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

2000 Severe Animal Attack and Bite Surveillance Summary

Introduction

During 2000, a total of 599 severe animal attacks or bites were voluntarily reported to the Zoonosis Control Division of the Texas Department of Health by local health departments, law enforcement agencies, animal control agencies, and emergency health care providers. Reports were submitted from 79 of Texas' 254 counties (Figure 1). A "severe attack" is defined as one in which the animal repeatedly bites or vigorously shakes its human victim, and the victim, or a person intervening, has extreme difficulty terminating the attack. A "severe bite" is defined as a puncture or laceration made by an animal's teeth which breaks the person's skin, resulting in a degree of trauma which would cause most prudent and reasonable people to seek medical care for treatment of the wound, without consideration of rabies prevention alone. Note: Percentages in some tables may not equal 100% due to rounding.

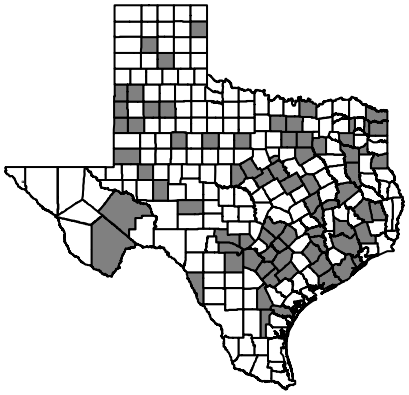
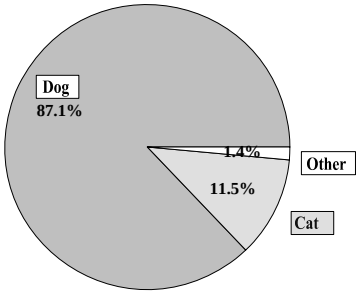


Figure 1. Texas Counties Submitting Reports



Species

Domestic dogs and cats accounted for 98.6% of all reported serious attacks (Figure 2). The overwhelming majority (522 cases, 87.1%) involved domestic dogs, while domestic cats were involved in 69 cases (11.5%). The other species identified were: gray fox (2 reports, 0.3%); jaguar, rabbit, raccoon, skunk, squirrel, wolf-dog hybrid (1 report each, 1.0%).

Canine Breed

The specific breed of canine (domestic dog and wolf-dog hybrids) was listed in 463 reports. Of the 60 breeds and breed crosses reported, 7 breeds and breed crosses constituted 63.5% of the reports (Table 1). (Note: the number of animals in various dog breeds in the overall canine population is unknown; therefore, no conclusions can be drawn concerning whether dogs of these 7 breeds are prone to bite more often than other breeds or if these are merely the more popular breeds.) No other breeds or breed crosses represented more than 3% of the reports. Small breeds of dogs were infrequently reported because they are less likely than large breeds to inflict severe wounds.

Breed	Number	%
Chow/Chow Cross	67	14.5
Pit Bull/Pit Bull Cross	62	13.4
Rottweiler/Rottweiler Cross	47	10.2
German Shepherd/Shepherd	39	8.4
Labrador Retriever/Lab	39	8.4
Blue Heeler	25	5.4
Chihuahua/Chihuahua Cross	15	3.2

Table 1. Canine breeds reported in severe animal attacks or bites - 2000

Animal's Sex

In severe animal attacks or bites involving canines (domestic dogs and wolf-dog hybrids), the animal's sex was specified in 461 reports. Of the 91 female canines whose reproductive status was specified, 20 (22.0%) were spayed and 71 (78.0%) were intact. Of the 240 male canines whose reproductive status was known, 206 (85.8%) were intact and 34 (14.2%) were castrated (Figure 3).

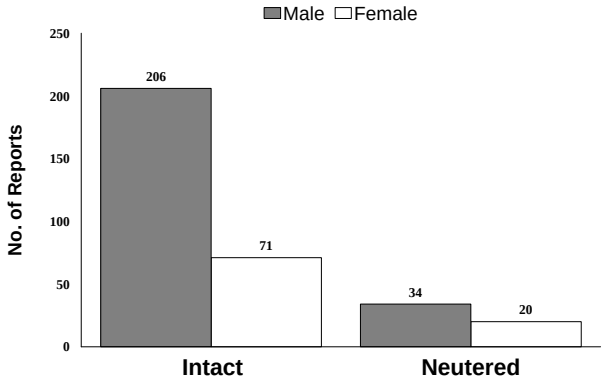


Figure 3. Sex and reproductive status of canines involved in severe animal attacks or bites - 2000

While the exact proportion of sterilized versus intact dogs in the overall canine population in Texas is unknown, a study of the reproductive status of almost 25,000 dogs was conducted by the Zoonosis Control Division of the Texas Department of Health in 1997. The sample data were drawn both from animal shelter records of dogs which were licensed and from dogs which had been impounded in animal shelters. The study revealed that 2,788 (23%) of male dogs and 3,756 (31%) of female dogs in the sample had been surgically sterilized. When comparing the sex and reproductive status of the study population with 1,724 dogs involved in severe bites for the five-year period 1996 - 2000, the following conclusions may be made. Spayed and intact females appear to bite in about the same proportion as their prevalence in the overall population. Intact males appear to bite at twice the rate of neutered males.

Animal's Behavior

The animal's behavior prior to the attack was listed in 479 reports. The animal was described as docile, friendly or playful in 281 cases (58.7%). The animal displayed warning signals (such as barking, growling, hissing, curling lip, or baring teeth) in only 185 reports (38.6%) of the reports. Of the 544 reports stating whether multiple animals were involved, 64 (11.8%) incidents involved an attacking animal that was part of a larger group of animals while in 480 (88.2%) incidents, the animal acted alone.

Rabies Vaccination Status

The animal's rabies vaccination status was specified in 411 (69.5%) of 591 reports involving canines (domestic dogs and wolf-dog hybrids) or domestic cats. Of all pets involved in attacks/bites in which the vaccination status was known, 203 (49%) had not received a rabies vaccination within the past 12 months, and 208 (51%) were currently vaccinated (Figure 4). While over one-half of the dogs with known vaccination status were currently vaccinated, three-quarters of cats whose vaccination status was known were not currently vaccinated.

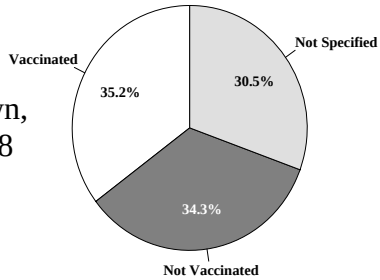


Figure 4. Rabies vaccination status of canines and domestic cats involved in severe animal attacks or bites - 2000

Animal Involved in Previous Attack

Of the 337 reports in which it was definitely known whether or not the animal was involved in previous severe attacks or bites on people or animals, 272 (80.7%) had not been involved in previous attacks and 65 (19.3%) had been involved in previous attacks. Of the 46 reports that included information on whether the previous attacks were against people or animals, 36 animals had been involved in attacks against people, 6 had been involved in attacks against other animals, and 1 had been involved in attacks against both people and animals.

Provocation/Special Circumstances

Circumstances described in 195 reports included situations in which the attack could be considered provoked. No association was found between the victim's age and whether the attack was provoked. Special circumstances involved in the attacks included (in order of frequency) guarding, teasing, hunger/eating, dog fight, being startled, estrus, puppies/kittens, and injury.

Extent of Injury

Of the 261 reports in which the extent of injury was specified, 25 (9.6%) attack victims required surgery, 98 (37.6%) required hospitalization, and 165 (63.2%) required sutures.

Breed	Number	%
Chow/Chow Cross	11	13.3
Pit Bull/Pit Bull Cross	11	13.3
Rottweiler/Rottweiler Cross	8	9.6
German Shepherd/Shepherd Cross	6	7.2
Blue Heeler/Heeler Cross	6	7.2
All Others	41	49.4

Table 2. Dog breeds involved in severe attacks or bites in which the victim was hospitalized - 2000

When reports were reviewed in which the victim was hospitalized and the breed of canine (domestic dog and wolf-dog hybrid) was known, 35 dog breeds or breed crosses were included in 83 reports. Of these, 5 breeds and breed crosses were involved in 42 (50.6%) attacks (Table 2).

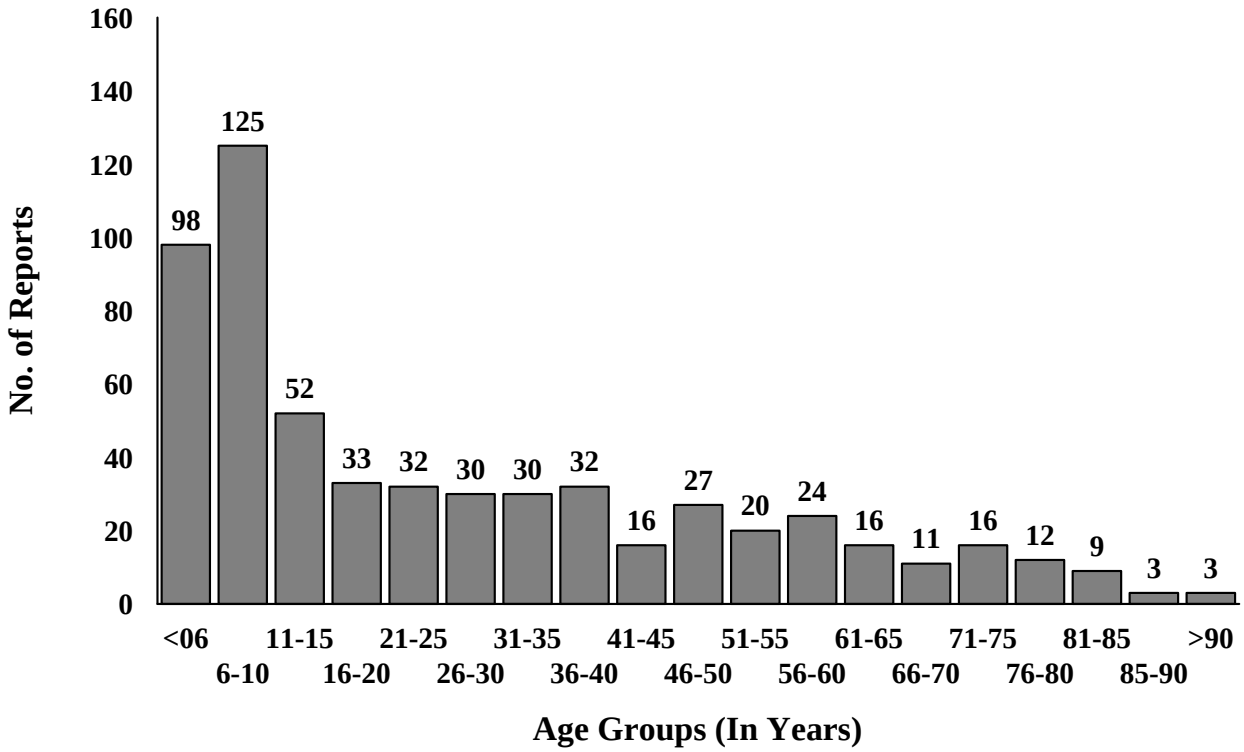


Figure 5. Age distribution in severe attack/bite incidents - 2000

Victim's Sex and Age

In the 599 records that specified the victim's sex, 313 victims (52.3%) were male and 286 victims were female (47.7%). These percentages remained relatively constant over the entire age range of the victims. The victim's age was listed on 589 records; children less than 11 years of age represented 37.8% of these victims (Table 3). The mean age was 27.1 years, the median was 19 years, and the mode was 9 years (Figure 5). When considering the overall population of Texas, children less than 11 years of age were 2.1 times more likely than the remainder of the population to be a victim of a severe animal attack.

Number	Age Group	%
98	<6	16.6
125	6-10	21.2
85	11-20	14.4
211	21-60	35.8
70	>60	11.9

Table 3. Age of victims of severe animal attacks or bites - 2000

Anatomic Location of Injury

Many of the attack victims received wounds at multiple anatomic locations. Of the 589 reports that specified the site of injury, the following sites were listed:

Legs	183 (31.1%)	Torso	51 (8.7%)
Hands	168 (28.5%)	Feet	19 (3.2%)
Head	156 (26.5%)	Neck	15 (2.5%)
Arms	146 (24.8%)		

When the site of injury is compared to age, the percent experiencing trauma to the head decreases significantly as the victim's age (and presumably height) increases. While children less than 11 years of age were victims in 45.7% of the severe attacks where the site of the bite was specified, they sustained two-thirds of all head injuries.

High Risk Occupation

Thirty-seven reports included victims who were engaged in what would typically be considered a high risk occupation for animal bites, including:

Law enforcement	8	Utility worker	4
Postal employee/delivery	6	Census worker	2
Animal control personnel	5	Construction/labor	2
Veterinary/animal care	4	Realtor	1
Home health worker	4	Trapper	1

Charges Filed

Of the 592 reports involving canines (domestic dogs and wolf-dog hybrids) and domestic cats, charges were filed against the animal's owner in 30 (5.1%) reports. Six reports contained multiple violations. The violations were as follows:

Number of reports	Violation
12	animal-at-large
8	failure to vaccinate against rabies
6	dangerous/vicious dog
5	failure to license

Recommendations

A review of the surveillance data can help formulate prevention strategies. As with many other public health efforts, education and legislation are two key components in reducing the frequency of animal bites.

Education

Develop and coordinate educational efforts through humane organizations, animal control agencies, schools, family care practitioners, veterinarians, and parents.

Teach children to understand basic canine behavior and to avoid circumstances that may evoke an angry response from a dog.

Inform dog owners that through their interaction with their pets, they can reduce the likelihood of owning an animal that will bite. Lack of socialization, improper training, abuse, and failure to observe early signs of aggression all contribute to a dog attack.

Avoid breeds that have a reputation for being unpredictable or aggressive particularly in families with children.

Educate obstetricians and pediatricians to advise parents to never leave infants and toddlers unsupervised around any dog, even the family pet, regardless of how friendly the dog may appear. Lavish extra attention on the family dog when a new baby is brought into the home so that the pet does not feel "jealous" or that its position in the family is being threatened.

Promote surgical sterilization for safety reasons as well as the health benefits to the animal and curtailment of pet overpopulation.

Legislation and Enforcement

Chapter 826 of the Texas Health and Safety Code states that failure to vaccinate dogs and cats annually is a Class C misdemeanor. Although reports indicated that almost one-half of the biting dogs and cats were not currently vaccinated against rabies, citations were issued in less than 3% of the cases. Increased enforcement of this law and existing local leash laws would provide incentives for dog owners to act responsibly.

Where community laws are lacking, enact local leash and nuisance laws and strictly enforce them.

Develop local ordinances to offer incentives (such as decreased licensing fees) for owners whose dogs complete a dog obedience class.

Have local law enforcement agencies enforce the Texas Dangerous Dog Act (Chapter 822 of the Texas Health and Safety Code), which is designed to minimize human exposure to dogs deemed to be dangerous.

Encourage reporting of all bites to the Local Rabies Control Authority (as mandated by Chapter 826 of the Texas Health and Safety Code). Reported rates influence public health policies in such matters as leash laws, impoundment of strays, amount of money allocated for animal control, and rabies vaccination programs for both pets and people.

Chapter 828 of the Texas Health and Safety Code requires either surgical sterilization or a voucher for sterilization of all animals adopted from animal shelters in cities with populations greater than 10,000 and counties with populations greater than 20,000. Make efforts locally to actually sterilize the animal rather than issue the owner a voucher to be used for sterilization because redemption of sterilization vouchers tends to be low.