TEAM EXCELLENCE
Performance Measurement
“A Food Safety System”

San Diego County
Department of Environmental Health
Food and Housing Division
2006
It’s about managing for positive public health outcomes! It’s all about your ability to answer the question:

What’s Going on Here????
Team Excellence
Performance Measurement System

Did it make a difference in San Diego County?
Long Range Goals and Objectives

- Reduce foodborne illness in San Diego County.
- Reduce risk factors that can lead to foodborne illness.
  - "Improve food employee behaviors and preparation practices that directly relate to foodborne illnesses in retail food establishments"

  *FDA Retail Food Program Standards*
  *Healthy People 2010*
Team Excellence
Performance Measures System
“The Chapters in Our Story”

Assessing Risk
Communicating Risk
Managing Risk
Verifying Quality of Service
Assessing Risk: Risk assessment baseline and trends

- Historical Baseline
  - Risk Factor Violations
    - Food Facilities

- Food and Housing
  - Monthly Dash Board of Performance Measures

- Foodborne Illness Contributing Factors

- Food Handler Knowledge Survey

- Disaster Preparedness
**Food Handler Knowledge Survey**

**Purpose**
- To assess the food safety knowledge of food handlers in several types of food facilities in San Diego County.
- To compare the effectiveness of different types of food handler training programs.

**San Diego County Foodhandler Training Program Survey 2003**

- **Facility Size**
  - A60 13%
  - A61 32%
  - A62 13%
  - A63 13%
  - A64 3%
  - Other (A2E, A5) 13%

- **Language**
  - English: 56%
  - Spanish: 44%

- **Training Type**
  - F0 Certified: 21%
  - Classroom: 23%
  - In house: 50%

**Overall results**
- Only 56% (395 persons) passed with a 70% or above (5 of 8 correct)
- Average test score: 64%
- Issues with questions on hot holding and minimum cooling temperature
- Majority of respondents chose a higher temperature than required. If the two questions were evaluated accepting either answer, the average percentage correct would increase to approx. 78%

**Trends**
- Respondents that took survey in English scored higher than those in Spanish
- Respondents with food safety certification scored much higher than those with classroom or in-house training
- Respondents at the largest facility types with more employees scored slightly higher than other types of facilities with less employees

**Conclusion**
- The food safety knowledge of food handlers in San Diego County is lacking in the following areas:
  - Knowledge of minimum safe cooling temperatures
  - Knowledge of minimum hot holding temperatures for PHFs
- The most effective type of food handler training program:
  - Food Safety Certification
  - There is no significant difference between classroom training versus in-house (onsite) training.
Reported Illnesses 2000-2005

Number of Cases

- 2000: Campylobacter
- 2001: Campylobacter
- 2002: Campylobacter
- 2003: Campylobacter
- 2004: Campylobacter
- 2005: Campylobacter

- 2000: Salmonella
- 2001: Salmonella
- 2002: Salmonella
- 2003: Salmonella
- 2004: Salmonella
- 2005: Salmonella

- 2004 Campy Campaign
- 2003: Out of State Eggs, Slice Not Clean
- 2004: Illegal Cheese
- 2005: Illegal Cheese, Eggs / Sick FE

2000 Chile Relleno/Egg

Campylobacter
Salmonella
Salmonella Cases in San Diego County, 1999-2003
Illegal Raw Milk Queso Fresco
S. typhimurium Reported Cases and Illegal Cheese Interventions
San Diego County 2004-2005

- July 2004: One Illegal Vendor Cited (North County)
- May 2004: Market with Illegal Salmonella typhimurium cases
- Press Release
- Press Conference
- Nov-Dec 2004: Two Illegal Vendors
- Feb 2005: One Illegal Vendor (South County)
- Press Release
- 2005 data pending

PFGE Pattern Q is related to cheese
Multi-Agency Investigation Ongoing

Purpose

• To analyze CED-referred foodborne illness investigation (FBI) reports obtained in 2002, 2003, and 2004 concerning several factors (city, facility, etiology, food, month, and risk factors)
• To determine whether relationships exist among CED-referred foodborne illness investigation reports obtained in 2002, 2003, and 2004

Overall Results

♦ Beef (2002), vegetables/beef (2003), vegetables/chicken (2004) were the most common suspected foods.
♦ While the majority of environmental investigations in 2002, 2003, and 2004 did not yield observable major risk factors, risk factors not defined as major risk factor violations of concern in 2002 and 2003 were improper (cold/hot) holding temperature and improper cooling, and in 2004, risk factors of concern were cross contamination, poor hygiene, and improper food preparation. The "other" category included improper labeling, lapse of 1 day between prep and serving, illegal caterer, etc.
♦ Restaurants>markets>other are the most implicated facilities in 2002, 2003, and 2004. The "other" category included: lunch trucks, hotel dining, cruise ship dining, etc.

Conclusion

♦ Vegetables, chicken, and beef were the most implicated foods in 2002, 2003, and 2004.
♦ Key risk factors include (cold/hot) holding temperature, hygiene, cross contamination, and improper food preparation sources.
♦ The majority of implicated facilities are in restaurants, regardless of year of occurrence.
♦ A wide variety of foods, categorized as "other," not normally associated with foodborne illness are being implicated.
♦ The number of facilities with risk factor violations increased in 2003 from 2002. It is unknown if this is related to an actual increase in risk factor violations or improved documentation/inspection since considerable program and documentation improvements were made during this time period.
♦ The majority of cases have not been diagnosed for bacterial/viral cause of foodborne illness, though in 2003, Salmonella and E. coli were responsible for quite a few outbreaks.

**http://www.dha.ca.gov/po/dcd/pdfs/etablies/CM-DEC%202004.pdf
*** Data not available/not found for viral pathogens of foodborne illness cases

* Considerations regarding 2002, 2003, and 2004 CED-referred FBI facilities may have had more than one risk factor; there were 23 CED-referred outbreaks in 2002 and 2004, and 45 in 2003; cases may have consumed more than one food/drink item.
Managing Risk: Balancing OUTPUT with OUTCOMES

QUALITATIVE OUTCOME MEASURES
- Reducing Risk Factors
- Implementing Interventions

QUANTITATIVE OUTPUT MEASURES
- Inspections
- Investigations
- Special Projects
- Training
- Outreach

COMPLIANCE & ENFORCEMENT
- Consistent
- Uniform
**Food Temperature Log**

<table>
<thead>
<tr>
<th>Employee Name (Nombre del Empleado)</th>
<th>Date (Fecha)</th>
<th>Time (Hora)</th>
<th>Temperature (Temperatura)</th>
<th>Type of Food (Tipo de Comida)</th>
<th>Corrective Action (Dure Fue Corregido)</th>
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</thead>
<tbody>
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**Thermometer Calibration**

Food temperature measuring devices must be calibrated in accordance with the manufacturer's specifications as often as necessary to ensure their accuracy. Additionally, a record log should be kept of your thermometer calibrations. A sample log is attached.

If a thermometer does not have specific instructions for calibration, the following methods may be used:

**Ice Point Method**

1. Fill a large container with ice, preferably crushed if you have it. Add clean tap water until the container is full. Stir ice water mixture.
2. Put the thermometer probe into the ice water so that the sensing area, usually about an inch up on a bimetallic thermometer, is completely submerged. Do not let probe touch the sides or bottom of the container. Wait 30 seconds or until the temperature indicator stops moving.
3. On bimetallics, hold the calibration nut on the underside of the dial head securely with a wrench or the tool attached to the sheath and rotate the dial head until the thermometer reads 32°F (0°C).

**Boiling Point Method**

1. Bring clean tap water to a boil in a deep pan.
2. Put the thermometer probe into the boiling water so that the sensing area is completely submerged. Again, don't let probe touch the sides or bottom of the pan. Wait 30 seconds or until the temperature indicator stops moving.
3. On bimetallics, hold the calibration nut on the underside of the dial head securely with a wrench or tool attached to the sheath and rotate the dial head until the thermometer reads 212°F (100°C) at the appropriate boiling point for your calibration.

- **Cold Holding Temperatures** - Record every two hours. All cold foods must read 41°F or less, according to Federal or state law. Bars must be at temperatures at or below 41°F. Temperatures are monitored at the following points: cold storage, commercial refrigeration, and walk-in coolers.
- **Hot Holding Temperatures** - will be recorded every two hours. All hot foods must be at or below 165°F. Temperatures monitored at the following points: hot storage, hot holding, commercial cooking, and walk-in hot units.

**Cooling Potentially Hazardous Foods** - record cooled food temperatures at different times.

(Tome la temperatura de los alimentos contados a diferentes horas del día)
Risk Control Plans

- Simple work plans for operators to control their own food safety risks.

- Use with operators that have repeat major risk factor violations or repeat downgrades.

- To improve “the place that is always bad”
Based on the inspection history, the following food safety hazards known as risk factors that can contribute to foodborne illness were identified (Food safety hazards include the occurrence of any risk factor or lack of public health interventions as described in the California Health and Safety Code):

I. Hazards/Risk Factors Identified/ Corrective Action Required

<table>
<thead>
<tr>
<th>HAZARD/RISK FACTOR IDENTIFIED</th>
<th>UNCONTROLLED PROCESS STEP OR CCP</th>
<th>HAZARD (most common)</th>
<th>CRITICAL LIMIT(s) (CLs)</th>
<th>CORRECTIVE ACTION WHEN CLs ARE NOT MET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
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<td>3.</td>
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<td>4.</td>
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</table>

II. The following risk control plan is recommended to establish active managerial control of the identified food safety risk factors or hazards. (For unmet critical limits, the plan delineates what needs to be controlled and how it will be controlled, along with necessary records and responsible personnel. It will also indicate what training is necessary.)

As the person in charge of the ____________________________ located at ____________________________, I have reviewed, and understand the provisions of this voluntary Risk Control Plan.

__________________________________________
(Establishment Representative) (Date)
Wholesale Food Warehouse Program

- Voluntary Grading Program (ABC)
- Risk control plan (HACCP) training courses provided twice per year.
- Risk Control Plan Workbook one of most popular items on website.
Communicating Risk: Educating industry and the public with materials and training programs

- **Foodhandler Training Program**
- **Food Facility Operator’s Guide**
- **Wholesale Food Warehouse Workshop**
- **Wholesale Food Warehouse Risk Control Plan Workbook**

**Media Outreach**
- News releases
- Interviews
- Presentations
- CTN spots

**Stakeholder Groups**
- FSAC

**POSTING GRADES**
- Inspection reports
Communicating Risk

- Website:  www.sdcdeh.org
  - Over 4000 worldwide hits per month
  - Over 9000 documents downloaded per month.
  - Monitor your website! Most downloads are our food handler training documents.
  - Our wholesale risk control plan workbook is also popular with over 2000 hits since mid December when we released it.
Verifying Quality of Service: Assess and verify quality of inspection program

Verifying Quality of Service

Excellence in Service
- Annual Field Evaluation

Standardization Inspection Certification
- Food Program

Customer Service
- Customer Service Survey
  - Internal
  - External
- Mystery Shopper

Annual Program Evaluation
Output Measures

Team Excellence
Inspections Completed 2005

<table>
<thead>
<tr>
<th></th>
<th>July</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>June</th>
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<tbody>
<tr>
<td>Other</td>
<td>141</td>
<td>123</td>
<td>246</td>
<td>234</td>
<td>149</td>
<td>215</td>
<td></td>
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<tr>
<td>Pool-Hsng</td>
<td>821</td>
<td>880</td>
<td>902</td>
<td>783</td>
<td>719</td>
<td>659</td>
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<tr>
<td>Food- Other</td>
<td>1135</td>
<td>1020</td>
<td>1070</td>
<td>1012</td>
<td>923</td>
<td>996</td>
<td></td>
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<tr>
<td>Food- Full Serve</td>
<td>1878</td>
<td>2260</td>
<td>2107</td>
<td>2151</td>
<td>1988</td>
<td>2001</td>
<td></td>
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Plan Review Cycle Times
Food Safety Risk Factors Observed

(Oct-Dec 2003)
- Press Releases issued:
  - E-coli outbreak update
  - Holiday food safety tips

(Jan-Mar 2004)
- Temperature Logs distributed to all Food Facilities

(Apr-June 2004)
- New Risk Based inspection report released. Staff and Industry training and consultative inspections conducted.

(Oct-Dec 2004)
- Second cycle of inspections conducted using Risk based inspection report.

<table>
<thead>
<tr>
<th>Risk Factors</th>
<th>1st Qtr 03-04</th>
<th>2nd Qtr 03-04</th>
<th>3rd Qtr 03-04</th>
<th>4th Qtr 03-04</th>
<th>1st Qtr 04-05</th>
<th>2nd Qtr 04-05</th>
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</thead>
<tbody>
<tr>
<td>Temp Not &lt;41°F</td>
<td>12.28</td>
<td>7.76</td>
<td>5.31</td>
<td>5.89</td>
<td>5.57</td>
<td>3.57</td>
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<tr>
<td>Temp Not &gt;140°F</td>
<td>1.75</td>
<td>1.45</td>
<td>1.12</td>
<td>1.1</td>
<td>0.79</td>
<td>0.98</td>
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<tr>
<td>Improper Cooling</td>
<td>2.08</td>
<td>1.24</td>
<td>0.67</td>
<td>0.59</td>
<td>0.54</td>
<td>0.48</td>
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<td>Employee Hygiene</td>
<td>12.16</td>
<td>11.84</td>
<td>3.99</td>
<td>4</td>
<td>2.69</td>
<td>2.6</td>
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<tr>
<td>Heating/Cooking</td>
<td>1.07</td>
<td>0.8</td>
<td>0.54</td>
<td>0.28</td>
<td>0.26</td>
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<tr>
<td>Source</td>
<td>0.28</td>
<td>0.25</td>
<td>0.12</td>
<td>0.17</td>
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<td>0.14</td>
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<tr>
<td>Contact Surface</td>
<td>11.76</td>
<td>11.25</td>
<td>6.12</td>
<td>5.54</td>
<td>2.41</td>
<td>2.88</td>
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<tr>
<td>Cross Contam</td>
<td>9.16</td>
<td>7.52</td>
<td>3.74</td>
<td>2.18</td>
<td>1.17</td>
<td>1.11</td>
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Any Questions?