

Bending the Curve of Foodborne Illness

New Era of Smarter Food Safety



@FrankYiannasFDA



The background of the slide is a solid blue color. Overlaid on this background are numerous semi-transparent, light blue, rounded rectangular shapes of various sizes and orientations, scattered across the entire area. These shapes resemble microscopic organisms or cells.

**Are we WINNING
the battle against
foodborne disease?**

Bending the Curve of Foodborne Illness

Percent Change in Incidence from 2016-2018 to 2019 (U.S.)

Campylobacter	+13
Salmonella	+5
STEC	+34
Shigella	+7
Yersinia	+153
Vibrio	+79
Listeria	+1
Cyclospora	+1209





**FDA FOOD SAFETY
MODERNIZATION ACT**



Whole Genome Sequencing (WGS)

Exposing the Foodborne Illness Iceberg?

~5% cases (Outbreaks)



~95% cases (Sporadic)



A Modern Approach for Modern Times



People-Led * FSMA-Based * Technology-Enabled

Tech-enabled Traceability



Smarter Tools and Approaches for Prevention and Outbreak Response



New Business Models and Retail Modernization



Food Safety Culture

Proposed Food Traceability Rule



Tech-Enabled Traceability



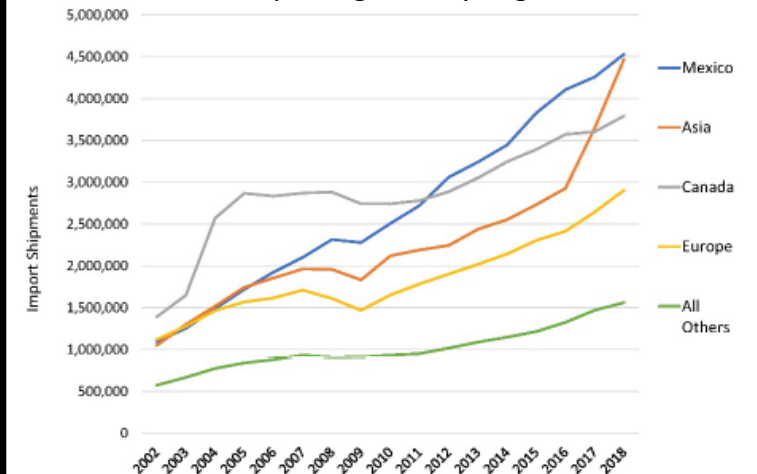


Smarter Tools and Approaches for Prevention and Outbreak Response

Using AI to Prevent Violative Imported Foods from Entering Commerce



Number of imported food shipments by exporting country/region





Smarter Tools and Approaches for Prevention
and Outbreak Response

Inspection Modernization

“Consistent with FDA’s New Era of Smarter Food Safety vision, we plan to further leverage new and emerging technologies and data-driven, predictive analytic approaches to strengthen our compliance oversight work.”

Resiliency Roadmap for
FDA Inspectional Oversight



MAY 2021

FDA U.S. FOOD & DRUG
ADMINISTRATION



Smarter Tools and Approaches for Prevention and Outbreak Response

Working together to break cycle of outbreaks tied to leafy greens

Prevention

Response

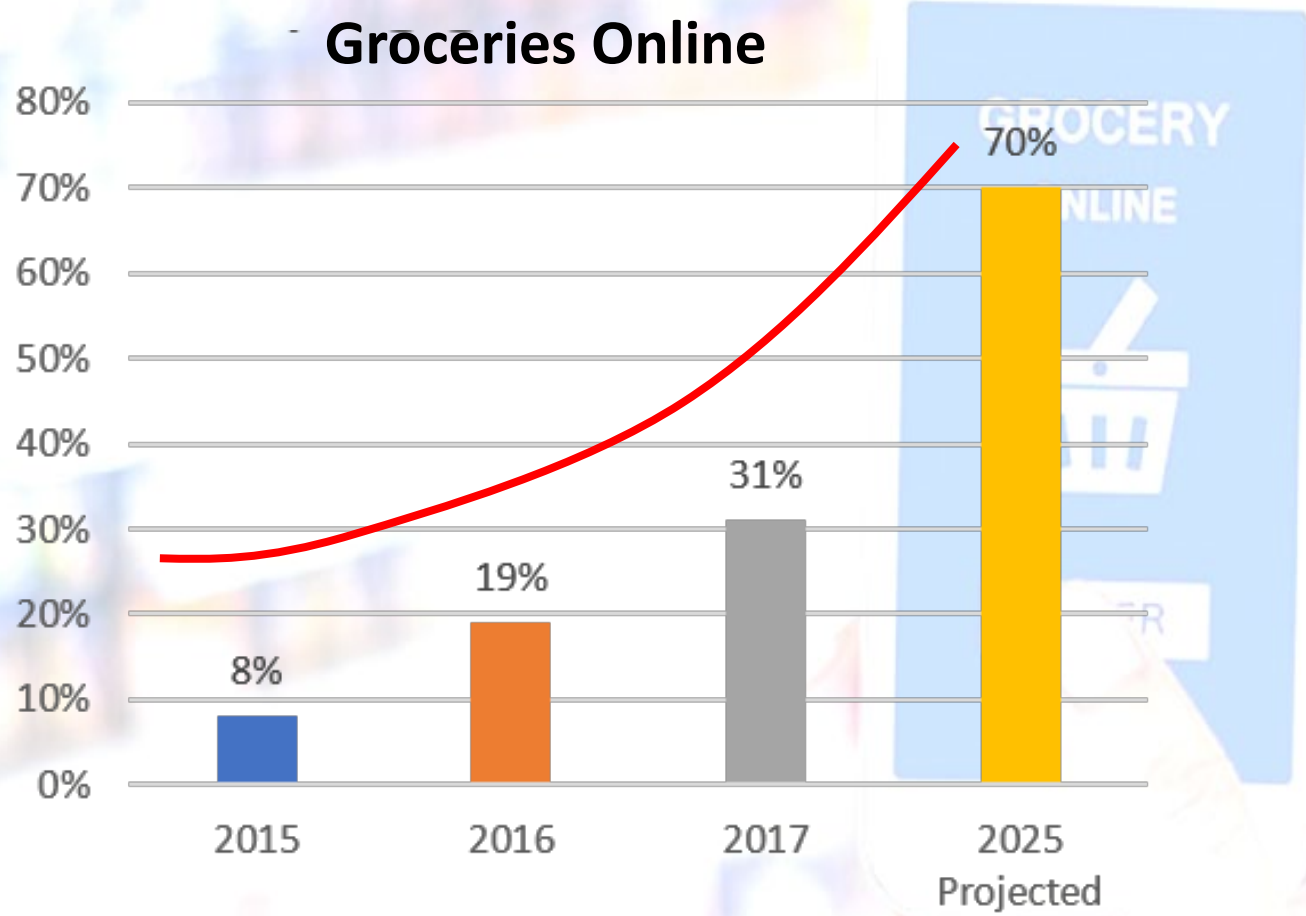
Addressing Knowledge Gaps





Online Grocery Shopping

Percentage of U.S. Consumers Buying Groceries Online



Source: The Digitally Engaged Consumer, FMI & Nielsen



POP QUIZ!

Name four e-Commerce Mega Trends that are Redefining Food Safety?

1. _____

2. _____

3. _____

4. _____

Grocery Pick-Up



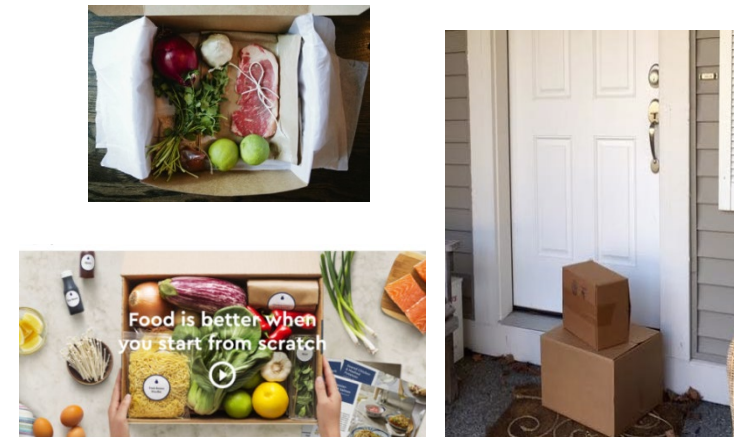
Home Delivery



Novel Delivery



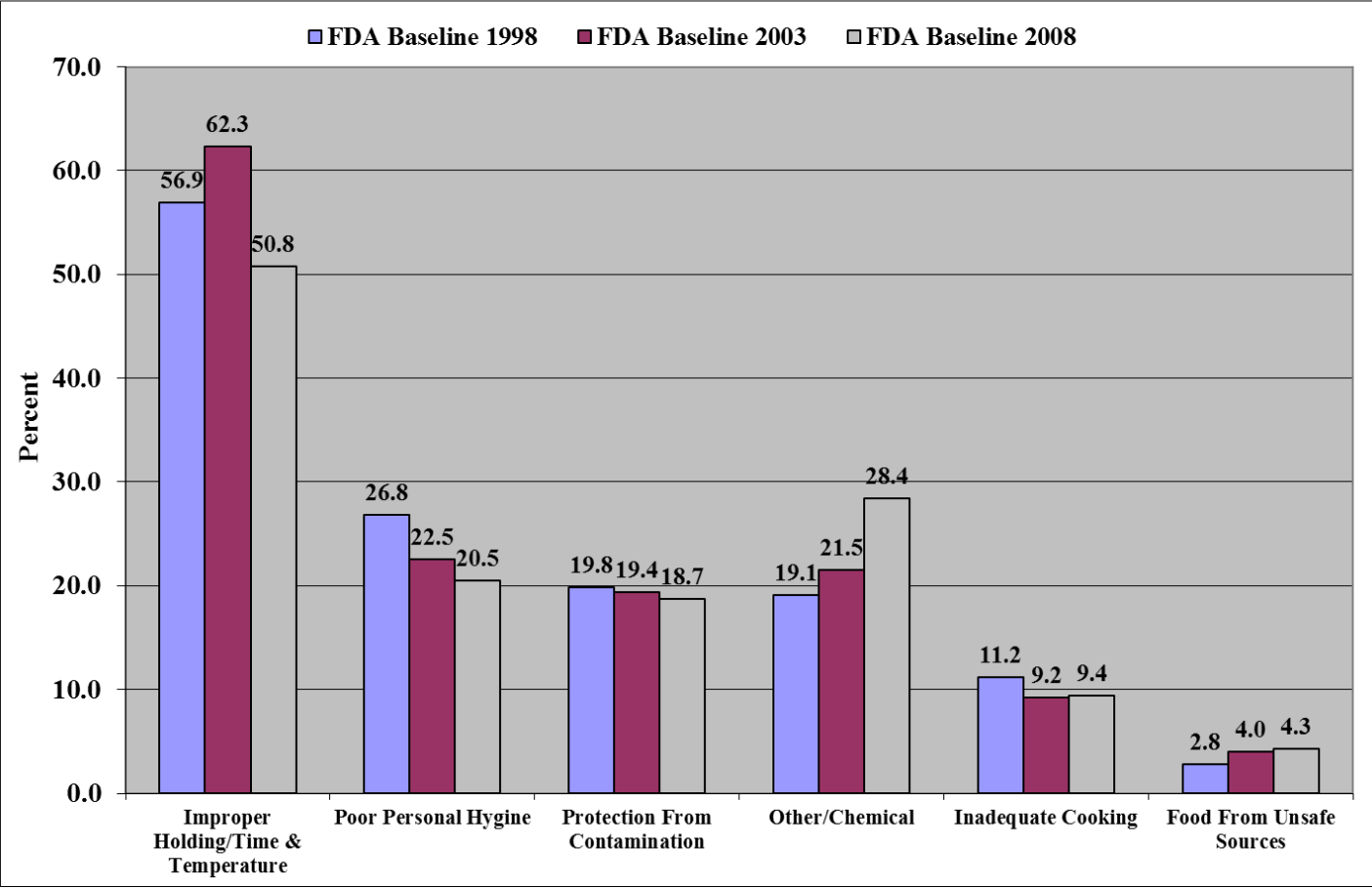
Home Shipping & Meal Kits





Fresh Look at Retail

Retail Food Deli Departments Percent Observations Out-of-Compliance





Food Safety Culture



Food Safety = Behavior



Food Safety Culture

- **Research**
- **Behavioral Science Principles**
- **FDA Staff Training**
- **Measure Culture & Behavior**

**“Alone, we can do so little;
Together, we can do so much.”**

FDA

**U.S. FOOD & DRUG
ADMINISTRATION**