



Reset the Table

Meeting the Moment to
Transform the U.S. Food System

Foreword

America faces a hunger and nutrition crisis unlike any this country has seen in generations. Today 14 million children are missing meals on a regular basis—a statistic that’s three times worse than the Great Recession and five times worse than before the Covid-19 pandemic—as parents, who often skip meals themselves in order to prioritize feeding their kids, can no longer protect their children from hunger. It’s even worse for Latino and Black families, who have seen rates of nutrition insecurity spike to 25 percent and 30 percent, respectively. In the wealthiest country in the world, this is simply unconscionable.

In many ways, Covid-19 has boiled over long-simmering problems plaguing America’s food system. What began as a public health crisis fueled an economic crisis, leaving 33 percent of families unable to afford the amount or quality of food they want. School closures put 30 million students at risk of losing the meals they need to learn and thrive.

School nutrition professionals like Michael Gasper in Holmen, Wisconsin, had to act quickly to keep providing children with the meals they need. As he told FoodCorps, “Friday, March 13, was the last day [before schools closed]. Our team had conversations late on Friday, then again over the weekend, and we started implementing the plan on Monday. We’ve just kept tweaking and changing as we go.” By late April, his team was serving more than 10,000 meals a week to students in the district, including breakfast and lunch via curbside pickup. Now schools like his are facing major financial and operational challenges as they approach an unprecedented school year in which even more students will need school meals.

Against this backdrop of both challenge and heroism, The Rockefeller Foundation sought out diverse perspectives on what this pandemic has revealed about the U.S. food system and how we can collectively meet this moment. This spring and summer we brought together more than 100 leaders and experts—a bipartisan group, including senior officials who previously served in Republican and Democratic

presidential administrations—from the fields of health, agriculture, nutrition, education, private industry, environment, national security, civil rights, and social justice. This paper draws directly on those rich discussions to lay out a framework for change toward an equitable, nourishing, and sustainable U.S. food system.

The imperative to change the U.S. food system is not new; many individuals and organizations have been working to address it for years, if not decades. What is new is the urgency and opportunity in this moment to make transformative progress. We offer some immediate actions here, but this is far from a comprehensive playbook, which must address many other important issues that deeply affect food and nutrition, such as living wages, housing, and transportation. All of us need to write that playbook together over the coming year. We are thankful to the many individuals and organizations working on those issues through local and national political activism, legislative advocacy, and community-level efforts.

Even as we address today’s most urgent crisis of child hunger together, we cannot settle for more of the same. We have to meet this moment in a way that moves our country forward, toward a future where access to healthy food is a right for all. Our food system touches everyone and everything, and no one should be satisfied with the status quo. Whether you care most about child hunger or workforce protections, family farmers or fair wages, market efficiencies or racial equity, climate change or national security—all of us should be fighting for a food system that’s sustainable, nourishing, equitable, and just.

We can do this. Though America’s needs are great, so is our ability to meet them. With urgency, action, and partnership, we can channel our energy to respond and transform the U.S. food system—together.



Dr. Rajiv J. Shah

President, The Rockefeller Foundation

What Covid-19 has revealed

The images of the past few months have been both shocking and heartbreaking.

Families out of work and newly struggling with nutrition insecurity waiting in long car lines for a day's or a week's worth of food. School nutrition professionals—wearing whatever protective equipment they or their schools could provide—putting their own health at risk to meet the rising demand for food in their communities. Meat and poultry plant workers suffering disproportionate rates of Covid-19 infections while facing mandatory return-to-work orders. And farmers, with none of their usual buyers in a position to purchase, out of economic necessity dumping millions of gallons of milk, onions, beans, eggs, and more.

These images tell a powerful story of the economic and public health consequences of poor nutrition, with 94 percent of deaths from Covid-19 among individuals with an underlying condition, the majority of which are diet-related.¹ They tell an equally powerful story of a food system struggling to respond to the disruptions wrought by Covid-19.



Photo: Golden Harvest Food Bank

Americans spent more in restaurants than on groceries in 2018,² and the sudden closure of dining-out options was accompanied by a huge spike in demand at grocers. Food distributors set up to pack, haul, and deliver 50-pound sacks of flour and cheese to commercial customers couldn't quickly pivot to package two-pound sacks of flour and eight-ounce packages of cheese for purchase by private customers in grocery stores. Tons of food intended for restaurants and food service were destroyed while grocery store shelves emptied from a frenzy of panicked buying by those in a position to afford it.

40%

of Americans are unable to access \$400 even in times of emergency.

Many people could not afford such buying sprees, of course, with 37 million Americans already food insecure,³ and tens of millions of Americans furloughed or fired. The effects of Covid-19—in terms of health and unemployment—were disproportionately experienced by Black, Indigenous, and people of color (BIPOC); for example, among those aged 45-54, Black and Hispanic death rates are at least six times higher than for whites.⁴ With 40 percent of Americans unable to access \$400 even in times of emergency,⁵ there was an explosion in nutrition insecurity in states and neighborhoods across the country. Grace, a food bank in Summit, New Jersey, was soon feeding 515 families compared to 100 a month earlier. Demand at Feeding South Florida, the largest food bank in that agriculturally rich state, soared 600 percent.⁶ Navajo County, Arizona, is projected to have a nutrition insecurity rate of 26.2 percent.⁷

Every measure of child hunger rose to levels not seen in decades. In April, the U.S. Census found that a third of households with children couldn't afford to buy the amount or quality of food they wanted,⁸ a number that continues to hover around 28 percent. In 16.5 percent of households with children, parents are directly reporting that their children are not getting enough food—meaning that nearly 14 million children are going hungry on a regular basis.⁹ Black and Hispanic households with children are nearly twice as likely to be struggling with food as similar white families, and roughly three times as likely to report that their children are not eating enough.¹⁰

These shocking rates of hunger and nutrition insecurity have direct and indirect health-related costs, estimated for 2014 to be \$160 billion a year.¹¹

A system stretched to its limits... and beyond

The food system in this country is in many ways a marvel. Designed to address widespread malnutrition in the wake of the Great Depression, it met the needs of a desperate nation. Over decades, the system expanded and innovated in ways that made it possible to produce, transport, and distribute food to reach across America. An incredible variety of food is available year-round, and the system is generally safe from food-borne infection, especially considering its vastness and complexity.

And yet, the food system's evolution also had consequences. The Green Revolution—which The Rockefeller Foundation played a role in seeding and scaling—was effective and successful in addressing calorie-based hunger and averting mass starvation. But it left a legacy that we see clearly today, including overemphasis of staple grains at the expense of more nutrient-rich foods, reliance on chemical fertilizers that deplete the soil, and overuse of water. The U.S. food system's very specific kind of efficiency has also brought rigidity and costly impacts on human and environmental health—alongside high levels of wasted food.

Disparities in access to healthy food—and lack of affordability of nutritious food compared to less healthy alternatives—were outcomes of where agricultural subsidies and supports were targeted, and where

research and development dollars were spent. Poor nutrition—driven by many factors, including lack of access to healthy food, insufficient incomes to afford high-quality diets, and targeted marketing of unhealthy food—is now the leading cause of poor health in the United States. Poor nutrition causes more than half a million deaths each year,¹² with disproportionate impact on Indigenous people, people of color, and low-income people in

both urban and rural communities. Three-quarters of American adults are now either overweight or obese, and nearly half suffer from diabetes or pre-diabetes.¹³

Even our nation's security and economic well-being have been compromised by poor nutrition and its related

A third of households with children couldn't afford to buy the amount or quality of food they wanted.



consequences. Seventy-one percent of today's young adults ages 17-24 cannot qualify for military service, with overweight and obesity being the main drivers of disqualification.¹⁴ The Department of Defense spends \$103 million per year on lost workdays associated with active duty personnel who are overweight or obese.¹⁵ Diet-related diseases are a leading factor in increased health care spending, which has risen from 5 percent to 28 percent of the federal budget.¹⁶

And while farming is one of the most heavily subsidized sectors in the United States, farmers themselves are struggling: The median farm income in 2020 was estimated to be negative \$1,840.¹⁷ Even before Covid-19, almost a third of all food produced in the United States was wasted.¹⁸ And food production, processing, and transportation has become one of the primary causes of the environmental fragility facing our planet, responsible for widespread deforestation, loss of biodiversity, water pollution, and between 13 percent¹⁹ and 25 percent of greenhouse gas emissions.²⁰ Climate change threatens to further compound nutrition insecurity, intensify food loss and waste, deepen inequities in food distribution, and worsen impacts on farmers and food chain workers.



Inequity in the system revealed

All of this was true before Covid-19, and the pandemic fed on these stark realities to exact a tragic toll. The same communities already struggling with nutrition insecurity not coincidentally found themselves at increased risk of severe illness, hospitalization, and death from Covid-19.²¹

Long before Covid-19, farm and meatpacking laborers had among the highest worker injury rates and were among the most poorly paid of any occupation, with 50 percent of employees undocumented and unprotected.²² As the pandemic struck, they were classified as essential and summoned back to work, even as the virus hit their ranks particularly hard. Grocery clerks and stockers have similarly been on the frontlines of Covid-19, where many work in direct contact with potentially infectious customers without the necessary personal protective equipment. Hundreds of thousands of migrant workers, who also lack many basic fair workplace protections and access to health care, play an essential role in our food system but are among the most vulnerable.

63%

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54%

of Black workers reported earning low wages even before Covid-19 struck.

The Covid-19 crisis has also shined a light on the stark and continuing racial and economic inequities in this country, including in our food system. The roots of these inequities can be seen across a wide range of policy choices made with regard to BIPOC individuals over generations, from the founding of this country through their exclusion from USDA agricultural programs²³ and federal programs²⁴ designed to help America recover from the Great Depression.²⁵ Data shows that 63 percent of Hispanic workers and 54 percent of Black workers reported earning low wages and encountering barriers to accessing employment opportunities even before Covid-19 struck.²⁶

An opportunity

Over the years, numerous attempts have been made—some successful, others not—to leverage the strengths and productive innovations in the food system and to address those aspects of the system that negatively impact the health of people and their communities, as well as the health of our planet.

Before the pandemic, health care was experimenting with how to offer nutrition services for its patients. Medicare Advantage plans may cover the cost of food-related needs like healthy meal delivery service and grocery shopping for certain patients. At Geisinger Health in Pennsylvania, for instance, patients with diet-related disease who are part of the providers' insurance network are given prescriptions by primary care physicians to the network's Fresh Food Pharmacies. Preliminary results indicate these interventions can be even more effective than drug treatments.²⁷ There is increased interest within the health care sector and among communities for greater integration of "food is medicine" interventions, such as medically tailored meals and produce prescriptions, with the aim to nourish people in order to strengthen us against disease, be it respiratory or metabolic. The 2018 Farm Bill included \$50 million per year to support programs that help low-income consumers access and purchase fresh fruits and vegetables, including SNAP incentives and prescriptions for fresh produce to families.

There are hundreds of private businesses, non-governmental organizations, and local governments supporting innovation in the way food is provided at the local level. Some have joined with school districts to create dynamic and nutritious school meal programs seeking to transform the diets of millions of children while also leveraging their purchasing dollars to expand the market for ethical and sustainable food. Others have created regional food hubs and are supporting innovations to allow small farmers access to large markets and greater prosperity, and to deliver fresh,



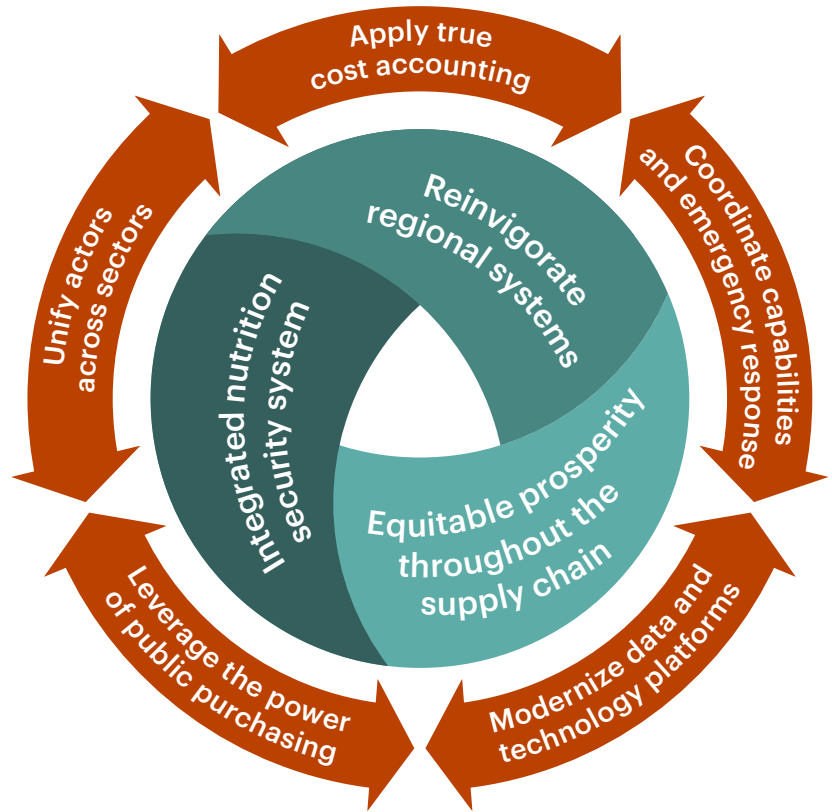
healthy products to underserved communities. Still others have organized food policy collaboratives, and driven local and state food policies to support more diverse farmers and workers, increase sustainable growing practices, purchase local and culturally appropriate food, and establish regional food networks that are more resilient and adaptable to economic and social shocks—a claim that has borne out amid Covid-19's disruptions.²⁸

These and many other efforts have created a rich body of knowledge and models for what works. And just as necessity is the mother of invention, the pandemic has highlighted some of the promising solutions around the country and inspired new innovations that might not otherwise have seen the light of day. Some of those innovations have come at the federal level, with the U.S. Department of Agriculture, for example, providing additional flexibility to those—such as public schools—struggling at great risk to meet exploding nutrition insecurity in their communities.

Fundamental change needed in the U.S. food system

Based upon dialogues with over 100 experts and practitioners, this paper integrates the insight, analysis, experience, and effort of a large array of organizations that have long been working to improve our food system. Drawing deeply on this knowledge, this paper puts forth a framework to build a food system that delivers healthy and affordable food, provides a decent standard of living and safe working conditions to laborers, ensures the viability of family farms and rural communities, and protects the environment and human health while still delivering fair returns to a broader set of shareholders.

The systems change described here will take all of us. Federal, state and local governments have a key role to play, and so do civil society and faith-based organizations, social movements, health care and education institutions, national security institutions, philanthropy, research institutions, and private industry.



As reflected in the illustration above, the change needed in the U.S. food system requires three significant shifts:

From	To
...disparate, siloed food access programs	...an integrated nutrition security system that treats access to healthy food as a right and embeds healthy food access as a core component of health and education
...dependency on hyper-specialized, vertically integrated supply chains designed to serve global markets	... Reinvigorated regional systems as part of a better-balanced nationwide food chain that includes diverse, agile, and prosperous local and regional food chains alongside a robust national chain, designed to serve all communities from rural to urban
...a focus on maximizing shareholder returns	...a more equitable system focused on fair returns and benefits to all stakeholders— building more equitable prosperity throughout the supply chain

To realize these three interrelated shifts in transforming the U.S. food system, we need to strengthen and activate a set of cross-cutting capabilities that have not been adequately built into the system. Among the capabilities needed to accomplish the three shifts described above are:

1. **Apply true cost accounting**—the consideration of not only immediate and direct costs, but also extended and indirect costs—in policy, legislative, and programmatic decision-making, and in public messaging;
2. **Ensure public purchasing generates more public good** out of every public dollar spent on food, health, and nutrition;
3. **Invest in coordinated federal, state, and local capabilities and emergency response plans** to increase the flexibility and resilience of the food system;
4. **Modernize data and technology platforms** to provide the tools needed to operate the system more efficiently in normal operation and under stress;
5. **Unify actors across multiple sectors**—health, education, environment, labor, nutrition, agriculture—into a collaborative advocacy movement.

Looking forward

Food advocates, community organizations, and researchers are deeply familiar with many of the changes described in this paper. We recognize and celebrate their leadership in creating positive models to scale and building the evidence to support changes to policies and programs. In our dialogues, we heard that what is *new* is the opportunity of the moment and the recognition of the need for a *unified effort across sectors* to advance these three shifts together.

While Covid-19 and the resulting economic downturn made the negative consequences of the food system worse and more obvious, the pandemic did not create them and its end will not solve them. The pandemic has, however, increased both the **imperative** and the **opportunity** to address these systemic deficiencies

once and for all. The risks to public health, the strength of our economy, equity and social justice, and even our national security demand it.

The imperative to address the ways in which the system is inequitable is further heightened by one of the most far-reaching public discourses on racism and systemic oppression in our lifetimes. The urgency is also apparent in extreme weather events that place the costs of a changing climate in stark relief. And the opportunity is palpable given the likelihood of the largest public and private investment to rebuild the country's economy since the Great Depression. The combined equity, economic, environmental, and public health imperatives for change offer hope for the kind of systemic reimagining that seemed impossible just a few short months ago.

Success will require numerous changes to policies, practices, and norms. Transformation of the U.S. food system will only achieve its fullest potential if we advance all three shifts, recognizing their connection to one another. This paper is not a comprehensive list of every possible change that might be appropriate or even necessary to achieve the transformation we call for. What we hope it does do is advance the collaboration and vision we have witnessed this spring and summer, and reflect the emerging consensus we heard about the critical shifts necessary to transform the food system.

Over the next few months, we will continue to engage government leaders, technical experts, policymakers, companies, community and faith-based leaders, and advocates as they build out more detailed analyses of the specific public and private actions required to advance this vision. We also recognize the need to engage the communities most impacted by the food system, mindful of the fact that change will only happen—and be sustainable—if they have a seat at the table and power in the process. We hope those seeking to transform the U.S. food system in the ways described here will be inspired to identify and advance other changes and innovations in both policy and practice that help to promote a food system that is more equitable, healthy, sustainable, and resilient.

SHIFT 1: Create an integrated nutrition security system

With real wages rising little in the past 20 years and food prices up 4.8 percent²⁹ in just the last 12 months, the food purchasing power of tens of millions of families has been severely constricted. Yet, families experiencing nutrition insecurity in the United States navigate a minefield of bureaucratic hurdles across a complex and seldom collaborative set of “safety net” public nutrition assistance programs—the Supplemental Nutrition Assistance Program (SNAP), Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), National School Lunch Program (NSLP) and School Breakfast Program (SBP), the Food Distribution Program on Indian Reservations (FDPIR), and the Child and Adult Care Food Program (CACFP), alongside programs like Medicaid, Medicare, Social Security, disability, and state unemployment benefits. And while many families cannot get by with only one program, each program requires a different enrollment process, interactions with different agencies and administrative requirements, and visits to different physical locations to access benefits.

Because of these challenges to the public safety net, the most marginalized among us also rely on charitable food programs administered by food pantries,



While working toward this shift, there are immediate actions we need to take:

- 1. Strengthen nutrition benefit programs to ensure children and families are fed.** Stronger nutrition benefit programs are critical for keeping children and families fed and healthy. Subsidies for food benefits also directly contribute to economic recovery and positive health outcomes. Distant grocery purchases must be easier, including by allowing a diverse set of local and national retailers to accept EBT funds for phone, curbside, delivery, and online purchasing. Healthy food incentives should be expanded and maximum flexibility applied to support nutrition security in Tribal Nations.
- 2. Invest public and private funding in school food programs as anchors of community feeding.** Reimburse schools and districts that leaned in to meet emergency community needs (even though they were not funded to do so) and continue to fund them through the coming year. We should ensure that children of all ages are given the nourishment they need to be healthy and succeed academically by enabling schools to provide free meals to all children and putting in place programs to ensure children do not miss meals when schools are closed.
- 3. Expand Food is Medicine.** Dietary health and Covid-19 outcomes are clearly linked, and now is the time to rapidly expand equitable access to Produce Prescription programs, medically tailored meals, and other programs that enable health care providers to connect patients with healthy food. Centers for Medicare & Medicaid Services should approve state applications for Medicaid waivers that include nutrition services, such as Section 1115, Section 1135, and Section 1915(c).

food banks, and other meal providers. Powered by philanthropic and corporate donations, dedicated volunteers, and surplus food that falls out of the mainstream supply chain, this system has heroically helped offset meal gaps for millions of people over decades. However, charities should not be the solution to chronic and widespread need. Healthy food should be a right for all Americans.

The Covid-19 pandemic and resulting economic fallout have demonstrated just how critical the public safety net is, while simultaneously pushing many programs past their limits. SNAP—which collectively provides nine times as many meals as those offered by charities³⁰—saw an overwhelming increase; for example, in Maryland, SNAP applications went up 400 percent in April.³¹ After months of strain, charitable food executives were sounding the alarm that they would not be able to sustain operations much longer.³²

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increase in Maryland SNAP applications in April.

This spring, USDA quickly issued regulatory waivers that brought some short-term flexibility to public nutrition programs. Beyond regulatory action, many new partnerships and operational innovations took shape as local leaders worked quickly and selflessly to adapt to exploding need. Farmers, processors, distributors, and the food services industry across the country reached out to local food banks, school districts, faith-based networks, hospitals, and other entities to provide donated food to sites where those in need would already be going. These changes are being rigorously evaluated, and those that prove to have succeeded in getting nutritious food to households in need at a best value to taxpayers should be made permanent as part of a systemic redesign.

What is already clear is that we need a new, integrated nutrition security system, which assures not just that all people have access to food, but that they have dignified access to *affordable, healthy* food, with greater overall efficiency and accountability. All food

access programs—whether part of the public safety net or private and philanthropically funded—should be operationally aligned and co-located to reach people where they are: at their schools, health care facilities, faith-based centers, and other trusted community-based organizations.

Food is medicine

Investing in healthy and protective diets will allow Americans to thrive and bring down our nation's suffocating health care costs. Poor-quality diets are the leading cause of rising costs, yet the health care system places little to no emphasis on nutrition.

One of Covid-19's legacies should be that it was the moment Americans realized the need to treat nutritious food as a part of health care, both for its role in prevention and in the treatment of diseases. By integrating healthy food into the health care system, doctors could prescribe produce as easily as pharmaceuticals and reduce utilization of expensive health services that are often required because of nutrition insecurity.

Practically, this elevation of nutrition requires reaching an agreed definition of a healthy diet, investing in nutrition research, and improving education of medical providers³³ and the public on nutrition. The elevation of nutrition into care could include the coverage of healthy food by Medicaid/Medicare plans for those struggling with nutrition insecurity and the integration of nutrition security screening. Linking together our food system and our health system can save both lives and money, and better protect against future pandemics.



Schools are anchors of community nutrition

Public schools are anchors of community feeding and play an essential role in ensuring children are nutrition secure. We must recognize school food service as an essential nutrition program—not as a side business expected to generate revenue—by increasing investment in these programs so that they can reach more children, provide school nutrition professionals with a livable wage, and support school food directors’ innovative efforts to get healthier food onto the menu and into kids’ stomachs.

We should similarly invest in other frontline community institutions including colleges, universities, and childcare centers that provide meals to children and youth and influence their dietary preferences. Research has long shown that children experiencing hunger do not perform as well in school,³⁴ and that eating breakfast has significant cognitive and behavioral benefits for students.³⁵ A recent paper also highlighted the role that school meals can play in improving health outcomes: The study estimated that the nutrition standards implemented by the Healthy, Hunger-Free Kids Act in 2012 had reduced obesity prevalence by 47 percent among children from low-income households by 2018, amounting to roughly 500,000 fewer cases of obesity.³⁶

Streamlined public benefits and reimagined charitable food programs

Wherever possible, we should aim to have Americans in need participate in the mainstream food supply chain (farmers markets, retail food stores) by increasing their purchasing power. This will support equitable access to healthy and culturally appropriate foods, robust markets for food producers, and economic growth—every dollar in new SNAP benefits increased gross domestic product (GDP) by about \$1.50 during a weak economy.³⁷ For families experiencing nutrition insecurity, it should be easier to enroll in safety net programs, reducing the burden on both administrators and families. This is especially critical considering the significant increase in families that now qualify for these benefits due to the economic downturn. Learning

\$1

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from the experience with the Pandemic Electronic Benefits Transfer (P-EBT) program, policymakers should consider responsive, automatic, and built-in-advance adjustments to safety net programs so that if one program suffers disruption, another can compensate. Technology and data should be used to streamline enrollment processes and share benefits information with eligible households. Technology can also help to expand retail options if online programs for SNAP and WIC are available and scale nationally to diverse retailers, with bottlenecks like delivery fees addressed.

Until we can realize this long-term vision, many families, seniors, and those who are medically fragile will continue to rely on the charitable food system to supplement safety net programs. That system must be reimagined to consider individuals and families struggling with food insecurity as their own demand stream that animates a “pull” system for fresh, culturally appropriate, and nutritious foods (versus today’s surplus-based “push” system). Transforming how healthy food reaches families—the “last mile” of supply chains—is critical to achieving healthy food for all and ensuring client dignity.



Photo © World Central Kitchen

SHIFT 2: Reinvigorate regional systems as a part of a better-balanced, more sustainable, and more resilient nationwide food chain

The abundance of cheap and empty calories in the American diet has its roots in a series of long-ago campaigns designed to address malnutrition in the United States and abroad. The resulting consolidation of the food system enabled the production of large volumes of certain foods with tremendous economic efficiency.³⁸ This centralized and highly specialized system, combined with long-distance transport, allowed for year-round availability of an incredible variety of products.

But it also squeezed out much of the redundancy, flexibility, and resilience needed to weather more extreme shocks to the system, while consolidating ownership, infrastructure, and supply into a highly vertically integrated system.³⁹ This consolidation—combined with an emphasis on cutting costs and maximizing short-term profits—has, in many places, been associated with the erosion of rural economies, marginalization and disenfranchisement of independent farmers, exclusion of Indigenous farmers and people of color, poor pay and dangerous working conditions for food chain workers, and spikes in environmentally harmful growing practices, such as large-scale monocropping and high chemical use.⁴⁰

Achieving resiliency and efficiency

We need robust and diversified national, regional, and local food economies to assure that our nationwide food chain is both resilient and efficient, taking into account the true costs and benefits of infrastructure, policy, and economic decisions at these different scales. Whereas heavy reliance on few, highly consolidated value chains leaves food supply vulnerable to shocks, a diverse mix of local, regional, national, and global sourcing provides the flexibility and redundancy needed to pivot and

While working toward this shift, there are immediate actions we need to take:

- 1. Ensure relief and stimulus policies improve the resilience of supply chains and strengthen local systems**, accounting for disproportionate effects of Covid-19 and prioritizing BIPOC communities. Timely and transparent data on Covid-19 relief fund recipients should be published to ensure that funds are being equitably distributed, including distribution to small, regional, and community organizations, and BIPOC communities.
- 2. Direct the purchasing power of large institutions along a values-based (equitable, ethical, sustainable) supply chain** by incentivizing, requiring, or otherwise enabling institutions' food procurement to prioritize producers and suppliers that embody these values. These large aggregate purchasing targets should be backed up by economic development, and workforce and infrastructure funding, to support the local supply chain infrastructure.

ensure that shocks do not create lasting disruption to food access or enduring harm to individuals throughout the food chain.

In the wake of Covid-19, anecdotal examples from many parts of the country demonstrated that areas with regional hubs and other food centers were more nimble and faster to recover, based in part on strong relationships between producers, suppliers, and others.

Moreover, research has shown that diverse, agile, equitable, and prosperous local and regional food chains are associated with: job growth and increased prosperity for small and medium-sized farmers,⁴¹ and improved access to fresh foods in low-income urban areas.^{42, 43, 44}

Harnessing the capacity of local and regional food systems—including their shorter supply chains—can reduce transportation costs and environmental impacts, and increase the flexibility and resilience of our food system overall and its ability to respond to shocks like Covid-19. Such regionalization, when intentionally and properly structured, can facilitate strong and equitable relationships between producers, processors, buyers, and consumers. Similarly, local and regional food systems must be intentionally organized to encourage greater environmental sustainability to achieve that goal.⁴⁵

Achieving this shift

To achieve this shift, we need to expand and ensure equitable participation in state-level food plans and in local food policy collaboratives (e.g., councils) and other cross-sector bodies that have been proven to improve response to systemic shocks and stresses. We should invest in the grassroots organizations (many of whom are BIPOC) that are already leading the work to support thriving regional food systems across the United States.

We need to allocate more public and private dollars toward regional and local food systems, starting with examples that have been piloted and shown to work. These include incentives for schools, hospitals, and other institutions to purchase locally, and use of SNAP, WIC, and other benefits at farmers markets and other local channels, particularly when combined with incentives for purchasing healthy foods. We need to create financial products and grant programs that support agile manufacturing and adaptability (e.g., equipment and infrastructure that allow shifts between products and customers versus specialization around one crop and one buyer), and sustainability, as well as promoting small and mid-sized, and BIPOC producers, distributors, and processors. The Covid-19 experience has shown the added agility and benefits from programs that connect farmers to consumers such as modern farmers markets and direct farm-to-consumer online platforms. These should become more of a regular feature.

We also need to invest in hard infrastructure such as regional food hubs; cold chain, mid-scale meat processing facilities; and other aggregation and distribution facilities. This requires the difficult balance of aligning food safety regulations to support diversity among producers, processing facilities, and distribution, including specifically small and medium-sized operations, without sacrificing the safety of the food supply.



SHIFT 3: Invest in equity and shared prosperity

During Covid-19, the country's roughly 2.5 million agricultural laborers were officially declared "essential." More than half of all farmworkers (estimated at 1 million people) are undocumented immigrants of color,⁴⁶ rendering them both essential and lacking in basic protections at the same time. Wages in the sector are so low that food system workers rely on SNAP at double the rate of the rest of the U.S. workforce⁴⁷—and yet undocumented workers are unable to access it.

negative \$1,840
was the estimated median farm income in 2020.

The current food system's vertical integration, and policy and subsidy infrastructure exerts tremendous influence on what gets grown by whom and at what cost. Farmers and laborers who hold the most risk receive the smallest portion of the profits. The overwhelming majority of American farmers operate at a loss (estimated in February 2020 to be a negative \$1,840 annually⁴⁸), obligating 91 percent of all farm households to rely on multiple sources of income. Survival often hinges on access to public credit, loan, and subsidy programs which have not been as accessible to BIPOC farmers.⁴⁹ Legal settlements with Black and Indigenous farmers around the longstanding racism embedded in food subsidies and government food programs have only begun to undo this harm.

A shared value approach

The country's food system should embody a shared value approach that delivers fair returns and a chance for improved prosperity to a broader range of "stakeholders," including workers, customers, taxpayers, communities, shareholders, and the environment. Farmers should be compensated through models that more equitably share risk and profits,⁵⁰

While working toward this shift, there are immediate actions we need to take:

- 1. OSHA must set and enforce mandatory guidelines** to keep workers and the food supply safe. We must also rapidly research how Covid-19 spreads among food sector workers and adapt guidelines based on that knowledge.
- 2. Provide credit, loan servicing, and debt relief for farmers and ranchers.** Federal agencies should utilize all tools available to enable farm families to keep their land, increase funding for direct and guaranteed loan programs, and declare a two-year moratorium on farm foreclosures.
- 3. Increase prosperity of farmers, ranchers, and fishers** through marketing contracts and other models that more equitably distribute risk and profit. Continue to strengthen secondary markets for farmers by linking local and regional producers to public nutrition programs, such as through existing programs like Farm to School, and address tax incentives on farmers' surplus food donations.

and have access to secondary markets connected directly to public nutrition recipients and distributors, like the Farm to School Grant Program. We need to adjust charitable and tax incentives to ensure that farmers can get healthy food into the nutrition security system and to charitable organizations without taking a loss themselves on the costs of crops, labor, and transportation. Well-planned reforms of the food system can also advance compensation models around reduction of greenhouse gas emissions and conservation of agricultural lands, minimizing the inequities that would otherwise be exacerbated by a changing climate.



Transformation of the food system needs to engage the private sector, which must be part of the solution. We should consider policies to support business innovation and incentivize companies to advance nutrition security. We need to level the playing field by enforcing anti-trust laws and strengthening pricing transparency measures that protect small and mid-sized producers from market distortions stemming from consolidation and monopolistic behavior.

We need to ensure producers, processors, and distributors (with an intentional BIPOC focus) can exercise the choice to stay on their land and keep their businesses, including transitioning from leasing to owning land. This likely requires grants and may also require additional debt, credit, working capital, and equity designed specifically with underrepresented populations in mind. Data on all publicly funded programs needs to be transparent, real-time, and disaggregated to ensure accountability.

We need to institute labor policy changes and oversight such as wage structures that reflect the value contributed by workers, and enable these workers to afford nutritious food, dignified housing, purchasing power, and health protection. We need mandatory and enforced occupational safety standards for field, processing, and meatpacking workers. Moreover, these essential workers should receive hazard pay and extra protections in times of emergency (e.g., pandemics). We must also grapple with the uncomfortable reality that Americans rely on undocumented immigrants

to produce essential food, and find real solutions for farmers and workers.

We also need to intentionally invest in community-driven rural and First Nation development, including water, broadband, local food integration into public nutrition programs, and accessible grocery options. We must reduce the fixed costs of participating in disparate, administratively burdensome public programs for small producers, processors, distributors, towns, and school districts.

These shifts are achievable—indeed, each one is happening right now at various scales and in different parts of the country. By working together, we can expand these successes across the country and system.

Ensuring affordability

Discussion of broadening prosperity inevitably raises the question of who will pay for it and whether any of the strategies discussed here would increase prices, particularly for those already struggling to make ends meet. These are fair and important questions. Collectively, we are already paying for a system that drives health costs to the highest in the world and that reduces the purchasing power of millions of working people (including those in the food system) through low wages. At a macro level, transformation of the food system should have a net positive economic impact. While in some cases direct costs associated with the food system might go up, health care costs and the externalized costs of climate and environmental harms should come down. For example, the percentage of household spending on food has fallen to under 6 percent in recent years (down from approximately 14 percent in 1960), while health care spending—often correlated with poor nutrition—has risen to \$11,000 per capita annually—the single largest household expense category. Individuals in the lowest income decile spend approximately 35 percent of their pre-tax incomes on health care.⁵¹

And of course, increasing the purchasing power of people and families (for example, through wage increases and equitable distribution of profits to farmers) would have an enormous and immediate effect on their ability to afford healthier food, thereby reducing the strain on nutrition security safety net programs.

Capabilities needed to achieve these shifts

The shifts articulated above will require focused, collective action over the long term. To realize them, the food system needs to strengthen and activate a set of cross-cutting capabilities that to date have not been fully realized systemwide. Among these are the following:

Capability 1: Relentlessly apply true cost accounting

“True cost accounting” considers not just immediate and direct costs, but also extended or indirect costs (e.g., to human health, to the environment). Without true cost accounting, decisions made by public and private entities prioritize short-term, direct costs while failing to consider the long-term and indirect costs that might have led to a different decision or justify a long-term investment. For example, some policymakers balk at the cost of SNAP, which is estimated at \$1,500 per person annually. Yet, this country currently spends \$11,000 per person every year on health care. Since research demonstrates a direct link between nutrition investments (like SNAP) and reduced health care costs,⁵² true cost accounting might demonstrate that SNAP is a worthwhile long-term investment. Similarly, the hidden costs of environmental externalities of the current food system, such as climate impacts and adverse effects of agricultural water pollution, must be considered by public and private policymakers. For example, the economic costs of climate change alone are expected to climb to hundreds of billions of dollars per year,⁵³ yet are rarely if ever considered in food system cost accounting.

An integrated nutrition system needs to have, at its foundation, a clear economic rationale demonstrating what each nutrition program and food purchase dollar saves in near- and longer-term health care costs. Consideration should also be given to economic value, as well as accounting for other environmental and social impact, where appropriate. Policymakers and the Congressional Budget Office should also incorporate true cost accounting when “scoring” legislation and

considering subsidy programs and trade agreements. Private sector companies can incorporate true cost accounting practices as a better way to demonstrate to shareholders and stakeholders the company’s sustainable business growth. French multinational food and beverage company Danone, for example, now reports a carbon-adjusted earnings per share.⁵⁴

Capability 2: Activate the power of public purchasing

Every dollar spent on a food purchase is an investment that shapes our food system and its public health, equity, and environmental outcomes. Today, too many public dollars are being spent to purchase cheap food with harmful impact on all three of these outcomes (which true cost accounting would show also negatively impact our federal and state budgets). Major institutions in cities across the country—public schools, universities, hospitals, government agencies, early childhood education, senior care, and others—all use public dollars to purchase and serve food, often in enormous quantities. The New York City school system alone is the second-largest purchaser of food in the country after the military, and nationally the public school food system is an \$18 billion market.⁵⁵

As public institutions injecting our tax dollars into the food system, these institutions should bear a responsibility to purchase based on “best value”⁵⁶ that takes into account the true cost accounting approach



outlined above and advances nutritional quality, ethical sourcing, fair wages and benefits for workers in the supply chain, local economic impact, and environmental sustainability. These factors are public goods that otherwise become costs borne by taxpayers through social services, health systems, environmental cleanup, climate change impacts, and safety net programs such as unemployment.

To get more public good out of every public dollar, we should fund mission-driven distribution in the form of value chain coordinators and not-for-profit food hubs to aggregate demand for healthy, equitable, sustainable food, and facilitate supply chain linkages with “good food” producers and suppliers. Public programs should also provide incentives for regional purchasing, fresh fruit and vegetable purchases, and food purchased from producers and suppliers from BIPOC communities.

There is much that can be done now to realize this vision. These policies and practices have been piloted and implemented at local, state, and federal levels, and are ready for further scale through coordinated investment and policy commitment.

Capability 3: Invest in coordinated federal, state, and local capabilities and emergency response

More than 15 agencies at the federal level alone directly regulate and implement programs that impact food from farm to fork. To add to that complexity, many food access programs are implemented at the state and local levels. Similar to the realization that prompted the creation of the Department of Homeland Security and the Directorate of National Intelligence after 9/11, the Covid-19 crisis illustrated a clear need for a single executive office responsible for better coordination across government agencies and levels, as well as with community organizations that people know and trust.

One particular area in need of greater federal coordination and investment is nutrition research, which could accelerate discoveries across critical areas and positively impact the economy, public health, and population resilience to future pandemics.⁵⁷

In anticipating the next crisis, we must have plans and an improved emergency coordination and response infrastructure ready. This will require systems-thinking, planning, value chain coordination, policymaking, and implementation. We need clear, consistent messaging between government officials, businesses, community organizations, and the public. A first step is clear documentation and analysis of how governments and community organizations responded throughout this pandemic so we can uncover key learnings as we begin to think about designing a more nimble, resilient infrastructure for future crises.

We should design for maximum accessibility, flexibility, and expandability so the system can more readily adapt to changing circumstances ranging from economic downturns and pandemics to widespread droughts, fires, and natural disasters. Many existing programs, like the Emergency Food Assistance Program (which allows for the purchasing of shelf-stable foods for nonprofit groups), have elaborate bid and contract processes that often take months to complete and are difficult for small and mid-scale producers to participate in. Departments at all levels should develop more streamlined processes to allow for contracting during a government-declared emergency.

In addition, we need contingency plans for how to redirect healthy food from areas of surplus to areas of need, how to increase regional processing capacity to process excess produce for use during crises, how to redirect food system workers and food service infrastructure (including restaurants, industrial kitchens, and schools) to support emergency programs, and how to best ensure personal protective gear is available when needed.

Capability 4: Modernize data and technology platforms

A 2015 study by McKinsey found that agriculture was the least digitized sector in the United States.⁵⁸ The data landscape of the food system remains complex and highly fragmented, with large concentrations of data from large farms and consolidated private supply chain industries, but little transparency of where food, or need, exists up and down the chain. While technology has powered a new generation of grocery

delivery and alternative proteins, it has failed to address straightforward gaps like the ability to widely use EBT cards securely online, process produce prescriptions at grocery retailers, or provide real-time visibility into foods needed in specific communities or surplus food available for donation. New and existing data and technology platforms could help to aggregate demand signals in the charitable food sector, enable dignified touchpoints with end users, and facilitate more efficient marketplace transactions between suppliers, intermediaries, and recipients. There are glimmers of progress that show the potential. For example, some food pantries use the Plentiful app,⁵⁹ which is a free reservation system for food pantries and the people they serve, providing pantries with enhanced demand and impact analytics.

The shifts outlined in this paper will all be made possible and strengthened by a comprehensive access to data in real time. There is untapped potential to combine data across safety net systems to understand who is using which public program and when. An infusion of data analytic capabilities across the system would help to better forecast and meet need. State agencies should systematically leverage data they collect on households—such as income—to facilitate enrollment. By bringing together unemployment, household income, and other census and survey data, markets and the public nutrition system could have a real-time view into the likely volume of need in a community, and where that need might go up and down.

Finally, these advancements need to be accompanied by a critical investment in broadband access. Forty-two million Americans lack broadband access that is essential to shifts to online enrollment, online purchasing of food, direct farm-to-consumer purchasing, telemedicine, teleconsultations, as well as education, finance, and employment. This is a fundamental resiliency and equity gap, and we need to close it, urgently.



Capability 5: Unify diverse actors into a movement

Across the experienced advocates that we engaged—from those focused on agriculture to national security to workers' rights—we heard that now is the time to realize the longstanding goal of building a more unified front to amplify clear and consistent messages, and advance policy priorities to positively transform the food system. Lessons can be learned from the environmental community, which has aligned on a few key messages and channeled shared advocacy resources into a focused lobby. In the same way, the agriculture, food, health, social justice, education, environmental, national security, faith-based, and nutrition communities have an opportunity to create powerful shared messaging and advocacy around the opportunity, the imperative, and the means to transform the U.S. food system.

Strengthening connections between the food and health sectors is a natural and necessary step in this direction. Working in closer alignment, these sectors can advance the reality of nutrition security as a core component of health and well-being, central to arresting the trajectory of nutrition-related disease and costs in this country. Similarly, building stronger connections between the food, health, environmental, and social and racial justice sectors could help drive a shift toward more equitable, sustainable, and healthier diets for all, and a more equitable and sustainable food supply chain.

Alignment with other sectors will also be critical to this effort including the education sector. Schools already play a significant role in nutrition access for children and are one of the largest purchasers of food. And the education community knows that nutrition security is core to educational success. Both the education and health sectors are uniquely motivated—and appear willing—to be allies in the fight against nutrition insecurity.

The heightened focus on the food system prompted by Covid-19 and the economic downturn provide a unique chance to pass reform legislation that advocates have been pushing for decades. A unified coalition drawing on champions from industry, policymakers, advocacy organizations, universities, community organizations, retailers across the food sector (and from other sectors as well) will demonstrate to policymakers the collective power of this movement.

Looking ahead

Covid-19 has made clear that despite the innovation, entrepreneurship, and dedicated efforts of many players across the supply chain, the overall food system does not promote healthy people, a healthy planet, or an equitable economy. As noted, the deficiencies in the system existed—and were recognized by many—long before Covid-19. And they will remain afterward—with significant implications for our national security, population health, economic prosperity, and our environment—unless we collectively choose to address them.

Working together, we have the opportunity and the obligation to transform the U.S. food system to make it more efficient, equitable, healthy, and resilient, both in good times and bad.

By shifting to a system that **better integrates public, private, and philanthropic solutions**, this country can better address its intractable and growing nutrition insecurity. By **reinvigorating regional systems as part of a better-balanced nationwide food system**, we can increase the system’s sustainability and resilience. And by eliminating racial disparities and **delivering fair returns and benefits throughout the food supply chain**, we can resolve the system’s fundamental inequity.

To make these shifts possible, the system needs to acquire and strengthen a set of capabilities that have not been activated systemwide:

- 1. Apply true cost accounting** to fully consider the direct and indirect costs of the food system;
- 2. Maximize taxpayer value** by making sure public purchasing generates public good;
- 3. Invest in better coordinated emergency response plans;**
- 4. Modernize data and technology platforms;**
- 5. Unify actors across multiple sectors** in a collaborative advocacy movement.

While the opportunity to realize this vision has come to us under tragic circumstances, it has also inspired the kind of passion, commitment, and innovation that gives us hope the needed transformation can and will be accomplished.

To do so, stakeholders from across the food system and beyond must come together to drive transformational shifts in systems, policies, and practices. We must collectively meet the moment to address immediate need while laying the foundation for the systemic and structural design of a transformed food system.

As we move forward together to “reset the table” of this country’s food system, we must continue to learn from the innovative operational solutions being seen all across the country and incorporate those lessons in future policies and programs. We must also listen to and learn from the activism and protests against systemic racism triggered by the killing of George Floyd and apply this knowledge to the transformative work that lies ahead.

Over the coming months The Rockefeller Foundation will engage with leaders in the many intersecting fields the food system touches to strengthen efforts to address the challenges and pursue the opportunities described in this paper. We are grateful to—and inspired by—those in the field who are leading the way and others who are taking interest in improving our food system for the first time. We look forward to hearing your voice in the collaborative and sustained effort needed to reset the table and transform the U.S. food system to be what this country and its people need it to be.

Now is the moment.

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- 49 See <https://nationalaglawcenter.org/wp-content/uploads/assets/crs/RS20430.pdf>; <https://nativeamericanagriculturefund.org/history/>; see also <https://www.canr.msu.edu/foodsystems/uploads/files/Slides-for-Food-Sovereignty-and-the-Role-of-Extension-Webinar.pdf>
- 50 For a discussion of spot markets versus contracts, see https://www.ers.usda.gov/webdocs/publications/41702/14700_aer837_1_.pdf?v=41061.
- 51 In 2017, only 62% of Black-operated farms had internet access. https://www.nass.usda.gov/Publications/Highlights/2019/2017Census_Black_Producers.pdf
- 52 A study of the WIC program in the 1970s showed that for every \$1 invested in WIC, there was a \$3.30 return on future Medicaid costs. Also see: Seth A. Berkowitz et al., “Supplemental Nutrition Assistance Program (SNAP) Participation and Health Care Expenditures Among Low-Income Adults,” JAMA Internal Medicine, November 2017, https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2653910?amp%3butm_source=JAMA+Intern+MedPublishAheadofPrint&utm_campaign=25-09-2017
- 53 <https://www.yaleclimateconnections.org/2019/04/climate-change-could-cost-u-s-economy-billions/>
- 54 https://www.danone.com/content/dam/danone-corp/danone-com/medias/medias-en/2020/corporatepressreleases/danone_full_year_2019_results.pdf
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- 56 See https://www.nigp.org/docs/default-source/New-Site/position-papers/150105_best-value_position-paper-complete_updated.pdf?sfvrsn=9800e140_4 for a discussion of best value government procurement methods.
- 57 See <https://academic.oup.com/ajcn/article-abstract/doi/10.1093/ajcn/nqaa179/5873352?redirectedFrom=fulltext> for an in-depth discussion on the rationale and options for a coordinated federal nutrition effort and authority.
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