“Working Together to Bend the Curve on Foodborne Illness”

A New Era of
Smarter Food Safety
& Mutual Reliance

#SmarterFoodSafety

Alan Tart
Deputy Director
Office of Partnerships
Are we WINNING the battle against foodborne disease?
Infectious Disease Mortality, U.S., 1900-1996

Source: Armstrong et al, JAMA 1999
Foodborne Pathogens 1900 - 1939

- Amoebiasis
- Botulism
- Brucellosis
- Cholera
- Hepatitis
- Salmonellosis
- Scarlet fever (streptococcus)
- Staphylococcal food poisoning
- Tapeworms
- Trichinosis
- Tuberculosis, bovine
- Typhoid fever

Source: CDC, US
Foodborne disease infections are on the rise. Here are the most common.

By: Denise Powell, CNN
April 25, 2019

Little progress made on targeting incidences of foodborne illness, according to new CDC report
April 2019

Relative rates of Infections compared with 2006-2008, by year

<table>
<thead>
<tr>
<th>Pathogen</th>
<th>Healthy People 2030 target rate</th>
<th>2018 rate</th>
<th>Change compared with 2015-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Campylobacter</td>
<td>13.45</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>E. coli O157</td>
<td>0.92</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Listeria</td>
<td>0.24</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Salmonella</td>
<td>15.45</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Vibrio</td>
<td>0.45</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>Yersinia</td>
<td>0.28</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Cyclospora: 399% increase
WGS
Exposing the Foodborne Illness Iceberg?

~5% cases (Outbreaks)

~95% cases (Sporadic)

Traditional Food Safety Strategies

- Training
- Inspections
- Micro Testing
- Enforcement
- Program Standards
“If the only tool you have is a hammer, you tend to see every problem as a nail.”

- Abraham Maslow
  Psychologist
  1908 - 1970
A Modern Approach for Modern Times

People-Led * FSMA-Based * Technology-Enabled
Tech-enabled Traceability and Outbreak Response
Smarter Tools and Approaches for Prevention
Americans told to toss romaine lettuce over E. coli fears
Using AI to Prevent Violative Imported Foods from Entering Commerce

Number of imported food shipments by exporting country/region

- Mexico
- Asia
- Canada
- Europe
- All Others
Mutual Reliance

- A seamless partnership
- FDA & states with comparable regulatory public health systems (trusted partners)
- Fully rely on, coordinate with, & leverage one another’s work, data, & actions
- Outcome: Safer national food supply
Recent Advancements in Mutual Reliance & Next Steps
New Business Models and Retail Modernization
By 2022-2024, could reach $100 Billion annually.

Source: The Digitally Engaged Consumer, FMI & Nielsen
Retail Food Deli Departments
Percent Observations Out-of-Compliance

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<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Improper Holding/Time &amp; Temperature</td>
<td>62.3</td>
<td>50.8</td>
<td>56.9</td>
</tr>
<tr>
<td>Poor Personal Hygiene</td>
<td>26.8</td>
<td>22.5</td>
<td>20.5</td>
</tr>
<tr>
<td>Protection From Contamination</td>
<td>19.8</td>
<td>19.4</td>
<td>18.7</td>
</tr>
<tr>
<td>Other/Chemical</td>
<td>19.1</td>
<td>21.5</td>
<td>28.4</td>
</tr>
<tr>
<td>Inadequate Cooking</td>
<td>11.2</td>
<td>9.2</td>
<td>9.4</td>
</tr>
<tr>
<td>Food From Unsafe Sources</td>
<td>2.8</td>
<td>4.0</td>
<td>4.3</td>
</tr>
</tbody>
</table>
Food Safety Culture
Food Safety = Behavior
"Alone, we can do so little; Together, we can do so much."