Nourishing the Future: Sustainable Food Systems for Nutrition and Dietetic Students

Module 3: Food and our Climate

Practice and Resources Booklet

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Case Study: NYC Health & Hospitals / Sodexo

Assignment

Read the Sodexo brief and the Sodexo case study (Appendix A).

Discussion Questions

1. How would you implement a plant-based default menu to encourage plant-based foods and reduce meat consumption?
2. What settings are most ideal for this type of approach?
3. How can initiatives such as Meatless Monday be implemented in your institution to advance healthy and sustainable diets?

Supplemental Activity 1: FoodPrint

Assignment

- Visit *one* of the following:
  - Harvard Foodprint Calculator
  - Earth Day Foodprint Calculators
  - FoodPrint Quiz
- **Step 1:** Calculate your FoodPrint.
- **Step 2:** Discuss your results.
  - How did you do? What food groups contributed the most and least to your foodprint?
  - What labels or notifications would make it easier to make climate friendly choices?
  - Is it easier to make sustainable and healthy choices at home or away?
  - What are three steps you could take to make climate-friendly food choices?
  - How could addressing plastic and packaging or food miles impact your conclusions?

Supplemental Activity 2: Planetary Health Diet

Assignment

- Review Table 1 in Appendix B.
- **Step 1:** Compare it to what you eat in a day.
- **Step 2:** Discuss the differences.
    - What food groups do you consume in lower amounts than recommended? Which are higher?
    - What labels or notifications would make it easier to make climate-friendly (and environmentally-friendly) choices?
    - Is it easier to make sustainable and healthy choices at home or away?
    - What are three steps you can take to align your meals with the planetary health diet pattern?

Supplemental Activity 3: Institutional Food Service

Assignment

- Review the Ramsing et al (2023) paper about the implications of dairy and plant-based milks for nutrition and planetary health.
- **Step 1:** Understand the scenario.
    - You are a member of the Culinary Institute of America (CIA) Scientific and Technical Advisory Committee. Your role is to develop evidence-based guidance for institutional food service providers (e.g., Aramark, Sodexo, Bon Appetit) on how they can refine their menus to better align with public health and sustainability goals.
    - Remember what is at stake. Accurate and nuanced communication to your colleagues at the CIA, and their stakeholders, is critical so that they can make an informed decision about milk sourcing. Your recommendations could impact which types of milk are sold in university, hospital, and government cafeterias all around the globe, with sizable repercussions for food system sustainability and health.
- **Step 2:** Address the topic in question.
    - Which type of milk best aligns with both health and sustainability goals?
    - They are considering cow milk, soy, oat, and almond milk (among others) and will leverage the concepts of nudging and the food environment to place more sustainable food options front and center in cafeteria settings. Your specific assignment on the Advisory Council is to investigate the evidence on nutrition, keeping environmental sustainability in mind as well.
- **Step 3:** Review the evidence base.
    - You find a research paper that states, "Of the various milks available on the market, evidence suggests oat milk is best for climate." Rather than automatically recommending a full switch to oat milk, you decide to look at some other studies. You will also contact the authors and ask some follow-up questions.
    - What additional questions would you want answered?

Glossary

Carbon sequestration. The process of capturing and storing atmospheric carbon dioxide. (USGS, 2025)

Climate mitigation. Reducing the flow of heat-trapping greenhouse gases into the atmosphere, either by reducing sources of them or enhancing the "sinks" that accumulate and store them. (NASA, 2024)

Enteric fermentation / ruminant eructation. The digestive process of animals that releases methane (CH4), a potent greenhouse gas as a by-product. (CGIAR)

Food environment. The consumer interface with the food system that encompasses the availability, affordability, convenience, and desirability of foods. (Downs et al, 2020)

Greenhouse effect. The process by which heat-trapping gases in the Earth's atmosphere absorb infrared radiation from the sun, reflect some of it back into space, and emit some of it towards the earth. (UN-REDD)

Nudging. Any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives. (Thaler and Sunstein, 2008)

Pollinator-dependent crops. Plant species intended for human consumption that rely on biotic agents, primarily insects, birds, and other animals to transfer pollen for maximal fertilization and fruit or seed production. (Aizen et al, 2009; Ritchie, 2021)

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Appendix A: NYC Health + Hospitals / Sodexo

Food and Planet. (January 2025). *NYC Health + Hospitals / Sodexo*.

NYC Health + Hospitals and Sodexo: Plant-Based Menus

NYC Health + Hospitals partnered with Sodexo to prioritize plant-based meals as the default option for patients, starting with Meatless Mondays and expanding to daily offerings. This initiative supported patient health outcomes, improved environmental sustainability, and built strong patient satisfaction through high-quality meals and effective communication about their benefits.

INSIGHTS

- Introducing new recipes through pilot testing with an 80% satisfaction threshold ensured high-quality meals, fostering trust and enthusiasm among patients.
- Empowering culinary staff to explain the health and flavor benefits of plant-based dishes and gathering patient feedback created a positive feedback loop, improving acceptance and satisfaction.

CHALLENGE

NYC Health + Hospitals sought to support patient health and reduce the environmental impact of hospital meals by integrating more plant-based options. This initiative aimed to lower carbon emissions, support sustainability goals, and help manage common health conditions like cardiovascular disease, diabetes, and high blood pressure.

SOLUTION

To address these challenges, NYC Health + Hospitals partnered with Sodexo to make plant-based meals the default option for patient lunches and dinners. Starting with the introduction of Meatless Mondays in 2019, the initiative expanded in 2022 to feature plant-based meals as the chef's daily recommendation, ensuring that all dishes were freshly prepared and met high satisfaction standards. This approach combined culinary excellence with patient satisfaction, highlighting the health benefits and environmental impact of plant-based dining.

RDNS CALL TO ACTION

- Advocate for plant-based meals in hospital settings by promoting their health benefits and environmental impact.
- Collaborate with culinary teams to integrate plant-based options into patient menus, educate staff and patients, and support sustainability through data-driven initiatives.

KEY OUTCOMES

1.2 Million Plant-Based Meals Served

NYC Health + Hospitals served 1.2 million plant-based meals within two years of the initiative's full rollout.

36% Reduction in Carbon Emissions

The shift to plant-based meals contributed to a 36% year-on-year reduction in carbon emissions.

150 Registered Dietitians

150 registered dietitians were employed at NYC Health + Hospitals, proudly collaborating to make a big difference in patient and planetary health.

90% Patient Satisfaction

Patient satisfaction with plant-based meals consistently remained above 90%.

CONTACT

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Appendix B: Planetary Health Diet

The EAT-Lancet Commission on Food, Planet, Health. (2019). *Table 1, Scientific targets for a planetary health diet, with possible ranges, for an intake of 2500 kcal/day* [Table]. The Planetary Health Diet. EAT Forum. https://eatforum.org/eat-lancet/summary-report/

Target 1
Healthy Diets

Healthy diets have an optimal caloric intake and consist largely of a diversity of plant-based foods, low amounts of animal source foods, contain unsaturated rather than saturated fats, and limited amounts of refined grains, highly processed foods and added sugars.

	Macronutrient intake grams per day (possible range)	**Caloric intake kcal per day**
Whole grains		
Rice, wheat, corn and other	**232**	**811**
Tubers or starchy vegetables		
Potatoes and cassava	**50** (0–100)	**39**
Vegetables		
All vegetables	**300** (200–600)	**78**
Fruits		
All fruits	**200** (100–300)	**126**
Dairy foods		
Whole milk or equivalents	**250** (0–500)	**153**
Protein sources		
Beef, lamb and pork	**14** (0–28)	**30**
Chicken and other poultry	**29** (0–58)	**62**
Eggs	**13** (0–25)	**19**
Fish	**28** (0–100)	**40**
Legumes	**75** (0–100)	**284**
Nuts	**50** (0–75)	**291**
Added fats		
Unsaturated oils	**40** (20–80)	**354**
Saturated oils	**11.8** (0-11.8)	**96**
Added sugars		
All sugars	**31** (0–31)	**120**

Table 1
Scientific targets for a planetary health diet, with possible ranges, for an intake of 2500 kcal/day.

Although the planetary health diet, which is based on health considerations, is consistent with many traditional eating patterns, it does not imply that the global population should eat exactly the same food, nor does it prescribe an exact diet. Instead, the planetary health diet outlines empirical food groups and ranges of food intakes, which combined in a diet, would optimize human health. Local interpretation and adaptation of the universally-applicable planetary health diet is necessary and should reflect the culture, geography and demography of the population and individuals.