USA Dog Demographics: Overall Population and Supply/Demand

Andrew N. Rowan, D.Phil.
President, WellBeing International®
December 6, 2021
• WellBeing International was founded in 2018 but I have been tracking dog and cat demographics and shelter intakes and outcomes since 1980.

• Today – provide a brief summary of various surveys and what we know of supply/demand.

• Will emphasize the uncertainties in national dog population statistics and the importance of tracking trends.
Outline of Talk

US Pet Demographics
• Trends
• Relative Dog Population Metric
• State by State Differences & US Census Housing Surveys
• Lack of Attention to Discrepancies/Survey Methods
• Shelter Trends

Pet Dog Population Age Structure

US Dog Population Model

Conclusion
The chart shows the percentages of US households with pets over time as estimated by three different national surveys – APPA (orange), AVMA (green) and Simmons (blue). AVMA and Simmons report little growth in pet ownership.
Why the differences?

• Not clear why the three surveys produce different results.

• Very little discussion of the differences – a VIN 2014 article quotes Don Dillman, a survey methodology expert recommending caution because of the use of online panels (have time, respond to small rewards, internet access). Data-weighting only reliable when have well-established correlations.

• Simmons was judged more accurate by experts interviewed for a 2019 Washington Post report on pet demographic differences.

• The American Housing Survey (2013 and 2017) reported only around 42% of urban households having pets. But may simply reflect the impact of human density (high density areas have lower pet ownership).
People routinely take the latest survey estimate and then assume that reflects the correct dog/cat population.

Relative dog population changes (increases) by 10% in 70 years (0.14% per annum).
• According to the 2016 AVMA survey of US dog and cat populations, the map at right shows dogs per 1,000 people for each state.

\[ y = -67.244x + 364.62 \]
\[ R^2 = 0.2735 \]

• Relative dog populations vary inversely against state human population densities
The plot of pet ownership rates (% of homes) against log human density produces an inverse trend line.

A recent paper (Hawes et al 2021) reports pet ownership rates for 4 zip codes in Seattle & Madison (urban), and Granger, WA and Wilder, ID (rural). Pet ownership in these four zip codes gives similar trendline.

Average Rate of Pet Ownership – 42.3%
• Nationally, 3.4 dogs and cats were euthanized in shelters per 1,000 people in 2019.
• While dog population RATE has changed little in last 50 years, the rate of “unwanted” & stray dogs has fallen from 25% of all dogs to 2%!

1974/6 Challenge – how to reduce shelter euthanasia – even animal advocates said that sterilization would not be sufficient
Outline of Talk

US Pet Demographics
- Trends
- Relative Dog Population Metric
- State by State Differences & US Census Housing Surveys
- Lack of Attention to Discrepancies/Survey Methods
- Shelter Trends

Pet Dog Population Age Structure

US Dog Population Model

Conclusion
• From 1986 to 2016, percentage of pet dogs under 1 year of age has dropped from 20% to 10%.

• Not sure what this means but suspect it reflects a tightening of supply.

• From 2005 to 2019, dog imports rose from 400,000 to 1.06 million according to the CDC.
Outline of Talk

US Pet Demographics
• Trends
• Relative Dog Population Metric
• State by State Differences & US Census Housing Surveys
• Lack of Attention to Discrepancies/Survey Methods
• Shelter Trends

Pet Dog Population Age Structure

US Dog Population Model

Conclusion
Modeling Dog Population
Supply/Demand – 2020 Estimates

Puppy Production & imports
8.2 million
- Pet & backyard breeding
- Hobby & show breeding
- Puppy mills
  7.1 million
- Imports (1.1 million)

Pet Dog Population
80 million

- 1.8 million recycle annually
- 6.7 mill
- 0.7 mill

- Vet Hospitals
- Accidents
- Shelter euthanasia
  (0.3 mill ORE, 0.4 mill other)

Dog Deaths
7.4 million

Puppy deaths
7.4 million

0.7 mill

Shelter dog popln: 1.7 million not RTO

0.4 mill puppies

7.8 mill imports & pups

2.1 mill
(not incl. 0.55 mill RTOs)
Outline of Talk

US Pet Demographics
• Trends
• Relative Dog Population Metric
• State by State Differences & US Census Housing Surveys
• Lack of Attention to Discrepancies/Survey Methods
• Shelter Trends

Pet Dog Population Age Structure

US Dog Population Model

Conclusion
Concluding Comments

- Have no accurate estimates of national dog population – all published estimates have significant problems/issues.
- Have even less understanding of where puppies come from.
- In 1973, around 20-25% of the US dog and cat population was passing through an animal shelter every year. Today, only 5% are.
- Unwanted dog euthanasia fallen from 7 million in 1973 to 500,000 today (despite pet dog # doubling)
- Shelters provide less than 10% of “NEW” dog demand.