

A STATE-LEVEL GROSS DECONTAMINATION BUCKET INTERVENTION FOR FLORIDA FIREFIGHTERS: REDUCING THE RISK FOR CARCINOGENIC EXPOSURES



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BACKGROUND

- Firefighters are exposed to many probable and known carcinogens during fire incidence response activities.
- The use of dish soap, water, and scrubbing immediately after fire incident response reduces carcinogen (i.e., polycyclic aromatic hydrocarbons [PAHs]) from bunker gear by 85%.
- The Sylvester Firefighter Cancer Initiative in collaboration with the State Fire Marshall office distributed 4,550 decontamination buckets to all fire trucks/engines in the State of Florida in 2018.

STUDY OBJECTIVES

- 1) Describe the design, implementation and use of a gross decontamination bucket intervention among Florida fire services.
- 2) Estimate predictors of decontamination bucket use among participating fire services.

METHODS

- Data Source(s):
 - Florida fire department decontamination bucket distribution list.
 - Self-reported survey data from attendees of the 2018 Florida Fire Chiefs Health and Safety conference.
- Calculate frequencies of decon bucket use across Florida fire departments and estimate using binary logistic regression predictors of decon bucket use.

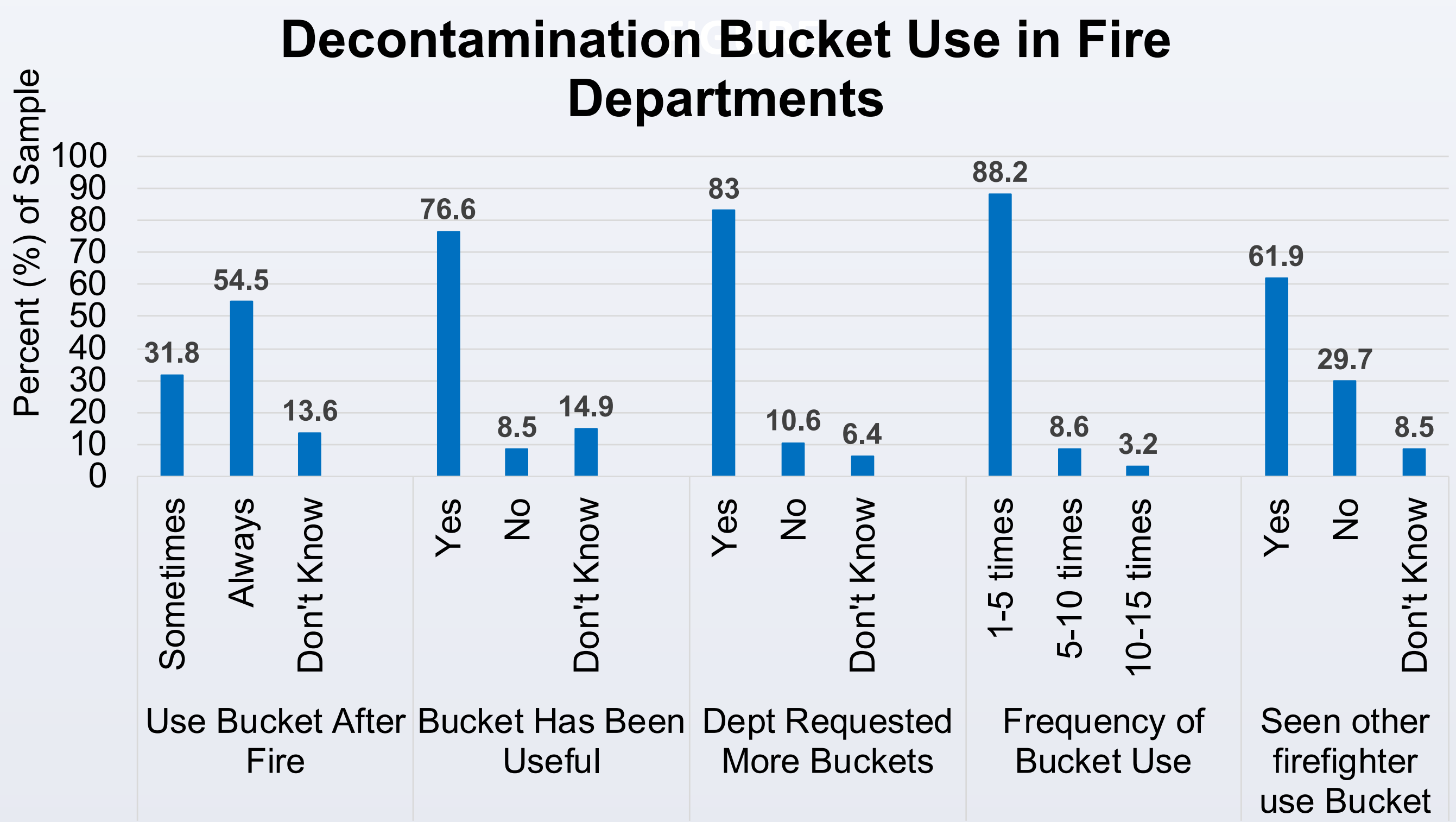


RESULTS

- 62 Florida fire departments (138 Florida firefighter leaders) completed the decontamination bucket survey.
- 83.3% received decontamination bucket, 8.0% did not, and 8.7% were not sure.
- 86.3% reported using the bucket always to sometimes post fire incident response
- 76.6% found the bucket useful.
- 83% of fire departments who received a bucket requested additional buckets.
- 88.2% used the bucket at least 1-5 times since receiving the bucket.
- 61.9% had seen other firefighters use the bucket.
- The top three most frequently remembered bucket items included: scrub brushes (82.0%), detergents (81.2%) and hoses (81.2%).
- Medium-sized fire departments (101-500 Firefighters) were significantly more likely to report receiving a bucket compared to larger fire departments (odds ratio=7.86; 95%CI [1.32-46.74]).

Table 1. Use of Gross Decontamination Buckets among Florida Fire Departments participating in the Firefighter Assessment of Strategies Trumping Cancer (FAST-C) Survey, December 2018

Characteristic	Total Sample n (%)	Uses Bucket n (%)	Bucket Not Used n (%)	p-value
Department Workforce Size				
Small (1-100 Firefighters)	31 (55.4)	29 (58.0)	2 (33.3)	.029
Medium (101-500 Firefighters)	21 (37.5)	19 (38.0)	2 (33.3)	
Large (>500 Firefighters)	4 (7.1)	2 (4.0)	2 (33.3)	
Number of Health/Safety Officers				
None	3 (5.6)	3 (6.3)	0 (0.0)	.766
One Officer	29 (53.7)	26 (54.2)	3 (50.0)	
Two or More Officers	22 (40.7)	19 (39.6)	3 (50.0)	
Geographic Setting				
Rural Only	6 (10.9)	6 (12.2)	0 (0.0)	.833
Urban Only	16 (29.1)	14 (28.6)	2 (33.3)	
Suburban Only	15 (27.3)	13 (26.5)	2 (33.3)	
Mixed (Urban/Suburban/Rural)	18 (32.7)	16 (32.7)	2 (33.3)	



Number of Items Remembered in Decontamination Buckets

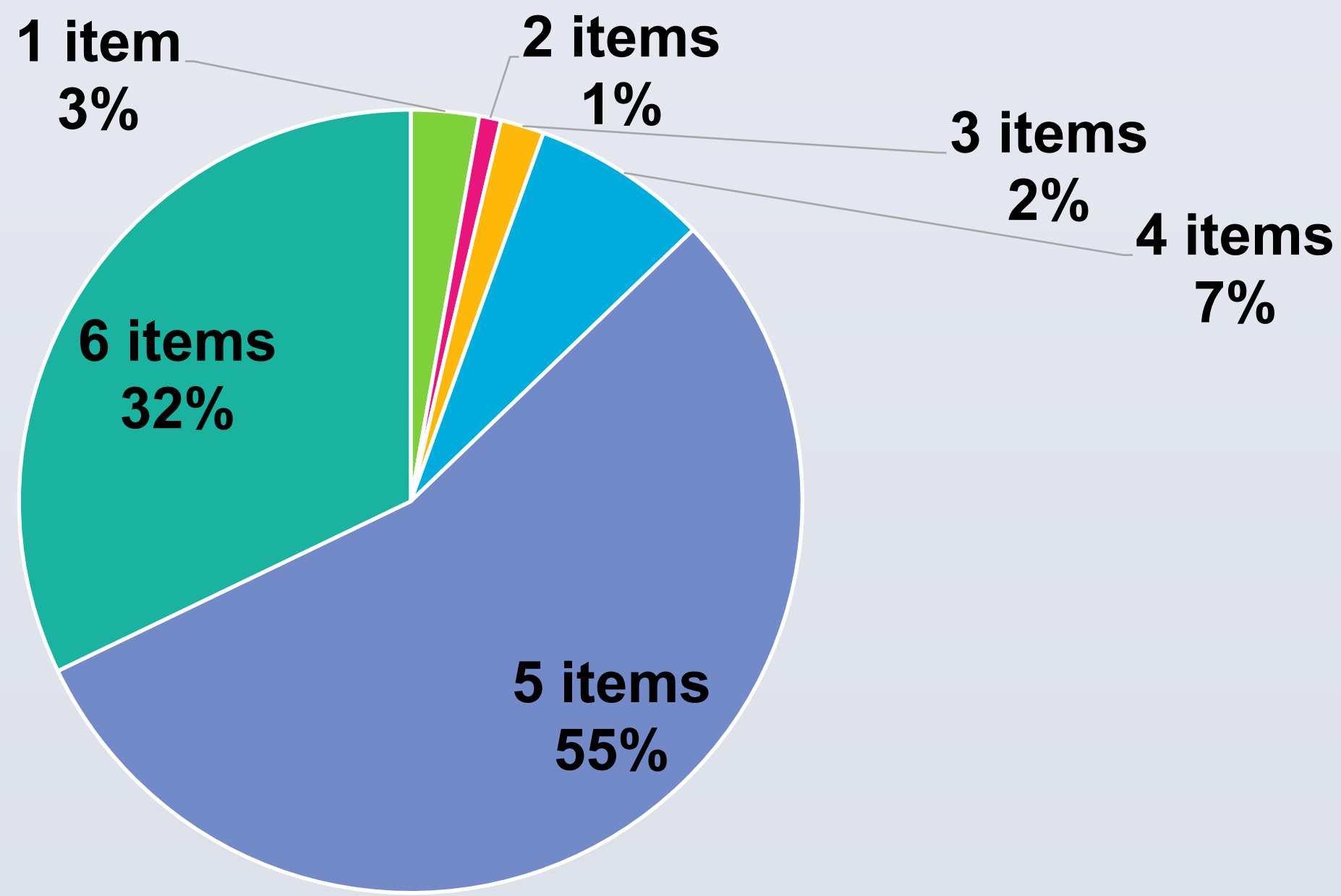


Table 2. Binary Logistics regression estimating predictors of receiving a decontamination bucket among Florida Fire Services.

Characteristic	Odds Ratio [95% Confidence interval]
Workforce Size (ref=Large, >500 Firefighters)	
Small (1-100 Firefighters)	1.41 [0.30-6.61]
Medium (101-500 Firefighters)	7.86 [1.32-46.74]

CONCLUSIONS

- Decontamination buckets packed with items that reduce carcinogens from turnout gear are well accepted by fire departments.
- Size of a fire department (i.e. number of active firefighters employed in fire department) is associated with request from fire departments for decontamination buckets.