

Dallas Animal Shelter Analysis

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May 16, 2019

Introduction

Background



Table 1: Pitbull Outcomes

Outcome	Pitbull (%)	Non-Pitbull (%)
Adoption	32.03	35.73
Euthanized	28.42	10.25
Returned to owner	22.25	30.96
Transfer	10.92	17.56
Foster	2.25	1.64
Other	1.88	1.59
Dead on arrival	0.93	0.82
Treatment	0.77	1.01
Died	0.51	0.39
Missing	0.04	0.06

Methods

Quasibinomial Model

Cox Proportional Hazards

- Used for looking at time till event.
- Follows the general form
$$h(t) = h_0(t) * \exp\{b_1 * x_1 + b_2 * x_2 + + b_p * x_p\}.$$
- Only assumes that the hazards are proportional.

Results

Quasibinomial Results

Cox Proportional Hazard Results

Table 2: b_1 Estimates for Each Strata

	Strata			
	Summer and Chip	Summer and No Chip	Not Summer and Chip	Neither Summer or Chip
pitbull	1.698*** (1.431,2.016)	1.717*** (1.553,1.897)	1.694*** (1.509,1.902)	1.941*** (1.509,1.902)

Note:

* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$

Discussion

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- Pitbulls do die more often in animal shelters
- Pitbulls die at a higher rate in animal shelters