

Food is Medicine: Opportunities at the Intersection of Agriculture, Food, Nutrition and Health

Presented By

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The National Nutrition Movement

- Diet-related chronic diseases drive the majority of U.S. healthcare spending
- Public concern over food quality and health outcomes is rising
- Bipartisan interest in prevention is expanding
- Federal agencies are recentering nutrition policy around chronic disease reduction
- Health Extension frames Health & Human Sciences Extension across states



CHRONIC DISEASES IN AMERICA

6 IN 10
Adults in the US
have a **chronic disease**



4 IN 10
Adults in the US
have **two or more**

THE LEADING CAUSES OF DEATH AND DISABILITY
and Leading Drivers of the Nation's **\$3.3 Trillion** in Annual Health Care Costs



THE KEY LIFESTYLE RISKS FOR CHRONIC DISEASE



**TOBACCO
USE**



**POOR
NUTRITION**



**LACK OF
PHYSICAL ACTIVITY**



**EXCESSIVE
ALCOHOL USE**



Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017



GBD 2017 Diet Collaborators*

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See [Comment](#) page 1916

*Collaborators listed at the end of the paper

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Summary

Background Suboptimal diet is an important preventable risk factor for non-communicable diseases. Its impact on the burden of NCDs has not been systematically evaluated. This study aimed to quantify the impact of major foods and nutrients across 195 countries and to quantify the impact of their mortality and morbidity.

Methods By use of a comparative risk assessment approach, we estimated the proportion attributable to each dietary risk factor (also referred to as population attributable fraction) or older. The main inputs to this analysis included the intake of each dietary factor, the effect on disease endpoint, and the level of intake associated with the lowest risk of mortality. We estimated population attributable fractions, mortality, and disability-adjusted life-years number of deaths and DALYs attributable to diet for each disease outcome.

Findings In 2017, 11 million (95% uncertainty interval [UI] 10–12) deaths and 255 million attributable to dietary risk factors. High intake of sodium (3 million [1–5] deaths and low intake of whole grains (3 million [2–4] deaths and 82 million [59–109] DALYs) were the leading dietary risk factors globally and in many countries. Dietary data were from mixed sources and were not increasing the statistical uncertainty of our estimates.

Interpretation This study provides a comprehensive picture of the potential impact of mortality and morbidity, highlighting the need for improving diet across nations and implementation of evidence-based dietary interventions and provide a platform for future human health annually.

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Commentary

The importance of healthy dietary patterns in chronic disease prevention★

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Why a Prevention-Focused Approach on Health Matters

Chronic Disease and Nutrition

Federal strategy focuses on nutrition quality, physical activity, and research to reduce diet-related diseases by 2030.

Disproportionate Impact

Health care adopts Food-is-Medicine models with produce prescriptions and medically tailored meals to improve patient outcomes.

Economic Consequences

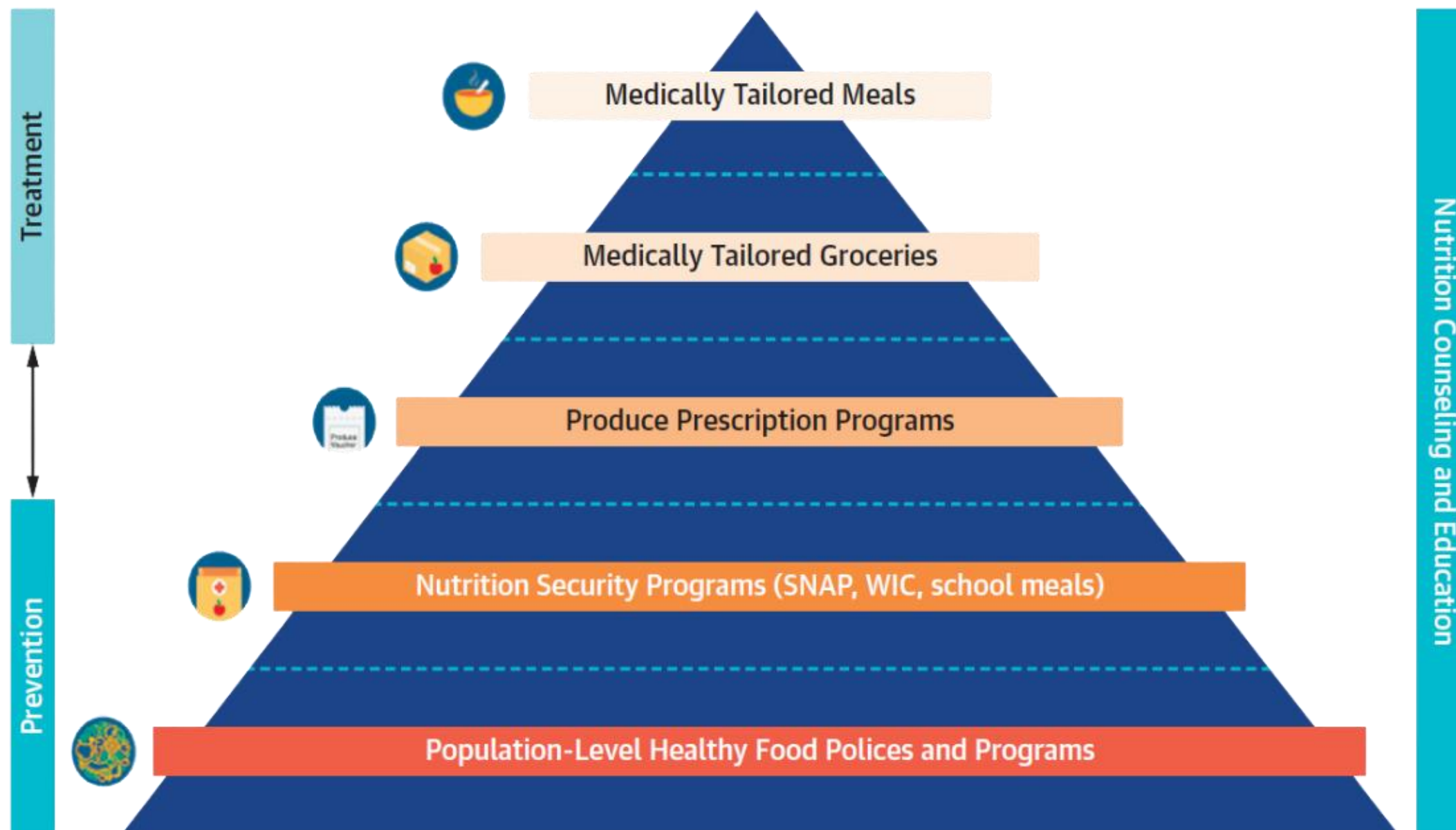
Diet-related disease cost the U.S. about \$3.3 trillion annually in healthcare and lost productivity.

National Strategy Framework

Land-Grant universities help translate nutrition policy into practice, focusing on prevention and community health often through Cooperative Extension and other types of community-based research.



What is 'Food is Medicine'?



- 1 out of 5 global deaths attributable to suboptimal diet, more than any other risk factor including tobacco.
- 90% of \$5.3T annual health care expenditures in US.
- Increased experimentation with use of FIM interventions to prevent, manage, and treat illness.
- A set of food-based nutrition programs and interventions integrated into the health care system to advance specific health needs and health equity in different populations. [Food Is Medicine @ Tufts - Food is Medicine Institute](#)

Federal Priorities over the Past Year

Make Our Children Health Again: Assessment (May 2025)

- Identified a national crisis in children's health, citing record-high rates of obesity, diabetes, and neurodevelopmental disorders
- Flagged risks of federal practices that exacerbate chronic disease, including systemic gaps in health and nutrition programs, food additive policies and pharmaceutical incentives
- Called for coordinated federal action including improved nutrition standards, research realignment, environmental health protections, and reform of medical prescribing practices

Make Our Children Healthy Again: Strategy (September 2025)

- Builds on the MAHA Commission's May assessment, outlining 128 executive actions focused on combating childhood chronic diseases through research, policy reforms, awareness, and public-private collaboration
- Emphasizes advancing gold-standard science, linking diverse health data, and prioritizing whole-food nutrition in federal programs, including updated Dietary Guidelines for Americans 2025-2030
- Calls for strengthening regulations and transparency on food additives, infant formula, pharmaceutical advertising with enhanced oversight of direct-to-consumer drug marketing
- Advocates deregulation to ease barriers for small farmers, local food access, and innovation while launching campaigns to raise public awareness on childhood health risks related to diet, chemicals, screen time, and overmedicalization



The New Pyramid





National Institutes of Health

- Nutrition Science Research
- Chronic Disease Studies
- Precision Medicine
- Clinical Trials



U.S. Department of Agriculture

- Food Assistance Programs
- Dietary Guidelines
- Precision Agriculture
- Extension Services



Where Science Meets Food Systems

- Diet-Related Disease Prevention
- Community Nutrition Research
- Food as Medicine Initiatives
- Rural Health Disparities



Emerging Opportunities



Food is Medicine information
and participating ICOs
<https://grants.nih.gov>

- USDA is using existing authorities to form public-private partnerships within NRCS conservation programs, matching private funding to expand regenerative practice adoption while protecting private land rights
- NIH is set to launch a \$100M Grand Prize Challenge to advance solutions for evaluating exposure, diagnosis, and treatment of cumulative chemical exposures on human health
- ARPA-H plans to announce a \$100M solicitation to develop innovative, cost-effective alternatives to chemical crop protection tools to improve farmer and human health
- EPA is expected to launch a \$30M Grand Prize Challenge to develop cost-effective alternatives to pre-harvest pesticide desiccation, reducing potential human exposure while providing farmers with new tools

Reframing Agriculture, Food, Nutrition, and Health for the Future

Federal Funding Priorities

Agriculture, food, nutrition and health are federal priorities - new opportunities for land-grant universities.

Nutrition is a Discipline Focused on Prevention

Nutrition has and continues to be focused on preventing diet-related chronic diseases nationwide.

Sustainable Health Solutions

Converging agriculture, food science, human nutrition and health research fosters sustainable solutions for chronic disease prevention.

Community Engagement and Extension

Land-grant institutions emphasize community engagement and applied science through extension in addressing health challenges.





Federal Funding for Food and Nutrition Topics

USDA solicitations

- Regenerative Pilot Program
- Strengthening Agricultural Systems Program (SAS)

NIH programs

- NIH Highlighted Topics – neural exposome, school mental and behavioral health, pediatric development, microbiome, immune system, sleep, chronic disease, etc.

HHS agency funding

- NIH: Food is medicine (FIM), mental health, water and air quality, chronic disease, etc.
- ARPA-H: BREATHE, EVIDENT, Mission Office ISOs
- CDC: worker safety, birth defects and developmental disabilities, chronic disease, toxic exposures, nutrition, etc.
- HRSA: rural health, telehealth, primary care
- CMS: Rural Health Transformation (RHT) program, MAHA ELEVATE (Make America Healthy Again: Enhancing Lifestyle and Evaluating Value-based Approaches Through Evidence) Model



Federal Alignment Around Nutrition and Food-is-Medicine Programs

National Strategy Framework

Strategy focuses on nutrition quality, physical activity, and research to reduce diet-related diseases by 2030.

Food-is-Medicine Movement

Health care adopts Food-is-Medicine models with produce prescriptions and medically tailored meals to improve patient outcomes.

Produce Prescription Programs

Gus Schumacher Nutrition Incentive Program (GusNIP) aims to develop and evaluate projects to increase the purchase of fruits and vegetables by providing incentives at the point of purchase among income eligible consumers.

Land-Grant Universities Threefold Mission and Trusted Engagement in Rural and Underserved Communities

EVIDENCE AREA	WHAT IT CONFIRMS	AUTHORITATIVE SOURCE
Threefold Mission	Teaching, research, and Extension as the statutory mission of land-grant universities	Congressional Research Service (Congress.gov)
USDA Programmatic Support	NIFA programs explicitly strengthen teaching, research, and Extension at 1890 institutions	USDA NIFA
Community Footprint	Longstanding, trusted engagement with rural and underserved communities	1890 Land-Grant Universities Impact Report



Building Nutrition and Health Workforce

Rising Workforce Demand

Training in nutrition creates a pipeline for the growing need for professionals in health-related fields.

Interdisciplinary Education

Institutions are creating interdisciplinary curricula and micro-credentials combining health, nutrition and agriculture disciplines.

Experiential Learning Opportunities

Expansion of internships, clinical partnerships, and Extension-related work enhances practical training for students.

Leadership Development

Programs prepare students from diverse backgrounds to be leaders in health and food systems.

Mission, Trust, and Extension as Engines of Impact

Role of Land-Grant Universities

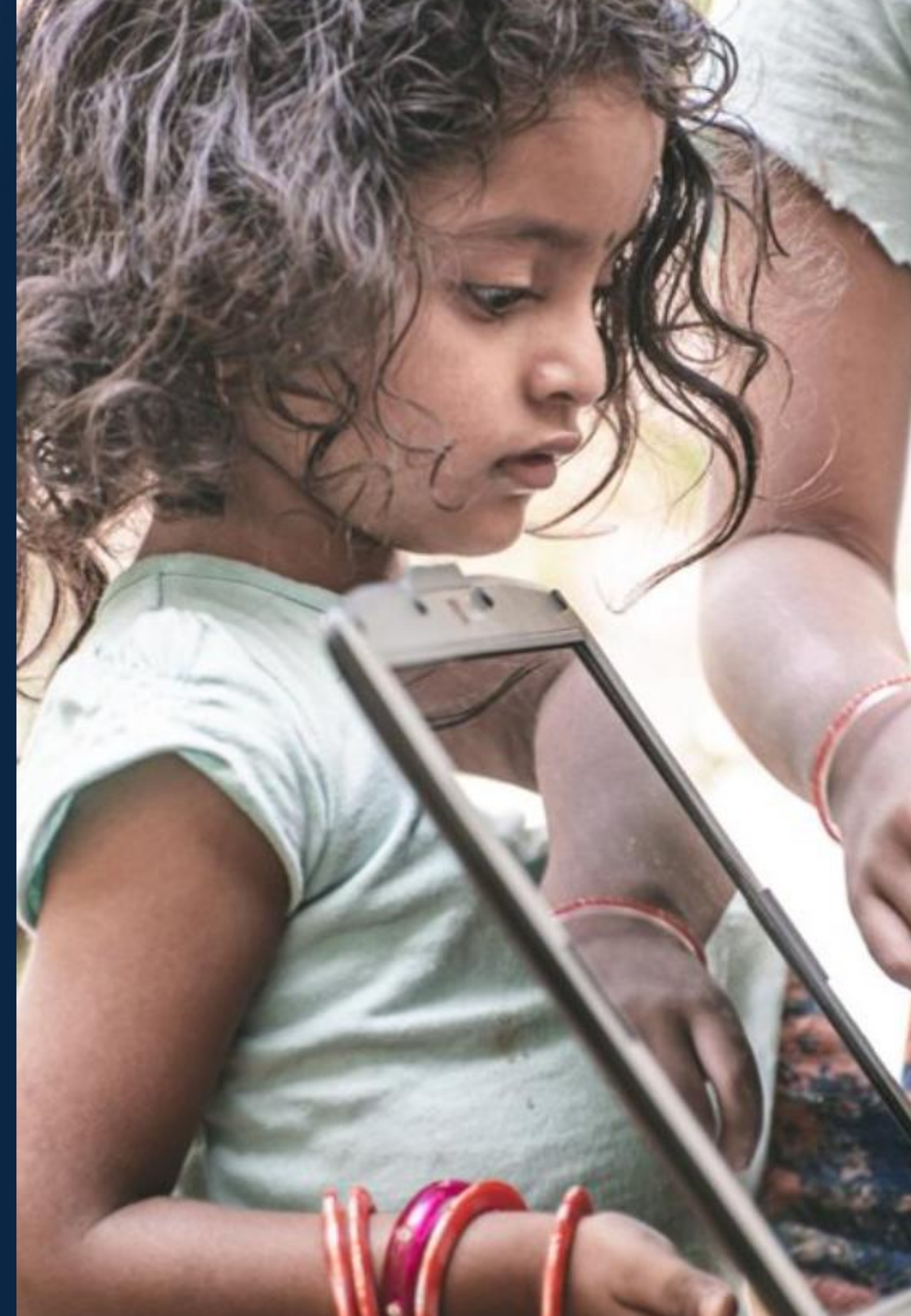
Land-grant universities blend teaching, research, and Extension to serve community needs effectively.

Innovation in Extension Services

Use of community health workers, tele-nutrition, and digital tools enhances reach and relevance.

Leadership and Capacity Building

Food-as-Medicine pilots, Rural Health Transformation, community trials, and workforce development with culturally grounded approaches.



Questions?

Let's discuss the future of food and
health and collaborate

Thank You

For Your Attention

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