

# Saving by the numbers: Using shelter data improve animal welfare

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*Challenge you*

to make greater use of your data  
to improve the welfare of your animals

*but*

To do so wisely

Animal welfare is everyone's business!™



# Today

## Share some

- Influential metrics
- Discuss their interpretation

## Examples of how

- data can guide and change behavior within a shelter
- data can help build and enhance cooperation among organizations in a community

## Can greater evaluation of data help your shelter?

“Harnessing the insights from data to drive decisions has the potential to transform the amount of change nonprofits can make in the world.”

“Without data, decisions are left to tribal knowledge or worse, the whims of the Highest Paid Person’s Opinion (HiPPO).”

S. MacLaughlin in his book, *Data Driven NonProfits*

# Data should be useful

else why collect it?

- **At the individual animal level**
- **At the population level where it helps inform:**
  - where the organization has been*
  - where it is heading*
  - whether “programs/policies are working”*
  - (e.g., is your shelter achieving its goals?)*



# Why use your data?

## Data can

Increase insight

Suggest goals/highlight problems

Measure progress


Enhance communication

Motivate

Build cooperation

Aid in grant acquisition

*All leading to enhancing the welfare of your animals*



# What metrics should shelters monitor?

- Consensus
  - Basic intake/outcome data
  - Average length of stay
  - Some measure of live release
- Help you understand what is happening
- Metrics should be allied with *your* shelter's- Objectives
  - Goals

Let *your* goals/issues determine your questions and your questions determine the data you will analyze.

# METRICS IN CONTEXT

## INTAKE

- Owner-relinquishment
- Stray
- Transfers in
- Other (e.g. legal seizures, health dept., TNR, S/N, special programs)

## Within the shelter

Animal movement  
Housing capacity  
Census  
Disease incidence  
Behavioral health

## OUTFLOW

- Adoption
- Return-to-owner
- Transfers out
- Euthanasia
- Other (e.g. died in shelter, lost)



# What are your shelter's basic objectives?

**1: Reduce intake from community**

(e.g., S/N, TNR programs, subsidized vet care)

**2: Provide for the best welfare of the animals in your shelter as possible**

(e.g., prompt vaccination; enrichment; daily rounds)

**3: Release as many animals alive as possible**

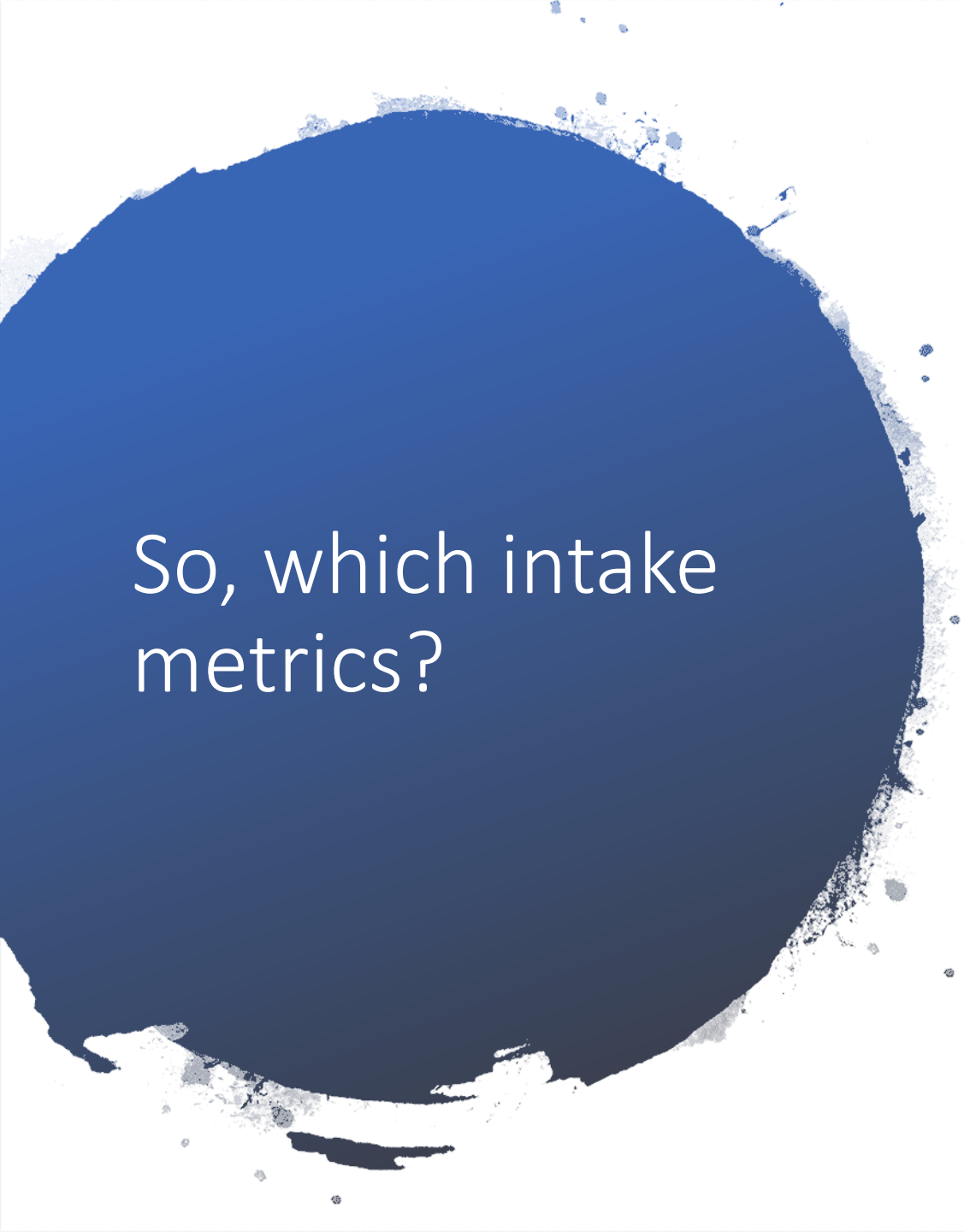
(e.g., transfer out; offsite adoptions)

# Intake metrics

Uses: to describe, set priorities and plan, monitor effectiveness of strategies, communicate, . . .

Common Objective:

Reduce intake from your community



So, which intake metrics?

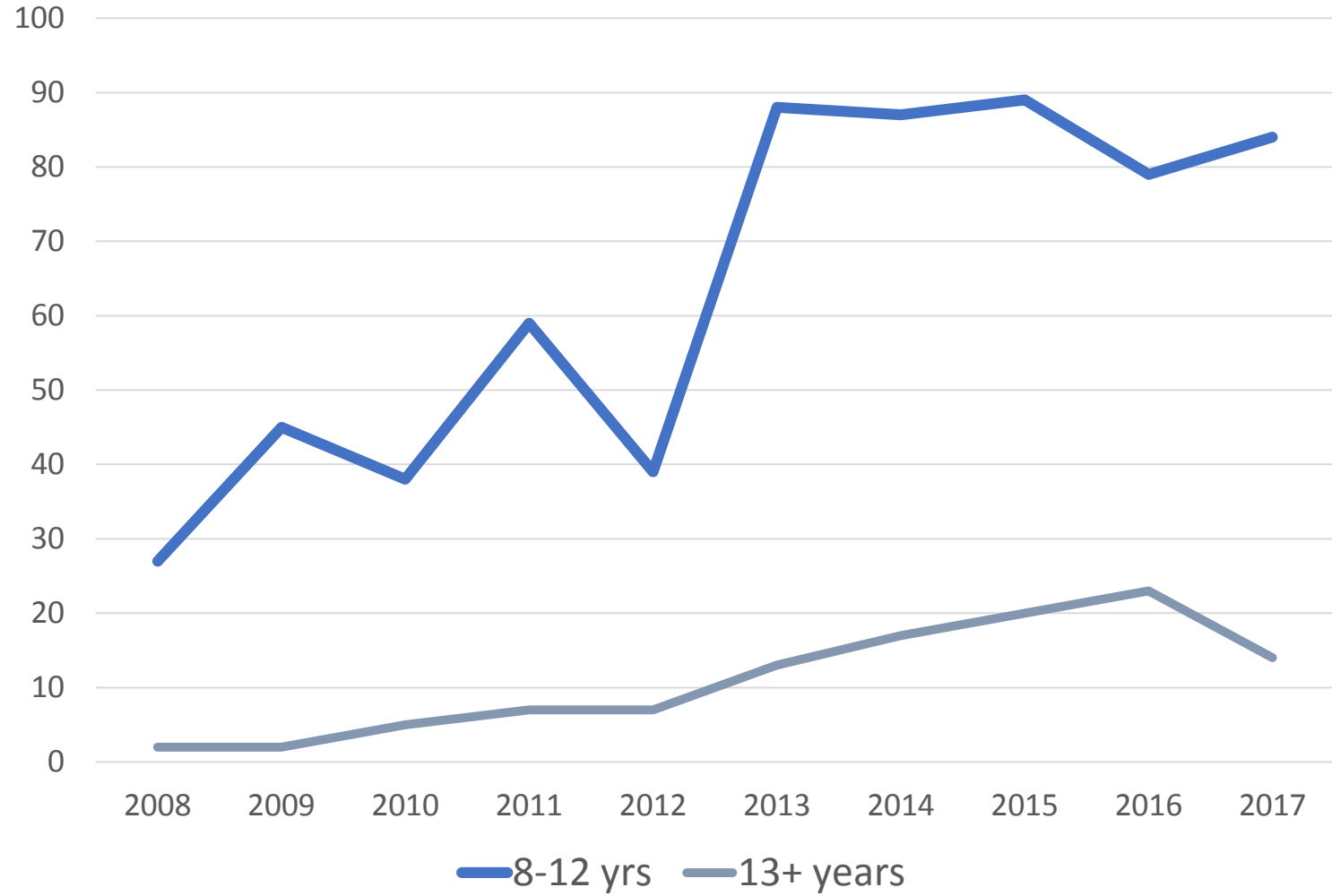
Who is entering?

Where are they coming from?

When are they entering?

What's happening? (trends)

Trend in intake of oldest cats  
2008-2017



# Program evaluation: S/N and TNR efforts

**Example: Shelter has a S/N voucher program for owned cats and a TNR program for free-roaming cats.**

**Objective: Reduce intake of cats from the community**

**What's the plan? SMART goals**

**What metrics could you monitor?**

Reduce incoming homeless cat numbers (from the “service area”) – by OGS & stray groups

***What could a shelter monitor?***

Decreased cat intake

Decreased kitten intake

Increased % of cats sterilized at intake or when trapped

Increasingly older population of cats entering

Lower % of pregnant/lactating cats

Lower % of queens and kittens



What could  
you do to  
enhance  
effectiveness?

## Target spay/neuter efforts for owned cats/free-roaming cats

- Intake data : zip code, GIS
- Where are your participants (in subsidized programs) coming from?
- Kittens : where are they coming from?
- Other metrics?

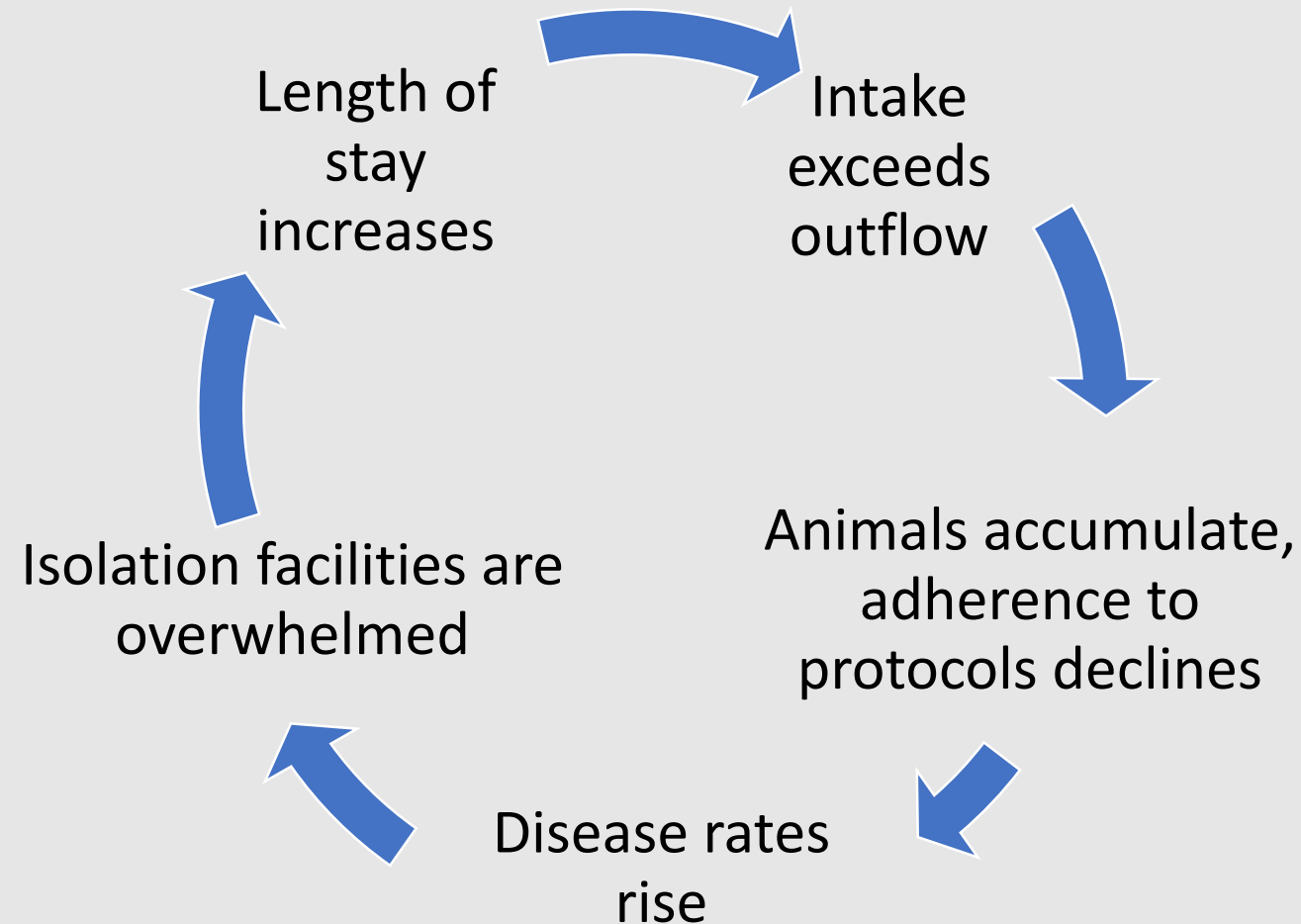
# Within shelter metrics

**Average Length of Stay**

**Housing Capacity**



# Housing capacity is a function of space (and staffing)



What can be  
done to  
diminish  
overcrowding?

- Build more housing units
- Increase outflow
- Manage intake
- Reduce time in the shelter

Housing  
capacity

Influential  
metrics in a  
period

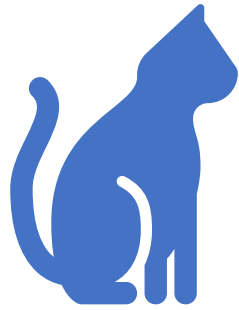
Estimated  
number of  
animals that  
you can house

Average length  
of stay

Intake / outflow

Average daily  
inventory

Estimate the number of humane housing units (HHUs) you have available



Number of animals you can house at one point in time

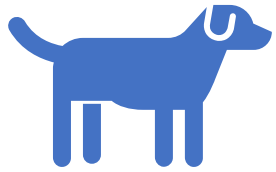
**Holding - kittens (12 - 20)**

**Holding - adult cats  
(25 -30)**

**Adoption-kittens (20 - 35)**

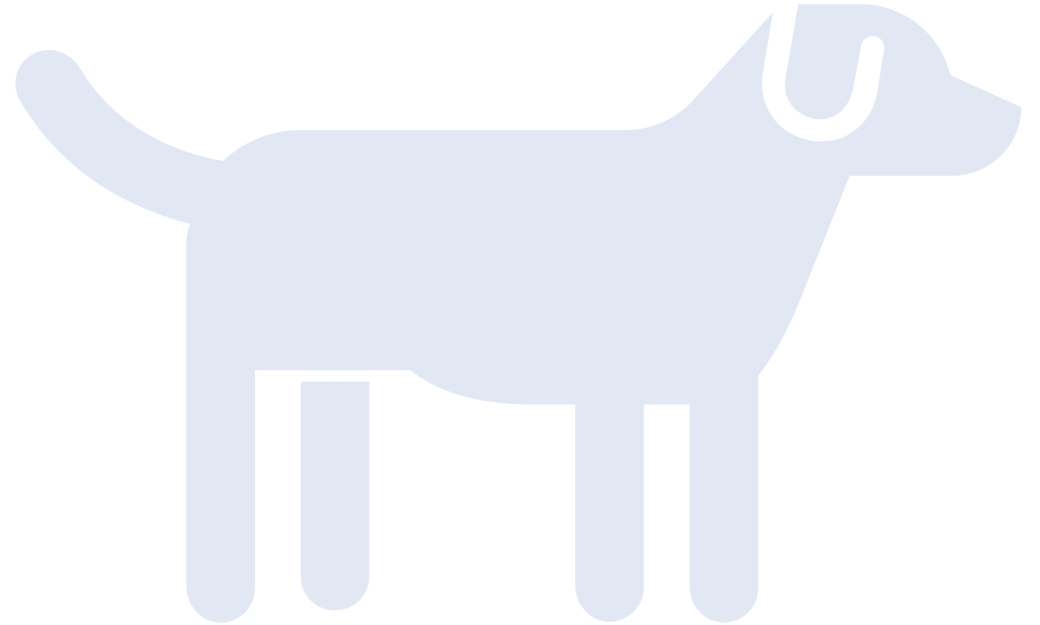
**Adoption adult - cats  
(22 – 28)**

**Isolation - (15 – 18)**



Compared to the number  
of humane housing units  
that you have

Your average daily  
inventory



Should not be larger!

Dynamic capacity: the number of new animals you can house in *a time period* (assuming the shelter is full)

$$\frac{\# \text{ HHUs} \times \# \text{ of days in period}}{\text{Ave. LOS}} = \# \text{ of new animals shelter can house}$$

## Simplify the formula

*Divide both sides of equation by the number of days in the period*

$$\frac{\text{No. of HHUs}}{\text{ALOS}} = \text{animals that should enter/leave } \textit{daily}$$

E.g., 30 humane housing units/ 15 days = **2 animals per day can enter and 2 must leave**

# What happens to housing capacity if ALOS is reduced during Summer?

<b>Number of housing units</b>	<b>ALOS (days)</b>	<b>New animals that could be housed</b>	<b>Number of animals to accept daily</b>
<b>50</b>	<b>22</b>	<b>209</b>	<b>2.3</b>
<b>50</b>	<b>20</b>	<b>230</b>	<b>2.5</b>
<b>50</b>	<b>18</b>	<b>256</b>	<b>2.8</b>
<b>50</b>	<b>16</b>	<b>287</b>	<b>3.1</b>
<b>50</b>	<b>15</b>	<b>307</b>	<b>3.3</b>
<b>50</b>	<b>14</b>	<b>328</b>	<b>3.6</b>



<https://www.targetzeropro.org/capacitycalculators>

## Assumptions associated with the formula

Intake = outflow

~ evenly spaced over the period

All HUs are occupied

The ALOS is constant across the period

Estimates from last year are valid for this year

Using Care-based ALOS

Be aware

Understand the numbers  
that you use

# Goal

## Minimize ALOS

Numerous strategies

Monitor ALOS regularly

ALOS is a  
summary  
measure

Can mask the experience of  
subgroups (e.g., age group,  
source)

# Start with overall ALOS

Then refine

**by age group,source**

(e.g., owner-surrender,  
stray)

**by in foster or not**

**by time (e.g., season)**

**by time to various events**

(e.g., physical/behavioral  
evaluation, S/N surgery)

## How is ALOS calculated in software?

***Intake date:*** average length of stay among animals entering during the period

***Outcome date:*** average length of stay among animals leaving during the period

***Care-day:*** average length of stay during the period of animals present during the period

Which  
approach  
should you  
select?

**Depends . . .**

**on how you intend to use  
the information**

**and**

**the time frame of interest**





# Which method to use?

## **Following ALOS by year**

All produce about the same estimates

## **Following ALOS by month/season**

Intake-based ALOS: may be biased downward

Outcome- and care-day: could be used

## **Estimating housing capacity for year**

Don't advise unless ALOS, intake are constant

## **Estimating housing capacity for month/season**

Use care-day based

# Outcome metrics

Live Release Rate

## Live Release Rates (LRR)

Shelters are complex organizations with a myriad of objectives, needs, expectations

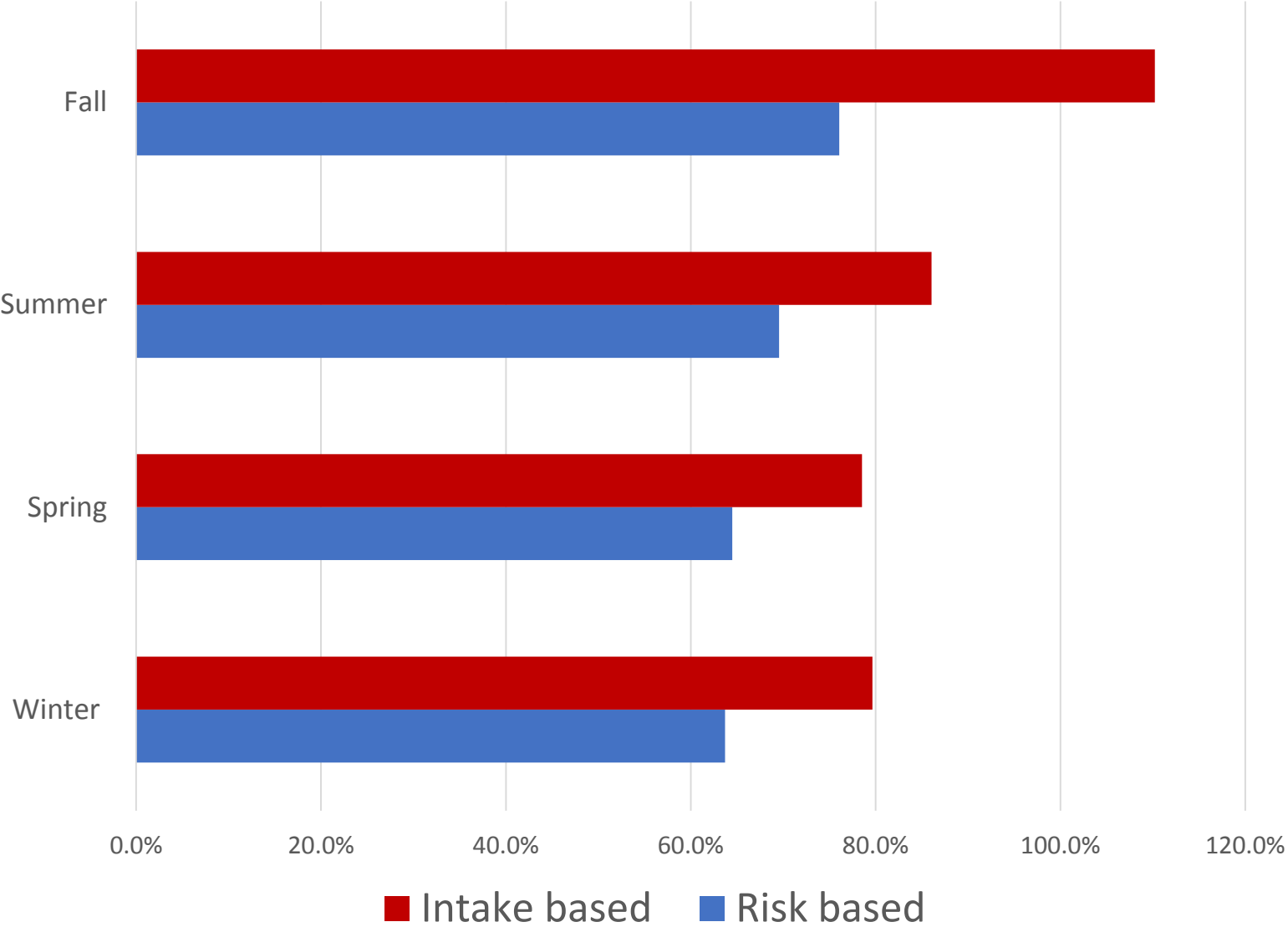
**LRR alone is only a *glimpse* at how the shelter is doing**

Would a for-profit company focus almost exclusively on their overall annual sales?

**Need a far more robust look!**

returned adoption rate, adoption rate, death rate, euthanasia rate, still-in-shelter rate, etc.

# LRR by season for cats 2017



# Several calculations of LRR

## Live outcomes divided by

- All outcomes during the period
- Intakes during the period
- Animals that could experience an outcome (intakes + still in shelter)
- Asilomar: included ORE (healthy, TM, TR) in the denominator and excluded those that died/lost

OR

- Live outcomes and those remaining in the shelter divided by intake

Probably others . . .

## Pitfalls of LRR

One metric presenting of a complex system

Many definitions / meanings

A summary measure

## Summary

Using your data can improve your operations and the welfare of your animals – align your use of metrics with your Mission and Objectives

Formulate SMART goals

Metrics have strengths/limitations – use and interpret wisely

Of course, any metric requires valid data

*Every Nose Counts:  
Using Metrics in  
Animal Shelters*

*Available on Amazon*