

Summary of Botulism Cases Reported in 2008

A total of 153 cases of botulism were reported to CDC in 2008. Foodborne botulism accounted for 18 (12%), infant botulism for 111 (73%), wound botulism for 23 (15%), and botulism of unknown or other etiology for 1 (1%) case.

The 18 cases of foodborne intoxication were reported from six states. Of these, toxin type A accounted for 10 (56%), toxin type E for 6 (33%), and unknown toxin type for 2 (11%). The median age of patients was 57 years, with a range of 3 to 87 years; 10 (56%) were male. One death was reported. Four outbreaks were reported. Three occurred in Alaska, each with two cases; seal products were the vehicle in all three. The vehicle for the remaining outbreak, with four cases, was a home-canned green bean and carrot mix.

The 111 cases of infant botulism were reported by 30 states and the District of Columbia. Toxin type A accounted for 50 (45%), toxin type B for 59 (54%), toxin type F for 1 (1%), and toxin types B and F (produced by *Clostridium botulinum* type Bf) for 1 (1%). The median age was 17 weeks with a range of <1 week to 60 weeks; 57 (51%) were boys. No deaths were reported.

The 23 cases of wound botulism were reported by three health jurisdictions (California [20 cases], Washington [2], and Texas [1]). All were due to toxin type A. All but one were injection drug users; that case occurred in a former injection drug user who denied recent use. The median age was 45 years with a range of 23 to 66 years; 17 (74%) were male. Two deaths were reported.

Table 1. Summary of Reported Botulism Cases – United States, 2008

Foodborne

18 cases

Median age: 57 years (range: 3-87 years)
Death: 1 confirmed, 0 without information
Gender: 10 (56%) male, 8 (44%) female
Toxin type: 10 (56%) type A, 6 (33%) type E, 2 (11%) type unknown
4 outbreaks (defined as two or more cases resulting from a common exposure)

Infant

111 cases

Median age: 17 weeks (range: <1 - 60 weeks)
Death: 0 confirmed, 46 without information
Gender: 57 (51%) male, 54 (49%) female
Toxin type: 50 (45%) type A, 59 (54%) type B, 1 (1%) type Bf, 1 (1%) type F, 1 (1%) type Bf

Wound

23 cases

Median age: 45 years (range: 23 - 66 years)
Death: 1 confirmed, 2 without information
Gender: 17 (74%) male, 6 (26%) female
Toxin type: 23 (100%) type A

Unknown, Other

1 case

Age: 63 years
Death: 1 confirmed
Gender: 1 (100%) male, 0 (0%) female
Toxin type: 1 (100%) type A

**Table 2. Cases of Botulism by State and Type (N=153)
January 1 – December 31, 2008**

	<u>Foodborne</u>	<u>Wound</u>	<u>Infant</u>	<u>Unknown, Other</u>
Alaska	8			
Arizona	1		2	
California	3	20	35	
Colorado			3	
Connecticut			2	
District of Columbia			1	
Delaware			1	
Florida			1	
Hawaii			2	
Idaho			1	
Illinois			1	
Indiana	1			
Maryland			5	
Massachusetts			1	
Minnesota			1	
Missouri			2	
Montana			3	
New Jersey			3	
New Mexico			2	
New York			1	
New York City			1	
North Carolina			1	
Ohio	4		1	
Oregon			2	
Pennsylvania			16	
Rhode Island			1	
South Carolina			1	
Tennessee			1	
Texas		1	8	1
Utah			6	
Virginia			3	
Washington		2	1	
West Virginia	1		1	
Wyoming			1	
Total	18	23	111	1

**Table 3. Cases of Foodborne Botulism by Month (N=18)
January 1 - December 31, 2008**

<u>Month</u>	<u>State</u>	<u>Age (years)</u>	<u>Gender</u>	<u>Toxin Type</u>	<u>Vehicle</u>	<u>Death</u>
March	CA	68	Male	A	Home-canned green beans	No
May	AZ	21	Female	A	Baked potato	No
May	AK*	41	Female	E	Seal oil/meat	No
May	AK*	78	Female	E	Seal oil/meat	No
May	AK	47	Female	E	Seal oil/blubber	No
June	WV	75	Male	A	Home-canned sausage soup***	Yes
August	AK*	62	Male	Unknown**	Seal oil	No
August	AK*	32	Male	Unknown**	Seal oil	No
September	CA	51	Female	A	Home cured olives	No
September	OH*	76	Male	A	Home-canned green bean/carrot mix	No
September	OH*	80	Female	A	Home-canned green bean/carrot mix	No
September	OH*	15	Male	A	Home-canned green bean/carrot mix	No
September	OH*	38	Male	A	Home-canned green bean/carrot mix	No
September	IN	66	Male	A	Unknown	No
September	CA	52	Male	A	Home-canned tuna	No
November	AK	76	Female	E	Muktuk-whale blubber	No
November	AK*	3	Female	E	Seal oil***	No
November	AK*	87	Male	E	Seal oil***	No

*Cases involved in multi-case outbreaks

**Serum quantity not sufficient for toxin typing

***Food vehicle implicated based on epidemiologic evidence

**Table 4. Cases of Infant Botulism by Month (N=111)
January 1 - December 31, 2006**

<u>Month</u>	<u>State</u>	<u>Age (weeks)</u>	<u>Gender</u>	<u>Toxin Type</u>	<u>Death</u>
January	OR	60	Male	B	No
January	SC	26	Female	B	No
January	CO	0	Male	F	No
January	TX	3	Female	B	Unknown
January	MD	17	Male	B	Unknown
January	CA	42	Male	A	Unknown
January	PA	16	Male	B	No
January	CA	6	Female	A	Unknown
January	PA	14	Male	B	Unknown
January	NM	19	Male	A	No
February	TX	14	Female	A	No
February	CO	18	Female	A	No
February	MD	22	Female	B	Unknown
February	PA	11	Female	B	No
February	CA	21	Female	A	Unknown
February	IL	2	Female	A	No
February	TX	12	Male	B	No
February	WY	22	Male	A	No
February	CA	21	Male	A	Unknown
February	CA	6	Female	B	Unknown
February	NJ	6	Male	B	No
March	MD	28	Male	B	Unknown
March	NC	19	Male	B	Unknown
March	CA	15	Female	B	Unknown
March	CA	17	Female	A	Unknown
April	RI	21	Female	B	Unknown
March	CA	31	Male	A	Unknown
March	CA	10	Male	A	Unknown
March	CO	19	Female	A	No
March	TX	24	Male	A	No
March	AZ	24	Male	B	No
April	MA	19	Male	A	No
April	TN	11	Female	B	No
April	CA	10	Female	A	Unknown
April	TX	4	Male	B	No
April	CA	17	Male	A	Unknown
April	HI	3	Male	B	No
May	PA	21	Female	B	No
May	PA	19	Female	B	No
May	TX	23	Female	A	No
May	CA	29	Male	A	Unknown
May	CA	28	Male	B	Unknown
May	CA	29	Male	A	Unknown
May	MN	18	Male	B	No
May	UT	25	Male	A	No
May	CA	24	Female	A	Unknown
June	CA	11	Male	B	Unknown

Table 4. Cases of Infant Botulism by Month (N=111) (continued)
January 1 - December 31, 2006

<u>Month</u>	<u>State</u>	<u>Age (weeks)</u>	<u>Gender</u>	<u>Toxin Type</u>	<u>Death</u>
June	MD	5	Male	B	Unknown
June	WA	16	Male	A	Unknown
June	CA	20	Female	A	Unknown
June	HI	5	Female	B	No
June	MT	15	Female	A	No
June	VA	17	Male	B	No
June	UT	25	Male	A	No
June	MT	20	Male	A	No
July	CA	6	Female	B	Unknown
July	PA	23	Female	B	No
July	UT	30	Male	A	No
July	CA	6	Female	A	Unknown
July	UT	26	Male	A	No
July	NYC	14	Female	B	No
July	MO	14	Female	B	No
July	PA	10	Female	B	No
July	NM	17	Female	A	No
July	FL	4	Female	A	No
July	MT	7	Female	A	No
August	CA	10	Female	A	Unknown
August	PA	14	Female	B	No
August	CA	5	Female	B	Unknown
August	DE	9	Female	B	No
August	CA	19	Male	A	Unknown
August	CT	19	Male	B	No
August	TX	6	Male	Bf*	No
August	AZ	4	Male	B	No
August	PA	15	Female	B	No
August	PA	9	Female	B	No
August	CA	21	Female	A	Unknown
August	CA	34	Male	B	Unknown
August	UT	10	Male	A	No
September	ID	31	Female	B	No
September	CA	6	Male	B	Unknown
September	VA	20	Female	B	No
September	PA	24	Female	B	No
September	TX	1	Male	A	No
September	DC	17	Male	B	Unknown
September	CA	16	Female	A	Unknown
September	OR	4	Female	A	No
October	MO	25	Female	B	No
October	UT	17	Male	A	No
October	CA	36	Female	A	Unknown
October	CA	20	Female	A	Unknown
October	CA	19	Female	A	Unknown
October	PA	17	Male	B	No
October	OH	3	Male	B	No
October	CA	11	Male	A	No
October	CA	23	Female	A	Unknown

Table 4. Cases of Infant Botulism by Month (N=111) (continued)
January 1 - December 31, 2006

<u>Month</u>	<u>State</u>	<u>Age (weeks)</u>	<u>Gender</u>	<u>Toxin Type</u>	<u>Death</u>
October	CA	18	Male	A	Unknown
October	CA	21	Female	B	Unknown
October	CA	18	Female	A	Unknown
November	PA	30	Male	B	No
November	VA	6	Male	B	No
November	PA	14	Female	B	No
November	MD	17	Male	B	Unknown
November	NY	22	Male	A	Unknown
November	PA	9	Male	A	No
November	NJ	19	Female	B	No
December	WV	24	Female	B	No
December	CT	3	Male	B	No
December	CA	15	Male	B	Unknown
December	NJ	13	Male	B	No

*due to *Clostridium botulinum* type Bf, which produces both type B and type F botulinum toxins

**Table 5. Cases of Wound Botulism by Month (N=23)
January 1 - December 31, 2008**

<u>Month</u>	<u>State</u>	<u>Age (years)</u>	<u>Gender</u>	<u>Toxin Type</u>	<u>Exposure*</u>	<u>Death</u>
February	WA	42	Male	A	IDU	No
March	CA	36	Male	A	IDU	No
March	CA	41	Male	A	IDU	No
March	CA	54	Female	A	IDU	No
April	CA	44	Male	A	IDU	No
April	CA	41	Male	A	IDU	No
May	CA	46	Male	A	IDU	Yes
May	TX	54	Male	A	IDU	No
May	WA	36	Female	A	IDU	Unknown
June	CA	55	Male	A	IDU	No
June	CA	52	Female	A	IDU	No
July	CA	57	Male	A	IDU	No
August	CA	49	Male	A	IDU ¹	Yes
August	CA	44	Male	A	IDU	No
September	CA	66	Male	A	IDU	No
September	CA	23	Female	A	IDU	No
October	CA	45	Female	A	IDU	No
November	CA	60	Female	A	IDU	No
November	CA	48	Male	A	IDU	No
November	CA	51	Male	A	IDU	No
November	CA	41	Male	A	IDU	Unknown
November	CA	31	Male	A	IDU	No
November	CA	29	Male	A	IDU	No

*IDU = injection drug user

¹Former IDU who denied recent drug use

**Table 6. Cases of Unknown/Other Botulism by Month (N=1)
January 1 - December 31, 2008**

<u>Month</u>	<u>State</u>	<u>Age (years)</u>	<u>Gender</u>	<u>Toxin Type</u>	<u>Exposure*</u>	<u>Death</u>
October	TX	63	Male	A	Unknown	Yes