Current thinking: FSMA implementation metrics

Safe Food Project

June 2015
Presentation overview

- Public health based FSMA metrics
- The value of a tiered approach
  - Example 1: Product contamination rates
  - Example 2: Inspection-based FSMA metrics
- Learning from other industries
## Public health based FSMA metrics

<table>
<thead>
<tr>
<th>Definition</th>
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<tbody>
<tr>
<td>• Reduction in foodborne illnesses due to FSMA-regulated foods</td>
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<tr>
<td>• <strong>Examples</strong>: reduction in outbreaks, sporadic cases, recalls</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>‘Gold standard’ because</th>
<th>Not immediately feasible because</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Well aligned with FSMA goals</td>
<td>• Several years of data required</td>
</tr>
<tr>
<td>• Directly relevant to public health</td>
<td>• Reliant on source attribution</td>
</tr>
<tr>
<td>• Consumer-facing measure</td>
<td>• Methodological challenges</td>
</tr>
<tr>
<td>• Few assumptions needed</td>
<td>• Data limitations</td>
</tr>
<tr>
<td>• Directly relevant to stakeholders</td>
<td>• Depends on surveillance system</td>
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<tr>
<td>• Impacts on daily lives clear</td>
<td>• Underreporting, biases, etc.</td>
</tr>
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The need for a tiered approach

Proposed strategy to address limitations of public health metrics

- **Tiered approach**: short-, medium-, and long-term FSMA metrics
- **Guiding principles**:
  - Use and combine the available data in creative new ways
  - Learn from other disciplines & engage stakeholders

Examples

- **Short-term**: Example: Product contamination
- **Mid-term**: Example: Inspection performance
- **Long-term**: Example: Public health metrics
# Product contamination measures

## Definition

- Reduction in product contamination rates
- **Example:** reductions in pathogen prevalence & concentration on food

## Desirable because

- Aligned with FSMA goals
- Correlated with disease risk
  - Consumer-facing
- Immediately applicable
  - Trends quickly analyzable
- Relevant to stakeholder

## Problematic because

- Baseline data requirements
  - Data lacking for many foods
- Historic data needed
- Data sharing with stakeholders
  - Complex challenges
- ‘Indirect’ public health metric
## Inspection-based FSMA metrics

### Definition

- Inspection performance as a measure of FSMA implementation
- **Examples**: ‘near-misses’, third-party audits, supplier verification

### Desirable because

- Measures industry performance
  - ‘level of control’
- Data can be readily available
- Captures central part of FSMA
- Applicable in the mid-term
  - Require some historical data

### Problematic because

- Logistic challenges
  - Data collection & recording
  - Data storage & sharing
- Interpretation challenges
  - Most meaningful metrics?
  - Interpretation of changes?
Learning from other industries

• Some key challenges with FSMA metrics
  – Finished product contamination & outbreaks are very rare events
    ⇒ Logistical and statistical challenges
  – The food industry is a very complex industry
    ⇒ Cause- and effect not always obvious
  – There are many potential confounding factors
    ⇒ Attributing success to FSMA can be challenging

• Why other industries can help
  – Same fundamental challenges
  – Long focus on measuring success (e.g., ‘ultra-safe’ industries)
    ⇒ Considerable body of research & real-world experiences
  – Recognition of ‘organization’ factors as predictors of success
Questions & Comments?

TURN FOUR FURLONGS TO THE EAST, THEN TWO RODS TO THE RIGHT, SEVEN FATHOMS STRAIGHT AHEAD, A PECK TO THE SOUTH - NO, MAKE THAT A PENNYWEIGHT, THIRTEEN CUBITS SIDEWAYS, A HOGSHEAD DOWN TOWARD THE FINAL APPROACH TO THE MARTIAN SURFACE...

Source: Buffalo (NY) News, 10/04/1999