

FOOD FIX ACTION GUIDE

We live in an extraordinary time. The crises we face from our current food system have devastating consequences – chronic disease and its crippling economic burden on families and society, social injustice, environmental destruction, climate change and more. But we also live in a time of great innovation, possibility, and hope as many around the world are working hard to solve these problems. There are many effective proposals and solutions, extraordinary people thinking about and working on real fixes for our food system.

Facing the facts of our food system is sobering. But after years of research, speaking to dozens of experts, scientists and policymakers about the solutions, I am left with a sense of hope and possibility. Understanding the problems and challenges we face sets the foundation for the solutions. We need to think about these issues as one interconnected, intersecting set of challenges that we can and must address if we are to reverse the crises we now face and avert the disasters just over the horizon. It will take enormous effort from every citizen, food company, policy maker, and farmer. These Food Fixes are just the beginning, a call to action to fixing our food system. Many more ideas exist, billions of dollars of investment are flowing into innovations in food and agriculture. We need change from the bottom up and top down. The Food Fix Action Guide is a starting place for everyone. There is more work to be done, new ideas that will be developed, new policies and businesses that will emerge. This guide is meant to spur action, innovation and change and we can all be a part of it.

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The Top 20 Citizen Food Fixes

We have to take back our health one kitchen, one home, one family, one community, one farm at a time! Changes to our own diet is necessary, as are shifts in policy and business that we can influence as individuals to create a healthy, sustainable, just world. When we disapprove of their practices, we can force them to change by voting with our dollars. We need to support and invest in companies that are socially, environmentally, and nutritionally responsible. And we should effectively boycott companies that are doing the opposite. Companies can only sell what consumers will buy. Plenty of grassroots efforts have spurred food industry changes—and we can do more:

1. Eat for the health of humans and the planet.

What we eat matters not only to us, but also to almost everything that matters. These simple food principles, based on the best available data we have today, will help prevent and reverse chronic disease, improve mental health, our kids' cognitive and behavioral challenges, help solve social injustice, restore ecosystems, reverse climate change, and dramatically reduce the true cost of food. These core guidelines for a healthy diet apply to everyone: It should be aspirational, not perfect. You can't go wrong following these principles (read about them in-depth in my book *Food: What the Heck Should I Eat? And Food: What the Heck Should I Cook?*).

- Eat mostly plants.
- Stick to low glycemic fruits especially if you have insulin resistance, prediabetes, or diabetes.
- Eat more foods with healthy fats such as olive oil, avocados, nuts, and seeds
- Eat more nuts and seeds.
- Choose regeneratively raised animal products whenever possible.
 - Look for the regenerative organic certified label.
 - Buy locally sourced meat that is grass-fed and grass-finished.
 - Look for food labels that identify sustainable, humane food sources including American Grass-fed, American Humane Certified, Animal Welfare Review Certified, Global Animal Partnership, Certified Sustainable Seafood MSC, Biodynamic, Bird Friendly, etc.
 - Use sources like Eatwild, LocalHarvest, and Firsthand Foods.
- Eat pasture-raised eggs.
- Eat sustainably raised or harvested low-mercury, high omega 3 fish.
- Eat only whole grains (not whole grain flours even whole wheat).
- Eat beans.
- Quit sugary beverages and limit sugar to an occasional treat. Try my Sugar Detox Challenge to kick the habit.
- Stay away from refined vegetable, bean, and seed oils.
- Choose the right dairy (sheep and goat or A2 cow products).

2. Eat real whole food, or if you have packaged food make sure every ingredient is something you recognize or would have in your kitchen and use in cooking. No one has azodicarbonamide, mono or diglycerides, BHT or carrageenan in their cupboards. An egg or almond or avocado doesn't have an ingredient list or nutrition facts label.

3. Buy non-GMO and organic foods for your health, the environment, and to send a message that you won't accept food tainted with pesticides like glyphosate. Stay away from pesticides, herbicides, antibiotics, and hormones in your food. Buying organic is one of the best ways to steer clear of GMOs while sending a message to Big Food to change its practices.

- Look for the USDA organic seal.
- Shop at non-GMO retailers.
- Look for the non-GMO Project Verified seal.
- Look for labels on meat, poultry, dairy and other foods that say hormone and antibiotic free. Visit localharvest.org/organic-farms to find small farms in your area that do not use hormones and antibiotics.

4. Don't buy into the hype on food packaging. Watch out for fake flavors and labels making big health claims (such as "all natural"); instead, look for products that use real food to flavor their products.

5. Join a community supported agriculture (CSA) program to support local food systems. Go to www.localharvest.org to find one in your area. While the impact may be small, it provides a foothold into innovations in agriculture that eventually will spread.

6. Shop at farmer's markets. They are growing and support local food systems. While the impact may be small, it provides a foothold into innovations in agriculture that eventually will spread.

7. Start a garden in your windowsill, backyard or community. Do it with your church, school, company or as a family project. Turn your lawn into an edible garden or orchard. Plant fruit trees and avoid the use of glyphosate herbicides like Roundup and pesticides.

8. Eat at restaurants that serve organic, farm to table and/or regenerative food and don't use animal products raised with antibiotics or hormones. Restaurants all over the world are putting sustainability on the menu, supporting local food systems, preserving lost varieties of vegetables and animals, and more. Find restaurant scorecards regarding antibiotics on the US Public Interest Research Group's website.

9. Start a faith-based wellness program in your place of worship. This will change your social environment and make health contagious.

10. Be an agent of change in your workplace by encouraging health, mindful eating and daily exercise into your workday. Start a lunch group, rotating who brings healthy lunches for your group. Start a wellness group for walking or being active together. Get rid of the candy, donuts, sodas. Do your best. One bite at a time.

11. Support Fairtrade products. Fairtrade International is an organization that supports farmers and workers in dozens of poor countries while also working to protect the environment. Part of its mission is to promote fairness and justice in trade. Look for their logo and support the important work that they do.

12. Use refillable containers made of materials like metal or glass. Plastic containers are bad for your health and bad for the environment. They are made with BPA, BPS (bisphenol-S) and other synthetic chemicals that can leach into your food. Some of these containers can be recycled, but often they end up in landfills or they work their way into rivers, streams, and parks.

13. Be your own food advocate.

- Next time you read a nutrition headline, be wary, thoughtful, dig a little, ask important questions: Is the evidence science-based? Who funded the science? Does the evidence logically support the claims being made? Does it seem like relevant facts or context have been left out? Most importantly, remember that replication is the cornerstone of good science. Who funded the study and what are the conflicts of interest of the authors? Is this a study that can prove cause and effect or just a correlation?
- Get your information from independent nonprofits and public advocacy groups such as the Union of Concerned Scientists, the Environmental Working Group (EWG), and the Sustainable Food Trust, as well as academic institutions.

14. Reduce your own food waste. Use products such as FreshPaper or use produce protected by Apeel that keeps produce fresher longer. Make soups or stews from veggies that are a little wilted. When cooking, make just enough for your family, or make sure to eat all your leftovers.

15. Start a compost pile and advocate for community or city compost programs. That way whatever waste or food scraps you produce don't end up in a landfill. No more produce, grains or beans in landfills. Composting is a simple use of letting food scraps biodegrade aerobically by exposing them to oxygen, rotating the food scraps and mixing them with a brown matter (such as sawdust, cardboard, leaves). This turns it into a nutrient rich organic material that can be used to help build soil in gardens, farms, or your backyard.

16. Turn up the heat on food companies and politicians. It's up to us, concerned citizens, to pressure our legislators and the food and livestock industries. Start at the local level: If enough states take action, as many states have, then the federal government will be forced to implement changes.

- Donate to campaigns with integrity. The antidote is for more Americans to vote for candidates willing to act in integrity and change the policies needed to fix our broken system. And for more Americans to donate small amounts of money.
- Support ballot initiatives that propose excise taxes that increase the price of soft drinks and that explicitly link revenues to support of health, activity, school programs or provide direct community benefit.

- Lobby your representatives to shift nutrition and agriculture policies to ones that promote health and regenerative sustainable agriculture. And support strict new rules on lobbying and corporate responsibility.
- Vote in local elections to make your voice heard.
- Find out where your local member of Congress stands on SNAP reform.
- See how your representatives vote on food and agriculture issues documented by Food Policy Action (www.foodpolicyaction.org).

17. Educate yourself and your community about regenerative agriculture. Films like Kiss the Ground and The Biggest Little Farm are a good start. Check out The Carbon Underground to learn more and join the Adopt-a-Meter of soil campaign. Take a tour of a regenerative farm to see how it all works.

18. Change your banking and investment strategy to support regenerative and sustainable business solutions. Check out www.goodmoney.com to learn more about how to put your money in a banking system that aligns with your values. Seek out other social investment companies and options. Most big investment firms now offer this.

19. Support innovation and policies for food and agricultural practices that help to reverse climate change. Elect leaders who are committed to implementing policies that reduce the use of fossil fuels and bring us closer to 100 percent renewable power.

20. Start and support businesses that draw down carbon through agroforestry, silvopasture, holistic grazing, and composting operations. Learn more from groups like Colorado Land Link, LandCoreUSA, and Regeneration International.

The Top 20 Policy Food Fixes

The policies that drive our current system must change to support a reimagined food system from field to fork and beyond. Eight agencies oversee the government's food-related policies, and they largely work in silos. On top of that, most of our food and agriculture policies undermine public health, harm the environment, and increase private profits. Not to mention that many public health groups are influenced by the food industry not only through sponsorships, but also through fake science. Decision makers inside public health, schools and government can step up and put an end to the politics of bad food by changing the policies that impact the food industry and the overall health of our society and environment. Several real-world experiments are already changing programs and influencing politics. Here is what else our politicians, leaders and health groups need to make happen:

1. Integrate public health and health care.

- Develop community-based health interventions using community health workers to help people address the social determinants of health and learn healthy lifestyle behaviors. Develop quality metrics and payment reform that supports community-based programs to address the upstream causes of poor health.
- Change medical reimbursement to pay for food as medicine through all federal and state health insurance programs such as Medicare and Medicaid for at risk populations.
- Direct government and private funding of nutrition research that will inform effective health policy strategies.
- Provide clinical provider prescriptions in Medicare and Medicaid for free or discounted protective foods redeemable at healthcare settings, retail grocers, farmers' markets, and CSA programs.
- Provide medically tailored meals in Medicare and Medicaid to high risk, food insecure patients with complex chronic conditions. (Source: Tufts School of Nutrition Science and Policy)

2. Provide incentives for nutrition integration into medicine.

- Reimburse nutrition visits for chronic disease and obesity.
- Integrate nutrition documentation requirements, such as diet quality and food insecurity, into the electronic health records.
- Develop reimbursement and quality metrics which will incentivize the integration of nutrition into medical practice. In other words, if doctors don't document nutrition status and use food as medicine, they don't get paid!
- Create Accountable Care Organizations (ACOs) to improve patient and community nutrition through payment incentives and actionable menus of effective individual and community nutrition interventions suited for provider organizations. (Source: Tufts School of Nutrition Science and Policy)

- Leverage non-profit hospital community needs assessment and community benefits programs to create healthcare and nutrition synergies, e.g., including summer meals programs, farmers markets, senior nutrition programs, and community nutrition education. (Source: Tufts School of Nutrition Science and Policy)create healthcare and nutrition synergies, e.g., including summer meals programs, farmers markets, senior nutrition programs, and community nutrition education. (Source: Tufts School of Nutrition Science and Policy)

3. Change lobbying laws and shut the revolving door between the food industry and government.

Government can and should be a tremendous force for good, not for powerful special interest groups and their well-connected lobbyists:

- Elected and appointed government officials should be banned from becoming lobbyists when they leave office, or at least face an extensive “cooling off” period of five years or longer.
- People who worked as corporate lobbyists should be restricted from taking jobs in the federal government.
- A windfall tax should be imposed on excessive lobbying to clamp down on any one corporation’s ability to spend unlimited sums of money lobbying against the greater good of society.
- Ban lobbyists from giving personal gifts to public officials or making direct political donations to anyone running for office.
- Pass the Accountable Capitalism Act, which would force corporations to consider the public health, environmental, and social impact of every business decision they make.

4. Transform food labels and rein in junk food ads.

- Use the stoplight system for food labels (or other improved systems). A green logo means the food is good for you: Go ahead and buy it. Yellow means it’s essentially neutral: Not so good for you, but not necessarily bad for you either. Proceed with caution. And a red logo is the equivalent of a great big STOP sign.
- List ingredients by their percentages on the packages for full transparency.
- Restrict health claims on package labels. Food companies have a right to package their products in appealing ways. But the FDA should put its foot down when companies make unwarranted or misleading health claims. Should fried potatoes chips be promoted as a health food because they are gluten free?

5. Coordinate government agencies and programs related to food, nutrition, healthcare and agriculture.

(Source: Tufts School of Nutrition Science and Policy)

- Create a new senior executive branch position or structure that oversees, coordinates, harmonizes and reports to the President and Cabinet on food and health, equity, and sustainability issues across diverse agencies and programs including Agriculture, Defense, Education, and Health & Human Services.
- Coordinate federal and state feeding programs (e.g., SNAP, WIC) with Medicaid to improve nutrition and diet-related health outcomes.

- Strengthen the USDA’s State Nutrition Action Committee (SNAC) program so that all states have active committees coordinating food and nutrition programs.
- Increase the CDC’s Division of Nutrition, Physical Activity and Obesity budget so the CDC can award every state a grant for use on nutrition and obesity prevention.

6. Strengthen the FDA’s regulations of chemical food additives. They should follow stricter standards enforced in Europe to protect our citizens. That would eliminate many food additives found to have significant health consequences. Food industry groups should not be allowed to declare new food chemicals and other additives safe without the proper scientific evidence. They should follow the pre-cautionary principle. Prove it’s safe rather than wait till it’s found harmful then remove it from the marketplace. The FDA must enforce the current standards under the law.

7. Implement age restrictions—like we have for cigarettes or alcohol purchases—for soda and junk food. They kill more people and make more kids sick and overweight than tobacco or alcohol.

8. Tax junk foods and sugary beverages. The evidence suggests that the best fiscal policy to tackle these challenges is taxation. Taxes are not a silver bullet, but they’re very effective. Tobacco taxes were enormously successful. Tobacco was once the leading cause of preventable death. But today that distinction goes to poor diets. Just as tobacco taxes drove down smoking rates, resulting in remarkable public health improvements, taxes on soda can help drive down obesity rates. Over 30 countries have passed a tax on sugary drinks, including the United Kingdom, Hungary, Ecuador, Barbados, Belgium, Portugal, Ireland, Spain, Saudi Arabia, United Arab Emirates and the Philippines.

- Use taxation strategies to increase the prices of less healthful and sustainable foods and beverages in retail and restaurant settings
- Use subsidy strategies to lower prices and incentivize purchases of protective foods.

9. Create media and education campaigns to promote healthy diets with messages about increasing consumption of protective foods or reducing consumption of specific unhealthy foods or beverages. (Source: Tufts School of Nutrition Science and Policy)

10. Encourage food companies to reduce harmful food ingredients, including excessive amounts of added sugars and sodium in packaged foods, through strategies like voluntary targets set by the FDA, voluntary industry agreements, and changes to levels of use that are “generally recognized as safe” (GRAS). (Source: Tufts School of Nutrition Science and Policy)

11. Educate and offer incentives to restaurants, grocery stores and food retailers to reduce unhealthy food and beverage marketing and increase the placement and promotion of healthy products. Incentives could include:

- Contractual limitations, licensing, shared voluntary or regulatory industry guidelines, economic development incentives, and tax and zoning restrictions
- Opportunity Zones focused on food, nutrition, and wellness investments to improve equity and reduce disparities

- Recognition and rewards for companies that integrate major social and environmental priorities for health, food justice, and sustainability
- Investment vehicles that focus on food and nutrition-related companies centered on health, equity, and sustainability. (Source: Tufts School of Nutrition Science and Policy)

12. Establish wellness programs and food service procurement standards for worksite cafeterias, snacks, and catering, vending, and meetings at hospitals and other federal, state, tribal and institutions. (Source: Tufts School of Nutrition Science and Policy)

13. Prioritize nutrition in SNAP. Congress can add a diet-quality component to SNAP under the next Farm Bill or through an executive order. Or the USDA could make a policy change and then check progress by tracking the nutrition content of SNAP recipients' diets and publishing studies.

- Eliminate soda and other junk foods from the program, especially since SNAP already limits what recipients can buy.
- Offer incentives to recipients for purchasing fruits and vegetables. Congress could divert subsidies for crop insurance and commodities to programs that make fruits and vegetables more affordable and accessible. These programs should be available at farmers markets and large supermarkets and grocery stores in low-income neighborhoods.
- Update USDA retailer incentives and stocking standards to increase availability and purchase of protective foods and study the feasibility of evidence-based product placement strategies and restrictions on the marketing of unhealthy products. Encourage private-public partnerships around retailer data sharing that protect participant and retailer information. (Source: Tufts School of Nutrition Science and Policy)
- Authorize funding for the USDA to launch experimental new pilot programs. The small pilot programs that encourage SNAP users to purchase more fruits and vegetables have been so successful that Congress should authorize more funding for innovative programs for SNAP users. The USDA could look at encouraging not only healthy eating, but also sustainable diets and environmental change strategies and a program that delivers low-cost nutritious meals to SNAP users with disabilities and others with special needs.

14. Leverage federal incentives (e.g., Opportunity Zones) and restore or expand funding to other programs (e.g., Racial and Ethnic Approaches to Community Health [REACH]) to support low-income and other marginalized communities to create new businesses for a healthier and more equitable food environment. (Source: Tufts School of Nutrition Science and Policy)

15. Continue to support and expand Women, Infants, and Children (WIC) Nutrition Education as a successful component to early health and development of the child and continuing care of the mother. (Source: Tufts School of Nutrition Science and Policy)

- Increase the amount of approved whole fruits and vegetables.
- Extend postpartum WIC eligibility for mothers to two years.

- Extend eligibility for children by one year—until their sixth birthday—to ensure that no child slips through the nutrition gap between WIC and the National School Lunch and School Breakfast programs.
- Invest in technology improvements to better serve WIC participants including online, texting, telehealth, and apps to support breast-feeding and nutrition education.

16. The NIH should fund research to look deeply at the link between food and mental illness to provide more evidence for practitioners of how to treat the root causes of mental illness, not just the symptoms.

- We need reimbursement reform in healthcare to start paying for a food as medicine approach and programs to treat mental illness.
- Health care systems should integrate a food as medicine approach to treatment of mental illness.
- Reform of medical education so doctors can apply nutritional psychiatry with their patients.

17. Change the food in prisons to lower violence. The federal government, states, and cities all maintain jails or prisons and engage in food procurement and meal service. They can sign contracts with food service providers that have health in mind and on the menu. They can also mandate private prisons to provide healthy food.

18. Create a firewall between Big Food and science. This firewall would allow the food industry to fund important studies without biasing the researchers and their results.

- Companies should pool their donations into a common research fund. This pool of money—it could be called the Nutrition Fund, for example—could be managed and distributed to scientists by the NIH. Companies could get incentives to make donations to the fund through tax breaks and other benefits. A committee of independent scientific advisors could oversee the fund and review and approve research proposals.
- Food companies should not be involved in any way in study design, data analysis, authoring of the manuscript or even review or comments on the manuscript.
- The nutrition community should do large and rigorous randomized trials that give us definitive answers. Our dietary guidelines and health recommendations should be updated based on those studies.
- Any researcher who is going to carry out and publish a study should publicly register their protocol and analysis plan beforehand.
- Journals should require that researchers share their raw data. This will increase transparency and reduce the likelihood of manipulation. Every researcher should be able to access and analyze each other's data.
- Every medical and nutrition journal should adopt strict conflict-of-interest disclosure rules, and they should impose penalties on researchers who deliberately violate the policies.

19. Strengthen and protect existing federal research.

- Ensure robust funding and independence of federal agencies and centers conducting nutrition research, including but not limited to the efforts at the National Institutes of Health (NIH), USDA Economic Research Service (ERS), National Institute of Food and Agriculture (NIFA), and the USDA University Human Nutrition Research Centers (HNRC).
- Increase support for independent, investigator-driven research to address the myriad unanswered and emerging question in nutrition science. (Source: Tufts School of Nutrition Science and Policy)
- Update the National Nutrition Monitoring and Related Research Act of 1990 to require NNMS agencies to provide regular surveillance and monitoring data to the Deputy Director of the Office of Science and Technology Policy for Food and Nutrition.

20. Public health groups should maintain independence from food industry influence and science:

- Never accept money from junk food companies. These professional groups can raise the funds they need through membership fees, annual dues, conferences, expos, and philanthropic grants.
- All professional health organizations should abide by the Dietitians for Professional Integrity guidelines that were devised to help ensure ethical and responsible industry sponsorships.

The Top 10 Food Fixes for Schools and Higher Education

The policies and guidelines around school nutrition and the influence of the food industry may be crucial interventions to prevent childhood obesity and behavior problems, as well as conflicts of interest in higher education. The Institute of Medicine calls schools “the heart of health” because they should be a focal point in an effort to help children lead healthy lives. Public health officials have long tried to make school meals more nutritious but even within public health groups and education within universities, the food industry has had a hold. There is still so much still to be done. Parents, school administrators, and policy makers must take back our schools and universities from the food industry.

1. Restore and strengthen the nutrition standards for the National School Lunch and School Breakfast Programs, including strong fruit and vegetable, sodium, and whole grain standards and reducing added sugars and refined starches. (Source: Tufts School of Nutrition Science and Policy)

- Eliminate processed junk food from school menus. Food does not need to look and taste like junk for kids to eat it. A number of schools are finding that kids will eat real food if it tastes good and they’re provided the option. Real whole food that supports children’s development and learning must be a right for all children.
- Ban chocolate milk in schools. Kids don’t need to drink cow’s milk. A better option is water.

2. Introduce salad bars in schools. If you’re a parent, you’ll appreciate how important it is to get salad bars into schools. But you also need to take action at home. Don’t rely on schools to feed your children all their nutritious meals. Make sure you introduce them to as many vegetables as you can at home.

3. Support farm-to-school programs. School lunchrooms should procure many of their core ingredients from local farms. This is often relatively inexpensive and easy to do. School administrators who want to learn how to do this can reach out to the National Farm to School Network, which helps schools procure foods from the farms in their area. Tufts School of Nutrition Science and Policy suggests increasing funding and expanding access for the USDA Farm to School Grant Program.

4. Plant a garden in every school. School gardens connect kids to Mother Nature. They teach them about the environment and motivate them to love fruits and vegetables. Schools need to combine nutrition education curriculum with hands-on learning in the classroom and in school gardens. Groups like KidsGardening and Food Corps, nonprofit foundations, are working to bring more gardens to schools at a national level. But they need more support and funding.

5. Bring back basic cooking skills to schools as part of their curriculum. Cooking and nutrition should be a part of every school curriculum. This so-called edible education nudges kids to eat more fruits and vegetables and empowers them to make better food choices. A number of nutrition education programs have embraced this mission, like CookShop New York, the Edible Schoolyard Project, Common Threads, and Recipe for Success.

6. Parents: limit your children's screen time so they are less exposed to food marketing. The best thing you can do is to tightly monitor their screen time and filter out the programs or channels with harmful ads. Look for programs you can download that are free of junk food commercials and other predatory ads. Select programs for kids to watch on PBS, which tends to restrict junk food ads, or Netflix so they won't be bombarded with food commercials every five minutes.

7. End junk food and predatory advertising to children. Congress must enact limitations on food marketing to kids, including bans of cartoon characters, celebrity endorsements, health claims on food packaging, stealth marketing, marketing in schools and support for healthier foods.

- Congress and the FTC should ban all junk food ads from airing during children's programming, as recommended by the American Academy of Pediatrics.
- Congress also needs to ban online, digital, and other forms of interactive junk food and fast food ads aimed at kids.
- Strengthen and enact new efforts to limit food marketing directed at children under age 12, based on specific nutrition criteria, such as sodium, fat quality, added sugars, refined starch, and inclusion of protective foods such as fruits, vegetables, and minimally processed whole grains). (Source: Tufts School of Nutrition Science and Policy)
- Medical professionals could also emphasize the importance of good nutrition to help counteract the weekly blitz of junk food advertising most kids are forced to endure.

8. Increase funding for school nutrition and cooking facilities (source: Tufts School of Nutrition Science and Policy):

- Raise the federal school meal reimbursement rate for all schools to provide more flexibility for use of scratch cooking and healthier ingredients such as fresh produce, seafood, yogurt, and whole grains.
- Protect and expand categorical eligibility including community eligibility provision allowing schools in high poverty areas to reach more children with free breakfast and lunch and reduce administrative cost.
- Increase funding for USDA's Equipment Assistance Grant Program so more schools can update their facilities and equipment to increase capacity for preparing nutritious meals.
- Establish a pilot program utilizing chefs in schools to ensure that healthy options are appealing and delicious, evaluating for increased participation and reduced plate waste.
- Expand the Fresh Fruit and Vegetable Program currently offered to elementary schools to middle schools and high schools; and expand eligibility criteria for all schools based on free and reduced price meals.

9. Universities and medical centers need clear, rigorous conflict-of-interest policies that impress upon future doctors and health professionals the importance of navigating potential conflicts.

- Faculty members, staff, students, residents, trainees, and fellows should not accept any gifts or meals of any value from the drug, biotech, medical device, or medical diagnostics industries or their sales representatives.

- Faculty should be required to disclose to their institutions any industry relationships related to their academic activities in teaching, research, patient care, and institutional service.
- Faculty should not accept industry funding for speaking engagements aimed at other faculty, medical students, trainees, patients, health professionals, or the public.
- Continuing medical education courses should not be supported by an industry.
- Faculty, students, and trainees should not attend promotional or educational events that are paid for by an industry.
- Pharmaceutical sales representatives should not be allowed access to any faculty, students, or trainees in academic medical centers or affiliated entities.

10. Integrate nutrition into health care through support for nutrition education in medical schools, changing licensing exams to include nutrition which would change what doctors have to study, thus forcing medical school curriculums to change.

The Top 6 Business and Community Food Fixes

Ironically, the food system has an influence on every business and community, impacting productivity, health and wellness of employees. Not only that, but the food system also harms the very workers who farm, harvest, cook and serve our food, while also directly targeting the most at-risk populations. We need more companies that support socially responsible methods and make wellness a priority for their own employees. A number of food companies have already changed their goals. If more companies, churches and communities get on board, we can impact larger changes for the health of everyone:

1. Provide nutrition education and healthy options within the workplace. (Source: Tufts School of Nutrition Science and Policy)

- Provide wellness programs with access to medical professionals.
- Offer incentives to employees for healthier food and beverage choices.
- Make healthier food options delicious by using culinary arts programs (e.g., Culinary Institute of America's Menus of Change) and local chefs.
- Use behavioral design strategies in worksite cafeterias to promote healthier choices.

2. Restaurant and food retailers should agree to the Fair Food Program and pressure growers to adhere to its basic tenets for workers' rights. These rights are enforced through worker-to-worker education, audits transparency, complaint resolution, and market-based enforcement.

3. Businesses need to support advocacy groups that ensure safe and fair working conditions for our food and farm workers, such as the Food Chain Worker's Alliance and HEAL Food Alliance.

4. Businesses can source Fairtrade products. Fairtrade International is an organization that supports farmers and workers in dozens of poor countries while also working to protect the environment. Part of its mission is to promote fairness and justice in trade.

5. Community leaders and citizens can change their communities to help people regain food sovereignty.

- We need grass roots efforts to nurture and support black and minority urban and rural farmers and help cultivate black and minority leaders in the movement for food justice and sovereignty.
- In underprivileged areas, communities can transform food deserts into food forests by starting curbside gardens and creating raised bed gardens in dilapidated vacant lots.
- Churches and community programs can bring nutrition education and cooking skills to youth in underprivileged communities.

6. Black and minority church leaders can educate their congregants on the links between the struggles of black communities and food apartheid and racial targeting by the food industry and create a call to action to change all that, such as boycotting soda and junk food.

7. Use government incentives and tax breaks to support business innovation in the food and agriculture sectors that will provide novel solutions to key problems such as regenerative agriculture, food waste, healthier food options, and more.

The Top 6 Agriculture Food Fixes

Our food system isn't just making the world's population sick; it's making the environment sick and is one of the single biggest drivers of climate change. We need a new set of innovations informed by nature, leveraging natural laws that regenerate natural systems while producing more and better food, rather than extracting non-renewable resources from soil, oil, water and forests. The solution to so many of the crises outlined in *Food Fix* lies in reimagining how we grow food and what food we grow. This requires changes starting in farmers' fields all the way to the halls of Congress.

1. Invest in and transition to sustainable regenerative farming. While regenerative farming should be organic, it goes beyond organic by laying out the principles for building soil and enhancing biodiversity and reducing outside inputs. Farmers use the following methods:

- Limit the amount of soil disturbance to minimize soil erosion, preferably using no-till. Alternatives such as seed drills or strip-till plows minimize soil disturbance.
- No bare soil. This means leaving some plant material such as roots and stalks, on top of the soil or planting cover crops during fallow periods which help reduce soil and water loss, increase soil organic matter, soil biodiversity and nutrient content.
- Plant cover crops to reduce water loss and increase soil biodiversity.
- Use crop rotation to add nutrients to the soil and prevents diseases and pests.
- Keep living plant roots in the ground as long as possible.
- Integrate livestock into farming operations. Cycling animals through means that their manure can fertilize the soil. This must be done correctly by moving a diversity of animals around the farm ecosystem.
- Eliminate (or dramatically reduce) pesticides, herbicides and fertilizer use by restoring health farm ecosystems.

2. Reform the USDA Farm Bill to move us to a saner approach to our agriculture and food system.

- Establish a "National Food Policy" and National Food Policy Advisor and reinvent the USDA at the US Department of Food, Health and Well-Being to align our agricultural and food policies with economic and public health goals and coordinate policy across all agencies that touch any aspect of our food system from seek to fork to landfill.
- Re-solarize agricultural production to shift away from fossil fuel use. Shift from fossil fuels to photosynthesis which will improve our diets and reverse climate change.
- Increase publicly funded research on regenerative agricultural practices. Future studies should focus on determining reductions in concentrations of toxic runoff like nitrogen, phosphate, and organic carbon from integrated crop and livestock systems
- Start a Farmer's Corp to train and support new generation of farmers and help them overcome the financial and educational barriers to joining our food production system. Provide training and funding to access land and resources for converting conventional farms to regenerative.

- Creative incentives and support for regenerative agriculture through the USDA (and global agriculture ministries and departments) including financial support for farmers to transition from industrial, chemical intensive agriculture, and to integrate animals into farm ecosystems. This requires a massive reform and transition of agricultural supports (aka subsidies) for commodity crops toward regenerative agriculture.
- Create a safety net of credit and risk management tools for farmers who practice regenerative agriculture.
- Consider a “Nitrogen Tax” to account for greenhouse gas emissions and provide funds for remediation of affected watersheds.
- Fund programs that help farmers grow more vegetables and fruit.
- Reform crop insurance while increasing incentives for soil-building and regenerative agriculture practices that boost farmers’ resilience and improve nitrogen efficiency. End penalties for farmers who receive crop insurance to create diverse farms that include fruits and vegetables. (Source: Tufts School of Nutrition Science and Policy)
- Include environmental and sustainable guidelines in the US Dietary Guidelines.
- Break up monopolies with anti-trust legislation and address consolidation for seed, grain trading, animal feeding, meatpacking, agro-chemical companies and supermarkets. This will create a more fair and sustainable marketplace.
- Support urban agriculture and vertical farming to both improve food access, quality and revive impoverished urban communities.
- Implement mandatory municipal and institutional (and even personal) composting mandatory and provide the compost to farmers and ranchers.

3. Reform conservation programs to focus on practices that protect drinking water, regenerate soil, reduce greenhouse gas emissions, and store carbon. (Source: Tufts School of Nutrition Science and Policy)

4. The FDA needs to take a tougher stance on antibiotic overuse, including the solutions proposed by health authorities:

- Implement an outright ban on antibiotics for non-medical use or “disease prevention” in livestock.
- Stop factory farms from using antibiotics that are especially valuable to human medicine.
- Bring in qualified veterinarians.
- Promote and apply good practices at all steps of production and processing of foods from animal and plant sources. Ideally transitioning from factory farms to regenerative agriculture and practices will solve this problem.
- Reduce the need for antibiotics altogether by adopting new technologies to improve animal health and prevent disease.

- Track the misuse of antibiotics.
- Improve biosecurity on farms and prevent infections through improved hygiene and animal welfare.

5. Consumers, farmers and state governments can stem the tide of the environmental fallout and build better farming and better food by:

- Improving post-harvest infrastructure, food transportation, processing and packing
- Increasing collaboration among the supply chain
- Training and equip producers and retailers
- Increasing tax incentives for healthy food donations
- Educating consumers (Source: Tufts School of Nutrition Science and Policy)

6. Implement the food-based strategies from Project Drawdown to make the biggest difference for human and planetary health.