Nationwide secular changes in proportionate diagnostic morbidity of feline soft-tissue sarcomas following changes in vaccination protocols and products:
7,482 cases from 2002-2011
Virginia Fritsch, SVM, UC Class of 2014, STAR STUDENT
University of California, Davis

Hypothesis
As veterinarians adopt the AAFP guidelines for vaccinating cats, we expect that fibrosarcomas will decrease in the interscapular region and increase in the left and right pelvic limbs (where FeLV and rabies vaccines are given, respectively).

Introduction
An association between vaccine injection sites and fibrosarcomas was initially noted in 1991 and epidemiologically confirmed in 1993. Based on this data, and growing public concern, the American Association of Feline Practitioners (AAFP) published vaccine administration guidelines for cats. Rabies should be given SQ as distally as possible in the right pelvic limb; FeLV in the left pelvic limb; FVRCP in right thoracic limb. Fibrosarcomas are widely accepted as the most common of the vaccine-associated sarcomas, so these types of tumors are the focus of this research.

Results
The number of fibrosarcomas diagnosed in the interscapular region steadily declined from 2002-2011 (last year projected data, Kruskal Wallis p<0.001); the R pelvic limb increased 2002-2007, then decreased from 2007-2011 (Kruskal Wallis p<0.001); the L pelvic limb increased overall from 2002-2011 (Kruskal Wallis p<0.001); the abdomen did not change significantly from 2002-2011.
The proportion of fibrosarcomas in the interscapular region was highest in 2002, then significantly declined through 2011 (Cochran-Armitage p<0.001); the R pelvic limb was higher than interscapular fibrosarcomas in 2003, increased from 2002-2005 and leveled off from 2005-2011 (Cochran-Armitage p<0.001); the L pelvic limb steadily increased from 2002-2011 (Cochran-Armitage p<0.001), and during 2011 the L pelvic limb was the second highest fibrosarcoma percentage location; the proportion of fibrosarcomas on the abdomen did not significantly change from 2002-2011 (Cochran-Armitage p=0.14). The proportion of all biopsies suspected to be vaccine-associated fibrosarcomas decreased from 2002-2011.

Discussion
The proportion of fibrosarcomas in the interscapular region is decreasing, while the proportion of fibrosarcomas in the R and L pelvic limb is increasing. This trend can be explained if more veterinary practitioners are adhering to the AAFP vaccine administration guidelines from 2002-2011. Fewer overall vaccine-associated fibrosarcomas may indicate that vaccines are getting safer, or that veterinarians are giving fewer overall vaccines to cats.