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## I. EXECUTIVE SUMMARY: The entry must include a one-page Executive Summary outlining the salient features of the presentation, which serves as the first page of the application.

The Multnomah County Environmental Health Services (MCEHS) respectfully submits this application

for the 2006 Samuel J. Crumbine Consumer Protection Award. Within the vision of having *healthy people in*

*healthy communities*, MCEHS strives to be a leader in food safety and protection services. Over the past five

years, our program has focused its efforts on improving the use of information technology, program analysis,

strategic planning, and capacity building so that Multnomah County's food protection program is better able to

respond to and enforce food and public health safety. Computerization of our inspection and food borne illness

databases was the critical first step in providing our program with the ability to improve food protection

services in our local community. MCEHS also developed a process to inspect food establishments based on

risk rather than seating capacity to more effectively prevent food borne illness and better address food violation

and compliance issues. Over the past five years, MCEHS has overcome significant obstacles, including lack of

resources to respond to emerging environmental health needs, providing food safety education to a growing

diverse community, and having an inadequate data system to prevent and respond to the CDC food borne illness

risk factors. Despite these major obstacles, MCEHS has continually improved our food protection program

through innovative and proactive means. Thank you for your consideration of Multnomah County's application

for the 2006 Samuel J. Crumbine Consumer Protection Award.

**II. DEMOGRAPHY:** A brief demographic profile of the jurisdiction, including population served, number of establishments, and other socio-economic characteristics of the area which may help to place the program in perspective.

Multnomah County is the most populous county in Oregon, with 19% of the State's total population and 26% of the State's total ethnic and racial minority populations. From 1990 to 2004, the population of Multnomah County grew 17%, from 586,617 residents to 685,950 residents. White non-Hispanics comprised 77% of Multnomah County's population in 2004, while Hispanics represented 9%, African Americans 7%, Asian and Pacific Islanders 7%, and American Indians 1%. Based on the 2000 U.S. Census, over 6% of Multnomah County residents are non-English or limited English speakers. Approximately 13.6% of Multnomah County residents had incomes at or below the poverty level in 2000—communities of color are disproportionately poor.

The Oregon Employment Department determined that Oregon and Multnomah County have been in an economic recession since late 2001, affecting the ability of low-income residents to make ends meet. The County has one of the nation's highest unemployment rate, 5.7% compared to 4.8% nationally and a hunger rate of 5.8% compared to 3.1% nationally. Recent increases of home energy costs, high automobile fuel costs, and housing costs also contribute to financial hardship. Declines in county tax revenues (attributed to a persistent poorly performing economy) have resulted in cuts to human service programs, including public health.

Multnomah County Health Department (MCHD) works in partnership with its diverse communities to deliver an array of primary care, prevention, and public health services. In FY 2005, MCHD provided health services to over 60,000 low-income residents of whom 41% had no health insurance and 53% were insured through Medicaid. Approximately 40% of MCHD clients were Hispanic, 37% were White, 10% were African American, 6% were Asian or Pacific Islander, and less than 1% are American Indian or Native Alaskans. Over 34% of clients are limited English speakers from over 25 language groups. Five percent of all clients are homeless, living in shelters, transitional housing or on the streets.

**III. RESOURCES:** An enumeration of the various resources that was available to the program. This should include, but are not limited to: total budget, sources of all revenue, number of staff, number of food establishments, with a break down by type (foodservice, retail, etc.), fees for establishments.

**Multnomah County Health Department:** As Oregon's largest local public health agency, Multnomah County Health Department (MCHD) is located in the heart of the Portland metropolitan area. MCHD has approximately

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1,000 employees and thirty service sites. MCHD is one of six Multnomah County departments. The County government focuses on the areas of human services for families and children; elderly and disability support services; health and mental health services; homeless services; library services; and community corrections. MCHD brings public health and toxicology expertise, program design and evaluation skills, participative health education approaches, financial and contract management capabilities, data analysis, and report writing to the project. With annual grant revenues of over $20 million, the Health Department has an extensive track record of successfully managing government-funded research, demonstration, and health care grants.

Multnomah County Environmental Health Services (MCEHS), an integral part of the Health Department, analyzes local environmental health issues from a public health perspective, regulates specified businesses and accommodations, and enforces state and local environmental health laws and rules. The nature of the work is complex due to the numerous environmental health concerns, regulations, and the high profile of the activities conducted. MCEHS has the following mandated responsibilities: 1) assuring safe food; 2) controlling food and water borne diseases; managing vector populations; 3) certifying County births and deaths; 4) regulating select businesses and venues; and 5) enforcing state and local environmental health laws and rules. MCEHS also has a leadership role in emergency preparedness and disaster response which requires twenty-four hour operational oversight. MCEHS has a staff of 48 which includes a program manager, environmental health specialists, support staff, supervisors/lead workers, a program development specialist senior, a CDC-funded public health prevention specialist, a health educator, outreach workers, vector control specialists, an enforcement officer, and chemical applicators. MCEHS has an annual budget of $4.3 million and brings in 1.9 million in revenue per year from food program and associated licensed activity fees. Food-related fees range from $10 to $625.

Registered environmental health specialists perform approximately 8,000 inspections and respond to approximately 373 food borne and/or water borne illness complaints a year and consistently meet the State requirements. Environmental health inspections are designed to provide education, assure safe food, control disease that can be acquired from food and water, improve safety in the workplace, reduce unintentional injuries and support other public health activities by incorporating prevention activities into the inspection process. In FY 2005, environmental health specialists inspected (and re-inspected when necessary) 5,726 permanent food

establishments; 1,145 temporary food establishments; 286 benevolent temporary food establishments; 984 pool and spa facilities; 366 care facility homes and centers including child care; and 2,200 other establishments. Additionally, the staff certified 15,131 Food Handlers; and responded to 266 food borne illness complaints and 53 resultant outbreak cases.

**IV. BASELINE AND PROGRAM ASSESSMENT** Every food protection program has local circumstances that make it unique. A number of program elements are common to every jurisdiction and, when taken together, constitute what is generally understood to comprise a "comprehensive" program. These may include, but are not limited to, the following elements: Program Planning (vision, goals, and objectives, risk orientation, staff participation, staff-evaluation), Program Management (Active Managerial Control, Epidemiological Capacity, Data Management and Utilization, Analysis of Outcomes, Support and Resources), External Involvement (Industry and Consumer Interaction, Community Educational Outreach, Manager/Food Worker Training Partnership) and Program Implementation (Enforcement, Formal Staff Training Program, Internal Quality Assurance).

A. **Program Planning** (Vision, Goals and Objectives, Risk Orientation, Staff Participation, Self-Evaluation):

**Vision, Goals and Objectives:** In 1999, MCEHS was ill-prepared for business continuity resulting from issues pertaining to Y2K. As a result, we conducted a visioning process to help identify strategic goals, objectives and outcomes that would not only comply with Y2K transfer requirements but also improve our ability to reduce the CDC identified foodborne risk factors and/or minimize their impact. The five-year goals and objectives were:

> **MCEHS VISION:** To enhance our food safety program so that it utilizes epidemiological best practices to conduct FBI surveillance, investigate FBI outbreaks and educate our community about the CDC identified foodborne risk factors so that we can reduce their occurrence and minimize their impact.

| Goals | Objectives | 1999 Baseline | 2005 Outcomes |
|---|---|---|---|
| To develop a database system that would manage the licensing, field, inspection and critical food safety functions in the new millennium to maintain business continuity in the year 2000. | • To collect and analyze data to identify risk, trends, resource allocation and equitable treatment of food facility operators. | • Inadequate food inspection database. <br> • No Foodborne Illness database Inadequate tracking of FBI complaints and investigations. <br> • Inadequate tracking system of licensing information. <br> • No enforcement mechanism. <br> • Inadequate FBI outbreak. communication and response practices by multiple agencies and disciplines. | Implemented a data system that would: <br> • Track FBI risk factors. <br> • Conduct trend analysis of FBI risk factors. <br> • Analyze data to determine where MCEHS resources should be allocated. <br> • Track licensing information so that facility operators are treated fairly and all facilities are licensed. <br> • Identify roles of multiple agencies and disciplines in an FBI Outbreak. |
| To standardize our food inspection program. | • Enforce the 1999 FDA Food Codes. | • EHS inspections were not consistent with their findings. | MCEHS is now compliant with majority of FDA Food Program Standards: |

|  |  |  |  |
| --- | --- | --- | --- |
|  | • To analyze program to identify if fully meet FDA Food Program Standards.<br>• To make MCEHS compliant with FDA Food Program Standards. | • Data was not science-based because it was not consistent.<br>• EHS was not compliant with FDA standards. | • Has meaningful science-based data about violations relating to FBI risk factors that could be analyzed.<br>• Able to more effectively reduce the occurrence of FBI risk factors<br>• Improves their ability to provide consistent education to operators. |
| To improve our epidemiological surveillance capability to collect, track and analyze CDC foodborne illness risk factors so that we can reduce the occurrence of foodborne illness. | • To make science-based policy decisions. | • Licensing fee schedule based on seating capacity instead of menu risk.<br>• Lacking support to change public policy because absence of scientific data to support hypothesis. | • Conducted a risk rating pilot project to determine if license fee schedule should be based on menu complexity as a better predictor and reducer of FBI risk factors.<br>• Engaged in research projects with academic institutions. |
| To build agency capacity without compromising inspection program resources. | • To apply for grant and other resources to support and enhance the regulatory EHS functions. | • Unable to write grants.<br>• Limited data analysis.<br>• Unable to educate operators and public about foodborne illness. | • Applied and secure grant funding<br>• Developed an online food handler website.<br>• Created an enforcement ordinance.<br>• Conducted fish advisory education.<br>• Improved emergency preparedness.<br>• Hired a health educator and a bilingual outreach worker.<br>• Applied for a CDC funded Public Health Prevention Specialist. |

**FDA Food Program Standards:** Traditionally, the FDA program standards have been used to assess program compliance with basic standards as a means to prevent food-borne illness. In 2002, Multnomah County Environmental Health Services (MCEHS) used the FDA program standards as a tool to identify gaps and strategically plan for improvement. Facing ever-increasing demand for environmental health services in an era of government budget tightening, the program standards became a tool to identify the future direction of services and the impetus to creatively seek out alternative environmental health resources. The FDA Food Program Standards became the foundation to support strategic planning, help identify assets and challenges to MCEHS food safety program, serve as a marketing tool for increased resources, allow for local to national comparison capability, and support national initiative to identify risk factors.

**Risk Orientation--1999 FDA Food Code:** Once the food inspection database was created it became the

catalyst that sparked MCEHS' desire for standardization. MCEHS recognized that they would be able to improve food safety services by utilizing the 1999 FDA Food Codes which were based on the FBI risk factors. Multnomah County provided support and leadership to the statewide adoption of the 1999 Food Code in 2002, which replaced the 1976 Food Code. The 1999 Food Code provided the framework for focusing prevention, evaluation, inspection, education, intervention and enforcement activities on preventing factors known to cause food borne illness. It also became the foundation that helped MCEHS establish itself as a local food safety program that excelled in surveillance, education and reducing foodborne illness risk factors.

**Staff Participation and Self-Evaluation—Staff Driven Gap Analysis Utilizing 10 Essential Service Framework and FDA Program Standards:** As staff worked on implementing the goals and objectives identified in 1999 to meet desired outcomes, it became apparent that a more detailed gap analysis was needed to identify if the outcomes would satisfy program standards and essential environmental health services. In 2002, MCEHS conducted a gap analysis of environmental health services in relation to the ten essential environmental public health services and FDA program standards. The analysis revealed critical gaps in the following essential areas: 1) building capacity, 2) surveillance, and 3) community outreach. It became strikingly apparent that MCEHS needed additional resources to support environmental health programs because Environmental Health Specialists were operating at full capacity conducting inspections. MCEHS staff did not have the capacity to conduct data/trend analysis, write grants, write reports, provide community education and outreach, and conduct other activities that supported their regulatory work. Results of the gap analysis are included in the appendix. **Strategic Planning:** Once the analysis identified agency needs, MCEHS engaged in short- and long-term strategic planning to identify the most effective ways to build staffing and service capacity. As the first step in the planning process, MCEHS convened a committee of employees, the Functional Team, who represented both internal operations and external programs/services. The Functional Team was charged with identifying immediate- and long-term goals, objectives and outcomes that would ultimately build agency capacity, improve EH services to the local community, and provide the best food safety protection possible. **Building Capacity:** Between 2001 and 2005, MCEHS focused its efforts on building the internal capacity to improve and expand services to our local community. One major outcome of the Functional Team strategic

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planning efforts was to create and fill a full-time Program Development Specialist Senior (PDS) position to work on building capacity. A major function of the PDS Senior position is to write grants to acquire new funding and resources. Additional grant funding was needed to build revenue and staffing capacity to implement the strategic plan to its fullest capacity. During this time period, MCEHS successfully applied and received grants to improve our food safety program in the following ways:
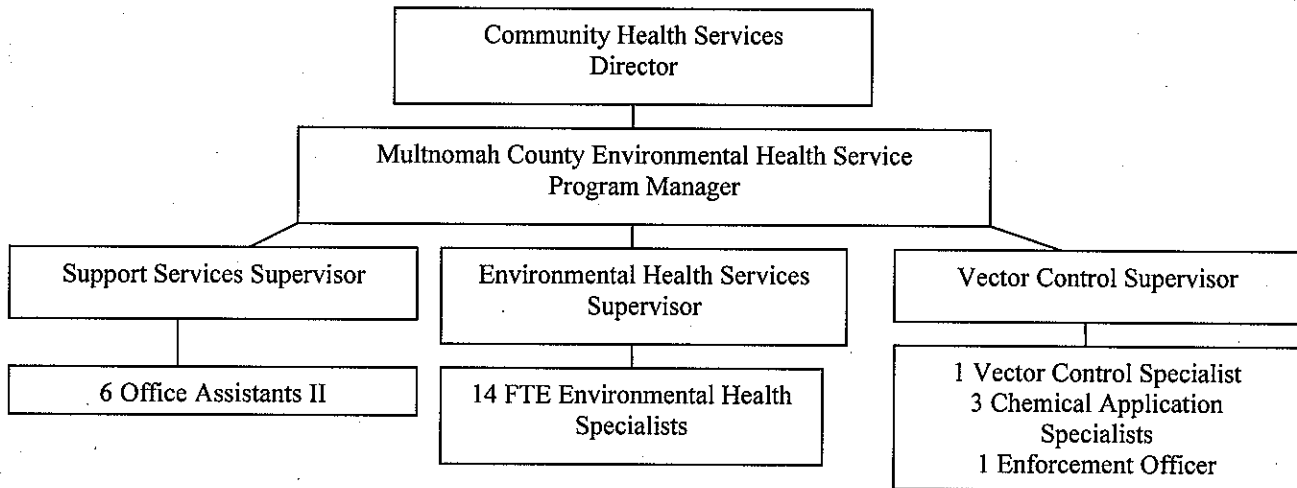
| Grants | Type of Capacity Building | Program Assessment Category | Program Element |
|---|---|---|---|
| 3 year $200,000/yr CDC Essential Services grant<br><br>CDC funded 2 year Public Health Prevention Specialist | Enhance regulatory program without diluting potential to conduct quality inspections: Fish Advisory Education, Public Health Prevention Specialist | Program Management | Support and Resources |
| 3 year $200,000/yr CDC Essential Services grant<br><br>$5,000 FDA grant | Improve food surveillance: Risk Rating Pilot Project<br><br>Develop FBI database | Program Management | Epidemiological Capacity Data Management and Utilization |
| 3 year $200,000/yr CDC Essential Services grant | Develop and implement an enforcement ordinance | Program Implementation | Enforcement |
| Bioterrorism grant Funded .5 FTE EHS position | Increase MCEHS emergency preparedness | Program Implementation | Formal Staff Training Program |
| 3 year $200,000/yr CDC Essential Services grant | Hire a Health Educator and Community Outreach Worker to educate the public on food safety and food security | External Involvement | Community Educational Outreach |
| $47,000 NACCHO grant<br><br>3 year $200,000/yr CDC Essential Services grant | Increase our ability to educate our County's diverse Food Handler population about safe food handling practices | External Involvement | Community Educational Outreach |

**B. Program Management** (Active Managerial Control, Epidemiological Capability, Data Management and Utilization, Analysis of Outcomes, Support and Resources):
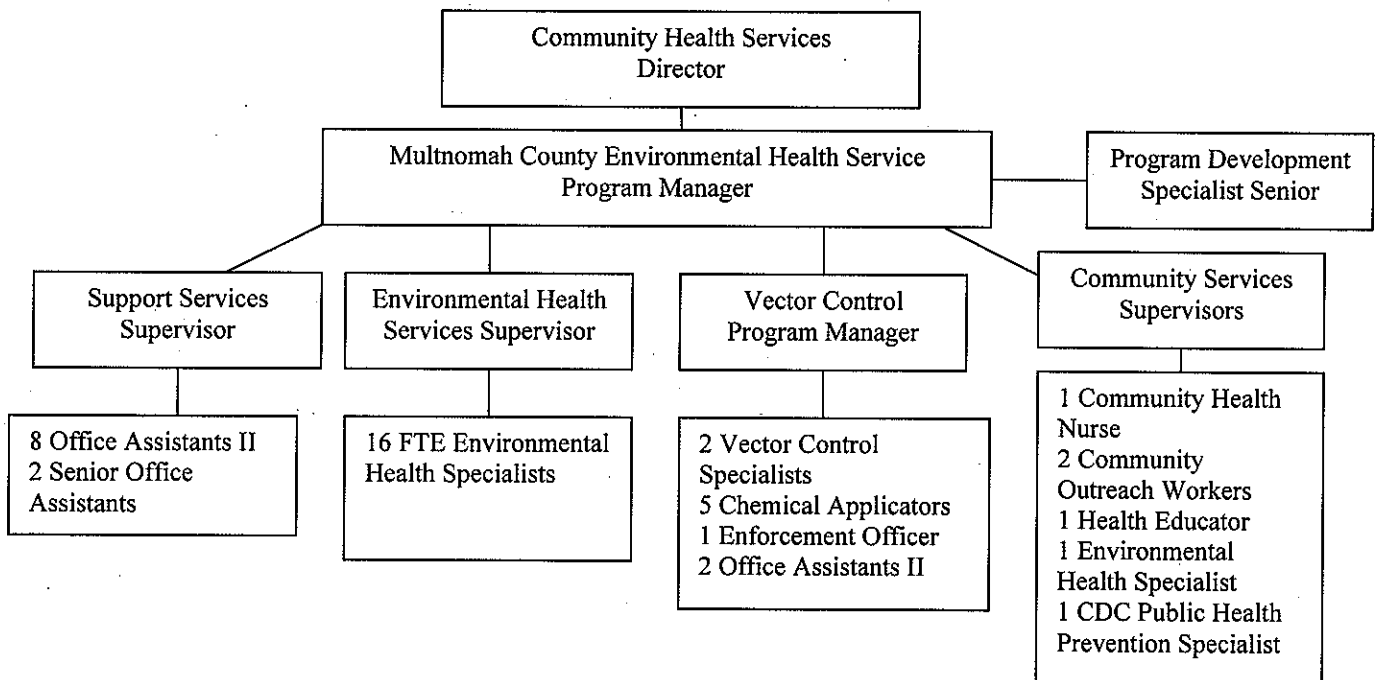
<u>**Active Managerial Control--Organizational Change**</u>: As MCEHS' capacity and services grew with each grant acquired, it was clear that the organizational structure needed to change in order to support the expanding work. In 2005, MCEHS and the Functional Team conducted a systems analysis using the "Form Follows

Function" methodology to identify what was needed to implement and manage the expanding organization and new services that would support staff to work at their highest potential and provide quality food safety services. During this 6 year time period, the agency grew from 30 people to 48 employees of various disciplines and specialties. The following charts illustrate the change in organizational structure from 1999 to 2006.

**1999 Organization Chart**

```
                    Community Health Services
                           Director
                              |
           Multnomah County Environmental Health Service
                      Program Manager
           |                  |                    |
Support Services      Environmental Health     Vector Control
   Supervisor            Services                 Supervisor
       |                 Supervisor                   |
6 Office Assistants II  14 FTE Environmental   1 Vector Control Specialist
                        Health Specialists     3 Chemical Application
                                               Specialists
                                               1 Enforcement Officer
```

**2006 Organization Chart**

```
                    Community Health Services
                           Director
                              |
     Multnomah County Environmental Health Service ---- Program Development
                Program Manager                          Specialist Senior
       |              |              |              |
Support Services  Environmental   Vector Control   Community Services
   Supervisor     Health          Program Manager    Supervisors
                  Services
                  Supervisor
       |              |              |              |
8 Office          16 FTE          2 Vector Control  1 Community Health
Assistants II     Environmental   Specialists       Nurse
2 Senior Office   Health          5 Chemical        2 Community
Assistants        Specialists     Applicators       Outreach Workers
                                  1 Enforcement     1 Health Educator
                                  Officer           1 Environmental
                                  2 Office          Health Specialist
                                  Assistants II     1 CDC Public Health
                                                    Prevention Specialist
```
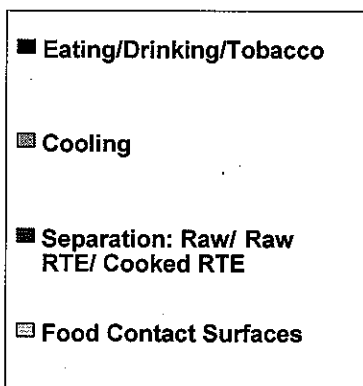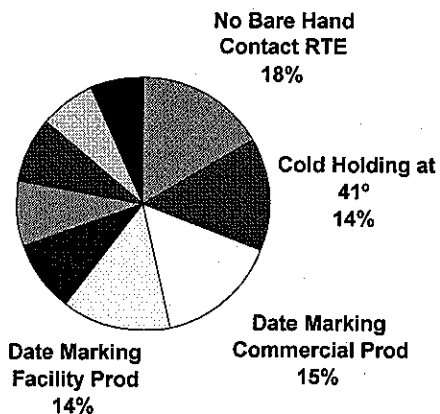
MCEHS capacity building efforts have received national recognition. The MCEHS manager, Lila Wickham, was asked to present on capacity building at the December 2005 American Public Health Association annual conference. The learning objectives of the presentation were to identify the steps necessary to build environmental health capacity: 1) conducting a gap analysis of services, including food safety program, using the 10 Essential Services Framework, 2) implementing methods to increase capacity to meet critical gaps in 10 Essential Services Framework identified above; 3) identifying baseline data; and 4) the next steps and expected future results related to the 2002 gap analysis.

**Epidemiological Capacity:** In 2002, the statewide adoption of the 1999 Food code improved our ability to promote food safety by focusing on the risk factors identified by the Center for Disease Control and Prevention as contributors to food borne illness. The five factors are: 1) unsafe sources; 2) inadequate cooking; 3) improper holding; 4) contaminated equipment; and 5) poor personal hygiene. It also established five key public health interventions to protect consumer's health including: 1) demonstration of knowledge; 2) employee health controls; 3) controlling hands as a vehicle of contamination; 4) time and temperature parameters for controlling pathogens; and 5) consumer advisory. MCEHS used these factors as the basis for identifying risk in their Food Protection program, standardizing Environmental Health Specialists, developing a risk based inspection program and educating food handlers and managers. **Improve Food Surveillance:** The gap analysis indicated that MCEHS needed to strengthen its capacity to protect the public from food-borne diseases.
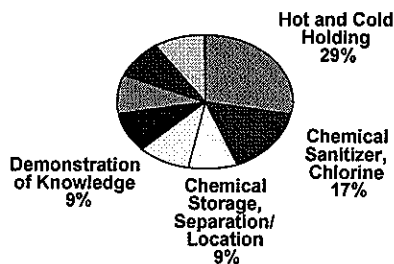
| Food Borne Illness: Rate per 100,000 population | | | |
|---|---|---|---|
| **Food Borne Illness** | **8 State Sample 1996 – 2000** | **Oregon 2000** | **Multnomah County 2000** |
| Campylobacteriosis | 15.7 | 16.6 | 16.0 |
| Salmonella | 12.0 | 8.7 | 11.7 |
| E. Coli | 2.9 | 3.9 | 1.7 |

**2002 Baseline Study:** The baseline study performed by Multnomah County of food establishments reinforced the need for risk-based assessments. The following two graphs illustrate the baseline data collected pertaining to facilities being out of compliance and the frequency of violations that occur during customary inspections. Our data analysis identified cross contamination, cold holding, and date marking foods as significant issues.

**% Observations Out of Compliance Baseline Study**

- ■ Separation: Raw/ Raw RTE/ Cooked RTE
- ▨ Separation: Environmental Contaminants
- ■ Proper Handwashing
- ▨ Food Contact Surfaces
- ■ Handwash Facilities Convenient/Accessible

No Bare Hand Contact RTE 18%

Cold Holding at 41° 14%

Date Marking Commercial Prod 15%

Date Marking Facility Prod 14%

**% Inspection Customary Violations**

- ■ Eating/Drinking/Tobacco
- ▨ Cooling
- ▨ Separation: Raw/ Raw RTE/ Cooked RTE
- ▨ Food Contact Surfaces

Hot and Cold Holding 29%

Chemical Sanitizer, Chlorine 17%

Demonstration of Knowledge 9%

Chemical Storage, Separation/ Location 9%

*2005 Restaurant Inspections Risk Rating and Time Pilot Study:* Since Oregon statutes do not require food establishments to utilize HACCP (Hazard Analysis and Critical Control Points) principles, our analysis revealed that MCEHS needed an innovative way to inspect facilities that focused on status of risk factors to reduce the occurrence of violations and being out of compliance. Currently, all restaurants are licensed based on their seating capacity. The larger the seating capacity the more the licensing fee. This model does not take into consideration risk factors or allow for increased resources to be allocated in order to correct risk factors in the long-term. For example, a small facility such as a catering operation which has zero seating capacity may have a much higher potential for food borne illness due to serving a complex menu that requires heating, cooling and transporting food. Conversely, a coffee shop with many seats but limited menu may have lower risk than the seating capacity implies. In the CDC funded risk-based pilot project, the food preparation methods used by the facility determines whether the restaurant is defined as low, medium, or high complexity. Low complexity

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restaurants that do not serve foods that incorporate critical control points are inspected less frequently than high complexity establishments that do.

Data obtained from the pilot project was used to determine if the number of critical violations per seating versus the number of critical violations per complexity category (low, medium or high) is a better indicator of a facility's food safety practices. The following is preliminary data for the risk-based pilot project. The first step in the study was to categorize restaurants by the complexity of their menus. MCEHS coordinated a team of environmental health professionals (including MCEHS Environmental Health Specialists, FDA Food Specialist, State of Oregon EHS/NET Coordinator, and Oregon Restaurant Association operators) to develop risk definitions:

| Risk Rating Pilot Project Complexity Definitions | |
|---|---|
| **Restaurant Risk Category** | **Definition based on menu complexity** |
| Low Complexity | Pre-packaged foods (excluding raw animals foods), non-potentially hazardous beverages and bakery items; dairy product that is not dispensed through a soft serve dispensing machine; product delivered in bulk quantity by a licensed food service operation or off premise commercial processor and is maintained and served at the same temperature as it was when delivered. Note: espresso beverages are OK. |
| Medium Complexity | For hot foods: prep/serve or cook serve and hot holding for same day service and no cooling of potentially hazardous food. For cool foods: Prep/serve and cold holding of potentially hazardous food. |
| High Complexity | Cooling potentially hazardous foods; offers as a menu item raw/undercooked potentially hazardous meats, poultry products, eggs, fish, shellfish or foods with these raw potentially hazardous items as ingredients; transport potentially hazardous food as a catering food service; food processing that involves smoking and curing; any operation that involves reduced oxygen packaging for extended shelf life. |

**Risk Rating Pilot Project Preliminary Data Analysis:** After categorizing restaurants and conducting a one-year time study, MCEHS studied the data utilizing logistic regression analysis, a statistical method, to control for certain variables and isolate the impact of variables, like risk, while controlling for a variable, like seating. This identified the strength of a relationship. Table 1 illustrates semi-annual inspections conducted in 2005 for Full-Service restaurants. The total number of restaurants analyzed was 2,658 and the total number of inspections was 4,477.

| Table 1 Restaurant by Risk 2005: Full Service Restaurants in Multnomah County with Semi-Annual Inspections | | |
|---|---|---|
| Risk Category | Percent | N |
| Low | 7.1 % | 189 |
| Medium | 28.1 % | 747 |
| High | 64.6 % | 1,722 |
| Total | 100 % | 2,658 |

**Critical Violation Analysis:** MCEHS utilized logistic regression analysis for critical violations to determine whether risk or seating was a better predictor of critical violations. Tables 2-5 show descriptive statistics for restaurant inspections in 2005:

| Table 2 Average Critical Violations Per Inspection By Seating Category, 2005 | | | |
|---|---|---|---|
| Seating Category | Mean | Std. Deviation | N |
| 0-15 seats | 0.21* | 0.48 | 921 |
| 16-50 seats | 0.36* | 0.65 | 1,726 |
| 51-150 seats | 0.53* | 0.79 | 1,448 |
| Over 150 seats | 0.66* | 0.86 | 374 |
| Total | 0.41 | 0.70 | 4,469 |
| *Significant difference between categories at $p < 0.05$ | | | |

| Table 3 Critical Violations Per Inspection by Risk Category, 2005 | | | |
|---|---|---|---|
| Risk Category | Mean | Std. Deviation | N |
| Low | 0.09* | 0.28 | 321 |
| Medium | 0.19* | 0.43 | 1,243 |
| High | 0.54* | 0.79 | 2,831 |
| Total | 0.41 | 0.70 | 4,395 |
| *Significant difference between categories at $p < 0.05$ | | | |

| Table 4 Violation Frequencies: 2005 | | |
|---|---|---|
| Violation | Percent | N |
| Cross Contamination | 4.5 % | 569 |
| Improper Holding Temp | 5.9 % | 740 |
| Poor Personal Hygiene | 3.9 % | 493 |
| Unsafe Sources | 0.5 % | 61 |
| Inadequate Cooking | 0.2 % | 28 |
| Other Violations | 85% | 10,735 |
| Total | 100 % | 12,626 |

| Table 5 Violations by Risk Category, 2005 | | | | |
|---|---|---|---|---|
| | Risk Level of Restaurant, N (%) | | | |
| Violation | Low | Medium | High | Total |
| Cross Contamination | 4 (0.7%) | 57 (10%) | 508 (89%) | 569 |
| Improper Holding Temp | 9 (1%) | 91 (12%) | 640 (87%) | 740 |
| Inadequate Cooking | 0 (0%) | 4 (14%) | 24 (86%) | 28 |
| Poor Personal Hygiene | 17 (3%) | 78 (16%) | 398 (81%) | 493 |
| Unsafe Sources | 1 (2%) | 14 (23%) | 46 (75%) | 61 |
| Other Violations | 472 (4%) | 2,222 (21%) | 8,041 (75%) | 10,735 |
| Total | 503 (4%) | 2,466 (19%) | 9,657 (77%) | 12,626 |

**Version 1 of Logistic Regression:** The dependent variable was whether or not a critical violation occurred at inspection. Independent variables were risk category, and seating category (N=4,477). The findings were: 1) the odds of a critical violation at inspection are **five times higher** for a high risk restaurant than for a low risk

restaurant, when controlling for seating category; and 2) the odds of a critical violation at inspection is **two times higher** for restaurant ranked in the highest seating category (over 150 seats) than for the smallest restaurants (0-15 seats), when controlling for risk category.

**Version 2 of Logistic Regression:** The dependent variable was whether or not a critical violation (as defined by CDC as being antecedents to food borne illness) occurred at inspection and the independent variables were: risk category, seating category, and previous critical violations per inspection. The findings were: 1) the odds of a critical violation at inspection are **three times higher** for a high risk restaurant than for a low risk restaurant, when controlling for seating category and previous inspection history; 2) the odds of a critical violation at inspection is **1.6 times higher** for restaurant ranked in the highest seating category (over 150 seats) than for the smallest restaurants (0-15 seats), when controlling for risk category and previous inspection history; and 3) the odds of critical violation **increase 3.3 times** for each 1 unit increase in previous critical violations per inspection, when controlling for risk and seating.

**Version 3 of Logistic Regression:** In this version, the dependent variable is whether or not a critical violation occurred at an inspection and independent variables were: risk category, seating category, and history of critical violations. The findings were: 1) the odds of a critical violation at inspection are **3.6 times higher** for a high risk restaurant than for a low risk restaurant, when controlling for seating category and previous inspection history; 2) the odds of a critical violation at inspection is **two times higher** for restaurant ranked in the highest seating category (over 150 seats) than for the smallest restaurants (0-15 seats), when controlling for risk category and previous inspection history; and 3) the odds of a critical violation at inspection are **1.8 times higher** for a restaurant with any previous critical than for a restaurant with no previous critical history, when controlling for risk and seating.

**Version 4 of Logistic Regression:** When history of critical violations was used alone as an independent variable, the odds of a critical violation at inspection are **2.8 times higher** for a restaurant with any previous critical than for a restaurant with no previous critical history.

**Inspection Time Analysis:  Results of logistic regression for time:** The time it takes to inspect a restaurant is an important factor in the current licensing/fee structure in the State of Oregon. Since larger restaurants with

greater seating capacity take more time to inspect they are assessed a higher licensing fee. As a result, MCEHS felt it was important to analyze time as a variable in this study. Tables 6 and 7 contain data for this analysis:

| Table 6 Inspection Time by Risk Category | | | |
|---|---|---|---|
| Risk Category | Mean (min.) | Std. Deviation | N |
| Low | 47.8 | 16.4 | 321 |
| Medium | 54.3 | 23.0 | 1,242 |
| High | 70.7 | 25.5 | 2,831 |
| Total | 64.4 | 25.8 | 4,394 |

| Table 7 Inspection Time by Seating Category | | | |
|---|---|---|---|
| Risk Category | Mean (min.) | Std. Deviation | N |
| 0-15 seats | 51.4 | 22.9 | 921 |
| 16-50 seats | 61.8 | 23.3 | 1,725 |
| 51-150 seats | 70.4 | 25.2 | 1,448 |
| Over 150 seats | 83.1 | 28.5 | 374 |

The dependent variable was greater or less than hour for inspection and independent variables were risk category, seating category (N = 4,477). The findings were: 1) the odds of an inspection taking longer than an hour is **3.8 times higher** for a high risk restaurant than for a low risk restaurant, controlling for seating category; and 2) the odds of an inspection taking longer than an hour is **4.6 times higher** for restaurant ranked in the highest seating category (over 150 seats) than for the smallest restaurants (0-15 seats), controlling for risk category.

**Preliminary Conclusions of the Risk Rating Pilot Project:** Initially when MCEHS began this study, our hypotheses were that:

- Risk Category (High, Medium, and Low risk) will be better at predicting the number of critical violations (per FDA and CDC) and inspection scores than seating category (0-15 seats, 16-50 seats, 51-150 seats, Over 150 seats). a. Average inspection scores by risk: High Risk < Medium Risk < Low Risk. b. Critical violations: High Risk > Medium Risk > Low Risk.

- Risk Category will be better at predicting the length of inspection time than seating category.

- Desire for average inspection time by risk: High Risk > Medium Risk > Low Risk.

After data collection and analysis our conclusions are:

- Risk category is only slightly better at predicting critical violations than is seating category. Both risk category and seating category are weakly to moderately related to critical violations.

- Previous violation history is an important predictor of critical violations at inspection.

- Seating is a better predictor of inspection time than is risk.

As a result of the study, MCEHS realized that seating capacity was a stronger predictor of critical violations than first realized. MCEHS also discovered that that if they inspect and license solely on risk complexity of menus, more time will be spent on tracking, re-inspecting, and re-licensing (changing licensing fees) each time a facility changes their menu moving them into a different risk category, potentially making the inspection and licensing process more cumbersome and less efficient. Because preliminary data revealed that when risk and seating are taken into account together they are a stronger predictor of critical violations than risk or seating capacity alone, MCEHS shifted from its original hypothesis and recommends that the licensing/inspection fee structure in Oregon change to a system that takes both seating capacity and risk into account.

**Preliminary steps to change food safety/ restaurant licensing regulation and enforcement codes based on risk rating pilot project findings:** In January 2005, MCEHS presented the preliminary pilot project data to key partners whose support is needed to change food safety public policy including: Multnomah County Food Service Advisory committee, Mike McCallum President and CEO of the Oregon Restaurant Association, and members of the Conference of Local Environmental Health Supervisors (CLEHS). MCEHS will continue to work with these partners and legislators to develop an inspection / licensing model that incorporates both seating capacity and menu risk.

**EHS-NET Research Project:** Also as a means to conduct foodborne illness surveillance and protect our community from food-borne illness, MCEHS partnered with the Oregon Department of Human Services to do a collaborative research project called Environmental Health Specialist Network (EHS-NET). The goals of this ongoing project are: to identify environmental antecedents to illness and disease outbreaks, to translate findings into improved prevention efforts using a system-based approach, to offer training opportunities to current and future environmental health specialists and to strengthen the relations among epidemiology, laboratory and environmental health programs. Specifically, MCEHS collaborated on a ground beef study and egg study. The data from such studies is critical in assisting MCEHS to improve food safety laws.

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**Consumer Advisory:** Unfortunately, even though MCEHS began enforcing the 1999 Food Code, the State of Oregon did not adopt the Consumer Advisory portion of the food code. This portion of the legislative rules requires that restaurants advertise to customers when their dishes contain raw or undercooked animal foods, which may cause foodborne illness. MCEH recognized the importance of Consumer Advisory practices even though this portion of the food code was not adopted, so in 2004 MCEHS provided restaurants that serve raw or undercooked food an informational packet that assisted them to incorporate Consumer Advisory practices in their daily restaurant operations.

**Data Management and Utilization—Comprehensive Data System First Star Inspection Database, FBI Database, FBI response Manual and FBI Communication Process, Web-based Inspection Report, and Enforcement mechanism:** *First Star Inspection Database* MCEHS responded to the visioning process of 1999 by developing an inspection database that would manage the licensing, fiscal, inspection and critical food safety functions in the new millennium. The database allowed for comprehensive and synchronized administrative, analytical, and field functions. It also allowed the agency to provide administrative oversight to the environmental health inspection program so that licensing inspections were conducted in a fair and equitable manner and further enhanced the capacity to perform data analysis of critical antecedents to food borne illness. The inspection database provided MCEHS the opportunity to make restaurant inspection information public on the internet for customer's to review. Lastly, the data base made it possible for MCEHS to conduct a 2002 baseline study of food safety violations and compare Multnomah County to national data. This process was critical for MCEHS to begin improving food handler training, manager training and inspection education so that we could improve compliance locally. With the aid of the database, MCEHS was able to scientifically analyze if they were effectively reducing the CDC identified risk factors. *Web Based Inspection Report* In 2002, MCEHS also implemented a web based inspection report that allows the general public to access inspection scores for all restaurants in Multnomah County. Posting inspection scores on the web gives the public the ability to make informed choices about where they eat in the community. MCEHS chose to focus on posting only critical violations identified by the Center for Disease Control and the Food and Drug Administration as antecedents to food borne illness. *Food Borne Illness Database* MCEHS identified the need to develop a

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system that assures active surveillance, timely and appropriate response, coordination of services, implementation of epidemiologic best practice and the performance of ongoing trend analysis. In 2003, MCEHS applied for and was awarded a $5,000 FDA grant to develop and implement an innovative food borne illness (FBI) database that allows us to identify FBI antecedents so that we are better able to pinpoint cause and effect of FBI outbreaks. The database greatly increases our capacity to analyze FBI trends over time to reduce the occurrence of CDC identified FBI risk factors to protect the health and safety of our local community. When a FBI complaint is received, the EHS inputs the following FBI characteristics into the FBI database:

| Foodborne Complaint Characteristics Collected, Tracked and Analyzed in the FBI Database | | | | | | | |
|---|---|---|---|---|---|---|---|
| Time of Event | Number affected | Symptoms of affected | Antecedent To illness | Food eaten History | Restaurants eaten at | # ill in one household | Incubation time |
| Hospital information | Samples taken | # Children in household | Waterborne Antecedents | # homes affected | Restaurant Complaint History | # kids in household | FBI agents |

Once the information from the call is inputted, the data is analyzed by running queries and cross referencing information stored in the FBI database and a secondary, linked inspection database for pertinent information that may correlate to a FBI outbreak. Since each risk category is assigned a FBI risk point value, the computer calculates a score that assesses the likelihood that a FBI outbreak is occurring. Any FBI complaint that scores 6 or higher is referred to the Multnomah County Health Department Communicable Disease unit and Epidemiologist for FBI investigation. Simultaneously, Multnomah County Environmental Health Services conducts a facility investigation to determine the source of the outbreak. A complaint that scores 5 or lower will be maintained in the database and monitored for further information that could elevate the score to a FBI outbreak level. The FBI database is located on a secured server, shared with the Communicable Disease Unit so that the Epidemiologist and Communicable Disease staff can access it at any time. Since February 2003, 96% of all FBI outbreaks were confirmed as outbreaks, indicating that the database is correctly identifying and applying FBI criteria. *FBI Manual*: To accompany the FBI database, MCEHS developed a FBI investigation manual that details how the FBI database is used, and how Multnomah County Health Department and MCEHS will investigate and respond to FBI complaints within its jurisdiction. These procedures were developed by a cross-departmental team within the Health Department in order to make FBI complaint follow-up more efficient

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and effective in preventing further disease transmission. MCEHS also developed a communication flow chart that clearly identifies roles of multiple agencies and disciplines that are responsible for investigating food-borne illness outbreaks.

The technology utilized for our new FBI database greatly reduce the amount of time it takes to analyze data collected so that intervention (investigation and response) occurs sooner, helping to minimize the health impact. It was easy to miss key outbreak indicators in the old paper driven system. The new system allows us to identify trends to further improve the food safety program. The FBI database model was presented at the FDA Pacific Regional Retail Food Seminar in 2004. Singapore and Guam requested copies of the database model. The model was also presented at the FDA program standards audit training session in July 2004 where MCEHS provided copies of the database to twelve states. The International Association for Food Protection is revising their current FBI investigation manual to replicate the MCEHS format. *Enforcement Mechanism*: The enforcement mechanism that was created for our database system will be discussed in the Program Implementation Section.

**Analysis of Outcomes**: *Revisiting Gap Analysis of 2002:* In November 2005, MCEHS conducted another gap analysis and needs assessment. The overarching theme was the importance for EHS to maintain the capacity that was built during the previous three years. As a result of this process, three Essential Services related to the MCEHS food safety program were prioritized. The 2005 gap analysis is provided in the appendix.

**Support and Resources:** *Enhancing Regulatory Programs without Diluting Potential to Conduct Quality Inspections* In 2004, since regulators were at full capacity conducting inspections, MCEHS did not have a means to address environmental health service needs as they emerged. One example of an emerging environmental health issue was the increasing danger of eating fish caught in the Willamette River and Columbia Slough Superfund site that were contaminated from industrial waste. To increase our capacity to respond to this emerging issue, MCEHS partnered with the State of Oregon and local community-based organizations to address this issue. Since a large percentage of ethnic populations in Multnomah County perform subsistence fishing in the superfund site, it was imperative that MCEHS post alerts in the form of fish advisory signs. Each sign posted contained the fish advisory information in 6 languages (English, Spanish,

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Russian, Chinese, Vietnamese and Korean). In addition, Multnomah County partnered with external agencies to educate at risk families (including children, pregnant and nursing mothers who were most at risk) of strategies to reduce their risk including: proper fish cleaning and preparing techniques; identifying alternative and less contaminated fish to eat; teaching them who was at risk and the quantity of fish they could safely eat so they could continue to uphold their cultural practices in regards to fish consumption. ***Public Health Prevention Specialist:*** Another example of how Multnomah County worked to enhance regulatory programs without taking away from inspector's time in the field was to seek funding to create a new position within the agency. In 2004, MCEHS applied for and was assigned a Center for Disease Control funded Public Health Prevention Specialist for a two year period. The Prevention Specialist is a key member of the Environmental Health Functional Team and is responsible for developing and coordinating community/intergovernmental collaborations via the Protocol for Assessing Community Excellence in Environmental Health (PACE-EH) model. The purpose of PACE-EH is to identify and implement environmental health promotion strategies that are identified as needed by the local community. The PACE-EH model and the identified need to acquire community input about the direction MCEHS should pursue has been valuable in supporting the need for a balanced process of community concerns matched with relevant data. The prevention specialist also coordinates a $1,000,000 3-year HUD grant award received in November 2005 to address community issues identified through the PACE process.

**External Involvement** (Industry and Consumer Interaction, Community Educational Outreach, Manager/Food Worker Training Partnerships)

**Industry and Consumer Interaction:** ***Protocol for Assessing Community Excellence in Environmental Health (PACE EH)*** In 2001, MCEHS focused its efforts on involving our diverse community to ensure that they had input and were aware of environmental health issues, services and programs. MCEHS began using the PACE model which was developed by the National Association of County and City Health Officials and the Center for Disease Control as an approach to identifying environmental health concerns and develop solutions at the community level. PACE-EH in Multnomah County is guided by a local environmental health coalition with broad community participation from 40 concerned citizens, environmental health community-based

organizations and public health officials. The desired outcome is to identify, prioritize and overcome environmental health issues in an environmental justice framework. In 2003, PACE-EH conducted an assessment in N/NE Portland through the self-identified housing community. The housing concerns identified were lead, trash, pests, mold, and feeling like an ignored community. Currently the coalition is implementing an action plan to intervene and remedy these issues. The PACE-EH process has been so effective in providing data to support relevant environmental health issues that Multnomah County EH was one of only six communities to receive a HUD Healthy Homes award to address the finding. The award supports capacity development without compromising food safety work. *Workforce Development* The environment is an important determinant of health. The Centers for Disease Control and Prevention (CDC) estimates that 16% of all preventable deaths in the United States can be attributed to environmental factors. New and emerging environmental health threats support the need for environmental health services. A competent and well-trained environmental health workforce is essential to reduce risk of diseases stemming from the environment. Unfortunately, according to the U.S. Department of Labor Bureau of Labor Statistics and the Oregon Employment Office, the environmental health services sector has seen large declines over the last few decades from 235,000 in 1980 to only 30,934 in 2004. Despite an 18% population growth from 1980 to 2000, environmental health service capacity has not grown at the same pace, and critical gaps in environmental health services may be threatening the public's health.

The three-year CDC Capacity Building grant received in 2004 has provided MCEHS with the opportunity to improve workforce development by mobilizing educational partnerships with local academic institutions to develop environmental health internship opportunities. The purpose of the internship is to train and educate students so they are interested in and better prepared to enter the environmental health workforce. Collaborative activities include developing internship curriculum, matching students to internship opportunities and evaluating student performance. Since the beginning of the grant, MCEHS coordinated 10 internship experiences. One of the interns was hired as a full-time Environmental Health Specialist and continues to work for the agency. The grant also allows MCEHS to partner with academic institutions to develop research opportunities. Hiring competent and qualified Environmental Health workforce is the first critical step to

implementing quality food safety and protection services. ***Food Service Advisory Committee*** MCEHS encourages industry participation through a County Commissioner appointed Food Service Advisory Committee to receive policy recommendations. In the last four years, this committee has recommended 1) posting of inspection results on our agency website for the public to view, 2) implementing a non-licensure imminent public health threat enforcement ordinance, 3) implementing an online food handler testing program, 4) collecting penalty fees, 5) recommending consumer advisory practices with restaurants serving raw or undercooked food, and 6) implementing manager training classes. MCEHS has addressed all of these recommendations. ***Vector and Nuisance Control Advisory Group*** The 2004 CDC Capacity Building grant provided the opportunity for additional external input to MCEHS services. MCEHS created a County Commissioner Appointed Vector and Nuisance Control Advisory group. The group consists of 12 members representing citizens, industry, community-based organizations and government. The Advisory group provides policy recommendations that further improve public health consumer protection.

**Community Educational Outreach**: ***Increase Our Ability to Educate Diverse Food Handlers about Food Safety Practices*** Education is the best means to provide food service workers with critical knowledge and skills that will enable them to store and prepare food safely minimizing the risk of FBI outbreaks. Industry surveys indicate that food service workers consistently show a lack of knowledge of basic food handling techniques. Some studies have revealed that many food service workers thought they had adequate knowledge of safe food handling techniques, but in actuality, they did not. In addition to the lack of knowledge among food service workers, Multnomah County has a high number of food workers who are unable to read English. This is due in part to the increased numbers of refugees and immigrants working in the food industry whose basic knowledge of food safety is very different from a typical, American-born individual. For example, during the period of December 2001 through April 2002, 8115 persons with at least 13 different languages applied for a food handler certificate. Of these, 30% had less than a high school education. About 10% had less than 6th grade education. The overall failure rate for first time English food certification test takers is 16%. This compares to 48% for Chinese and 68% for Spanish with varying results in other languages. MCEHS needed to provide more appropriate, understandable Food Handler training in multiple languages. Due to the diversity of

languages and cultures in the County, it was clear that MCEHS needed to build the capacity to offer culturally competent and linguistically appropriate methods to educate the public about food safety. FDA estimates 400% turnover per year among retail workers and 100% among food service managers, which makes it difficult to maintain an adequately trained food handling workforce using culturally and linguistically competent means. MCEHS provides food handler training opportunities and testing for approximately 15,000 - 20,000 annually at over 50 locations throughout the metropolitan area, including community college campuses, public schools, food banks, health centers, grocery stores, social service organizations, and community centers. Over the past 5 years, MCEHS has developed 6 different methods to educate food industry workers including: 1) books for print learners (English, Spanish, Chinese, Russian, Vietnamese, Korean); 2) written test (English, Spanish, Chinese, Korean, Russian and Vietnamese); 3) CD tests for Audio learners (English, Spanish, Bosnian, Cambodian, Cantonese, Mandarin, Hindi, Japanese, Korean, Russian, Tagalog, Thai, Vietnamese, Arabic, Laotian); 4) computerized interactive tests for people who prefer to use the computer and go at a slower pace to ensure passing grade (English, Spanish, Vietnamese, Cantonese); 5) food safety video tailored to the newly adopted food code and designed for individuals who do not read well or have poor English skills developed with National Association of City and County Health Officials (NACCHO) grant funds (Russian, Spanish, Korean, Tagalog, Cantonese and Mandarin); and 6) Online Food Handler education and testing website (English, Spanish, Korean, Russian, Cantonese, Mandarin and Vietnamese).

Our food handler test data showed that limited English speakers had a high failure rate on the first and/or second try. Receiving the NACCHO grant allowed MCEHS to develop and translate a food safety VHS video into Russian, Spanish, Vietnamese, Tagalog, and Cantonese and Mandarin. This model will allow revisions based upon food code changes or development of additional languages tailored to emerging needs based upon immigrating populations. Evaluation of our video in 2004 showed an increase in the first time test passage rate of Spanish speakers from 68% to 93%. In 2005, MCEHS presented the video at the National Environmental Health Association conference, where the video was well received. Additionally, MCEHS is the only county in Oregon to develop an online food-handler website that is culturally/linguistically competent in 7 languages that supports both "print" learners, "oral" learners, and is geared for reaching less literate populations by using

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pictures (from the previously developed food safety video) and audio streams (from the previously developed CD tests). Once a user passes the test, they can print their state recognized food handler card. Since inception in June 2005, the website has received 66,267 hits from individuals interested in increasing their food safety knowledge and skills. The test has been taken 11,510 times (including non-paying test-takers where no card was issued, individuals who did not complete test, and those who failed test). From July 2005 through January 2006, 5,963 online Food Handler Cards were issued to persons speaking seven languages: Cantonese, English, Korean, Mandarin, Russian, Spanish, and Vietnamese.

MCEHS is working to improve access for non-English speakers and individuals without a computer, by partnering with public libraries and unemployment offices to make computers available. The website has generated $65,585 in new revenue since it began. Three other counties in Oregon, Wasco, Sherman and Yamhill have contacted MCEHS to initiate utilization of the website for their own food handler and food safety education program. In addition, the website has had a national appeal. Programs in Ohio, North Carolina and Curry County, Oregon have contacted us to acquire the oral educational and testing tools. The website received accolades from the local *Asian Reporter*. A copy of the article is appended.

**Hired a Health Educator and Community Outreach Worker To Teach the General Public About Food Safety and Food Security:** The CDC capacity building grant also provided the means to engage the community in culturally competent and linguistically appropriate ways by hiring a full-time Health Educator and part-time bilingual (Spanish) Community Outreach Worker. The Health Educator has been instrumental in providing education to local senior center participants and case managers about food safety.

**Manager/Food Worker Training Partnerships:** In 2005, 77 managers received Food Protection Manager and SERV/SAFE training which educate operators about the five risk factors that lead to critical violations that are addressed in the 1999 Food Code. MCEHS is one of the few programs in the nation to offer this training in English and Spanish.

**D. Program implementation** (Enforcement, Formal Staff Training Program and Internal Quality Assurance):

**Enforcement—Developed and Implemented an Enforcement Ordinance:** The 2002 gap analysis clearly identified that MCEHS had difficulty enforcing licensure and following up on imminent public health threats.

In 2002 an enforcement model that incorporates a Civil Penalty Ordinance was developed to improve this capacity. The ordinance ensures that MCEHS maintains a fair and equitable service system for our customers and that they have a process to appeal if they disagree with the issuance of a penalty. Lastly, it allows the agency to respond to imminent Public Health issues/events effectively that will minimize additional risks to community health.

**Formal Staff Training Program:** *Standardization Training* Since utilizing the FDA Food Program Standards to improve consistency in our food inspection program, five Environmental Health Specialists (EHS) have completed FDA standardization training and passed standardization criteria. Prior to having the computer data system and utilizing the FDA Food Program Standards, MCEHS' inspections were less consistent.

*Increase emergency preparedness*: The Health Department has long recognized the increased importance for the agency to be prepared for terrorism events and/or natural disasters—this was emphasized following the events of September 11, 2001. In disaster situations, electrical, fuel, water, sewer and communication services may be inoperable, which could severely compromise the health and safety of drinking water and food supplies. Medical and public health resources may be overwhelmed by casualties and hospitals may be inoperable increasing the potential for food, water, vector and other communicable diseases to occur. To improve our ability to respond to emergency events, MCEHS concentrated our efforts on emergency preparedness by creating a disaster response plan manual and providing staff with essential emergency response training. The manual identifies critical Environmental Health Specialist roles during a disaster and identifies how the agency will work to ensure the availability of safe drinking water to the public and prevent waterborne diseases. It also helps to identify how Environmental Health Specialists will assure safe food handling, provide information on the salvaging and proper disposal of perishable foods under emergency conditions, provide information on the sorting and proper disposal of foods which may have been contaminated, and conduct field surveys to assess damage to food facilities, shelters, and to their water and sewage systems.

**Internal Quality Assurance:** *Audit* In 2001, the Multnomah County Auditor reviewed the Health Inspections program and found that MCEHS excelled in: 1) having highly trained and skilled, professional staff; 2) identifying current structure that supports current and future work through use of a Process Improvement Team;

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3) ability to provide regulatory oversight; 4) implementing a Food Service Advisory Committee; 4) implementing a complaint system; and 5) collecting fees. *FDA Food Program Standard Audit* In 2005, MCEHS underwent our FDA review of standard # 5, *Foodborne Illness Investigation and Food Security Preparedness and Response*. MCEHS met all 25 criteria items to successfully meet standard # 5 including investigation procedures, reporting, laboratory support, trace-back procedures, recalls, media management, and trend analysis. *Triennial Review* In 2005, MCEH was reviewed by the State of Oregon food program with excellent findings.

## V. ISSUES AND CHALLENGES

**The entry should include a description of the health and environmental issues and challenges which the program sought to improve in the period selected. They should be identified in order of priority assigned to them, including the rationale and/or method used in setting the priorities.**

**Issue/Challenge:** Between 1999 and 2003, as MCEHS assessed how our food safety program met FDA Food Program Standards, it became strikingly apparent that an inadequate data system was a significant issue that needed addressing. MCEHS' data system involved inefficient, cumbersome paper tracking of inspection and FBI data that was analyzed by non-electronic human means. The results were inaccurate and/or lost data, making conclusions and recommendations non-science based. **Rationale:** Under existing operations, MCEHS did not have an adequate data system for: 1) timely tracking of payment and non-payment of license fees; 2) effectively identifying and sharing data of a suspected foodborne disease outbreak with internal and external investigational partners for quick case resolutions; 3) collecting and analyze data for risk analysis, trending, and appropriate resource allocation improving food safety and protection services for the public; 4) analyzing and correlating licensing inspection findings with foodborne outbreak data to propose or design action plans for reducing future outbreaks. Gaps in MCEHS' data resulted in formation of a new data system incorporating the following components: 1) First Star Inspection Database; 2) a Foodborne Illness (FBI) database linked to inspection information in First Star and to the Communicable Disease Office; 3) an FBI investigation manual with flow charts specifying interdepartmental communication protocols and action plans; and 4) Development of an enforcement mechanism that allows MCEHS to take timely and effective action requiring facilities to meet safe food standards.

## Objectives:

The objectives established to resolve the challenges presented above should be listed. The objectives should be a clear statement of what the program intended to achieve. The entry should describe how the program planned to measure progress or achievement of objectives and how ell those objectives were met.

During this time period, MCEHS established the following objectives to resolve our inadequate data system.

**ISSUE/CHALLENGE: Inadequate data system.** Needed to develop a data system to include inspection database, FBI database, FBI communication and response protocols with investigation manual, and enforcement mechanism.

| OBJECTIVE | METHOD OF MEASURING PROGRESS / ACHIEVEMENT | HOW WELL OBJECTIVE WAS MET |
|---|---|---|
| 1. Collect and analyze data to identify risk, trends, resource allocation and equitable treatment of food facility operators. | Development of computer data system.<br><br>Developing and implementing a risk-based pilot project based on scientific data. | Achieved.<br><br>Completed risking facilities; still working on changing public policy as this is a multiple year process. |
| 2. Make science-based policy decisions. | Ability to collect and analyze data.<br><br>Change in public policy. | Completed. Have full data collection and analysis capability.<br><br>Completed analyzing risk data; have taken initial steps to change public policy; still in process. |
| 3. Increase the number of facilities that are licensed and decrease the number of facilities that remain unlicensed. | License fee schedule that is effective and represents predictors CDC FBI risk factors.<br><br>Licensing data. | In process of changing public policy to reflect a license fee schedule that represents predictors of CDC FBI risk factors. This is multiple year process.<br><br>MCEHS has successfully decreased the number of facilities that are delinquent with their licensing requirements. |
| 4. Identify the roles of multiple agencies and disciplines that are responsible for investigating food-borne illness outbreaks. | Memorandums of Understanding developed, manual and communication process written.<br><br>Meeting FDA audit criteria | Accomplished. |

## Methods:

The entry should list and describe the innovative methods and activities employed in the program to measure the occurrences of CDC-identified foodborne illness risk factors, measure the frequency of occurrences and develop strategies to reduce occurrences.

MCED used the following innovative methods to measure the occurrences of CDC-identified risk factors so that we could develop strategies to reduce them:

1) After developing a competent data system, MCEHS developed a Standardization team, called the "Charter Workgroup" comprised of EHS staff experienced in Communicable Disease. The purpose of this group was to analyze critical violation data captured in our new data system to 1) determine if EHS staff performed inspections consistently; and 2) improve education provided to operators. Reduction of these violations in day to day operations would lower the CDC identified FBI risk factors. The new data system allowed the Charter Workgroup to generate reports specifically addressing: critical violations identified during the inspection process that remained unresolved; and complaint response time, so that we can assure timely response to CDC risk factors and public expectations.

2) Creation of the new integrated data system gave MCEHS the ability to respond to various State data requests required for the Intergovernmental Agreement.

3) MCEHS responded to triennial review findings so that we were better able to focus on the CDC FBI risk factors and to better uphold standards that provide better food protection.

4) The new integrated data system was also part of a food handling training program which produced an up-to-date food safety video in 10 languages and CD tests in 15 languages. An online food handler training and testing website whose curriculum is structured around educating operators and the public about the 5 CDC identified FBI risk factors were initiated to allow individualized training opportunities.

5) The new data system provided the agency a means to rate restaurants based on complexity, incorporating the CDC FBI risk factors into risk definitions.

6) MCEHS also analyzed the baseline study of the 5 risk factors, comparing our agency to national standards.

7) MCEHS created an enforcement mechanism which provided the agency with the authority to hold facilities accountable to standards that incorporate the foodborne illness risk factors.

## Measurable outcomes and achievements:

The entry should present quantitative data attained from baseline surveys/measurements or other valid and reliable assessment methods that demonstrate the success of the program and the impact of the program on the community by showing a reduction of the occurrence of the CDC-identified foodborne illness risk factors.

MCEHS achieved the following measurable outcomes/achievements which demonstrate our success in reducing

the occurrence of the CDC-identified foodborne illness risk factors:

| | |
|---|---|
| **ISSUE/CHALLENGE: Inadequate data system. Needed to develop a data system that includes a facility inspection database, FBI database, FBI response manual and communication process, and enforcement mechanism.** | |
| **Objective 1:** Collect and analyze data to identify risk, trends, resource allocation and equitable treatment of food facility operators; **Objective 2:** Make science-based policy decisions; **Objective 3:** Increase the percentage of facilities that are licensed and decrease the percentage of facilities that fall through the licensing crack. **Objective 4:** Identify the roles of multiple agencies and disciplines that are responsible for investigating food-borne illness outbreaks. | |

| Innovative Methods | Measurable Outcome/ Achievement Type | Measurable Baseline Quantitative Data | Measurable Present Quantitative Data |
|---|---|---|---|
| Developed a Standardization Team, called the "Charter Workgroup" to review violation data for standardization and improvement of food inspection and education program. | • Critical and non critical Violation Quantitative Data found on Critical Violation Frequency Summary Report. <br>• Standardization Reports: unresolved critical violation report. <br>• Complaint Response Time report. <br>• EHS staff FDA Program Standards trained and certified. | • 1999 0 Critical Violation data available. <br>• Critical Violations Comparison <br>Unsafe Sources: 1% <br>Inadequate Cooking: 1% <br>Improper Holding: 3% <br>Contaminated Equip: 2% <br>Poor Personal Hygiene: .7% <br>Inspections Conducted: 4500 <br>• 0 Critical Violation Frequency Summary report. <br>• 0 Standardization reports. <br>• 0 EHS trained and certified on FDA Program Standards. | • Ability to collect critical violation data. <br>• 2005 Critical Violation Comparison <br>Unsafe Sources: .03% <br>Inadequate Cooking .01% <br>Improper Holding .28% <br>Contaminated Equip: .17% <br>Poor Personal Hygiene: .10% <br>Inspections Conducted 4964 <br>• 1 Critical Violation Frequency Summary Report. <br>• 2 Standardization reports (Unresolved Critical Violation & Complaint. Response Time reports) <br>• 5 EHS trained/certified on FDA Program Standards. |
| FDA Voluntary Food Program Standards. | Audit of FDA Food Program Standard #5. | **January 2002** 12 of 25 program standard elements met. | **December 2002** 23 of 25 program standard elements met. **July 2005** 25 of 25 program standard elements met. |
| Develop a food handling training program whose curriculum is based | • Food handler test passage rate. <br>• Food handler video with most current rules and is | **FH test passage rate pre-video 2003:** <br>**English** <br>83% | **FH test passage rate with video 2005:** <br>**English** <br>89.1% written/91.3 % oral |

| Innovative Methods | Measurable Outcome/ Achievement Type | Measurable Baseline Quantitative Data | Measurable Present Quantitative Data |
|---|---|---|---|
| on educating operators and the public about the 5 CDC identified foodborne illness risk factors.<br><br>Educating diverse populations with communication challenges. | available in 10 languages.<br>• Food handler CD available in 15 languages.<br>• Food manager training and certification in 2 languages.<br>• Online computer training and testing in 7 languages. | **Spanish**<br>68% | **Spanish**<br>71.1% written/90.1% oral<br>**Chinese**<br>77.9% written/84.6% oral<br>**Vietnamese**<br>58.0% written/83.7% oral<br>**Russian**<br>65.5% written/90.9% oral<br>**Korean**<br>71.4% written/100% oral |
| Rate restaurants based on menu complexity that incorporate the CDC foodborne illness risk factors into the risk definitions. | Data pertaining to restaurant rated by menu complexity. | 0 inability to rate restaurants by menu complexity. | 2658 restaurants rated by menu complexity. |
| Conducted an FDA baseline study of the 5 foodborne illness risk factors and compared our agency to national standards so that we could focus on reducing the foodborne illness risk factors. | • FBI manual and communication flow chart.<br>• Prior to new data system FBI outbreak response was individual person centered. With new data system response is process oriented that increased capacity for all EHS staff to respond. Mechanism in place for cross-training of process and responsibilities.<br>• Staff and multiple agencies know their roles regarding FBI response.<br>• Comparison of # of investigations to # of confirmed outbreaks indicated a strong correlation meaning new data system is effective.<br>• MCEHS inspection model consistent with FDA identification of CDC risk factors.<br>• FDA base-line study and | • 0 FBI manual.<br>• 0 Communication flow chart.<br>• 0 MOUs with agencies involved with FBI outbreaks.<br>• 0 unable to correlate # of FBI investigations to # FBI outbreaks confirmed.<br>• 0 jurisdictions throughout nation in compliance with FDA program Standard 5. | • 1 FBI manual.<br>• 1 FBI communication flow chart.<br>• 4 MOUs with ODA, DHS, MCEHS, MC Health Department Communicable Disease.<br>• 96% of all FBI investigations are confirmed outbreaks.<br>• According to the FDA website 16 out of 187 jurisdictions in nation self-assess that they are compliant with FDA Program Standard # 5. An FDA audit confirmed MCEHS self-assessment and recognized us as fully compliant. |

| Innovative Methods | Measurable Outcome/ Achievement Type | Measurable Baseline Quantitative Data | Measurable Present Quantitative Data |
|---|---|---|---|
| | assessment of risk are comparable.<br>• In compliance with Food Program Standard # 5. | | |
| Created an enforcement mechanism which provided the agency with the authority to hold facilities accountable to standards that incorporate the foodborne illness risk factors. | Presence of civil penalty ordinance.<br><br><br><br><br>Deputized enforcement officers. | 0 Civil Penalty ordinance.<br><br><br><br><br>0 deputized enforcement officers. | 1 Civil Penalty ordinance.<br><br><br><br><br>4 deputized enforcement officers. |

## VII. REFERENCES

1. Multnomah County Health Department Office of Planning and Development (2003), "The Environmental Health of Multnomah County 2003": 28-29.

2. California Conference of Directors of Environmental Health (1994), "Disaster Field Manual" Association of Environmental Health Administrators: 2-1 – 2-15.

3. U.S. Department of Health and Human Services (1999), 1999 Food Code, Washington DC: Food and Drug Administration.

4. U.S. Census Bureau 2000 Census.

5. U.S. Department of Labor.

6. Oregon Employment Office.

## VIII. APPENDIX

- Letters of Support

- Asian Reporter News Article

- 2002 Gap Analysis

- 2005 Gap Analysis

- Release Form

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**(503) 731-4030 - Emergency**
(503) 731-4012
(503) 731-4077 - FAX
(503) 731- 4031 - TTY-Nonvoice

March 4, 2006

Re: Samuel J. Crumbine Award Application

The Crumbine Award
Foodservice & Packaging Institute Inc.
150 South Washington St. Suite 204
Falls Church, VA 22046

Dear Award Reviewers:

I am pleased to support Multnomah County Environmental Health Services'
application for the 2006 Samuel J. Crumbine Consumer Protection Award. As the
Centers for Disease Control & Prevention's Environmental Health Specialist Network
(EHS-Net) Site Representative for Oregon, and the Department of Human Services
Oregon State Public Health I have had the pleasure of working with Multnomah
County Environmental Health Services Program on a variety of projects of importance
to the environmental health field. I have worked closely with MCEHS' comprehensive
food and beverage sanitation program over the past six years and have witnessed their
success in providing outstanding food protection services to their community.
Multnomah County Environmental Health has demonstrated excellence through
achieving the following environmental health Food Protection outcomes:

- Developing and implementing quality Environmental Health Services
  that reach a diverse community consisting of multiple languages and
  cultures;
- Building capacity to implement new services without compromising
  regulatory functions;
- Developing the internal infrastructure to respond to bio-terrorism and/or
  natural disaster events;

*"Assisting People to Become Independent, Healthy and Safe"*
An Equal Opportunity Employer                         HSS 9292 (01/03)

- Implementing a comprehensive food and beverage sanitation program during an era of fiscal constraint;
- Providing extensive training and leadership to their regulatory staff;
- Using technology to the fullest to protect their community.

MCEHS is an exemplary local governmental health unit that has demonstrated unsurpassed achievement in developing innovative methods to improve and protect public health in Multnomah County. They are very deserving of this award. Thank you for your consideration of their application.

Sincerely,

James C. Mack, REHS, MPA
Environmental Health Emergency Preparedness Specialist
Food, Pool, Lodging Health & Safety
Office of Public Health Systems
Health Services Cluster
Department of Human Services

The Crumbine Award                                          February 23, 2006
Foodservice & Packaging Institute Inc.
150 South Washington St. Suite 204
Falls Church, VA 22046

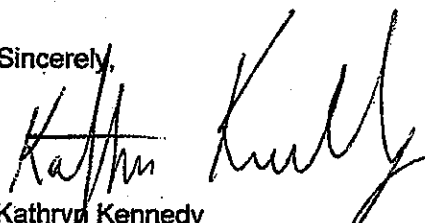re: Samuel J. Crumbine Award Application

Dear Award Reviewers:

I am pleased to support Multnomah County Environmental Health Services' application
for the 2005 Samuel J. Crumbine Consumer Protection Award. I am a restaurant operator
who has been in the Hospitality Industry for over 25 years. I am a past president of the
Oregon Restaurant Association and serve on advisory boards for various City, County and
State agencies. For the last twelve years I have worked closely with Multnomah County's
comprehensive food and beverage sanitation program and have witnessed their success in
providing outstanding food protection services to our community. Multnomah County
Environmental Health has demonstrated excellence through achieving the following
environmental health Food Protection outcomes:

- Developing and implementing quality Environmental Health Services that reach a
  diverse community consisting of multiple languages and cultures;
- Building capacity to implement new services without compromising regulatory
  functions;
- Developing the internal infrastructure to respond to bio-terrorism and/or natural
  disaster events;
- Implementing a comprehensive food and beverage sanitation program during an era
  of fiscal constraint;
- Providing extensive training and leadership to their regulatory staff;
- Using technology to the fullest to protect their community;
- Going beyond Oregon State Health Department requirements in this County's
  implementation of the U. S. Public Health Service Food Code;
- Reaching out to the community it serves by soliciting input from both the citizens it
  protects as well as the industries it regulates.

Multnomah County Environmental Health Service is an exemplary local governmental
health unit that has demonstrated unsurpassed achievement in developing innovative
methods to improve and protect public health in Multnomah County. They are very
deserving of this award!

Thank you for your attention to my opinion and for your consideration of their application.

Sincerely,

Judy Craine
Holman's Bar & Grill

February 22, 2006

Re: Samuel J. Crumbine Award Application

The Crumbine Award
Foodservice & Packaging Institute Inc.
150 South Washington St. Suite 204
Falls Church, VA 22046

Dear Award Reviewers:

I am pleased to support Multnomah County Environmental Health Services' application for the 2006 Samuel J. Crumbine Consumer Protection Award. As the lead FDA Regional Food Specialist in Oregon, I have the opportunity to work with MCEHS on many initiatives. Though my role is to provide technical support to them, more often than not, they have been the leader by providing information, templates, and innovative approaches that both FDA and other jurisdictions have been able to use as models for program improvement. I have worked closely with MCEHS' comprehensive food and beverage sanitation program over the past six years and have witnessed their success in providing outstanding food protection services to their community. Multnomah County Environmental Health has demonstrated excellence through achieving the following environmental health Food Protection outcomes:

- Developing and implementing quality Environmental Health Services that reach a diverse community consisting of multiple languages and cultures;
- Building capacity to implement new services without compromising regulatory functions;
- Developing the internal infrastructure to respond to bio-terrorism and/or natural disaster events;
- Implementing a comprehensive food and beverage sanitation program during an era of fiscal constraint;
- Providing extensive training and leadership to their regulatory staff;
- Using technology to the fullest to protect their community.

MCEHS is an exemplary local governmental health unit that has demonstrated unsurpassed achievement in developing innovative methods to improve and protect public health in Multnomah County. They are very deserving of this award. Thank you for your consideration of their application.

Sincerely,

Kathryn Kennedy
FDA Regional Food Specialist

**Where EAST meets the Northwest**

From *The Asian Reporter*, V15, #26 (June 28, 2005), page 1.

### Food handler test available online in Asian languages

The Multnomah County Environmental Health Program's food handler manual and practice test are now available online in seven languages, offering a convenient way to obtain a food handler license. The manual and test, available in Vietnamese, Cantonese, Mandarin, and Korean as well as Russian, Spanish, and English, include both visual and audio components to help non-native English speakers better understand food-handling information.

To take the test online, applicants need someone to monitor the test, a debit or credit card, and an e-mail account. Upon passing the test, a Food Handler Certificate, which is valid for three years from the exam date, can be printed.

The online manual and tests can be accessed from <www2.co.multnomah.or.us/FoodHandlerCard> or <www.mchealthinspect.org>. The test is also available at a kiosk in the Environmental Health Program office at 727 N.E. 24th Avenue in Portland. To learn more, call (503) 988-5257 or (503) 988-3400.

Attachment 19

**Essential Service #1**

**Monitor health status to identify community EH problems**

Standard: A systematic approach to collect and analyze data on Environmental Health hazards that puts a population at risk.

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Does the local public health system have a system in place to assess environmental health threats? | • FBI database and system for threat identification<br>• West Nile Virus surveillance<br>• Data capacity in inspection program to identify critical violations that relate to potential health threats<br>• Ability to perform analysis and trending for Lead Prevention and identify need for community education | • Active surveillance of Food Water and Vectorborne Illnesses<br>• Collection & analysis of critical violations related to FBI<br>• Promote Lead Screening<br>• Promote active relationship with new Epidemiologist |
| Does the local EH agency have a formal system in place to acquire community input? | • Food Service Advisory Board<br>• PACE/EH process<br>• Informal and sporadic surveys | • Active and formal methodology to acquire community/stakeholder input (surveys/focus groups) |
| Do you have the ability to access information on health hazards and accurate assessment of risk? | • West Nile Virus surveillance (chickens, crows, community)<br>• Trending analysis of fBI complaints and illness | • Acquire and assess health hazards and risk in non-regulatory programs<br>• Identify risk model for facilities |
| Can the EH department communicate to the community/population at risk? | • Training on risk communication has occurred<br>• Protocols and system are in place for response<br>• Proactive capacity for health education minimally performed | • Assess population at risk<br>• Provide culturally competent communications<br>• ID protocols re: media communications |

**Essential Service #2**

**Diagnosing and investigating EH hazards and problems**

Standard: There is the ability to investigate and diagnose from an environmental cause of contribution

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Do you have the authority and resources to investigate or analyze EH problems? | • Authority is present as it relates to Health Officer role.<br>• Authority is present as it relates to delegated authority for inspected programs. | • Develop expertise and resources to identify and respond to non-regulated EH issues.<br>• Acquire resources to fully investigate and analyze illegal dumping |
| Is 24/7 epidemiology capacity available? | • Capacity is present to respond to short-term outbreaks/disease investigations and 24/7 system is in place. | • Develop expertise and capacity to sustain disease identification, response and control without reducing delegating program activities |
| Is Lab and communicable disease surveillance capacity available to investigate potential problems? | • Laboratory and communicable disease capacity is present for passive surveillance | • Laboratory and communicable disease(including Vector Borne Disease) capacity needs to be developed for identification of health threats through active surveillance |
| Do you have a memorandum of agreement with all the agencies involved in environmental health hazards/risks? | • A memorandum of agreement exists between Health Services and Dept of Agriculture<br>• Understanding exists with other agencies involved in specific delegated functions<br>• Other agency relationships are being developed as a result of bioterrorism activities | • Identification and knowledge of multi-agency environmental health roles and responsibilities needs to be clarified<br>• Development of MOA needs to be formalized focusing on contiguous counties |
| Do you have a formal relationship with organizations that do similar work? (occupational, ecology etc. | • Formal relationships exist with Health Services, Dept of Agriculture, Dept of Education, Child Care Division | • Role identification should be enhanced with DEQ, Housing… |

**Essential Service #3**

**Informing, educating and empowering people about EH issues**

Standard: Mechanism exists to inform and educate the community and interested parties in Environmental Health issues and concerns

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Does and EH advisory group exist? | *Initial stages being developed through PACE* | *Create sustainable advisory groups that encompass non-food and general EH* |
| Do you have a system for rapid dissemination of information? | *Yes, call down lists. Cellular phones. Procedures in place* | *Need 800 mhz radios* |
| Do you have connections with other agencies and staff to communicate relevant information? | *Yes. Current lists of critical contacts* | *Need capacity at Dept level to maintain currency and consistent distribution, testing* |
| Does your staff have the skills/ability/competency to effectively communicate with different communities? (ethnic groups, tribes, gender, subcultures, belief systems, deer hunters?) | *Believe understanding of principals exist and knowledge about obtaining resources* | *Requires constant attention Translate materials into necessary languages (including web based materials)* |

**Essential Service #4**

**Mobilizing partnerships to identify and solve EH problems**

Standard: The jurisdiction actively works with community partners to address Environmental Health concerns and issues

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Are all the stakeholders/interested parties identified? | Yes for Nuisance<br>No for majority of programs | Utilize PACE and/or other processes to assure development of current and relevant stakeholders are identified and engaged |
| Do you have a partnership with an academic organization/EH school? | Portland State University—Moderate<br>OHSU—Minimal<br>OSU—Minimal<br>U of O—NO | Need to develop relationships to support workforce development, internships, research |
| Do you have a guide/directory of community partners? | Yes. Current information and referral directory of associated agencies exists | Review and revise guide regularly |
| Have the community groups you've educated/informed/outreached become partners? | To varying degrees | Increase outreach and relationships development with Hungry Portland, Food Alliance, PACE EH partners |

**Essential Service #5**

**Developing policies and plans that support EH efforts**

Standard: A process exists to define an issue, explore options, select a role for government and design a plan of action

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Do you have a system in place to identify priorities? | *Contractual obligations are first priority. PACE EH will support identification of issues and prioritization of issues* | *Acquire ongoing capacity for PACE EH* |
| Do you know who EH policy makers are inside and outside your organization? | *Internally, yes. Externally, limited* | *Acquire internal support to maintain systems allowing for higher level of community engagement* |
| Are there leaders, champions, the political will, local political organizations (local Board of Health) that support your work? | *Yes, Food Service Advisory Board. Board of County Commissioners. Administration Yes, Lead Poisoning Prevention Coalition* | *State Health Services provides limited support and needs encouragement to embrace public health principals. No Vector Control state program/leadership* |
| Do you have access to policy makers? | Yes | |
| Do the decision-makers in the EH department receive training in policy? | *Assume policy training is a hiring expectation* | *Desire attendance and opportunity cost resources for attendance and public health leadership training for appropriate personnel* |

**Standard # 6**
**Enforcing laws and regulations that protect health and ensure safety**
Standard: Compliance with EH laws is accomplished by appropriately qualified personnel in a fair and expedient manner

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Do you have a system in place for evaluating the effectiveness of laws, regulations, enforcement and compliance? | *Partially. Data is available to analyze Food and Pool regulatory programs. Data not readily available for Lead Poisoning Prevention* | *Analytical capacity does not currently exist to capture results Analyze and prioritize existing laws Review existing laws to identify consistency with PH remediation Clarify policy regarding activity and enforcement of laws* |
| Are your laws and regulations clear and understandable and interpretable? Are they reviewed regularly? | *Passage of the 99 Food Code moved in the right direction. Informal review takes place regularly.* | *Establish methods for ongoing review and analysis* |
| Is there a process for you to bring forward to policy makers rules that are often not being complied with, etc.? | *Yes, for inspections program evidenced by passage of civil penalty ordinance. No for lead* | *Capacity does not currently exist to perform the work necessary for lead paint remediation review.* |
| Is there a system in place to get feedback from the regulated community? | *Informal. Partially through FSAB and inspections* | *Need to perform ongoing surveys, focus groups etc.* |
| Is there a system to identify public/environmental health responsibilities in the event of health threats? | *Partial role development has been identified* | *Further clarification and training needs to be performed/conducted* |
| Do you have access to legal advice/resources? | Yes | *Clarify resources available and prioritization of requests and anticipated responsibilities* |
| Do you have a way to ensure consistency and standardization? | *FDA Food Program Standards. Charter Work Group* | *Charter Work Group needs to complete project. Trending analysis support needs to be provided for workgroup recommendations. Inspector standardization project needs to be implemented. Inspection capacity is not currently present to approach aggressively due to dual inspection requirement.* |
| Are rules evaluated routinely for validity and due process? | *Adoption of FDA Food Code & development of Pool rules have identified this effort as a byproduct.* | *Food Handler rules & Civil Penalty rule development process has been inconsistent with validity and due process.* |

**Essential Service #7**

**Linking people to needed EH services and assuring the provision of EH services when otherwise unavailable**

Standard: Do all citizens have equal access to environmental health services or referral as needed

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Are there assessed needs that are unmet identified and addressed? | *No, clearly need for intervention regarding indoor air quality, mold & mildew. Substandard housing* | *Complete PACE EH. Initiate partnerships and write grants, create political will to address needs.* |
| Are unmet needs catalogued and reasons for needs not being met identified? (ie barriers such as language, culture, resources) | *No, ideally part of PACE EH, in initial stages* | *Continue to seek resources to engage community in PACE EH process with development of solutions.* |
| Does a mechanism exist to overcome unmet needs? Such as a process to mobilize community support, and engage and empower community in order to create political will. Or a process to address needs by identifying appropriate resources | *See above* | *See above* |
| Is emergency contact available 24/7? | *Yes with the limitation that land and cellular phone connections are necessary* | *Acquire 800 mhz radios for key EH/CD/Personnel Health* |

**Essential Service #8**

**Assuring a competent EH workforce**

Standard: EH services and programs are delivered and managed by competent staff

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Is there a level of academic/education, experiential and testing competencies that all staff meet that are appropriate for their responsibilities? | *Yes, all inspection staff must be RST or RS*<br>*Yes, all Vector Staff must have Pesticide Applicator license* | *Implement formal OA Training*<br>*Review supervisory roles for RST and provide defined oversight*<br>*Utilize Food Program standard for RS* |
| Is there a standard for required competencies based on individual positions? | *Only generally by job description, not position description* | *Needs refinement* |
| Are there training plans for staff to improve the skills, knowledge and abilities needed for that position? | *Nonspecific. Continuing Education money budgeted for each EHS at $300*<br>*Formal orientation of new hires is performed* | *Need to incorporate into each persons work plan to match identified and required needs with appropriate support* |
| Do you hire, recruit, retain, and promote a workforce that reflects the community? | *This is a strong management desire reflecting in most recent hiring* | *Cast a wide net in seeking applicants.*<br>*Continue efforts at providing a welcoming atmosphere* |

**Essential Service #9**

**Evaluating the effectiveness, accessibility and quality of EH services**

Standard: A system exists to continuously improve program services

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Is there a process or system in place to measure/evaluate your program's effectiveness? | *Food Program only, through Food Program Standards. Implementation slow due to time and resource constraints* <br><br> *Robust Food Borne Illness system under development* | *Needs further development* <br><br> *Identify method to engage community in feedback loop* <br><br> *Create Vector Control Advisory Committee* |
| Do you measure outcomes/performance standards? | *Initial work with Planning & Development (air quality, water quality, food, vector). Lacking information, resources and point person.* | *Needs further development* |
| Is there a process for obtaining feedback from the effected/regulated community as to how effective your program is? | *Food Service Advisory Board is the only formal feedback loop.* | *Identify, develop and implement methods* |
| Are changes made in response to the evaluations and feedback? | *Yes, from FSAB* <br> *Yes, Lead Poisoning Prevention Coalition* | |

**Essential Service # 10**

**Identification of new insights and innovative solutions to EH problems**

Standard: There is the ability to identify and pursue emerging issues through research or to apply innovation in the workplace

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Is there a process/system to identify research needs? | *Informal identification. Example: Food Handler Testing. Training. Relationship between inspections, FBI violations, trend analysis of FBI* | *Utilize Functional Team to support identification of items needing research* |
| Do you know the resources available to you and your organization to meet these needs? | *Partially. Primarily grants NACCHO, FDA education* | *Develop stronger relationships with higher education* |
| Is there an awards program for innovative solutions? | *No* | *Create an Awards Program* |
| Do you feel you have the freedom to advance new ideas, make mistakes and admit failures? | *Yes* | *Resources lacking for project management. Current management of all research and resource grants falls to EH manager with the exception of the Lead Program.* |
| Do you have discretionary funds available to research or solve problems creatively? | *No* | *EH funds currently limited to license fees* |
| Do you have the capacity to seek funding, apply for grants, and identify partners for research projects? | *Yes. Primarily through Planning and Development* | *Need to clearly identify needs and focus on public health and community priorities Identify primary Planning and Development contact for resource support Clarify resources available, prioritization of requests and anticipated response time.* |

## Multnomah County Environmental Health Services
## Essential Services Gap Analysis Abstract and Gap Analysis
### December 2, 2005

**Background:**

Facing ever-increasing demand for environmental health services in an era of government budget tightening, Multnomah County Environmental Health Services (EHS) is dedicated to a systems-based approach to improving environmental health problems in order to maximize its limited resources to protect the public's health. In 2002, EHS conducted a preliminary analysis of its service system to determine its current capacity, and to find critical gaps in services using the 10 Essential Services Framework developed by Carl Osaki, RS, MSPH from the University of Washington. Once the gaps were identified, EHS focused their efforts on locating new revenue and resources to build the capacity to address these critical gaps. During this time period, EHS applied and received the following new grants and resources:

1) CDC 3-year $300,000 Essential Services Capacity building grant;
2) Public Health Prevention Specialist position funded for two years by CDC;
3) HUD 3-year $980,000 Healthy Home grant;
4) 1-year $30,000 EPA Asthma Trigger Reduction grant;
5) 1 – year EPHT data tracking grant;
6) 1-year $30,000 NACCHO Food Safety Education grant;
7) In partnership with DHS Lead Poisoning Prevention program EPA Lead grant EHS awarded $20,000 to conduct lead outreach to the African Refugee population.

With the addition of these new resources, Multnomah County Environmental Health Services was able to expand and improve program services. Some of the improvements include:

- Hiring a Program Development Specialist
- Hiring a Health Educator
- Hiring a Community Outreach Worker – Bilingual Spanish
- Hiring a Community Environmental Health Outreach Worker for Healthy Homes and EPA Lead project
- Hiring a Community Health Nurse for Healthy Homes project
- Development of a Community Services team to conduct environmental health education and outreach
- Development of a Environmental Health (including Vector and Nusiance)Advisory Board
- Enhancing Vector mosquito surveillance laboratory equipment (Microscope, camera, monitor)

- Implement a restaurant risk rating pilot project to determine whether menu complexity or seating capacity is a better predictor of critical violations and food-borne illness outbreaks.
- Developing an internship program
- Engage in collaborative research project
- Developing an asthma trigger consultation program in childcare centers
- Developing an assessment and intervention program for asthma triggers and other environmental health hazards in low-income homes in Multnomah County
- Capacity to staff and conduct Protocol for Accessing Community Excellence in Environmental Health (PACE-EH) functions
- Development and implementation of a Community-based "Our Environment Our Health" Fair in N/NE Portland
- Development of an online food handler testing database in 7 languages.
- Development of a food safety video in 7 languages

## Gap Analysis of 2005:

In November, 2005, EHS felt is was important to revisit the gap analysis of 2002, to determine if their capacity building efforts were successful in filing the critical gaps identified during the 2002 analysis. The functional team (consisting of personnel representing every program and service provided in EHS) convened to conduct a similar analysis as to what was conducted in 2002. The chart on pages 4-25 illustrates the revised analysis. The items in blue indicate the capacity that was built between 2002 and 2005, the items in red represent the gaps address by the items in blue, and the green items reflect new gaps identified that the functional team would like to address in the current and future year(s).

## Summary of 2005 Gap Analysis:

The overarching theme discussed during the 2005 gap analysis was the importance for EHS to maintain the capacity that was built during the 2002 – 2005 time period. EHS will focus its efforts on sustaining the items bulleted above (also found in blue on subsequent pages 4-25) so that no current capacity is lost. In addition, the group prioritized which Essential Services to focus on in future strategic planning efforts. The Functional Team placed more priority on building capacity on Essential Services that contained the most gaps (items in green on pages 4-25). The chart below identifies how many critical gaps were identified for each Essential Service. Through this prioritization process, Essential Service number 1, 2 and 6 will be the first addressed through future EH Strategic Planning.

The following chart identifies the number of new critical gaps identified for each Essential Service:

| Essential Service Number | Essential Service | Number of Gaps Identified |
|---|---|---|
| 1 | Monitor health status to identify community EH problems | 11 |
| 2 | Diagnosing and investigating EH hazards and problems | 11 |
| 3 | Informing, educating and empowering people about EH issues | 5 |
| 4 | Mobilizing partnerships to identify and solve EH problems | 3 |
| 5 | Developing policies and plans that support EH efforts | 2 |
| 6 | Enforcing laws and regulations that protect health and ensure safety | 6 |
| 7 | Linking people to needed EH services and assuring the provision of EH services when otherwise unavailable | 3 |
| 8 | Assuring a competent EH workforce | 0 |
| 9 | Evaluating the effectiveness, accessibility and quality of EH services | 0 |
| 10 | Identification of new insights and innovative solutions to EH problems | 3 |

**Next Steps:**

- Maintain current capacity through County-wide budget program offer process.
- Conduct strategic planning to identify goals, objectives, outcomes, and action steps to address critical gaps identified in Essential Service number 1, 2, and 6.
- Present abstract to Health Department for approval and support.

# Multnomah County Environmental Health
# 10 Essential Services Gap Analysis of 2005

**KEY:**

| | Increased Capacity |
|---|---|

| | Filled critical gap by items in blue |
|---|---|

| | Functional team added these concepts to the analysis on 11/30/05 |
|---|---|

**Essential Service #1**

**Monitor health status to identify community EH problems**

Standard: A systematic approach to collect and analyze data on Environmental Health hazards that puts a population at risk.

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Does the local public health system have a system in place to assess environmental health threats? | • FBI database and system for threat identification<br>• West Nile Virus surveillance<br>• Data capacity in inspection program to identify critical violations that relate to potential health threats<br>• Ability to perform analysis and trending for Lead Prevention and identify need for community education<br>• Enhanced lab capacity to conduct active mosquito surveillance (Essential Services grant)<br>• Currently collecting and analyzing | • Active surveillance of Food Water and Vectorborne Illnesses<br>• Collection & analysis of critical violations related to FBI<br>• Promote Lead Screening<br>• Promote active relationship with new Epidemiologist<br>• Media Monitoring (i.e. database from Canada); Need personnel to research/monitor<br>• No way to capture emerging health threats |

| | | |
|---|---|---|
| *critical violations related to FBI ( Risk Rating Pilot project Essential Services grant.* | • African Refugee lead screening outreach (EPA lead grant) | • Active and formal methodology to acquire community/stakeholder input (surveys/focus groups) |
| *Does the local EH agency have a formal system in place to acquire community input?* | • Food Service Advisory Board<br>• PACE/EH process<br>• Informal and sporadic surveys<br>• Vector and Enforcement Advisory Board (Essential Services grant)<br>• Evaluation systems in place for all grant funded and Community Service Self-Directed Team projects | |
| *Do you have the ability to access information on health hazards and accurate assessment of risk?* | • West Nile Virus surveillance (chickens, crows, community)<br>• Trending analysis of JBI complaints and illness<br>• Risk rating pilot project (Essential Services grant)<br>• Acquired Indoor Air quality and lead health hazards (Healthy Homes grant)<br>• Acquired indoor air and asthma health hazards ( EPA Asthma grant)<br>• WNV and possible rodent surveillance through enhanced vector lab capacity (Essential Services grant) | • Acquire and assess health hazards and risk in non-regulatory programs<br>• Identify risk model for facilities<br>• Lack epidemiology and statistician<br>• More equipment on indoor air quality, continuing funds after Healthy Homes<br>• Link to Master Home Environmentalist Program |
| *Can the EH department communicate to the community/population at risk?* | • Training on risk communication has occurred<br>• Protocols and system are in place for response<br>• Proactive capacity for health education minimally performed | • Assess population at risk<br>• Provide culturally competent communications<br>• ID protocols re: media communications<br>• Sponsor community trainings that |

| | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| | • Health Educator hired to communicate with public (Essential Services grant)<br>• Bilingual Outreach Worker hire to communicate with public (Essential Services grant)<br>• Outreach worker funded to communicate with African Refugee population (EPA Lead grant)<br>• PHPS hired to communicate with community at risk of unhealthy homes and PACE-EH (PHPS application, Healthy Homes application)<br>• Developed a Community Response Plan for imminent Health Threats<br>• Community Services Self-directed Team developed<br>• Developed the WNV go kit<br>• Developed business continuity plan<br>• Online Food Handler testing database in 7 languages (Essential Services grant) | • support development of sound public health policy<br>• Develop stable funding for education<br>• Stable funding to support temporary workers of multiple cultures/ethnicities<br>• Established system to use funding within education position<br>• Take the database of EH documents and ensure translation in multiple languages and educational information is current<br>• Ensure documents on website |

## Essential Service #2
**Diagnosing and investigating EH hazards and problems**

Standard: There is the ability to investigate and diagnose from an environmental cause of contribution

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Do you have the authority and resources to investigate or analyze EH problems? | • Authority is present as it relates to role of Health Officer.<br>• Authority is present as it relates to delegated authority for inspected programs.<br>• Working on Social Marketing project for mold/mildew regulation | • Develop expertise and resources to identify and respond to non-regulated EH issues.<br>• Acquire resources to fully investigate and analyze illegal dumping<br>• Analyze mold and mildew as an |

| | and enforcement | <br>• emerging health threat<br>• County-wide Vector Enforcement<br>• County-wide/Metro-wide Housing Enforcement (improve existing City of Portland enforcement)<br>• Review current codes (i.e. update Chapter 15)<br>• BT funds? |
|---|---|---|
| Is 24/7 epidemiology capacity available? | • Capacity is present to respond to short-term outbreaks/disease investigations and 24/7 system is in place.<br>• Hired additional part-time temporary EHS to fill gaps via Essential Services grant | • Develop expertise and capacity to sustain disease identification, response and control without reducing delegating program activities<br>• Sustain capacity that was previously built in responding |
| Is Lab and communicable disease surveillance capacity available to investigate potential problems? | • Laboratory and communicable disease capacity is present for passive surveillance<br>• Enhanced vector lab with new equipment to conduct more active surveillance (Essential Services grant)<br>• FBI investigation manual<br>• Bioterrorism protocols<br>• WNV go kit protocols | • Laboratory and communicable disease(including Vector Borne Disease) capacity needs to be developed for identification of health threats through active surveillance<br>• Protocol description of State of Oregon/CDC lab process and staff training (CD team)<br>• Research other lab resources.<br>• Build partnerships with identified resources.<br>• No rodent surveillance |
| Do you have a memorandum of agreement with all the agencies involved in environmental health hazards/risks? | • A memorandum of agreement exists between Health Services and Dept of Agriculture<br>• Understanding exists with other | • Identification and knowledge of multi-agency environmental health roles and responsibilities needs to be clarified |

| | | |
|---|---|---|
| | • agencies involved in specific delegated functions<br>• Other agency relationships are being developed as a result of bioterrorism activities<br>• Role clarification of housing , asthma, community(healthy) homes grant. MOA will be developed.<br>• Community response plan for imminent health threats to identify partner agencies to disseminate information in environmental health event | • Development of MOU needs to be formalized focusing on contiguous counties<br>• Develop MOUs to support Healthy Homes grant focused on housing issues.<br>• Grid of primary responsibilities by agency<br>• Investigate expansion of METRO services' coverage (structure, place for inter-regional relationships); strengthen understanding of interference of METRO on EH issues |
| Do you have a formal relationship with organizations that do similar work? (occupational, ecology etc. | • Formal relationships exist with Health Services, Dept of Agriculture, Dept of Education, Child Care Division, Housing community (BHCD, HAP, PDC, Affordable Housing), Asthma Community(ALA, DHS Asthma program, University and Colleges (PSU, OSU, OHSU, PCC, Mt. Hood Community College, Univ. of Oregon) | • Role identification should be enhanced with DEQ, Housing...<br>• Grid concept |

## Essential Service #3

### Informing, educating and empowering people about EH issues

Standard: Mechanism exists to inform and educate the community and interested parties in Environmental Health issues and concerns

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Does and EH advisory group exist? | Vector Advisory group will be bridged with FSAC to be EH Advisory Group | Create sustainable advisory groups that encompass non-food and general EH <br> Ensure stable funding and/or sustainability of Advisory Group |
| | **Initial stages being developed through PACE** | **Develop text messaging capacity** |
| Do you have a system for rapid dissemination of information? | Yes, call down lists. Cellular phones. Procedures in place. Nextell phones with two-way radio capabilities | |
| Do you have connections with other agencies and staff to communicate relevant information? | Yes. Current lists of critical contacts <br> Community Response Plan <br> WNV Go Kit <br> Bioterrism plan <br> Business Continuity Plan | Need capacity at Dept level to maintain currency and consistent distribution, testing <br> Grid concept |
| Does your staff have the skills/ability/competency to effectively communicate with different communities? (ethnic groups, tribes, gender, subcultures (such as deer hunters and golfers), belief systems) | Believe understanding of principals exist and knowledge about obtaining resource <br> • Outreach/Education materials inventory <br> • Bilingual Outreach Worker hired <br> • Health Educator hired with extensive experience working with | Requires constant attention <br> Translate materials into necessary languages (including web based materials) <br> Test Somali outreach materials as a model for developing culturally competent communications <br> Retain capacity |

*diverse minority cultures*

- *Outreach/education materials beginning to translate into alternative languages*
- *Online-food handler testing available in 7 languages*
- *Outreach display board in Spanish*
- *Staff attend diversity conference and ongoing cultural trainings*
- *Networking being done in Hispanic/Latino community*
- *Outreach being conducted in African Refugee population*
- *Lanuage services available in MC*
- *Health Fair developed and implemented which was accessible to various cultures/languages*
- *EH/Vector Website*

*Training on interview/hiring process to be more culturally competent*

## Essential Service #4
**Mobilizing partnerships to identify and solve EH problems**
Standard: The jurisdiction actively works with community partners to address Environmental Health concerns and issues

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Are all the stakeholders/interested parties identified? | Yes for Nuisance | Utilize PACE and/or other processes to assure development of current and relevant stakeholders are identified and engaged |
| | *Housing community identified (Healthy Homes grant)* | engaged |
| | *African Refugee community identified (EPA Lead grant)* | On-going |
| | *Child care community identified (EPA Asthma grant)* | |
| | *Asthma community identified* | |

| | | |
|---|---|---|
| | (Healthy Homes grant)<br>• Colleges and Universities identified (Essential Services grant)<br>• Vector and Nuisance Advisory board(Essential Services grant).<br>• Homeless/Hungry community<br>• Health Fair resulted out of partnerships with environmental health agencies outside the county and state jurisdiction. | Need to develop relationships to support workforce development, internships, research |
| Do you have a partnership with an academic organization/EH school? | Portland State University—Moderate<br>OHSU—Minimal<br>OSU—Minimal<br>U of O—NO<br>PCC—Minimal<br>Mt. Hood – Minimal | |
| Do you have a guide/directory of community partners? | Yes. Current information and referral directory of associated agencies exists<br>Community Response Plan helps track partners | **Review and revise guide regularly**<br>Train on business continuity principles<br>On-going process<br>Distribute to staff; ensure staff contributes to guide on a on-going basis |
| Have the community groups you've educated/informed/outreached become partners? | **To varying degrees**<br>Beginning to conduct outreach to the Homeless/hungry population and housing community, asthma community and | Increase outreach and relationships development with PACE EH partners<br>Engage community members on a more individual/one-on-one basis (not advocates) |

*University community, Lead community*

**Essential Service #5**
**Developing policies and plans that support EH efforts**
Standard: A process exists to define an issue, explore options, select a role for government and design a plan of action

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Do you have a system in place to identify priorities? | *Contractual obligations are first priority. PACE EH will support identification of issues and prioritization of issues*<br><br>• *Vector Advisory and Enforcement board*<br>• *Self-Directed Team for Community Outreach*<br>• *Program Development Specialist hired to help with planning*<br>• *Functional Team Developed to assist with planning* | **Acquire ongoing capacity for PACE EH or another relevant community engagement protocol** |
| Do you know who EH policy makers are inside and outside your organization? | *Internally, yes.*<br>*Externally, limited*<br><br>• *Learning who policy makers are and how to change public policy, related to mold/mildew, housing, lead through Health Homes grant and social marketing project,*<br>• *Structure in place to help identify policy recommendations through Vector/EH Advisory board.*<br>• *Learning how to change public policy for restaurant inspections via risk rating pilot project (Essential Services* | *Acquire internal support to maintain systems allowing for higher level of community engagement* |

| | | |
|---|---|---|
| | *grant)*<br>• *Internal support in the form of PDS, Health Educator, PHPS, 2 Community Outreach Workers to maintain systems to allow for higher level of community engagement* | |
| Are there leaders, champions, the political will, local political organizations (local Board of Health) that support your work? | *Yes, Food Service Advisory Board. Board of County Commissioners. Administration Yes, Lead Poisoning Prevention Coalition*<br>• *Vector Advisory and Enforcement Board*<br>• *Risk rating pilot project collaborating with State Health Services to potentially change food codes*<br>• *Through Social Marketing project we are learning how are the leaders/champions that will assist us to change mold/mildew policy.* | *State Health Services provides limited support and needs encouragement to embrace public health principals.*<br>*No Vector Control state program/leadership*<br>***More internal commitment/awareness of scope of work by internal County officials and policy makers*** |
| Do you have access to policy makers? | *Yes* | *Consider expanding policymaker access to entire METRO area* |
| Do the decision-makers in the EH department receive training in policy? | *Assume policy training is a hiring expectation*<br>• *Lila and Lynn Attended Legislative training by PAO* | *Desire attendance and opportunity cost resources for attendance and public health leadership training for appropriate personnel* |

**Standard # 6**
**Enforcing laws and regulations that protect health and ensure safety**
Standard: Compliance with EH laws is accomplished by appropriately qualified personnel in a fair and expedient manner

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Do you have a system in place for evaluating the effectiveness of laws, regulations, enforcement and compliance? | *Partially. Data is available to analyze Food and Pool regulatory programs. Data not readily available for Lead Poisoning Prevention* <br><br> • *Enhancing Lead database to allow for improved data collection and analysis* <br> • *Working to change public policy on restaurant licensing and inspection (risk rating pilot project)* <br> • *Working to change public policy on mold/mildew through social marketing project* <br> • *Enhanced First Star inspection database to analyze critical violations* <br> • *Creating database to analyze indoor air quality and health home information to support policy changes* <br> • *Evaluation systems in place for grants that include a policy change outcome (Healthy Homes, Essential Services* | *Analytical capacity does not exist to capture results* <br><br> *Analyze and prioritize existing laws* <br><br> *Review existing laws to identify consistency with PH remediation* <br><br> *Clarify policy regarding activity and enforcement of laws* <br><br> *Review enforcement of vector and other emerging public health threats (mold and mildew/lead) and create ordinances that support public health enforcement* |
| Are your laws and regulations clear and understandable and interpretable? Are they reviewed regularly? | *Passage of the 99 Food Code moved in the right direction. Informal review takes place regularly.* | *Establish methods for ongoing review and analysis* |

| Question | Response | Notes |
|---|---|---|
| | *Grants(healthy homes, Essential Services, EPA Lead) help us analyze and review laws and regulations (housing codes, FDA food code, laws and statues that relate to health and health officer).* | |
| Is there a process for you to bring forward to policy makers rules that are often not being complied with, etc.? | *Yes, for inspections program evidenced by passage of civil penalty ordinance. No for lead* <br><br> • *Healthy homes grant will assist with our ability to bring relevant data to policy makers about lead, mold/mildew, housing* <br><br> • *EPA Lead grant will assist with our ability to bring relevant lead data to policy makers* <br><br> • *Essential Services grant will assist with our ability to bring relevant data about menu risk to policy makers* <br><br> • *Vector/EH Advisory Board will allow us to support data with community-based prioritized recommendations to policy makers* | *Capacity does not currently exist to perform the work necessary for lead paint remediation review.* <br><br> *Focus on ordinances that link to environmental health concerns and prioritize* |
| Is there a system in place to get feedback from the regulated community? | *Informal. Partially through FSAB and inspections* <br><br> • *Vector Advisory Board* <br> • *Will have EH Advisory Board* <br> • *PACE-EH* <br> • *Used focus groups for Online Food Handler testing* | *Need to perform ongoing surveys, focus groups etc.* <br><br> *Receive feedback from community on EH concerns via existing phone complaint/concern system* <br><br> *Use existing outreach to initiate surveys and feedback loop on services* |

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| | • *More direct community contact through Health Educator and Community Outreach Workers* <br> • *Evaluation systems for all new projects and programs* <br> • *Feedback on food safety from website* | *Identify resource to analyze incoming feedback* <br><br> *Educate VCE Committee on community role* |
| Is there a system to identify public/environmental health responsibilities in the event of health threats? | *Partial role development has been identified* <br> • *Community Response Plan* <br> • *WNV Go Kit* <br> • *Business Continuity Plan* <br> • *Bioterrorism Plan* <br> • *Communicable Disease Team* <br> • *Senario exercises in which Lila participates in* | *Clarify resources available and prioritization of requests and anticipated responsibilities* <br> *Still need additional clarification and training on when to consult with County Attorneys* <br> *Develop capacity for evaluating state and federal regulations* |
| Do you have access to legal advice/resources? | *Yes* <br> *Utilized County Attorneys in development of Health Fair* | |
| Do you have a way to ensure consistency and standardization? | *FDA Food Program Standards.* <br> *Charter Work Group* <br> • *5 EHS standardized* <br> • *Consistent training upon hire* <br> • *All must pass licensing test to become registered EHS* | *Charter Work Group needs to complete project. Trending analysis support needs to be provided for workgroup recommendations: Inspector standardization project needs to be implemented. Inspection capacity is not currently present to approach aggressively due to dual inspection requirement. Still need majority of EHS staff standardized* |

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| Are rules evaluated routinely for validity and due process? | *Adoption of FDA Food Code & development of Pool rules have identified this effort as a byproduct.* | *Food Handler rules & Civil Penalty rule development process has been inconsistent with validity and due process.* |

**Essential Service #7**
**Linking people to needed EH services and assuring the provision of EH services when otherwise unavailable**
Standard: Do all citizens have equal access to environmental health services or referral as needed

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Are there assessed needs that are unmet identified and addressed? | *No, clearly need for intervention regarding indoor air quality, mold & mildew. Substandard housing*<br><br>• *Wrote and awarded Essential Services grant (to address Advisory Board, mosquito and food surveillance and educational partnership assessed needs*<br><br>• *Wrote and awarded Healthy Homes grant ( to address housing, indoor air, asthma and lead assessed needs)*<br><br>• *Wrote and awarded EPA asthma grant (to address asthma in childcare centers assessed needs)*<br><br>• *Wrote and awarded EPA lead grant (to address lead in African refugee population assessed need),*<br><br>• *Wrote and awarded EPHT grant (to address community-based Environmental Health data tracking assessed needs),*<br><br>• *Wrote and awarded NACCHO* | *Complete PACE EH. Initiate partnerships and write grants, create political will to address needs.*<br><br>*East County - increase capacity* |

| | | |
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| | *grant for Food Safety video* <br> • *Wrote and awarded application for 2 years funded PHPS,* <br> • *Partnering with OR Food Bank regarding Food Security needs (applied for Americorps volunteer not funded but partnership started)* <br> • *Wrote VISTA application for volunteer to conduct rodent surveillance. Not determined if funded.* <br> • *Wrote NACCHO grant to address gastrointestinal illness in nursing homes– unfunded* <br> • *Wrote Shine application for outreach on fish advisory (award not accepted)* <br> • *Wrote minigrant to fund standardization of EHS staff – unfunded* | |
| Are unmet needs catalogued and reasons for needs not being met identified? (ie barriers such as language, culture, resources) | *No, ideally part of PACE EH, in initial stages* <br> • *We are breaking down language, culture barriers with our outreach work (translating information into other languages, online FH testing database in 7 languages, bilingual Community Outreach Worker)* <br> • *The Healthy Homes grant and the Health Fair were two solutions which were a direct result of the* | *Log requests – identify if resources exist; build capacity if do not exist* <br><br> *Limited Information and Referral system for Health Department (language services capacity lost due to funding)* |

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| | *PACE-EH process.*<br>• *Vector advisory board allows us to catalogue unmet needs*<br>• *NACCHO Food Safety video in multiple languages* | |
| Does a mechanism exist to overcome unmet needs? Such as a process to mobilize community support, and engage and empower community in order to create political will. Or a process to address needs by identifying appropriate resources | *See above* | *See above* |
| Is emergency contact available 24/7? | *Yes with the limitation that land and cellular phone connections are necessary*<br>*Acquired Nextel cell and radio capability* | |

**Essential Service #8**
**Assuring a competent EH workforce**
Standard: EH services and programs are delivered and managed by competent staff

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Is there a level of academic/education, experiential and testing competencies that | *Yes, all inspection staff must be RST or RS*<br>*Yes, all Vector Staff must have Pesticide* | *Implement formal OA Training*<br>*Review supervisory roles for RST and* |

| | | |
|---|---|---|
| all staff meet that are appropriate for their responsibilities? | *Applicator license* | *provide defined oversight* |
| Is there a standard for required competencies based on individual positions? | *Only generally by job description, not position description*<br>*All staff have workplans* | ***Utilize Food Program standard for RS***<br><br>*Needs refinement* |
| Are there training plans for staff to improve the skills, knowledge and abilities needed for that position? | *Nonspecific. Continuing Education money budgeted for each EHS at $300*<br>*Formal orientation of new hires is performed*<br>*Training needs are identified on individual workplans and during annual evaluations* | *Need to incorporate into each persons work plan to match identified and required needs with appropriate support* |
| Do you hire, recruit, retain, and promote a workforce that reflects the community? | *This is a strong management desire reflecting in most recent hiring*<br>*Community Outreach Workers for grants are hired from the community.*<br>*Health Educator hired for her knowledge and expertice on diverse ethnic cultures* | *Cast a wide net in seeking applicants.*<br>*Continue efforts at providing a welcoming atmosphere*<br>*Educate staff on culturally competent interviewing* |

**Essential Service #9**
**Evaluating the effectiveness, accessibility and quality of EH services**
Standard: A system exists to continuously improve program services

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Is there a process or system in place to measure/evaluate your program's effectiveness? | *Food Program only, through Food Program Standards. Implementation slow due to time and resource constraints*<br>*Robust Food Borne Illness system under development*<br>• *Evaluation systems established for food and vector surveillance, education and outreach and educational partnerships via Essential Services grant*<br>• *Evaluation systems will be established for healthy homes and lead poisoning prevention program as requirement of healthy homes grant*<br>• *Evaluation system established for asthma consultation as part of the EPA Asthma grant*<br>• *Evaluation system will be established for lead outreach as required for the EPA Lead grant.*<br>• *Evaluation system established for Health Fair*<br>• *Evaluation a major goal for every Community Service Self-Directed Team project*<br>• *Evaluation developed for online Foodhandler testing database*<br>• *Evaluation developed for the Vector Advisory Board for Essential Services* | *Needs further development*<br>*Identify method to engage community in feedback loop* |

| Do you measure outcomes/performance standards? | grant | Needs further development |
|---|---|---|
| | *Initial work with Planning & Development (air quality, water quality, food, vector). Lacking information, resources and point person* | |
| | • *Collect and analyze data to measure outcomes for food and vector surveillance, education and outreach and educational partnerships via Essential Services grant* | |
| | • *Will collect and analyze data to measure outcomes d for healthy homes and lead poisoning prevention program as requirement of healthy homes grant* | |
| | • *Collect and analyze data to measure outcomes for asthma consultation as part of the EPA Asthma grant* | |
| | • *Will collect and analyze data to measure outcomes for the lead outreach as required for the EPA Lead grant.* | |
| | • *Collected and analyzed data to measure outcomes for the Our Environment our Health Fair* | |
| | • *Data collection and analysis a major goal for every Community Service Self-Directed Team project* | |
| | • *Data collected and analyzed to* | |

| | | |
|---|---|---|
| | measure outcomes the for online Foodhandler testing database<br>• Data collected and analyzed to measure outcomes for the Vector Advisory Board for Essential Services grant | |
| Is there a process for obtaining feedback from the effected/regulated community as to how effective your program is? | Food Service Advisory Board is the only formal feedback loop. Vector Advisory board and will soon include EH Advisory Board | Identify, develop and implement methods |
| Are changes made in response to the evaluations and feedback? | Yes, from FSAB<br>Yes, Lead Poisoning Prevention Coalition<br>Yes, Vector Advisory Board<br>Received Feedback from State on the Risk Rating Pilot Project | |

**Essential Service # 10**
**Identification of new insights and innovative solutions to EH problems**
Standard: There is the ability to identify and pursue emerging issues through research or to apply innovation in the workplace

| Indicator | Current Multnomah County Capacity | Critical Gaps |
|---|---|---|
| Is there a process/system to identify research needs? | Informal identification. Example: Food Handler Testing, Training. Relationship between inspections, FBI violations, trend analysis of FBI<br>• Essential Services mobilizing educational partnership component and grant implementation team identifies research needs<br>• Internship program helps identify research needs | Utilize Functional Team to support identification of items needing research<br><br>Create standards/criteria for reviewing research<br><br>Develop "system" or "process" for Functional Team to identify, review and approve research |

| Question | Current State | Desired/Recommendation |
|---|---|---|
| | • *Community Services Self-Directed Team help identified research needs* <br> • *Vector staff help identify research needs* <br> • *Partnerships with institutions of higher learning help identify research needs* | |
| Do you know the resources available to you and your organization to meet these needs? | *Partially. Primarily grants NACCHO, FDA Developing partnerships with institutions of higher learning to collaborate on research and internship program* | *Develop stronger relationships with higher education* |
| Is there an awards program for innovative solutions? | • *Lila engages in positive reinforcement of staff by recognizing them through emails, cards, flowers, re-class initiatives, Crumbine award application, and individual evaluations* <br> • *Lila is recognized through acceptance of APHA presentation, Crumbine award and individual evaluation by Dave H.* | *Create an Awards Program (develop criteria that ensures that individuals stay committed to existing codes, etc. but works to exceed for merit)* |
| Do you feel you have the freedom to advance new ideas, make mistakes and admit failures? | • *Hired PDS to apply for grants, manage grants, coordinate research, internship program and contract functions.* <br> • *Reclassed PDS to PDS senior to ensure job description matched level of responsibility* | *Resources lacking for project management. Current management of all research and resource grants falls to EH manager with the exception of the Lead Program.* |

| | | |
|---|---|---|
| | • Community Services Self Directed Team explores new ideas.<br>• Functional Team explores new ideas | |
| Do you have discretionary funds available to research or solve problems creatively? | Acquired grant funding:<br>Healthy Homes $900,000+<br>Essential Services $600,000 +<br>EPA Asthma $30,000<br>EPA Lead $20,000<br>EPHT minigrant $15,000<br>NACCHO FH video grant $30,000<br>Received funding for 2 year PHPS position $60,000 + | EH funds currently limited to license fees<br><br>Encourage Health Dept. to put pressure on Board to collect business tax to increase general fund |
| Do you have the capacity to seek funding, apply for grants, and identify partners for research projects? | Yes. Primarily through Planning and Development<br>Hired PDS, PHPS, HE to seek funding, apply for grants and identify partners for research projects<br>Utilize Planning and Development | Need to clearly identify needs and focus on public health and community priorities<br>Identify primary Planning and Development contact for resource support<br>Clarify resources available, prioritization of requests and anticipated response time. Go Lynn! |