

Personal View

Dog ownership has unknown risk but known health benefits: we need evidence based policy

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Politically driven UK legislation that targets “dangerous dogs” has not been shown to reduce dog bites, writes **Rachel Orritt**, who calls for policy to be based on robust evidence of incidence and risk assessment of ownership

Dog bites present a public health risk of unknown magnitude. No scientific evidence upon which to base a reliable UK estimate has been obtained in the past two decades. In a clinical review in *The BMJ*, Morgan and Palmer⁽¹⁾ gave an estimate of 250 000 dog bites a year, incorrectly citing Thomas and Banks⁽²⁾ in 1990 (who suggested 230 000 bites a year). This original estimate was not a product of any investigation, nor was it cited to any other source. It appears to be a purely illustrative conjecture. Morgan and Palmer’s 250 000 figure has pervaded the news media, scientific literature, and the evidence base of recent legislation—despite it being inaccurate and 24 years out of date.

In addition to improper use of evidence, the discussion of the impact of dog-human interactions by medical professionals sometimes ignores the health benefits concomitant to dog ownership. In a personal view in *The BMJ*, Rachel Besser⁽³⁾ typified prevailing anti-dog mentality with the statement, “Perhaps the only way to stop dog bites will be to ban dogs.” Such comments have the potential to undermine the value of research into psychological and physiological health benefits of dog ownership, which has already shown prophylactic and therapeutic value.⁽⁴⁾ There are consistent data, for example, to indicate that owning a dog is associated with increased physical activity,⁽⁵⁾ better self esteem,⁽⁶⁾ and fewer annual visits to the doctor.⁽⁷⁾ Evidently, eradicating dogs would have negative consequences for human health.

The British news media confound the matter further through inaccurate representation of the risk posed by dogs. An alternative source of data is commonly used, provided by the Health and Social Care Information Centre (HSCIC). These hospital episode statistics do not differentiate between admissions to hospital caused by dog bites and those caused by dog strikes, both of which are categorised as W54 external causes of injury.⁽⁸⁾

The W54 category also includes all incidences in which a dog “causes any other form of physical injury,” for example knocking someone over when jumping up to greet them, as Nailah Kauser, who deals with Freedom of Information requests for the HSCIC, told me in

2013. There is no way of knowing what proportion of W54 categorised admissions is attributable to dog bites, and therefore these data cannot be used to characterise bite incidence. In spite of this fact, W54 figures are almost exclusively reported as “dog attack” statistics by the news media, with an unstated implication that this relates to dog bites or aggression.

Inaccurate reporting of dog bites in scientific literature and news media, coupled with public pressure, have contributed to the drafting of legislation. In an effort to improve it, the Dangerous Dog Act 1991 has been subject to various amendments (including giving Courts more flexibility on sentencing and extending the legislation to cover private property) but has been shown to be ineffective at reducing dog bite incidence.⁽⁹⁾ The impact assessment of a recent amendment relays the estimate of 250 000 dog bites a year, for which Morgan and Palmer are cited.⁽¹⁰⁾

If dog bite incidence is to be minimised, academics and medical and veterinary practitioners need to cooperate to develop effective, scientifically sound risk management strategies. These should be evidence based and should not depend on politically driven initiatives such as the current legislation.

Risk assessment for human violence has proved to be an accurate and reliable tool that predicts and helps to manage the risk of future violent behaviour.⁽¹¹⁾ Similarly, the development and use of standardised risk assessments for dogs and their owners might be a practical preventive measure to reduce injury from dog bite. Medical and veterinary professionals should familiarise themselves with evidence based resources developed to promote safe interactions with dogs, such as those provided by The Blue Dog (a not-for-profit organisation that aims to improve the safety of interactions between dogs and children),⁽¹²⁾ and with the procedure through which the advice of veterinary approved behaviourists can be sought. To inform this provision of care, attention must also be paid to the psychological health of patients after trauma. Further research is needed into the development of dog phobia and into the emotional trauma that is unique to patients bitten by their own dogs.

To improve care, research is required to provide a current and reliable estimate of dog bite incidence. Until this is achieved, the medical profession has to admit that the scale of the problem is, in real terms, entirely unknown. Developing ways of managing the level of risk on an individual patient basis is of critical importance. A holistic view, incorporating the risk of dog bites, balanced against the health benefits of dog ownership, is appropriate in this case. Evidence based measures to inform ongoing risk management, such as developing effective

risk assessments, should result in the reduction in dog bite injuries that punitive legislation has not achieved.

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- 1 Morgan M, Palmer J. Dog bites. *BMJ* 2007;334:413-7.
- 2 Thomas HF, Banks J. A survey of dog bites in Thanet. *J R Soc Health* 1990;110:173.
- 3 Besser R. Dog attacks: it's time for doctors to bite back. *BMJ* 2007;334:425.
- 4 Wells DL. Domestic dogs and human health: An overview. *Br J Health Psychol* 2007;12:145-56.
- 5 Christian HE, Westgarth C, Bauman A, et al. Dog Ownership and Physical Activity: A Review of the Evidence. *J Phys Act Health* 2013;10:750.
- 6 McConnell AR, Brown CM, Shoda TM, et al. Friends with benefits: On the positive consequences of pet ownership. *J Pers Soc Psychol* 2011;101:1239-52.
- 7 Headey B. Healthbenefits and health cost savings due to pets: Preliminary estimates from an Australian national survey. *Soc Indic Res* 1999;47:233-43.
- 8 HSCIC. Hospital Episode Statistics, Admitted Patient Care, England - 2012-13
<http://www.hscic.gov.uk/searchcatalogue?productid=13264&q=title%3a%22Hospital+Episode+Statistics%2c+Admitted+patient+care+-+England%22&sort=Relevance&size=10&page=1#top>. Published November 5, 2013.
- 9 Klaassen B, Buckley J, Esmail A. Does the Dangerous Dogs Act protect against animal attacks: a prospective study of mammalian bites in the Accident and Emergency department 1996;27:89-91
- 10 Legislation.gov.uk. Extending Dangerous Dogs Act to Private Property Annex C.
<http://www.legislation.gov.uk/ukia/2012/11>.
- 11 Douglas K, Cox D, Webster C. Violence risk assessment: Science and practice. *Legal and Criminal Psychology* 1999;4:149-84.
- 12 The Blue Dog Professionals. <http://www.thebluedog.org/en/professionals/research-abstracts/research-abstracts-directly-related-to-blue-dog>.

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