

# National Enteric Disease Surveillance: Botulism Annual Summary, 2009

## Botulism Annual Summary, 2009

### Summary of Botulism Cases Reported in 2009

A total of 121 cases of botulism were reported to CDC in 2009. Foodborne botulism accounted for 11 (9%), infant botulism for 84 (69%), wound botulism for 23 (19%), and botulism of unknown or other etiology for 3 (3%) cases. The mortality rate for all non-infant botulism cases was 11% (4 deaths of 38 cases).

The 11 cases of foodborne intoxication were reported from four states. Of these, toxin type A accounted for 10 (91%), and toxin type B for 1 (9%). The median age of patients was 56 years, with a range of 7–91 years; 6 (55%) were male. One death was reported. There were three outbreaks (events with two or more cases). The three outbreaks were caused by home-canned green beans (associated with three cases in Washington), home-canned asparagus (three cases in Washington and Minnesota), and home-canned tuna (two cases in CA).

The 84 cases of infant botulism were reported by 25 states. Toxin type A accounted for 23 (27%), toxin type B for 59 (70%), toxin types B and A (produced by *Clostridium botulinum* type Ba) for 1 (1%), and toxin types B and F (produced by *Clostridium botulinum* type Bf) for 1 (1%). The median age was 15.5 weeks with a range of 1 week to 42 weeks; 49 (58%) were boys. No deaths were reported.

The 23 cases of wound botulism were reported by three states (California [18 cases], Washington [4], and Michigan [1]). Toxin type A accounted for 21 (91%) and unknown toxin type for 2 (9%). All but two were injection drug users; one was associated with a wound from GI surgery, and no exposure information was available for the remaining case. The median age was 47 years with a range of 24–62 years; 16 (70%) were male. Two deaths were reported.

The three cases of unknown or other etiology were reported from three states. Toxin type F accounted for two (67%) and toxin type A for one (33%). The median age of patients was 64 years, with a range of 61–72; 2 (67%) were male. One death was reported.

Table 1. Summary of reported botulism cases – United States, 2009

<b>Foodborne (11 cases)</b>	
Median age	56 years (range: 7-91 years)
Death	1 confirmed, 0 without information
Gender	6 (55%) male, 5 (45%) female
Toxin type	10 (91%) type A 1 (9%) type B
Outbreaks	3
<b>Infant (84 cases)</b>	
Median age	15.5 weeks (range 1-42 weeks)
Death	0 confirmed, 33 without information
Gender	49 (58%) male, 35 (42%) female
Toxin type	23 (27%) type A 59 (70%) type B 1 (1%) type Ba 1 (1%) type Bf
Outbreaks	None
<b>Wound (23 cases)</b>	
Median age	47 years (range: 24-62 years)
Death	2 confirmed, 3 without information
Gender	16 (70%) male, 6 (30%) female
Toxin type	21 (91%) type A 2 (9%) type unknown
Outbreaks	None
<b>Unknown, Other (3 cases)</b>	
Median age	64 years (range: 61-72 years)
Death	1 confirmed
Gender	2 (67%) male, 1 (33%) female
Toxin type	2 (67%) type F 1 (33%) type A
Outbreaks	None

Table 2. Cases of botulism by state and type (n=121) – United States, January 1 – December 31, 2009

	<b>Foodborne</b>	<b>Wound</b>	<b>Infant</b>	<b>Unknown, Other</b>
Alabama			1	
Alaska			1	
Arkansas			3	
Arizona			3	
California	4	18	20	
Colorado			1	
Delaware			2	
Florida			1	
Hawaii			3	
Kansas			1	
Louisiana			1	
Maryland			3	
Michigan		1		
Minnesota	2			
Missouri			2	
Nebraska				1
Nevada			1	
New Jersey			11	
New Mexico				1
New York			1	
New York City			1	
North Carolina				1
Ohio	1		5	
Pennsylvania			10	
Tennessee			1	
Texas			4	
Utah			2	
Virginia			3	
Washington	4	4	2	
Wisconsin			1	
<b>Total</b>	<b>11</b>	<b>23</b>	<b>84</b>	<b>3</b>

Table 3. Cases of foodborne botulism by month (n=11) – United States, January 1 – December 31, 2009

Month	State	Age (years)	Gender	Toxin Type	Vehicle	Death
January	OH	74	Male	B	Home-canned mustard greens**	No
January	WA*	37	Female	A	Home-canned green beans**	No
January	WA*	9	Female	A	Home-canned green beans**	No
January	WA*	7	Female	A	Home-canned green beans**	No
April	CA*	85	Male	A	Home-canned tuna**	No
April	CA*	91	Female	A	Home-canned tuna**	No
June	WA*	56	Male	A	Home-canned asparagus	No
June	MN*	50	Male	A	Home-canned asparagus	No
June	MN*	54	Male	A	Home-canned asparagus	No
October	CA	68	Male	A	Home-canned corn	Yes
November	CA	91	Female	A	Home-canned soup**	No
*Cases involved in multi-case outbreaks						
**Food vehicle implicated based on epidemiologic evidence						

Table 4. Cases of infant botulism by month (n=84) – United States, January 1 – December 31, 2009

Month	State	Age (weeks)	Gender	Toxin Type	Death
January	PA	8	Female	B	No
January	PA	37	Male	B	No
January	FL	2	Male	A	No
February	AR	15	Female	B	Unknown
February	PA	27	Male	B	No
February	CA	18	Male	A	Unknown
February	NJ	15	Male	B	No
February	OH	15	Male	B	No
February	PA	24	Female	B	No
February	TN	30	Male	B	No
February	HI	4	Male	B	No
February	NY	26	Female	A	No
February	CA	29	Male	A	Unknown
February	NJ	16	Female	B	No
March	VA	18	Female	B	No
March	TX	22	Male	B	No
March	AK	23	Female	A	No
March	NJ	22	Female	B	No
March	LA	25	Male	B	No
March	PA	16	Female	B	Unknown
April	AR	4	Male	B	Unknown
April	NJ	8	Female	B	No
April	CA	17	Male	B	Unknown
April	VA	25	Male	B	No
April	WI	33	Male	B	No
April	DE	23	Female	B	No
April	TX	7	Female	A	No
April	NJ	9	Female	B	No
April	PA	8	Male	B	No
April	NJ	7	Female	B	No
April	PA	19	Male	B	No
April	VA	3	Male	B	No
May	OH	14	Male	B	No
May	PA	2	Male	B	No
May	AZ	1	Male	B	Unknown
June	PA	28	Female	B	No
June	NV	8	Male	A	No
June	MD	6	Male	B	No
June	UT	8	Male	A	No
June	NJ	31	Female	B	No
June	UT	25	Male	A	No
June	AL	15	Male	B	No
June	HI	11	Female	A	No

continued

Table 4. Cases of infant botulism by month (n=84) – United States, January 1 – December 31, 2009  
(continued)

Month	State	Age (weeks)	Gender	Toxin Type	Death
July	AR	3	Female	A	Unknown
July	CA	26	Female	B	Unknown
July	NJ	20	Female	B	No
July	MO	11	Male	B	No
August	AZ	7	Female	A	No
August	CO	14	Female	A	No
August	CA	31	Male	B	Unknown
August	CA	2	Male	A	Unknown
August	KS	3	Female	B	No
August	CA	23	Female	Bf*	Unknown
August	WA	5	Female	A	No
September	CA	10	Male	B	Unknown
September	MD	16	Female	B	Unknown
September	CA	7	Male	A	Unknown
September	MO	26	Male	B	No
September	CA	12	Male	B	Unknown
September	NJ	13	Female	B	No
September	AZ	7	Female	A	No
October	CA	15	Female	B	Unknown
October	CA	26	Male	A	Unknown
October	TX	18	Male	B	No
October	CA	21	Male	B	Unknown
October	OH	14	Female	B	No
October	NJ	23	Male	B	Unknown
October	TX	7	Female	B	No
October	WA	20	Male	A	No
November	OH	5	Male	B	No
November	CA	7	Male	Ba**	Unknown
November	DE	14	Male	B	No
November	CA	22	Male	A	Unknown
November	CA	38	Male	A	Unknown
November	MD	19	Female	B	Unknown
November	OH	26	Female	B	No
November	CA	30	Male	B	Unknown
December	NYC	13	Male	B	No
December	HI	6	Male	B	No
December	CA	5	Male	B	Unknown
December	PA	25	Female	B	Unknown
December	CA	42	Male	A	Unknown
December	CA	32	Female	A	Unknown
December	NJ	21	Male	B	No

\*Due to *Clostridium botulinum* type Bf, which produces both type B and type F botulinum toxins  
\*\*Due to *Clostridium botulinum* type Ba which produces both type B and type A botulinum toxins

Table 5. Cases of wound botulism by month (n=23) – United States, January 1 – December 31, 2009

Month	State	Age (years)	Gender	Toxin Type	Exposure *	Death
January	CA	37	Female	A	IDU	No
February	WA	55	Male	A	IDU	No
March	CA	62	Male	A	IDU	No
March	CA	54	Female	A	IDU	No
March	WA	46	Male	A	IDU	No
March	CA	55	Male	A	IDU	No
April	CA	53	Female	A	IDU	Yes
April	CA	46	Male	A	IDU	No
June	CA	24	Female	A	IDU	Unknown
July	CA	34	Female	A	IDU	Unknown
July	CA	52	Male	A	IDU	No
July	CA	46	Male	Unknown**	Unknown	No
August	CA	47	Male	A	IDU	No
October	CA	43	Male	A	IDU*	No
October	CA	45	Female	A	IDU*	No
October	CA	48	Male	A	IDU	No
October	CA	35	Male	A	IDU	No
November	WA	62	Female	A	IDU	Yes
November	MI	54	Female	A	Abdominal Surgery	No
November	CA	51	Male	A	IDU	No
December	WA	52	Male	A	IDU	No
December	CA	44	Male	Unknown**	IDU	Yes
December	CA	45	Male	A	IDU	Unknown
* IDU = injection drug user						
** Serum quantity not sufficient for toxin typing						

Table 6. Cases of Unknown/Other botulism by month (n=3) – United States, January 1 – December 31, 2009

<b>Month</b>	<b>State</b>	<b>Age (years)</b>	<b>Gender</b>	<b>Toxin Type</b>	<b>Exposure</b>	<b>Death</b>
February	NM	61	Male	A	Unknown	No
April	NC	64	Male	F	Unknown	Yes
August	NE	72	Female	F	Unknown	No

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