



# FOOD SYSTEMS & HEALTH



## A Novel Elective for First-Year Medical Students

Bridget Lerman MPH  
University of Colorado School of Medicine



University of Colorado  
Anschutz Medical Campus

### Educational Challenge

Noncommunicable diseases (NCDs) account for 74% of global deaths, yet nutrition education in medical schools remains insufficient. With 71% of schools providing fewer than the recommended 25 hours, many physicians feel unprepared to address nutrition-related concerns.

Food justice disparities further limit patients' ability to access and achieve proper nutrition. Even evidence-based advice is ineffective without addressing financial, transportation, and food access barriers.

While efforts exist to expand nutrition education, few integrate food systems, social determinants of health, or practical skills. This gap presents an opportunity to train future physicians to support patients' nutrition needs within their social contexts.

### Implementation & Solution

The FS&H elective at the University of Colorado School of Medicine (CUSOM) prepares future physicians to address the complex food needs of patients and communities through practical training in nutrition, clinical skills, and public health. This 12-week course featured weekly one-hour modules covering nutrition & medicine, public health & food systems, and practical skills.

- Goals:**
- Build a conceptual framework of food systems and their impact on health
  - Examine how social, environmental, and political factors influence nutrition-related diseases and behaviors
  - Develop practical skills to help patients overcome barriers to food access and healthy eating

The course drew a diverse group of participants, including three officially enrolled MS1s, one auditing MS1, and a rotating group of 1 to 5 drop-in students from various years.

Topic	Content	Facilitator
Introduction to Food Systems	Course Introduction; foundational food system concepts; food access barriers & assets	Bridget Lerman, MPH
Food Justice	Discussion of social determinants, food justice & sovereignty, food access barriers & assets	Caitlin Matthews and Sista Otey of Food Justice Northwest Aurora (FJNWA)
Food & the Environment	Case studies and research on the environmental impact of food systems; environmental justice advocacy skills	Alessandra Santiago MS and Caroline Walsh, CU-CHASE
Urban Planning & Agriculture	Panel discussion of the health impacts of urban planning & agriculture; student question & answer session (Q&A)	Matthew (Quint) Redmond, Argiburbia; Michelle Graham-Rodriguez, the Urban Farm; Jennifer Boussetol, PhD, Colorado State University; James Grevious, Rebels in the Garden
Introduction to Clinical Nutrition	Team-based learning (TBL) cases on micronutrient deficiencies	Matthew Haemer, MD, MPH
Overweight & Obesity	Panel discussion on clinical management with practical skills focus	Stephanie Waldrop, MD, MPH; Jaime Moore, MD, MPH; Douglas Taren, PhD; David Saxon MD
Interventions in Food-Related Chronic Disease	Current practices and interventions for food-related NCDs	Daniel Bessessen, MD
Maternal, Infant, and Child Nutrition	Focused presentations; student Q&A	Liliane Diab, MD; Rochelle Cason-Wilkerson, MD, MPH
Eating Disorders	Case-based TBL on anorexia nervosa	Jennifer L. Woods, MD; Elizabeth Kinsella, MD
Healthy Eating on a Budget	Cost-effective meal planning discussion; meal demonstration	Bridget Lerman, MPH
Food & Culture	Cultural meal demonstration; panel discussion on food and culture	Caitlin Matthews, FJNWA; Paola Babb of Denver Department of Public Health; Sara Hamid, clinical dietician and food producer
Food for Thought	Student presentations; feedback discussion	Bridget Lerman, MPH

### Evaluation & Results

The three enrolled MS1s completed pre- and post-course surveys.

#### Quantitative Data

- 100% of students strongly agreed that the elective addressed a critical gap in their education.
- 100% of speakers were rated “very” or “extremely” effective in helping students understand the material
- Two students demonstrated increased confidence in clinical skills.
- One student demonstrated improved knowledge.

#### Qualitative Data

What was your favorite part of the class?

- “The passion that was demonstrated by Bridget, all of the guests, and community leaders who were excited to speak about their careers.”
- “Having several sessions with expert panelists rather than a traditional lecture style was a helpful and interesting way to learn about the topics.”

What skills did you learn that you thought were helpful?

- “What community resources are present in the Aurora / CO area for people to get access to healthy, accessible foods.”
- “I learned more about the different resources available for people struggling with food security, especially within Colorado. Identifying and touching upon different eating disorders and how they might present clinically.”

### Lessons Learned & Next Steps

- Strengths:**
- Community and faculty content experts
  - Panel presentations
  - Interactive activities and discussions

- Challenges:**
- Time management
  - Integration of practical skills

Having completed its second year, FS&H has incorporated feedback to address challenges from the pilot course, specifically:

- Individual module outlines revised to include content befitting for a one-hour session
- Equal integration of practical skills in every session

The next steps focus on strengthening CUSOM institutional support for FS&H, expanding enrollment, and focusing on curricular sustainability.

The long-term goal is to adapt FS&H for other medical schools. While designed for CUSOM, FS&H can be customized for any institution through leveraging existing food systems networks. By tailoring the FS&H curriculum to address specific community needs and assets, medical schools can equip and empower their students to be active agents of change for food justice, individual health, and community well-being.

### Acknowledgments

This course was made possible by the support of mentors James Carter, Jr., MD; Rita Lee, MD; and Matthew Haemer, MD, MPH, along with administrative faculty, CUSOM faculty, and content experts.

A special thank you Payton Moody, Ekshika Patel, Deedee Romo, and Benjamin Wong, whose enthusiasm enriched the pilot course.

Gratitude also to the second cohort—Bryce Daniels, Tadg Forward, Nicole Pihlstrom, and Zach Stieneker—for their contributions to the course's continued success.

