TRENDS SPRING 2022

FOOD & NUTRITION TRENDS FOR EDUCATION & HEALTH PROFESSIONALS

SHORT AND LONG-TERM IMPLICATIONS OF THE GLOBAL PANDEMIC

SUPPORTING SUSTAINABLE FOOD SYSTEMS

NUTRITION SECURITY

Dairy Council of California®
Implications of the Global Pandemic

After two years of living in a pandemic, life looks more like it did prior to March 2020. Despite this shift to more recognizable routines, the changes and impacts from the COVID-19 pandemic will reverberate for years to come. The long-term health impacts of extended periods of isolation, school closures and illness are just beginning to be understood. They include elevated levels of childhood and adult obesity, increased reports of eating disorders in children and a growing need for mental health resources both in and out of school. Researchers are also discovering long-term health challenges due to mild to severe COVID-19 infection, including increased risk of developing diabetes and heart disease. These impacts disproportionately affect some racial and ethnic groups—including Black, Latinx and American Indian populations—more than others, highlighting enduring health disparities.¹ Beyond the realm of health, other post-pandemic impacts include inflation, supply chain disruptions and shifts in the business environment to virtual work and technology.

Interest in sustainability in food systems continues to increase, and the need for innovative and regenerative agriculture efforts is becoming more apparent. Sustainability is being recognized as more than sustaining the health of the planet; it also encompasses meeting the nutritional, social and economic needs of a growing global population.

Apart from the pandemic, California is experiencing demographic shifts as the birthrate continues to decline and the population becomes increasingly diverse. Meeting the needs of a diverse population requires a willingness to work together to find creative solutions to challenges plus the flexibility to adapt to post-pandemic changes. Opportunities to consider the unique perspectives and needs of individuals show promise to strengthen communities, creating connection and fostering inclusion, which can increase resilience to face the myriad challenges present in the world. It is within this unique environment that the following key trends are presented to highlight priorities, challenges and innovations in the education and health sectors and help prepare people within these sectors to better address future disruptions.

**Trend 1: Nutrition security and equity are being embedded in a systems approach.**

Nutrition plays an integral role in child growth and development and the ability to maintain health at all life stages. Disparities in access to nutritious foods particularly among Black, Latinx and households with children has catalyzed programs and policies to prioritize nutrition security and equity through systems change. Nutrition security centers on ensuring people have access to high-quality, nutrient-dense foods that meet their cultural preferences, rather than focusing only on sufficient calories. Nutrition equity ensures that all people can access nutritious and culturally appropriate foods regardless of race, education, gender, employment, ability or community. Food insecurity and the need for sustainable food systems, as well as other forces like health disparities, the pandemic and inflation, are spurring the need for a multisystems approach.

Federal meal programs are one place where the two topics of security and equity are being embedded. As the nation continues to emerge from the pandemic, there is momentum to proceed with investments that uplift communities with a focus on equity. Support for universal free school meals is growing throughout the United States; free school meals became permanent by law in California, and other states have followed suit. In addition, the U.S. Department of Agriculture (USDA) released transitional school meal standards for milk, whole grains and sodium, focusing on gradual improvements to help achieve nutrition security while being mindful of the ongoing challenges schools face in terms of pandemic recovery, supply chain disruptions, product availability and more. Comprehensive standards will be released in mid-2023 to align school meals with the current Dietary Guidelines for Americans. School breakfast and lunch programs continue to provide nutrient-rich foods and nutrition security for many children, especially in underserved communities. With free meals available to all students, schools anticipate increased participation, reduced stigma and overall improved nutrition, health and academic success.

Among other funding programs the USDA has established a $100 million grant program designed to help expand the reach of the emergency food system in underserved areas, including remote, rural, tribal, low-income or low food access communities. The funding will be distributed in two rounds, the first round of $50 million will enable state agencies that operate The Emergency Food Assistance Program (TEFAP) to implement unique, creative solutions to address program gaps and best serve their communities’ specific needs. The second round of funding may be available to other organizations in the broader emergency food system.
Current actions to improve nutrition security and food access include enhancing nutrition assistance programs and increasing pilots, programs and policies to support these efforts. Expanding children’s and families’ ability to access nutrient-dense foods through federal nutrition assistance programs and TEFAP improves nutrition security and equity. Reliable and consistent access to culturally relevant, nutrient-dense foods, including fruits, vegetables, whole grains and milk and dairy foods, supports resilient communities and creates a foundation for lifelong health for all. The upcoming release of the USDA’s nutrition standards is an opportunity for the public to provide comments to inform bigger changes that ensure high-quality foods are available through federal meal programs. These changes make federal meal programs more effective in supporting community health.

The USDA established standards for milk, whole grains and sodium for the school years 2022-2023 and 2023-2024. These standards apply to the National School Lunch Program, School Breakfast Program, Child and Adult Care Food Program and Special Milk Program.


Healthy eating guidance is shifting away from nutrient-focused food groups to food-based dietary patterns. Choosing high-quality foods based on overall nutrient density has a greater impact on health than food choices that focus on a single substance such as a vitamin, calories or sugar. One of the main reasons for this shift in dietary guidance is evolving research on the food matrix. The food matrix refers to the relationships between the nutrient and non-nutrient components of foods, including vitamins, minerals and bioactive components, as well as physical structure, texture and form. The food matrix concept helps address why different foods and various levels of processing affect health differently.

The variety of dairy foods offer diversity in nutrient quantity and composition, and therefore provide nuanced and unique health benefits. Dairy foods, including milk, yogurt and cheese, can differentially impact health outcomes such as reduced risk of cancer and heart disease. The food matrix is linked to observed health benefits as opposed to the isolated nutrients that foods contain. The matrix concept captures the effect of whole foods, like milk, on health and thereby differentiates dairy foods from plant-based products that have nutrients added to them.

Scientific evidence of how specific foods and combinations of food interact with the gut microbiome continues to build. Research on the importance of a healthy gut microbiome is growing, with increasing evidence of its role in supporting the health of other systems throughout the body.

**Trend 2: A growing body of research on the dairy matrix supports dairy foods’ unique ability to improve gut health and reduce inflammation as part of healthy eating patterns.**

Diet plays a significant role in the establishment and maintenance of healthy gut microflora, and fermented dairy foods, particularly yogurt, can make an important contribution to overall health.
Dairy foods are an important consideration when evaluating individual foods for their impact on health. Whole foods, including dairy foods, should continue to be examined for their unique health-promoting effects in the context of food matrices and dietary patterns. Many dairy foods continue to have strong evidence supporting their role in a healthy microbiome. Health professionals and educators can help translate the concept of the food matrix through food-based guidelines and education on the role of nutrient-dense foods in healthy eating patterns.

Implications

Current scientific research supports the inclusion of dairy foods in a healthy eating pattern. The diversity of the dairy food group is an important consideration when evaluating individual foods for their impact on health. The health benefits of whole foods, including dairy foods, should continue to be examined for their unique health-promoting effects in the context of food matrices and dietary patterns. Many dairy foods continue to have strong evidence supporting their role in a healthy microbiome. Health professionals and educators can help translate the concept of the food matrix through food-based guidelines and education on the role of nutrient-dense foods in healthy eating patterns.

An unhealthy gut is linked to increased susceptibility to acute and chronic lung diseases and may play a role in susceptibility to and severity of infectious diseases such as COVID-19. Diet plays a significant role in the establishment and maintenance of healthy gut microflora, and fermented dairy foods, particularly yogurt, can make an important contribution to overall health. Dairy foods also impact inflammatory markers, and while there is currently insufficient evidence to prove an “anti-inflammatory” effect of dairy foods, the substantial body of clinical research indicates that dairy foods do not increase chronic systemic inflammation.
Trend 3: Plant-based diets and foods are being promoted and adopted at all levels.

The plant-based movement has grown from grassroots to mainstream. This shift occurred over a matter of years, but the movement is now being promoted at all levels. Consumers show an ongoing interest in plant-based products and diets, whether for one meal, one month or as a long-term approach to eating.¹¹ As consumers drive changes in the food industry, top-down and bottom-up systemwide efforts can be seen. For example, schools and health care environments are taking a grassroots approach, and governments and organizations are driving systems changes in those same environments through policies and guidelines from the top down.

School meals are at the center of efforts to adopt plant-based eating patterns, as they offer a significant opportunity to impact students’ food choices. The school environment is a focal point for climate action as younger generations of students embrace sustainability in an era of climate change and concern for the environment. In early February 2022, New York City schools debuted “Vegan Fridays” to their 930,000 students. Though milk is still a required component of these school meals, no other animal products are included.¹²

The promotion and adoption of plant-based diets is influenced by perceived health and environmental benefits, motivating organizations to educate on the intersection between food, agriculture and planet. For example, the Aspen Institute’s K12 Climate Action Plan details needs and opportunities to tackle climate change in the education sector. These solutions include increasing access to healthy, sustainable food and reducing food waste through donating and composting.¹³ California is investing in Farm to School programs to improve health through food-based education and healthy food access.¹⁴ The 2022 California Farm to School Incubator Grant Program will award projects that, among other things, build climate resilience and create scalable, sustainable change.

Fast food restaurants are also capitalizing on the approximately 70% of consumers that consider protein from plant sources healthiest.¹⁵ Examples include major fast food chains launching plant-based burgers made of peas, rice and potatoes, as well as other alternative meat products such as plant-based chorizo and fried chicken.¹⁶ These products demonstrate how consumer interest is driving mainstream changes and shaping the food industry.

SOURCE: News 12 New York/NYC Dept. of Education
The rapid adoption of plant-based diets also presents a need to assess knowledge gaps and health impact data through further research. This need is emphasized in a review of evidence by the World Health Organization’s European Office for Prevention and Control of Noncommunicable Diseases, which highlights that although the health benefits of a diet rich in plants is well-noted, caution should be taken that not all plant-based diets are healthy. It is common to associate plant-based diets with healthful, whole and minimally processed plant foods such as whole grains, fruits, vegetables, legumes, nuts and seeds. However, refined grains and sugar-sweetened beverages, snacks and confectioneries are foods that can still be considered plant-based.¹⁷ Plant and animal sourced foods should not be thought of as competing entities but rather as synergistic food sources that provide different though complementary nutritional, social, economic and environmental benefits.¹⁸ Additionally, a report from the Food and Agriculture Organization of the United Nations shows that both dietary diversity and consumption of nutritious foods such as fruits, vegetables, dairy and meat tend to worsen as food insecurity becomes more severe.

**Implications**

As widespread promotion and adoption of plant-based diets increases, health professionals, school foodservice professionals and nutrition educators will have the opportunity to advise and influence policies, systems and environments that promote sustainable food systems. Policies and programs should consider the nutrition needs of vulnerable populations, particularly children. Nutrient-dense foods from both plant and animal sources help support children’s health, development and academic success. With food security a critical public health issue, focus on increasing access and affordability of high-quality, culturally acceptable and nutrient-dense foods from both plant and animal sources is increasingly important in fostering healthy eating patterns that are protective against chronic diseases and undernutrition.¹⁹ Partnership and collaboration to increase evidence-based nutrition education and daily access to nutritious foods can support sustainable food systems.

**Trend 4: Front-of-package labels are increasingly utilized to guide consumers on nutrition and sustainability. Ultra-processed foods are under growing scrutiny due to adverse health outcomes and environmental impact.**

Food guidance and labeling systems are changing to support consumer awareness and impact food choices. For example, Food Compass is a nutrient profiling system intended to categorize the healthfulness of foods for front-of-package labeling, warning labels, taxation and company ratings. Previous nutrient profiling systems have looked at individual nutrients and ingredients such as sugar, total fat, saturated fat, trans fat and sodium content. Food Compass expands to include vitamins, minerals, food ingredients, additives, processing, specific fats, fiber, protein and phytochemicals.²⁰ Nutrient profiling systems will continue to influence front-of-package labeling in coming years with the intention of promoting healthier consumer purchasing decisions. Retailers are also joining the conversation on climate, as evidenced by Walmart’s Built for Better initiative, which will tag goods that are considered better for health and less damaging to the environment.

Labeling tactics have the potential to oversimplify dietary decisions, confuse consumers and create a health halo for some processed foods over others. The quality of food and a food’s matrix, altered by processing and other factors, can fall on a spectrum of how the food impacts health.²¹ For example, not all foods containing sugar are equal, and evidence shows that using sugar as an indicator of carbohydrate’s impact on health is highly dependent on the food source. Some high-quality food sources that contain carbohydrates and sugar, such as yogurt, flavored milk, fruit, 100% fruit juice and certain breakfast cereals, are shown to be beneficial to health. These foods contain naturally occurring sugars, and although they may contain limited added sugars, they also provide essential nutrients. Conversely, calorie-equivalent substitutions of low-quality carbohydrate foods with sugar, such as grain-based desserts, show evidence of harm. This scientific insight indicates the potential benefits and drawbacks of using simplified labeling to distinguish the healthfulness of ultra-processed versus minimally processed foods and their impact on the environment.²²

In the past few decades, the consumption of ultra-processed foods has increased worldwide and has been related to the occurrence of noncommunicable diseases such as obesity, heart disease, diabetes, cancer and all-cause mortality.²³ The conversation around ultra-processed foods is now expanding beyond their effect on health outcomes to the environmental impact of production and consumption.²⁴ The connection between human and planetary health is complex, and dietary frameworks and models are still being developed to characterize both the healthfulness of diets and their climate impact.

**Implications**

Food marketing and guidance systems have the potential to help or hinder sustainable food choices, change how companies formulate foods and impact nutrition policy and education. Not all processed foods are created equal, and some are shown to be beneficial to health. By providing education on the spectrum of food processing and healthy eating patterns, health professionals and educators can equip consumers with skills to make more informed food choices based on personalized needs.

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²¹ Mozaffarian D. Dietary and policy priorities to reduce the global crises of obesity and diabetes. Nat Food. 2020;1:38-50. DOI:10.1038/s43016-019-0013-1


**Trend 5: The public education environment is changing rapidly due to challenges including increased need for mental health support, insufficient staffing and declines in enrollment and birth rates.**

The pandemic has had a significant impact on students’ social and emotional well-being, particularly from extended school closures and remote learning. In addition to social learning loss, many students experienced academic losses, and reports show that remedial support is needed for both social and academic development. Mental health is a key priority for many school districts, as they face a shortage of school psychologists and counselors but increased demand for services and a need to provide equitable access to mental health supports. The California Department of Education is seeking legislation to bring 10,000 clinicians to campuses by providing loan forgiveness and deferrals, offering scholarships to offset education costs, and potentially reducing the time it takes for clinicians to obtain a license. Additionally, a three-year, $750,000 grant from Kaiser Permanente will fund two mental health initiatives at The Los Angeles Trust for Children’s Health: The L.A. Trust Student Mental Health Initiative and the L.A. Trust Data xChange. These initiatives will improve access to mental health support for students and families and measure the impact of mental health intervention on academic outcomes.

The disruption to the school environment over the last two years may change how schools operate in the future. California Department of Education is investing in creating specialized services to support communities through the California Community Schools Partnership Program. The program allocates $3 billion to convert several thousand schools in low-income neighborhoods into centers of community life and providers of vital services for families as well as students.

In addition, the widespread adoption of education technology continues to gain momentum, with teachers looking for tools that are sustainable and will improve both teaching and learning.

**Number of students**

- **Historic**
- **Projected**

Projections show a steady decline in student enrollment throughout California in the next decade, though these numbers mask important differences in enrollment in counties and districts across the state.

**SOURCE:** https://www.ppic.org/interactive/changes-in-k-12-enrollment-across-californias-counties/
Most schools need additional resources to support the mental and emotional well-being of their students. Nutrition education, which teaches children to make connections with food, health, environment and community, is a practical and engaging way to support students in developing their social-emotional skills. Ongoing changes in the education environment will create a need to increase flexibility of nutrition education models to include more multidimensional strategies that extend beyond the classroom.
Nutrition Trends

Top food and nutrition trends for education and health professionals, including current research and practical guidance to consider when delivering nutrition education to children and families.