Brief Background

- **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**

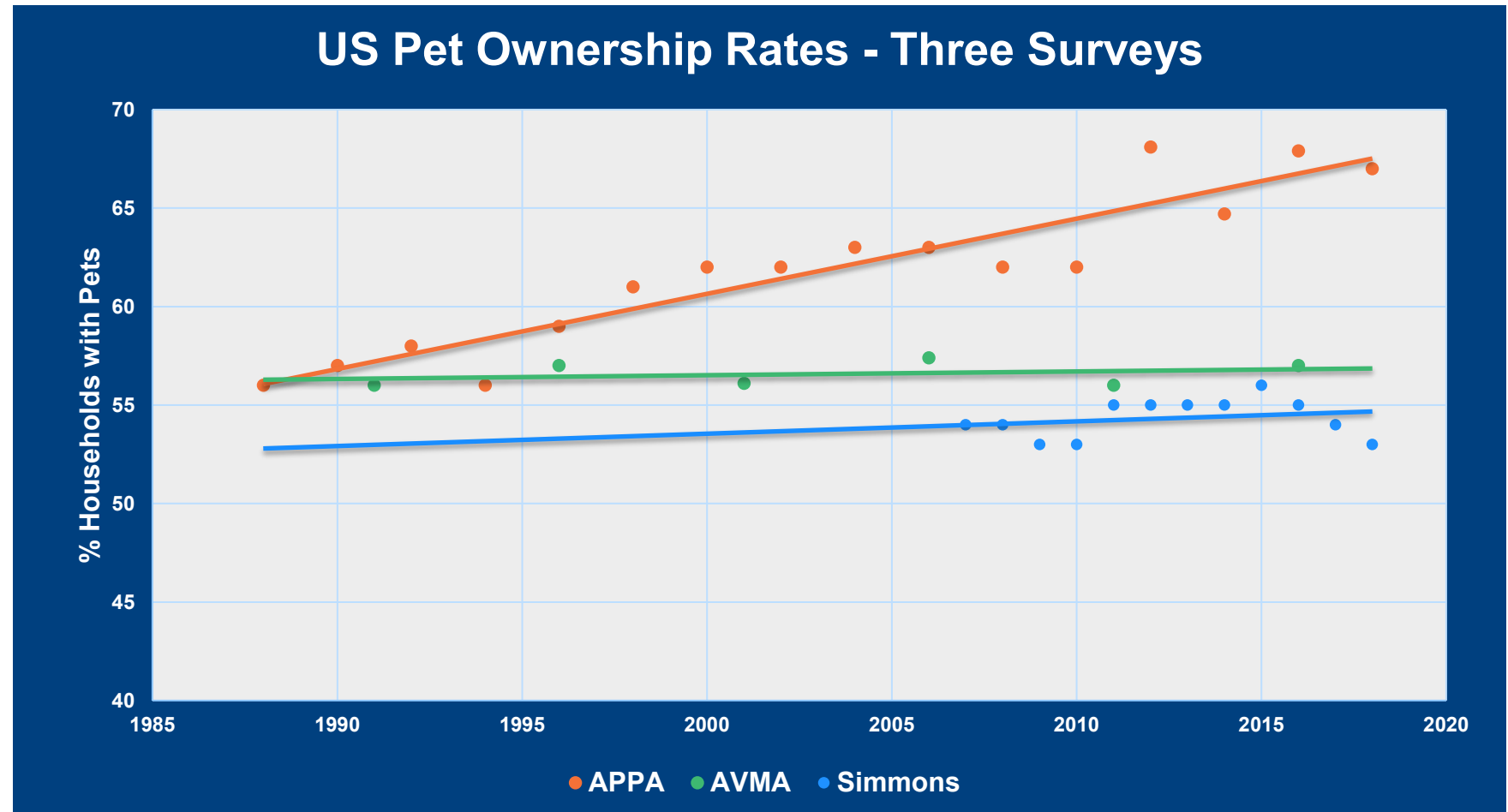Pet Dog Population Age Structure

US Dog Population Model

Conclusion

US Pet Ownership Rates (1988-2018)

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.

US Pet Ownership Rates - Three Surveys
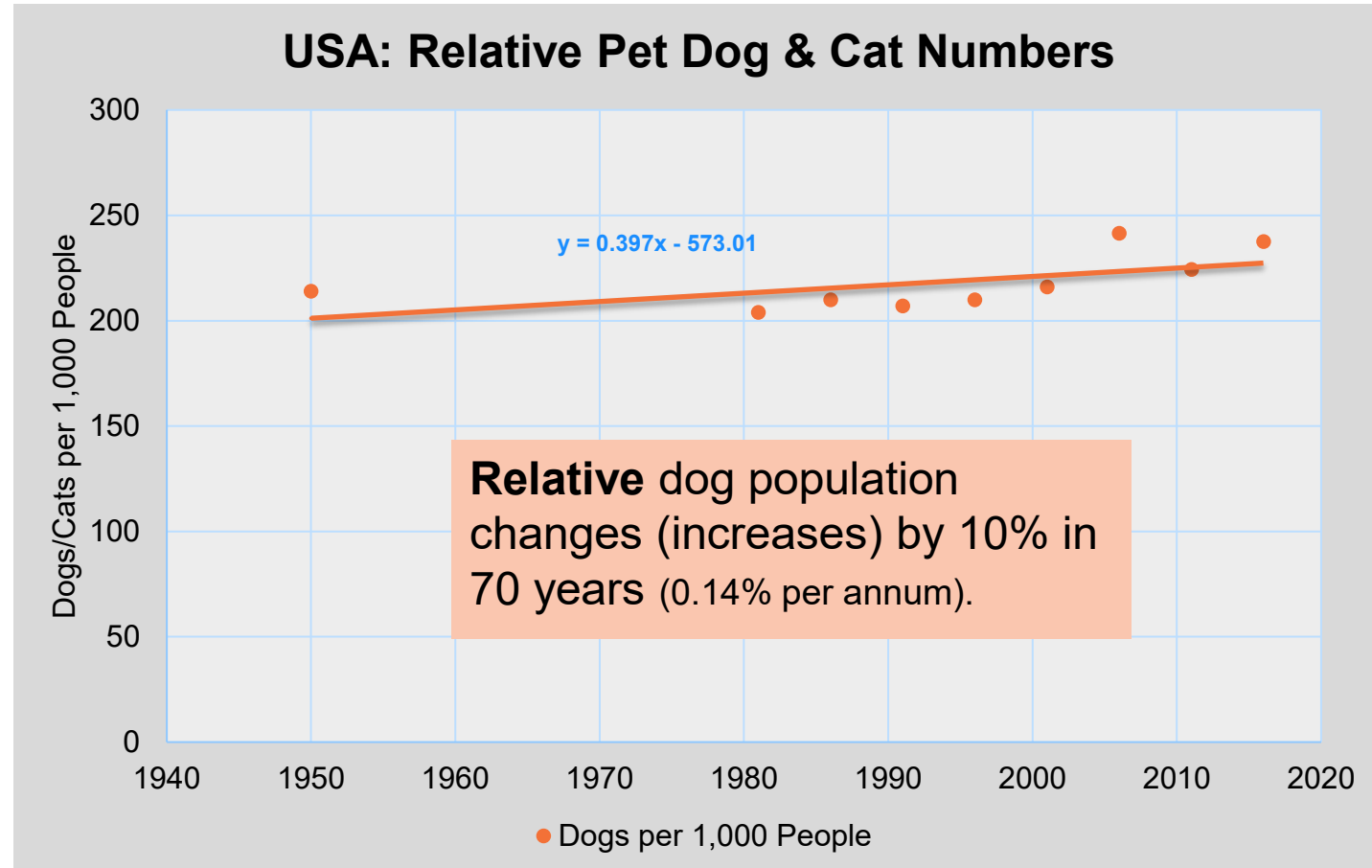
Why the differences?

- **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).**

Tracking RELATIVE Pet Populations
(dogs and cats per 1,000 people)

- **People routinely take the latest survey estimate and then assume that reflects the correct dog/cat population.**
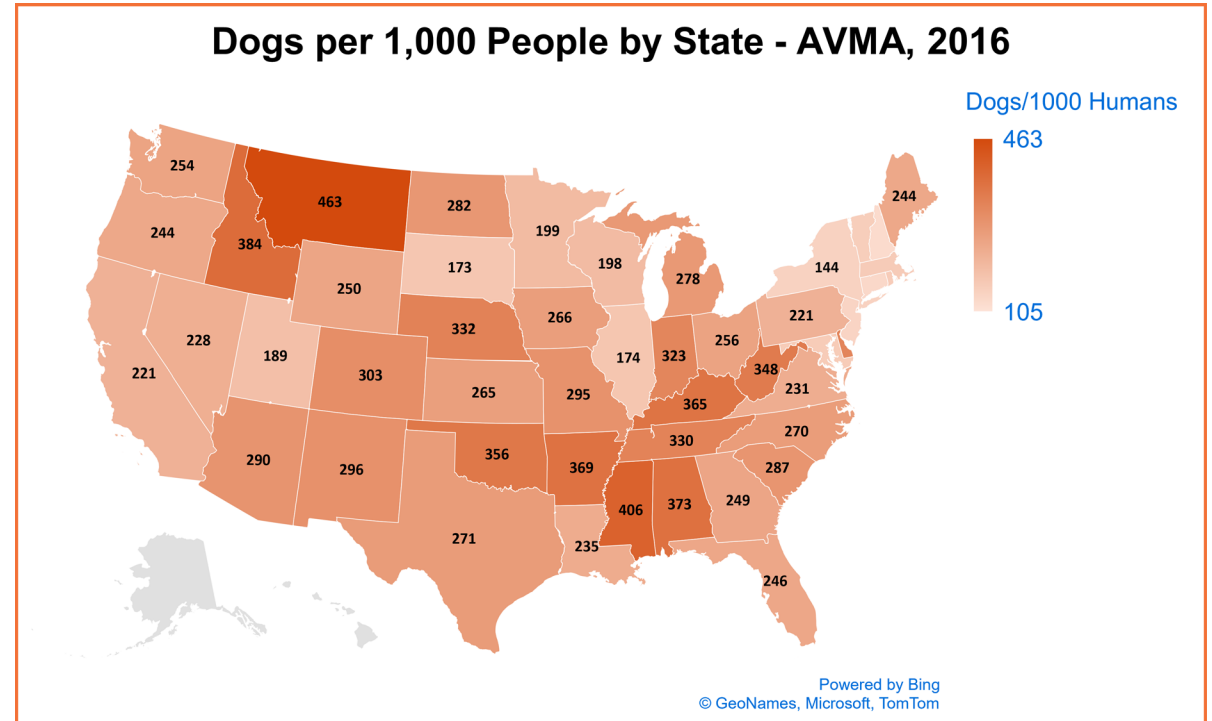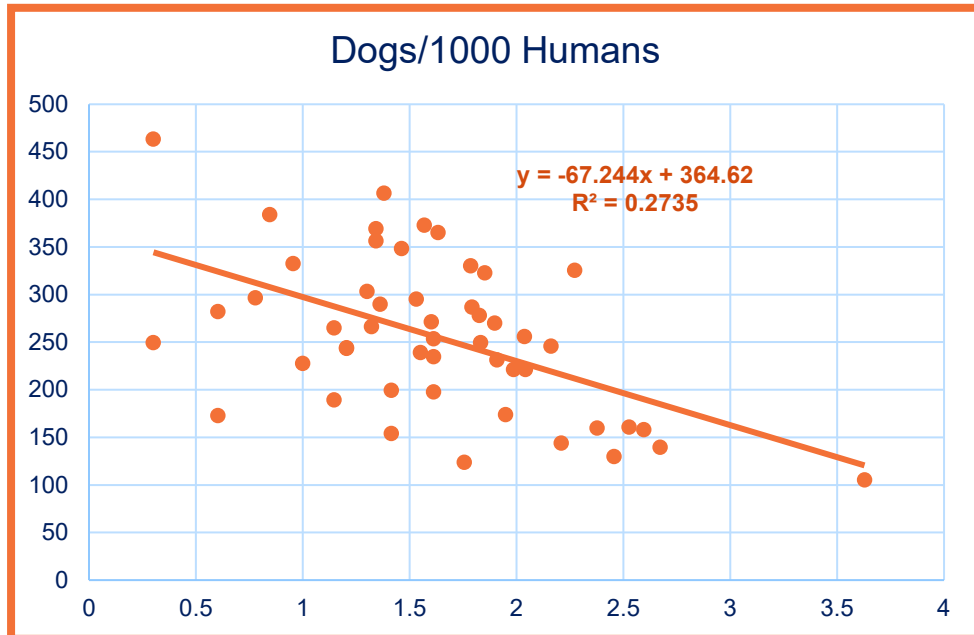
USA: Relative Pet Dog & Cat Numbers

$y = 0.397x - 573.01$

Dogs/Cats per 1,000 People

Relative dog population changes (increases) by 10% in 70 years (0.14% per annum).

● Dogs per 1,000 People

RELATIVE Dog Numbers
(dogs per 1,000 people in different states)

- **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.**

Dogs/1000 Humans

$y = -67.244x + 364.62$
$R^2 = 0.2735$

Dogs per 1,000 People by State - AVMA, 2016

Dogs/1000 Humans
463
105

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- **Relative dog populations vary inversely against state human population densities**
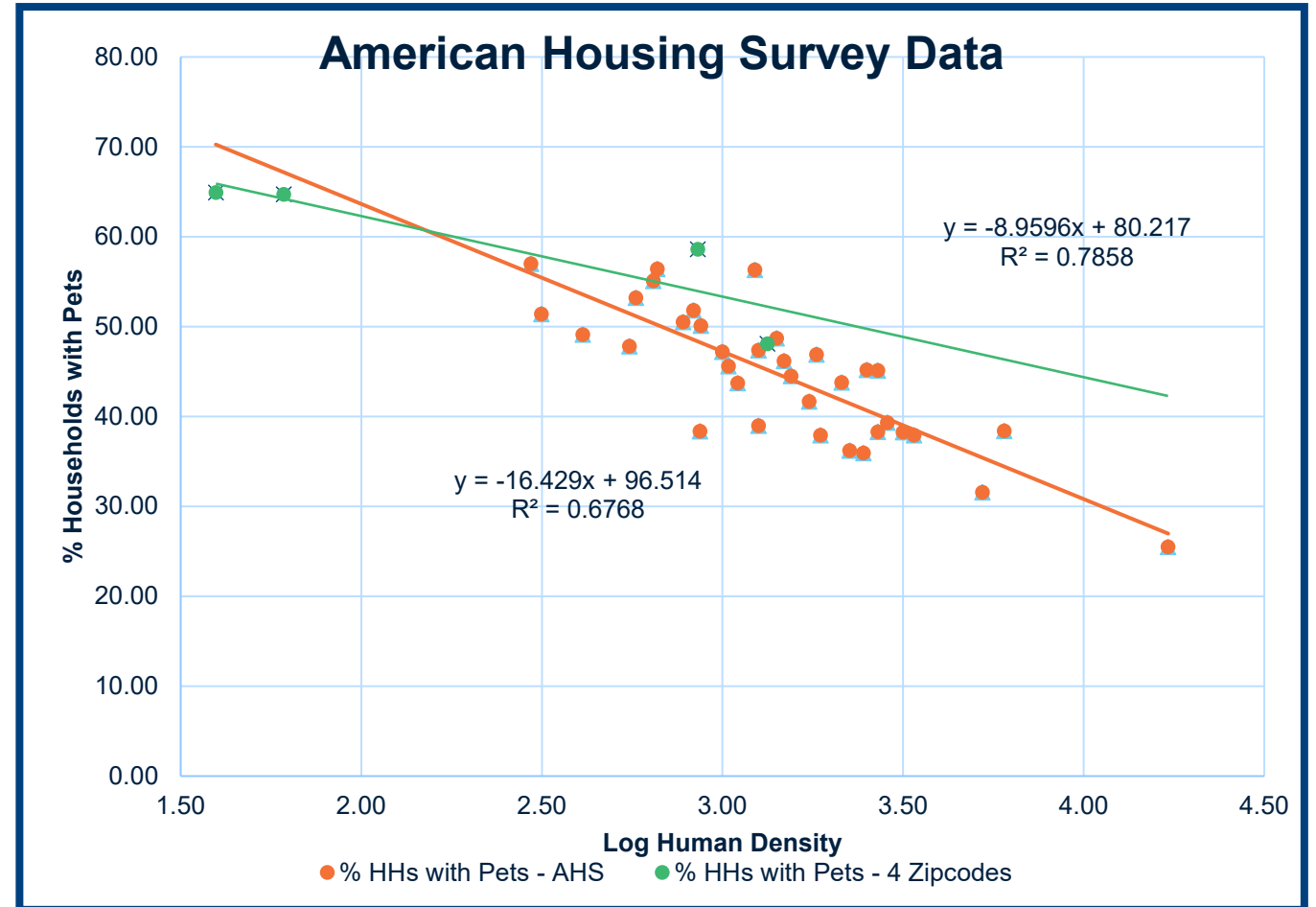
Pet Ownership RATES & Human Density
(data from US Census Housing Surveys, 2013 & 2107)

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%
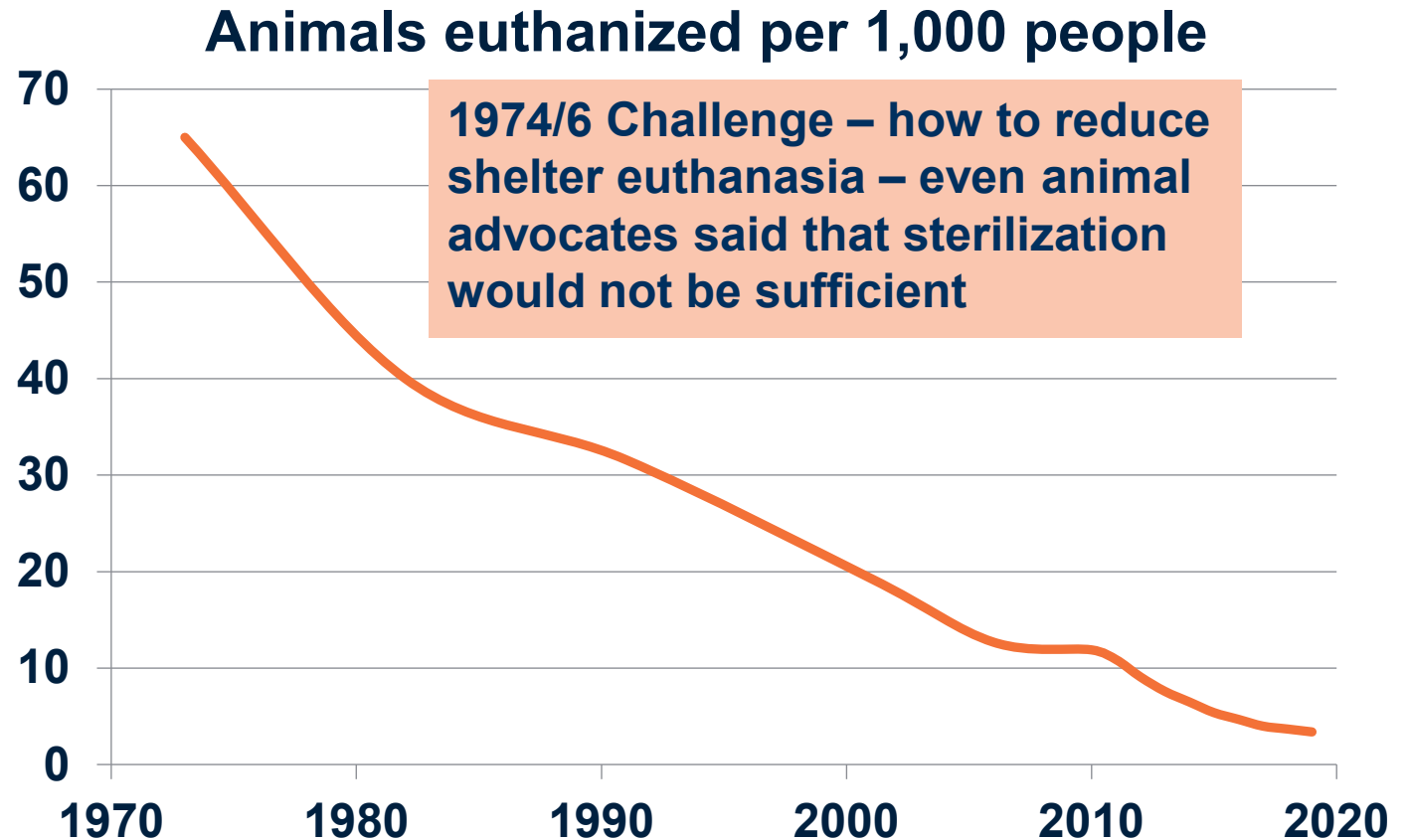

American Housing Survey Data

$y = -8.9596x + 80.217$
$R^2 = 0.7858$

$y = -16.429x + 96.514$
$R^2 = 0.6768$

% Households with Pets (y-axis)
Log Human Density (x-axis)

● % HHs with Pets - AHS   ● % HHs with Pets - 4 Zipcodes

Tracking Shelter Trends in the USA

- **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%!**

Animals euthanized per 1,000 people

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

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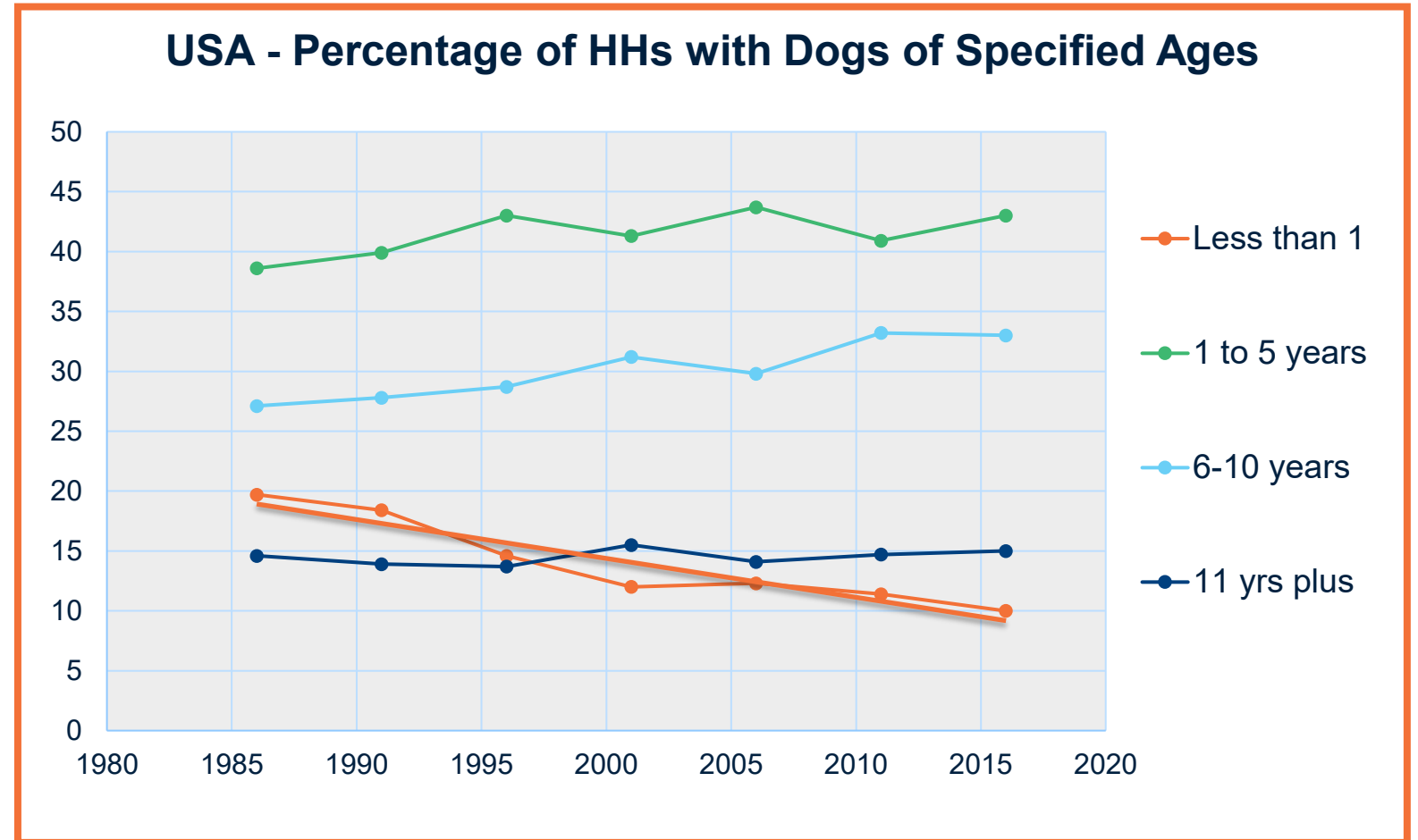- **Shelter Trends**

Pet Dog Population Age Structure

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Pet Dog Age Structure, 1986-2016

- **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.**

USA - Percentage of HHs with Dogs of Specified Ages

Legend: Less than 1, 1 to 5 years, 6-10 years, 11 yrs plus

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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)

7.8 mill imports & pups

Pet Dog Population 80 million

1.8 million recycle annually

6.7 mill

Dog Deaths 7.4 million

Vet Hospitals

Accidents

Shelter euthanasia
(0.3 mill ORE, 0.4 mill other)

2.1 mill (not incl. 0.55 mill RTOs)

1.8 mill

0.4 mill puppies

Shelter dog popln: 1.7 million not RTO

0.7 mill

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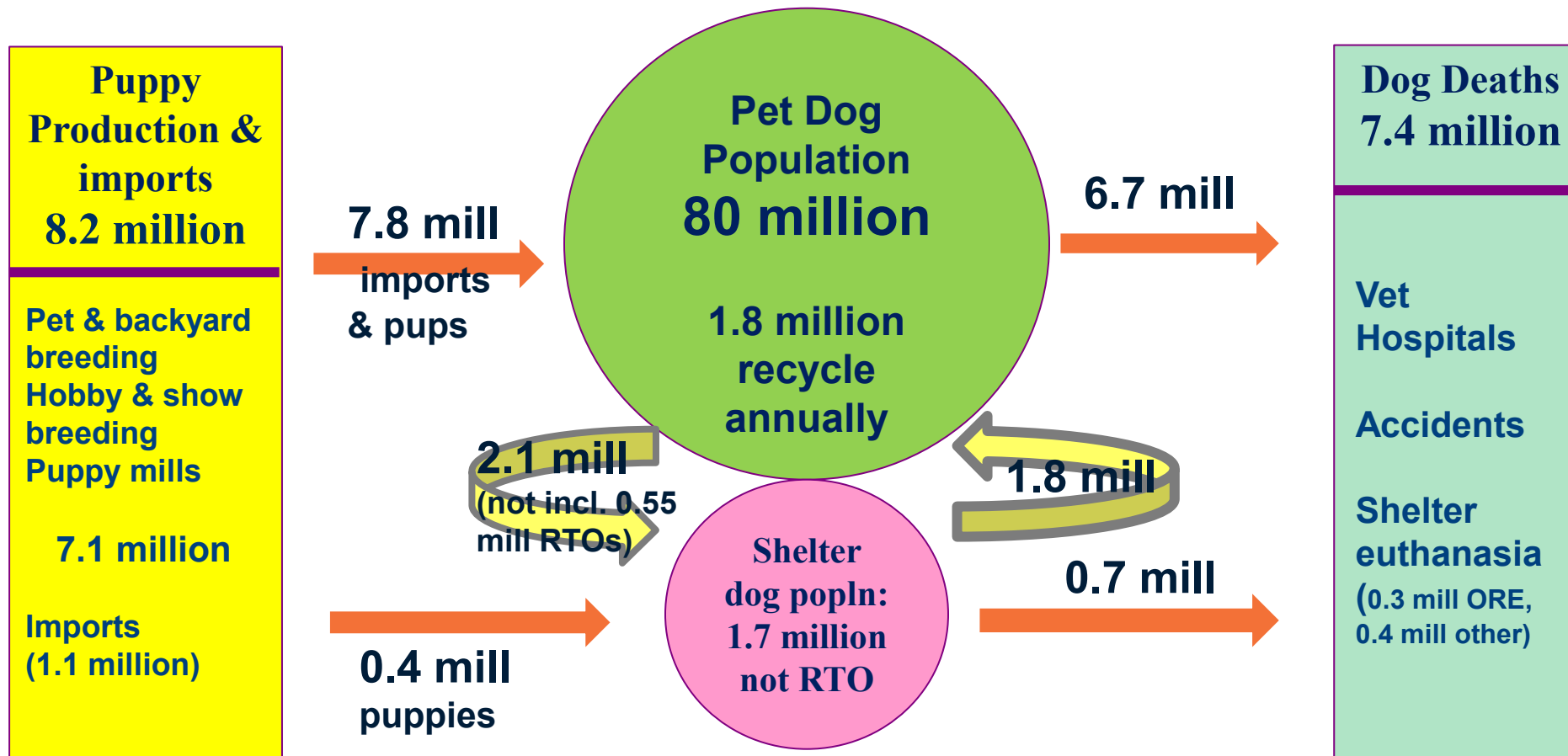- Lack of Attention to Discrepancies/Survey Methods
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Concluding Comments

➢ 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.