



Texas Department of State Health Services

DSHS-Supplied Rabies Biologicals 2011 Surveillance Summary

Texas Health and Safety Code §826.025 allows the Texas Department of State Health Services (DSHS) to supply rabies biologicals (vaccine and immune globulin) for persons who have been exposed to rabid, or potentially rabid, animals. Although DSHS is supposed to be reimbursed for the cost of these biologicals, no one who has a valid exposure is denied access to the products because of their inability to pay.

DSHS Health Service Region (HSR) offices may store and distribute the biologicals. In an effort to make the biologicals available to Texas residents throughout the state, some regional offices partner with local health departments and hospitals to serve as depots for storing and distributing biologicals. Surveillance data, including the demographic information on who received the biologicals and the reasons the biologicals were distributed, is maintained by DSHS (mandated by §97.123, Texas Administrative Code, "Provision of Anti-Rabies Biologicals").

Some private sources (such as hospitals, pharmacies, and healthcare systems) directly provide rabies biologicals to patients and do not partner with DSHS. **These sources do not supply surveillance information to DSHS and are not included in this summary.** DSHS supplies much of the biologicals distributed in the state of Texas; therefore, the data presented in this report should reflect overall trends.

Postexposure Rabies Prophylaxis

During 2011, rabies biologicals were distributed for postexposure prophylaxis (PEP) to 736 people, of whom 431 (58.6%) acquired the biologicals from regional DSHS offices and 305 (41.4%) from depots. The reported total cost of the biologicals distributed from DSHS inventory was \$1,306,886 (\$852,562 for 2,692 vials [2 ml] of human rabies immune globulin and \$454,324 for 2,565 vials [1 ml] of vaccine).

Rabies biologicals were distributed to 728 (98.9%) Texas residents and 8 (1.1%) out-of-state residents: 2 persons from Oklahoma and 1 person each from California, Georgia, Louisiana, New Mexico, South Dakota, and Israel. Distribution of postexposure biologicals based on the HSR in which the patient resided is summarized in Figure 1.

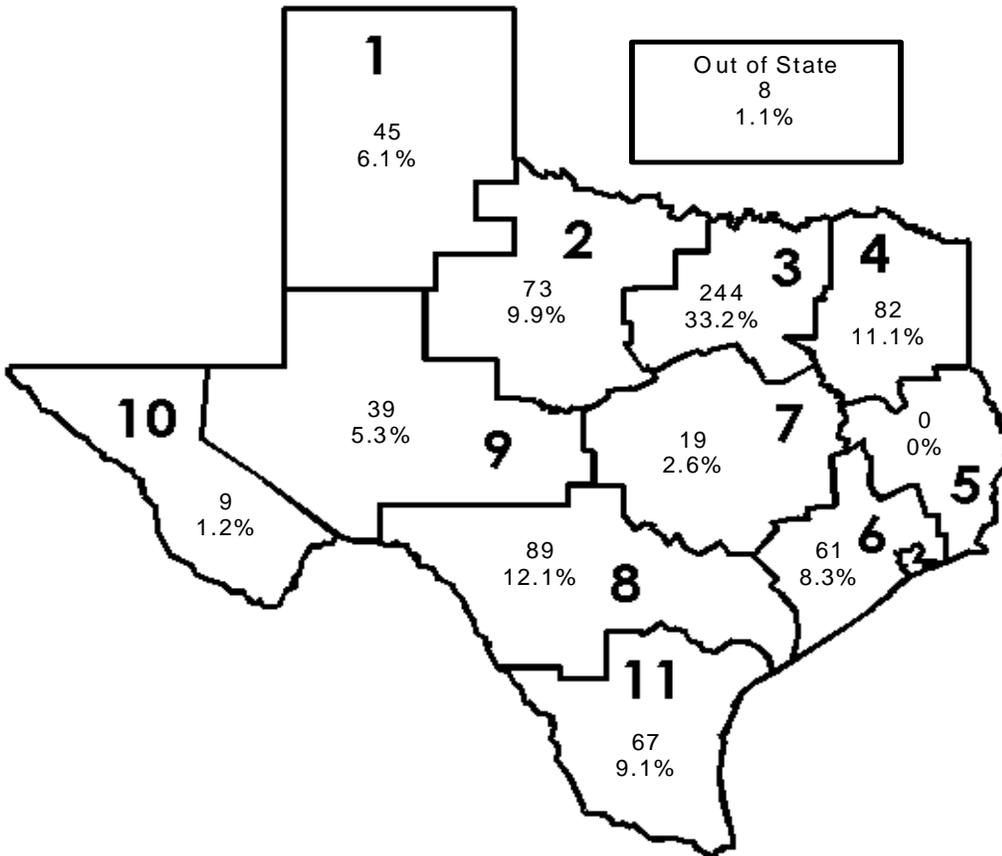


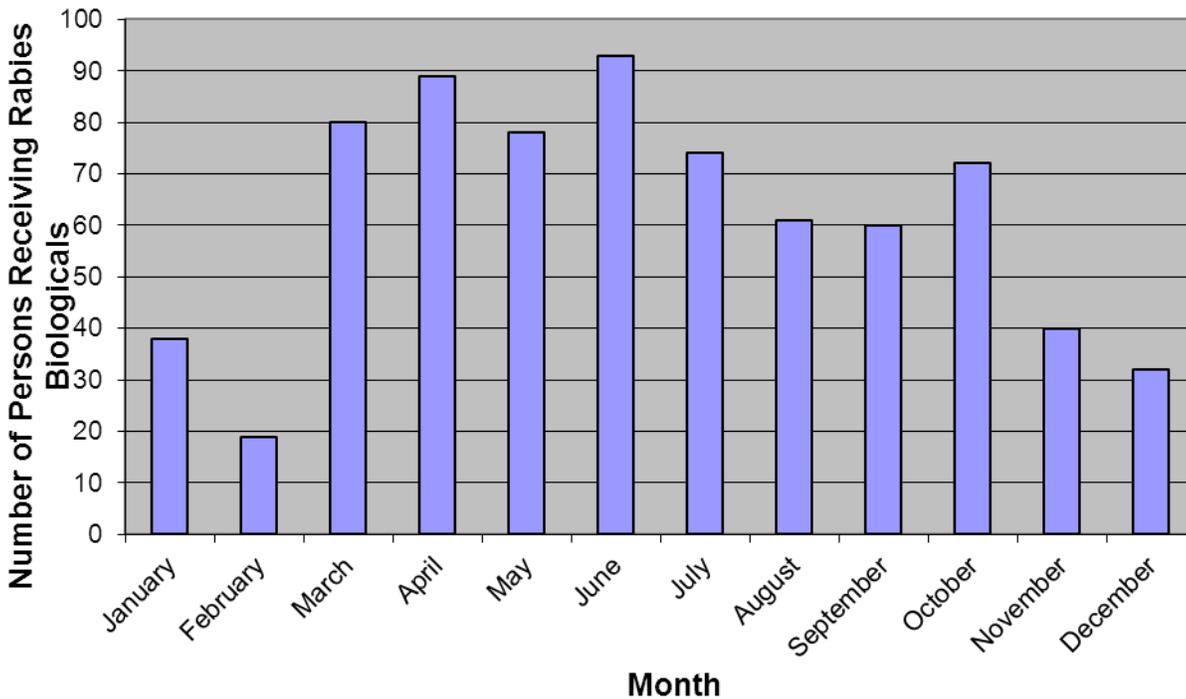
Figure 1. Number of People Receiving Postexposure Prophylaxis by Health Service Region of Patient Residence, 2011

Table 1 and Figure 2 show the distribution of rabies biologicals by month and HSR of the patient's residence.

Month	Health Service Region										Out of State Resident	Total
	1	2	3	4	6	7	8	9	10	11		
January	3	3	12	5			7	1	1	6		38
February	2	3	6				6			2		19
March	7	14	25	3	6	3	12	1	1	8		80
April	4	9	38	5	7	3	9	3	1	8	2	89
May		9	31	10	2	4	9	5	3	5		78
June	10	8	25	12	10	1	12	8		5	2	93
July	2	7	22	7	13		7	3	1	10	2	74
August	1	3	23	7	11	1	5	6	1	3		61
September	12	7	11	3	3	1	9	5		8	1	60
October	2	4	20	19	5	6	8	2		6		72
November	2	4	18	5	3		2	2		4		40
December		2	13	6	1		3	3	1	2	1	32
Total	45	73	244	82	61	19	89	39	9	67	8	736

Table 1. Number of Persons Receiving Rabies Biologicals by Health Service Region of Patient Residence, 2011

Figure 2. Number of Persons Receiving Rabies Biologicals By Month, 2011



The species of animals associated with the potential rabies exposures are detailed in Table 2. The number of persons receiving biologicals by HSR and animal causing the potential rabies exposure is detailed in Table 3.

Animals designated as being of high risk for transmitting rabies (bats, coyotes, foxes, raccoons, and skunks) accounted for 217 (29.5%) of the exposures. Animals classified as low risk for rabies (e.g. rodents, rabbits, moles, and opossums) accounted for 1 (0.1%) exposures (Figure 3).

Routes of exposure are shown in Figure 4.

Species Associated with Exposure Resulting in PEP	Number	%
Dog	241	32.7%
Cat	137	18.6%
Bat	131	17.8%
Horse	67	9.1%
Raccoon	47	6.4%
Cattle	38	5.2%
Skunk	25	3.4%
Fox	9	1.2%
Donkey	8	1.1%
Primate	8	1.1%
Goat	7	1.0%
Unknown/Not Listed	6	0.8%
Coyote	5	0.7%
Bobcat	3	0.4%
Cougar	1	0.1%
Ferret	1	0.1%
Opossum	1	0.1%
Rock Hyrax	1	0.1%
TOTAL	736	100%

Table 2. Species Associated with Rabies PEP, 2011

Exposing Animal	Health Service Region											Out of State Resident	Total	%
	1	2	3	4	6	7	8	9	10	11				
Bat	2	4	18	14	47	1	11	8	1	22	3	131	17.8%	
Bobcat		1						1		1		3	0.4%	
Cat	6	24	55	12	5	2	8	9	3	10	3	137	18.6%	
Cattle	6	7	16	7			2					38	5.2%	
Cougar									1			1	0.1%	
Coyote		1	2	1			1					5	0.7%	
Dog	22	20	71	22	3	6	52	11	4	29	1	241	32.7%	
Donkey			4			1		3				8	1.1%	
Ferret							1					1	0.1%	
Fox		1	4	1	1	1	1					9	1.2%	
Goat		2				5						7	1.0%	
Horse	8	4	33	14	1	2		5				67	9.1%	
Opossum		1										1	0.1%	
Primate		1	5				1			1		8	1.1%	
Raccoon	1	2	21	4	3	1	10	2		3		47	6.4%	
Rock Hyrax											1	1	0.1%	
Skunk		5	11	6	1		1			1		25	3.4%	
Unknown			4	1			1					6	0.8%	
Total	45	73	244	82	61	19	89	39	9	67	8	736	100.0%	
%	6.1%	9.9%	33.2%	11.1%	8.3%	2.6%	12.1%	5.3%	1.2%	9.1%	1.1%	100.0%		

Table 3. Persons Receiving Rabies Biologicals by Health Service Region of Patient Residence and Exposing Animal, 2011

Figure 3. Rabies Risk Classification of Animals Involved in Human Exposure Resulting in Postexposure Prophylaxis, 2011

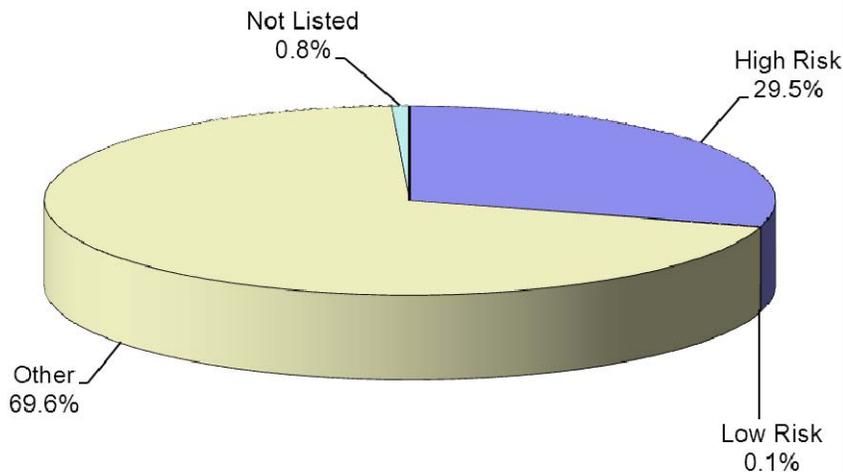
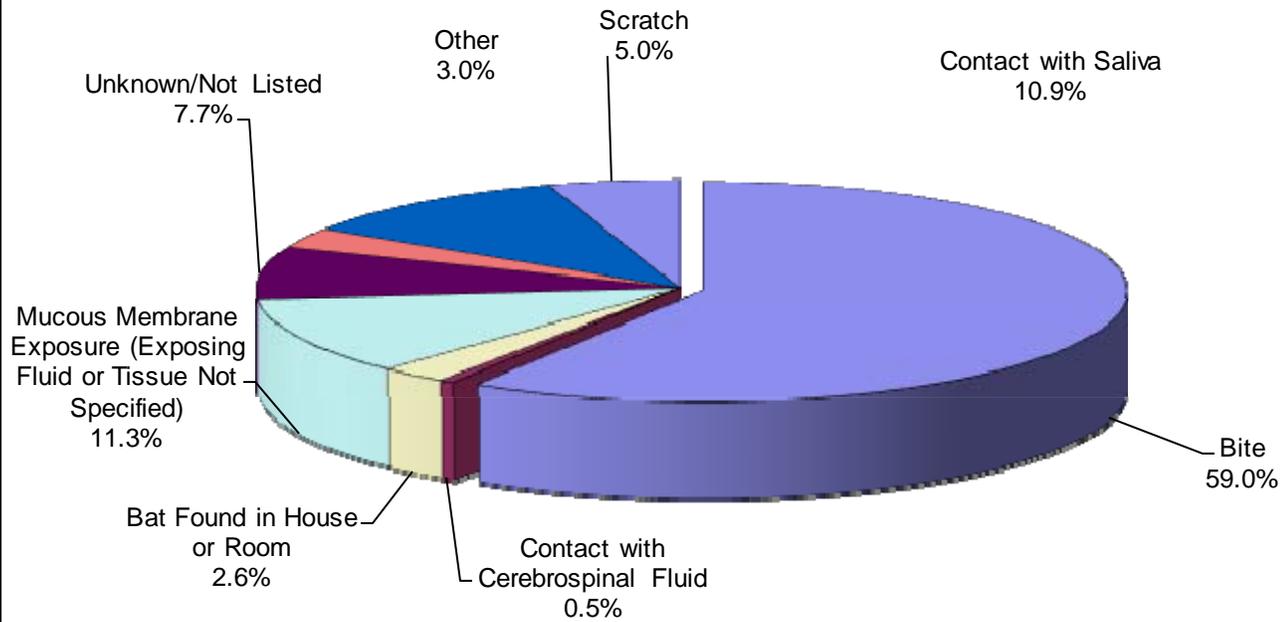


Figure 4. Primary Route of Exposure for Persons Receiving Postexposure Prophylaxis, 2011



Dogs and cats accounted for 378 (51.4%) of the reports of potential rabies exposures resulting in PEP. Of those, 44 (11.6%) were owned by the patient's family, 68 (18.0%) were owned by someone other than the patient's family, and 266 (70.4%) were listed as either a stray or had no ownership information identified (Figure 5). The vaccination status of 278 (73.5%) of the dogs and cats was either reported as unknown or not reported. The vaccination status of 100 (26.5%) of the dogs and cats was reported, with 94 (94.0% of those with vaccination status known) being not currently vaccinated against rabies and 6 (6.0% of those with vaccination status known) being currently vaccinated.

The average age of those receiving PEP was 35.5 years (median, 34 years), with 397 (53.9%) being male and 339 (46.1%) being female.

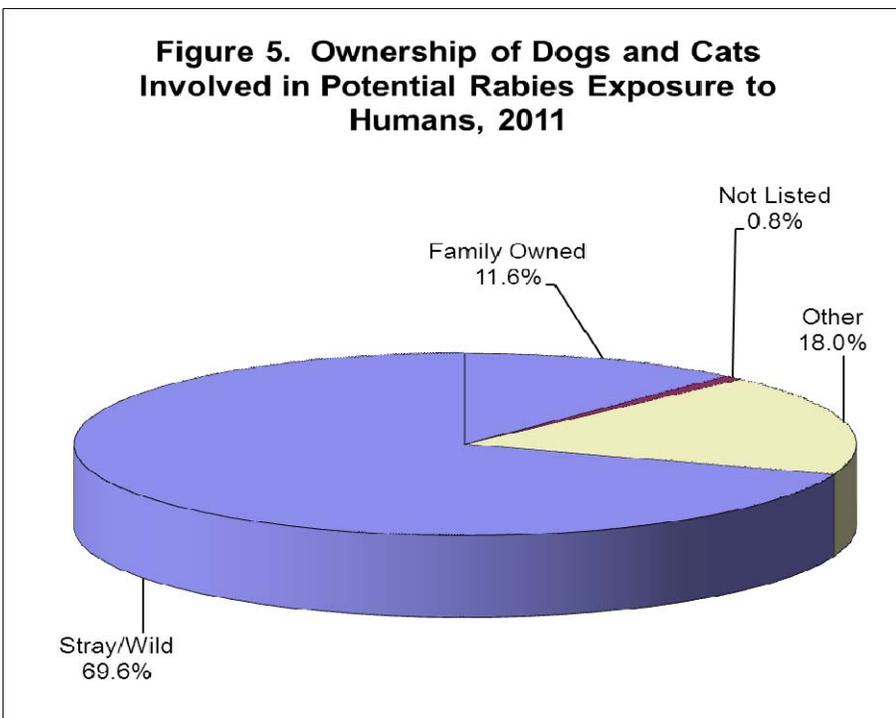
Of those persons receiving PEP, 32 (4.3%) were previously immunized for rabies; 20 (2.7%) were not previously immunized for rabies; and the rabies immunization status for the remaining 684 (92.9%) persons was not reported; however, the vast majority were likely not previously immunized. The primary anatomic sites of exposure are listed in Table 4.

The animal causing the exposure was tested for rabies in a public health laboratory in 224 (30.4%) cases; the animal was not available for testing in 501 (68.1%) cases; the testing status was not listed in 7 (1.0%) cases; and the animal was quarantined in lieu of testing in 4 (0.5%) cases. Biologicals were distributed to 4 persons (0.5% of persons receiving PEP) while the animal causing the exposure was being quarantined for rabies observation. Biologicals were distributed to 9 people (1.2% of persons receiving PEP) while laboratory results were pending. The final laboratory result for those samples that were pending at the time rabies biologicals were distributed were not recorded in the database (Table 5). PEP is occasionally begun while the exposing animal is being tested or quarantined when the animal or exposure situation is deemed high risk. Additionally, sometimes the exposing animal is located for testing or quarantine after PEP is begun. PEP is generally discontinued if the laboratory result is negative or the animal successfully completes the quarantine.

Anatomic Location of Exposure	Number of People	%
Hand	285	38.7%
Leg	119	16.2%
Unknown/Not Listed	100	13.6%
Multiple Anatomic Sites	77	10.5%
Head/Neck	61	8.3%
Arm	57	7.7%
Torso	20	2.7%
Foot	17	2.3%
TOTAL	736	100%

Table 4. Primary Anatomic Location of Rabies Exposures, 2011

Figure 5. Ownership of Dogs and Cats Involved in Potential Rabies Exposure to Humans, 2011



Laboratory Testing Status	Number	%	
Animal Not Tested - Quarantined	4	0.5%	
Animal Not Tested - Unavailable	501	68.1%	
Testing Status Not Listed	7	1.0%	
Tested	224	30.4%	
	Test Result	Number	% of Tested Specimens
	Positive	194	86.6%
	Results pending at the time the PEP biologicals were distributed*	9	4.0%
	Sample Decomposed	6	2.7%
	Sample Unsatisfactory	5	2.2%
	Sample Destroyed	4	1.8%
	Result Inconclusive	4	1.8%
	Test Result Not Listed	2	0.9%

Table 5. Rabies Testing Status and Test Results from Animals That Caused People to Receive Postexposure Prophylaxis, 2011

*PEP is occasionally begun while the exposing animal is being tested when the animal or exposure situation is deemed high risk. Additionally, sometimes the exposing animal is located for testing after PEP is begun. PEP is generally discontinued if the laboratory result is negative.

Table 6 lists the number of persons receiving rabies biologicals for those instances in which the exposing animal was unavailable for rabies testing.

Exposing Animal	Health Service Region										Out of State Resident	Total
	1	2	3	4	6	7	8	9	10	11		
Bat	1	3	18	14	40		8	6	1	19	1	111
Bobcat								1		1		2
Cat	5	12	43	10	4	1	7	6	3	9	3	103
Cattle		2	1				2					5
Cougar									1			1
Coyote		1	2	1								4
Dog	12	15	67	9	3	3	46	11	4	27	1	198
Donkey			1									1
Ferret							1					1
Fox			1	1		1	1					4
Horse			2	1								3
Opossum		1										1
Primate		1	5				1			1		8
Raccoon	1	2	20	4	3	1	10	2		3		46
Rock Hyrax											1	1
Skunk		3	1	3	1					1		9
Unknown			3									3
Total	19	40	164	43	51	6	76	26	9	61	6	501

Table 6. Number of Persons Receiving Rabies Biologicals Due to Exposures to Animals That Were Unavailable for Rabies Testing, 2011