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OF HEALTH & NUTRITION
General Mills

Aging Well: Building Better Diets Through Nutrient Density

March 6, 2019

Speakers



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Corporate Chef, Convenience & Foodservice

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Convenience
& Foodservice

Learning Objectives



At the end of this webinar, the participant will be able to:

- Recognize the role of nutrient density as a key principle of the Dietary Guidelines
- Identify three reasons a dietary pattern based on nutrient density can improve nutrition quality for the aging adult
- Give three examples of increasing nutrient density in a food or menu item in a healthcare setting

Overview of Today's Presentation



1. Brief Evolution of Nutrition Guidance
2. Getting Back to Basics: Nutrient Density
3. Nutrition Considerations for Older Adults
4. Putting it into Practice
5. Culinary Corner
6. Q&A

What Does Choosing a Nutrient Dense Diet Look Like?



Moving from here...

To here.

Nutrition Facts	
Serving Size 1 tube (56g)	
Servings Per Carton 8	
Amount Per Serving	
Calories 50	Calories from Fat 5
% Daily Value*	
Total Fat 0.5g	1%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol less than 5mg	1%
Sodium 30mg	1%
Potassium 85mg	2%
Total Carbohydrate 10g	3%
Dietary Fiber 0g	0%
Sugars 8g	
Protein 2g	
Vitamin A 8%	• Vitamin C 0%
Calcium 10%	• Iron 0%
Vitamin D 10%	• Riboflavin 4%
Phosphorus 6%	
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:	
	Calories 2,000 2,500
Total Fat	Less than 65g 80g
Sat Fat	Less than 20g 25g
Cholesterol	Less than 300mg 300mg
Sodium	Less than 2,400mg 2,400mg
Potassium	3,500mg 3,500mg
Total Carbohydrate	300g 375g
Dietary Fiber	25g 30g

No sugar

Dairy Free

Wheat Free

Low carb

No fat

High Fat/
Keto



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Dietary Fiber	25g 30g

Evolution of Dietary Guidance



Nutrition in the News



Celebrities are fighting over the 'keto' diet. Here's what science says about how healthy it is

Posted: 2:08 PM, Jan 22, 2019 Updated: 1:08 PM, Jan 22, 2019
By: Dr. Partha Nandi

Why the pegan diet - a hybrid of paleo and vegan - could be the next big thing

RASHA ALI January 15 2019

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THE BLOG

Sodium: The Sneaky Source of a Silent Killer

© 05/20/2016 02:37 pm ET | Updated May 20, 2016

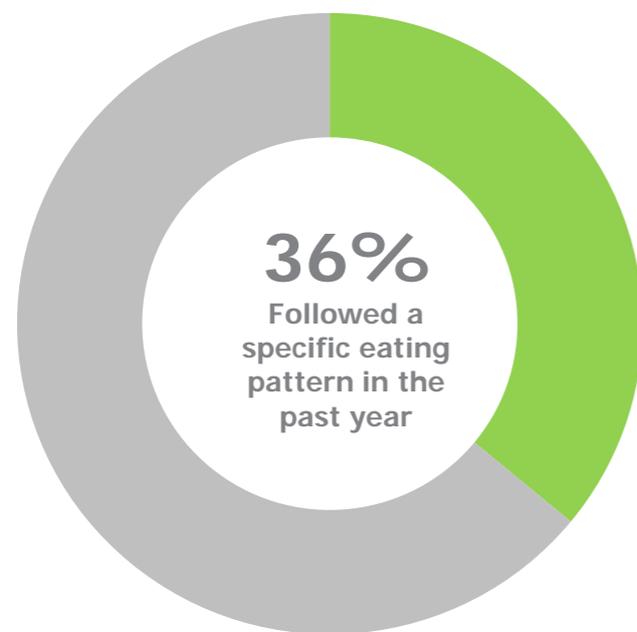
How sweet it was: Saying goodbye to sugar

Single Nutrients & Specific Foods Often Vilified:
How did we get here? How do we move back to looking
holistically at food & our diet?

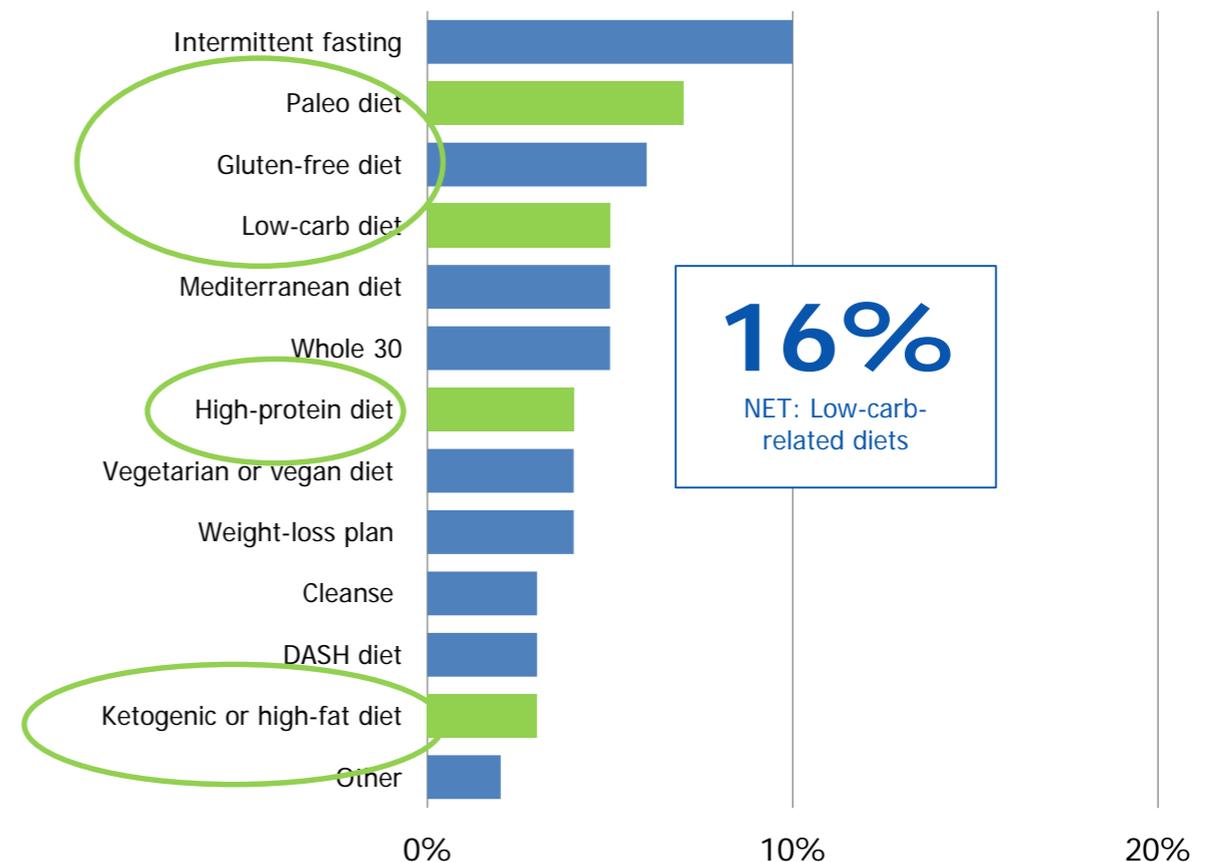
Recent Food & Health Survey shows Popularity of Diets Focusing on Single Nutrients

A higher number of younger consumers (18 to 34) followed a specific eating pattern/diet

Following Specific Eating Pattern



Type of Eating Pattern Followed



Q27: Have you followed any specific eating pattern or diet at any time in the past year? Select all that apply. (n=1,009)

The Evolution of Nutrition Guidance



Eliminating nutrient deficiencies



Preventing chronic disease

“Avoid too much fat, saturated fat, cholesterol; avoid too much sugar and sodium; eat foods with adequate starch and fiber”



Eating patterns & nutrient dense foods for disease prevention but still some emphasis on single nutrients



In More Recent News...FDA Reconsidering the Definition of Healthy



FDA to consider what 'healthy' means and other claims food companies can make

- The Food and Drug Administration wants to use nutrition to cut obesity rates and ultimately reduce the prevalence of chronic conditions like diabetes and heart disease.
- FDA Commissioner Scott Gottlieb unveils the plan at the National Food Policy Conference.
- The FDA will build on Obama-era regulations. It includes updating the health claims food manufacturers can make.

"The agency is also exploring whether it should **go beyond promoting specific nutrients to include food groups** Americans tend not to eat enough of, such as whole grains, low-fat dairy, fruits and vegetables and healthy oils."

"Traditionally, we've focused primarily on the nutrients contained in food in considering what is healthy. But **people eat foods, not nutrients,**"
Scott Gottlieb, FDA Commissioner

Dietary Guidance Translates to the Market, at times



Today

- ✓ Sugar Avoidance
- ✓ Lower carb / right carbs
- ✓ Full Fat / Healthy Fats
- ✓ Nutrient Dense, Whole Foods



How this Translates to Consumer Behavior

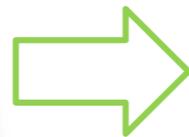
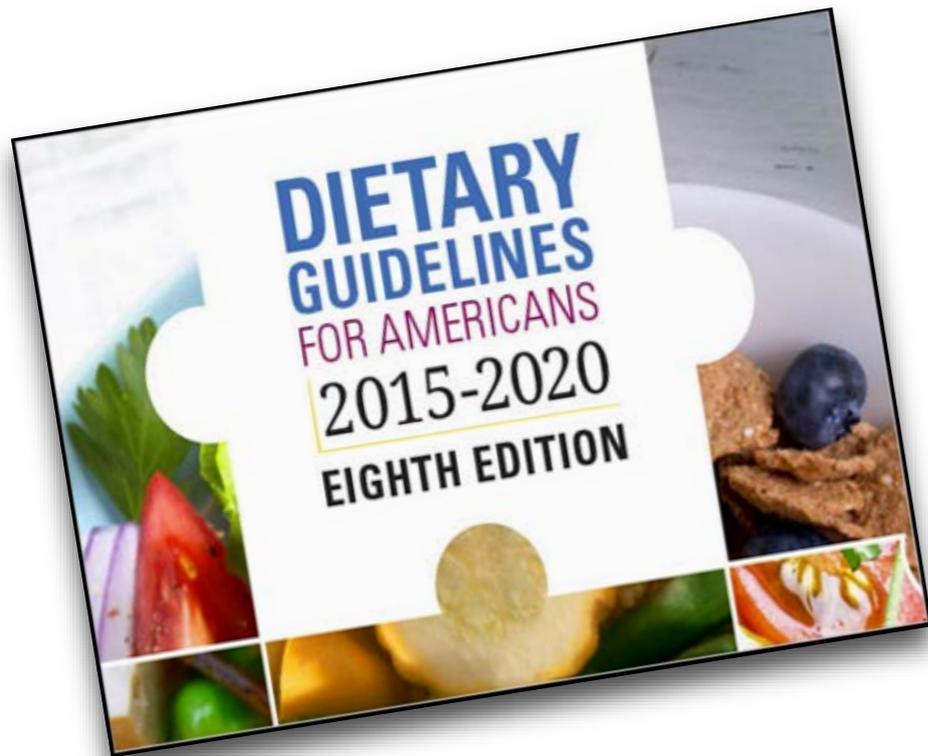
Personal POV



Getting Back to Basics: Nutrient Density



Nutrient Density is a Key Principle of Dietary Guidelines



The Guidelines

1. Follow a **healthy eating pattern** across the lifespan.
2. Focus on variety, **nutrient density** and amount.
3. Limit calories from added sugars and saturated fats and reduce sodium intake.
4. **Shift to healthier food and beverage choices.**
5. Support healthy eating patterns for all.

How is Nutrient Density Defined



Typically thought of as getting more nutrition for the calories

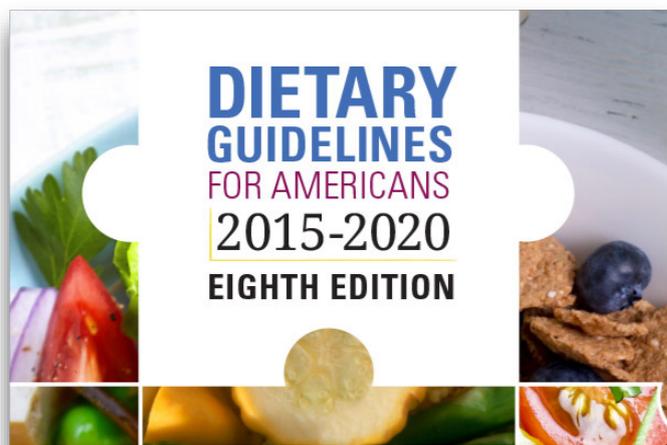
- Not a new concept but no universal definition
- Generally perceived as “healthful” foods
- All forms of foods can be nutrient dense - fresh, frozen, canned, shelf stable



As defined by the 2015 – 2020 U.S. Dietary Guidelines:

“ A characteristic of foods and beverages that provide vitamins, minerals, and other substances that contribute to adequate nutrient intakes or may have positive health effects, with little or no solid fats and added sugars, refined starches, and sodium”

“ Healthy eating patterns can accommodate other **nutrient-dense foods** with small amounts of added sugars, such as whole-grain breakfast cereals or fat-free yogurt... ” which provides some additional guidance.

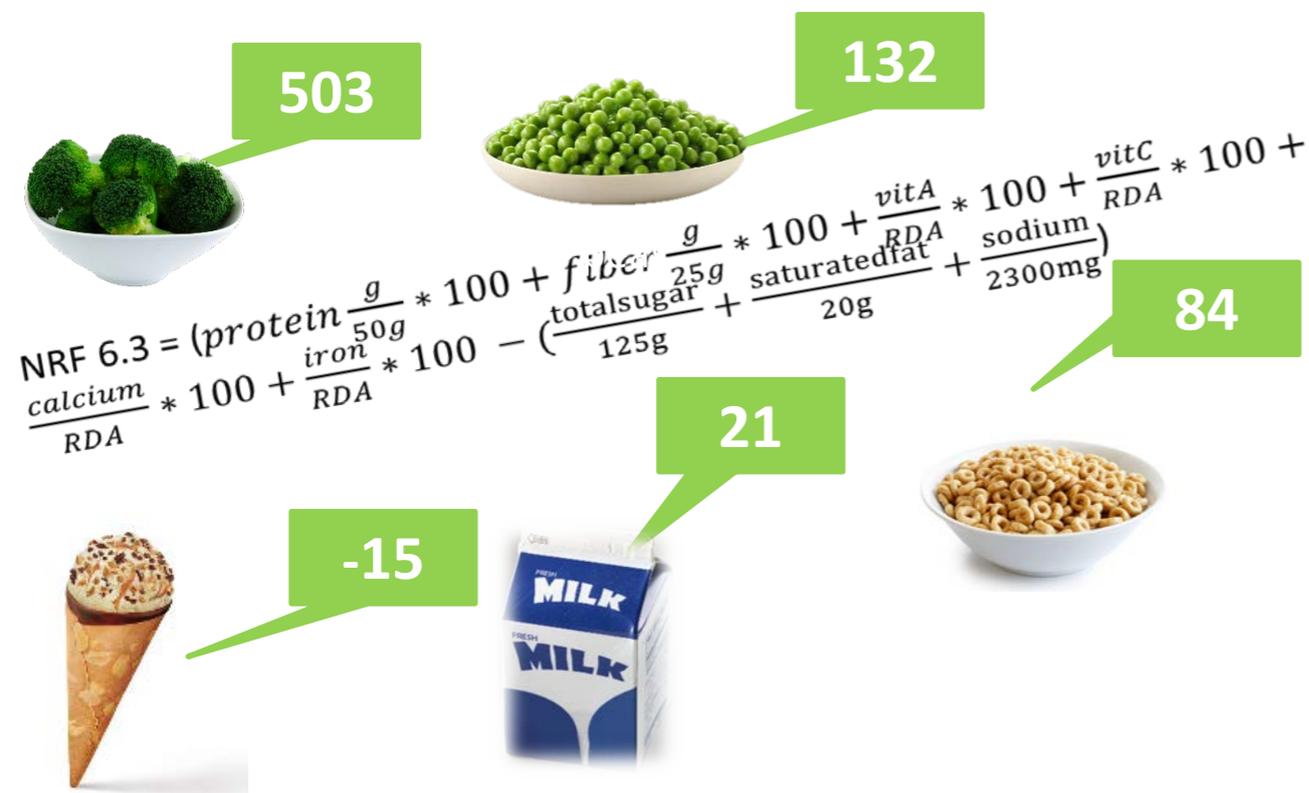


Is the Nutrient Density of a Food Quantifiable? Or is it subjective?

Scientifically Quantifiable? Yes.

Nutrient density in the scientific literature is defined as the contribution of nutrients per 100 calories, 100 grams or serving size of a food.

Nutrient Rich Food Index 6.3



Through the Consumers Lens?

Subjective based on what they believe to be healthy



#nutrientdense

#healthymeal
#naturalfoods
#cleanliving



#glutenfree
#eatclean
#healthyrecipes



Why is Nutrient Density Important?



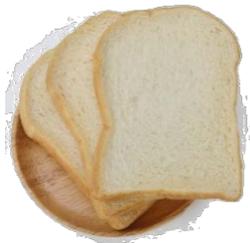
1. It's a way to help consumers evaluate the full product offering of a food, including nutrients AND food groups.
2. Consumers are confused on nutrition. Nutrient density can help reduce consumer confusion.
3. Helps consumers meet nutrient needs without overdoing calories.
4. Prevents consumers from unnecessarily eliminating foods.

Enables consumers to determine the overall nutritional quality of foods.

Why is Nutrient Density Important?

It's a Way to Evaluate Foods Holistically

Helps clients shift to more nutrient dense foods



Nutrition Facts		
Serving Size 1 cup (34g)		
Servings Per Container about 8		
Amount Per Serving	Honey Nut O's	with 1/2 cup skim milk
Calories	130	170
Calories from Fat	10	10
% Daily Value**		
Total Fat 1g*	2%	2%
Saturated Fat 0g	0%	0%
Trans Fat 0g		
Polyunsaturated Fat 0g		
Monounsaturated Fat 0g		
Cholesterol 0mg	0%	1%
Sodium 200mg	8%	11%
Potassium 85mg	2%	8%
Total Carbohydrate 28g	9%	11%
Dietary Fiber 3g	11%	11%
Sugars 9g		
Other Carbohydrate 17g		
Protein 3g		
Vitamin A	0%	4%
Vitamin C	0%	0%
Calcium	2%	15%
Iron	4%	4%

* Amount in cereal. A serving of cereal plus skim milk provides 1.5g total fat, less than 5mg cholesterol.

Nutrition Facts		
Serving Size 1 cup (29g)		
Servings Per Container about 18		
Amount Per Serving	MultiGrain Chex	with 1/2 cup skim milk
Calories	110	150
Calories from Fat	10	10
% Daily Value**		
Total Fat 1.5g*	2%	2%
Saturated Fat 0g	0%	0%
Trans Fat 0g		
Polyunsaturated Fat 0.5g		
Monounsaturated Fat 0.5g		
Cholesterol 0mg	0%	1%
Sodium 115mg	5%	7%
Potassium 125mg	4%	9%
Total Carbohydrate 24g	8%	10%
Dietary Fiber 3g	11%	11%
Sugars 6g		
Other Carbohydrate 15g		
Protein 2g		
Vitamin A	10%	15%
Vitamin C	10%	10%
Calcium	10%	25%
Iron	100%	00%
Vitamin D	10%	20%
Thiamin	100%	100%
Riboflavin	100%	110%
Niacin	100%	100%
Vitamin B ₆	100%	100%
Folic Acid	100%	100%
Vitamin B ₁₂	100%	10%
Pantothenic Acid	100%	100%
Phosphorus	8%	20%
Magnesium	4%	8%
Zinc	100%	100%

* Amount in cereal. A serving of cereal plus skim milk provides 1.5g total fat, less than 5mg cholesterol.



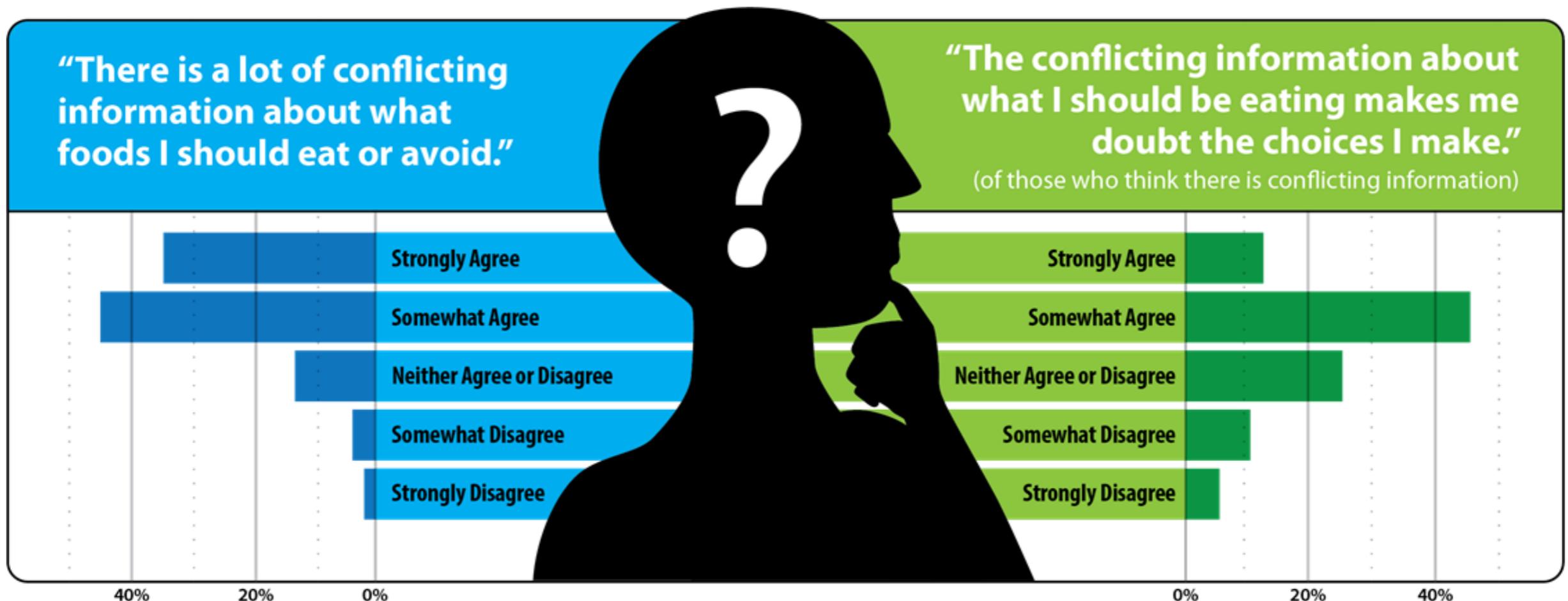
Why is Nutrient Density Important?

Reduces Consumer Confusion



Consumers are Confused: Conflicting Advice Abounds

8 in 10 find conflicting advice about what to eat or avoid, many doubt their food choices



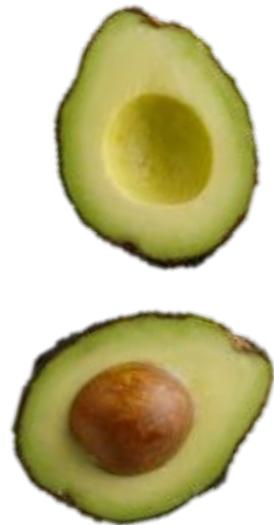
Moves us from avoidance to positive consumer messages.

Why is Nutrient Density Important?

Prevents Unnecessary Elimination of Foods



There is no entirely good food or bad food. Foods with a health halo can have nutrients to limit & foods with a negative perception can have nutrients to encourage.



Avocado, Nuts



Fat



Potatoes

Potassium



Fruit

Sugar



Full Fat Dairy (Yogurt, Cheese)

Calcium,
Protein



Minimally Processed AND Processed Foods can be Nutrient Dense & Contribute to Nutrient Intakes in the Diet



FROM THE AMERICAN SOCIETY FOR NUTRITION
 American Society for Nutrition
 Excellence in Nutrition Research and Practice

SCIENTIFIC STATEMENT

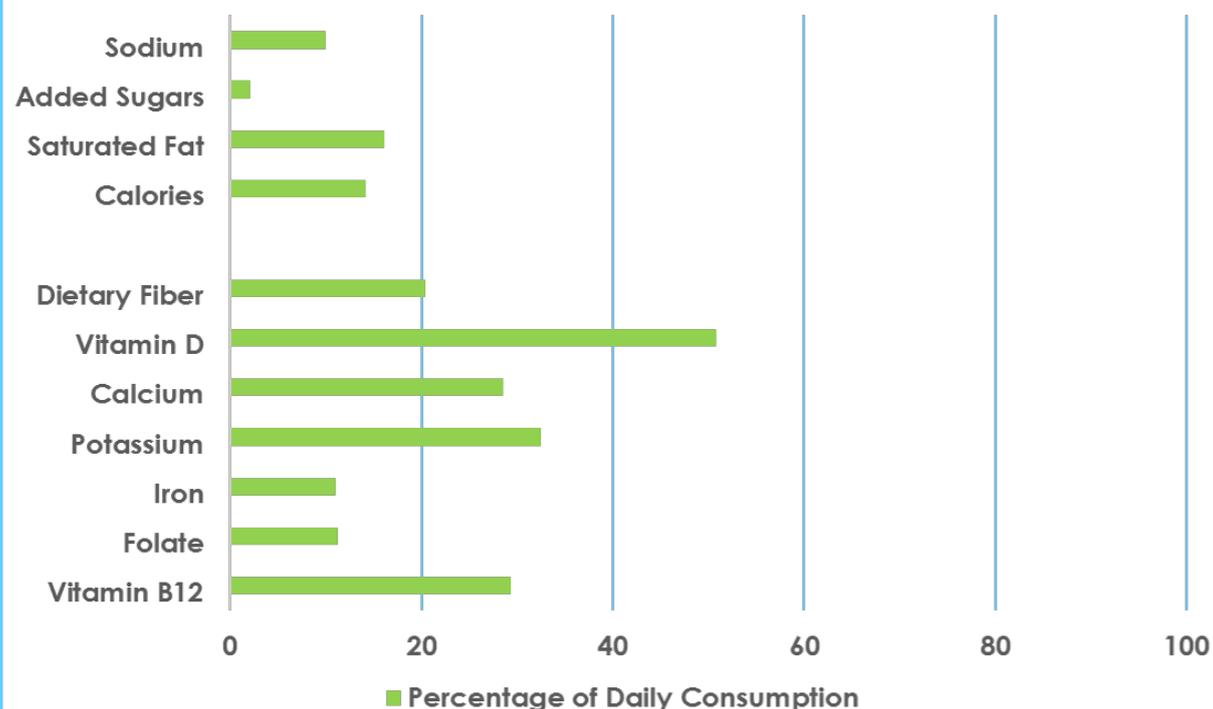
Processed foods: contributions to nutrition^{1,2}

Connie M Weaver,^{3*} Johanna Dwyer,^{4,5} Victor L Fulgoni III,⁶ Janet C King,⁷ Gilbert A Leveille,⁸ Ruth S MacDonald,⁹ Jose Ordovas,⁵ and David Schmakenberg¹⁰

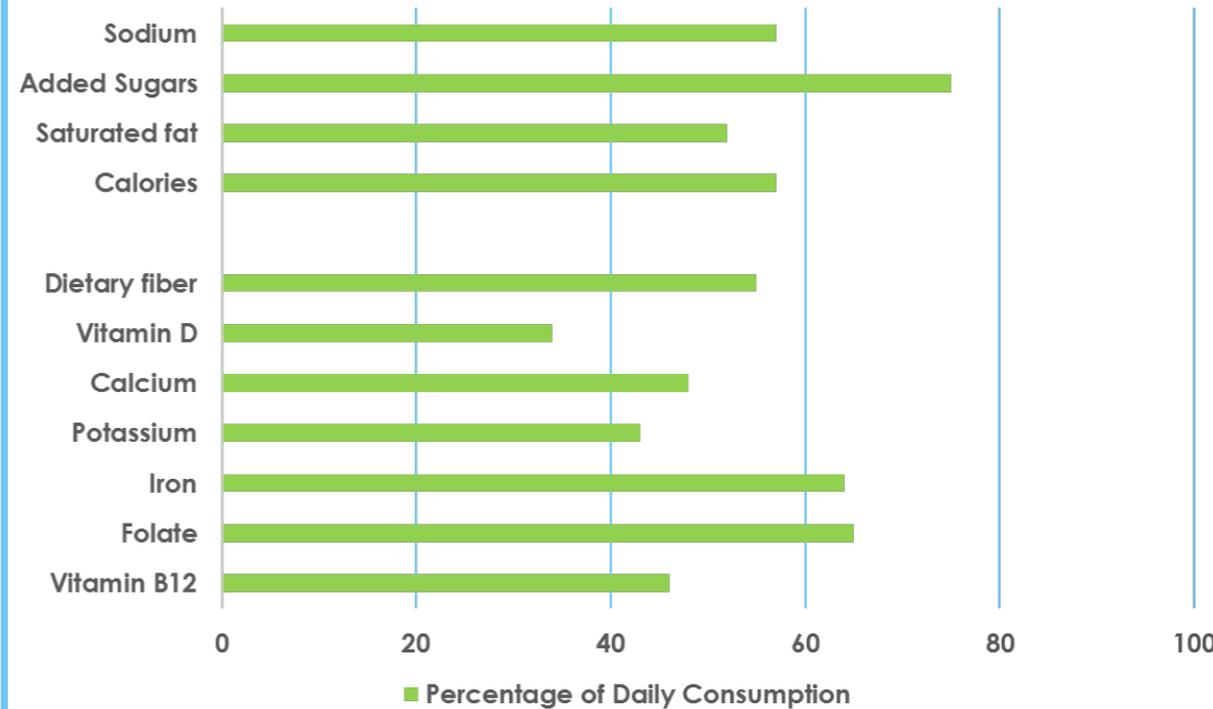
¹Department of Nutrition Science, College of Health and Human Sciences, Purdue University, West Lafayette, IN; ²Jean Mayer USDA Human Nutrition Research Center on Aging, School of Medicine, and Friedman School of Nutrition Science and Policy, Tufts University, Boston, MA; ³Office of Dietary Supplements, NIH, Bethesda, MD; ⁴Nutrition Impact LLC, Battle Creek, MI; ⁵Department of Nutrition, University of California, Davis, CA, and Children's Hospital Oakland Research Institute, Oakland, CA; ⁶Leveille Associates, Denville, NJ; ⁷Department of Food Science and Human Nutrition, Iowa State University, Ames, IA, and ¹⁰Vienna, VA.



Minimally Processed



Processed Foods



Nutrition Considerations for Aging Adults



MyPlate for Older Adults



MyPlate for Older Adults

Fruits & Vegetables

Whole fruits and vegetables are rich in important nutrients and fiber. Choose fruits and vegetables with deeply colored flesh. Choose canned varieties that are packed in their own juices or low-sodium.

Healthy Oils

Liquid vegetable oils and soft margarines provide important fatty acids and some fat-soluble vitamins.

Herbs & Spices

Use a variety of herbs and spices to enhance flavor of foods and reduce the need to add salt.



Fluids

Drink plenty of fluids. Fluids can come from water, tea, coffee, soups, and fruits and vegetables.

Grains

Whole grain and fortified foods are good sources of fiber and B vitamins.

Dairy

Fat-free and low-fat milk, cheeses and yogurts provide protein, calcium and other important nutrients.

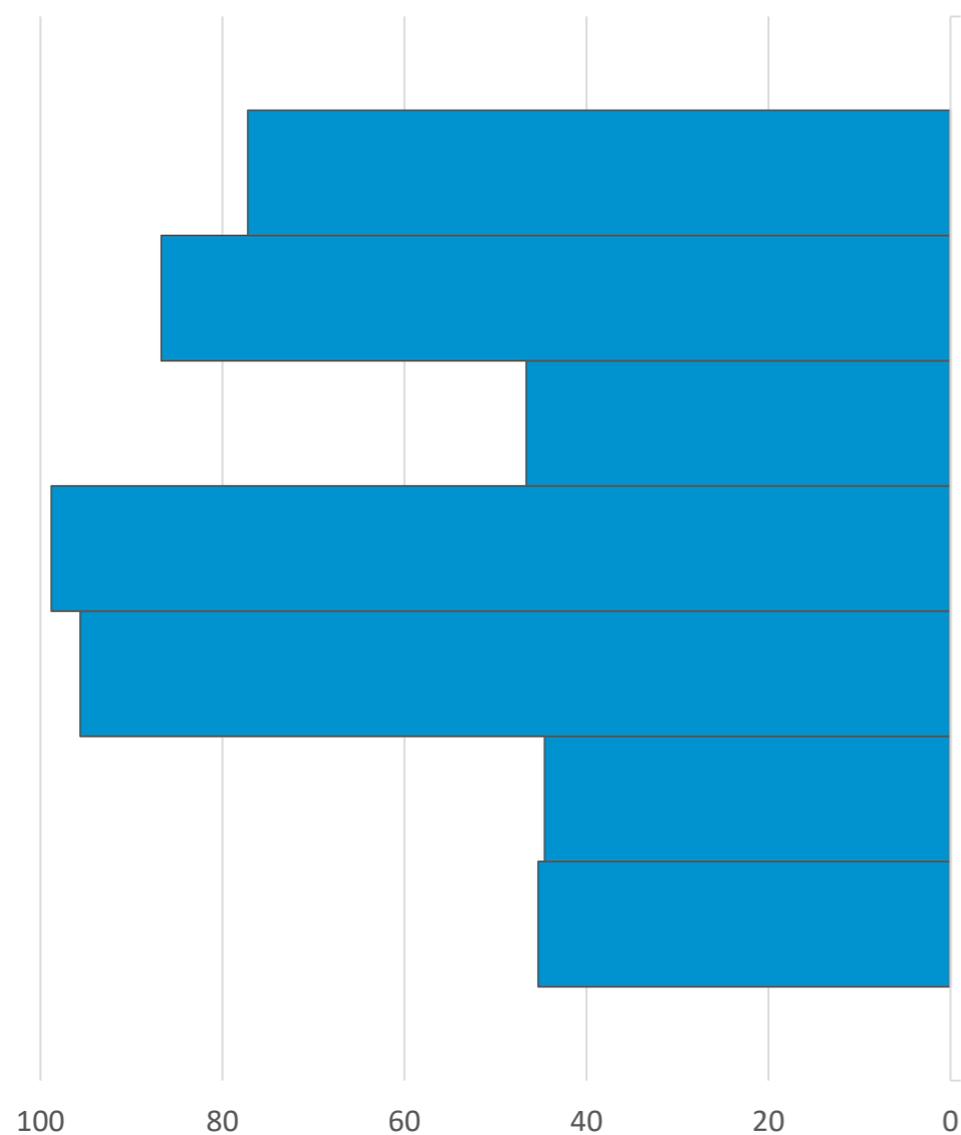
Protein

Protein rich foods provide many important nutrients. Choose a variety including nuts, beans, fish, lean meat and poultry.

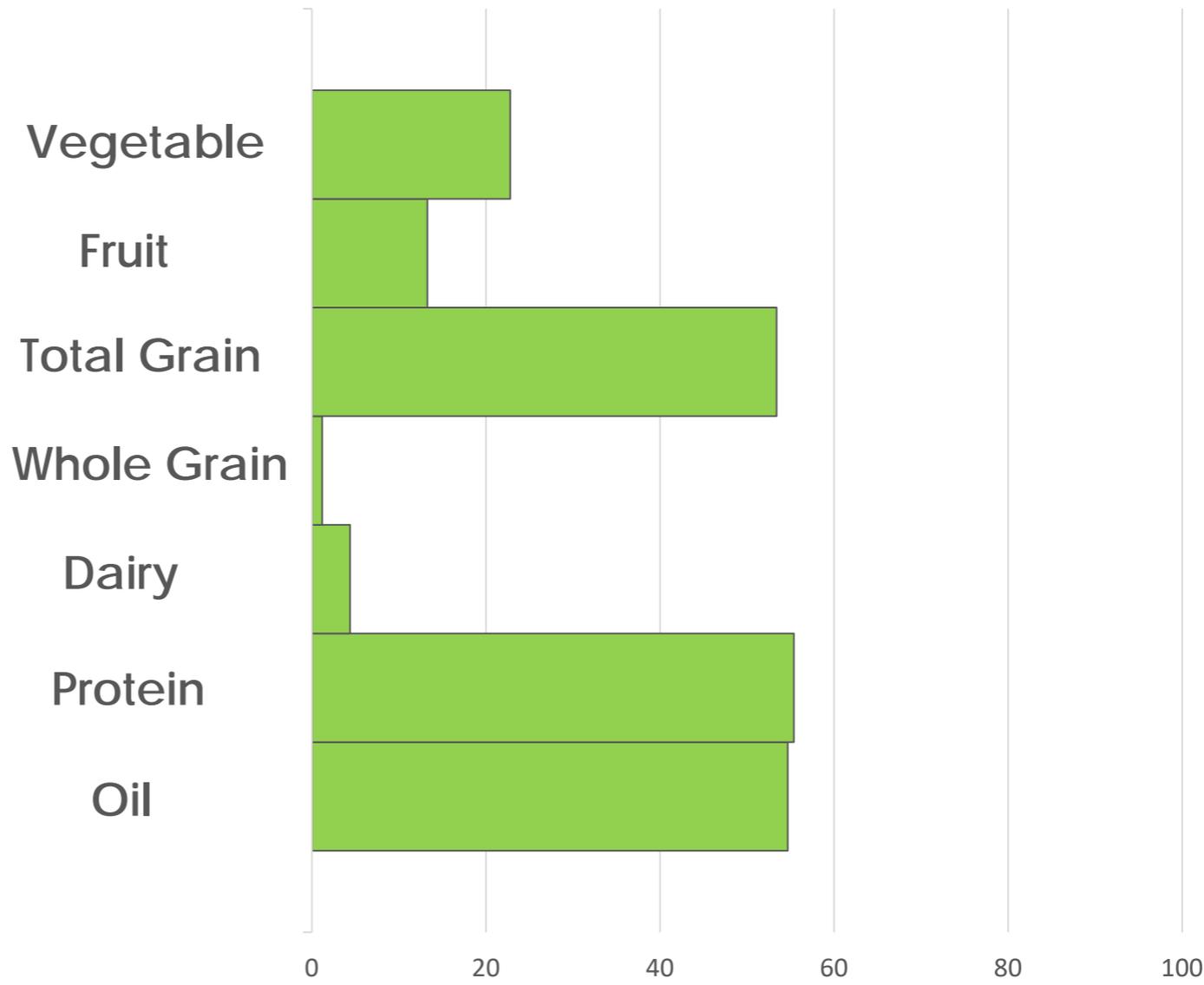


Remember to Stay Active!

Dietary Intakes Compared to Recommendations



Percentage of 51+ Population Below Dietary Guidelines



Percentage of 51+ Population Meeting or Above Dietary Guidelines

Where do Americans, Age 51+, Fall Short on Nutrient Recommendations?



% Not Meeting Recommendations

46%

Vitamin C

81%

Vitamin E

56%

Magnesium

42%

Vitamin A

59%

Calcium

94%

Vitamin D

% Meeting Recommendations

12%

Dietary Fiber

1%

Potassium

Where do Americans, Age 51+, Fall Short on Nutrient Recommendations?

% Not Meeting Recommendations

46%

Vitamin C

81%

Vitamin E

56%

Magnesium

42%

Vitamin A

59%

Calcium

94%

Vitamin D

% Meeting Recommendations

12%

Dietary Fiber

1%

Potassium

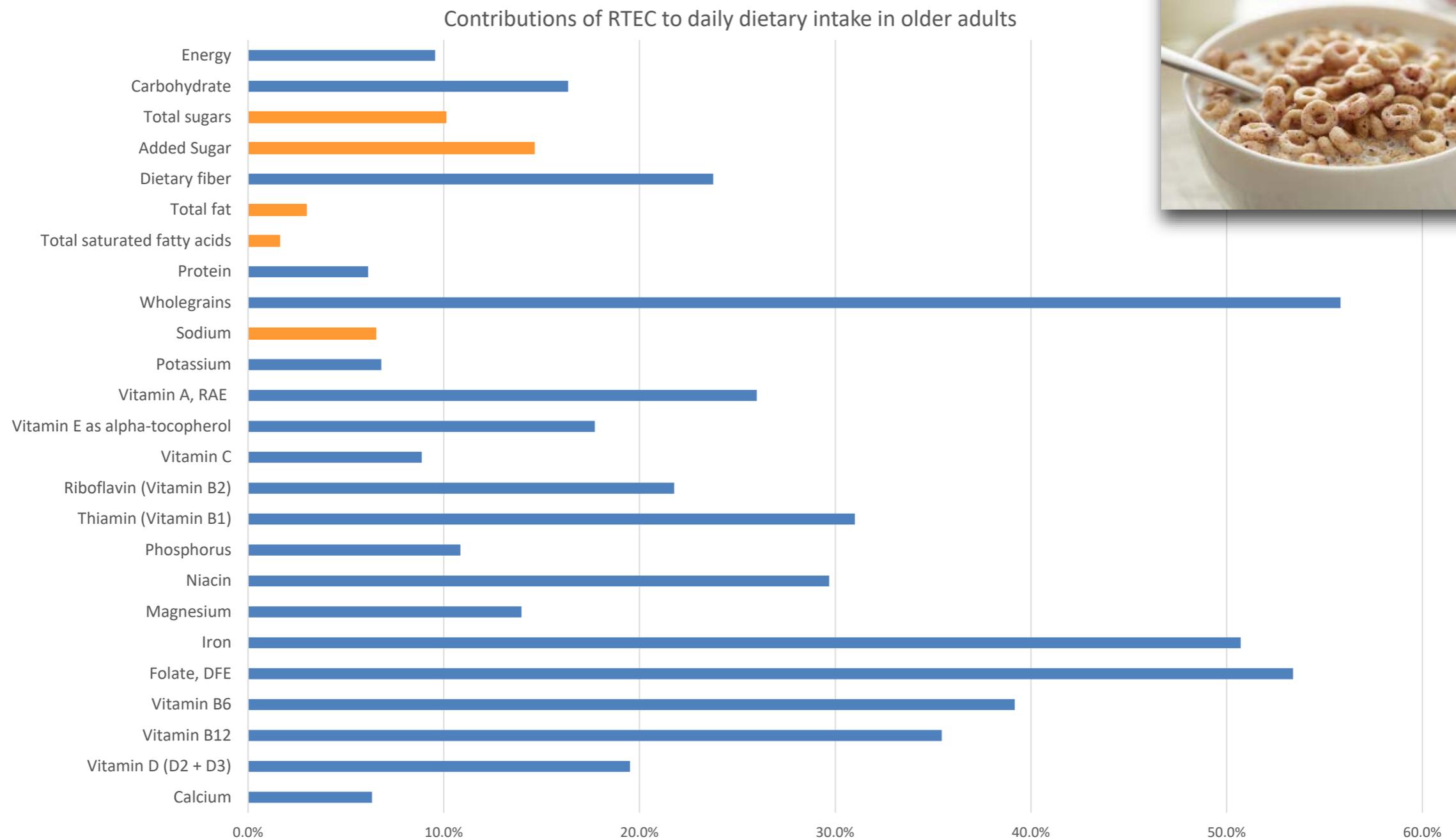
Fortified foods can help people meet recommendations:

- Fortified breakfast cereals and yogurt were identified in the Dietary Guidelines as key foods that provide nutrients of concern
- Fortified foods and supplements are useful in providing nutrients with inadequate intakes

Ready to Eat Cereal Is Nutrient Dense



Cereal contributes at least 20% of several key nutrients, including whole grain and fiber, to the total daily dietary intake



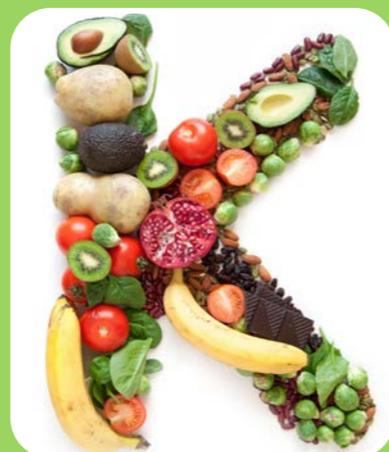
Nutrients to Pay Special Attention to



Fiber



Potassium



Calcium



Vitamin D



Vitamin B12



Regularity

Women:
25g/day

Men:
38g/day

Cereals, beans,
fruits,
vegetables, nuts

Regulates Blood Pressure

Adequate Intake (AI):
4700 mg/day
for 51+ adults

Dairy foods,
sweet/white
potatoes, dried
beans, bananas

Strong Bones & Teeth

1,200mg/day

Dairy Foods,
Fortified foods,
sardines

Aids Calcium Absorption

800 to 1000
IU/day

Fortified Foods,
egg yoks,
mushrooms,
fatty fish

Metabolism, RBCs, Nervous System

2.4mcg/day

Meat, Fish,
Dairy +
Supplements/
Fortified foods

What about Protein



Aging bodies need more protein:

- Maintain muscle mass/strength
- Bone health
- Chronic/acute illness
- Many factors can affect protein intake; can lead to loss of muscle → decreased mobility → difficulties healing → loss of independence

Encourage a variety of nutrient dense protein sources:



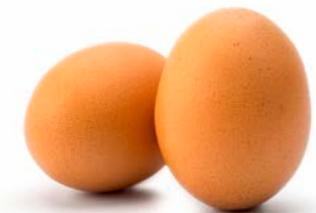
3oz tuna
21g protein



2 Tbsp peanut butter
10g protein



½ cup
13g protein



2 eggs
14g protein



5.3oz yogurt
15g protein

	Recommended Daily Amount	Amt for 150lb Woman	Amt for 180lb Man
Healthy Adult	0.8 grams/kg of body weight	55g/day	65g/day
Healthy Older Adult	1.0-1.2 grams/kg of body weight	69-81g/day	81-98g/day
Older Adult with Acute/Chronic Illness	1.2-1.5 grams/kg of body weight	81-102g/day	98-123g/day

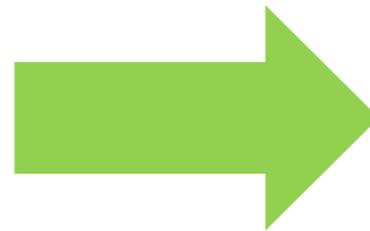
Putting it into Practice: Using the Concept of Nutrient Density to Build Healthy Diets



Moving from Avoidance to Nutrient Density & Looking Holistically at Food



THE BLOG
Sodium: The Sneaky Source of a Silent Killer
05/20/2016 02:37 pm ET | Updated May 20, 2016



Calories count, sure, but focus on nutrient-dense foods



Chicago Tribune

The darker and greener your vegetables the better. (Timette Reed / Blend Images)

ASN The Journal of Nutrition
Issues and Opinions

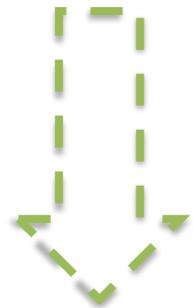
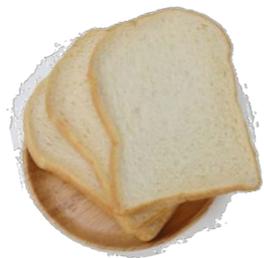
It Is Time for a Positive Approach to Dietary Guidance Using Nutrient Density as a Basic Principle^{1,2}

Gregory D. Miller,^{3*} Adam Drewnowski,⁴ Victor Fulgoni,⁵ Robert P. Heaney,⁶ Janet King,⁷⁻⁹ and Eileen Kennedy¹⁰

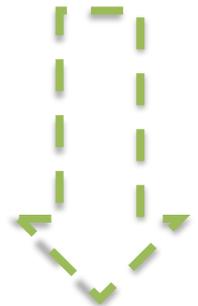
¹National Dairy Council, Rosemont, IL 60018; ²University of Washington, Center for Obesity Research, Seattle, WA 98131; ³Nutrition Impact, LLC, Battle Creek, MI 49014; ⁴Creighton University, Osteoporosis Research Center, Omaha, NE 68131; ⁵Nutrition Department, University of California, Davis, CA 95616; ⁶Nutritional Science and Toxicology Department, University of California, Berkeley, CA 94720; ⁷Children's Hospital Oakland Research Institute, Oakland, CA 94609; and ^{8,9}Friedman School of Nutrition Science and Policy, Tufts University, Boston, MA 02111

Chicago Tribune
WEDNESDAY FEB 7, 2016
How sweet it was: Saying goodbye to sugar

Making Shifts to Increase Nutrient Density



Dairy	
Ice Cream	Yogurt Smoothie
Grains	
Filled Donut	Whole Grain Bagel with Jam
Protein	
Bacon	Turkey Bacon
Fruits	
Apple Juice	Apple
Vegetables	
French Fries	Baked Sweet Potato Wedges
Others	
Candy Bar	Granola Bar



Why is Nutrient Density Important?

Help Clients Meet Nutrient Recommendations within Calorie Needs



Higher Energy Density, Lower Nutrient Density

Lower Energy Density, Higher Nutrient Density



Egg, Meat & Cheese Breakfast Sandwich



Apple Juice



Medium Vanilla Latte, 2% milk

810 Calories



1 Hard-boiled Egg



Orange Juice



Medium Latte, 2% milk



Greek Yogurt with Fruit and Granola

630 Calories

93g carbs	49% DV Calcium
68g sugar	11% DV Potassium
33g fat	3% DV vitamin C
32g protein	19% DV vitamin A
1182mg sodium	15% DV iron
2g fiber	0% DV vitamin E

86g carbs	80% DV Calcium
60g sugar	15% DV Potassium
10g fat	88% DV vitamin C
41g protein	50% DV vitamin A
400mg sodium	20% DV iron
4g fiber	10% DV vitamin E

Diet Trends and Potential Nutrient Pitfalls



Sugar Avoidance

Reduction in higher sugar foods that offer little nutrients

Avoiding fruit or dairy & missing out on key nutrients from these (calcium, vitamin D, antioxidants)

Excess Protein

May be getting nutrient dense sources of protein - nuts, seeds, fish

May not need the amount of protein they are getting and adding unneeded calories

Low Carbs

Minimize intake of some of the refined carb sweet treats

Carbohydrates are often fortified or enriched, so avoiding them can mean missing out on key nutrients

High Fat

Potential increase of healthier oils that people fall short on

Fat is dense in calories - too much may lead to weight gain

Low Carb & High Fat (Keto)

Higher intake of nuts, vegetables, fish

Not getting enough fruits, whole grains, beans, legumes, dairy & may be missing fiber, B-vitamins, vitamin D, calcium

Calorie Focused

Weight management

Not focused on quality calories

Nutrient Density for Older Adults with Acute/Chronic Illness



Potential Challenges:

- Decreased Appetite (unwanted weight loss/decreased nutritional status)
- Decreased sense of taste
- Chewing/swallowing difficulties
- Other diseases states with dietary restrictions



Broadly:

- Individualized approach—assess, address issues, and then plus-up!
- Plus ups for the foods that work:
 - Add calories -- calorie dense + nutrient dense choices
 - Remember protein needs – look at ways to add, (dairy, eggs, nut butters, or isolated proteins)
 - Know best times for “best intake” – make that meal work hardest
- Fortified Foods like ready to eat cereal and some dairy products, like yogurt, may be able to help

Conclusion & Wrap-Up



- Nutrient density is recognized as a key principle of the Dietary Guidelines. Making nutrient dense choices within calorie needs can help people meet dietary recommendations.
- Dietary patterns based on nutrient density can help older adults meet nutrient and food group recommendations.
- Using fortified foods and foods that are fresh, frozen, canned, or packaged can help older adults meet recommendations as well as meet their unique dietary needs
- Shifting to more nutrient dense choices may require small steps to help people make and accept dietary changes

Culinary Corner



Build Nutrient Density into your Menu Offerings

Shift ingredients to more nutrient dense options:

- Turkey instead of ground beef
- Plain yogurt instead of butter/sour cream
- Cheerios cereal instead of white bread in meatloaf
- Fruit based smoothie instead of a milkshake
- Chex cereal breaded baked chicken instead of fried chicken

Plus up menu favorites:

- Finely chopped/ pureed vegetables are a great addition in meatloaf
- Add yogurt to guacamole or hummus

Create activities around nutritious food. Instead of cookies and donuts for a break, consider doing a smoothie break or build your own cereal bar.

Presentation is key to any food but to hopefully increase consumption of nutrient dense options, make them look good!

Change Menu Design



Strategies to encourage selection of higher nutrient dense food options:

- Center food in the middle section
- Chef's special
- Locally sourced
- Seasonal offerings
- Circle the item/place in a box



Recipes available at www.generalmills.com



Gluten-Free Stuffed Peppers



Gluten-Free Strawberry Fields Parfait



Gluten-Free Chocolate Mousse



Falafel Style Greek Yogurt Hummus



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QUESTIONS & THANK YOU!



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- Understanding Diabetes
- The Nutrition Facts Label is Changing: What's Changing & Why it Matters
- Dietary Guidelines: 2015-2020



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