



## **Food Systems and Public Health: Linkages to Achieve Healthier Diets and Healthier Communities**

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*The Airlie Conference on “Food Systems and Public Health: Linkages to Achieve Healthier Diets and Healthier Communities” was convened to discuss how we as a nation can shift toward promoting healthy, sustainably produced foods that are aligned with national dietary and health priorities; the most strategic changes in policy, governance and practices that can help this shift occur; and identify knowledge gaps and policy-relevant research needs. This special theme issue presents papers emanating from the conference, and policy-relevant research and action recommendations from the small group breakout sessions.*

*KEYWORDS food systems, public health, obesity, agriculture policy, sustainable agriculture, healthy diets*

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## INTRODUCTION

On April 1–3 2009, 100 leading experts in diverse areas (health, nutrition, obesity, sustainable agriculture, economics, business, marketing, and public policy) met at the Airlie Conference Center in Warrenton, Virginia, to discuss how we as a nation can move toward a healthier and more sustainable food system. The conference was sponsored and funded by the W. K. Kellogg Foundation, Robert Wood Johnson Foundation, Kaiser Permanente, the David and Lucile Packard Foundation, Centers for Disease Control and Prevention, US Dept of Agriculture, University of Minnesota School of Public Health, Michigan State University College of Agriculture and Natural Resources, and the Institute for Agriculture and Trade Policy. This special theme issue presents papers emanating from the Airlie Conference and policy-relevant research and action recommendations from the small group breakout sessions.

The Airlie Conference built on a landmark 2007 Wingspread Conference on Childhood Obesity, Healthy Eating and Agriculture Policy (the “Wingspread Conference”), the first conference to discuss the impact of federal agricultural and food policies on public health, nutrition, and obesity and opportunities for agricultural policies to contribute to healthier eating (<http://www.healthyeatingresearch.org/content/view/90/145/>). From the Wingspread Conference emerged two broad principles: (1) the nation’s food system ought to simultaneously serve the American population’s physical health and well-being, the environmental health of the planet, and the economic health of the food and agricultural sector. Public policies should support, rather than hinder, a health-based food system; and (2) agricultural policies must be realigned with national recommendations for healthy eating and good health, specifically the USDA/DHHS Dietary Guidelines for Americans, and support public health goals of preventing obesity and chronic diseases.

The Wingspread Conference occurred as the US Congress deliberated the 2008 Farm Bill. The Wingspread Conference findings provided a basis for policy analyses and research that would invigorate public policy debate around future farm bills and other related federal legislation, such as the 2009 update to the Child Nutrition and WIC Reauthorization Act of 2004. The Wingspread Conference was the first time that public health experts and agriculture policy experts came together to discuss obesity, healthy eating, and agricultural policy. From that meeting emerged the sense that these issues needed to be examined more deeply and from a broader scope that looked at food, nutrition, health, and agriculture within the context of an integrated health-based and sustainable food system. This systems-based approach underlay the Airlie Conference.

BACKGROUND AND CONTEXT OF THE CONFERENCE:  
LINKING PUBLIC HEALTH, FOOD SYSTEMS,  
AND SUSTAINABLE AGRICULTURE

In the United States, obesity and diet-related chronic disease are major contributors to preventable morbidity and mortality. Today more than one in 3 American children and adolescents, as well as two thirds of adults, are overweight or obese. The rising rates of obesity among children and youth are of particular concern. Actions need to be taken today to improve food and physical activity environments and help reverse the obesity epidemic. The alternative is to witness today's generation of young children growing and developing, unable to realize their individual potential, in part due to obesity and chronic diseases, while the country's health care system becomes increasingly overwhelmed by their health and medical needs.

Few American children or adults consume diets that meet the Dietary Guidelines for Americans. Average intake of healthy foods, such as fruits, vegetables, whole grains, and calcium-rich foods is inadequate, with overconsumption of calories, total fats, saturated and trans-fats, sodium, and added sugars. For the entire US population, daily caloric intake has increased on average by 300 calories since 1980, with no accompanying increase in physical activity. Though most Americans have diets that need improvement, those living in lower-income households are even less likely to have healthy diets compared to higher-income households. Income inequalities underlie many health disparities in the United States; in general, those who have the highest poverty rates suffer the worst health status. Differential availability and affordability of healthy foods in low-income communities have been suggested as important contributors to health disparities in diet-related chronic diseases and obesity rates. An exodus of grocery stores and an influx of fast food outlets in low-income, urban areas, contributes to the income and racial/ethnic disparities in access to affordable and healthy foods. Currently many low-income neighborhoods lack access to fresh, healthy, affordable foods and residents often pay a higher percentage of their income for food.

Over the past several decades, technological, economic, social, and lifestyle changes, as well as changes in US farm and agricultural policies, have combined to transform our food systems. These changes have had numerous ramifications. Highly processed and convenience foods, often high-calorie, low-nutrition foods, are widely available in larger portion sizes and at relatively low prices. Collectively, these environmental changes have influenced what, where, and how much we eat and are thought to have played a substantial role in diet-related diseases and the current obesity epidemic.

National attention has been placed on improving the health and nutrition of Americans through a broad-based approach related to behavior change efforts, public health action, and social change involving multiple sectors

and stakeholders. However, often in health and nutrition efforts the focus is on the end result—improving the diet and food consumption of individuals—and not on the food system or environmental context in which this food exists. Issues such as where the food comes from, how it is produced, what is produced, how it is priced, whether or not it is subsidized, how it is distributed, or how labor is treated are typically not addressed. The public health community has been primarily concerned with an adequate, diverse food supply for all individuals to meet the dietary guidelines within a Food Guide Pyramid framework. However, it is increasingly clear that public health dietary guidelines and obesity prevention cannot be met without a focus on the food system, from field to fork.

The severity of the obesity crisis has focused attention on the role of agriculture policies on the US food supply and how current farm policies and practices may impact public health and diet-related chronic diseases, such as obesity. Agriculture policies determine the crops for which the government provides support through direct farm payments, price supports, or research. Government support influences which crops farmers produce, the wholesale prices of those crops, and, subsequently, which products food producers, distributors, and retailers make available to consumers and at what retail price. US farm policy for commodity crops has helped make sweeteners and fats that are added to many processed foods some of the most inexpensive food substances available today. Fruits and vegetables receive little government support and their cost has risen relative to inflation, whereas the cost of sweeteners and other commodity crop products has actually declined in real terms.

The bottom line is that current agriculture policies have helped to make food environments less healthy for Americans. There is a need for food systems reform. Agriculture and farm policies need to be aligned with national public health and nutrition goals. Currently there is a great disconnect between public health diet-related diseases and agriculture policy issues, but they are intimately connected. A systemic strategy that simultaneously focuses on developing the sustainability of food systems, community food justice, and public health success would have multiple benefits and allow for rich partnerships.

## THE NEED FOR A FOOD SYSTEMS APPROACH

In addition to obesity and diet-related chronic diseases and disparities in access to affordable healthy foods, other concerns of our food supply include antibiotic resistance, foodborne pathogens, chemical and pesticide contamination, and depletion of natural resources. These issues are all related to food—what we eat and how it is produced and distributed. Further, many contend that though the US food system provides plentiful, inexpensive food, much of it is not as healthy as it should be and the agricultural system that underlies it is resource intensive and not sustainable. The American Public

Health Association (APHA) and American Medical Association (AMA) have both passed resolutions concerning the linkage of a sustainable agriculture and food system to the public health of our nation (<http://www.ama-assn.org/ama1/pub/upload/mm/475/refcomd.pdf>, <http://www.apha.org/advocacy/policy/policysearch/default.htm?id=1361>). In their framing, a sustainable food system has been defined as one that provides healthy food to meet current food needs while maintaining healthy ecosystems that can also provide food for generations to come, with minimal negative impact to the environment; encourages local production and distribution infrastructures; makes nutritious food available, accessible, and affordable to all; is humane and just—protecting farmers and other workers, consumers, and communities.

This leads to the need for a systems approach to food and health. A food systems approach enables consideration of the many intricately related factors involved in getting food from farm to consumer, including the inputs, mechanisms, and structures for food production, processing, distribution, acquisition, preparation, and consumption, as well as the farmers, fishers, workers, governments, institutional purchasers, communities, and consumers who participate in that system—and the contribution of these various factors and participants to overall health. A systems approach is one that takes the complexity of this food system into account. It is an approach that recognizes that in complex systems, parts have not single but many inputs and outputs, and therefore health and other outcomes must emerge from the system as a whole and not from a focus on any single component of that food system. In a systems-based model, interacting parts work synergistically, each as complement to the other and each supporting the system as a whole. Problems arising from complex systems are challenging and likely will require interventions that have multiple components and an appropriate level of complexity. Thinking about systems, in other words, is not consistent with easy or “magic bullet” solutions.

We must address the inadequacies of our food system if we want to successfully reduce the increasing costs of health care as affected by dietary patterns. Policies and programs to ensure a healthier food system need to be a part of health care reform efforts. Further, the US Farm Bill, renewed every 5 to 6 years, is a vehicle for addressing food system changes because it has such sizable and important impacts on agriculture production, rural development, food and nutrition assistance, conservation policies, and research.

#### OBJECTIVES OF THE CONFERENCE: MOVING TOWARD A HEALTHIER AND MORE SUSTAINABLE FOOD SYSTEM

The Airlie Conference on Food Systems and Public Health: Linkages to Achieve Healthier Diets and Healthier Communities placed the food system,

agriculture policy, and practices at the center of a discussion on healthy diets and obesity prevention. The conference sought to explore critical but unanswered questions such as: How can we as a nation shift toward promoting healthy, sustainably produced foods that are as locally sourced as feasible and that are aligned with national dietary and health priorities? How can we as a nation ensure a just food supply in which every community has easy access to an affordable, healthy, and more localized food supply? What are the most strategic changes in policy, governance, and practices that can help this shift occur? What knowledge gaps exist and what are policy-relevant research needs?

The objectives of the conference were to

1. Convene a multidisciplinary group of researchers and practitioners in public health, health care, child obesity, economics, sustainable agriculture, and food systems and other appropriate fields;
2. Identify research opportunities whose results could be used to develop potentially successful public and private policy interventions within the food system and agriculture sector that would
  - a. promote healthy diets that are as local as feasible and reduce child and adult obesity;
  - b. address health disparities by developing equal access to healthy food in communities across America;
  - c. promote diversification of agricultural production in scale, production practices, products grown, and farmers in communities across America.
3. Foster interdisciplinary research teams to develop policy analysis white papers, including research needs, policy strategies, and research proposals.

This issue contains some of the background papers and presentations developed for the conference. Policy research and action recommendations from the conference breakout sessions also are provided. We invite our colleagues who are researchers, practitioners, advocates, and policy-makers to join together to create a national strategy for creating a healthier and more sustainable food system.