



## Texas Department of State Health Services

### DSHS-Supplied Rabies Biologicals 2010 Surveillance Summary

(Revised 08/02/11)

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.

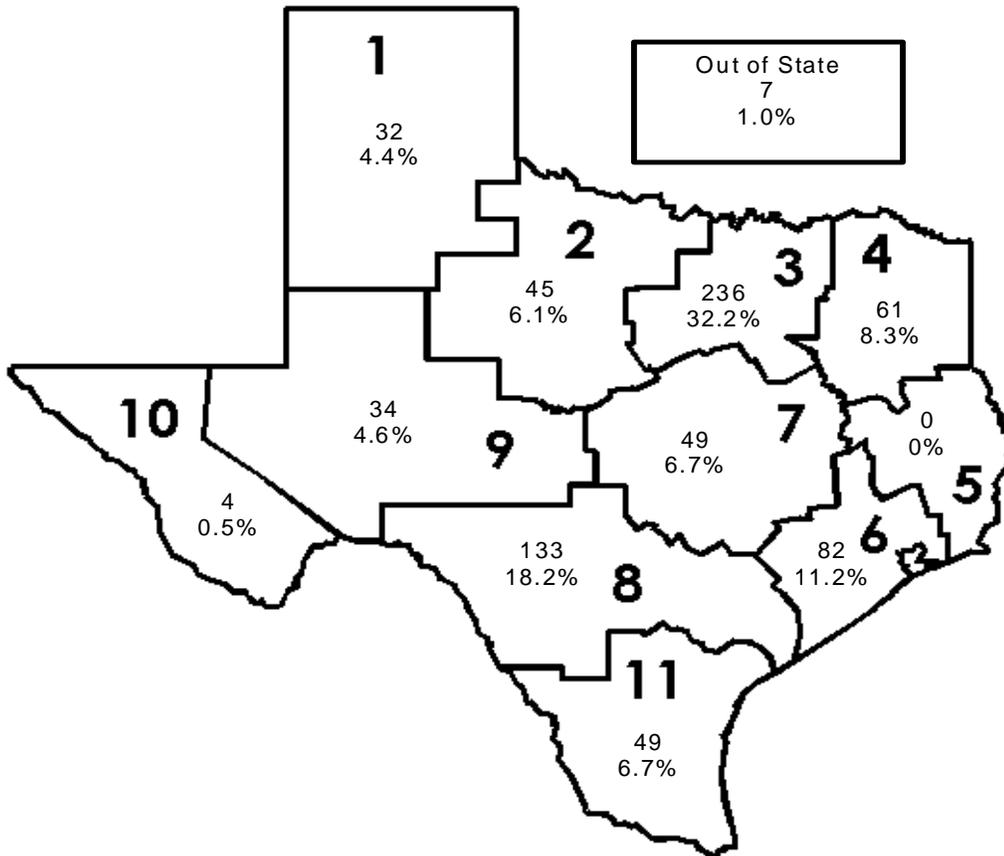
DSHS Health Service Region (HSR) offices may store and distribute the biologicals. In an effort to make the biologicals available to Texas residents throughout the state, some regional offices partner with local health departments and hospitals to serve as depots for storing and distributing biologicals. 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 2010, rabies biologicals were distributed for postexposure prophylaxis (PEP) to 732 people, of whom 381 (52.0%) acquired the biologicals from regional DSHS offices and 351 (48.0%) from depots. The reported total cost of the biologicals distributed from DSHS inventory was \$1,210,596 (\$679,987 for 2,498 vials [2 ml] of human rabies immune globulin and \$530,609 for 2,636 vials [1 ml] of vaccine).

Rabies biologicals were distributed to 725 (99.0%) Texas residents and 7 (1.0%) out-of-state residents: 2 persons from Alabama and 1 person each from Arizona, Michigan, Missouri, New Mexico, and Oklahoma. Distribution of postexposure biologicals based on the HSR in which the patient resided is summarized in Figure 1.

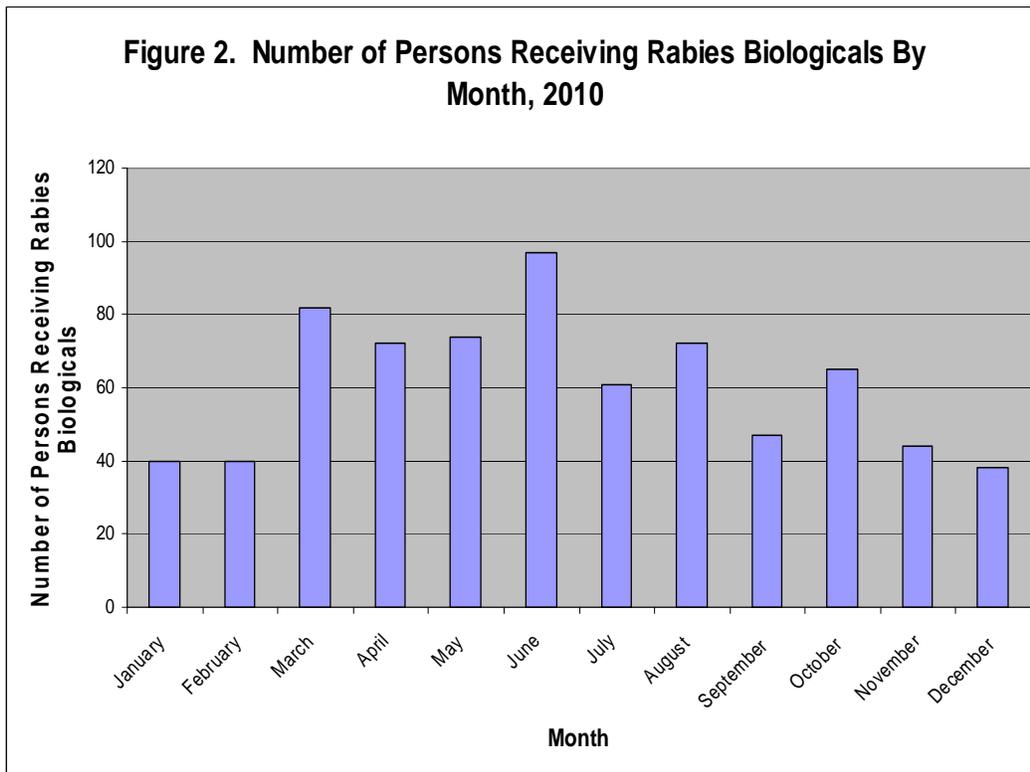


**Figure 1. Number of People Receiving Postexposure Prophylaxis by Health Service Region of Patient Residence, 2010**

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

Month	HSR-1	HSR-2	HSR-3	HSR-4	HSR-6	HSR-7	HSR-8	HSR-9	HSR-10	HSR-11	Out of State Resident	Total
January		6	15		6	3	5	2	1	2		40
February	1		11	2	4	2	12	1		6	1	40
March	5	5	24	11	15	4	10	5		3		82
April	1	4	16	3	6	25	10	2		5		72
May	12	5	18	9	3	2	17	4	1	3		74
June	4	4	37	10	7	4	13	7		7	4	97
July	2	3	19	9	10	3	7	1	1	6		61
August	1	4	26	9	11		18	2		1		72
September	2	2	19	3	5		13	3				47
October		7	23	1	5	3	11	3		10	2	65
November	4	1	9	3	7	1	11	2	1	5		44
December		4	19	1	3	2	6	2		1		38
<b>Total</b>	<b>32</b>	<b>45</b>	<b>236</b>	<b>61</b>	<b>82</b>	<b>49</b>	<b>133</b>	<b>34</b>	<b>4</b>	<b>49</b>	<b>7</b>	<b>732</b>

**Table 1. Number of Persons Receiving Rabies Biologicals and Health Service Region of Patient Residence, 2010**



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 192 (26.2%) of the exposures. Animals classified as low risk for rabies (e.g. rodents, rabbits, moles, and opossums) accounted for 4 (0.5%) exposures (Figure 3).

Routes of exposure are shown in Figure 4.

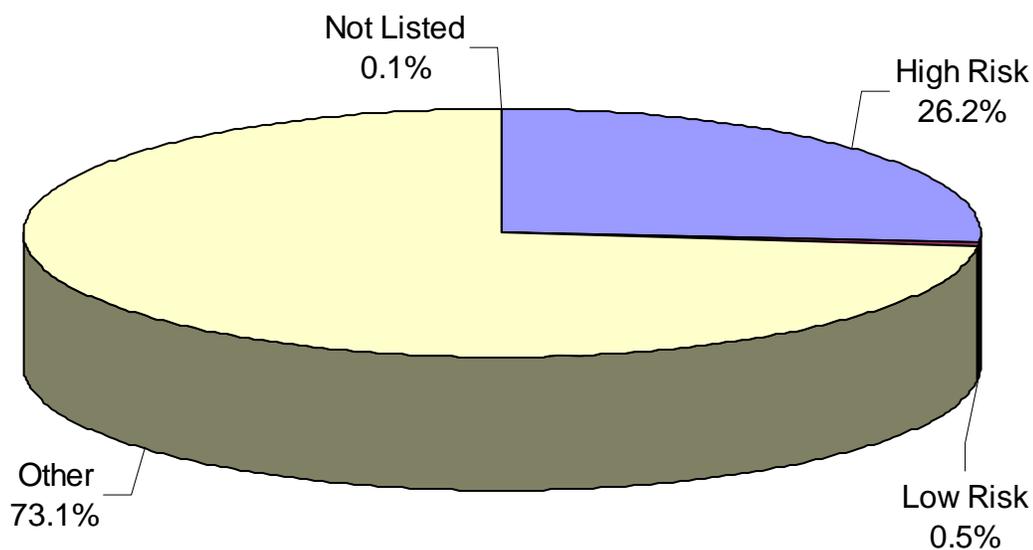
Species Associated with Exposure Resulting in PEP	Number	%
Dog	323	44.1%
Cat	164	22.4%
Bat	140	19.1%
Raccoon	38	5.2%
Horse	26	3.6%
Skunk	11	1.5%
Cattle	10	1.4%
Primate	6	0.8%
Bobcat	3	0.4%
Fox	2	0.3%
Opossum	2	0.3%
Armadillo	1	0.1%
Coyote	1	0.1%
Rat	1	0.1%
Sheep	1	0.1%
Squirrel	1	0.1%
Unknown/Not Listed	1	0.1%
Zebra	1	0.1%
<b>TOTAL</b>	<b>732</b>	<b>100%</b>

**Table 2. Species Associated with Rabies PEP, 2010**

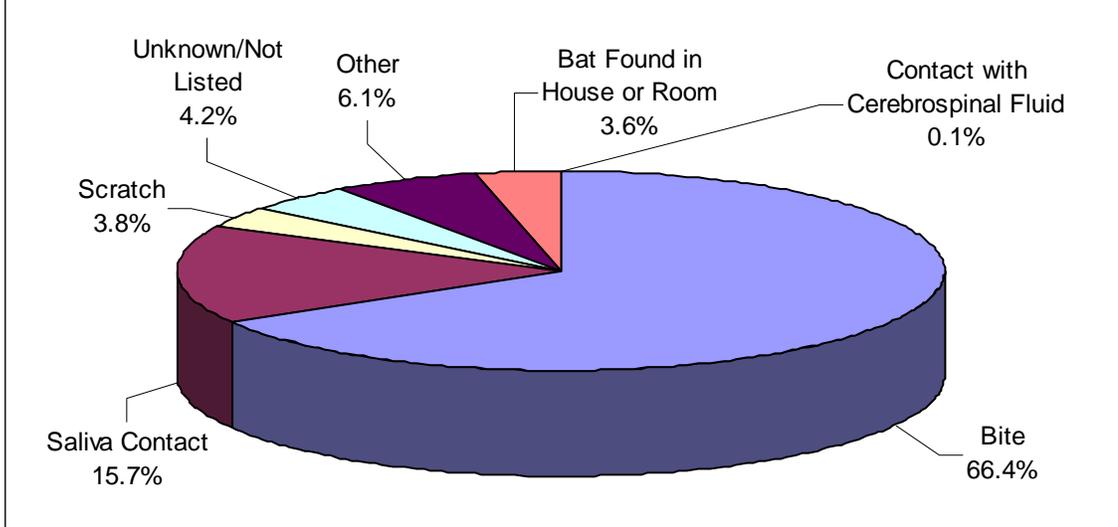
Exposing Animal	HSR-1	HSR-2	HSR-3	HSR-4	HSR-6	HSR-7	HSR-8	HSR-9	HSR-10	HSR-11	Out of State Resident	Total	%
Armadillo			1									1	0.1%
Bat	1		20	15	50	9	23	1	1	18	2	140	19.3%
Bobcat			1	2								3	0.4%
Cat	11	16	59	10	9	9	25	14	2	7	2	164	22.4%
Cattle	1		7	1				1				10	1.4%
Coyote				1								1	0.1%
Dog	8	23	112	24	12	30	73	16	1	22	2	323	44.1%
Fox		1						1				2	0.3%
Horse	10	2	10				3				1	26	3.6%
Opossum			1				1					2	0.3%
Primate			1		4					1		6	0.8%
Raccoon		3	17	6	5		6			1		38	5.2%
Rat					1							1	0.1%
Sheep								1				1	0.1%
Skunk	1		6	1		1	2					11	1.5%
Squirrel				1								1	0.1%
Unknown					1							1	0.1%
Zebra			1									1	0.1%
<b>Total</b>	<b>32</b>	<b>45</b>	<b>236</b>	<b>61</b>	<b>82</b>	<b>49</b>	<b>133</b>	<b>34</b>	<b>4</b>	<b>49</b>	<b>7</b>	<b>732</b>	<b>100.0%</b>
<b>%</b>	<b>4.4%</b>	<b>6.1%</b>	<b>32.2%</b>	<b>8.3%</b>	<b>11.2%</b>	<b>6.7%</b>	<b>18.2%</b>	<b>4.6%</b>	<b>0.5%</b>	<b>6.7%</b>	<b>1.0%</b>	<b>100.0%</b>	

Table 3. Persons Receiving Rabies Biologicals by HSR and Exposing Animal, 2010

**Figure 3. Rabies Risk Classification of Animals Involved in Human Exposure Resulting in Postexposure Prophylaxis, 2010**



**Figure 4. Primary Route of Exposure for Persons Receiving Postexposure Prophylaxis, 2010**



Dogs and cats accounted for 487 (66.5%) of the reports of potential rabies exposures resulting in PEP. Of those, 64 (13.1%) were owned by the patient’s family, 78 (16.0%) were owned by someone other than the patient’s family, and 345 (70.8%) were listed as either a stray or had no ownership information identified (Figure 5). The vaccination status of 368 (75.6%) of the dogs and cats was either reported as unknown or not reported. The vaccination status of 119 (24.4%) of the dogs and cats was reported, with 107 (89.9% of those with vaccination status known) being not currently vaccinated against rabies and 12 (10.1% of those with vaccination status known) being currently vaccinated.

The average age of those receiving PEP was 33.2 years (median, 31 years), with 397 (54.2%) being male and 335 (45.8%) being female.

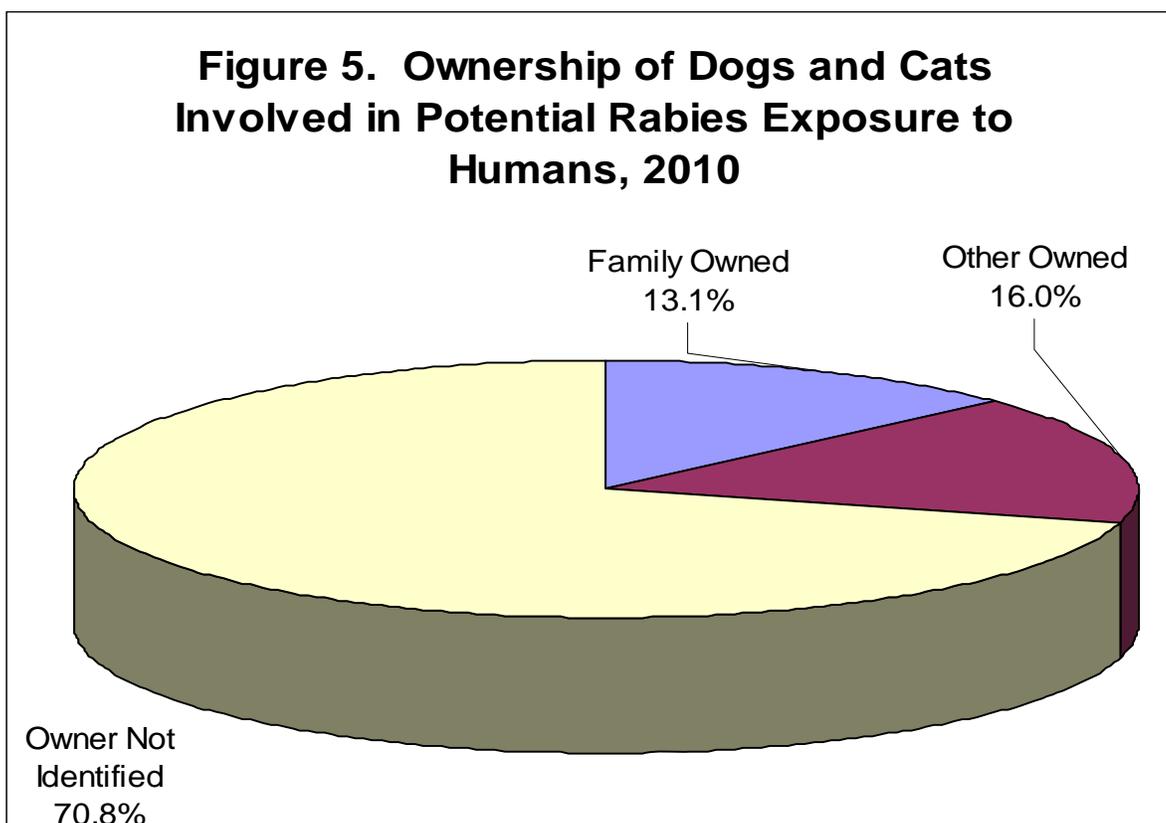
Of those persons receiving PEP, 22 (3.0%) were previously immunized for rabies; 11 (1.5%) were not previously immunized for rabies; and the rabies immunization status for the remaining 699 (95.5%) persons was not reported; however, the vast majority were likely not previously immunized. The primary anatomic sites of exposure are listed in Table 4.

Anatomic Location of Exposure	Number of People	%
Hand	279	38.1%
Leg	117	16.0%
Unknown/Not Listed	94	12.8%
Arm	92	12.6%
Head/Neck	73	10.0%
Multiple Anatomic Sites	48	6.6%
Torso	19	2.6%
Foot	10	1.4%
<b>TOTAL</b>	<b>732</b>	<b>100%</b>

**Table 4. Primary Anatomic Location of Rabies Exposures, 2010**

The animal causing the exposure was tested for rabies in a public health laboratory in 152 (20.8%) cases; the animal was not available for testing in 567 (77.5%) cases; the testing status was not listed in 8 (1.1%) cases; and the animal was quarantined in lieu of testing in 5 (0.7%) cases. Biologicals were distributed to 5 persons (0.7% of persons receiving PEP) while the animals causing the exposure was being quarantined for rabies observation. Biologicals were distributed to 8 people (1.1% of persons receiving PEP) while laboratory results were pending. Laboratory results for pending samples 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.

**Figure 5. Ownership of Dogs and Cats Involved in Potential Rabies Exposure to Humans, 2010**



Laboratory Testing Status	Number	%	
Animal Not Tested - Quarantined	5	0.7%	
Animal Not Tested - Unavailable	567	77.5%	
Testing Status Not Listed	8	1.1%	
Tested	152	20.8%	
	Test Result	Number	% of Tested Specimens
	Positive	114	75.0%
	Sample Unsatisfactory	9	5.9%
	Sample Destroyed	8	5.3%
	Results pending at the time the PEP biologicals were distributed*	8	5.3%
	Result Inconclusive	7	4.6%
	Sample Decomposed	6	3.9%

**Table 5. Rabies Testing Status and Test Results from Animals That Caused People to Receive Postexposure Prophylaxis, 2010**

\*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 animals were unavailable for rabies testing.

Exposing Animal	HSR-1	HSR-2	HSR-3	HSR-4	HSR-6	HSR-7	HSR-8	HSR-9	HSR-10	HSR-11	Out of State Resident	Total
Armadillo			1									1
Bat	1		20	14	40	6	16			12	2	111
Bobcat			1	2								3
Cat	6	13	56	8	9	8	23	13		7	1	144
Cattle			4					1				5
Coyote				1								1
Dog	8	9	93	13	7	13	65	16	1	19	2	246
Fox		1										1
Opossum			1				1					2
Primate			1		4					1		6
Raccoon		3	17	6	5		5			1		37
Rat					1							1
Sheep								1				1
Skunk			4			1						5
Squirrel				1								1
Unknown					1							1
Zebra			1									1
<b>Total</b>	<b>15</b>	<b>26</b>	<b>199</b>	<b>45</b>	<b>67</b>	<b>28</b>	<b>110</b>	<b>31</b>	<b>1</b>	<b>40</b>	<b>5</b>	<b>567</b>

**Table 6. Number of Persons Receiving Rabies Biologicals Due to Exposures to Animals That Were Unavailable for Rabies Testing, 2010**