



DIET- RELATED DISEASE

THE HEALTH, ECONOMIC, AND
SECURITY COSTS TO BAY STATERS, 2019

Diet-related disease



DEFINITION

Noncommunicable diseases resulting from any nutrient-related condition that cause illness in humans. Diet-related disease may include deficiencies or excesses in the diet (often both)

EXAMPLES

- Obesity and overweight
- Heart disease
- Hypertension
- High cholesterol
- Diabetes
- Breast, prostate, colon, and endocrine cancers
- Stroke

WHY DIET MATTERS

health. cost. security.



diet-related disease is the leading cause of death in the United States (average associated mortality is 700K annually)

a staggering 117 million Americans live with one or more chronic, nutrition-related diseases

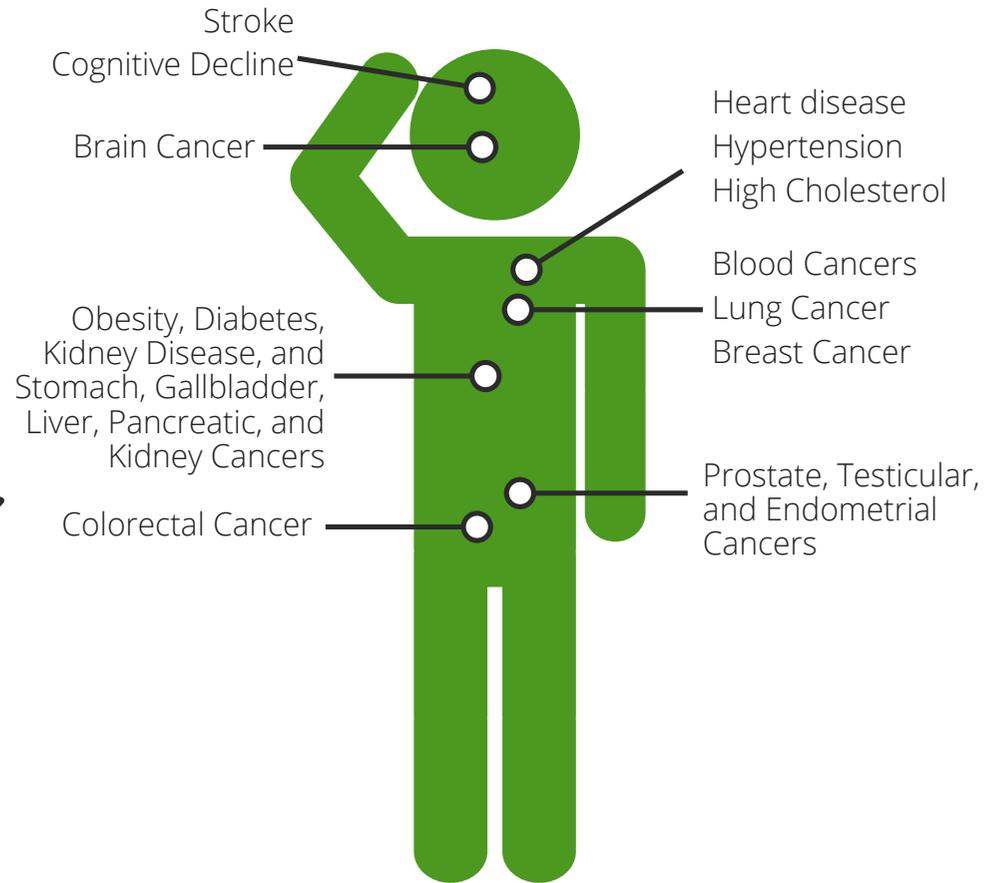
it's the leading driver of health care costs, with 90% of US health care spending going toward chronic, non-communicable diseases

obesity and other diet-related diseases disqualify ~25-30% of people otherwise eligible to serve in the US military

The Health Burden

Our diets are **dangerous.**

The Standard American Diet is associated with increased risk of developing





Nationally

1 in 4

Heart disease is the leading cause of death in the United States - accounting for 1 in 4 deaths.

40

Every 40 seconds, someone in America is having a heart attack.

790,000

Every year, about 790,000 Americans have a heart attack. 580,000 are a first heart attack. 210,000 are a person's second or third.

67%

67% of Americans are overweight or obese.



Nationally, children's health

2x-3x

Obesity has doubled in children and tripled in adolescents over the past 30 years

25-35%

25-35% of 8 year old children who are overweight or obese have the early indicators of nonalcoholic fatty liver disease

1 in 5

1 in 5 children under the age of 17 has high cholesterol

30%

Rates of type-2 diabetes in children increased 30% between 2000-2009

In Massachusetts

more data available from the MA Department of Public Health



60%

Nearly 60% of people in Massachusetts are overweight or obese

2X

Type-2 diabetes rates have more than doubled since 1993

75%

3 of the 4 leading types of cancer in Massachusetts are known diet-linked cancers: breast, colon, and prostate

29.6%

29.6% of adults in Massachusetts have diagnosed hypertension, leading to 19 million dollars in healthcare costs annually

Diet-related disease is **preventable**.

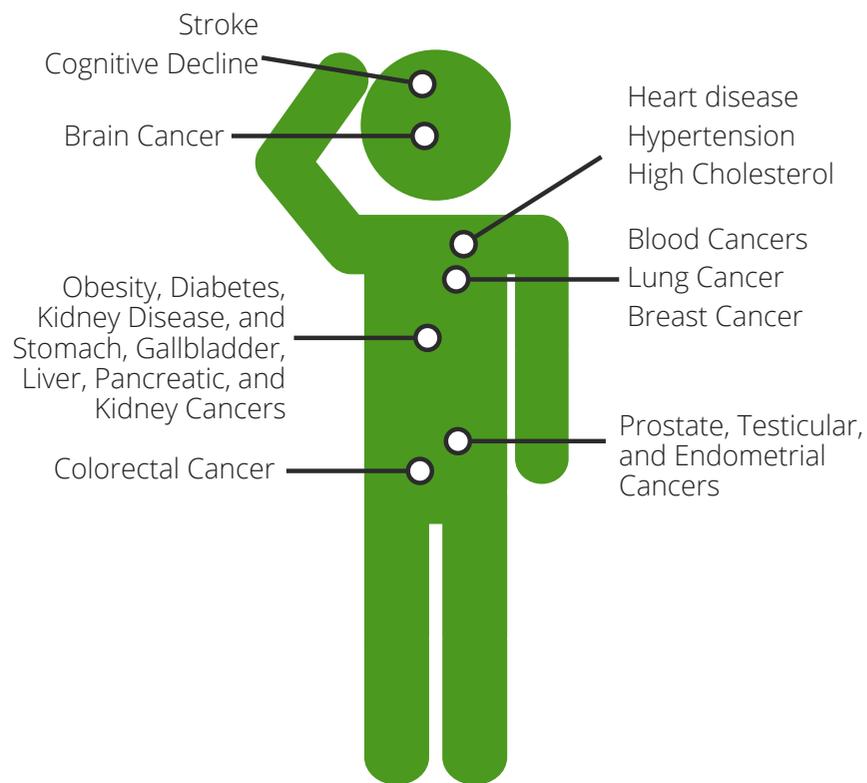
Diet-related diseases begin in **childhood**, though the consequences are most evident in adulthood.

Although diet-related diseases are *cumulative*, they are **not inevitable**.

In fact, prevention of most diet-related diseases is possible.

As with the development, preventing the same diet-related diseases also begins in childhood.

Prevention, not just treatment, requires policies and environments designed to promote health and longevity.



The Result of Imbalance



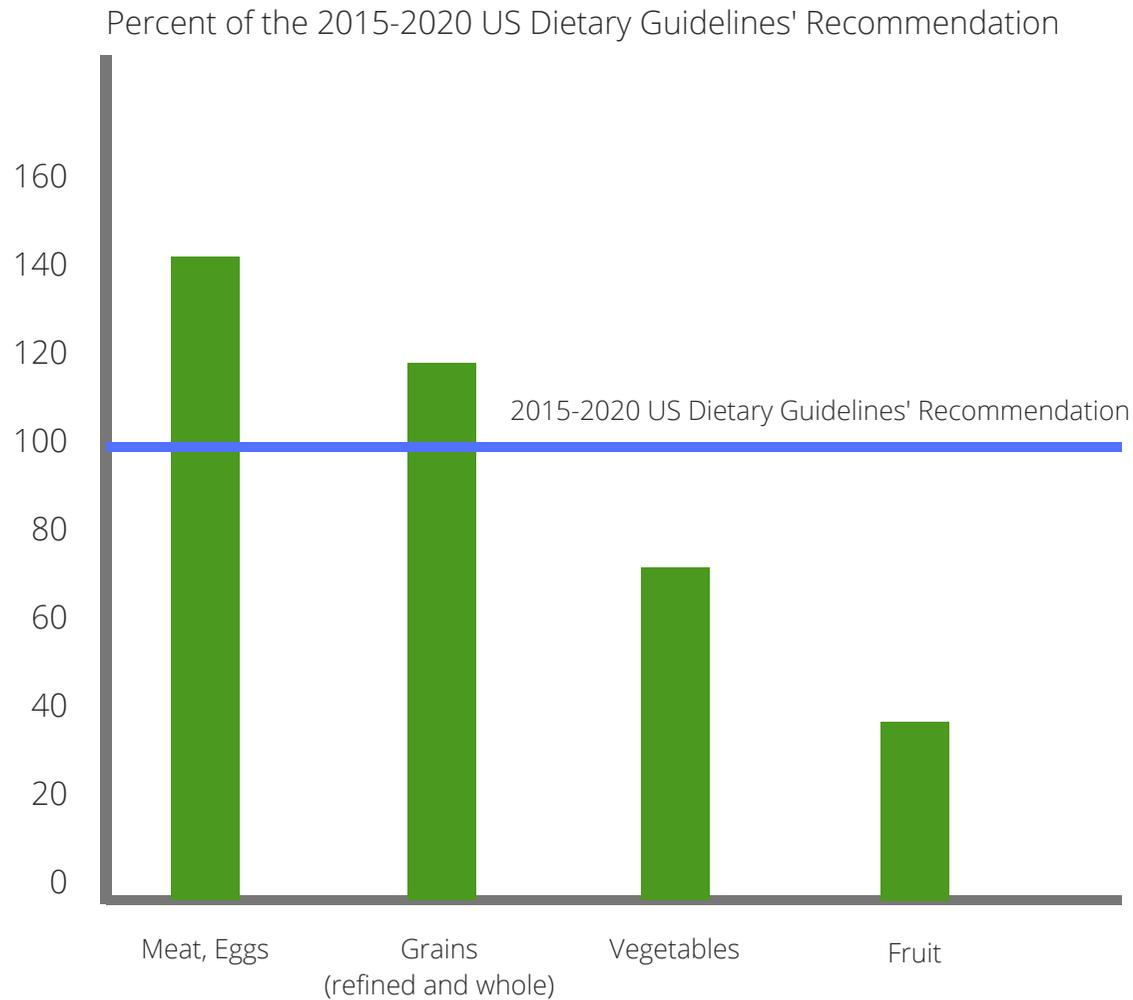
DIETARY PATTERNS REFLECT THE CHANGING FOOD SYSTEM

Institutional food systems prioritize cost and convenience over health.

As a result, children and families overconsume foods high in cholesterol, saturated fat, and sodium like meat, egg, processed and convenience products. Coupled with the **radical underconsumption** of fruits, vegetables, legumes, and whole grains, our unbalanced dietary patterns are damaging public health in epidemic proportions.

The consequences of which are overwhelming American health, security, and economic systems.

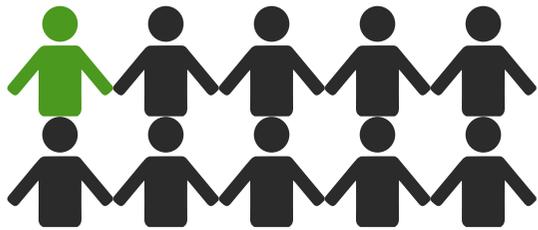
Our diets are **imbalanced**



Source: USDA, Economic Research Service, Loss-Adjusted Food Availability Data and the 2015-2020 Dietary Guidelines

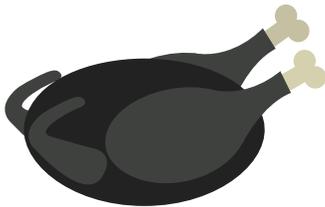
Our diets are **imbalanced**

1 in 10

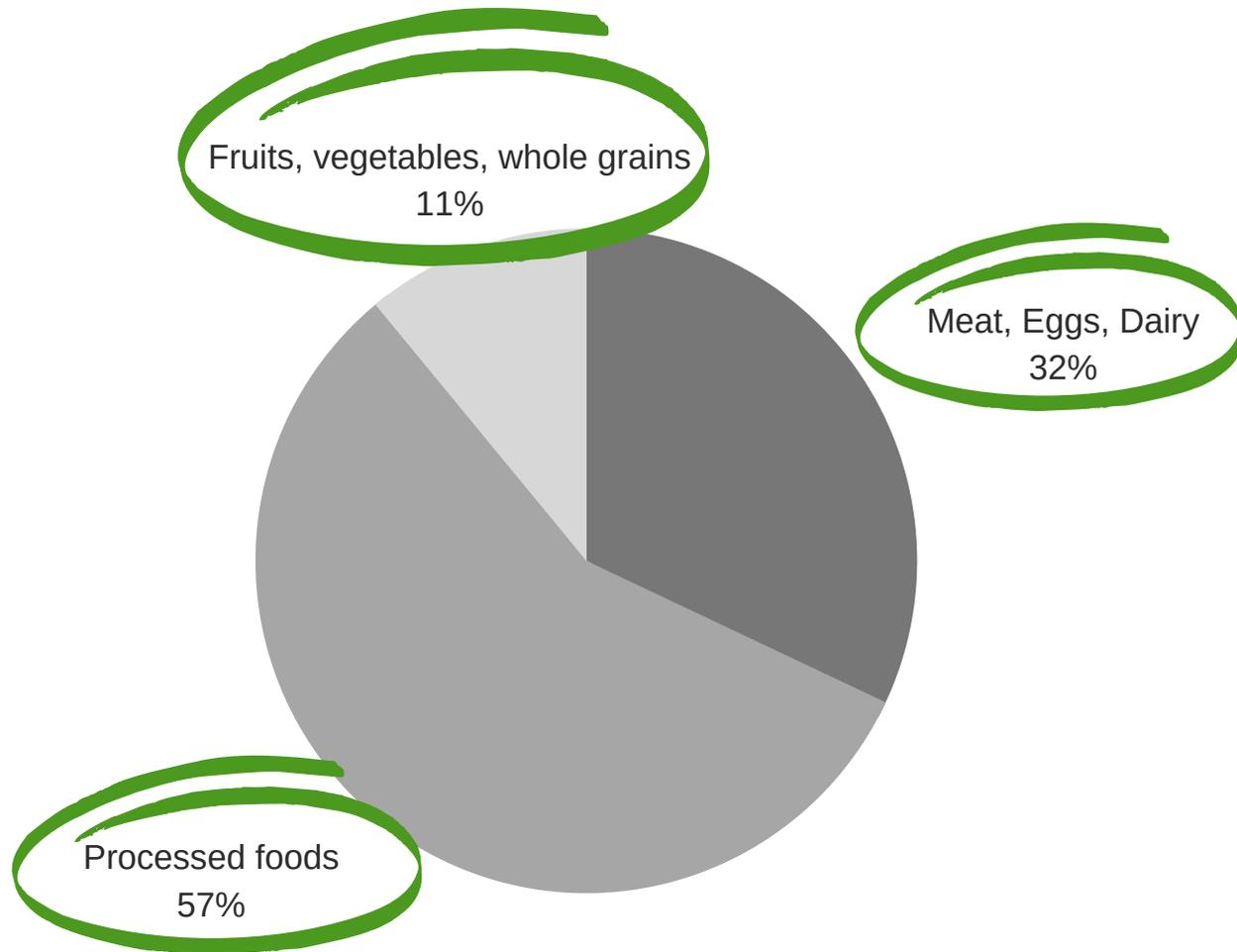


Only 1 in 10 people consume the recommended amount of fruits and vegetables

220 lbs



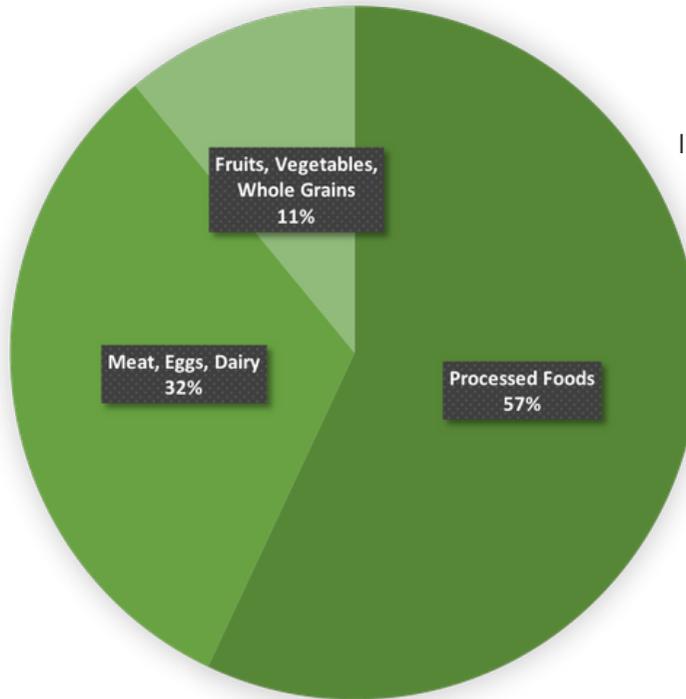
Meanwhile, the average American will consume 220 lbs of meat this year. 50% more than maximum recommended amounts.



Actual diets vs. **recommended**

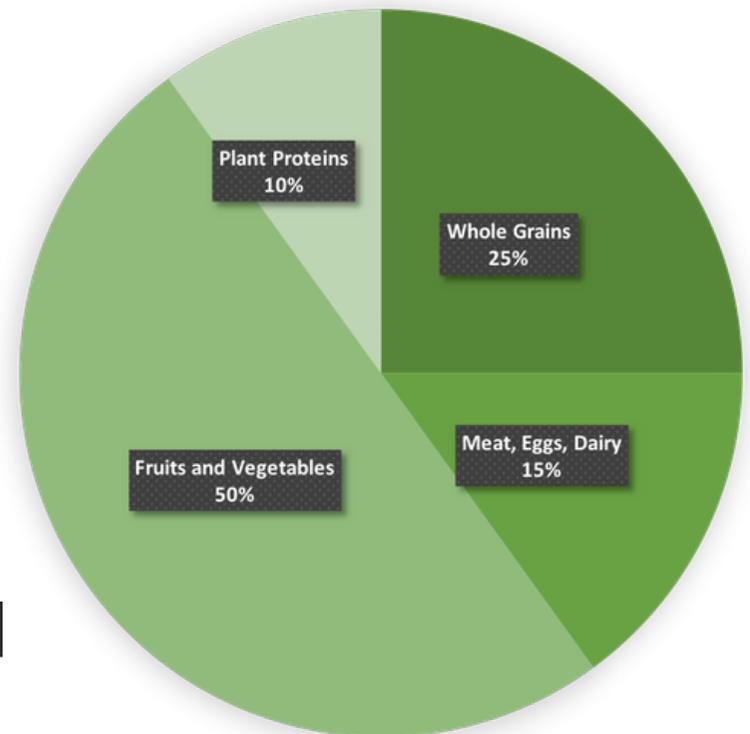
Actual

Includes minimally processed animal products like ground beef, chicken breast, whole fish, fluid milk, whole eggs



Includes food products like chicken nuggets, fried chicken, pizza, fast food entrees, chips, pastries, processed meats, cereals, etc.

Recommended





MASSACHUSETTS HIGHLIGHTS

FRUITS



Only 14% of Massachusettans eat the recommended amount of fruit daily

VEGETABLES



89% of Massachusettans eat less than the recommended amount of vegetables daily

ACCESS



2.8 million residents lack access to fresh fruits and vegetables (40% of the state qualifies as a 'food desert')

Imbalanced School Menus



The average school lunch menu in Massachusetts received a healthfulness score of "F."

Contributing to that score was gross overrepresentation of fried, processed, and ultra-processed meat, egg, and junk products. Additionally, menus showed demonstrable underrepresentation of whole, unprocessed, and plant-source proteins and food products.



Balanced Menu REPORT CARD

SUMMARY - STATE OF MASSACHUSETTS

An analysis of multiple menus from randomly selected school districts demonstrates the application of the federal and state school lunch mandates has not completely standardized or homogenized the healthfulness school meals across the state. There is considerable variation as to the availability of diverse plant-rich entrees and diversity of produce, which are perhaps the best predictors of overall healthfulness of a given food environment. However, the overabundance of red, processed, and ultra-processed animal proteins was universal, as was the overall imbalance between animal and plant protein availability.



RECOMMENDATIONS FOR IMPROVEMENT



Diversify protein by replacing at least one entree per week with a plant-based protein



Immediately remove processed and ultra-processed meat products (chicken nuggets, hot dogs, bacon, pepperoni, lunch meat)



Restrict high-cholesterol foods like red meat and eggs



Emphasize 100% whole grains



Ensure all classes of vegetables are served twice per week



Serve water or plant-based milk options and restrict sugar-added varieties of all milk



Provide warm, meatless options at every meal



Require transparency of menus to include items served and serving size

For more information, visit balanced.org/schools

Example Entrees From MA Schools

*Full menus in appendix

Schools ← Frances Drake
Lunch | Mar 7th, 2019



Serving Size: 1 serving
Calories: 540

Total Fat: 34 g	Vitamin D: 13.60 mg
Saturated Fat: 17 g	Calcium: 454 mg
Trans Fat: 0.50 g	Iron: 1.10 mg
Cholesterol: 55 mg	Vitamin C: 1.20 mg
Sodium: 1130 mg	
Total Carbs: 41 g	
Dietary Fiber: 4 g	
Sugar: 4 g	
Protein: 18 g	

Nachos Fun Lunch
Fun lunch combo that has everything to satisfy hunger and craving. Crispy whole grain tortilla rounds with chunky salsa and shredded cheddar cheese. Done!

 Milk

How would you rate this food?
★★★★★

Schools ← Reading Memorial High School
Lunch | Feb 26th, 2019



Serving Size: 3 oz
Calories: 111

Total Fat: 5 g	Vitamin A: 661 IU
Saturated Fat: 1.70 g	Calcium: 40 mg
Trans Fat: 0 g	Iron: 1 mg
Cholesterol: 32 mg	Vitamin C: 6 mg
Sodium: 275 mg	
Total Carbs: 5 g	
Dietary Fiber: 2 g	
Sugar: 2 g	
Protein: 13 g	

Pork Taco Meat
Seasoned pork served with nacho chips and low fat Land O' Lakes Shredded cheese. Paired with a fresh lettuce and tomato cup to complete your taco or nachos.

How would you rate this food?
★★★★★

School District ← Davis Thayer Elementary
Lunch | Feb 26th, 2019



Serving Size: 1 serving
Calories: 174

Total Fat: 6 g	Vitamin A: 103 IU
Saturated Fat: 1.50 g	Calcium: 82.10 mg
Cholesterol: 26 mg	Iron: 1.80 mg
Sodium: 390 mg	Vitamin C: 0 mg
Total Carbs: 16 g	
Dietary Fiber: 2 g	
Protein: 14 g	

Chicken Tenders
We start with whole-muscle chicken, lightly bread it with a whole grain crust, then bake them to perfection. The result? A delicious, dunkable chicken tender that is juicy, crispy, and healthy!

How would you rate this food?
★★★★★

Schools ← Frances Drake
Lunch | Mar 1st, 2019



Serving Size: 1 serving
Calories: 410

Total Fat: 14 g	Vitamin D: 35.80 mg
Saturated Fat: 4 g	Calcium: 588 mg
Trans Fat: 0 g	Iron: 4.40 mg
Cholesterol: 25 mg	Vitamin C: 4.90 mg
Sodium: 540 mg	
Total Carbs: 62 g	
Dietary Fiber: 5 g	
Sugar: 27 g	
Protein: 15 g	

Cereal Fun Lunch
This fun lunch combo has everything to satisfy hungry students: Reduced Sugar Cinnamon Toast cereal, granola, yogurt, and string cheese. Power up!

How would you rate this food?
★★★★★

Example Entrees From MA Schools

Harold H Galligan Lunch | Mar 12th, 2019



Serving Size: 1
Calories: 303

Total Fat: 15 g
 Saturated Fat: 3.80 g
Cholesterol: 28 mg
Sodium: 639 mg
Total Carbs: 27 g
 Dietary Fiber: 4 g
Protein: 15 g

Vitamin A: 234 IU
Calcium: 246 mg
Iron: 1.80 mg
Vitamin C: 0.30 mg

THE SAMPLER (chicken nuggets, mozzarella sticks & mini corn dogs)

How would you rate this food?



Lunch | Mar 20th, 2019



Serving Size: 5 each
Calories: 380

Total Fat: 18 g
 Saturated Fat: 7 g
 Trans Fat: 0 g
Cholesterol: 30 mg
Sodium: 410 mg
Total Carbs: 35 g
 Dietary Fiber: 3 g
 Sugar: 1 g
Protein: 19 g

Calcium: 458 mg
Iron: 2 mg
Vitamin C: 0.50 mg

Baked Mozzarella Cheese Sticks

Crunchy mozzarella sticks breaded with a blend of whole grain flours and Italian seasonings and baked until golden brown.



How would you rate this food?



Lunch | Mar 25th, 2019



Serving Size: 1 serving
Calories: 400

Total Fat: 16 g
 Saturated Fat: 3 g
 Trans Fat: 0 g
Cholesterol: 60 mg
Sodium: 1120 mg
Total Carbs: 38 g
 Dietary Fiber: 3 g
 Sugar: 2 g
Protein: 26 g

Vitamin D: 0.60 mg
Calcium: 53.20 mg
Iron: 2.10 mg
Vitamin C: 7.50 mg

Mashed Potato & Chicken Bowl

A student favorite - creamy mashed potatoes topped with crisp whole grain popcorn chicken bites drizzled with gravy and reduced fat cheddar cheese.



How would you rate this food?



Skyniew Lunch | Mar 14th, 2019



Serving Size: 1 sandwich
Calories: 430

Total Fat: 21 g
 Saturated Fat: 5 g
 Trans Fat: 0 g
Cholesterol: 70 mg
Sodium: 1060 mg
Total Carbs: 32 g
 Dietary Fiber: 5 g
 Sugar: 4 g
Protein: 30 g

Vitamin D: 1.40 mg
Calcium: 117 mg
Iron: 2.80 mg
Vitamin C: 6.80 mg

Turkey BLT Sandwich

Sliced deli turkey layered with crisp bacon, fresh lettuce and tomato on whole grain bread.



How would you rate this food?



The Economic Burden

COST

MEDICAID

17.1 billion in total annual MA medicaid costs.

MANAGED CARE

90% of our country's 3.3 trillion in annual healthcare costs are for people with chronic health conditions. 90% of those costs are associated with diet-related disease, resulting in a national average of roughly \$9,000 spent per person.

90% of 17.1 billion = **15.4 billion MA Medicaid dollars** spent on treatment of preventable, chronic, lifestyle/diet-related diseases.

BIG PICTURE

According to the CDC:

Heart disease and stroke cost \$190 billion per year in health care costs.

The cost of cancer care continues to rise and is expected to reach almost \$174 billion by 2020.

Diabetes costs the US health care system and employers \$245 billion every year.

Obesity costs the US health care system \$147 billion a year.



Our diets are **costly**.

In addition to direct healthcare expenditures, **lost productivity** and **absenteeism** are *expensive*.



LOST PRODUCTIVITY

Four of the 10 most expensive health conditions for U.S. employers are related to heart disease, diabetes, and stroke (all diet-related diseases)

Combined, the lost productivity cost of those four conditions amount to **\$525 billion annually**.

61% of employers say employees' health habits are a top challenge to controlling health-care costs.

ABSENTEEISM

In the US, absenteeism costs employers **225.6 billion dollars annually**.

Unhealthy employees miss an average of 27% more work than healthy employees.

Employees with diet-related diseases like obesity file twice as many workers compensation claims.

The Security Burden



25-30%

of people otherwise eligible to serve are disqualified because of diet-related disease.

Two reports prepared by Mission: Readiness, one in 2010 and one in 2018, highlight the danger to national security that diet-related disease, obesity in particular, pose to our country.

Diet-related diseases divert funds

Diet-related disease costs the Pentagon **\$1 billion a year in added health care costs** for troops and their families.

\$1 billion dollars that could be spent developing programs and tools to enhance national security or improve the lives of our service members and their families.



The Opportunity

Change menus. *Save lives.*

Prevent and reverse the devastation of diet-related disease by **improving the healthfulness of school menus.**

✓ Improve short- and long-term health outcomes for children

✓ Cultivate lifelong healthy habits and expose children to new and exciting foods

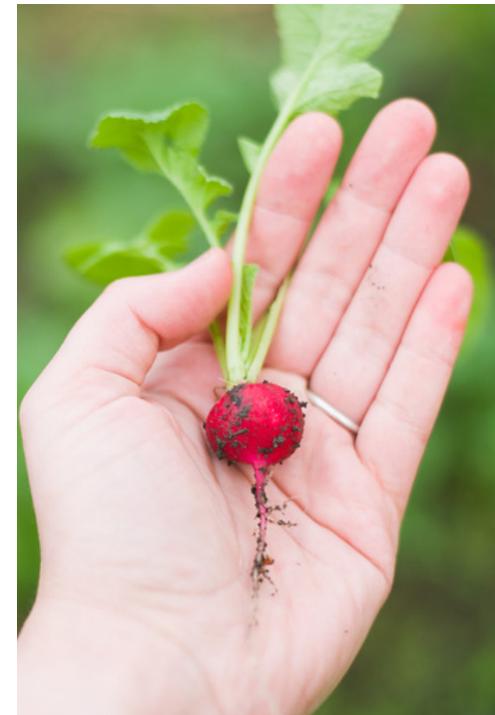
✓ Improve academic and behavioral performance

✓ Establish Massachusetts as the only state addressing the prevention and reduction of diet-related disease by improving children's health

✓ Reduce current and future economic burden of diet-related disease

Policy **Change**

Meaningful policy change is the most cost effective and high-impact way to influence and incentivize healthy behaviors. **Bold policies that favor systems-level change** result in *more* positive outcomes for more people and institutions. Policies that **focus on children's health now benefit Massachusetts long into the future.**



LEAD

Lead the country with *bold policy* that clearly demonstrates your prioritization of the long-term health and wellbeing of your state's children and families.

PREVENT

Invest in the *prevention*, not just treatment, of our country's most devastating chronic diseases.

EXPAND

Show Massachusetts' commitment to expanding access to healthy foods and health equity in the communities most affected by ensuring government-supported institutions serve more meals in line with leading nutrition science.



Current Nutritional Priorities

Institutional and governmental nutrition guidelines are overly—and often exclusively—focused on macronutrients like **carbohydrates, protein, fat, and calories**, but fail to meaningfully account for:

Fiber • Cholesterol • Types of fat • Protein source • Vitamins/Minerals

THE RESULTS:

4x

The average American consumes up to 4 times the recommended amount of protein

97%

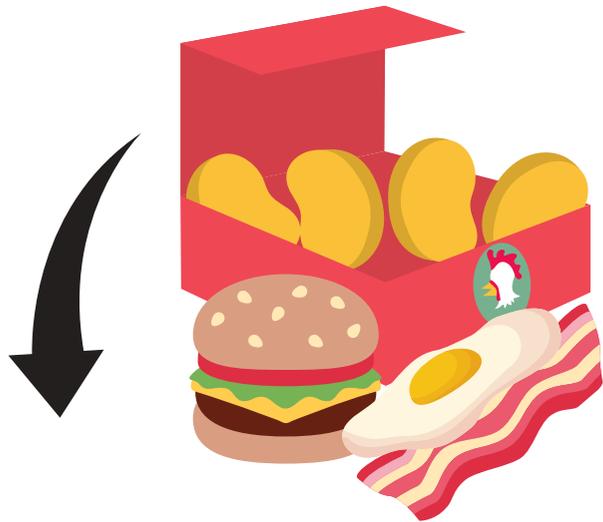
97% of Americans are fiber-deficient

2x

The average American consumes double the recommended amount of saturated fat

Necessary Nutritional Priorities

Focus on replacing nutrient-poor disease-causing foods high in cholesterol, saturated fats, sodium, and excess calories...



...with more health-promoting, nutrient-dense foods high in fiber, vitamins and minerals.





The policy opportunity is simple,
reasonable, and urgent:

RESTORE BALANCE

Restore balance and improve public health by passing meaningful policy to reduce the amount of known disease-causing foods on school menus and increase servings of the health-promoting fruits, vegetables, plant-proteins, and whole grains leading nutrition experts recommend.

Strike at the root of the diet-related disease epidemic by calling on schools to replace a portion of foods high in cholesterol, saturated fats, and sodium on their menus with foods containing more fiber, vitamins and minerals, and other health-enhancing nutrients.

Make it easier for every child, family, and Bay Stater to enjoy a life free from the burdens of diet-related disease.

Lead. Prevent. Expand.

Balance.