

## **6. Food Safety**

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### **Goal**

Reduce the number of foodborne illnesses.

### **Overview**

The Centers for Disease Control and Prevention (CDC) receive confirmed reports of thousands of foodborne illnesses each year. The number of foodborne illnesses increases significantly when unreported cases are taken into account: an estimated 76 million illnesses, 325,000 hospitalizations, and 5,000 deaths in the United States may be attributable to foodborne illnesses. While the number of foodborne illnesses reported annually in Kentucky is only in the hundreds, it is recognized that only a small percentage of cases are actually reported.

Many factors make foodborne illnesses a growing problem in Kentucky as well as the rest of the nation. The numbers of elderly and immuno-compromised are on the rise. Our food industry has a large number of employees. This creates a high turnover rate. In addition, the employees are increasingly diverse, which may create language barriers. Not all consumers are knowledgeable about safe food preparation practices in the home. Many foods found in our groceries and restaurants may have been produced in another country. We are also becoming cognizant of new and emerging pathogens which were previously not recognized as pathogens in food. Many of these new and emerging pathogens may be resistant to previously effective antibiotics. Another significant factor in increased reporting of pathogens is the database management and data reporting practices now available to capture information. Lastly, sensitivity to possible deliberate contamination of the food supply has increased reporting.

### **Summary of Progress**

Solid progress has been made toward the 2010 objectives. Kentucky is on schedule for adopting the 2001 FDA Food Code this year, which will be utilized in the regulation of food safety in all retail food establishments. Also in 2006, Kentucky plans to adopt a statewide food manager certification program. A field prototype program is underway. The Program will require that at least one certified manager will be on duty at all times that a retail food establishment is in operation.

Additionally, a food-borne illness surveillance investigation collection form and the Kentucky reportable disease forms are being utilized so that data may be collected for food related diseases stemming from bacteria and parasites. Cryptosporidium has been added to the Kentucky Reportable Disease Surveillance System.

There has been an increased effort to inform consumers of key food safety practices. The food safety curriculum for teaching students throughout Kentucky has been maintained, and both Spanish and Chinese FSAST (Food Safety Accreditation Student Training) videos are being developed.

## Progress toward Achieving Each HK 2010 Objective

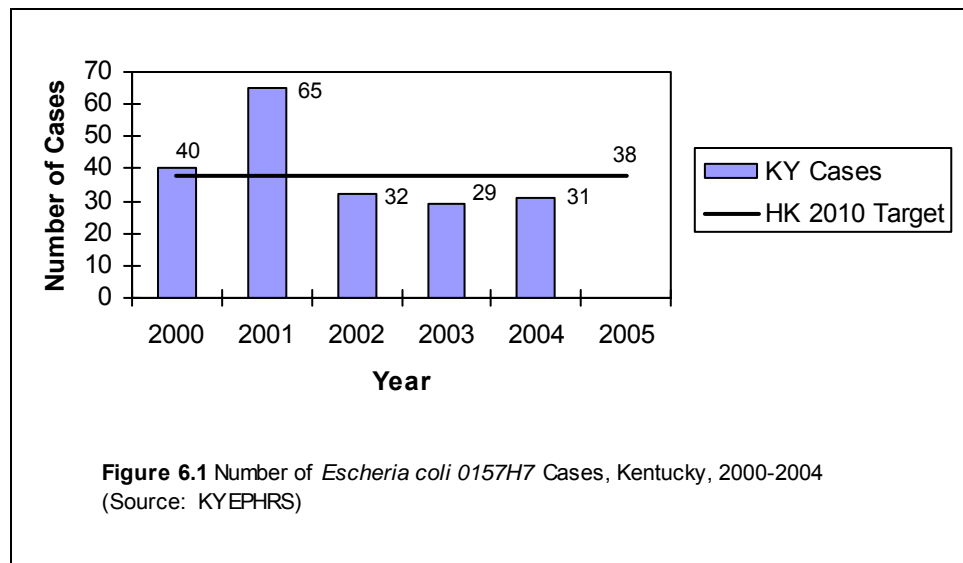
- 6.1. (Developmental) Reduce the proportion of infections caused by bacteria, parasites, and key foodborne pathogens. Reduce the yearly outbreaks of infections due to *Salmonella* serotype *Enteritidis* and *Escherichia coli* O157:H7.

**Data Source:** Kentucky Electronic Public Health Records System (KYEPHRS)

**Baseline:** *Escherichia coli* O157:H7 - 40 reported cases in 2000

**HK 2010 Target:** Reduce by 5 percent the number of reported cases of *Escherichia coli* O157: 38 reported cases

**Mid-Decade Status:** *Escherichia coli* O157:H7 – 31 reported cases in 2004



**Data Needs:** Data on *Salmonella* serotype *Enteritidis*. *Salmonella* is being reported currently, but there is no serotype.

**Strategies to Achieve Objective:**

- Pursue the addition of *Salmonella* serotype *Enteritidis* to the list of food related illnesses to be reported and investigated
- Improve the method of collecting and reporting data for foodborne bacteria and foodborne parasites

**6.1a.(Developmental) Reduce foodborne infections caused by the parasitic pathogens *Cryptosporidium parvum*, *Clyclospora cayetanensis*, hepatitis A virus, and Norwalk virus.**

**Data Source:** Kentucky Electronic Public Health Records System (KYEPHRS)

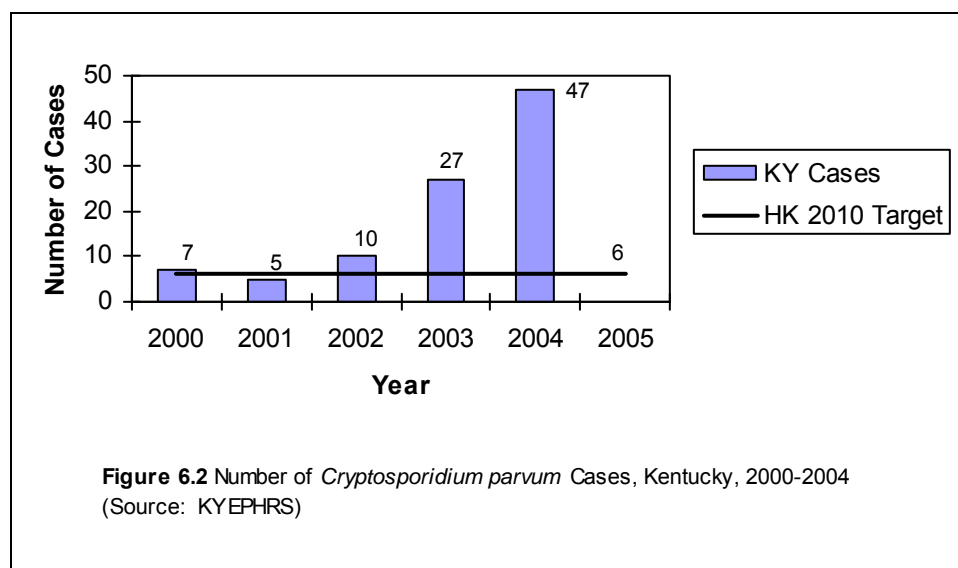
**Baseline:** *Cryptosporidium parvum* – 7 cases reported in 2000;  
Hepatitis A – 63 cases reported in 2000

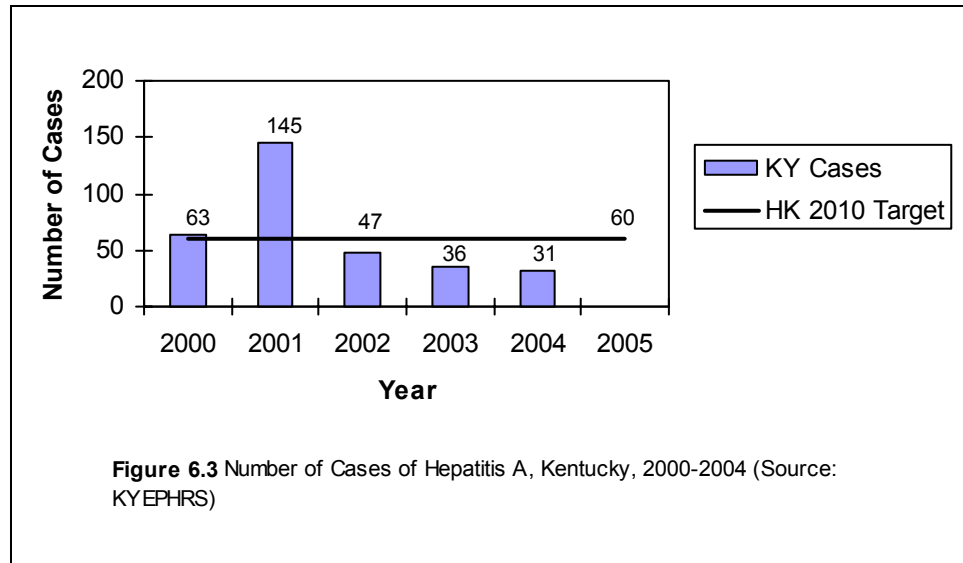
**HK 2010 Target:**

*Cryptosporidium parvum* cases - 6 cases reported  
Hepatitis A - 60 cases reported

**Mid-Decade Status:** *Cryptosporidium parvum* – 47 cases reported in 2004

Hepatitis A virus – 31 cases reported in 2004





**Data Needs:** Data on *Cyclospora cayetanensis*, Norwalk virus, and postdiarrheal hemolytic uremic syndrome are not being reported currently.

**Strategies to Achieve Objective:**

- Pursue the addition of *Cyclospora cayetanensis* and Norwalk virus to the list of food related illnesses to be reported and investigated
- Currently working on adopting the 2001 FDA Food Code
- Currently working on implementing a Food Protection Manager Certification Program for retail food managers
- Implement the Primary Education Food Safety Curriculum
- Make available educational food safety materials at public gatherings
- Improve the method of collecting and reporting data for foodborne infections

**6.1.b.(Developmental) Reduce the incidence of postdiarrheal hemolytic uremic syndrome (DELETED).**

**Reason for Deletion:** Corresponds to data in objective 6.1 for *Escherichia coli* O157:H7

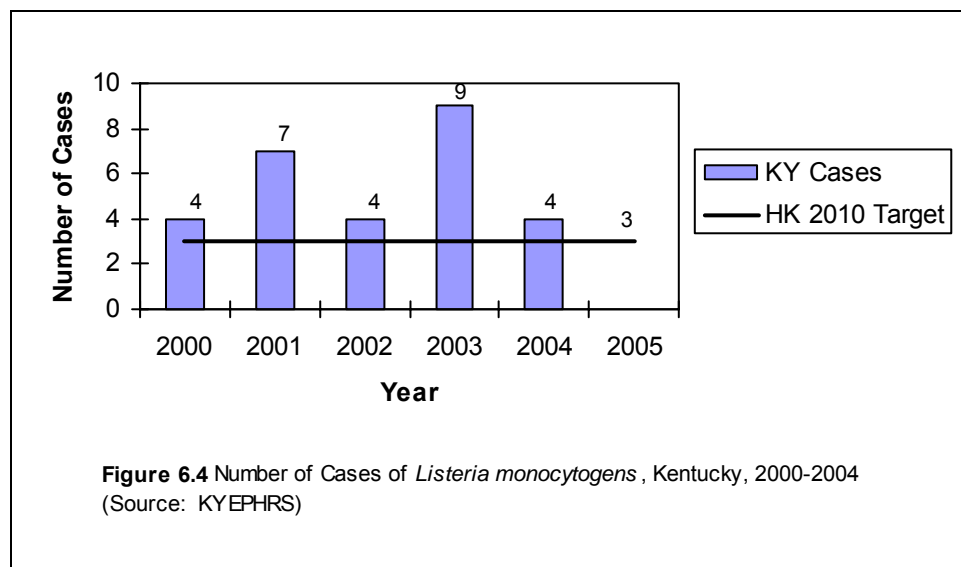
**6.2. Reduce the annual incidence of infection from *Listeria monocytogenes* and *Vibrio vulnificus*.**

**Data Source:** KYEPHRS

**Baseline:** *Listeria monocytogenes* – 4 cases reported in 2000  
*Vibrio vulnificus* - 0 cases reported in 2000

**HK 2010 Target:** *Listeria monocytogenes* – at or below 3 cases per year  
*Vibrio vulnificus* – at or below 1 case per year

**Mid-Decade Status:** *Listeria monocytogenes* - 4 cases reported in 2004  
*Vibrio vulnificus* – 1 case reported in 2004. No cases reported from 2000 – 2003.



**Strategies to Achieve Objective:**

- Implement same strategies as for Objectives 6.1 and 6.1a

**6.3. (Developmental) Reduce foodborne infections caused by antimicrobial-resistant bacterial pathogens of the species *Salmonella*, *Campylobacter*, and *Escherichia coli* in humans and the prevalence of resistant pathogens collected from animals.**

**6.3R. (Developmental) Reduce foodborne infections caused by antimicrobial-resistant bacterial pathogens of the species *Salmonella* and *Campylobacter*.**

**Reason for Revision:** *Escherichia coli* was removed from this objective because it is tracked by objective 6.1. No reliable data set exists for tracking resistant pathogens collected from animals.

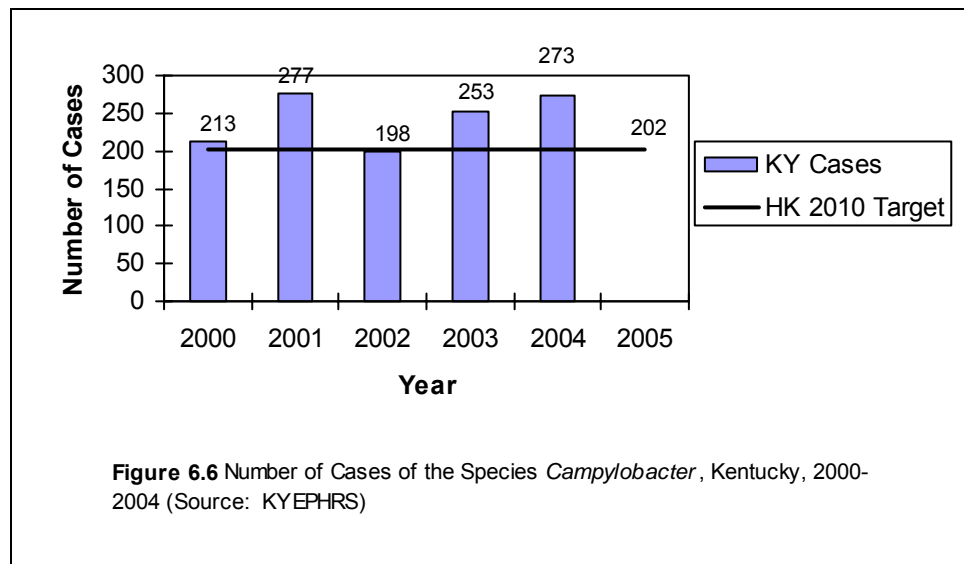
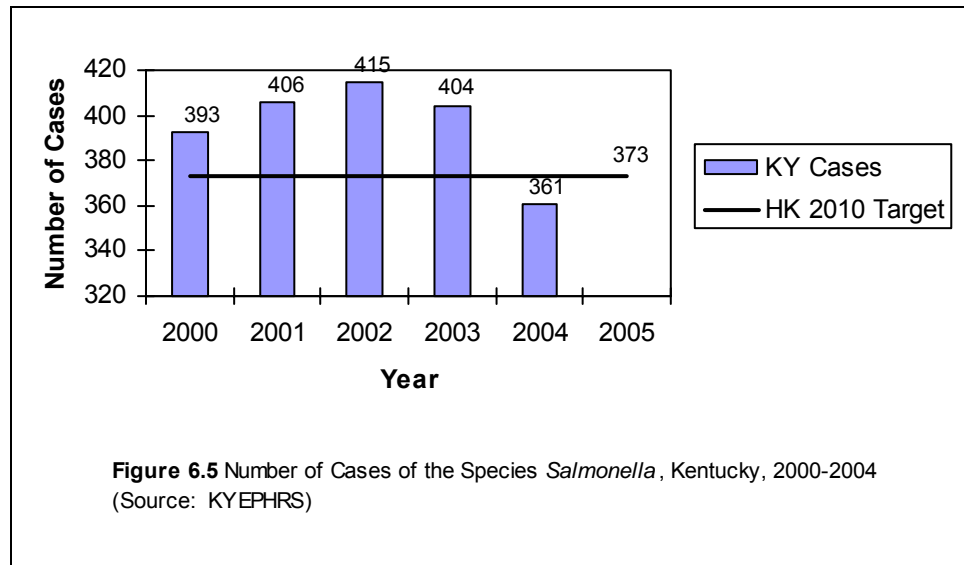
**Data Source:** KYEPHRS

**Baseline:**

*Salmonella* - 393 cases reported in 2000;  
*Campylobacter* - 213 cases reported in 2000

**HK 2010 Target:** Reduce by 5 percent the number of cases of reported *Salmonella* and *Campylobacter*  
*Salmonella* - 373 cases  
*Campylobacter* - 202 cases

**Mid-Decade Status:** *Salmonella* - 361 cases reported in 2004  
*Campylobacter* - 273 cases reported in 2004



**Strategies to Achieve Objective:**

- Implement similar steps as those for Objectives 6.1 and 6.1a

**6.4. (Developmental) Make food-induced anaphylaxis death a reportable condition. Because allergens are present in a variety of foods, and**

**because even trace amounts of these allergens can induce anaphylaxis, education and clear ingredient information are critical to the management of food allergy.**

**Potential Data Source:** Reports to the Division of Epidemiology and Health Planning

**Mid-Decade Status:** Food-induced anaphylaxis death is not a reportable disease.

**Data Needs:** Data on food-induced anaphylaxis death

**Strategies to Achieve Objective:**

- Ensure that these food related deaths are reported to and investigated by the Division of Epidemiology and Health Planning

**6.5. (Developmental) Increase the proportion of consumers who practice each of the four key food handling practices:**

- 1) Clean: wash hands after touching raw meat or poultry
- 2) Separate: clean and sanitize cutting board or use a different board after cutting raw meat or poultry
- 3) Cook hamburgers thoroughly
- 4) Chill: refrigerate promptly

**Potential Data Source:** A survey to be developed by the Food Safety Branch in 2006

**Data Needs:** Data on the proportion of consumers who practice each of the four key food handling practices

**Strategies to Achieve Objective:**

- Develop and administer a survey(s) that would measure if consumers are practicing the four key food handling practices
- Provide food safety educational press releases that list the four key food handling practices

**6.6. (Developmental) Reduce the occurrences of the following factors in retail food establishments: improper holding temperatures, inadequate cooking, poor personal hygiene, contaminated equipment, and using foods from unsafe sources.**

**Potential Data Source:** This retail food establishment inspection data will be collected in 2006

**Data Needs:** Data on the following factors in retail food establishments: improper holding temperatures, inadequate cooking, poor personal hygiene, contaminated equipment, and foods from unsafe sources

**Strategies to Achieve Objective:**

- Conduct training in the use of the Food Code by retail food handlers

**6.7. (Developmental) Assess the effect of changes in pesticide residue tolerances mandated by the Food Quality Protection Act.**

**Potential Data Source:** Office of Pesticide Programs, Environmental Protection Agency.

**Data Needs:** Data on the effect of changes in pesticide residue tolerances mandated by the Food Quality Protection Act.

**Strategies to Achieve Objective:**

- Attempt to get data from the Environmental Protection Agency
- Analyze data from the Department for Public Health's raw agricultural produce pesticide sampling program
- Determine what additional monitoring, if any, is necessary

**6.8. (Developmental) Increase to at least 75 percent the proportion of households in which principal food preparers routinely refrain from leaving perishable food out of the refrigerator for over 2 hours and clean and sanitize cutting boards and utensils after contact with raw meat and poultry.**

**Potential Data Sources:** Conduct surveys to measure progress at the Kentucky State Fair. Local health departments could conduct surveys for the same purpose at local public gatherings. Plan to implement these surveys in FY 2006-2007.

**Data Needs:** Data are needed on households in which principal food preparers routinely refrain from leaving perishable food out of the refrigerator for over 2 hours and clean and sanitize cutting boards and utensils after contact with raw meat and poultry.

**Strategies to Achieve Objective:**

- Provide food safety educational handout materials for distribution at fairs, special public events, church and civic group meetings



- Provide food safety training video and educational materials to all local health departments for use in educating the general public
- Develop a survey that would measure the percentage of households in which principal food preparers routinely refrain from leaving perishable food out of the refrigerator for over 2 hours and clean and the percentage that sanitize cutting boards and utensils after contact with raw meat and poultry

**6.9. Maintain raw agricultural produce pesticide sampling and monitoring program (approximately 200 samples annually) for produce grown in Kentucky.**

**Data Source:** Department for Public Health test samples

**Mid-Decade Status:** Program is being maintained

**Strategies to Achieve Objective:**

- Maintain the raw agricultural produce pesticide sampling and monitoring program for testing produce grown for sale
- Collect random samples of fresh fruits and vegetables grown for retail sale
- Analyze the samples
- Report results from the analysis
- Maintain results in database

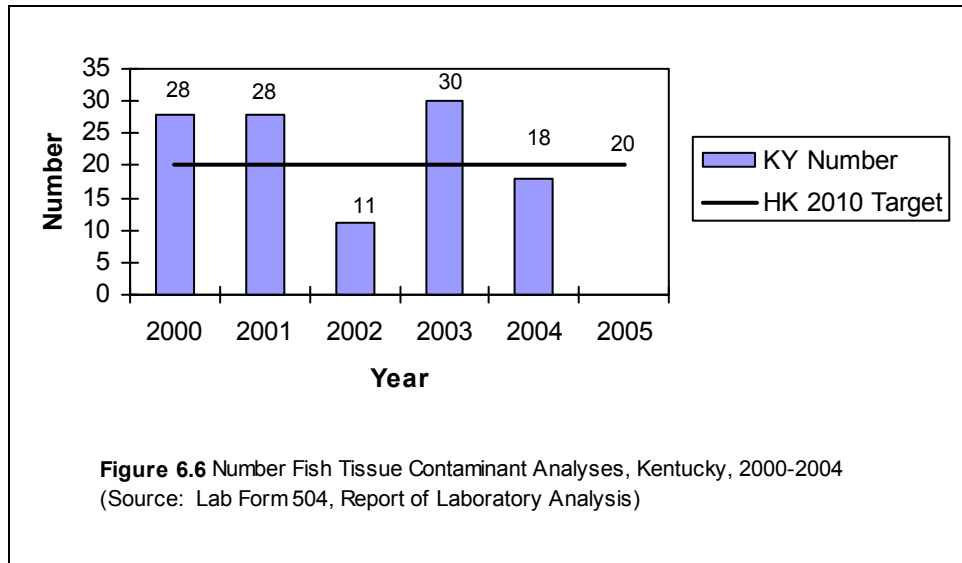
**6.10. (Developmental) Conduct fish tissue contaminant analysis (approximately 20 samples annually) for methyl mercury, PCB and chlordane on samples of edible fish species collected from Kentucky-permitted commercial fish processing establishments and harvested from Kentucky waterways open to commercial fishing.**

**Data Source:** Completed Lab form 504, Report of Laboratory Analysis, for fish samples which are analyzed for pesticide and chemical residues in accordance with established federal tolerance/action levels for fish harvested for commercial processing and distribution

**Baseline:** 28 fish tissue contaminant analyses conducted in 2000

**HK 2010 Target:** At least 20 fish tissue contaminant analyses conducted annually

**Mid-Decade Status:** 18 fish tissue contaminant analyses conducted in 2004



**Strategies to Achieve Objective:**

- Maintain the fish-sampling objective of testing edible fish tissue in fish harvested from the state’s waterways that are subject to fish consumption advisories

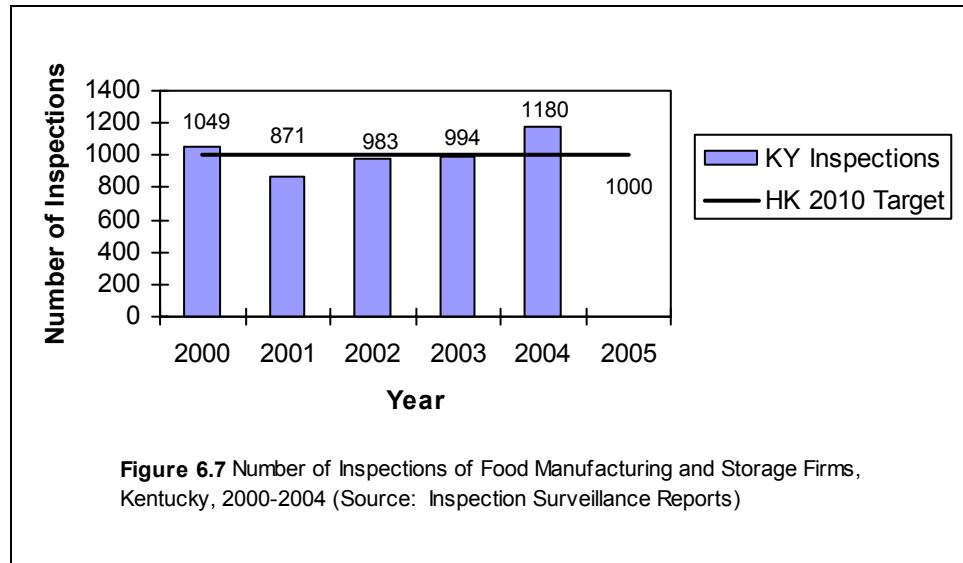
**6.11. Maintain inspection surveillance (approximately 1,000 inspections annually) and enforcement under the authority of KRS 217.005 to 217.285 for Kentucky’s approximately 1400 food manufacturing and storage firms.**

**Data Source:** Department for Public Health surveillance inspection reports

**Baseline:** 1,049 inspections conducted in 2000

**HK 2010 Target:** at least 1,000 inspections annually

**Mid-Decade Status:** 1,180 inspections conducted in 2004



### Strategies to Achieve Objective:

- Maintain the mandated surveillance level necessary to achieve safe food handling in the state’s food manufacturing and storage establishments which consists of:
  - Routine inspection surveillance
  - Collection of food samples to determine wholesomeness of foods
  - Review of food product labels to determine the status of misbranded foods

### References

- Kentucky Reportable Disease Surveillance System, 2000-2004
- Kentucky Environmental Health Management Information System (EHMIS), 2000-2004
- Centers for Disease Control and Prevention (CDC) Surveillance for foodborne disease outbreaks-United States

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## 6. Food Safety - Summary Tables

Summary of Objectives for Food Safety	Baseline	HK 2010 Target	Mid-Decade Status	Progress	Data Source
6.1 (Developmental) Reduce the proportion of infections caused by bacteria, parasites and key foodborne pathogens. Reduce the yearly outbreaks for infections due to <i>Salmonella</i> serotype <i>Enteritidis</i> and <i>Escherichia coli</i> 0157:H7.	40 cases of <i>E Coli</i> 0157:H7 (2000)	38	31 cases of <i>E Coli</i> 0157:H7; Serotypes on <i>Salmonella</i> are not collected (2004)	Target Achieved	KYEPHRS
6.1a. (Developmental) Reduce foodborne infections caused by the parasitic pathogens <i>Cryptosporidium parvum</i> , <i>Clyclospora cayetanensis</i> , Hepatitis A virus and Norwalk virus.	<i>Cryptosporidium parvum</i> : 7 cases (2000)	6	47 (2004)	No	KYEPHRS
	Hepatitis A: 63 cases (2000)	60	31	Target Achieved	
	<i>Clyclospora cayetanensis</i> : TBD (2000)	TBD	TBD	TBD	
	Norwalk virus: TBD (2000)	TBD	TBD	TBD	
6.1b. (DELETED)					
6.2. Reduce the annual incidence of infection from <i>Listeria monocytogenes</i> and <i>Vibrio vulnificus</i> .	<i>Listeria monocytogenes</i> : 4 cases; (2000)	At or below 3 cases per year-	4 (2004)	No	KYEPHRS
	<i>Vibrio vulnificus</i> : 0 cases (2000)	At or below 1 case per year	1 (2004)	Target Achieved	
6.3R. Reduce foodborne infections caused by antimicrobial-resistant bacterial infections of the species <i>Salmonella</i> and <i>Campylobacter</i> .	<i>Salmonella</i> : 393 cases (2000)	373	361 (2004)	Target Achieved	KYEPHRS
	<i>Campylobacter</i> : 213 (2000)	202	273 (2004)	No	

Summary of Objectives for Food Safety	Baseline	HK 2010 Target	Mid-Decade Status	Progress	Data Source
6.4. Make food-induced anaphylaxis death a reportable condition. Because allergens are present in a variety of foods, and because even trace amounts of these allergens can induce anaphylaxis, education and clear ingredient information are critical to the management of food allergy.	Not a reportable disease	Make food-induced anaphylaxis death a reportable condition	Not a reportable disease	No	Data on food-induced anaphylaxis death
6.5. (Developmental) Increase the proportion of consumers who practice each of the four key food handling practices.	TBD	TBD	TBD	TBD	
6.6. (Developmental) Reduce occurrences of improper holding temperatures, inadequate cooking, poor personal hygiene, contaminated equipment and foods from unsafe sources.	TBD	TBD	TBD	TBD	
6.7. (Developmental) Assess the changes in pesticide residue tolerances mandated by the Food Quality Protection Act.	TBD	TBD	TBD	TBD	
6.8. (Developmental) Increase to at least 75% the proportion of households in which principal food preparers routinely refrain from leaving perishable food out of the refrigerator for over 2 hours and clean and sanitize cutting boards and utensils after contact with raw meat and poultry.	TBD	TBD	TBD	TBD	
6.9. Maintain raw agricultural produce pesticide sampling and monitoring (approx. 200 samples annually).	Program has been maintained	Maintain Program	Program has been maintained	Target Achieved	Dept. for Public Health Test Samples
6.10. (Developmental) Conduct fish tissue contaminant analysis (approx. 20 samples annually) for methyl mercury, PCB and chlordane on samples of edible fish species collected from Kentucky permitted commercial fish processing establishments and harvested from KY waterways open to commercial fishing.	28 (2000)	≥20	18 (2004)	No	Specific Lab form 504
6.11. Maintain inspection surveillance (approx. 1,000 inspections annually) and enforcement under the authority of KRS 217.005 to 217.285 for Kentucky's approximately 1400 food manufacturing and storage firms.	1,049 (2000)	1,000	1,180 (2004)	Target Achieved	Inspection Surveillance Reports

TBD = To be determined. Reliable data do not exist.