



EPIDEMIOLOGY BULLETIN

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OUTBREAKS REVIEWED

Records are kept by the Division of Epidemiology of all reported outbreaks in the State. These records were recently reviewed for the period 1972 through 1981, and what follows is a summary of that review. Three hundred fifty-nine outbreaks were reported during the decade, and these outbreaks involved 14,773 persons. The greatest number of outbreaks were categorized as either nosocomial, foodborne or due to measles (Table 1). Measles outbreaks involved the greatest number of cases (6,458) and the highest mean number of cases per outbreak (104).

An outbreak was defined as an incident in which a) two or more persons experienced a similar illness and b) epidemiologic analysis suggested a common exposure or risk factor. The only exception was for botulism: one case constituted an outbreak.

Table 1. Reported Outbreaks 1972 - 1981

<u>Category</u>	<u>Number Reported</u>	<u>Cases Involved</u>	<u>Mean Cases/Outbreak</u>
Nosocomial	88	675	8
Foodborne	73	3,149	43
Measles	62	6,458	104
Rubella	31	1,419	46
Shigella	30	1,349	45
Hepatitis (A, B)	25	376	15
Miscellaneous	17	679	40
Aseptic Meningitis	16	355	22
Occupational/Toxin	13	214	17
Waterborne	4	99	25
Total	359	14,773	41

Eighty-eight nosocomial outbreaks were reported during the decade. Staphylococcus aureus was the most common etiologic agent, the newborn nursery was the most common hospital service involved, and pyoderma was the most commonly reported expression of this illness (Table 2).

Table 2. Nosocomial Outbreaks 1972 - 1981

<u>Etiology</u>	<u>Number</u>	<u>(%)</u>	<u>Service</u>	<u>Number</u>	<u>(%)</u>	<u>Illness</u>	<u>Number</u>	<u>(%)</u>
<u>Staph aureus</u>	41	(47)	Nursery	39	(44)	Pyoderma	28	(29)
Unknown	19	(22)	Unknown	17	(19)	Septicemia	15	(16)
Gram negative bacilli	13	(15)	Intensive care	10	(11)	Respiratory	11	(11)
Viral	7	(8)	Chronic care	8	(9)	Unknown	11	(11)
Other	8	(9)	Other	14	(16)	Gastrointestinal	10	(10)
						Other	22	(23)
Total	88	(100)	Total	88	(100)	Total	97*	(100)

*More than one illness type seen for several outbreaks.

Seventy three foodborne outbreaks were reported during the same period. Again, Staphylococcus aureus was the most common etiologic agent (Table 3). Beef was the most commonly implicated food item, and commercial eating establishments were the most common sites at which foods were mishandled.

Table 3. Foodborne Outbreaks 1972 - 1981

<u>Agent</u>	<u>Number</u>	<u>(%)</u>	<u>Vehicle</u>	<u>Number</u>	<u>(%)</u>	<u>Location</u>	<u>Number</u>	<u>(%)</u>
<u>Staph aureus</u>	24	(33)	Beef	17	(21)	Restaurant	27	(37)
<u>Salmonella sp.</u>	16	(22)	Unknown	14	(18)	Home	12	(16)
<u>Clostridium perfringens</u>	10	(14)	Pork	12	(15)	School/Univ.	8	(11)
Unknown	9	(12)	Fowl	12	(15)	Store	5	(7)
<u>Bacillus cereus</u>	3	(4)	Dairy/Egg	10	(13)	Club	5	(7)
<u>Shigella sp.</u>	3	(4)	Seafood	5	(6)	Military	4	(6)
Other	8	(11)	Other	10	(13)	Other	12	(16)
Total	73	(100)	Total	80*	(100)	Total	73	(100)

*Two food items were implicated in seven outbreaks.

Of 31 reported rubella outbreaks during the decade, 17 (55%) occurred on college or university campuses, 9 (29%) were associated with schools, usually high schools or junior high schools, and two (7%) occurred on military bases.

There were only four reported waterborne outbreaks during the decade. Two were associated with contaminated drinking water; one was caused by arsenic in a private well, and the other by chlordane which had been introduced into a community water supply by back siphonage. The other two outbreaks were associated with recreational water use; ill persons in both outbreaks had an acute gastrointestinal illness of unknown etiology after swimming. One involved a swimming pool, and the other, a creek.

(Reported by Joanne E. Butler, R.N., Nurse Epidemiologist, Division of Epidemiology).

Editor's Comment:

National surveillance of nosocomial infections has demonstrated the overall etiologic importance of gram negative organisms. This is due, in large part, to the relatively high proportion of all nosocomial infections which involve the urinary tract (1). When considering outbreaks, however, S. aureus was clearly the etiologic agent most frequently reported in Virginia. This was due to the relatively high number of reported outbreaks of pyoderma in newborn nurseries.

The foodborne outbreaks reported in Virginia illustrate the importance of salmonella and S. aureus as etiologic agents, meat and poultry as vehicles of transmission, and restaurants as a source of food mishandling. National surveillance of foodborne outbreaks has provided very similar findings (2).

The fact that 55 percent of rubella outbreaks occurred on college and university campuses illustrates the shift that has occurred in the age group at risk, and is worrisome in view of the potential for infection of pregnant students. It is estimated that 10%-20% of persons \geq 18 years of age remain susceptible to rubella, and colleges and universities have been urged to require proof of immunity (documented rubella vaccination or demonstrated protective antibody level) for admission (3).

Both of the Virginia outbreaks associated with recreational water use were manifested by an acute gastrointestinal illness of unknown etiology (AGI). National surveillance reveals that AGI has been the waterborne (water intended for drinking) outbreak category most frequently reported (4). Many outbreaks in other states have had to be classified as AGI, since frequently no etiologic agent was found in spite of careful search for bacterial, parasitic and known viral agents (5).

REFERENCES

1. Centers for Disease Control: National Nosocomial Infections Study Report, Annual Summary 1979, Issued March 1982.
2. Sours HE, Smith DG: Outbreaks of foodborne disease in the United States, 1972-1978. J Infect Dis 142: 122-125, 1980.
3. Centers for Disease Control: Rubella in universities - Washington, California. Morbidity Mortality Weekly Rep 31: 394-395, 1982.
4. Centers for Disease Control: Water-Related Disease Outbreaks Annual Summary 1980, Issued February 1982.
5. Melnick JL, Gerba CP: Is the water safe to drink? J Infect Dis 139: 736-737, 1979.

MONTH: March, 1983

DISEASE	STATE					REGIONS				
	THIS MONTH	LAST MONTH	TOTAL TO DATE		MEAN 5 YEAR TO DATE	THIS MONTH				
			1983	1982		N.W.	N.	S.W.	C.	E.
MEASLES	0	1	2	10	272	0	0	0	0	0
MUMPS	1	3	9	6	38	0	1	0	0	0
PERTUSSIS	13	6	18	3	3	2	0	1	10	0
RUBELLA	0	1	1	5	26	0	0	0	0	0
MENINGITIS - ASEPTIC	4	7	32	24	24	0	2	0	1	1
OTHER BACTERIAL	25	31	81	52	53	4	4	7	5	5
HEPATITIS A (INFECTIOUS)	11	9	37	49	64	0	3	4	3	1
B (SERUM)	69	34	148	107	110	7	15	9	20	18
* NON-A, NON-B	11	8	25	19	12	2	0	1	4	4
SALMONELLOSIS	62	58	194	211	187	6	10	10	19	17
SHIGELLOSIS	14	14	41	49	39	1	6	1	0	6
CAMPYLOBACTER INFECTIONS	18	20	77	40	N/A	6	3	0	1	8
TUBERCULOSIS	46	17	82	114	-	-	-	-	-	-
SYPHILIS (PRIMARY & SECONDARY)	49	47	153	155	147	0	3	3	14	29
GONORRHEA	1445	1464	4628	4652	4926	-	-	-	-	-
ROCKY MOUNTAIN SPOTTED FEVER	0	0	0	0	0	0	0	0	0	0
RABIES IN ANIMALS	82	53	187	87	21	13	68	0	0	1
MENINGOCOCCAL INFECTIONS	10	7	24	15	25	3	2	1	3	1
INFLUENZA	396	230	633	98	2103	81	24	221	4	66
TOXIC SHOCK SYNDROME	1	1	1	0	N/A	0	1	0	0	0
REYES SYNDROME	3	3	4	1	7	1	0	2	0	0
LEGIONELLOSIS	1	1	4	3	3	0	1	0	0	0
KAWASAKI'S DISEASE	3	3	13	4	5	0	0	2	1	0
OTHER:										

COUNTIES REPORTING ANIMAL RABIES: Arlington 2 raccoons; Fairfax 2 skunks, 48 raccoons, 1 rodent; Fauquier 2 raccoons; Frederick 1 skunk, 2 raccoons; Greene 1 raccoon; Loudoun 1 skunk, 3 raccoons; Orange 2 raccoons; Prince Wm. 1 skunk, 10 raccoons; Rockingham 1 skunk, 1 raccoon, Stafford 3 raccoons; Westmoreland 1 raccoon. Occupational pneumoconioses 11; Occupational dermatosis 1; Occupational hearing loss 4; Asbestosis 1; Mesothelioma 1.

* 3 years.

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