

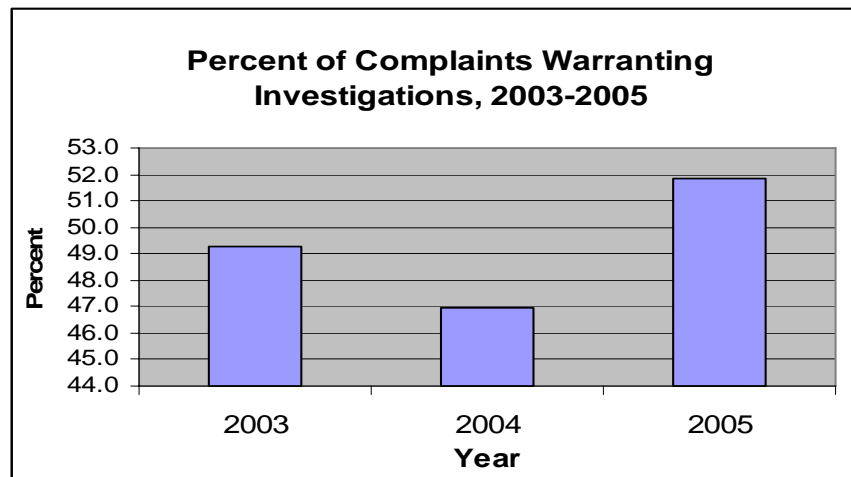
PINELLAS COUNTY HEALTH DEPARTMENT

**Foodborne Illness Surveillance and Investigation Program
2005 Annual Report**

The Pinellas County Health Department has reviewed the information entered into the foodborne database for the calendar year of 2005 and compiled this report in order to look for trends and common elements in both complaints reported and investigations conducted during this time period. Certain tabulated statistics will also be compared with data from 2003 and 2004 to allow for observation of trends over a longer period of time.

A total of 303 foodborne illness related complaints were received in 2005, 157 of which were investigated at a total of 91 establishments¹. (In some cases, more than one individual was included on one complaint.) The remaining 146 complaints did not meet the department's definitions of an outbreak or incident of foodborne illness and thus were not investigated. The department's definition of a foodborne disease outbreak is an incident in which two or more persons have the same disease, have similar symptoms, or excrete the same pathogens, in addition to a time, place, or person association between these persons. A single case of suspected botulism, mushroom poisoning, ciguatera or paralytic shellfish poisoning or a case of disease that can be definitely related to ingestion of a food is considered an incident of foodborne illness. In 2005, 52% of complaints received were investigated, a slight increase over both two previous years. (See Figure 1).

Figure 1. Percent of Complaints Warranting Investigation, 2003-2005



¹ The statewide cyclospora outbreak in the Spring of 2005 is not included in these statistics. Due to the large numbers involved, it has been analyzed as a separate unit. The report is available upon request. .

Complaint Data

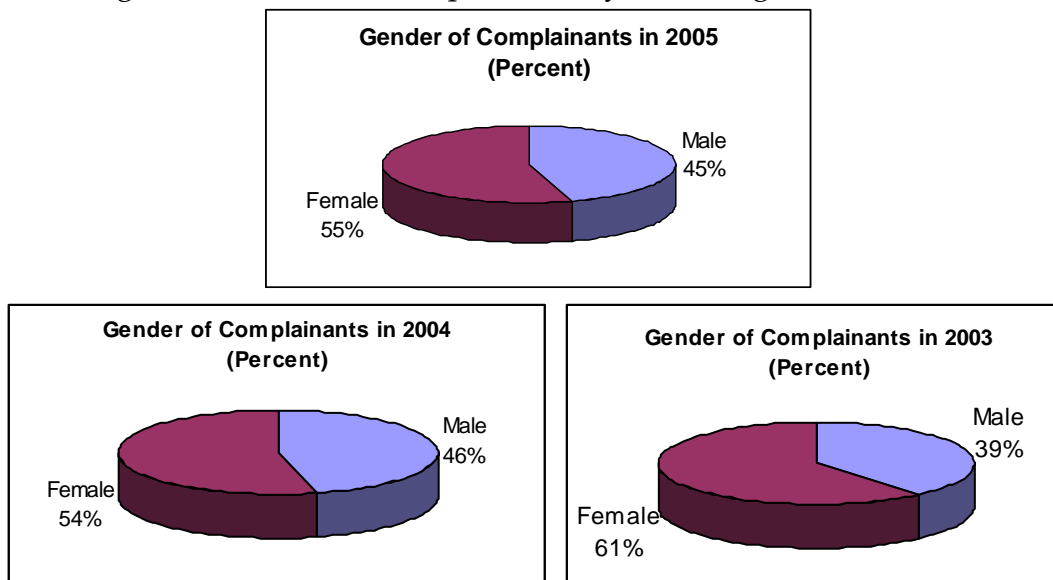
The demographic characteristics of individuals who submitted foodborne illness complaints in 2005 have been recorded and summarized as follows. Of total complaints received, 45.2% of complainants were male and 54.8% were female. The gender differential has decreased from 2003 to 2005, from a difference of 22 percentage points to one of 9.6 percentage points (See Figure 2). Possible reasons for this change range from actual changes in the percents of males and females getting foodborne illnesses to changes in reporting patterns and tendencies.

Table 1. Gender of Complainants by Percentage, 2005

Gender	Male	Female
Investigated	45.2	54.8
Total*	45.2	54.8

*Out of 299 who selected a gender

Figure 2. Gender of Complainants by Percentage in 2003 – 2005



Previous to 2005, information collected on the race of complainants was categorized into three categories: White, Black, and Other. In 2004, the vast majority of complainants were white (85.7%). Only 7.8% of total complainants reported their race

as black and 6.5% as a race other than black or white. In 2005, the information collected on the race of complainants was altered to match the categories used by the Bureau of Epidemiology in the Merlin database. Race information was split into two separate fields: race and ethnicity. The fields are categorized as follows:

Race: American Indian/Alaskan Native Asian/ Pacific Islander Black Other Unknown White	Ethnicity: Hispanic Non-Hispanic Unknown
--	---

In 2005, 83.8% of complainants reported their race as White, 8.5% as Black, an 7.7% as Other or Unknown. Reported ethnicity data is as follows: 66.7% Unknown or none reported, 30.4% non-Hispanic, and 3% Hispanic. Despite the change in reporting systems, similarities can be seen between the 2004 and 2005 race data, as the vast majority of complainants reported their race as White (over 80% for both years).

Location of the residence of each complainant is also recorded and has been summarized in both Table 2 and Figure 3 below. Table 2 shows the breakdown of city of residence of complainants. Figure 3 roughly divides the county into north and south areas. The north county area includes Clearwater, Clearwater Beach, Dunedin, Largo, Oldsmar, Palm Harbor, Safety Harbor, and Tarpon Springs. The south county area is defined as Gulfport, Indian Rocks Beach/Indian Shores, Madeira Beach, Pinellas Park, Seminole, South Pasadena, St. Petersburg (including Kenneth City and Bay Pines), and St. Pete Beach (including Tierra Verde and Treasure Island).

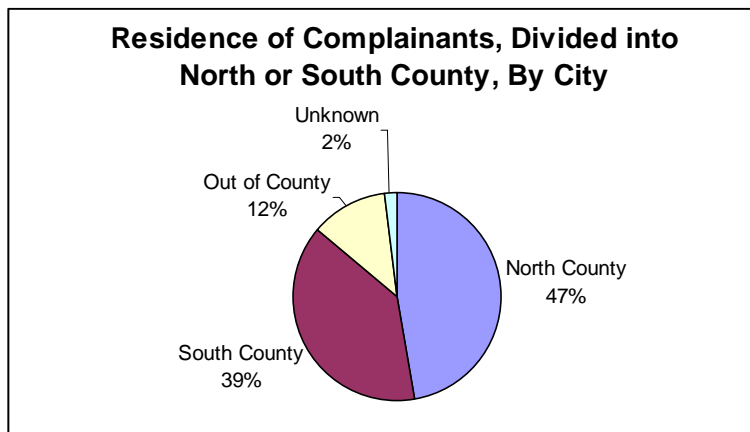
Table 2. City of Residence of Those* Submitting Foodborne Illness Complaints, 2005

City	Number
Clearwater	53
Dunedin	10
Gulfport	3
Indian Rocks Beach/Indian Shores	5
Largo	33
Madeira Beach	1
Oldsmar	6
Palm Harbor	30
Pinellas Park	6
Safety Harbor	5

Seminole	13
South Pasadena	3
St. Petersburg	85
St. Pete Beach	2
Tarpon Springs	6
Out of Pinellas County	36
Unknown	6

*For the purposes of this comparison, each complaint entry has been counted as one complaint.

Figure 3: Area Location of Complainant Residences by Percentage, 2005

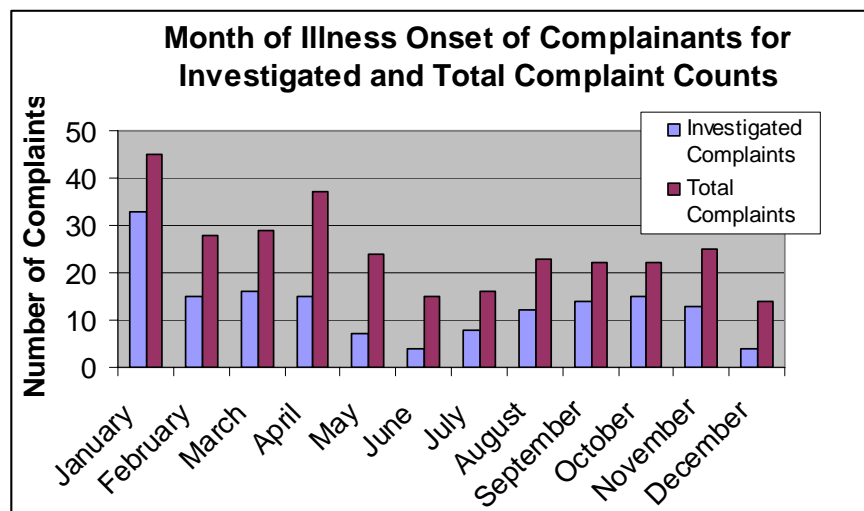


There were more foodborne illness complaints received from the north county region than the south county region, out of county area or unknown area in 2005. This is a reverse of the 2004 statistics, which had slightly more complaints coming from the south county region. However, approximately 10 percent of complaints came from Largo, which sits in the central area of the county. For this analysis, the dividing line for north and south county regions is East Bay Drive, which runs down the middle of the city of Largo. Thus, it could be included in either region. If the 33 complaints from Largo were split in half, and half was given to each region, they would be approximately equal.

In addition to the physical location of complainant residences, it is also interesting to look at the time of year of the date of onset of reported complaints to allow for observations of trends and to help in surveillance for outbreaks. In 2004, fluctuation was observed in both numbers of complaints received and investigated from month to month. While the most complaints were received, and thus investigated, during the

winter quarter of January through March, there were no other obvious seasonal trends in reporting of complaints (See Figure 4).

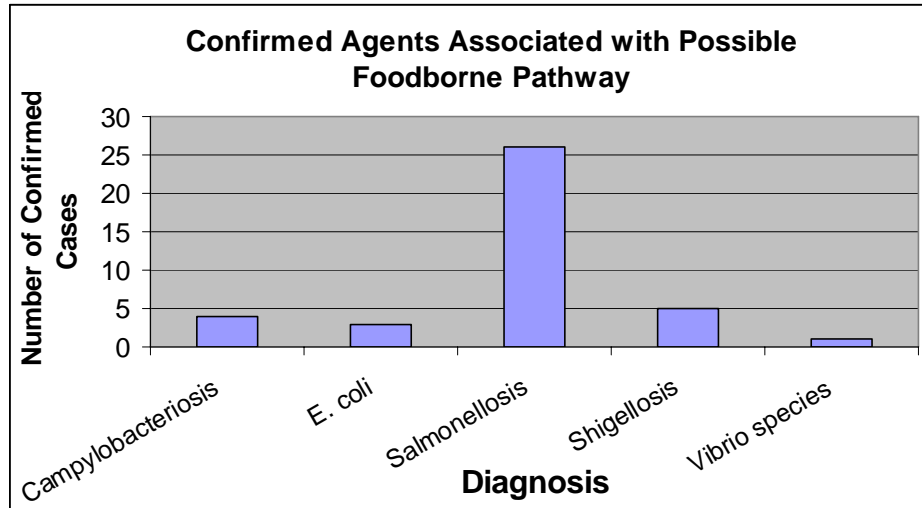
Figure 4. Month of Illness Onset for Total and Investigated Complaints, 2005



Illness Data

Of the 303 complaints received in 2005, only 39 of them had a confirmed pathogen indicated, leaving 264 complaints of unconfirmed illness with a possible foodborne pathway. Of the 39 confirmed cases, *Salmonella* was by far the most prevalent pathogen, with 26 confirmed cases. The remaining confirmed agents are identified in Figure 5.

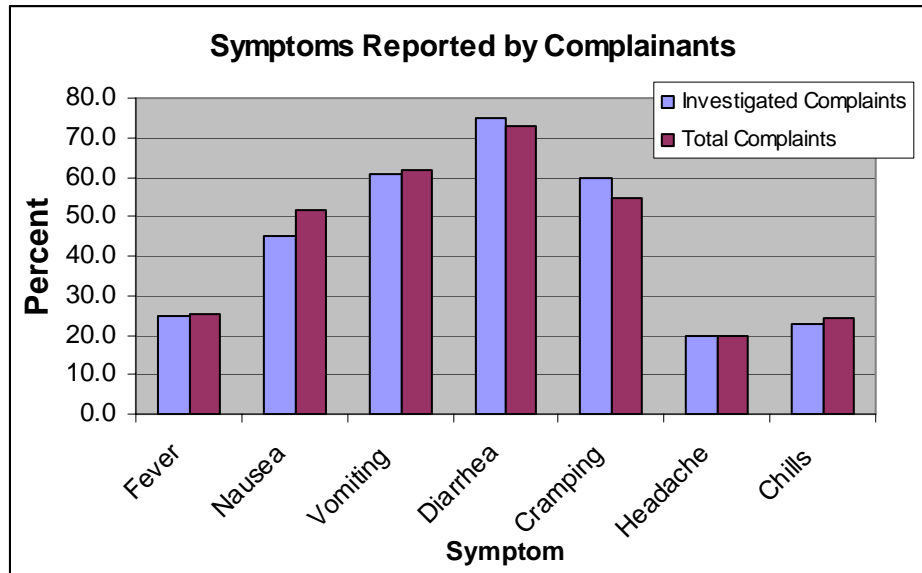
Figure 5. Confirmed Agents Associated with Possible Foodborne Pathway in Reported Complaints, 2005



*In database as one complaint, however 5 people tested positive.

In both confirmed and unconfirmed cases, many similarities can be seen amongst the symptoms of complainants, the majority of which were gastrointestinal in nature. Seven of the most common symptoms of foodborne illness are fever, nausea, vomiting, diarrhea, cramping, headache, and chills. Of these common symptoms, diarrhea was the most prevalent, occurring in approximately 75% of both investigated and total complaints. Following diarrhea in order of highest prevalence were vomiting, cramping, nausea, and fever (See Figure 6). Both investigated complaint and total complaint groups had similar levels of each symptom, which might indicate similarity between levels of illness in both groups.

Figure 6. Symptoms Reported by Complainants in Both Investigated and Total Complaint Groups by Percentage, 2005



While over 300 foodborne illness complaints were received in 2005, a small number of these involved collection of specimens to possibly identify a pathogen, which might help explain the small number of confirmed pathogens in Figure 5. The number of specimens collected, divided into different types, is shown in Table 3 below.

Table 3. Number and Type of Specimens Collected from Total and Investigated Complaints, 2004

Type of Specimen	Investigated	Total
Stool	32	49
Blood	9	18
Urine	5	8

Investigation and Establishment Data

For those complaints that are investigated, data on the implicated food and the establishment itself is recorded and has been summarized. The majority of the establishments investigated are regulated by the Department of Business and Professional Regulation's Division of Hotels and Restaurants (DBPR) (89%). Only 4.4%

are regulated by the Department of Agriculture and Consumer Services (DACS), and 6.6% are regulated by the Department of Health (DOH). These numbers for DPBR and DACS have been fairly consistent over the past three years, as is seen in Table 4 below. The percentage for DOH may have varied more over the past three years due to inconsistent procedures in recording foodborne illness investigations into the database. All investigations, regardless of the regulatory agency, are now inputted into the database.

Table 4. Regulatory Authority of Investigated Establishments by Percentage, 2003-2005

Regulatory Agency	2003	2004	2005
DBPR	91.0	92.6	89.0
DACS	6.4	7.4	4.4
DOH	2.6	0.0	6.6

For each complaint received (or group of related complaints), there are one or more establishments indicated along with one or more possible implicated foods. The most common specific implicated food item (of the complaints that warranted an investigation) was found to be chicken, followed by shellfish, shrimp or fish (other than oysters, then salads (See Table 5).

Table 5. Implicated Food Items in Investigated Complaints, 2005

Type of Food	Count
Chicken	30
Oysters	4
Other shellfish, shrimp, or fish	24
Salads	12

As was mentioned earlier, the number of complaints from residents in north versus south county areas was similar, with slightly more from the north county area. The location of the implicated establishment mirrors those figures fairly well. Out of 91 establishments investigated, 36 of them were located in the south county region and 55 were located in the north county region. Categorization as north or south county regions was determined by city and divided in the same way as city of residence, stated above Table 2. As with city of complainant residence, if Largo was considered to be in the south region, as it is divided by East Bay drive, the numbers would be approximately equal. Thus, it is not possible to tell if a true difference exists.

Commonalities among the investigation results have also been found. The most commonly written up food handling and food preparation notes include hand wash sink violations, lack of hand washing, and personnel behavior violations. Aside from noting violations, the investigators also follow the implicated food through its storage, preparation, and serving at the establishment and develop a flow chart of this information. From the flow chart, they are able to identify critical control points, or steps in the food preparation process where a control can be applied and is essential to prevent or eliminate a hazard (or reduce it to an acceptable level). The most commonly identified critical control points involve inadequate food temperatures in storage, holding and cooking as well as the time in which food spends at unsafe temperatures, such as when thawing or chilling. Specific numbers of such observations can be seen in Table 6. Lack of checking final cooked product temperatures has been the most commonly observed critical control point for the past three years.

Table 6. Most Common Food Handling/Prep Notes and Critical Control Points in Investigations by Number and Percentage, 2005

Food Handling/Prep Notes	Number	Percent
No Handwashing Observed	20	21.7
Hand Wash Sink Facility Violations	32	34.8
Personnel Behavior Violations	17	18.5

Critical Control Points	Number	Percent
Storage Temperatures	8	8.8
Holding Temperatures	12	13.2
Final Cook Temperatures*	39	42.9
Improper Thawing/Rapid Chilling	12	13.2

*Was most identified CCP in 2003 and 2004

Changes in 2005 and Future Plans

In 2005, The Foodborne Illness Surveillance and Investigation Program underwent some changes in its standard operating procedures. Individuals in each of the three relevant programs (Environmental Health, Epidemiology, and Public Health Preparedness) were granted access to the database to input and view complaints and investigations. This change was made to increase cooperation and interoperability within this surveillance program. This change also eliminated the need for a paper trail of faxing complaint forms from one office to another. After a complaint was taken in,

the individual who took it simply enters it into the database and notifies the other relevant parties of its presence there by an email of its complaint ID number. From there, each complaint is reviewed and the proper authority notified. In 2006, these changes will continue to be evaluated for their impact on the program and changes will be made as needed.