



Center for Shelter Dogs

Cummings School of Veterinary Medicine

# Exploring Food Aggression in Shelter Dogs

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Cummings School  
of Veterinary Medicine

# Center for Shelter Dogs

- Established at the Animal Rescue League of Boston in 2008 by a grant from The Stanton Foundation
- Moved to Cummings School in 2014, assisted by a grant from The Stanton Foundation

*The mission of the Center for Shelter Dogs is to conduct research which improves the welfare and successful placement of homeless dogs as well as dogs at risk for homelessness. Central to this mission is the dissemination of research results through the education of veterinary students, graduate students, and shelter professionals.*

[www.centerforshelterdogs.org](http://www.centerforshelterdogs.org)

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# Food Aggression

Growling, snapping, biting (attacking)

when food is approached or interfered with (just food/food bowl – or treats?)

target usually person (or just other dogs?)

Territorial Aggression

Protective Aggression

Possession Aggression

Reactive not Aggressive

All guarding, just target different  
look at distance

Not different than food aggression

# Food Guarding

More inhibited behaviors-stiff, crouching over food, lowered head, burying head in bowl, eating food faster/gulping, uneasy

Spectrum from more inhibited FG to less inhibited FA

Same as food aggression just over other resources (anything not food)

# Resource Guarding

Same as food guarding just over other resources (anything not food)

eatfaster

stiffen

food

eyeperson

showteeth

growl person

object

stooping

toy

treat

snap

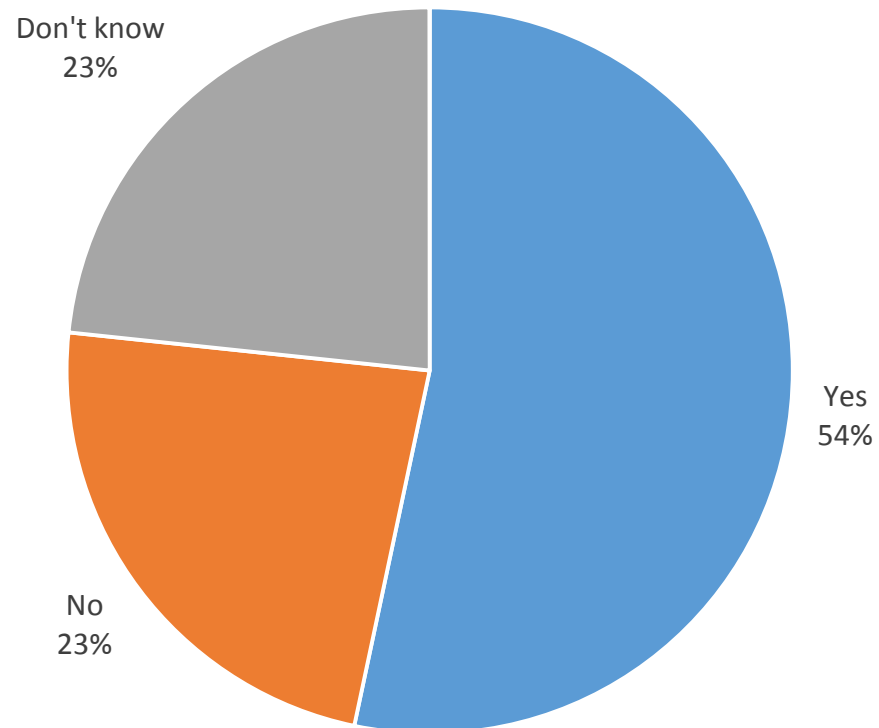
lunge

bite

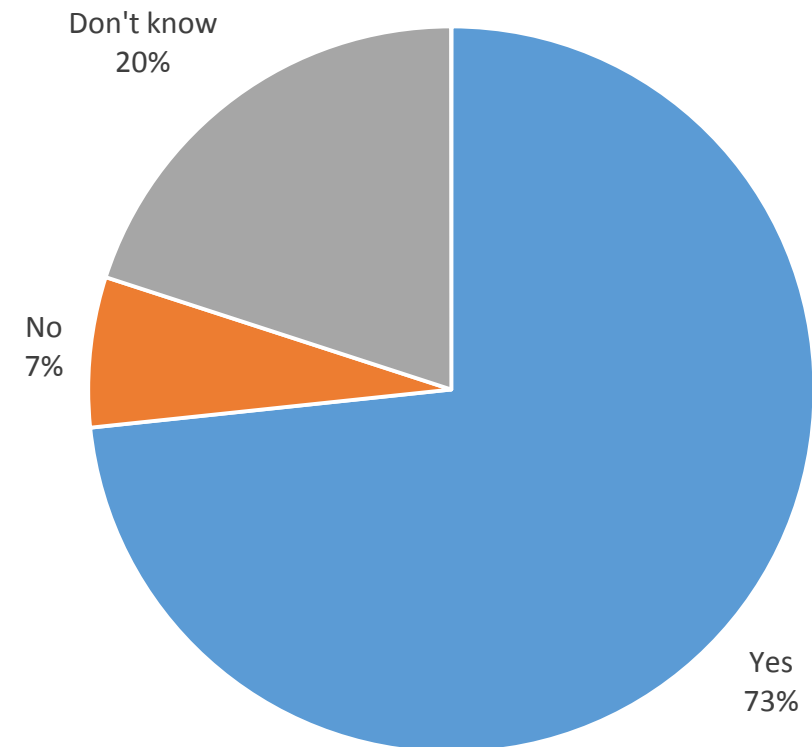
Expert Opinion

# Consistent Definitions?

Standardized Definition for FA in Org?



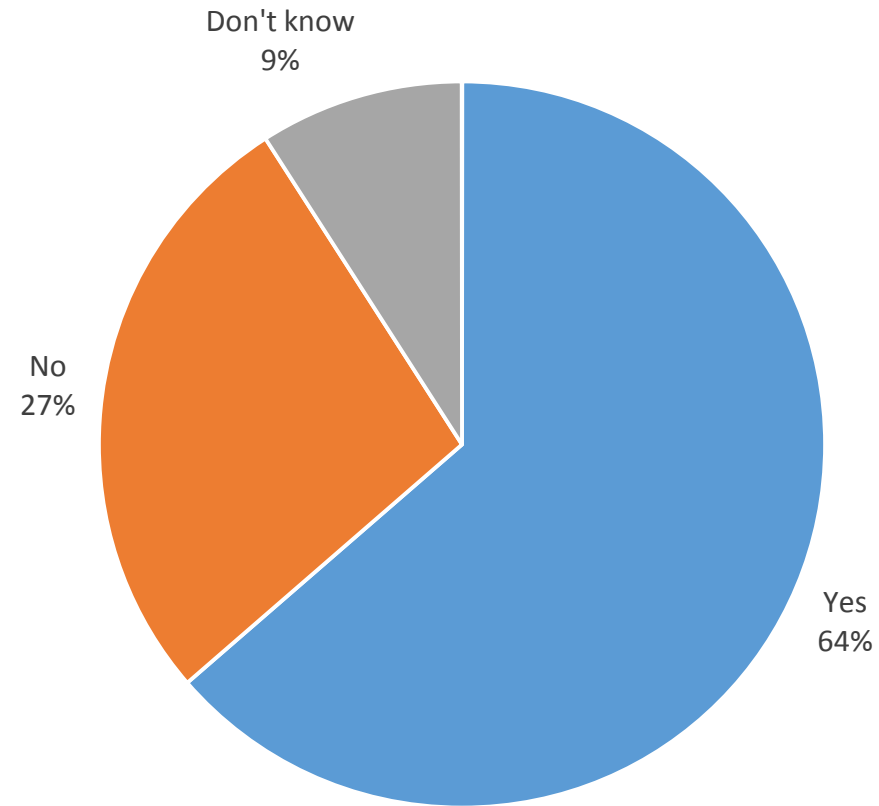
Same Definition of FA as You?



MAC All About Dogs Attendee Poll  
N=30

# Consistent Definitions?

Have You Ever Observed Different Definitions of FA Used?



MAC All About Dogs Attendee Poll

N=30

# What does this tell us?

- General consensus in the field on food aggression on the main points
  - But inconsistencies on the detail
- Field needs a more consistent, clear definition
  - Show teeth, growl, snap, bite when either dog or food item near dog is approached or touched by a person (Marder, 2015)
- Some inconsistencies within and across organizations
- Inter-rater reliability may be moderate, or weak
- Prevalence rates, accurate identification & delivery of appropriate services, adoptability & placement decisions all affected

# Prevalence – How Common is FA?

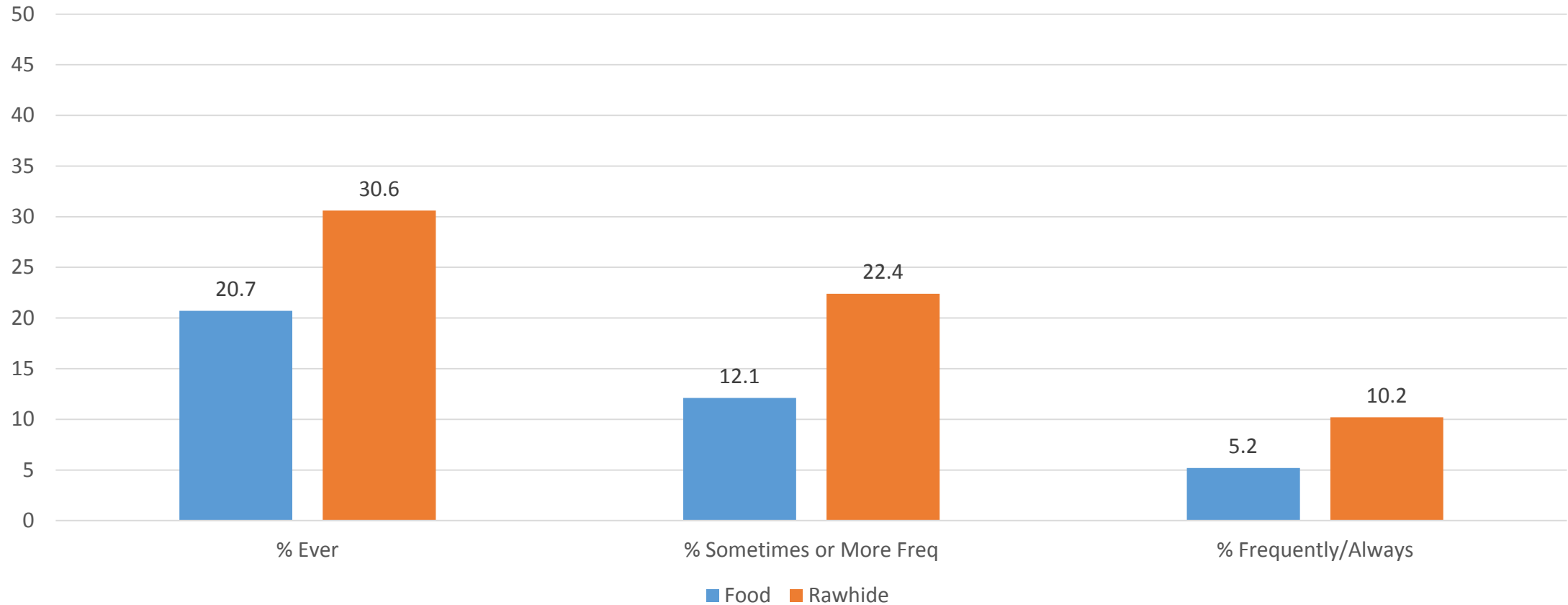
**5% - 20%** in the home

- Some studies say:
- 20% of dogs growled at owner over food or objects
- 20.6% of 3226 dogs in 20 vet practices growled or snapped if food, toys, or other objects were taken away



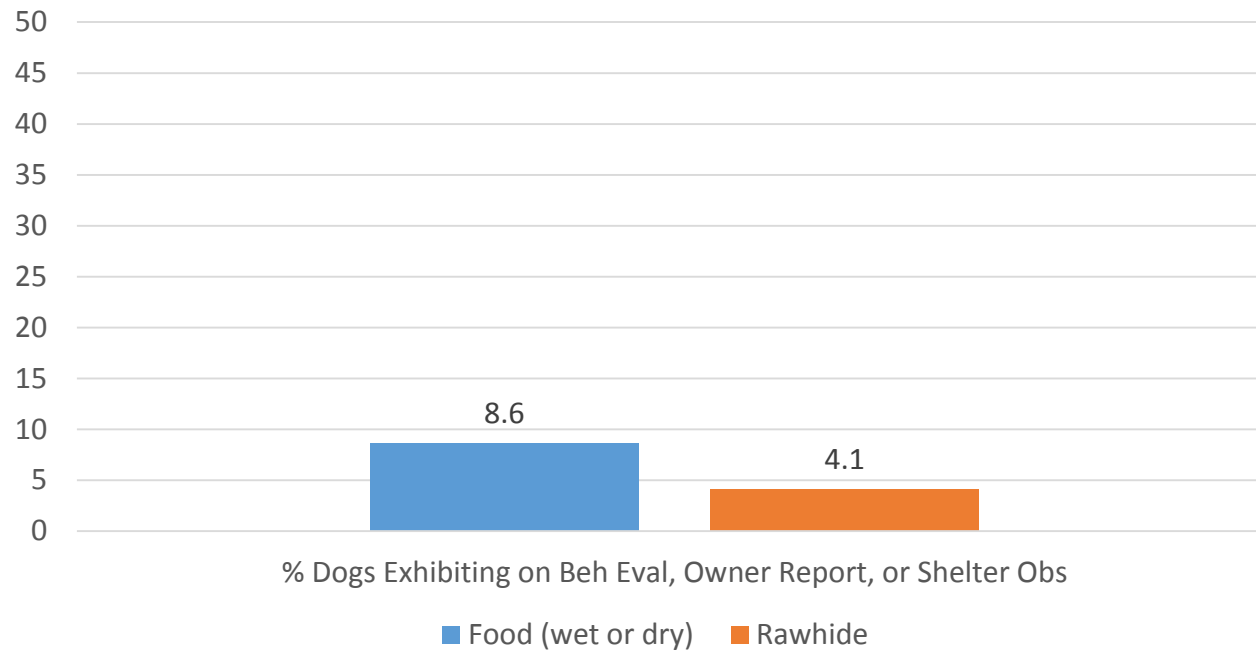
# Adopter Follow-Up (CSD Research)

% of Dogs Reported by Owners to Growl, Snap, Show Teeth, Bite, Attempt to Bite



# Prevalence in the Shelter

% of Dogs Exhibiting Growl, Snap, Show Teeth, Bite Over Food on Eval, Owner Report, or Shelter Obs



N=30-58 dogs with adopter f/u data

**7.6%** of 7920 dogs exhibited growl, snap, show teeth, bite over food or pig's ear on beh eval, shelter hx, or reported info from surrendering owner

**14%** of dogs reported to be food aggressive by 77 shelters

Caveats?

Compare FA in home to in shelter?

# What's Needed?

- Standardized, articulated definitions within the organization
  - Specify individual behaviors (bite vs attack)
  - And/or criteria
  - Frequency
  - Food/Object (just food, food and high-value treats, objects?)
  - Target (just people or other dogs/animals too)
- Decide if food guarding is differentiated and in what way (using all of the above)
- Relate FA/FG to resource guarding (using all of the above)
- Decide how to incorporate info from different sources (beh eval, owner, shelter obs)
- Regular review and training to keep consistency high

# Assessing Food Aggression

- Behavior evaluation
  - What evaluation
  - What food items
  - Consistency in implementation
  - Stress
  - Valid test
- Information from surrendering owner
  - How asked (global vs specific behaviors)
  - Accuracy (understanding, truthfulness)
- Shelter observation
  - Consistent definition
  - Recording observations
  - Using observations

# Best Method?



# Predicting the Future

- 3 Requirements

- Standardization
- Reliability
- Validity

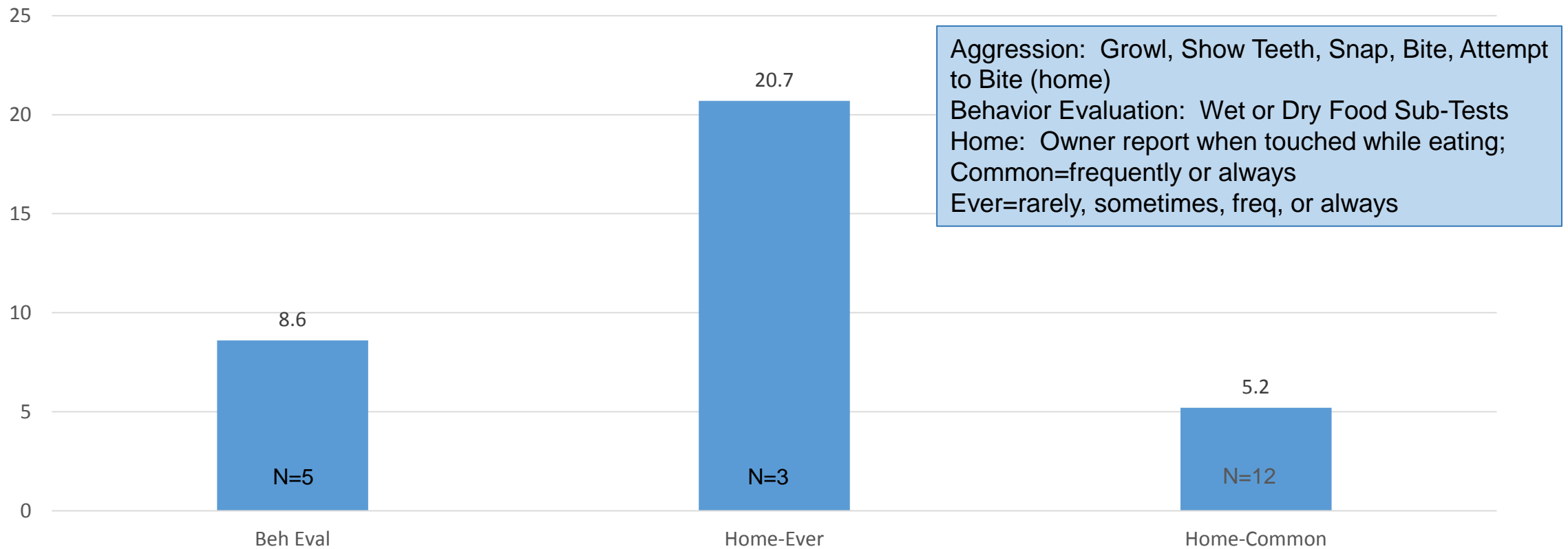
➤ Predictive Validity – how predictive the test is of future behavior

# Adopter Follow-Up Pilot (CSD Research)

- 668 dogs were evaluated using the Match-Up Behavior Evaluation over three years at 4 sites of ARLB
- List of 550 adopters was compiled, 138 completed telephone interviews
- 124 owners either still had the dog or had had the dog within 6 months so completed all scenarios of the questionnaire
- Questionnaire asked about frequency of specific behaviors exhibited by the dog in certain situations
  - Never, Rarely, Sometimes, Frequently, Always

# Incidence of Food Aggression

% Dogs Exhibiting Food Aggression





# Beh Eval by Owner Report Comparison

		Home (Owner Report of Frequent Aggression)		
		Yes	No	Total
Behavior Evaluation	Yes	3	2	5
	No	0	53	53
Total		3	55	58

60% of dogs with FA on beh eval showed it in home

100% of dogs with FA in home showed it on beh eval

# Food-Aggression Adopter Follow-Up (ASCPA)

- 6,603 dogs placed in new homes
  - 96 placed on a food aggression protocol
  - FA id'd with SAFER – only FA, no other beh issues
  - Stiff, gulp, growl, freeze, bite
  - Excluded dogs: <6 mo age, Pit Bulls, Rottweilers, severe FA (moving toward human to redirect, biting up hand, body between assessor & bowl, moving bowl, foot in bowl, urinating on bowl), other resource guarding, other beh issues
- FA dogs placed on free-feeding program
- All adopted, adopters instructed to implement food program
- F/u at 3 days, 3 weeks, 3 months

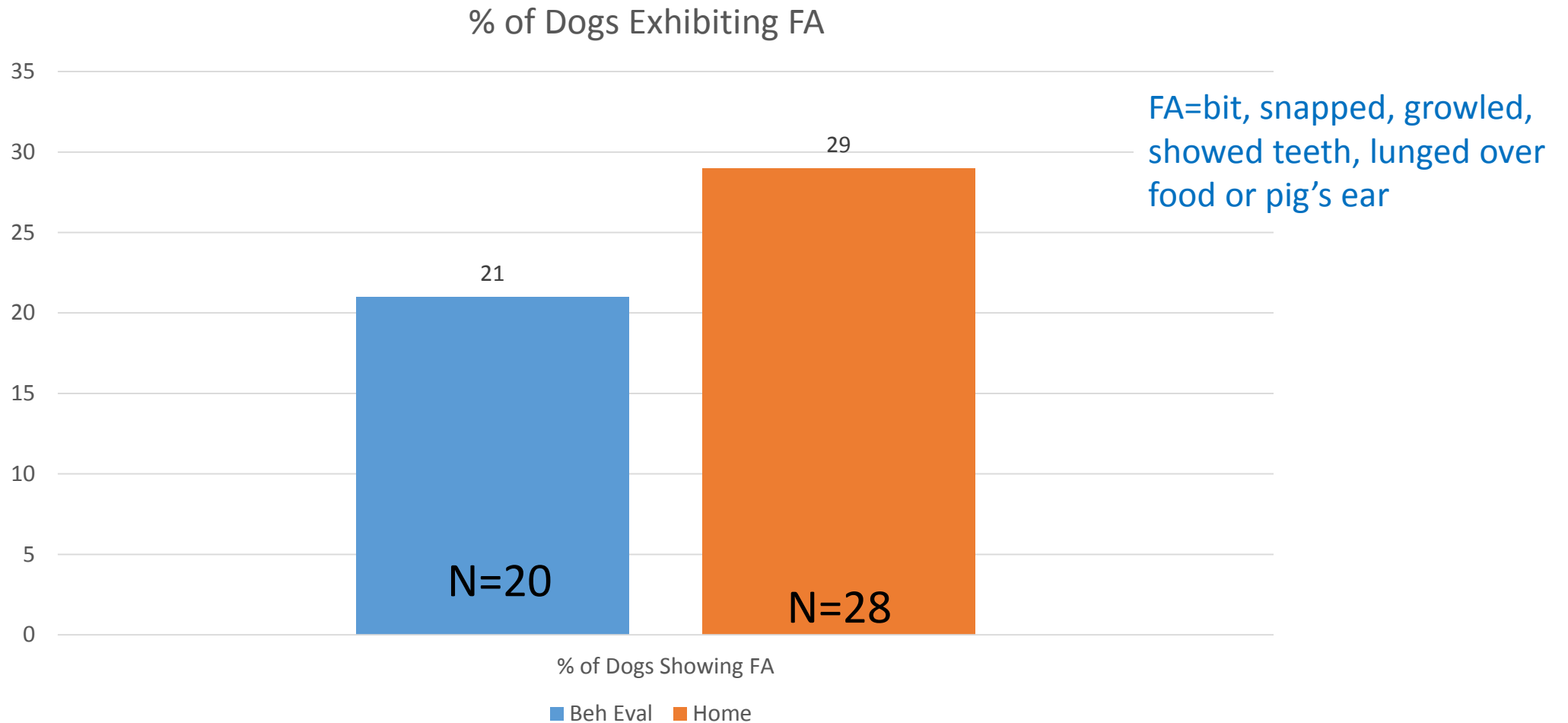
# Results

- Day 3 – 5.8% (3/52) adopters reported some FA
- Week 3 – 7.4% (4/54) adopters reported some FA
  - 2 the same as day 3, 2 new ones
- Month 3 – 2.9% (1/35) adopters reported some FA
  - New case (rawhide), 3 earlier cases did not report any since last contact, 1 adopter unreachable

# Food Aggression Adopter F/U (CSD Research)

- 376 eligible adopted dogs
  - 7.4% (28/376) id'd with FA with Match-Up II Beh Eval
  - Inclusion criteria: >4 mo age, complete food & treat beh eval sub-tests, reside in shelter (not foster home), in adoptive home 3+ months, all breeds & sizes
- 159 completed surveys with adopters via email or phone
  - Final sample = 97
  - 21% (20/97) id'd with FA in the home (bit, snapped, growled, showed teeth, lunged over food or pig's ear)
- FA dogs were not on a beh mod plan
- Adopters of FA dogs were told of the beh and instructed to not bother dog when eating, chewing on toy, sleeping; feed only dry food; no high value treats; trade for treats/objects
- F/u varied from 3 months to two years

# Results



Sig assn between beh eval results & beh in the home –  
55% of dogs who exhibited FA in shelter beh eval were reported  
to have exhibited it in the home

# Beh Eval by Owner Report Comparison

		Home		
		Yes	No	Total
Behavior Evaluation	Yes	11	9	20
	No	17	60	77
Total		28	69	97

55% of dogs with FA on beh eval showed it in home (11/20)

78% of dogs with no FA on beh eval did NOT show it in home (60/77)

But 45% of dogs with FA on beh eval did NOT show it in home (9/20)

And 22% of dogs with no FA on beh eval DID show it in home (17/20)

# What does this tell us?

- Shelter behavior evaluations predict FA in the home poorly to moderately well
  - If a dog shows FA, odds are moderately higher the dog will show it in the home
  - But some FA+ dogs won't show FA in the home
  - And some dogs without FA in the shelter (FA-) will show it in the home

## Why?

- Many reasons – evaluation inconsistencies, invalid tests (dog must eat for valid food test), stress (dog eats & reacts, dog doesn't eat when normally would & react), owner behavior much different than shelter environment (more treats & interactions while eating=more opptys for bad reaction?) ...
  - **DIFFERENT ENVIRONMENTS**

# Why It Matters

- Some orgs won't take dogs with FA
  - CSD Shelter Survey – 43% of sheltering orgs said it be a challenge to take in a dog with FA (n=1300)
- Some orgs deem some dogs with FA as unadoptable – and euthanize them
  - ASPCA – 72.9% said any guarding beh makes the dog unadoptable (one of top 3 beh issues dog deemed unadoptable, n=77)
- Some orgs place restrictions on adoptions of dogs with FA, increasing length of stay



# Adopters' Perception

- ASPCA - majority of adopters reported they were ATTACHED to dog
- CSD – 86% - 89% of adopters said they would adopt that dog again
- Owners may not recognize or care about food aggression
  - CSD – 96% (93/97) did not consider dog FA, even those that reported FA behaviors (93% (26/28))
  - Owners of FA+ dogs indicated FA *in theory* to be less challenging than owners of FA- dogs

Caveats?

# Placing Dogs with Food Aggression

- How would you place dogs with FA?
- Programs which inform adopters, show or explicitly tell adopters, which provide easy to follow instructions, and which follow up with adopters increase success
  - Some degree of matching

# What's it all mean?

- Standardized definitions, standardized assessment methods
- Precise, easy to understand questions on intake
- FA behavior is impacted by many things, including environment, stress
- FA found on evaluation more likely to be seen in home – but not necessarily
- And some dogs without FA in the shelter will display it in the home
- Free-feeding may help (more research needed)
- Adopters don't seem to mind much (at least mild or moderate FA)
- **Should we be adopting out more dogs with food aggression?**
- **Should we still conduct food aggression evaluations?**
- **Should we do more free-feeding and less resource-intensive behavior modification?**
- **Where do we place dogs with food aggression? (screening/matching)**

# Resources - ASPCA

- <http://www.aspcapro.org/resource/saving-lives-adoption-programs-behavior-enrichment-research-data/food-guarding-very>
- <http://www.mdpi.com/2076-2615/2/3/331/pdf>
- <http://www.aspcapro.org/resource/saving-lives-adoption-programs-behavior-enrichment/behavior-modification-action>
- <http://aspcapro.org/time-to-change-our-perspective-around-food-aggression>
- <http://aspcapro.org/blog/2015/10/08/prostates-and-food-guarding%E2%80%A6>

# Resources – Center for Shelter Dogs

- <http://centerforshelterdogs.org/Home/DogBehavior/ProblemsandManagement.aspx>
- <http://centerforshelterdogs.org/Home/DogBehavior/SpecialAdoptions.aspx>

# Other Resources

- [https://drsophiayin.com/blog/entry/treatment\\_of\\_food\\_possessive\\_dogs\\_is\\_about\\_finesse\\_not\\_force/](https://drsophiayin.com/blog/entry/treatment_of_food_possessive_dogs_is_about_finesse_not_force/)
- [https://www.boulderhumane.org/sites/default/files/BehaviorDepartment\\_LindsayWood\\_ASM.pdf](https://www.boulderhumane.org/sites/default/files/BehaviorDepartment_LindsayWood_ASM.pdf)
- <http://www.patriciamcconnell.com/theotherendoftheleash/resource-guarding-treatment-and-prevention>