

# Food Safety in Long Term Care Facilities: Are We Protecting Vulnerable Populations?



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Environment



# portent (n): indication of something to come

- August 2014
- *Salmonella enteritidis* outbreak at assisted living facility in Arapahoe County, Colorado
- 2 cases
  - 2 hospitalizations
  - 1 death
- Extensive violations identified in kitchen
  - Food service temporarily suspended
  - Food safety education provided



# vulnerable (adj): susceptible to being hurt

- Adults 65+ have second highest incidence of reported enteric disease in Colorado
- Higher rate of hospitalizations and deaths
- Long-term care facilities pose unique disease transmission risks
  - Close contact between residents
  - Contact with visitors and staff
  - Most meals consumed on site
  - Single lapse in food safety can put all residents at risk



mélange (n): mixture or medley

# Health Facilities

S  
T  
A  
T  
E

Environmental  
Health

Communicable  
Disease

L  
O  
C  
A  
L

Communicable  
Disease

Environmental  
Health



# endeavor (n): attempt to achieve

Env.  
Health



Health  
Facilities



Pilot  
Inspection  
Program

## HEALTH FACILITY PILOT PROJECT INSPECTION REPORT

Categories in "red" indicate "Critical Items" which are provisions of the rules and regulations that, if in noncompliance, are more likely than other violations to contribute to food contamination or illness. Violations categories further indicated with **highlighting** are Foodborne Illness Risk Factors (FBI) which are violations directly related to causing foodborne illness.

In	Out	NA	NO	CRITICAL ITEMS				P	Out	NON CRITICAL ITEMS				P			
<b>01 FOOD SOURCE</b>									<b>09 FOOD LABELING, FOOD PROTECTION</b>								
				a.	Approved source <sup>FBI</sup>					a.	Original container, properly labeled						
				b.	Wholesome, free of spoilage					b.	Food protected from contamination						
				c.	Cross-contamination <sup>FBI</sup>				<b>10 EQUIPMENT DESIGN, CONSTRUCTION</b>								
				d.	HACCP plan					a.	Food-contact surfaces						
				e.	Date marking					b.	Non-food contact surfaces						
				f.	Consumer Advisory					c.	Dishwashing facilities						
<b>02 PERSONNEL</b>									<b>11 TESTING DEVICES</b>								
				a.	Personnel w/ infections restricted <sup>FBI</sup>					a.	Refrigeration units provided with accurate, conspicuous thermometer						
				b.	Wounds properly covered					b.	Dishmachine provided with accurate thermometer & gauge cock						
				c.	Hands washed as needed <sup>FBI</sup>					c.	Chemical test kits provided, accessible						
				d.	Hygienic Practices <sup>FBI</sup>				<b>12 CLEANING OF EQUIPMENT &amp; UTENSILS</b>								
				e.	Smoking, eating, drinking					a.	Food-contact surfaces						
				f.	Demonstration of knowledge					b.	Non-food contact surfaces						
				g.	Preventing food contamination from bare hands <sup>FBI</sup>					c.	Dishwashing operations						
<b>03 FOOD TEMPERATURE CONTROL</b>										d.	Wiping cloths						
				a.	Rapidly cool foods to 41°F or less <sup>FBI</sup>				<b>13 UTENSILS, SINGLE-SERVICE ARTICLES</b>								
				b.	Rapidly reheat to 165°F or greater <sup>FBI</sup>					a.	Utensils provided, used, stored						
				c.	Hot hold at 135°F or greater <sup>FBI</sup>					b.	Single service articles stored, dispensed, used						
				d.	Required cooking temperature <sup>FBI</sup>					c.	No re-use of single-service articles						
				e.	Cold hold at 41°F or less <sup>FBI</sup>				<b>14 PHYSICAL FACILITIES</b>								
				f.	Food thermometer (probe-type)					a.	Plumbing: installed, maintained						
				g.	Adequate equipment to maintain food temperatures <sup>FBI</sup>					b.	Garbage and refuse						
<b>04 SANITIZATION</b>								Temp	Conc	Exp	Type		c.	Floors, walls, ceilings			
				a.	Manual					d.	Lighting						
				b.	Mechanical					e.	Ventilation						
				c.	In-Place					f.	Locker rooms						
<b>05 WATER, SEWAGE, PLUMBING SYSTEMS</b>													g.	Premises maintained			
				a.	Safe water source					h.	Separation of living, laundry						
				b.	Hot & cold water under pressure					i.	Restroom facilities						
				c.	Backflow, backsiphonage				<b>15 OTHER OPERATIONS</b>								
				d.	Sewage disposal					a.	Personnel: clean clothes, hair restraints, authorized						
<b>06 HANDWASHING FACILITIES</b>													b.	Linen properly stored			
				a.	Adequate number, location <sup>FBI</sup>				<b>KEY:</b>								
				b.	Accessible <sup>FBI</sup>				In	Item in compliance w/regulations at the time of inspection							
				c.	Soap & drying devices available <sup>FBI</sup>				Out	Item out of compliance w/regulations at the time of inspection							
								NA	(Not Applicable) – This section(s) of the regulation								

# HEALTH FACILITY PILOT PROJECT INSPECTION REPORT

Categories in "red" indicate "Critical Items" which are provisions of the rules and regulations that, if in noncompliance, are more likely than other violations to contribute to food contamination or illness. Violations categories further indicated with highlighting are Foodborne Illness Risk Factors (FBI) which are violations directly related to causing foodborne illness.

## Non-Critical Violations

- Proper food storage
- Clean food prep surfaces
- Serving utensil use/storage
- Employee hair restraints

	P	Out	NON CRITICAL ITEMS	P
			<b>09 FOOD LABELING, FOOD PROTECTION</b>	
			a. Original container, properly labeled	
			b. Food protected from contamination	
			<b>10 EQUIPMENT DESIGN, CONSTRUCTION</b>	
			a. Food-contact surfaces	
			b. Non-food contact surfaces	
			c. Dishwashing facilities	
			<b>11 TESTING DEVICES</b>	
			a. Refrigeration units provided with accurate, conspicuous thermometer	
			b. Dishmachine provided with accurate thermometer & gauge cock	
			c. Chemical test kits provided, accessible	
			<b>12 CLEANING OF EQUIPMENT &amp; UTENSILS</b>	
			Food-contact surfaces	
			Non-food contact surfaces	
			Dishwashing operations	
			Dishwashing cloths	
			<b>13 SINGLE-SERVICE ARTICLES</b>	
			Single service utensils provided, used, stored	
			Single service articles stored, dispensed, used	
			c. No re-use of single-service articles	
			<b>14 PHYSICAL FACILITIES</b>	
			a. Plumbing: installed, maintained	
			b. Garbage and refuse	
			c. Floors, walls, ceilings	
			d. Lighting	
			e. Ventilation	
			f. Locker rooms	
			g. Premises maintained	
			h. Separation of living, laundry	
			i. Restroom facilities	
			<b>15 OTHER OPERATIONS</b>	
			a. Personnel: clean clothes, hair restraints, authorized	
			b. Linen properly stored	
			<b>KEY:</b>	
			In Item in compliance w/regulations at the time of inspection	
			Out Item out of compliance w/regulations at the time of inspection	
			NA (Not Applicable) – This section(s) of the regulation	

c. Soap & drying devices available FBI

# HEALTH FACILITY PILOT PROJECT INSPECTION REPORT

Categories in "red" indicate "Critical Items" which are provisions of the rules and regulations that, if in noncompliance, are more likely than other violations to contribute to food contamination or illness. Violations categories further indicated with **highlighting** are Foodborne Illness Risk Factors (FBI) which are violations directly related to causing foodborne illness.

In	Out	NA	NO	CRITICAL ITEMS	P
<b>01 FOOD SOURCE</b>					
				a. <b>Approved source</b> <sup>FBI</sup>	
				b. Wholesome, free of spoilage	
				c. <b>Cross-contamination</b> <sup>FBI</sup>	
				d. HACCP plan	
				e. Date marking	
				f. Consumer Advisory	
<b>02 PERSONNEL</b>					
				a. <b>Personnel w/ infections restricted</b> <sup>FBI</sup>	
				b. Wounds properly covered	
				c. <b>Hands washed as needed</b> <sup>FBI</sup>	
				d. <b>Hygienic Practices</b> <sup>FBI</sup>	
				e. Smoking, eating, drinking	
				f. Demonstration of knowledge	
				g. <b>Preventing food contact with bare hands</b> <sup>FBI</sup>	
<b>03 FOOD TEMPERATURE CONTROL</b>					
				a. <b>Rapidly cool</b> <sup>FBI</sup>	
				b. <b>Rapidly reheat</b> <sup>FBI</sup>	
				c. <b>Hot hold at 135°F or higher</b> <sup>FBI</sup>	
				d. <b>Required cooking temperatures</b> <sup>FBI</sup>	
				e. <b>Cold hold at 41°F or lower</b> <sup>FBI</sup>	
				f. Food thermometer (properly used)	
				g. <b>Adequate equipment to maintain temperatures</b> <sup>FBI</sup>	
<b>04 SANITIZATION</b>					
				a. Manual	
				b. Mechanical	
				c. In-Place	
<b>05 WATER, SEWAGE, PLUMBING SYSTEMS</b>					
				a. Safe water source	
				b. Hot & cold water under pressure	
				c. Backflow, backsiphonage	
				d. Sewage disposal	
<b>06 HANDWASHING FACILITIES</b>					
				a. <b>Adequate number, location</b> <sup>FBI</sup>	
				b. <b>Accessible</b> <sup>FBI</sup>	
				c. <b>Soap &amp; drying devices available</b> <sup>FBI</sup>	

## Critical Violations

- Ill workers excluded
- Kitchen free of rodents/vermin
- Food is wholesome/free of spoilage

Out Not out of compliance w/ regulations at the time of inspection  
 NA (Not Applicable) - This section(s) of the regulation





# compare (v): examine in contrast

Long-Term Care  
Facility Violations  
Identified During  
Pilot Inspection

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graph LR; A[Long-Term Care Facility Violations Identified During Pilot Inspection] --> B[Restaurant Violations]; A --> C[School, hospital, Jail/Prison Violations]; A --> D[Long-Term Care Facility Violations Identified on Previous Health Facilities Inspection];
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Restaurant Violations

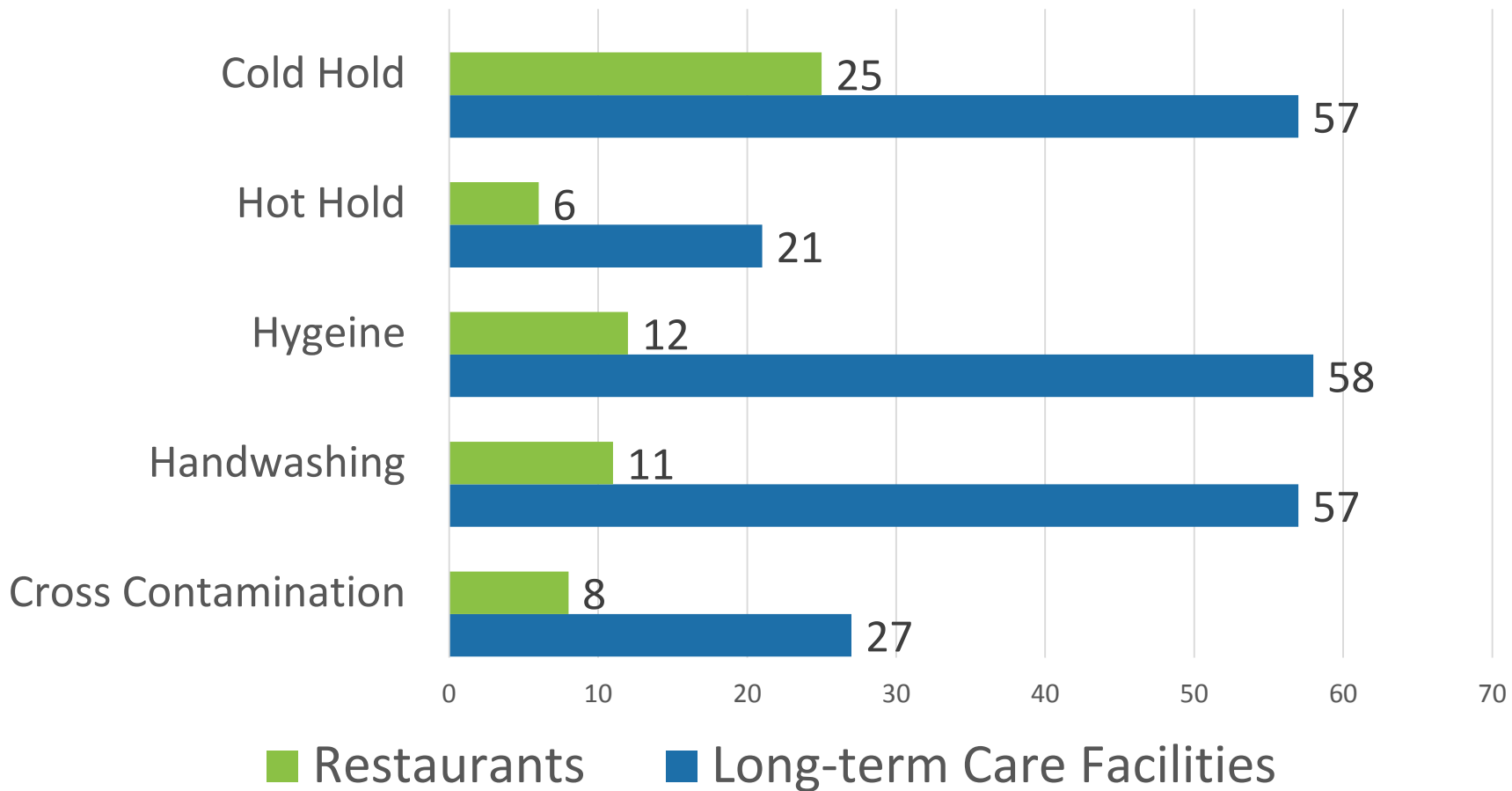
School, hospital,  
Jail/Prison Violations

Long-Term Care Facility  
Violations Identified on  
Previous Health  
Facilities Inspection



# nosh (v): to eat or snack

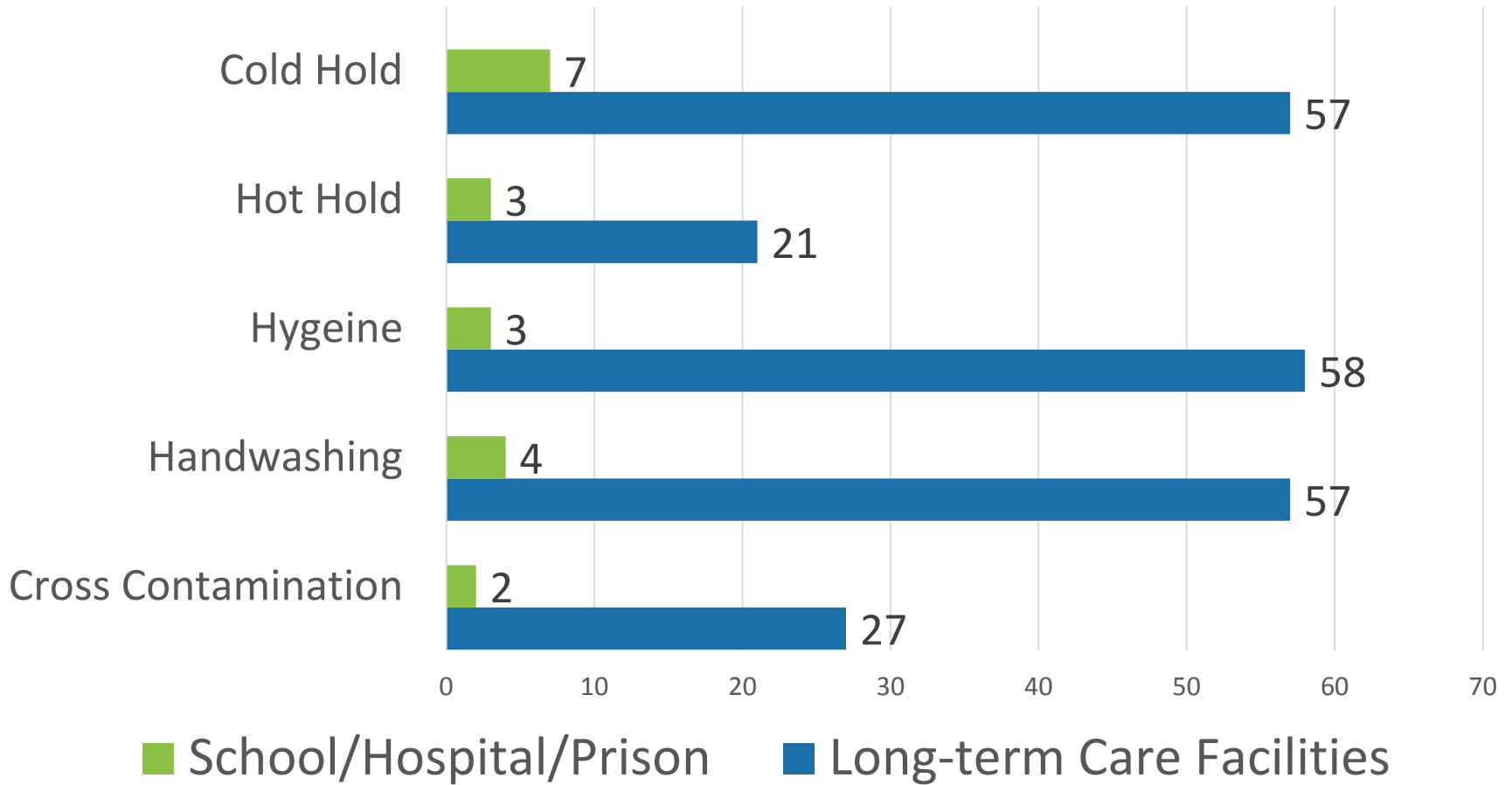
## Percent of Facilities with Violation





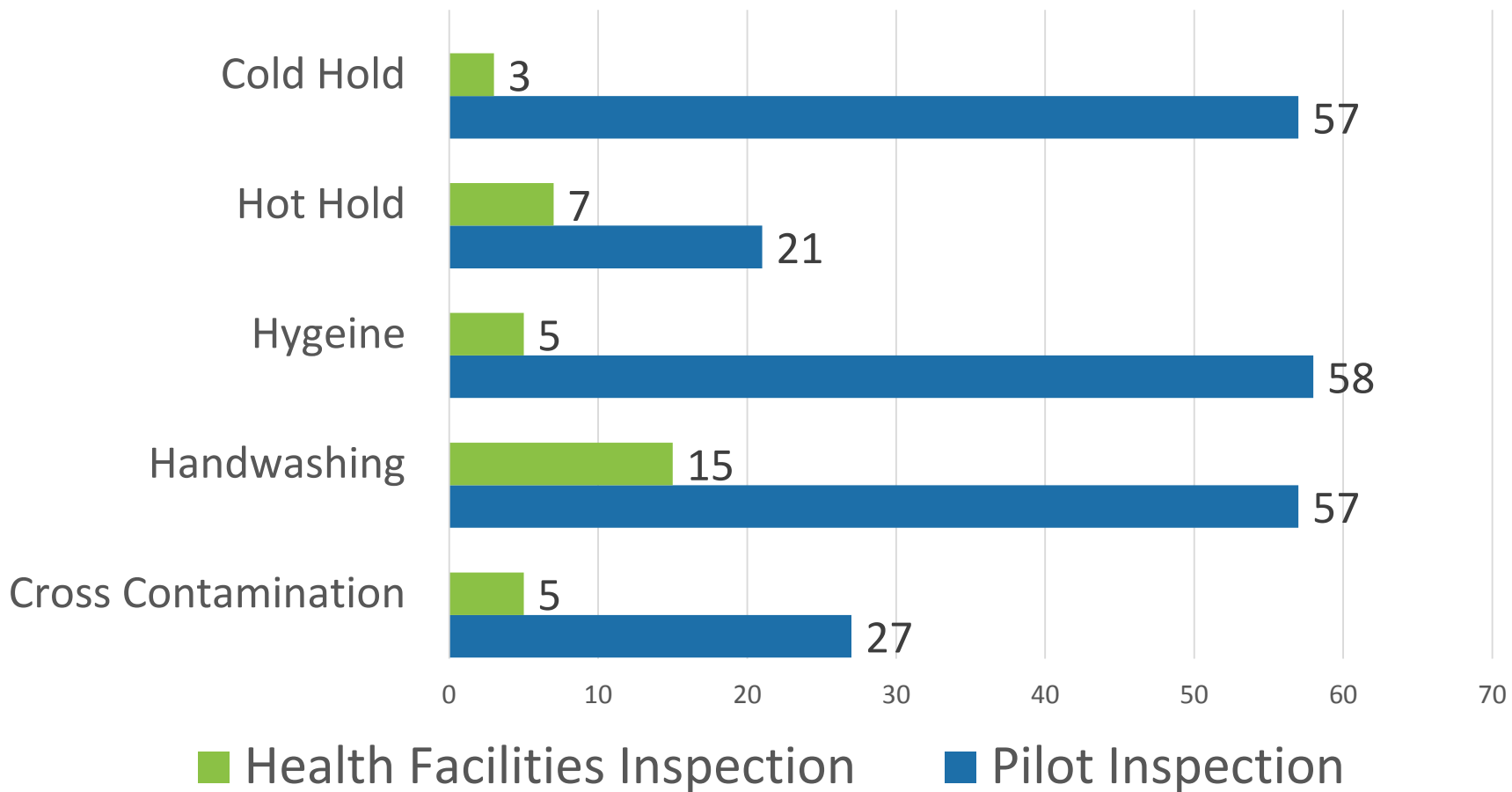
# institution (n): place for care or confinement

## Percent of Facilities with Violation



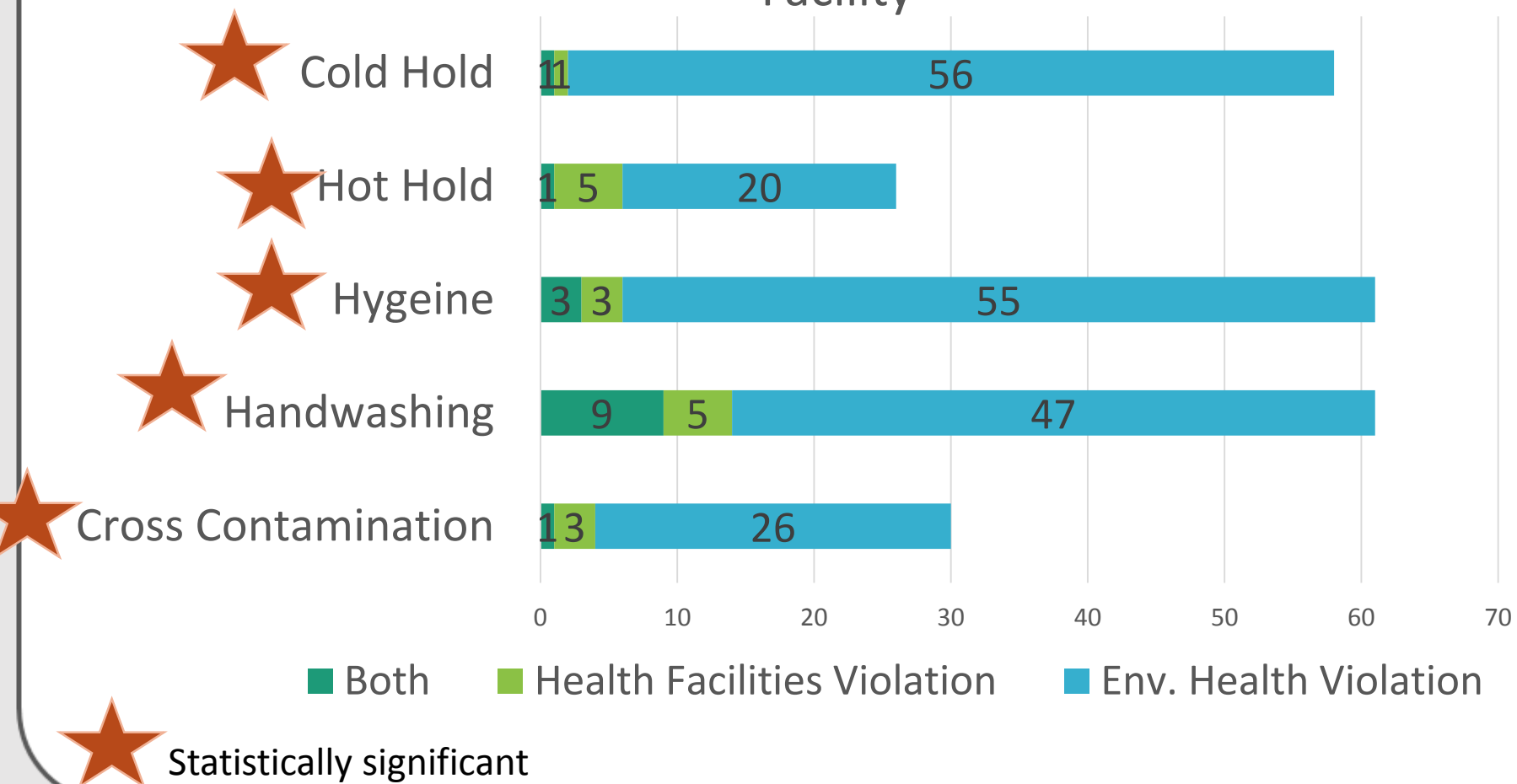


## Percent of Facilities with Violation



# matched (adj): corresponding

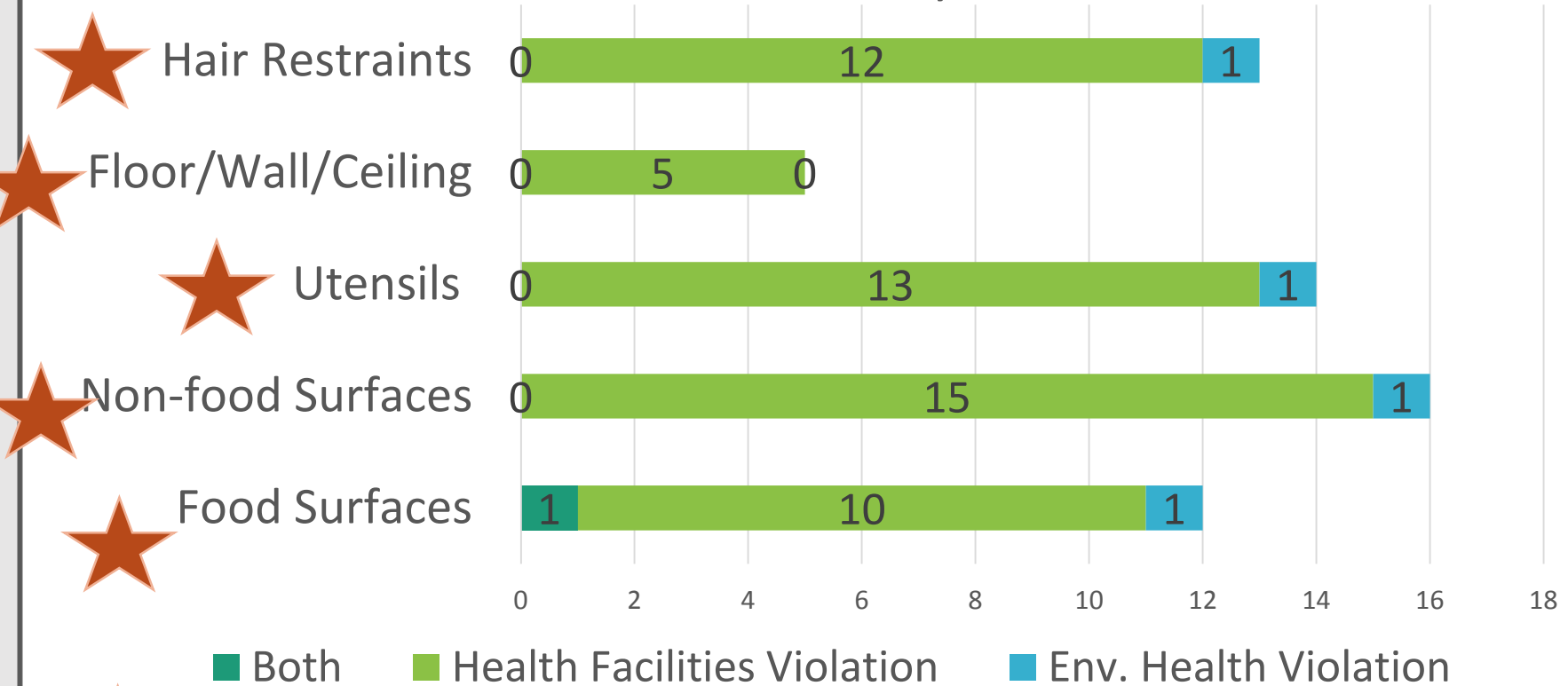
Percentage of Facilities with Violation, Matched by Facility





# matched (adj): corresponding

Percentage of Facilities with Violation, Matched by Facility



Statistically significant

# conclusion (n): end or close

- A trained environmental health specialist identified different types of violations than Health Facilities inspectors

## Environmental Health

- Foodborne Illness Risk factors
- Cross-contamination, handwashing, temperature violations

## Health Facilities

- Non-critical, observational violations
- Cleanliness, hair restraints, utensil use





# limitation (n): restrictive weakness

- Inspections may have occurred as far as 3 years apart
- Inspector for pilot program may have been particularly thorough
- Comparing one inspector's work (pilot) to multiple inspectors (Health Facilities)



# recommend (v): mention favorably

- Frequent, risk-based Long-term Care Facility kitchen inspections
- Conducted by staff with specific training and expertise in food safety and environmental health



# action (n): something done

- Findings shared with:
  - Colorado Department of Public Health leadership
  - Local Environmental Health Directors
  - Leadership and members of two Long-term Care Facility trade groups in Colorado
- Food Safety training at Long-term Care Facility conferences/meetings
- Stakeholder process to implement a food safety focused program
  - Funding source
  - Structure → cooperative agreement or statutory change



Thank you.