MANDATORY DESEXING OF DOGS IN SOUTH AUSTRALIA: THE EVIDENCE FOR PREVENTING DOG BITES

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Government of South Australia
SA Health

Mandatory desexing of dogs

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South Australia

Dog and Cat Management (Miscellaneous) Amendment Bill 2015

A BILL FOR

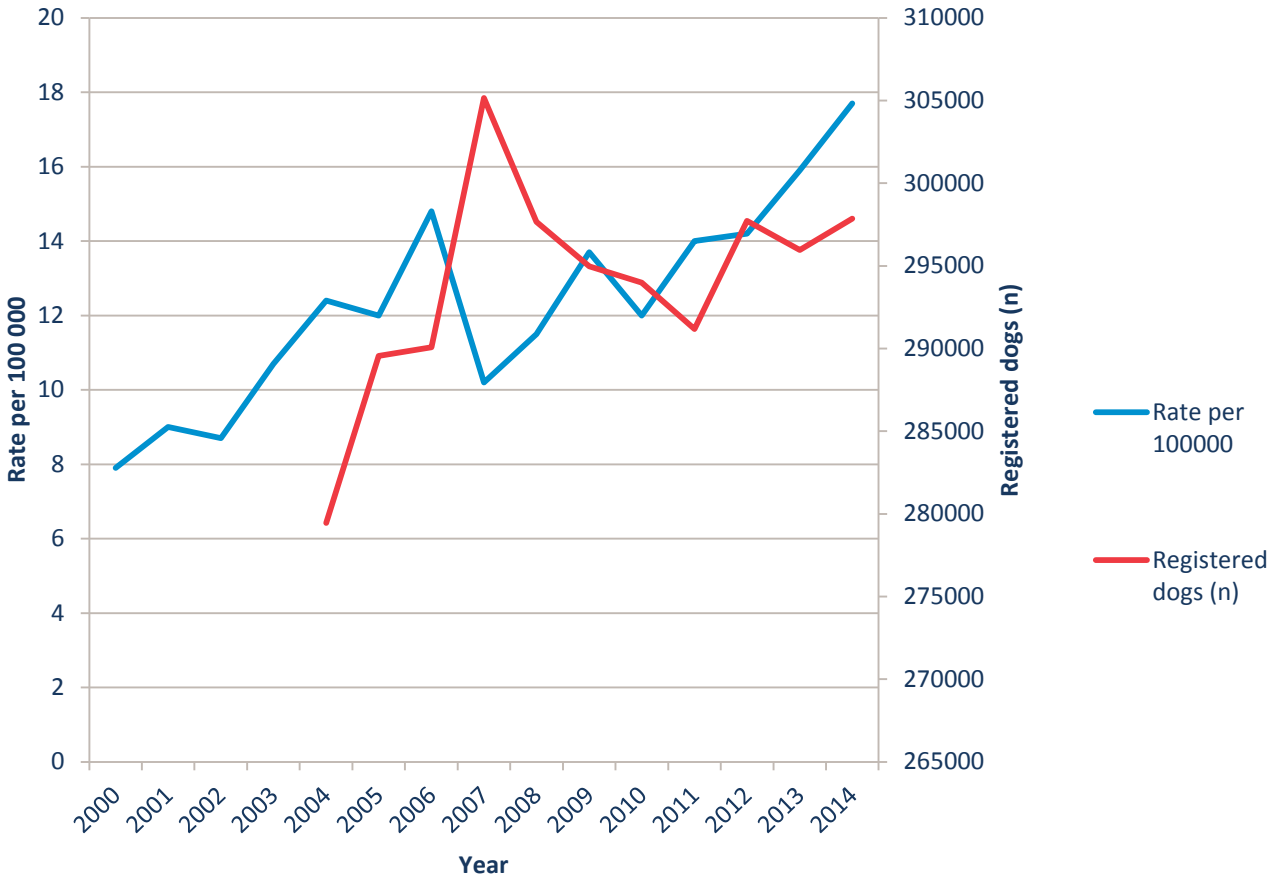
An Act to amend the *Dog and Cat Management Act 1995*; and to make related amendments to the *Criminal Law Consolidation Act 1935*, the *Equal Opportunity Act 1984* and the *Major Events Act 2013*.

Incidence of dog attack

- USA: 18 bites per 1000 population per annum
  - 3 bites per 1000 population seek medical attention per annum
- SA Survey found 6% attacked or threatened in the previous 3 years, 2.1% physically injured

Overall, K.L. and M. Love, *Dog bites to humans--demography, epidemiology, injury, and risk.* Journal of the American Veterinary Medical Association, 2001. **218**(12): p. 1923-34.

Rate of hospital admissions in SA for dog bite and registration numbers, 2000-2014



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Control efforts focussed on education

- No evidence that education programs for <20 year olds reduces dog bite

Duperrex O, Blackhall K, Burri M, Jeannot E. Education of children and adolescents for the prevention of dog bite injuries. *Cochrane Database of Systematic Reviews* 2009, Issue 2. Art. No.: CD004726. DOI: 10.1002/14651858.CD004726.pub2.

Systematic review

- Inferential studies, with an effect size for desexing and dog bite
- Search conducted in December 2015 (Ovid Medline and CAB Abstracts)
- Data extraction and quality appraisal conducted by three authors
- Had 104 papers for full text review, 6 eligible for the review (4 studies)

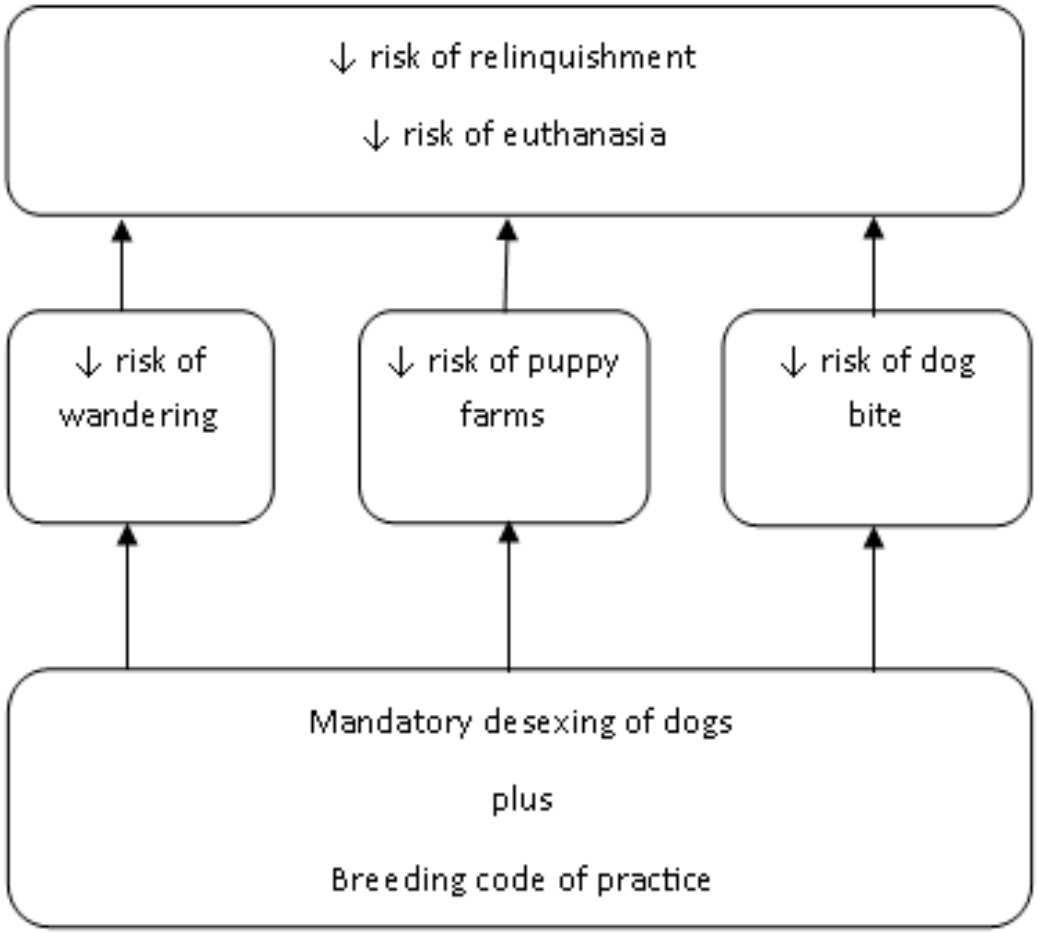
Study	Design	Selection	Population	Results
Shuler et al 2008	Retrospective cohort	General population, notified	Case 454 Control 46306	Intact RR 9.1 (7.3-10.5)
Gershman et al 1994	Case control	General population, notified	Case 178 Control 178	Intact OR 2.6 (1.1-6.3)
Messam et al (2008 & 2012)	Retrospective cohort	Veterinary practice	Case 160 Control 940	Male intact RR 2.56 (1.51-4.34) Male desex RR 1.52 (0.94-2.46) Female intact RR 3.22 (1.86-5.59)
Guy et al 2001a	Retrospective cohort	Veterinary Practice	Case 365 Control 1158	Female intact OR 1.0 Female desex 2.13 (1.21-3.75) Male intact OR 2.04 (1.07-3.88) Male desex OR 3.23 (1.83-5.71)
Guy et al 2001b	Case control	Veterinary Practice	Case 227 Control 126	Intact OR 1.20 (0.53-2.7)

Case studies – triangulating the evidence

- Review of deaths in US 2000-2009
  - 238 of 256 attacks leading to death were not desexed (93%)

- Other factors in fatal dog attacks
  - Being unknown to the dog
  - Victim behaviour (generally due to young age)
  - Dogs kept in isolation
  - Mismanagement of dogs, including abuse or neglect
  - Male dog, 23-45kg
  - Multiple dogs

Patronek, G.J., et al., *Co-occurrence of potentially preventable factors in 256 dog bite-related fatalities in the United States (2000-2009).* Journal of the American Veterinary Medical Association, 2013. **243**(12): p. 1726-36.



Health effects dogs

↓ risk pyometra and mammary tumours

↓ risk perineal hernias, perineal adenomas, prostatitis and benign prostatic hyperplasia

Overall increased life expectancy

(also ↑risk from anaesthetic, urinary incontinence, prostate cancer)

Why mandatory?

- SA dog desexing:
  - 2012/13 67%
  - 2013/14 68%
  - 2014/15 69%
- USA in 2007 64%
- Reasons for not desexing:
  - Financial cost
  - Negative perceptions of impact on health/welfare
  - Differs by breed and gender
  - Indifference

Trevejo, R., et al., *Epidemiology of surgical castration of dogs and cats in the United States*. Journal of the American Veterinary Medical Association, 2011. **238** (7): p. 898-904

Conclusion

- First step to support the environment to reduce risk of dog attack
- Multiple other benefits already realised by over half of all dog owners
- Acceptable and feasible to implement
- Evaluate in real world

Acknowledgements

- Dog and Cat Management Board (including past and present members)

References

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6. Shuler, C.M., et al., *Canine and human factors related to dog bite injuries.* Journal of American Veterinary Medicine Association, 2008. **232**(4): p. 542-546.

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