

Brod, MD, SJ: FYJ + return time

Thank for all your help

Dunlop

District 150 Illness Investigation Summary Report

Communicable Disease and Epidemiology Report

On Monday, December 5, 2005, the Peoria City/County Health Department (PCCHD) received a call from Blaine-Sumner Middle School reporting ill children. The Environmental Health and Communicable Disease Departments responded to the call and an investigation ensued. Communicable disease surveyed students and kitchen staff which were Aramark employees. Aramark is a contractor of District 150, who provides food services and employees for cafeteria work at the primary, middle, and high schools throughout the district.

The findings of the communicable disease investigation for Blaine-Sumner were as follows: there were a total of 12 students and employees interviewed with 10 ill and 2 well. The age range was 10-48 years with median age of 12.5 years and a mean of 19.6 years. The majority of the children were female (Tables 1 and 2).

Table 1. Age Distribution of Blaine-Sumner Personnel and Students

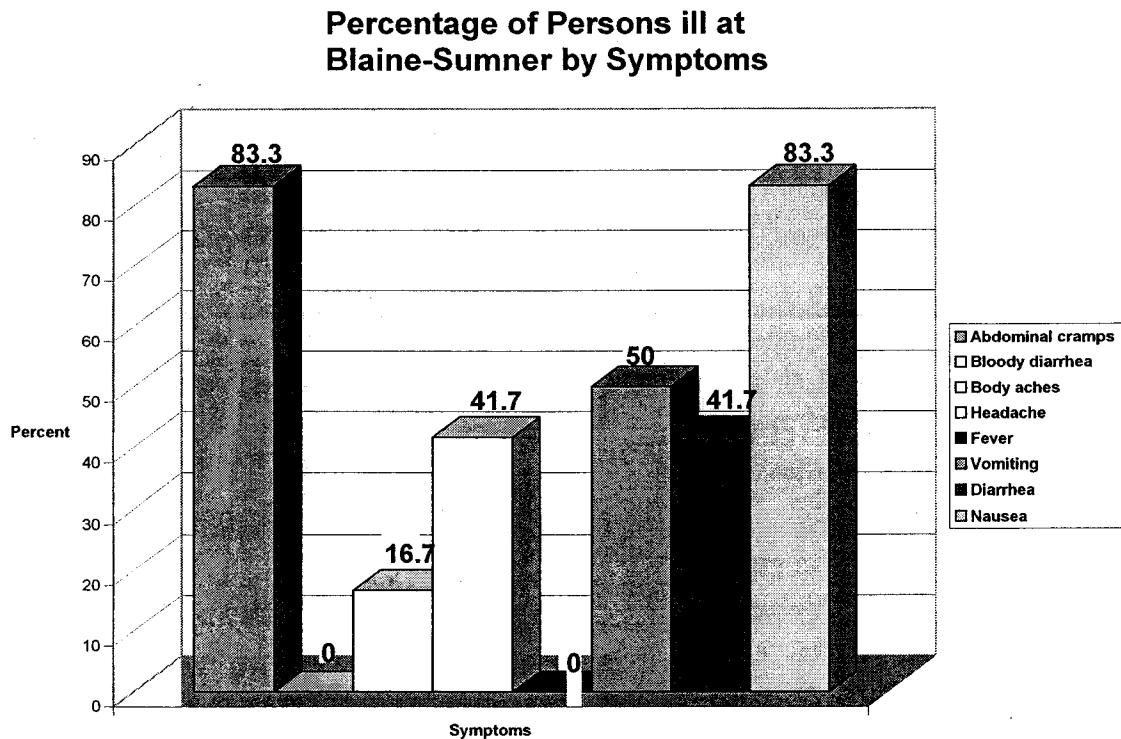
Ages (years)	Number and Percentage All	Ill	Well
All ages	12 (100%)	10 (83.3%)	2 (16.7%)
10	2 (16.7)	2 (20 %)	0
11	1 (8.3)	1 (10 %)	0
12	3 (25.0)	2 (20 %)	1 (50 %)
13	3 (25.0)	2 (20 %)	1 (50 %)
37	1 (8.3)	1 (10 %)	0
45	1 (8.3)	1 (10 %)	0
48	1 (8.3)	1 (10 %)	0

Table 2. Distribution by Gender of Blaine-Sumner for Personnel and Students

Gender	Number and Percent of All	Ill	Well
Male	1 (8.3)	1 (10 %)	0
Female	9 (75.0)	7 (70 %)	2 (100 %)
Missing	2 (16.7)	2 (20%)	0

Most of the ill persons from Blaine-Summer reported nausea and abdominal cramps (Figure 1).

Figure 1. Percent of clients reporting symptoms by type



The following table shows the findings of illness/wellness based on each food (Table 3):

Table 3. Determination of Foods Eaten/Not Eaten and Illness Status for Blaine-Summer

Food	Ate food		Did not eat food	
	Ill	Well	Ill	Well
Twin taco (Beef)	10	2	0	0
Hot dog	1	0	9	2
Bun	1	0	9	2
French Fries	0	0	10	2
Applesauce	2	1	8	1
Apples	3	1	7	1
Lettuce	9	2	1	0
Cheese	9	2	1	0
Salsa	8	2	2	0
Milk	3	2	7	0
Water fountain	4	1	6	1
Water Bottled	1	0	9	2
Fruit Juice (50/50)	5	0	5	2

Based on the findings of Table 3, twin beef tacos, lettuce, cheese and salsa were the foods associated with high numbers of ill persons and consumption of these food items. Three of the cafeteria workers were interviewed during this time. All three of the cafeteria workers were ill between 11/28/05 and 12/1/05 with symptoms of nausea, vomiting, abdominal cramping, and diarrhea. One of the workers did see a physician on 12/2/05 but no tests were ordered. Two out of three of the cafeteria workers stated that they worked on the computer.

In addition, one of those also worked in the cafeteria, and the third strictly did cafeteria work. Environmental Health did inspect the kitchen and interviewed the kitchen personnel from Blaine-Sumner and Manual High School who prepares the food but no food samples were tested from those two schools.

On Wednesday, 12/7/05, the Peoria City/County Health Department, Communicable Disease program manager and staff responded to groups of students that were ill at Loucks, Roosevelt, and Calvin Coolidge Middle Schools. The significant objective symptom noted was vomiting. The Communicable Disease Program responded as did the Director of Health, and the Environmental Health Assistant Director. Surveys based on Monday's incident were used for questioning students. The breakfast and lunch menus were used to illicit answers to questions from the surveys of foods eaten. Children were interviewed on 12/7/05 and 12/8/05 at the three schools.

Based on the initial surveys and information, epidemiology derived a case definition and reformatted the questionnaire on 12/9/05 and total schools numbers for the three schools were obtained by the Communicable Disease staff members. Names of

children who ate school lunches were not available but total number in attendance, total number of children absent, and total number of children purchasing school lunch was obtained. The numbers were as follows (Table 4):

Table 4. Number in Attendance, Absent, and Lunches Served for Loucks, Roosevelt, and Calvin Coolidge on 12/7/05

School	Number of children attending	Number of children absent	Number of children eating school lunch
Loucks	402	50	322
Roosevelt	615	55	398
Calvin Coolidge	267	---	170

The case definition was defined as any person(s), who ate at Loucks, Calvin Coolidge, and Roosevelt Magnet Middle Schools on Wednesday, 12/7/05 with two or more or of the following symptoms within 0.5 to 8 hours after eating lunch. Symptoms include: vomiting, nausea, diarrhea, and abdominal cramps. Environmental Health performed a food inspection of the three middle schools and Peoria Central High School.

A follow-up meeting ensued at PCCHD on Friday afternoon, 12/8/05, to determine what had been done and the findings and what still needed to be completed. Due to the volume of children and staff at the schools, it was determined by epidemiology to do a case-control study. More well children needed to be interviewed so that epidemiology had a one to one ratio of ill to well. It was also recommended that the ill children who went to the hospital ER on 12/7/05 be interviewed along with controls. The Peoria Public School District 150 superintendent was called and informed that we needed to continue that interview process on Monday, 12/12/05 and that the superintendent needed to inform the principals that this needed to be done first thing in

the morning on Monday. An e-mail was sent to all principals that more investigation needed to be completed by the PCCHD.

The remainder of interviews took place on 12/12/05. The total number of persons interviewed was 91 from the three schools where illness occurred. Epidemiology completed input of survey data and analysis of data to determine the odds ratios and p-values and faxed the findings to Illinois Department of Public Health (IDPH) on Tuesday, 12/13/05 (Table 5). Due to the lack of significance noted, IDPH instructed us to reanalyze the data removing all but subjective symptoms (vomiting and diarrhea) and rerun the analysis based on a teleconference meeting on 12/14/05. The following are the findings of the two analyses (Tables 5 and 6):

Table 5. Foodborne Illness of 12/7/05 analysis with **all symptoms** of illness included

Foods	People who ate		People who did not eat		Odds ratio	P-Value
	Ill	Not Ill	Ill	Not ill		
Twin Chicken Tacos	43	41	1	4	4.19	0.18
Green Beans	4	10	38	35	0.36	.09
Pears	6	10	36	35	0.58	0.34
Assorted Fresh Fruit	3	4	31	23	0.55	0.36
Lettuce	37	38	7	7	0.97	0.96
Cheese	41	37	3	8	2.95	0.10
Salsa	35	30	9	15	1.94	0.17
Milk	18	36	26	8	0.15	0.00009
Water (Bottled)	2	1	42	44	2.09	0.49
Water (Fountain)	16	16	28	29	1.03	0.93
Fruit Juice (50/50) *	27	24	17	21	1.38	0.44

* 50/50 is made of 50% apple juice and 50% cherry juice

Table 6. Foodborne Illness of 12/7/05 analysis with **only objective symptoms** (Vomiting and Diarrhea) of illness included

Foods	People who ate		People who did not eat		Odds ratio	P-value
	Ill	Not ill	Ill	Not ill		
Twin Chicken Tacos	27	40	1	4	2.70	0.34
Green Beans	2	10	24	34	0.27	0.08
Pears	6	10	21	34	0.97	0.60
Assorted Fresh Fruit	2	6	26	38	0.48	0.32
Lettuce	23	37	5	7	0.87	0.53
Cheese	26	36	2	8	2.88	0.166
Salsa	21	30	7	14	1.40	0.36
Milk	16	35	12	8	0.30	0.027
Water (Bottled)	2	1	26	43	3.30	0.33
Water (Fountain)	9	15	19	29	0.91	0.53
Fruit Juice (50/50)*	15	24	13	20	0.96	0.93

* 50/50 is 50% apple juice and 50% cherry juice

As is demonstrated by Table 6, none of the variables are significant except milk which has a protective effect. The twin chicken tacos and cheese were remotely suspected. This second analysis was faxed to IDPH. The following findings were determined from the surveys on completed on the 12/7/05 incidents were (Table 7):

Table 7. Demographics of Loucks, Roosevelt, and Calvin Coolidge Middle School

Variable	Loucks	Roosevelt	Calvin Coolidge	Total (Combined)
Gender	65 (100%)	12 (100%)	14 (100%)	91 (100%)
Male	29 (44.6%)	3 (25.0%)	6 (57.1%)	38 (41.7%)
Female	35 (53.8%)	9 (75.0%)	8 (42.9%)	52 (57.1%)
Missing	1 (1.6%)	0 (0)	0 (0)	1 (1.1%)
Ill female	22 (62.9%)	5 (55.6%)	6 (75.0%)	33 (36.3%)
Ill male	11 (37.9%)	1 (33.3%)	1 (16.7%)	13 (14.3%)
Well female	13 (37.1%)	4 (44.4%)	2 (25.0%)	19 (20.9%)
Well male	18 (62.1%)	2 (66.7%)	5 (83.3%)	25 (27.5%)