

In re: “Mortality, Mauling, and Maiming by Vicious Dogs”

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If we need an injury repaired, we seek out a surgeon, not an animal behaviorist or ethologist. Conversely, if we want to understand community safety issues related to dog ownership, it is in the interests of all of us that we be governed by the recommendations of animal behaviorists or ethologists. We should not consult a surgeon. Or this paper.

The authors seem to have begun their research with a belief regarding “pit bull” dogs, and then exploited the tools of epidemiology to legitimize that belief. While epidemiology has proven its value in identifying the causes of human and animal disease, any such value is always conditioned:

- By the essential nature of the mortality or morbidity under examination;
- By the quality of the data developed;
- By the willingness of the researchers to follow the evidence where it leads.

These authors have failed in all of these respects.

1. The authors fail to recognize that dog bite-related injuries are not a disease, with a vector, but a complex societal issue involving human behavior that places people and animals at risk.

First, they have failed to understand the true nature of the morbidity under investigation. Dog bite injuries are not a disease, with a vector, but a complex societal issue involving human behavior that places people and animals at risk.

Those, whose professional lives are spent with pets and their owners, have been consistent in their recommendations: education of adults and children concerning dogs and dog behavior; and humane care custody and control of all dogs.¹ In Europe and in North America, all progress with respect to community safety issues has come when communities have heeded these recommendations. Where dog owners practice responsible pet ownership, dog-related injuries are fewer.

In 2000, the *Journal of the American Veterinary Medical Association (JAVMA)* published a report attempting to correlate each of the dog-bite related fatalities that had occurred in the United States from 1979 – 1998 with the breed of the dog believed responsible. These authors cite this paper, but omit its policy recommendations, which can be fairly summarized in the following excerpt: “Generic non-breed-specific, dangerous dog laws can be enacted that place primary responsibility for a dog’s behavior on the owner, regardless of the dog’s breed. In particular, targeting chronically irresponsible dog owners may be effective.”²

2. This paper's correlations are fatally compromised by the poor quality of the data employed.

Kennel club registrations do not constitute a representative sample of the U.S. dog population. Our dog population cannot be reliably subdivided by breed. The American Pet Products Association estimates that there are more than 78 million dogs living in the United States. The only dogs we can document as purebreds are the roughly 1.1 million registered each year in the U.S. by the main registering organizations, the American Kennel Club and the United Kennel Club. If we set the average life expectancy of a purebred dog in the U.S. very generously at twelve years, then thirteen million registered purebred dogs are alive in the U.S. at any time. And if we—again, very generously—double this number to include possible pockets of localized closed populations of purebred dogs that are not registered, and those pedigreed dogs whose owners don't bother with registration, we still have a maximum of twenty-six million. The remaining fifty-two million are certainly subject to outcrossing at the least.³

Consistent with this rough computation, PetSmart Charities estimates that as many as 75% of the dogs entering the nation's shelter system are mixed breed dogs.⁴ Thus, we can be reasonably certain that the ancestry of the overwhelming majority of America's dogs—purebred or otherwise, however their owners describe them, and however they are identified at an animal shelter or in a dog bite report—cannot be reliably documented.

There is robust evidence that guesses even by animal professionals of the breed or breeds that make up dogs whose ancestry is not known to them correlate extremely poorly with DNA analyses of the same dogs.⁵ If a significant percentage of our dogs are dogs of undocumented origin, what are we to make of all the dog bite statistics we have been collecting that purport to correlate a bite incident with a breed of a dog?⁶ We would be very surprised if documented ancestries are available for any of the dogs involved in the 82 incidents described by Dr. Bini and his collaborators as containing reliable breed attributions of the dogs involved.

Thus, while the authors may be able to quantify the severity of injuries suffered by the victims, an understanding of the nature of the American dog population, combined with a reading of the most recent research on visual breed identification shows that they cannot reliably correlate each incident with a breed of dog, whether or not a breed attribution of the dog was available.

The authors have chosen from the published literature very selectively, and only for the purposes of legitimizing their beliefs. Their use of some sources is injudicious, at best. There are serious issues of diligence.

We shall limit ourselves to one example.

The authors glamorize their paper with a claim that one of every five child visits to an emergency room is in consequence of a dog bite. Had they queried the publicly available database of the Centers for Disease Control and Prevention, they would have learned that dog bite victims aged 0 - 14 constitute less than 2%—that is, less than one in fifty—of the children aged 0 – 14 who go to an emergency room as a result of an injury. And this does not include those who go as a result of illness.⁷

3. The authors have neglected to acknowledge the body of available evidence concerning the lack of effect of breed specific regulation on public safety outcomes.

Had they done so, they would have reported that their proposed solution to the problem of dog bite-related injuries -- to regulate dogs on the basis of breed -- has already been tried and has failed. Such regulation has never reduced dog bite injuries, wherever it has been implemented.⁸

They would also have reported a recently published analysis that provides an important perspective, based upon the established evidence-based methodology "number needed to treat" as to why this has been the case.⁹

Grief and outrage in response to a severe injury or fatality do not justify a failure to understand the essence of the problem under consideration, questionable correlations, and selective use of the available literature. And our sympathies for a victim must not obscure the longstanding awareness of where both the source of the problem and the solution to the problem of dog bite-related injuries are to be found. The source of the problem is us. We are responsible for the dogs in our midst. The solution to the problem is the humane care, custody and control of all dogs.

¹ B. Beaver et al. "A community approach to dog bite prevention," *JAVMA*, Vol 218, No. 11, June 11, 2001, pp 1732-1749.

² J. Sacks et al, "Breeds of dogs involved in fatal human attacks in the United States between 1979 and 1998, *JAVMA*, Vol 217, No 6, September 15, 2000.

³ J Bradley, "The Relevance of Breed in Selecting a Companion Dog," National Canine Research Council, 2011.

⁴ Available at <http://adoptions.petsmart.com/are-you-ready/fast-facts.php> (Accessed May 12, 2011).

⁵ V. Voith et al, "Comparison of Adoption Agency Breed Identification and DNA Breed Identification of Dogs," *Journal of Applied Animal Welfare Science*, 12: 253-262, 2009.

⁶ V. Voith, "A Comparison of Visual and DNA Identification of Breeds of Dogs," published in proceedings of Annual AVMAA Convention, July 11-14, 2009, Seattle, Washington.

⁷ Information obtained by database query conducted at <http://webappa.cdc.gov/sasweb/ncipc/nfilead2001.html> (May 12, 2011).

⁸ <http://nationalcanineresearchcouncil.com/canines-issues/breed-bans/> (Accessed May 12, 2011).

⁹ Patronek, G., Slater, M., Marder, A., "Use of a number-need-to-ban calculation to illustrate limitations of breed-specific legislation in decreasing the risk of dog bite-related injury," *JAVMA*, vol 237, Number 7, October 1, 2010.