



Food Safety in the Modern Context

128th AFDO Annual Educational Conference

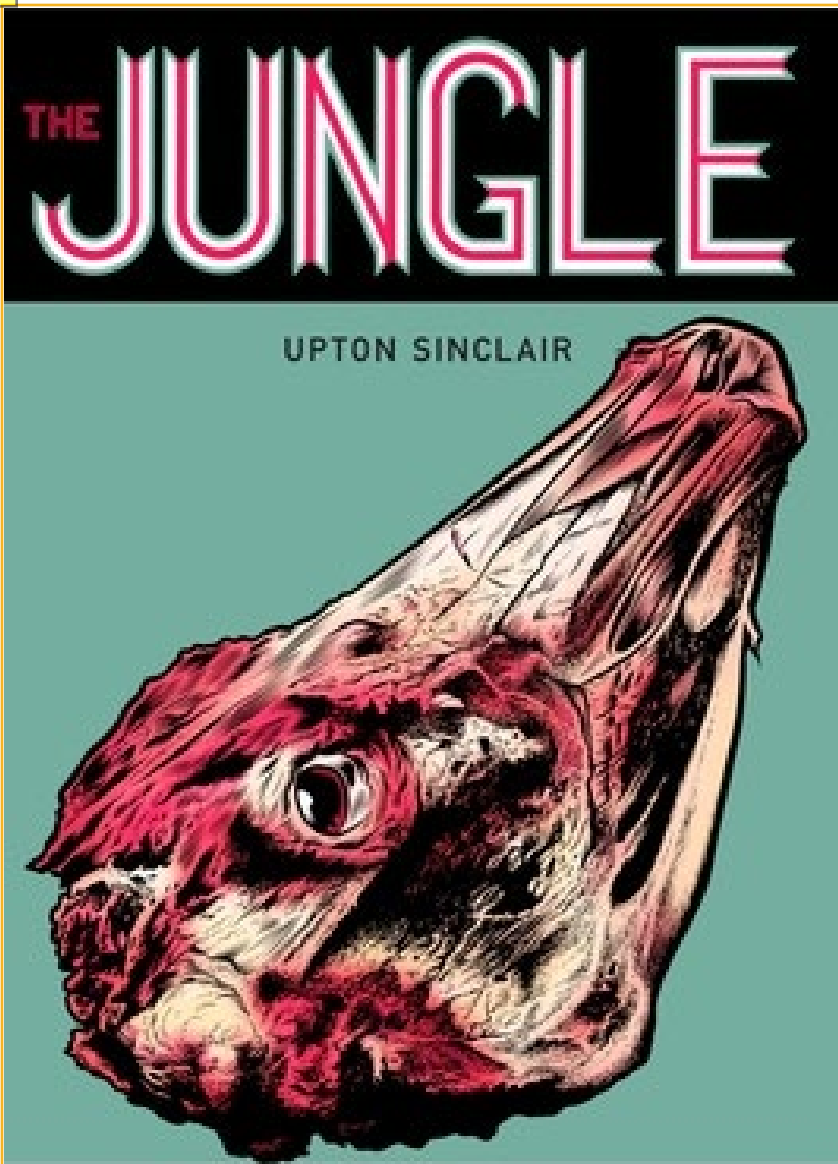
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Dean, College of Food Innovation & Technology

How do people get better at life?

Learning from FAILURE

How does society improve over time?

Tragically, SAME ANSWER



Modern Food Safety Legislation



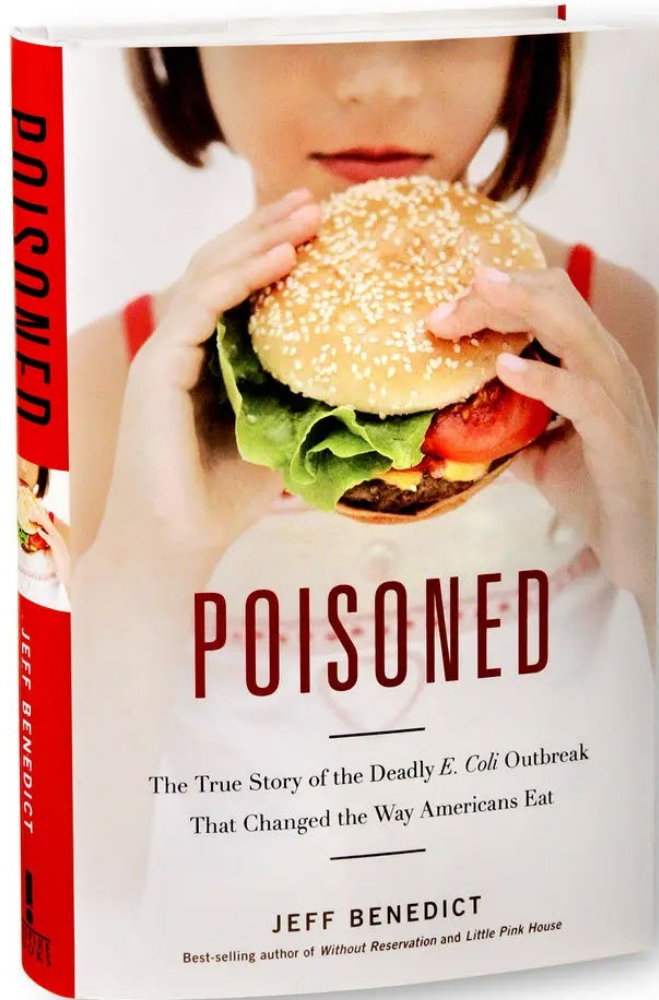
Modern Workplace Safety



UN: Collaborative Peacemaking



The EPA



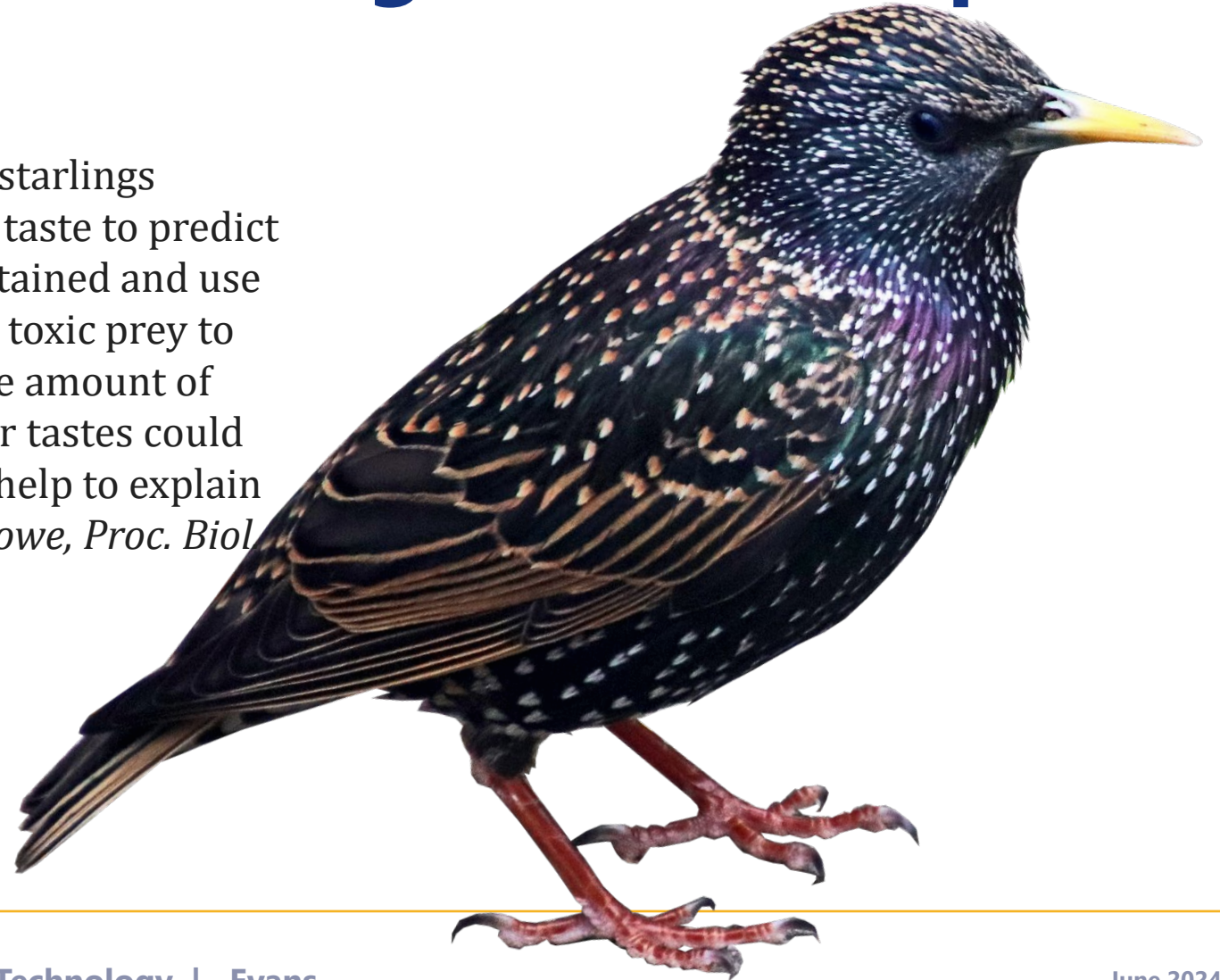
More Effective Regulation



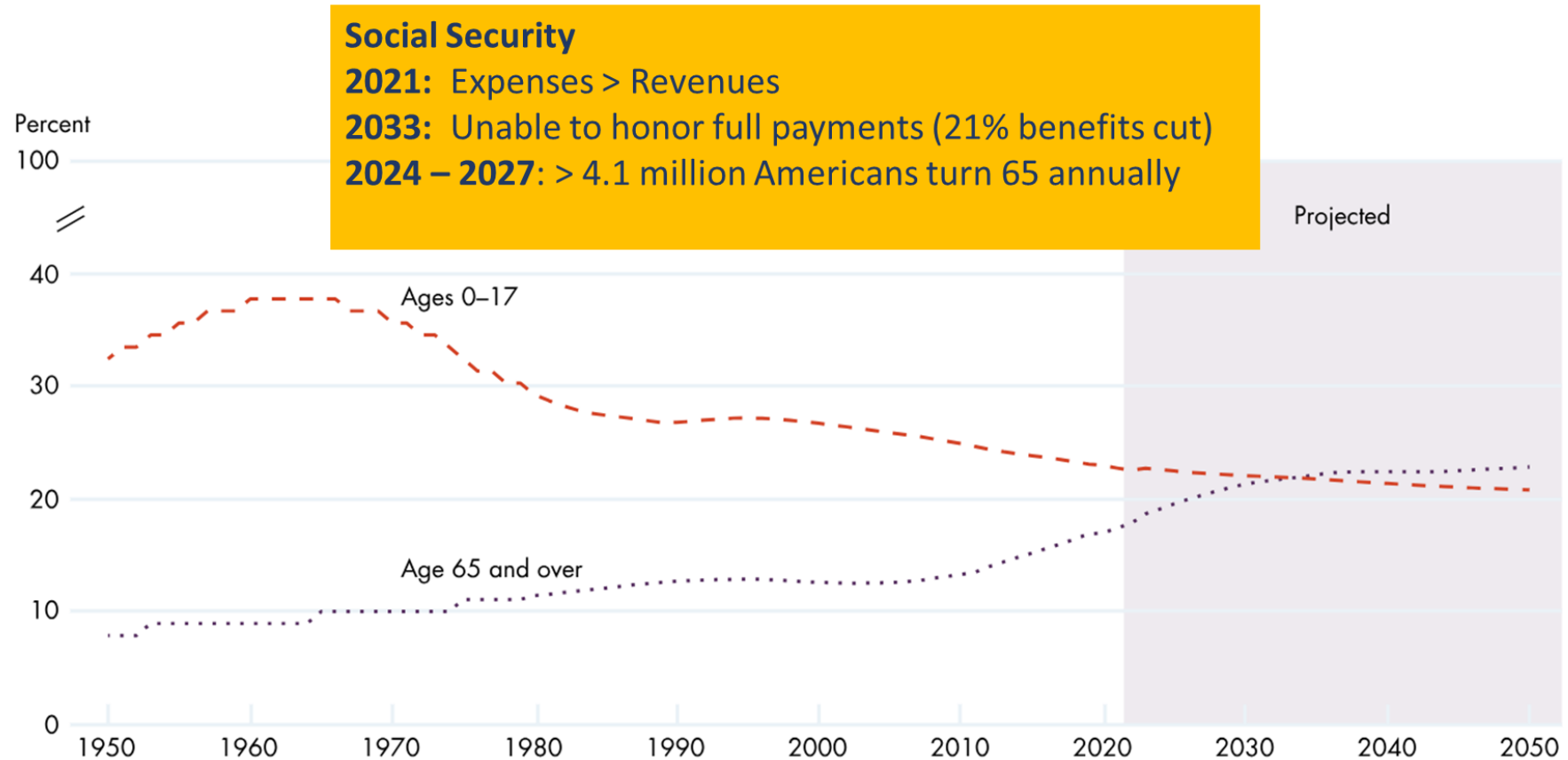
(Now) Common Sense Regulation

Basically, we've the foresight of a European Starling. Maybe.

In this experiment, we found that European starlings (*Sturnus vulgaris*) could learn to use a bitter taste to predict the amount of toxin that individual prey contained and use that information to preferentially ingest less toxic prey to maximize their nutrient intake relative to the amount of toxin ingested. Our results suggest that bitter tastes could evolve as reliable signals of toxicity and can help to explain why many toxins taste bitter. -- Skelhorn & Rowe, *Proc. Biol. Sci.*, 2010



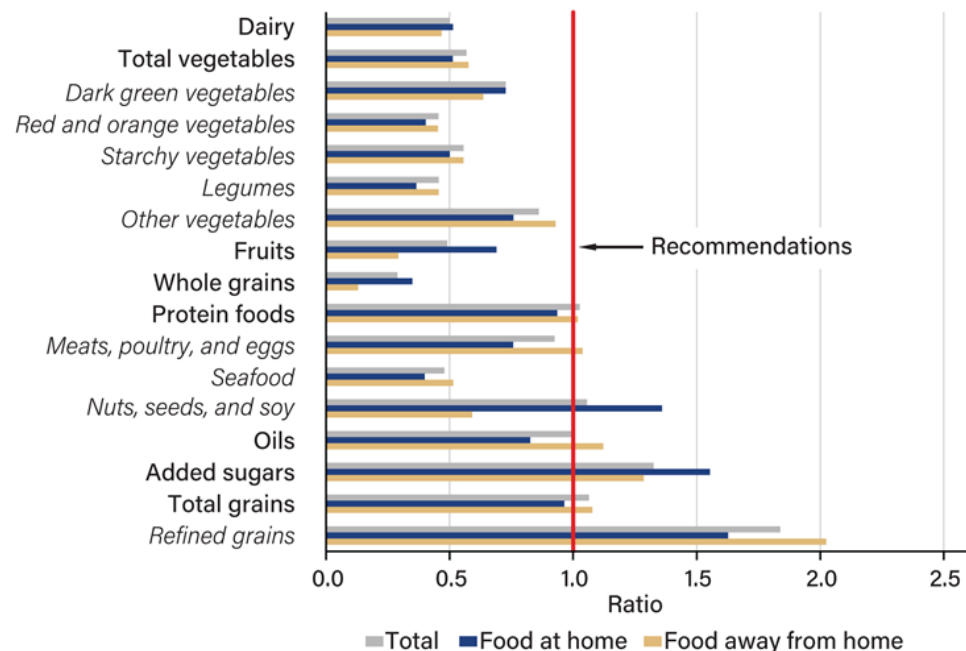
...which doesn't bode well for us in a complex world with lots of super fun distractions



Dietary quality of U.S. consumers aged 2 and above by food category, 2017–18

USDA Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE

Food category



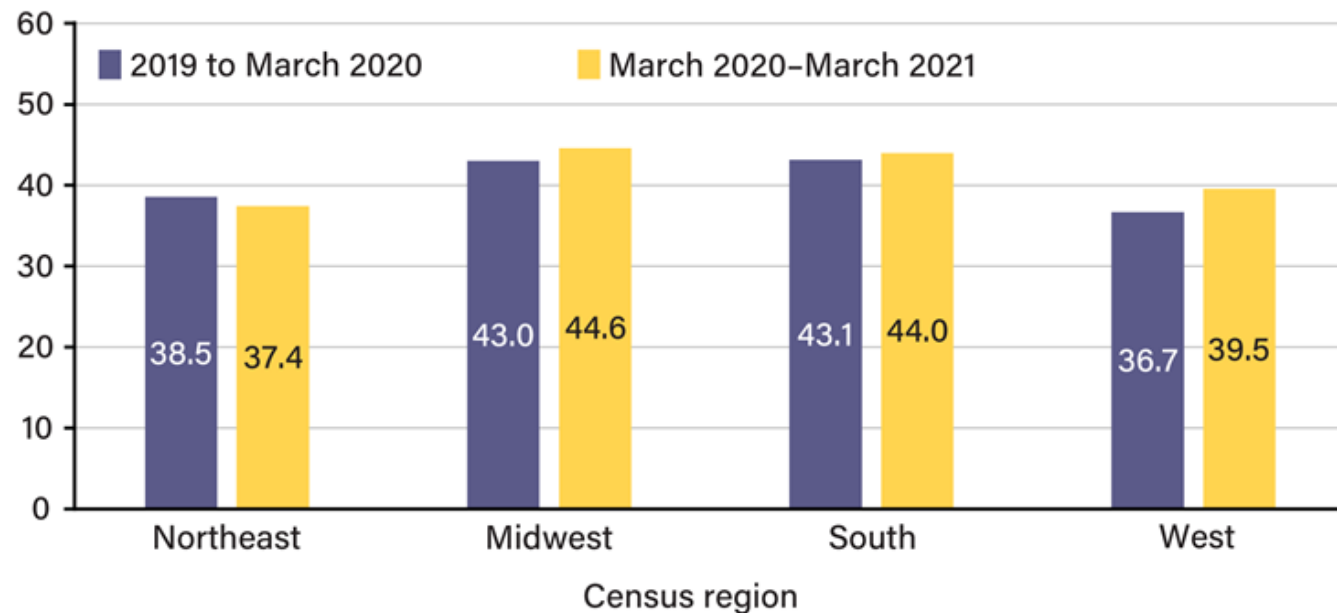
Note: The **ratio** is the actual consumption densities calculated from comparing survey data to the Federal recommended densities for a diet of 2,000 calories. Density is the amount of food consumed per 1,000 calories.

Source: USDA, Economic Research Service using data from USDA, Agricultural Research Service and U.S. Department of Health and Human Services 2017–18 What We Eat in America, National Health and Nutrition Examination Survey. Dietary benchmarks based on Dietary Guidelines for Americans 2020–25.

U.S. adult obesity rates by Census regions before and during COVID-19 pandemic

USDA Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE

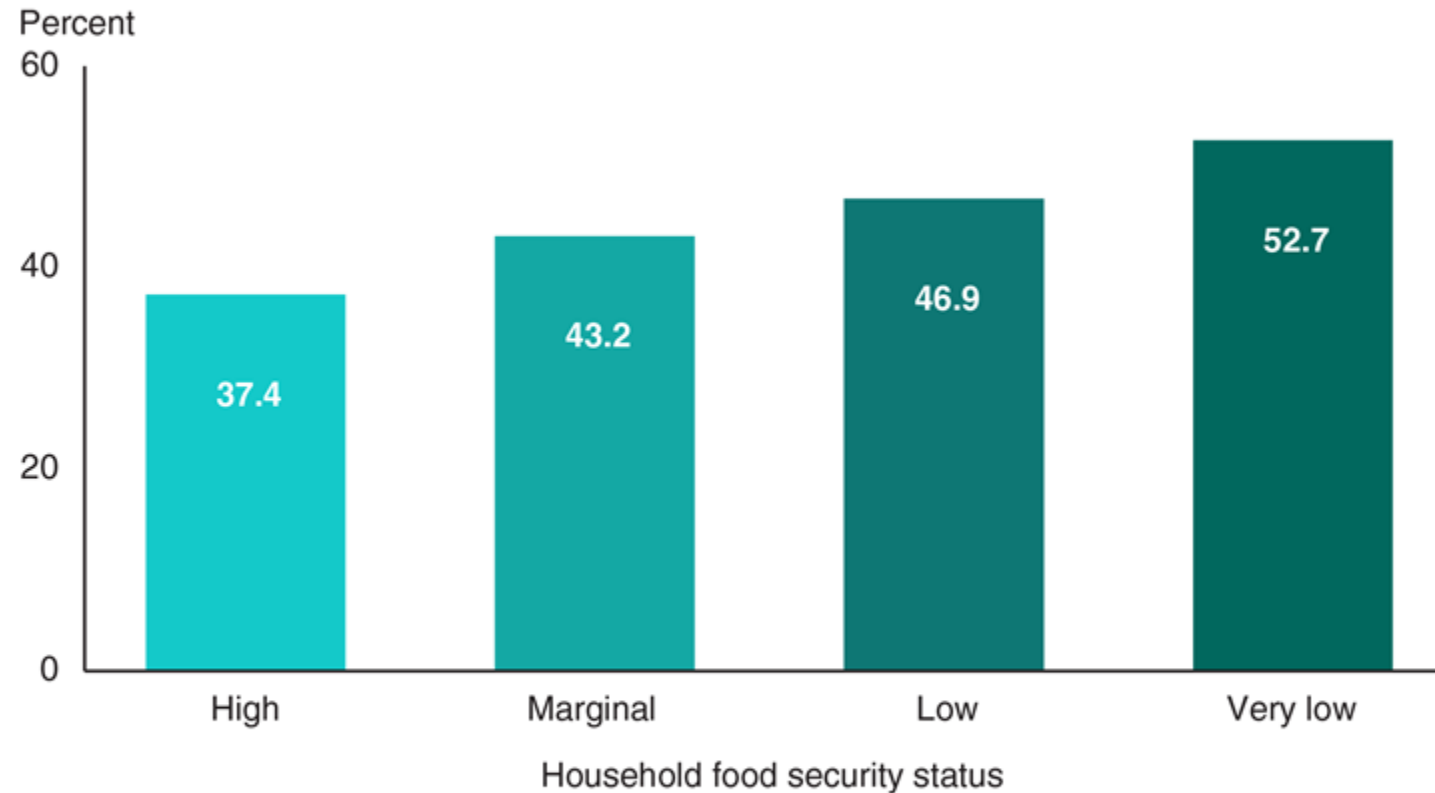
Obesity rate (percent)



Note: Differences between the two periods are statistically significant for all Census regions.

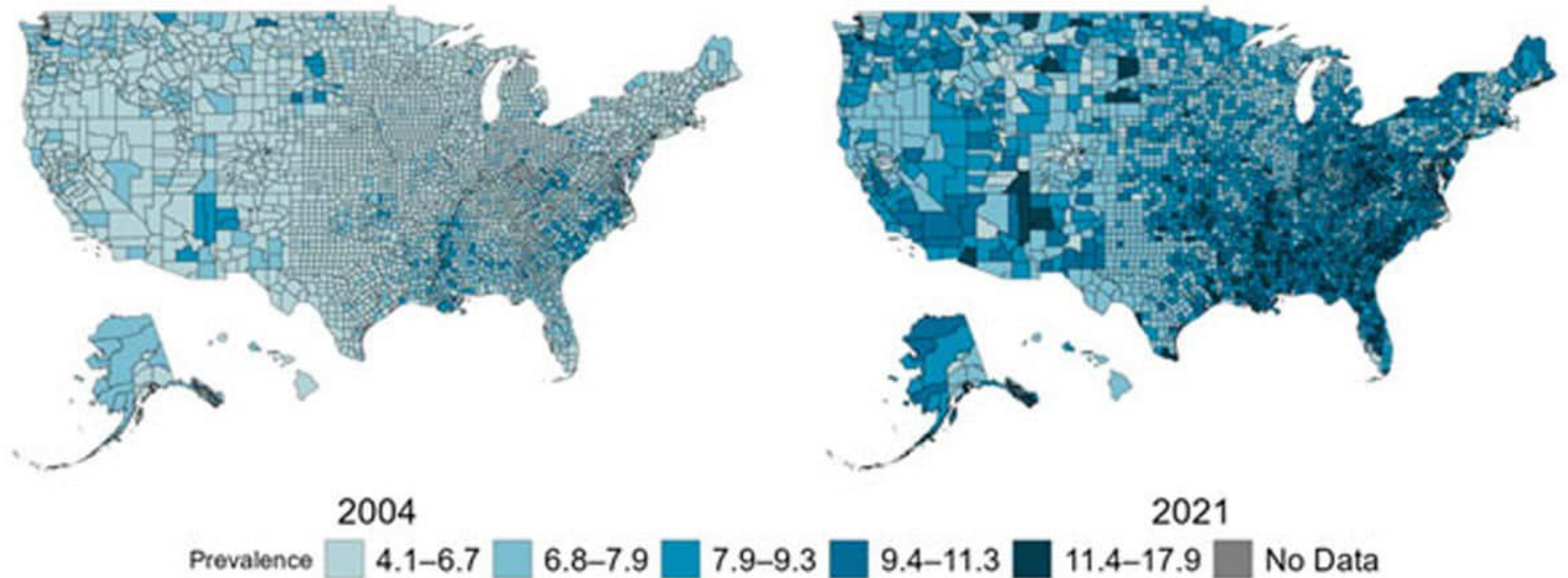
Source: USDA, Economic Research Service based on data collected by Behavioral Risk Factor Surveillance System.

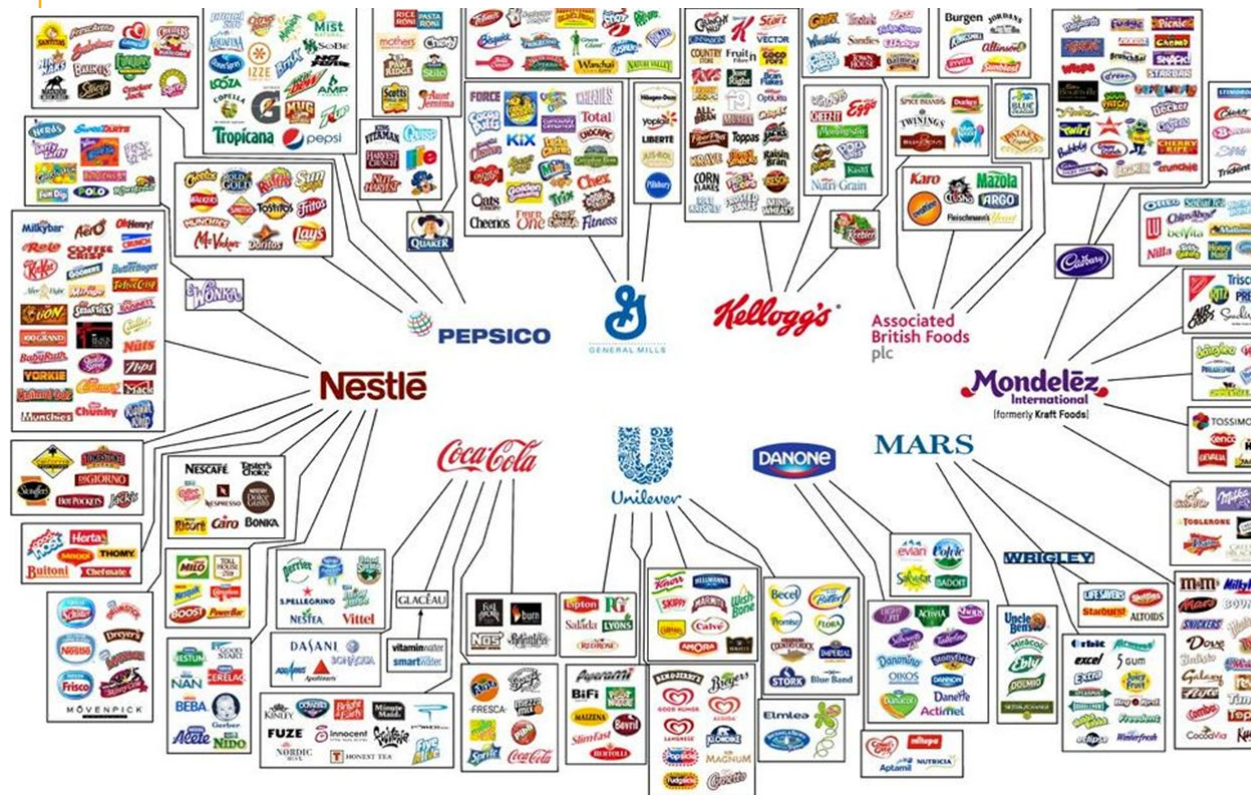
Predicted prevalence of one or more of 10 chronic diseases among low-income adults ages 19-64



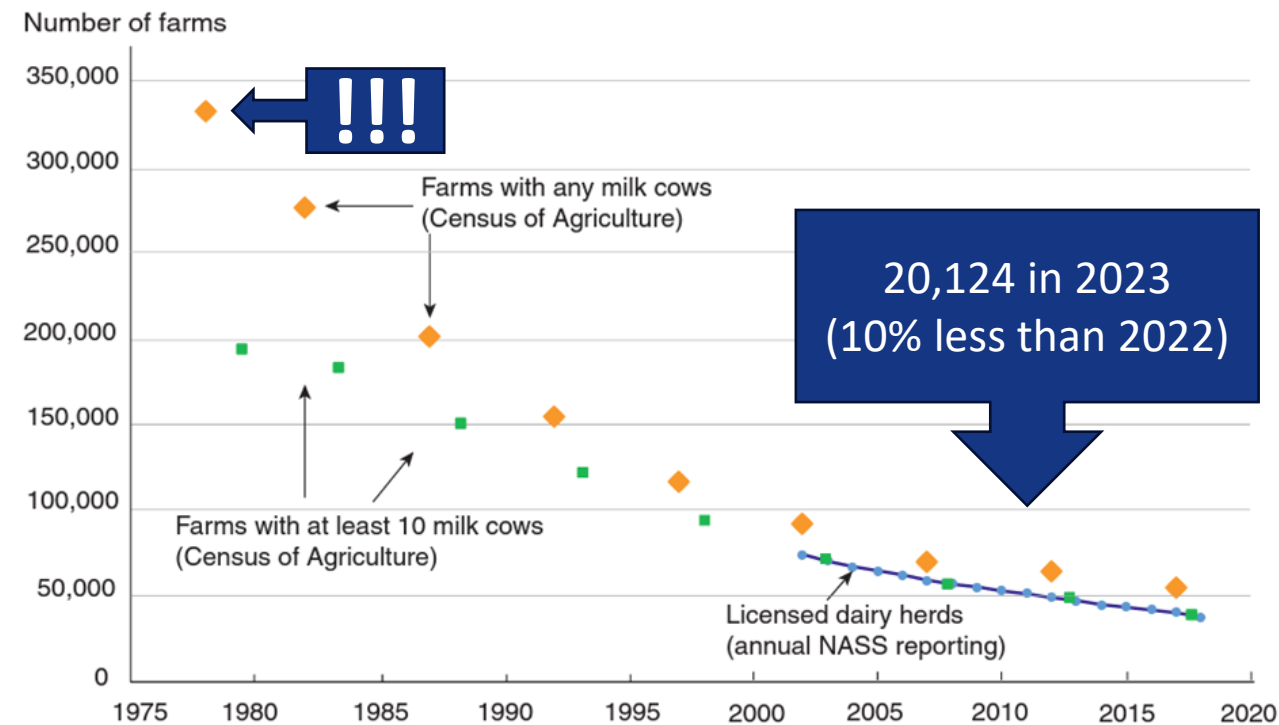
Notes: The 10 diseases analyzed are hypertension, coronary heart disease, hepatitis, stroke, cancer, asthma, diabetes, arthritis, chronic obstructive pulmonary disorder, and kidney disease. Predicted prevalences are adjusted for age, gender, employment, marital status, race/ethnicity, health insurance, education, household size, number of children, and income. Household income is at or below 200 percent of the Federal poverty line. Source: USDA, Economic Research Service using 2011-15 data from the National Health Interview Survey, U.S. Centers for Disease Control and Prevention.

County-level prevalence of diagnosed diabetes among adults aged 20 years or older, United States, 2004 and 2021 (CDC)





Dairy Farm Numbers in the U.S.

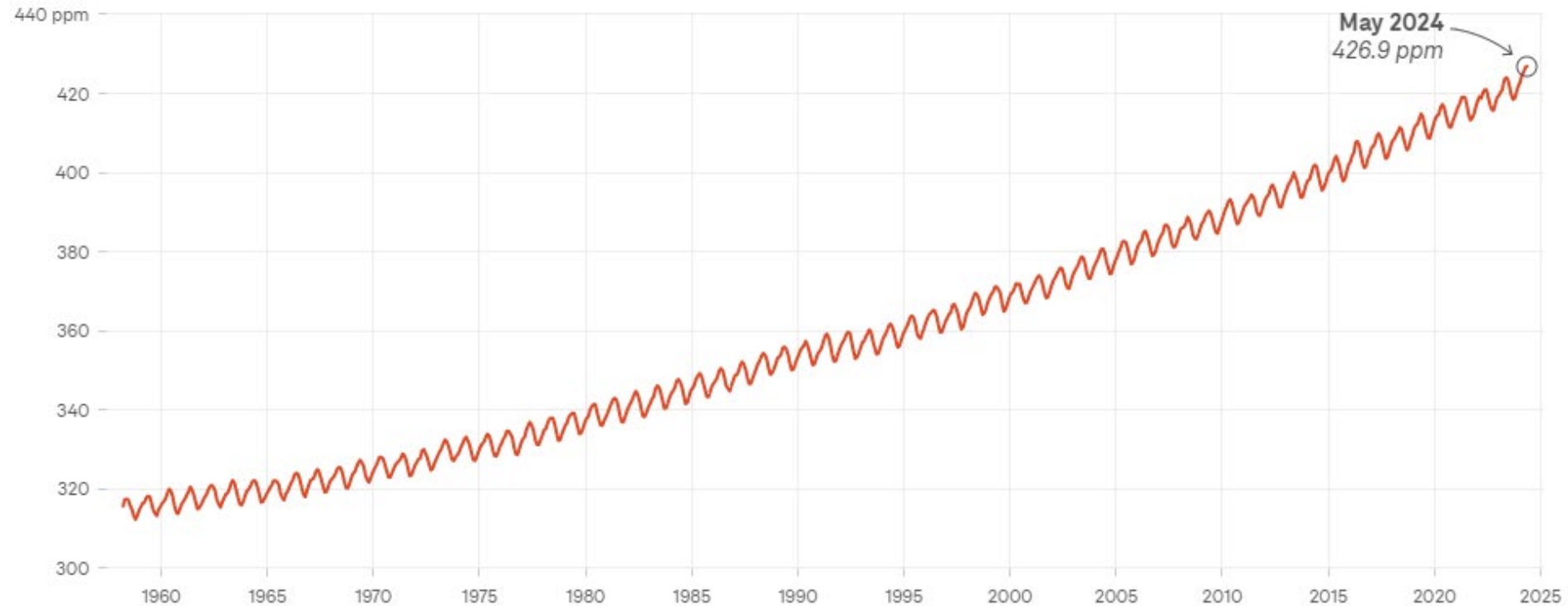


Sources: USDA, Economic Research Service using data for licensed dairy herds from USDA, National Agricultural Statistics Service (NASS), *Milk Production* February Issues, 2002-19; and for farms with milk cows from NASS, Census of Agriculture.

And then...the mother of all “oh, s***” moments

Atmospheric CO₂ levels reached an all-time high in May 2024

— Monthly average CO₂ in parts per million, recorded at Mauna Loa Observatory, Hawaii



Source: Dr. Xin Lan/NOAA Global Monitoring Lab and Dr. Ralph Keeling/Scripps Institution of Oceanography

Do we
collectively have
the stomach for
HARD STUFF
...even in the
face of crisis?



Perhaps change is possible when benefits
INDISPUTABLY and **OBJECTIVELY** outweigh
costs...

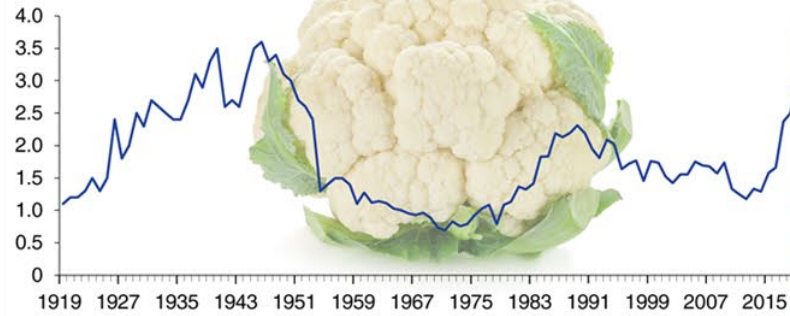


And the benefits are
pecuniary (\$)

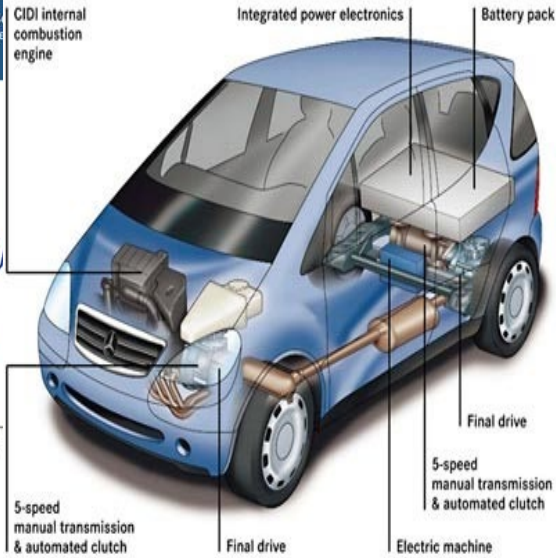
U.S. fresh cauliflower per capita domestic availability, 1919-2020

USDA Economic Research Service
U.S. DEPARTMENT OF AGRICULTURE

Pounds per person



Source: USDA, Economic Research Service.



Low/No-Cost Culture-Changing Strategies

Leverage the GOOD

- ❑ Lay out processes, priorities and expectations clearly, with well-defined (and well-justified) structure
- ❑ Genuinely commit to and celebrate diversity(in all of its derivations) in your system
- ❑ Continually message and celebrate the “SAVE THE WORLD” / altruistic / global components of your mission
- ❑ Establish clear metrics for performance—then provide feedback often
- ❑ Create “management track” and other clear pathways for promotion/advancement to create stability for employees

Manage the BAD

- ❑ Reporting structure and process for complaints/issues **MUST** be clearly articulated as part of SOP
- ❑ Invest real resources in team building outside and inside of the work **context—and lead the pack. HR MUST BE PERCEIVED AS PART OF THE TEAM to effectively manage conflict.**
- ❑ **WORK DILIGENTLY to LIVE the MISSION YOURSELF**
- ❑ Communicate creatively, engaging modern graphic and virtual tools
- ❑ Provide a safe space to fail in training/onboarding processes---then inspire innovation around continual improvement from the ground up

Show humanity and interest in employees as people. Life events and communication that goes beyond work-relevant.

Inspirational figures have neve gone out of style

If work is perceived as unimportant, make it important. Incentivize buy-in and good ideas.

Low/No-Cost Culture-Changing Strategies

Adopt the CHEF mentality

- ✓ Continually PROVE the benefits of *mise en place* by calling out time and \$ savings (organization/preparation IS habit-forming)
- ✓ Model effective and efficient communication, including task confirmation
 - Record keeping and system-wide instant communication pathways (CA LGMA Romaine Test & Learn)
- ✓ Blend age-old practices (handwashing) with tech-advanced, more “gamified” approaches that reinforce personal ownership (and facilitate incentivizing good behavior)
 - JWU’s digital check-sheet w/ dashboard, data store and Bluetooth connectivity
- ✓ Team-reinforced accountability through blend of individual and team consequences for failure



Adopt the CHEF mentality

- ✓ Training focused on core concepts (techniques/skills) that transfer across tasks (and never forget the “why”)
- ✓ Put FACES to the results of good work
- ✓ Remember that the line cooks model the head chef and will develop their habits
- ✓ Engage team in thinking about how to accommodate changing consumers, changing trends, changing employees and employee needs
- ✓ In food establishments, consider actual chef-focused professional development opportunities for team members (over time...the chef “ethos” = food safety gains)

For regulatory, think of actual chef-trained professionals as ideal candidates. Partner with food/culinary-focused academic programs to encourage food safety careers. I might suggest JWU.

THANK YOU

@JWUFoodInnovation