pudding, cheesecake*
- *Always like sweets but ‘grazing’ with good nutrition important*
- *I seem to have much more of a sweet tooth since I’ve been on Chemo*
- *Maybe slight increase in sweets because I can get away with it more than I could before!*

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Q27 - What foods have been most appealing to you? **Sample of verbatim comments shown above. See Appendix for all verbatim comments.**

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## Most Appealing Foods, Cont'd.

Although spicy foods are appealing to many patients, others prefer bland foods.

- **Spicy or flavorful foods**

- *Asian, Mexican, Indian (curry), Thai, Chinese, Italian, Pizza*
- *Full flavor foods*
- *I like to add herbs to my food to keep them from being bland.*
- *I enjoy Mexican food because it is spicy.*
- *Strong craving for sweets or spicy foods, e.g., hot stuffed banana peppers, lots of pepper on food*

- **Salty**

- *Popcorn, potato chips, nuts, salty chips, crackers, pretzels*
- *Salty foods are appealing*

- **Bland foods**

- *During the first week I prefer bland foods – mashed potatoes, rice, toast, bananas, eggs, chicken soup*
- *None!!! But I have been able to eat Campbell's creamy cup of chicken soup, oatmeal*
- *Bland – easily digestible*
- *Nutritional, bland, simple*
- *Bland with salty rather than spicy nature*

---

Q27 - What foods have been most appealing to you? **Sample of verbatim comments shown above. See Appendix for all verbatim comments.**

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## Most Appealing Foods, Cont'd.

Specifically, meats, fish, fruits and vegetables have strong appeal.

### ■ Meats / Seafood

- *Steak, beef, chicken, poultry, fish, seafood*
- *Fresh fish, dark meat chicken, or turkey*
- *Baked chicken*
- *I was anemic for a while and craved red meat, spinach, any iron rich foods*
- *Tend to crave red meat, such as hamburger, more often*
- *Broiled, baked or grilled. Try to avoid greasy/fried foods*

### ■ Fruits and vegetables

- *Bananas, apples, oranges, watermelon, most melons, grapes*
- *Potatoes, sweet potatoes, squash, spinach, string beans, bok choy, cabbage, kale, carrots, green vegetables, avocados*
- *Fresh fruits and veggies, salads*
- *Canned, dried, frozen fruits*
- *Cold fruit that has been prepared bite size*

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Q27 - What foods have been most appealing to you? **Sample of verbatim comments shown above. See Appendix for all verbatim comments.**

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## Appealing Recipes or Food Dishes

Patients share some of their most appealing recipes or food dishes.

### ■ Carb-heavy foods

- *A pasta dish with tomato sauce, veggies, possibly meat, topped with cheese and a high fiber crusty topping*
- *I ate potatoes and corn for about a month; I was able to keep food down*
- *Love pasta. In summer it would be pasta salad with tuna or chicken. Also like pasta with shrimp/tuna, oil, some (not a lot) of garlic*
- *Paella – rice with green plantains, with ham, pork chops, chicken, seafood and condiments – tomato sauce, cilantro, onion, garlic, green peppers*
- *Pasta dish in butter or cream sauce with a large side of slightly cooked green veggies like peas, broccoli or corn; good bread with olive oil/vinegar*
- *Rice noodles with carrots, bell pepper, cucumber, avocado and lime in a peanut sauce.*
- *Rigatoni mixed with spinach, red peppers, chicken strips, olive oil, garlic, black olives and Romano/parmesan cheese.*
- *Sheppard's pie – mashed potatoes, cheese, ground beef, peas*
- *Spaghetti with tomato sauce and meatballs*
- *Stir fry – brown rice, veggies, chicken, soy sauce*

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Q30 - Please describe a recipe or food dish you would create that would really appeal to you during treatment. **Sample of verbatim comments shown above. See Appendix for all verbatim comments.**

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## Appealing Recipes or Food Dishes, Cont'd.

### ■ “Comfort” foods

- *A fish soup or stew that has a variety of seafood along with healthy herbs or vegetables in a tasty stock*
- *Chicken and dumplings, food with lots of gravy (but not cheese). Soups and chowders. Scrambled eggs and grits.*
- *Chicken pot pie (“comfort food”) – with potatoes, carrots, peas, onions with a flaky crust*
- *Comfort foods – mashed potatoes, spaghetti carbonara, BLT or club sandwiches, lasagna*
- *Crockpot – chicken, rice, vegetables*
- *French toast or pancakes and eggs over easy with sausage*
- *Homemade chicken noodle soup. I make and freeze so as to have after chemo*
- *I like all, but first time after chemo – soft comfort foods like sweet potatoes*
- *I make a chicken stew at least once a month. I use potatoes, carrots, chicken, a lot of spices. Better over white rice.*
- *I make a special soup – it has broccoli, string beans, carrots, potatoes, kale, chicken and I eat it every day in a bowl full especially after chemo. It keeps me regulated and my blood healthy.*
- *Lentil soup, sautéed garlic, onion, leeks, carrots, celery in olive oil, add vegetable broth (preferably homemade), water, lentils, favorite vegetables – kale, spinach, etc.*
- *Mac and cheese homemade with butter, milk, sharp cheddar, Elbows mac, flour, salt and pepper*
- *Omelets, sometimes soups (such as creamy soups or tomato)*
- *Potato soup – sautéed onions, bacon, potatoes, ½ cream, corn, celery, chicken stock, salt and pepper*
- *Scrambled eggs with green peppers, onion, cheese*

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Q30 - Please describe a recipe or food dish you would create that would really appeal to you during treatment. **Sample of verbatim comments shown above. See Appendix for all verbatim comments.**

## Appealing Recipes or Food Dishes, Cont'd.

### ■ “Soft, Smooth and Creamy” foods

- *Almost mash potatoes – it is a recipe from Davita website for renal patients who still want mashed potatoes but should not have them (potassium). Secret ingredient = cauliflower*
- *Cream of wheat with French vanilla creamer*
- *Cream sauce with lots of soft vegetables and rice*
- *I just began treatment so I don't know yet – perhaps rice pudding but the idea of eating is abhorrent to me*
- *I've become a fan of green smoothies. They don't look appealing but they taste great.*
- *Oatmeal with flaxseed oil and tablespoon of real maple syrup.*
- *Peach and ginger smoothie, pineapple and papaya smoothie*
- *Pudding, jello, cream soups, scrambled eggs, mashed potatoes*
- *Smoothie with vanilla ice cream, yogurt, strawberries, blueberries and protein powder*

### ■ Sweets

- *Evening dessert: 30 gm protein powder, 4 oz. milk, 4 oz. Uniuva, cream, peanut butter, scoop of light ice cream in blender*
- *New York cheesecake, cherry pie*
- *Creamy desserts, like pudding*
- *Key lime yogurt for dessert and tea with cookie*
- *For dessert, a root beer float*
- *Melted chocolate chips and peanut butter chips mixed with something crunchy, such as chow mien noodles then cooled to make cookies*
- *Nothing really sounds good; ice cream is the only thing that tastes good*
- *Something that continued to have taste and that I really liked was putting vanilla ice cream on top of hot apple pies or apple crisp*

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Q30 - Please describe a recipe or food dish you would create that would really appeal to you during treatment. **Sample of verbatim comments shown above. See Appendix for all verbatim comments.**

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## Appealing Recipes or Food Dishes, Cont'd.

### ■ Spicy or flavorful foods

- *A beef burrito with guacamole and hot sauce*
- *I make a chicken stew at least once a month. I use potatoes, carrots, chicken, a lot of spices. Better over white rice.*
- *I would enjoy anything that is a little bit spicy with salsa. Mexican food, like tacos, tastes good right now.*
- *Indian curries, Thai spicy noodles*
- *Mexican torte made by my wife with a lot of jalapenos*
- *Some sort of dish comprised of chicken or ground beef slightly salty and slightly spicy with cheese*
- *Spicy dish, popcorn with hot sauce*
- *Spicy fried rice with beef, pork, shrimp*
- *Vegetable rice with BBQ lamb and onions or curry shrimp with crab and lobster meat over yellow rice with onions, green peppers*

### ■ Salty

- *Air popped popcorn with a small amount of oil to hold salt and light salt*
- *Diarrhea is my main problem so salty good broth dishes*

### ■ Bland foods

- *Egg salad, ham salad – mostly bland foods*
- *Non-spicy, low acid. Chili- somehow with lots of flavor but easy on the tummy*
- *Plain chicken and rice soup with celery, onion, salt and pepper. No oregano, parsley, carrots, etc.*
- *Plain grilled chicken with plain boiled potatoes or rice, with steamed veggies*
- *Right after chemo – something mild/bland, chicken a la king*

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Q30 - Please describe a recipe or food dish you would create that would really appeal to you during treatment. **Sample of verbatim comments shown above. See Appendix for all verbatim comments.**

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## Appealing Recipes or Food Dishes, Cont'd.

### ■ Meats / Seafood

- *Baked chicken breast, corn, mashed potatoes*
- *Baked fish with acceptable herbs (if any, that could be easily digested – lemon, parsley, thyme, ginger)*
- *Broiled salmon, vegetables steamed, boiled red potatoes*
- *Brown rice with sautéed vegetables (all kinds of vegetables). Since I am on a high protein diet, I add chicken or pork to this.*
- *Chicken breast sautéed with mushrooms, mashed potatoes, grilled veggie sautéed with water*
- *Chicken thighs with skin cooked in a pan with white peach, balsamic vinegar, honey and caramelized onions (on good days) when nauseous – wonton soup or Chef Boyardee mac and cheese*
- *Chicken, cooked with rice in chicken broth and onions*
- *Fish on the grill and green vegetables or salad*
- *Grilled chicken with spicy marinade and seasoned rice with feta cheese*
- *Grilled salmon with vegetables and rice*
- *Non chewy meats or seafood and non stringy veggies*
- *Orange ginger chicken or any recipe from the cookbook – The Cancer Fighting Kitchen*
- *Parmesan crusted fish, mashed potatoes, green vegetable. I really like spices and seasonings and fish.*
- *Sautéed ground beef with mushrooms and zucchini, can of Mexican stewed tomatoes, topped with melted cheese*

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Q30 - Please describe a recipe or food dish you would create that would really appeal to you during treatment. **Sample of verbatim comments shown above. See Appendix for all verbatim comments.**

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## Appealing Recipes or Food Dishes, Cont'd.

- **Meats / Seafood, Cont'd.**

- *Scallops pan fried in light flour over rice*
- *Simple meals – protein (lean), grilled vegetables, fruit*
- *Small steak, mashed potatoes*
- *Spaghetti and meatballs*
- *Steak and vegetables*
- *Steak with red wine and blackberry jam and onion and garlic sauce, with mashed potatoes and sautéed green beans*
- *Turkey sausage with green, red, orange and yellow peppers sautéed with onions and sun dried tomatoes and tomato sauce.*
- *Thai pork or beef slice cooked with ginger and soy sauce*
- *Very thin sliced turkey cutlet lightly browned in skillet with mushrooms, red onions or red pepper/demi-glaze with a red wine, add some butter to it; nice looking, yummy hot dish with a roasted red potato or rice*

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Q30 - Please describe a recipe or food dish you would create that would really appeal to you during treatment. **Sample of verbatim comments shown above. See Appendix for all verbatim comments.**

## Appealing Recipes or Food Dishes, Cont'd.

### ■ Fruits and vegetables

- *A large fruit salad with pears, cherries, sugar and apples*
- *A salad with lots of vegetables, eggs, beets, etc.*
- *Baked fresh beets – peeled and uniformly cut and tossed lightly in olive oil, salt and pepper – wrap in foil and bake one hour*
- *Baked potato with broccoli, shredded cheese*
- *Blended green vegetables with garlic and extra virgin olive oil*
- *Broccoli or zucchini with pasta and sun dried tomatoes with olive oil and garlic*
- *Brown rice with steamed veggies – broccoli, kale, peanuts, onions and a yummy sauce*
- *Cooked vegetables: carrots, broccoli, zucchini, peas in a light cheese sauce*
- *Cucumber, quinoa, tomato, cilantro, lime salad*
- *Salad with grains, tabouli, sesame noodle, beets with Italian dressing*
- *Fresh fruit plate – strawberries, grapes, cantaloupe, pineapple, kiwi*

### ■ Foods to address specific concerns

- *Due to steroids, I tend to prefer “heavy” foods but only eat a small portion, i.e., small square of lasagna. Sounds good!*
- *Pasta because it is easy to swallow; it will not aggravate my mouth sores*
- *Anything a relatively toothless person can eat - stews, pastas, well cooked, bite size cereals, etc.*
- *I am mostly tube feeding. Maybe a clear broth soup with rice and tofu and for dessert a root beer float*
- *High calorie, tasty*
- *Smoothing warm soft and chewy! (tongue sores make eating difficult)*

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Q30 - Please describe a recipe or food dish you would create that would really appeal to you during treatment. **Sample of verbatim comments shown above. See Appendix for all verbatim comments.**

## Beverages Prefer

Water is the most preferred beverage, followed by fruit juice, tea and/or coffee. About one-half of Breast patients prefer tea. More than one-half of GI patients prefer fruit juice.

	<b>Total</b>	<b>Type of Cancer</b>				
		<b>GI</b>	<b>Lung</b>	<b>Solid</b>	<b>Breast</b>	<b>Hema</b>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
<b><u>Beverages Prefer</u></b>						
Water	74	70	75	75	78	74
Fruit juice	48	58	47	48	45	48
Tea	44	44	39	43	51	41
Coffee	40	43	45	40	34	40
Milk	36	32	40	36	32	41
Flavored water	26	25	25	28	26	23
Soda, pop or tonic	26	27	26	23	26	28
Vegetable juice	24	23	22	24	26	25
Sports drinks	19	26	21	18	12	19
Wine	11	9	11	10	16	10
Beer	7	5	5	5	5	10
Soy milk	5	8	3	5	8	5
Other alcoholic drinks	4	4	7	4	5	3
None of the above	7	5	6	7	5	8

= Significantly higher than all numbers    
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q29 – Since you began treatment, which beverages, if any, do you prefer? **Multiple answers accepted.**

Coffee is favored significantly more among adults 75+ than those younger. African Americans have the greatest desire for tea vs. others.

	<u>Total</u>	<u>Age</u>		<u>Ethnicity</u>		
		<u>18-74</u>	<u>75+</u>	<u>White</u>	<u>Black</u>	<u>Others</u>
Base sizes:	(1198)	(1043)	(151)	(954)	(111)	(132)
	%	%	%	%	%	%
<b><u>Beverages Prefer</u></b>						
Water	74	74	74	73	80	78
Fruit juice	48	47	55	48	54	43
Tea	44	44	42	43	54	39
Coffee	40	38	54	41	35	38
Milk	36	36	37	37	38	28
Flavored water	26	27	21	27	30	17
Soda, pop or tonic	26	26	24	27	27	16
Vegetable juice	24	24	19	23	31	24
Sports drinks	19	20	9	18	23	19
Wine	11	11	10	11	19	4
Beer	7	6	11	7	8	3
Soy milk	5	6	2	5	9	8
Other alcoholic drinks	4	4	3	5	5	1
None of the above	7	7	9	7	5	10

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q29 – Since you began treatment, which beverages, if any, do you prefer? **Multiple answers accepted.**

Beverage preferences are similar, regardless of energy level and weight changes. However, sports drinks have greater appeal among those who have lost weight.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	%	%	%	%	%	%
<b><u>Beverages Prefer</u></b>						
Water	74	74	74	79	72	70
Fruit juice	48	49	47	42	45	51
Tea	44	43	44	44	42	45
Coffee	40	44	39	45	39	37
Milk	36	39	36	34	33	39
Flavored water	26	21	27	25	24	27
Soda, pop or tonic	26	27	25	27	20	29
Vegetable juice	24	23	23	23	22	24
Sports drinks	19	16	20	15	14	25
Wine	11	12	10	10	10	10
Beer	7	8	6	6	8	7
Soy milk	5	8	5	7	6	5
Other alcoholic drinks	4	3	4	4	3	4
None of the above	7	9	6	8	10	5

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q29 – Since you began treatment, which beverages, if any, do you prefer? **Multiple answers accepted.**

Few differences are noted by drinking consumption. Those who are consuming more fluids are significantly more likely to prefer water than others.

	<u>Total</u>	<u>Drinking Behavior</u>		
		<u>More</u>	<u>Same</u>	<u>Less</u>
		(570)	(469)	(126)
Base sizes:	(1198)			
	%	%	%	%
<b><u>Beverages Prefer</u></b>				
Water	74	79	69	62
Fruit juice	48	48	47	49
Tea	44	46	42	41
Coffee	40	40	42	34
Milk	36	38	35	35
Flavored water	26	28	23	28
Soda, pop or tonic	26	24	29	22
Vegetable juice	24	26	22	16
Sports drinks	19	22	15	20
Wine	11	10	12	10
Beer	7	7	6	3
Soy milk	5	6	5	4
Other alcoholic drinks	4	3	4	7
None of the above	7	5	10	6

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q29 – Since you began treatment, which beverages, if any, do you prefer? **Multiple answers accepted.**

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## **Appeal of other Products and Services**

## Appeal of other Products and Services (Extremely/Very Helpful)

About six out of ten patients would find it helpful to receive recipes that help them manage their symptoms and/or written information on eating better during cancer treatment. Appeal is greatest among those with Breast cancer.

	<u>Total</u>	<u>Type of Cancer</u>				
		<u>GI</u>	<u>Lung</u>	<u>Solid</u>	<u>Breast</u>	<u>Hema</u>
Base sizes:	(1198)	(182)	(169)	(343)	(226)	(255)
	%	%	%	%	%	%
Recipes that help you manage your symptoms	59	59	58	53	67	56
Written information on eating better during cancer treatment	59	57	57	58	65	56
Pre-packaged or prepared meals to purchase that are full of nutrients needed to help you feel better	46	44	42	44	57	40
Videos on creating easy, highly nutritional meals	32	29	29	30	42	34
Liquid nutrition that tastes like food instead of milk shakes	18	20	23	20	14	14

= Significantly higher than all numbers
  = Significantly lower than all numbers  
 = Significantly higher than lowest number

Q41 - Please rate how helpful each of the following products and services would be to you.

Products and services are most appealing to adults under 75 years. Although some Caucasians find these ideas helpful, they are significantly less interested in them versus others.

	<u>Total</u>	<u>Age</u>		<u>Ethnicity</u>		
		<u>18-74</u>	<u>75+</u>	<u>White</u>	<u>Black</u>	<u>Others</u>
Base sizes:	(1198)	(1043)	(151)	(954)	(111)	(132)
	%	%	%	%	%	%
Recipes that help you manage your symptoms	59	61	38	56	73	67
Written information on eating better during cancer treatment	59	60	47	56	76	66
Pre-packaged or prepared meals to purchase that are full of nutrients needed to help you feel better	46	47	32	44	55	48
Videos on creating easy, highly nutritional meals	32	34	19	29	53	39
Liquid nutrition that tastes like food instead of milk shakes	18	18	22	16	28	27

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q41 - Please rate how helpful each of the following products and services would be to you.

Receiving recipes that would help manage symptoms would be significantly more helpful to those with less energy and unintentional weight loss. Having pre-packaged or prepared meals also appeal more to those lacking energy while having better tasting liquid nutrition might entice those with unintentional weight loss to consume more calories.

	<u>Total</u>	<u>Energy Level</u>		<u>Weight Change (unintentional)</u>		
		<u>More/Same</u>	<u>Less</u>	<u>Gain</u>	<u>Same</u>	<u>Loss</u>
Base sizes:	(1198)	(253)	(892)	(215)	(354)	(456)
	%	%	%	%	%	%
Recipes that help you manage your symptoms	59	49	61	52	57	60
Written information on eating better during cancer treatment	59	55	60	60	60	57
Pre-packaged or prepared meals to purchase that are full of nutrients needed to help you feel better	46	38	47	42	44	49
Videos on creating easy, highly nutritional meals	32	33	32	32	33	30
Liquid nutrition that tastes like food instead of milk shakes	18	14	19	13	14	22

 = Significantly highest or higher than both numbers

 = Significantly higher than lowest number

Q41 - Please rate how helpful each of the following products and services would be to you.

Those with changes in food consumption are more interested in recipes that would help them manage their symptoms than those patients whose eating habits have not changed since beginning treatment. Those who are eating less food are also the most interested in tasty liquid nutrition versus others.

	<u>Total</u>	<u>Eating Behavior</u>		
		<u>More</u>	<u>Same</u>	<u>Less</u>
Base sizes:	(1198)	(251)	(565)	(349)
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>
Recipes that help you manage your symptoms	59	61	53	65
Written information on eating better during cancer treatment	59	62	57	58
Pre-packaged or prepared meals to purchase that are full of nutrients needed to help you feel better	46	46	40	53
Videos on creating easy, highly nutritional meals	32	31	32	33
Liquid nutrition that tastes like food instead of milk shakes	18	13	17	24

= Significantly highest or higher than both numbers
  = Significantly lowest or lower than both numbers  
 = Significantly higher than lowest number

Q41 - Please rate how helpful each of the following products and services would be to you.

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# Appendix

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**Questionnaire**  
**Verbatim Comments**

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## Patients share other comments ...

- *Everything appeals to me. Nothing tastes good. And the smell of food makes me lose my appetite.*
- *My tastes have changed frequently during Rx; what appeals one day, does not on another day*
- *Educate the doctors! They don't provide any advice on eating or supplements (minimal advice). It should matter to them what they can do to manage a patients side effects and symptoms and it should matter to them what patients put into their bodies that inhibits treatment or better enhances treatment. It is negligent of the entire oncology field to not better educate and continually educate medical staff beyond western medicine. Nutritionists and dieticians are not sufficient.*
- *Taste buds seem affected - can't taste food like used to - dull; kind of like when you have a cold and can't taste - you know what it's supposed to taste like but can't taste it; 1st treatments were AC-lost 14 lbs.; 2nd to 4th treatments are Taxol-gaining weight back*

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**Sample of verbatim comments shown above.  
See Excel File for all verbatim comments.**