Texas Department of Health
Zoonosis Control Division
1100 West 49th Street
Austin, Texas 78756

Rabies Biologicals
1997 Surveillance Summary

The Texas Health and Safety Code (§826.025) mandates that the Texas Department of Health (TDH) supply rabies biologicals (vaccine and immune globulin) for persons who were exposed to rabid or potentially rabid animals. Although TDH is supposed to be reimbursed the cost of these biologicals, no one who has a valid exposure to a rabid or potentially rabid animal will be denied access to them based on their inability to pay. TDH also supplies vaccine for preexposure prophylaxis of people. TDH does not dispense vaccine for preexposure prophylaxis without financial reimbursement.

The regional TDH offices store and dispense the biologicals. In an effort to make the biologicals readily available to Texas residents throughout the state, the TDH regional offices contract with depots such as local health departments and hospitals to store and dispense biologicals. The cost and quantity of rabies biologicals shipped from TDH in Austin to all locations (regional offices and depots) is contained in Table 1. Surveillance data, including the demographic information on who received the biologicals and the reason the biologicals were dispensed, is maintained by TDH (mandated by §97.123 of the Rules of the Board of Health "Provision of Anti-Rabies Biologicals"). A single form is used for both surveillance and for financial accounting (attached).

Some private sources (such as hospitals) directly stock and dispense rabies biologicals and do not contract with TDH. These sources do not supply surveillance information to TDH; therefore, the information presented in this Summary includes only the surveillance information supplied on biologicals dispensed by TDH regional offices or their depots. However, TDH supplies most of the biologicals dispensed in the state of Texas, and the data below, while not complete, is reflective of overall trends.

Location	HDCV Single Dose Vial	HDCV-ID Single Dose Vial	HRIG 2 ml	HRIG 10 ml	RVA Single Dose Vial	Total Value
PHR 01	$3,492 (30)	$8,352 (145)	$19,099 (234)	$1,632 (4)	$18,071 (230)	$50,646
PHR 02	$3,492 (30)	$7,200 (125)	$17,956 (220)	$6,530 (16)	$16,500 (210)	$51,678
PHR 03	$13,270 (114)	$28,339 (492)	$31,424 (385)	$10,203 (25)	$38,656 (492)	$121,892
PHR 4/5	$5,238 (45)	$8,064 (140)	$33,464 (410)	$3,673 (9)	$32,999 (420)	$83,438
PHR 06	$34,338 (295)	$11,520 (200)	$18,773 (230)	$18,773 (46)	$14,143 (180)	$97,547
PHR 07	$19,788 (170)	$23,789 (413)	$52,155 (639)	$8,978 (22)	$55,156 (702)	$159,866
PHR 08	$22,931 (197)	$16,128 (280)	$26,200 (321)	$13,059 (32)	$34,571 (440)	$112,889
PHR 9/10	$20,370 (175)	$16,877 (293)	$25,302 (310)	$4,897 (12)	$16,500 (210)	$83,946
PHR11	$15,132 (130)	$5,357 (93)	$24,078 (295)	$6,530 (16)	$39,678 (505)	$90,775
Total	**$138,051 (1,186)**	**$125,626 (2,181)**	**$248,451 (3,044)**	**$74,275 (182)**	**$266,274 (3,389)**	**$852,677**

Table 1 - Cost and Quantity of Rabies Biologicals Shipments by Public Health Region, 1997

Preexposure Prophylaxis

Human Rabies Prophylaxis Surveillance Reports indicate that approximately 725 persons received vaccine for preexposure prophylaxis, of which 415 received vaccine as a booster and 310 received the initial vaccination series of three injections. Individual names are not always reported for persons receiving preexposure vaccine, these numbers are only estimates; therefore, some of the reports may be duplicates for the same person individually purchasing each of the three-injection initial series. Five people not residing in Texas received preexposure vaccine from TDH: 2 from New Mexico and 3 from Oklahoma. A total of 322 people acquired preexposure vaccine from 10 regional TDH offices while 366 acquired the vaccine from 17 depots. The distribution site was not listed in 37 reports (Figure 1). Distribution of the preexposure vaccine based on the Public Health Region in which the patient resides is summarized in Figure 2. The reason for obtaining preexposure prophylaxis is summarized in Table 2.

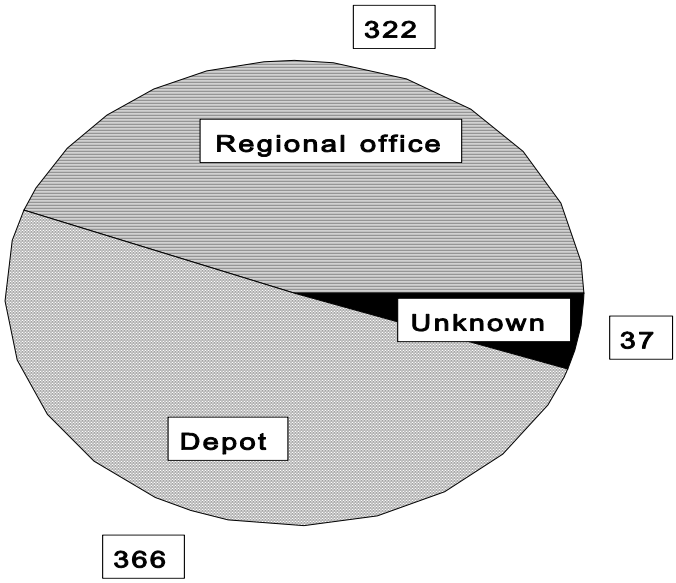

Figure 1. Distribution Sites of Preexposure Prophylaxis, 1997

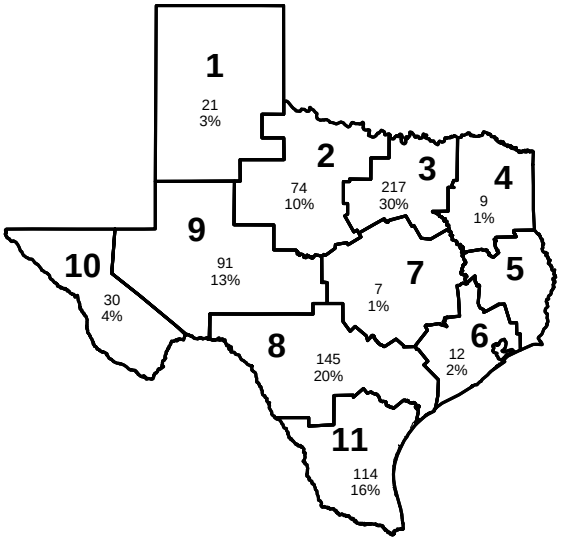

Figure 2. Number of People in Texas Receiving Preexposure Prophylaxis by Public Health Region, 1997

Reason for Preexposure Vaccination	No. of People Immunized	%
Veterinarian, technician, or student	196	27
Animal control officer	180	25
Animal Damage Control employee	31	4
Law enforcement officer	34	5
Rancher	8	1
Resides in high risk area	5	<1
Travel	4	<1
Wildlife rehabilitator	4	<1
Health department worker or health officer	2	<1
Meter reader	2	<1
Parks & Wildlife employee	2	<1
Taxidermist	2	<1
Child	1	<1
Maintenance crew	1	<1
Trapper	1	<1
Not reported	252	35
Total	**725**	**100**

Table 2. Reasons for Preexposure Prophylaxis, 1997

Postexposure Prophylaxis

Rabies biologicals were dispensed for postexposure prophylaxis to 707 people, of which 319 acquired the biologicals from regional TDH offices while 375 acquired the biologicals from depots. The dispensing site was not listed in 13 reports (Figure 3). People not residing in Texas but receiving biologicals through TDH included six from Mexico and one each from Arkansas, Florida, Illinois, and Oklahoma. Distribution of the postexposure biologicals based on the Public Health Region which the patient resides is summarized in Figure 4.

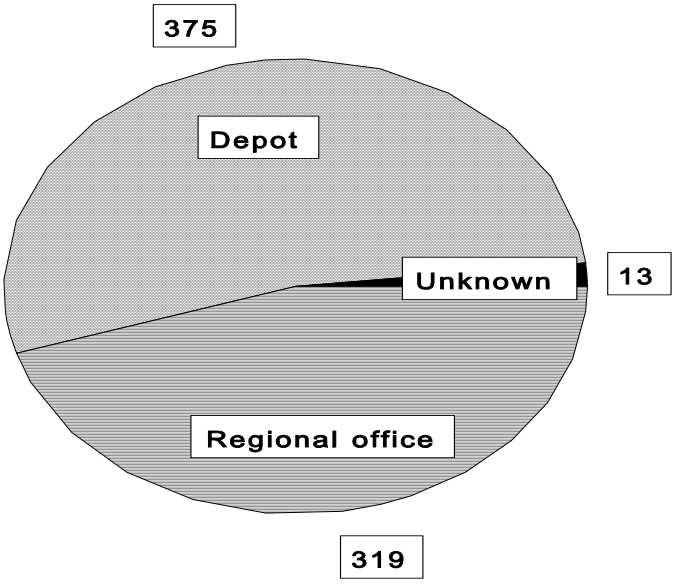

Figure 3. Distribution Sites of Postexposure Prophylaxis, 1997

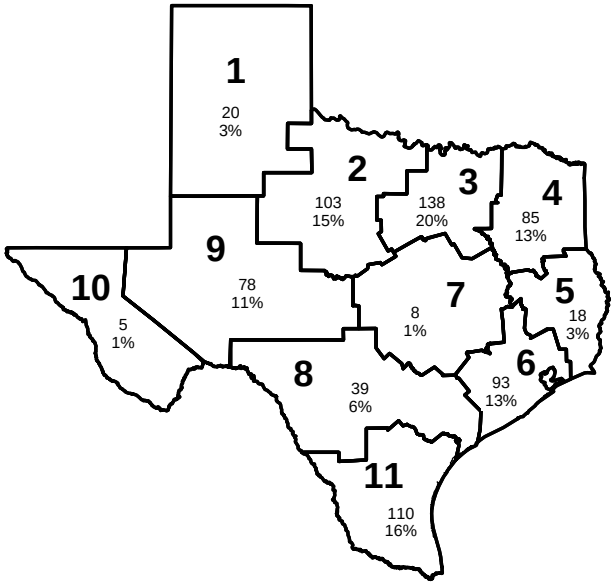

Figure 4. Number of People in Texas Receiving Postexposure Prophylaxis by Public Health Region, 1997

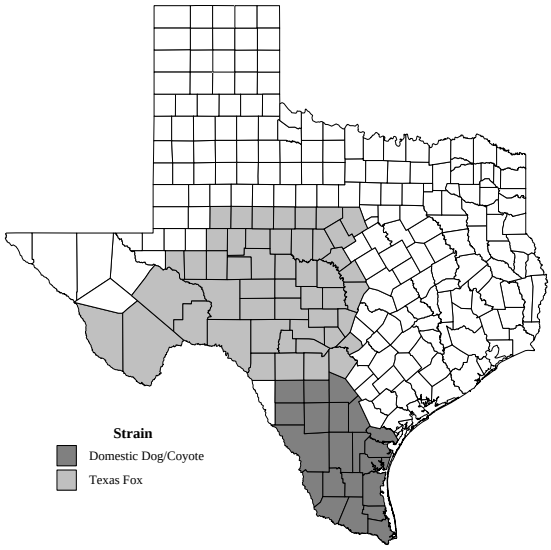

Figure 5. Geographical Distribution of Rabies Epizootics in Texas

Of those people receiving postexposure prophylaxis, 107 (15% of the total biologicals dispensed) resided in counties included in the area of the canine rabies epizootic while 181 (26 % of the total biologicals dispensed) resided in counties included in the area of the grey fox rabies epizootic area (Figure 5). These two areas contain 8% and 11% of Texas' total population, respectively.

Dogs and cats combined accounted for 450 (64%) reports of rabies exposures resulting in postexposure prophylaxis (Table 3). High risk animals (bats, coyotes, foxes, raccoons, and skunks) accounted for 17% of the exposures resulting in postexposure prophylaxis. Animals classified as low risk for rabies (including rodents, opossums, armadillos, and rabbits) accounted for 2% of the exposures resulting in postexposure prophylaxis (Figure 6). A single case of human rabies occurred in Texas in 1997, and 39 people (6% of the exposures resulting in postexposure prophylaxis) were treated in response to exposure to this individual's saliva or other body fluids.

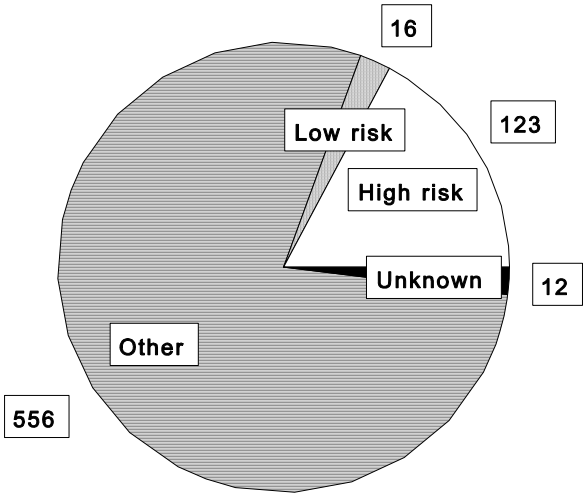

Figure 6. Rabies Risk Classification of Animals Involved in

uman Exposure Resulting in Postexposure Prophylaxis, 1997

The average weight of a person receiving postexposure prophylaxis was 137 (median, 140; mode, 180) pounds. The average person was 29 (median, 27; mode 7) years of age. Only 42 (6%) of the persons receiving postexposure prophylaxis had previously been immunized against rabies while 575 (81%) had not been previously immunized. The reports did not contain information on whether the person had been previously immunized in the remaining 90 cases (13%). Most of the persons receiving postexposure prophylaxis reported injuries to multiple anatomic sites (Table 4).

Species Assoc with Rabies Exposure	No. of Cases	%	Species Assoc with Rabies Exposure	No. of Cases	%	Species Assoc with Rabies Exposure	No. of cases	%
Dog	268	38	Skunk	11	2	Anteater	1	<1
Cat	182	26	Goat	7	<1	Hog	1	<1
Bat	64	9	Fox	5	<1	Lion/tiger	1	<1
Raccoon	40	6	Coyote	3	<1	Pig	1	<1
Human	39	5	Monkey	3	<1	Pot-bellied pig	1	<1
Cow	23	3	Opossum	3	<1	Ringtail	1	<1
Horse	23	3	Bobcat	2	<1	Weasel	1	<1
Rodent	13	2	Wild boar	2	<1	Unknown	12	2

Table 3. Species Associated with Human Rabies Exposures, 1997

Anatomic Location of Exposure	No. of People
Hand	360
Leg	146
Head or neck	122
Arm	87
Foot	41
Torso	22
Mucous membrane	4
Unknown	4

Table 4. Anatomic Location of Rabies Exposures, 1997

Laboratory Test Result	Number	%
Positive	152	77
Destroyed	15	8
Pending	11	6
Decomposed	10	5
Inconclusive	7	4
Negative	3	2
Total	**198**	**102***

* rounding error

Table 5. Animal Test Results for People Receiving Postexposure Prophylaxis, 1997

Of the 450 dogs and cats that were involved in the exposure incidents, 231 (51%) were stray or wild, 65 (14%) were owned by the family of the patient, and 65 (14%) were owned by someone other than the patient's family. The information was not contained on the remaining 89 reports. The vaccination status of 288 (64%) of the dogs and cats was unknown. Of the 162 dogs and cats whose rabies vaccination status was reported, 152 (94%) were not vaccinated against rabies and 10 (6%) were vaccinated.

In 40 (6 %) cases, postexposure prophylaxis was dispensed while the animal was being quarantined. Three people received post exposure prophylaxis despite a negative rabies test result on the animal (Table 5).