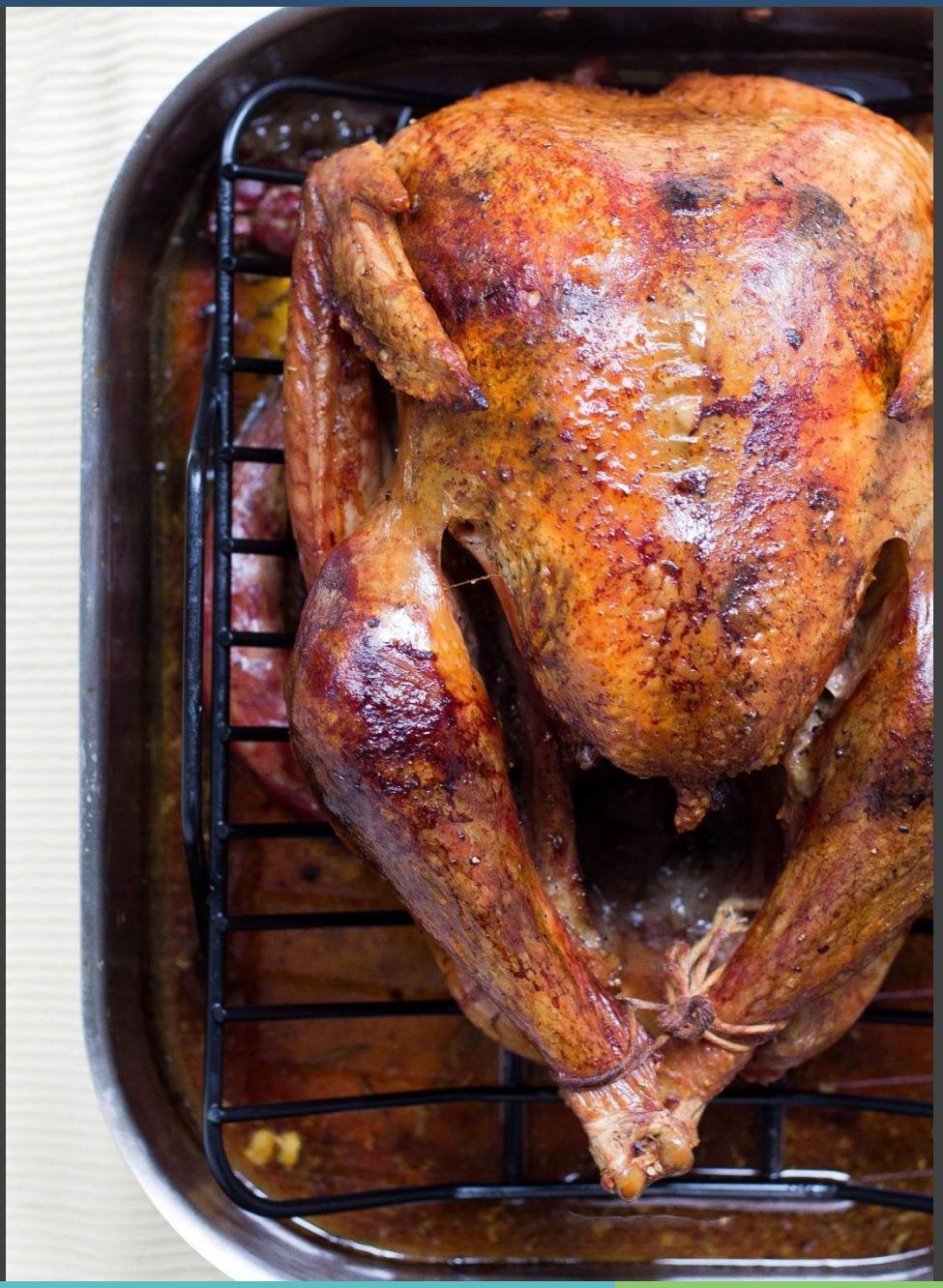


Photos: Alison Marras, PhotosTheArt via Unsplash

Modernization of Performance Standards

Sarah Sorscher, JD, MPH, Deputy Director
Center for Science in the Public Interest

March 11, 2021

Photo credit: jessibot

Center for Science in the Public Interest America's Food & Health Watchdog

Major Victories:

- Nutrition Labeling Education Act
- Nutrition Facts updates
- Menu Labeling
- School Foods Nutrition Standards
- Food Safety Modernization Act

CENTER FOR Science IN THE Public Interest

Healthy People 2020 Targets: How Did We Do?...

	Incidence per 100,000 in 2006-08	Incidence per 100,000 Healthy People Target	Incidence per 100,000 in 2019*
Campylobacter	12.7	8.5	19.5
Salmonella, nontyphoidal	15.0	11.4	17.1
E. Coli (STEC) O157	1.2	0.6	6.3
Listeria monocytogenes	0.3	0.2	0.3

CENTER FOR Science IN THE Public Interest

Tack DM, et al. "Preliminary Incidence and Trends of Infections with Pathogens Transmitted Commonly Through Food – Foodborne Diseases Active Surveillance Network, 10 U.S. Sites, 2016-2019, *MMWR.* 69(17);509-514.

… Not Good.

"These data indicate that *Healthy People 2020* targets for reducing foodborne illness will not be met. The identification of infections that might not have been detected before adoption of CIDTs cannot explain this overall lack of progress. Better implementation of known prevention approaches and new strategies is needed to overcome the continued challenges to reducing foodborne illnesses."

- Tack *et al*, 2019

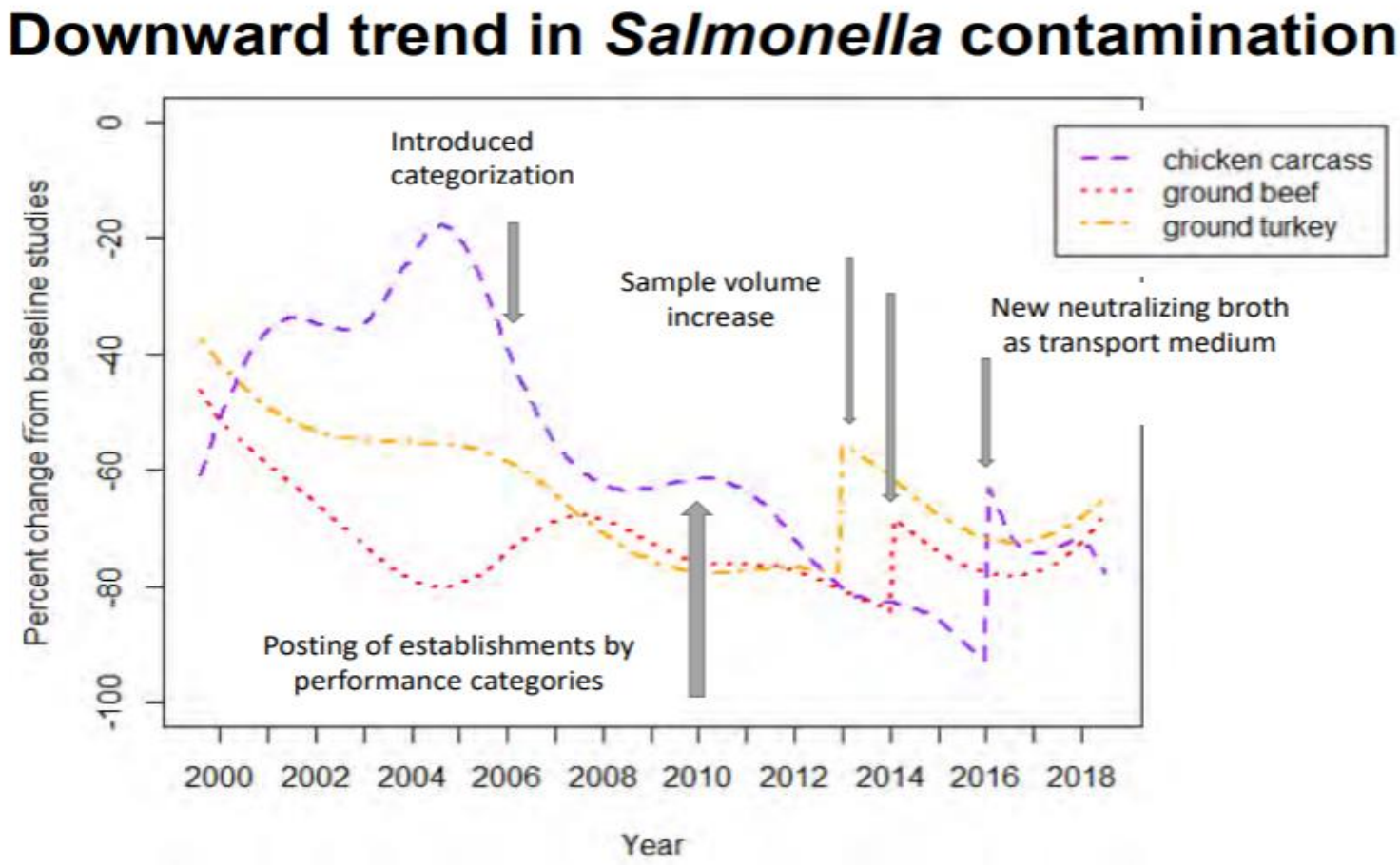
CENTER FOR Science IN THE Public Interest

Where Should USDA Target New Efforts?

Pathogen	Food	No. of Illnesses	Cost (billions)	Rank
Campylobacter	Unspecified Poultry	608,417	6.9	1
Salmonella, NT	Chicken	195,634	2.8	2
Salmonella, NT	Pork	133,252	1.9	3
Toxoplasma gondii	Pork	35,541	1.9	4
T. gondii	Beef	20,111	1.0	5

Scharff RL. Food Attribution and Economic Cost Estimates for Meat and Poultry-Related Illnesses. Journal of Food Protection. 2020; 83(6): 959-967.

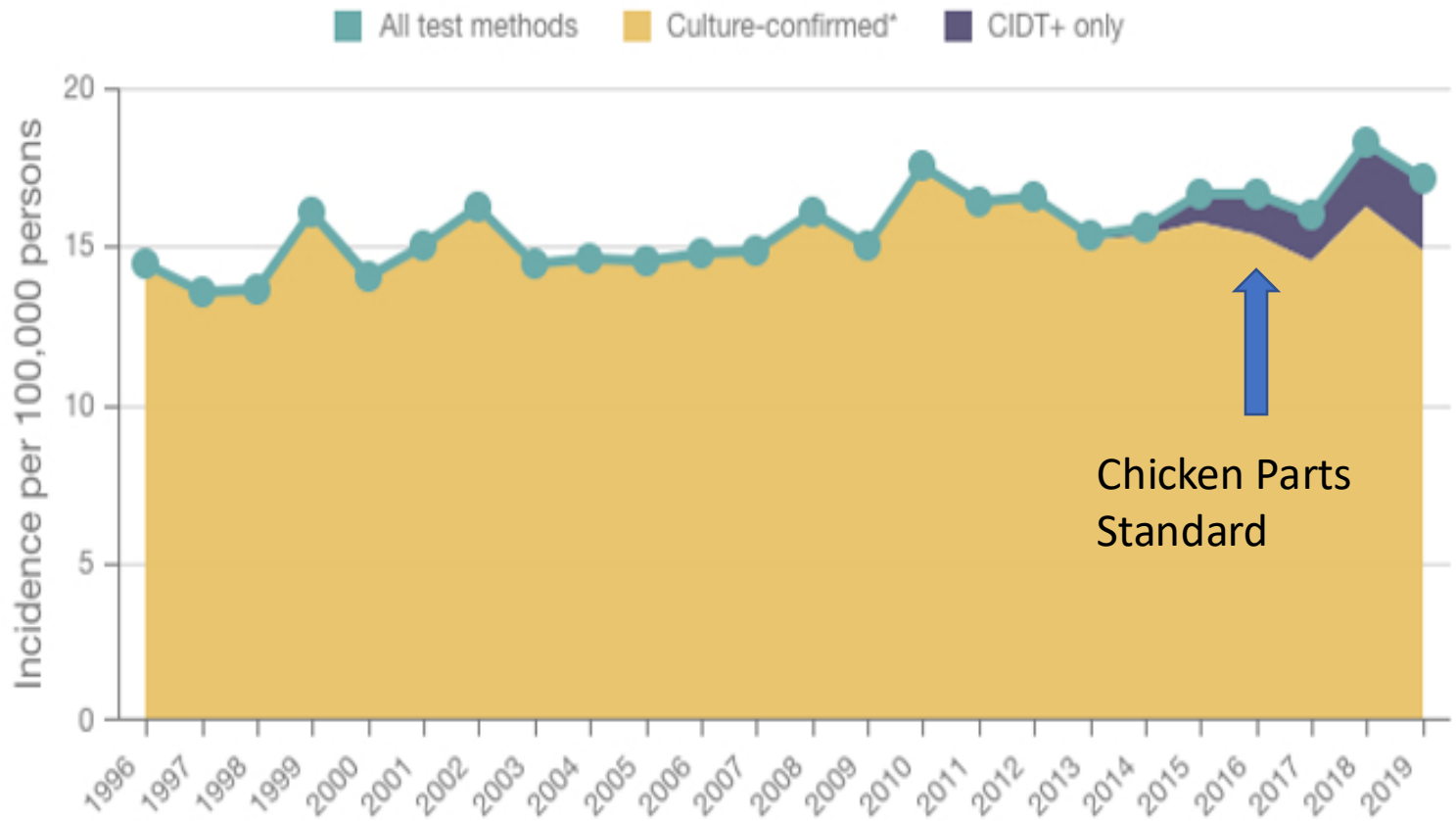
Performance Standards Are Having an Effect



Hale KR. Salmonella Trends –What the Science Tells Us. Oral presentation at: USDA FSIS Virtual Public Meeting: Salmonella-State of the Science; September 2020. (Slide 93)

CENTER FOR Science IN THE Public Interest

But Is It the Right Effect?



Pathogen Surveillance - Salmonella. Centers for Disease Control and Prevention website. Accessed January 6, 2021. https://wwwn.cdc.gov/foodnetfast

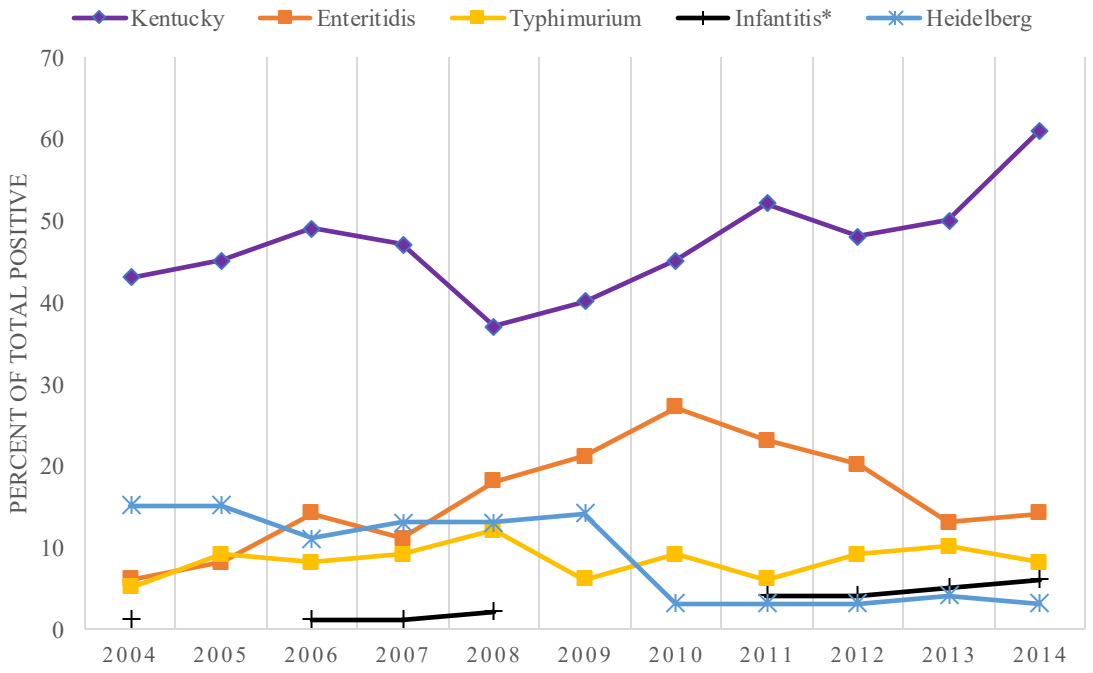
CENTER FOR Science IN THE Public Interest

Criticisms of the Standards

- Focused on all *Salmonella*, with no risk assessment for dose, virulence, resistance.
- Exclusive focus on end-product testing incentivizes chemical interventions, rather than a more comprehensive supply chain approach.
- Lack of enforceability: products are not considered adulterated until *after* they are connected to an outbreak.

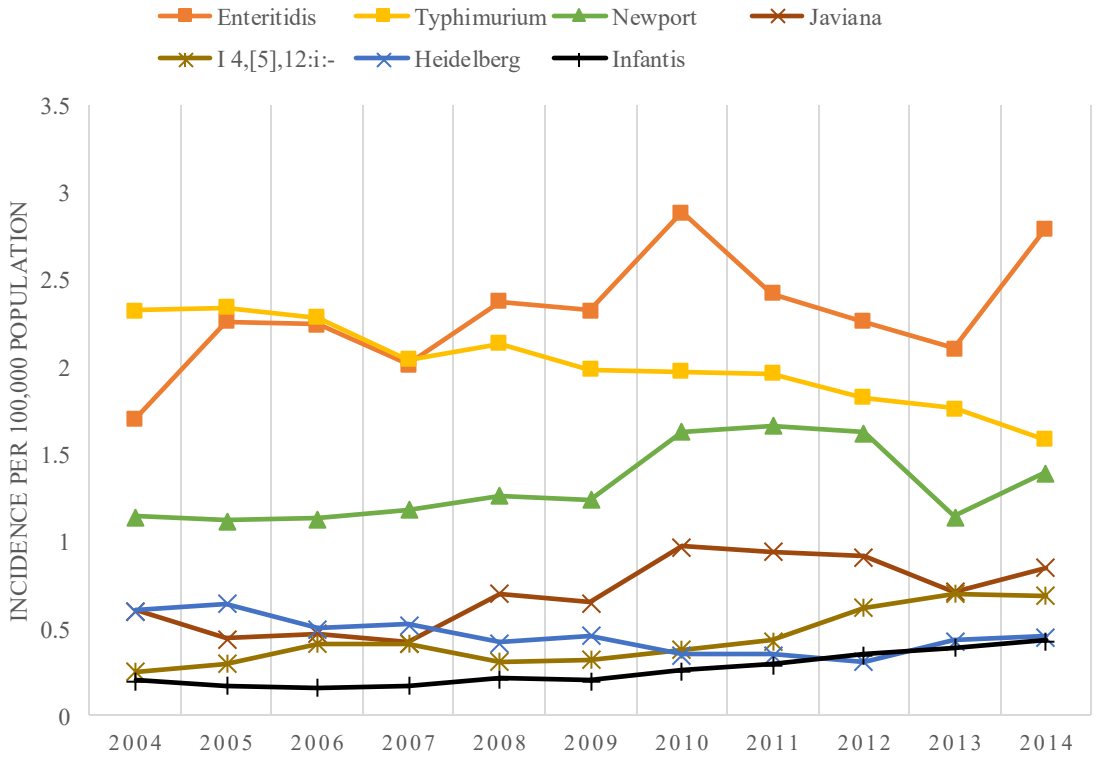
Lack of Risk Assessment: We Do the Most Enforcement for *Salmonella* that Do the Least Harm

HACCP Samples



Profile of Serotypes from Analyzed PR/HACCP Verification Samples (top 5 individual serotypes in 2014 reported), Young Chicken (Broilers), by Year

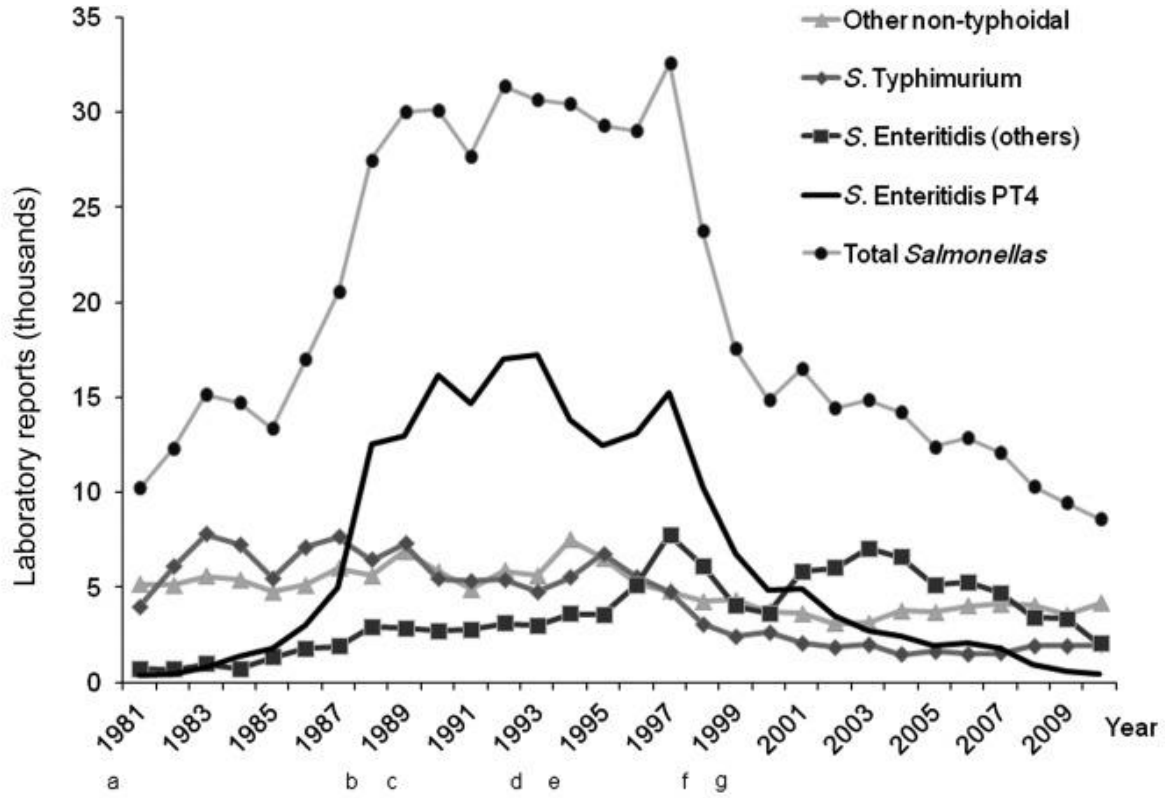
Clinical Samples



Incidence Rate of Culture-Confirmed Human Salmonella Infection Reported to Laboratory-based Enteric Disease Surveillance (LEDS) System (top 7 individual serotypes in 2014 reported), by Year, United States.

CENTER FOR Science IN THE Public Interest

It is possible to bring case counts down: UK Example



Key: (a) *S.* Enteritidis phage typing began; (b) CMO issued advice to vulnerable groups; (c) Compulsory slaughter began; (d) Compulsory slaughter revoked; (e) Vaccination of broiler-breeder flocks began; (f) Vaccination of laying flocks began; (g) "Lion Flock" fully vaccinated.

Salmonella data sources: Health Protection Agency; Health Protection Scotland; Public Health Agency of Northern Ireland

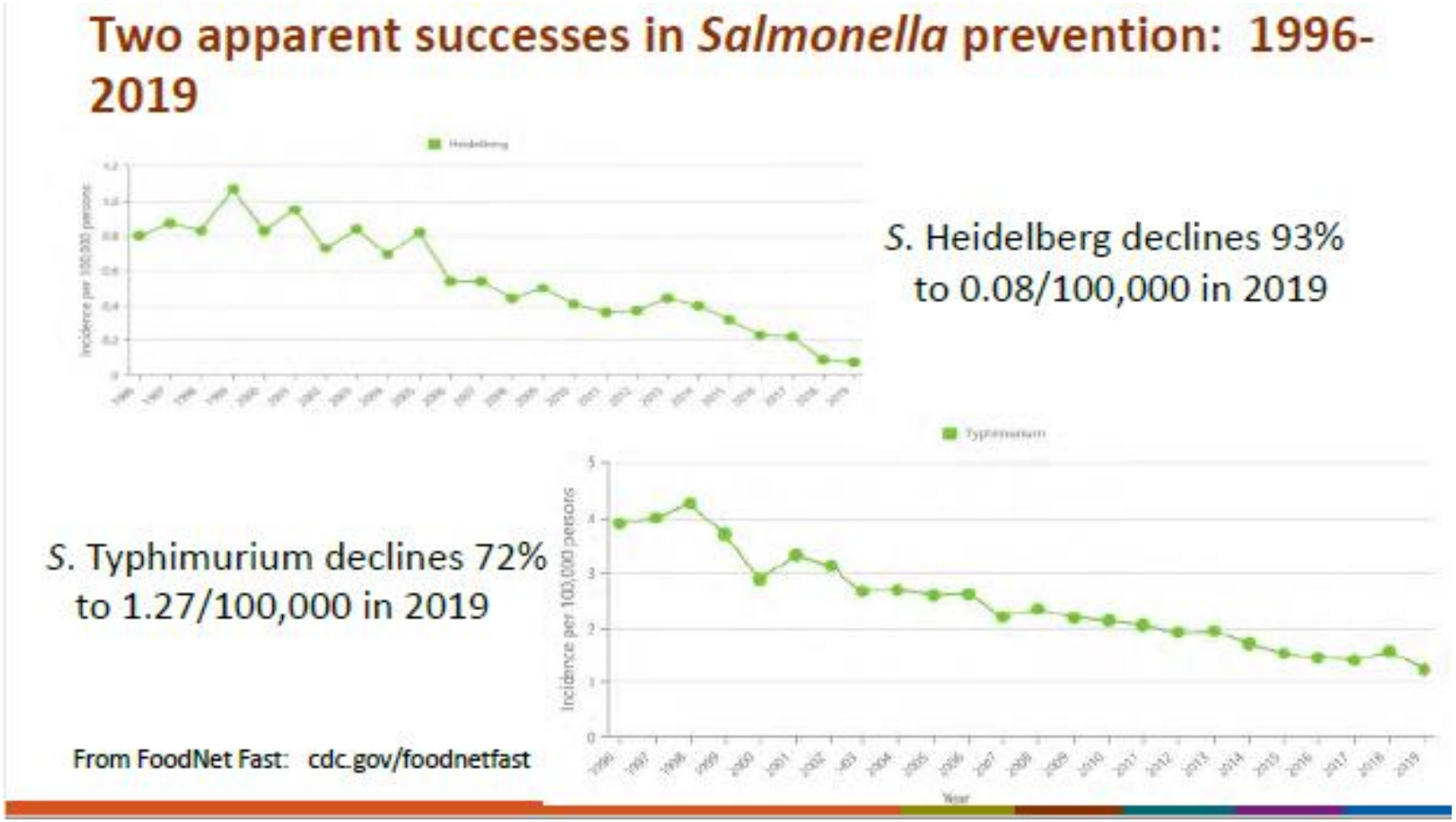
O'Brien SJ. The "decline and fall" of nontyphoidal Salmonella in the United Kingdom. Clin Infect Dis. 2013; 56(5): 705-710.

CENTER FOR Science IN THE Public Interest

What's Happening In Europe?

- National Action Plans target priority serotypes
- Enforceable standards
  - Some priority serotypes are adulterants in raw meat and poultry
- Farm-to-fork regulatory coverage
  - Including on-farm targets, surveillance, and control programs

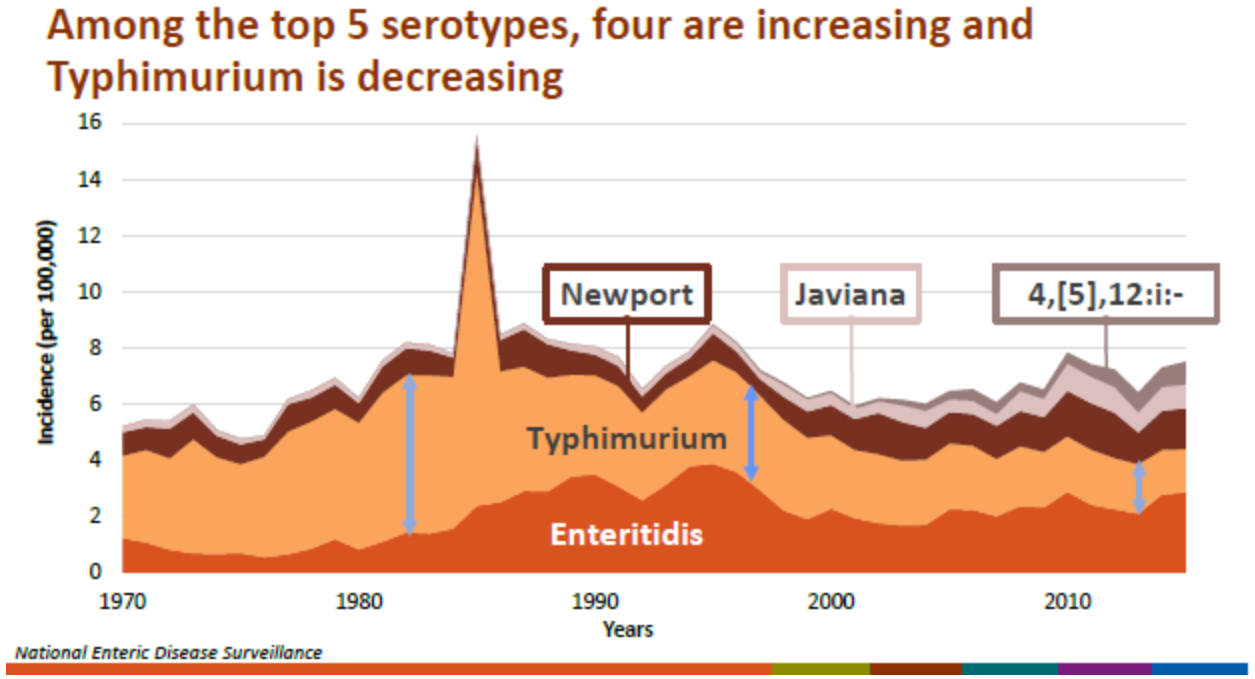
US Example



Presentation by Rob Tauxe, MD, MPH, Director, Division of Foodborne, Waterborne, and Env. Dis., NCEZID, CDC. Road Map to Reducing Salmonella, September 22, 2020

CENTER FOR Science IN THE Public Interest

But… A Static, Piecemeal Approach Leaves Gaps



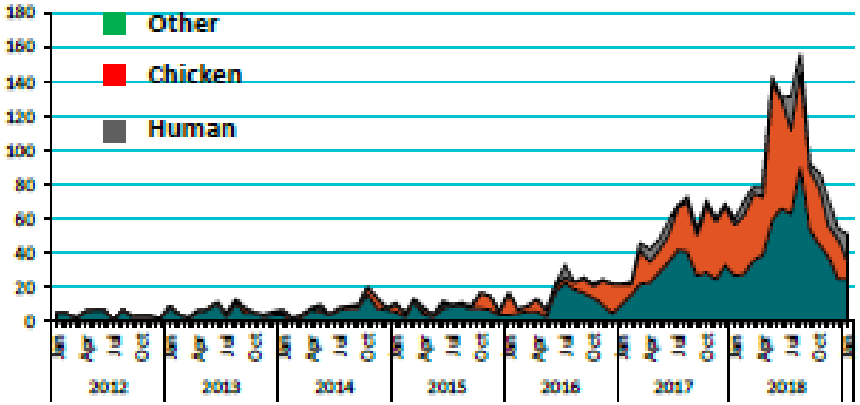
Presentation by Rob Tauxe, MD, MPH, Director, Division of Foodborne, Waterborne, and Env. Dis., NCEZID, CDC. Road Map to Reducing Salmonella, September 22, 2020

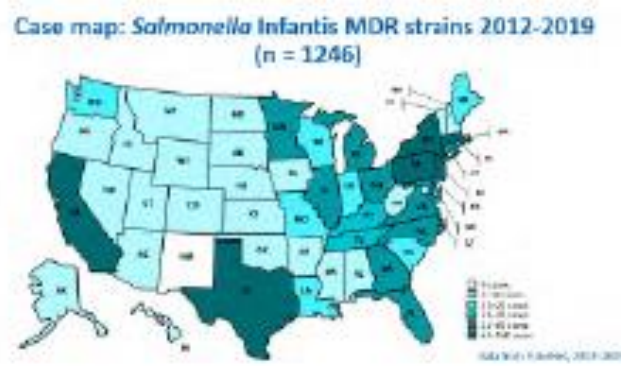
CENTER FOR Science IN THE Public Interest

Reactive Strategy Adapts Too Slowly to Emerging Strains

Example: Multidrug Resistant *S.* Infantis

- MDR *S* Infantis strain first seen in travelers from Peru in 2021
- Resistant to 10 agents, including common first-line treatments
- First chicken case 2013
- First domestically-acquired human case in 2014
- Spread rapidly 2017-2018
- 2019: 30% of S Infantis in humans is MDR





CENTER FOR Science IN THE Public Interest

Adapted from: Presentation by Rob Tauxe, MD, MPH, Director, Division of Foodborne, Waterborne, and Env. Dis., NCEZID, CDC. Road Map to Reducing Salmonella, September 22, 2020

Industry Experts Agree… the System is Broken

"Not all Salmonella are created equal and not all product positives will result in illness… Assessing only prevalence on all serovars will not target high-risk Salmonella serovars and, therefore, not likely reduce the number of possible illnesses."

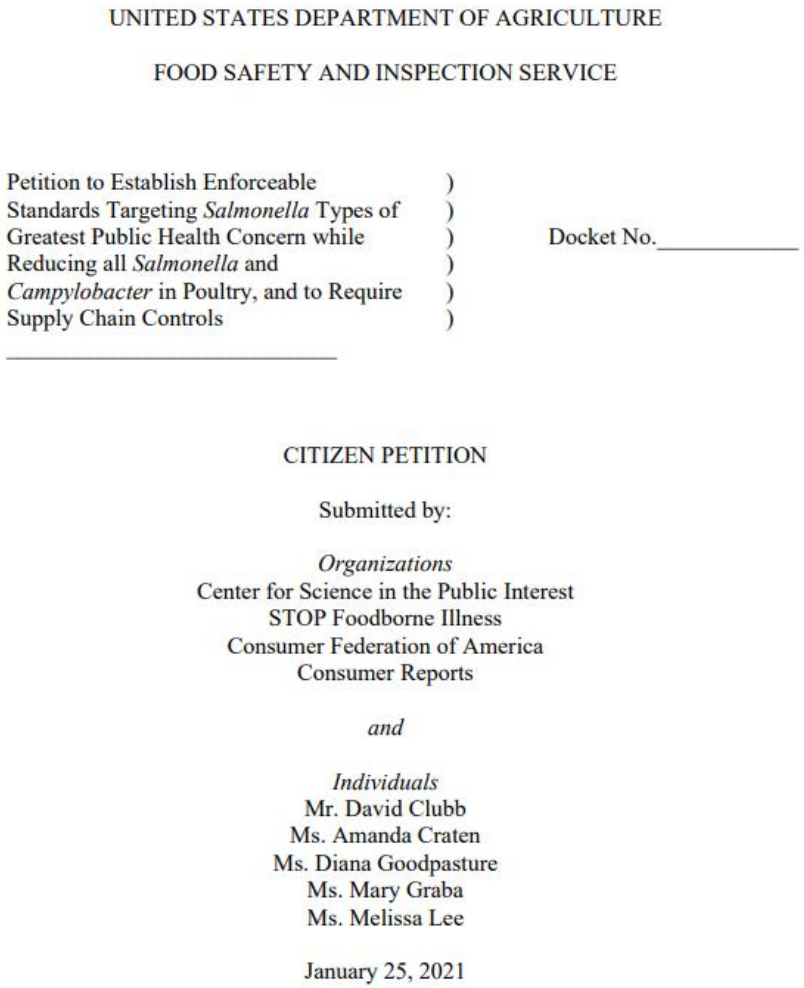
– North American Meat Institute, Comment RE: Salmonella-State of the Science, Docket No. FSIS-2020-0025.

"Consumers are better protected from illness under a risk-based approach that focuses on the Salmonella serovars exhibiting the higher risk for pathogenicity that are found on products at higher levels."

– National Cattlemen's Beef Association, Comment RE: Salmonella-State of the Science, Docket No. FSIS-2020-0025.

Petition - 2021

- Submitted by
  - Center for Science in the Public Interest(CSPI)
  - STOP Foodborne Illness (STOP)
  - Consumer Federation of America (CFA)
    Consumer Reports (CR)
  - Five individual victims of foodborne illness
- Two of these groups, CR and CFA, also signed the earlier petition by Bill Marler to declare 31 Salmonella serotypes to be adulterants in meat and poultry



UNITED STATES DEPARTMENT OF AGRICULTURE

FOOD SAFETY AND INSPECTION SERVICE

Petition to Establish Enforceable Standards Targeting *Salmonella* Types of Greatest Public Health Concern while Reducing all *Salmonella* and *Campylobacter* in Poultry, and to Require Supply Chain Controls) Docket No._____

CITIZEN PETITION

Submitted by:

Organizations
Center for Science in the Public Interest
STOP Foodborne Illness
Consumer Federation of America
Consumer Reports

and

Individuals
Mr. David Clubb
Ms. Amanda Craten
Ms. Diana Goodpasture
Ms. Mary Graba
Ms. Melissa Lee

January 25, 2021

CENTER FOR Science IN THE Public Interest

Consumer's Vision for Better Standards

What Should They Do?:

- Enforceable and risk-based
- Ensure Best Practices from Farm-to-Fork
- Adaptable to evolving science and novel threats

Consumer's Vision for Better Standards

What Should They Be?:

- Enforceable, risk-based standards
  - Targeting *Salmonella* types of greatest public health concern and *Campylobacter*
  - Possibility for quantification testing
- Supply Chain Controls
  - Applying HACCP principles
- Future Evolution:
  - Virulence factors, quantitative assessments, emerging threats

Remaining Questions

- What are the most important criteria for assessing risk? Are these adequately incorporated into the current standards?
- What are the most important tools for controlling risk? Are these adequately incentivized under the current regulatory standards?
- What would a regulatory standard that is truly based on risk look like?
- What are the scientific questions that would have to be answered to support such a standard?
- What are the challenges for implementing such a standard?

ssorscher@cspinet.org