Culture and Data: The Keys to Highly Effective Public Health Program

Steven Mandernach, Executive Director, AFDO
Andre Pierce, Retail Food Protection Division Director, FDA

AFDOSS, August 30, 2023

Making Public Health Decisions – with Courage, Persistence, and Using Data

1. What are some examples of public health and food safety leadership.

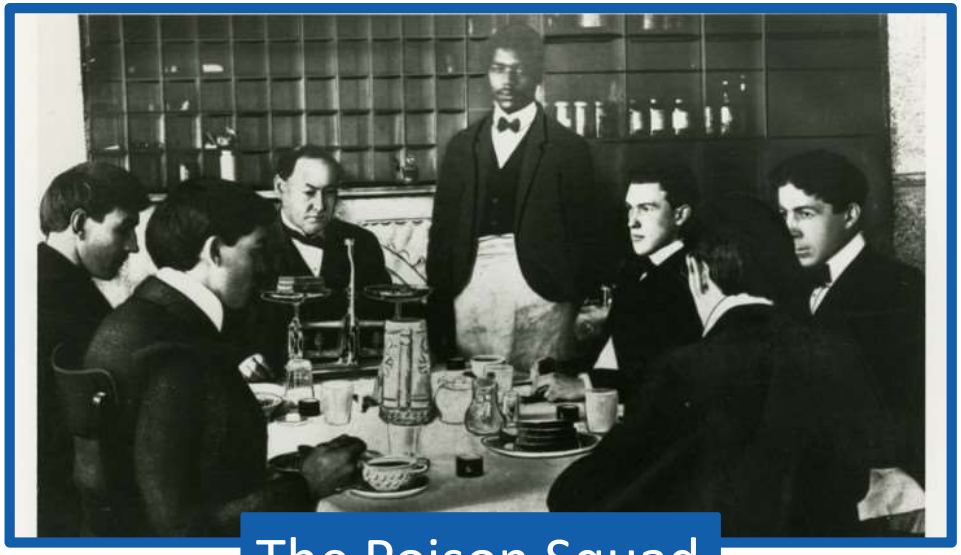
2. What is a public health or food safety regulatory culture and how might we measure and apply appropriate metrics at inspector level and program level?

3. How can we use data to help us evaluate and set metrics and performance measures at the program and individual levels that support and achieve a public health and food safety culture.

Public Health Heroes

Impacting Public Health Through Change

Harvey W. Wiley



The Poison Squad

Impacting Public Health Through Change

Frank Yiannas

Former Deputy Commissioner for Food Policy and Response

“Having a strong food safety culture is a choice. **Organizational cultures are created by leaders**, and one of the most decisive functions of leadership may well be the creation, the management, and – if when necessary – the destruction of culture. A food safety culture **starts at the top and flows downward**. It is not created from the bottom up.”

- Frank Yiannas

Food Safety Culture

Behavior change is probably the single most important part of food safety.

Impacting Public Health Through Change

Frank Yiannas
Former Deputy Commissioner for Food Policy and Response

- **Clearly** articulated goals.
- **Leading proactively** with a long-term purpose.
- Persevere and change an organization **regardless of how tough it is**.

Data Analytics: Insights from inspection data sets

- How do we know we are on target?
- Everyone is collecting data, but it is not the same data
  - Different Food Codes
  - Different forms
  - Different risk categories

Retail Food Safety Regulatory Association Collaborative Cooperative Agreement

Retail Inspection Report Data Analytics is one of the key projects for meeting the Collaborative's CAP objectives.

Participating States

PHASE 1

- Alaska
- Arkansas
- Kansas
- Iowa

PHASE 2

- Rhode Island
- Tennessee
- Pennsylvania
- Harris County, Texas
- New — South Carolina

SUMMARY DATA

DATE RANGE:
1/1/2017 – 12/31/2019

NUMBER OF FACILITIES:
172,000

NUMBER OF INSPECTIONS:
436,000

FACILITIES MATCHED TO THE TOP 500 RETAILERS:
20.7%

Data Quality and Transformation Process

Steps to transform the data into a single consolidated data warehouse:

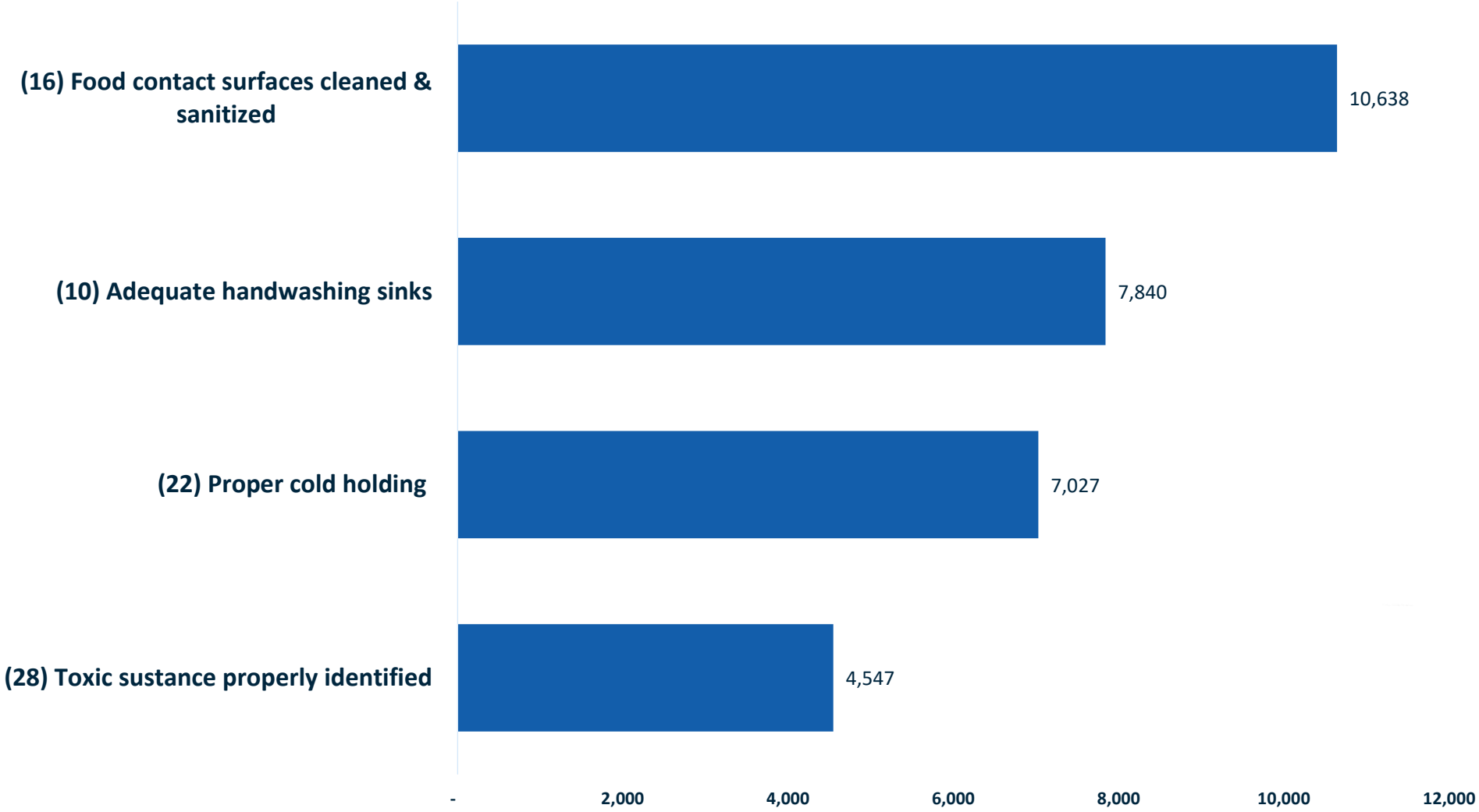
1. Review Data Elements with State/Local
2. Mapping to FDA Food Code 2017
3. Review Retail Inspection Report Sample
4. Receive Retail Inspection Data:
   A. Inspection Dates from **01/01/2017 to 12/31/2019**
   B. Inspection Reason Type – Routine Online
   C. Inspection Status – Approved (Final Form/Share)
5. Data Quality Review
6. Data transformation and Mapping Process

Number of Retail Facilities and Inspections Analyzed by Risk Category*

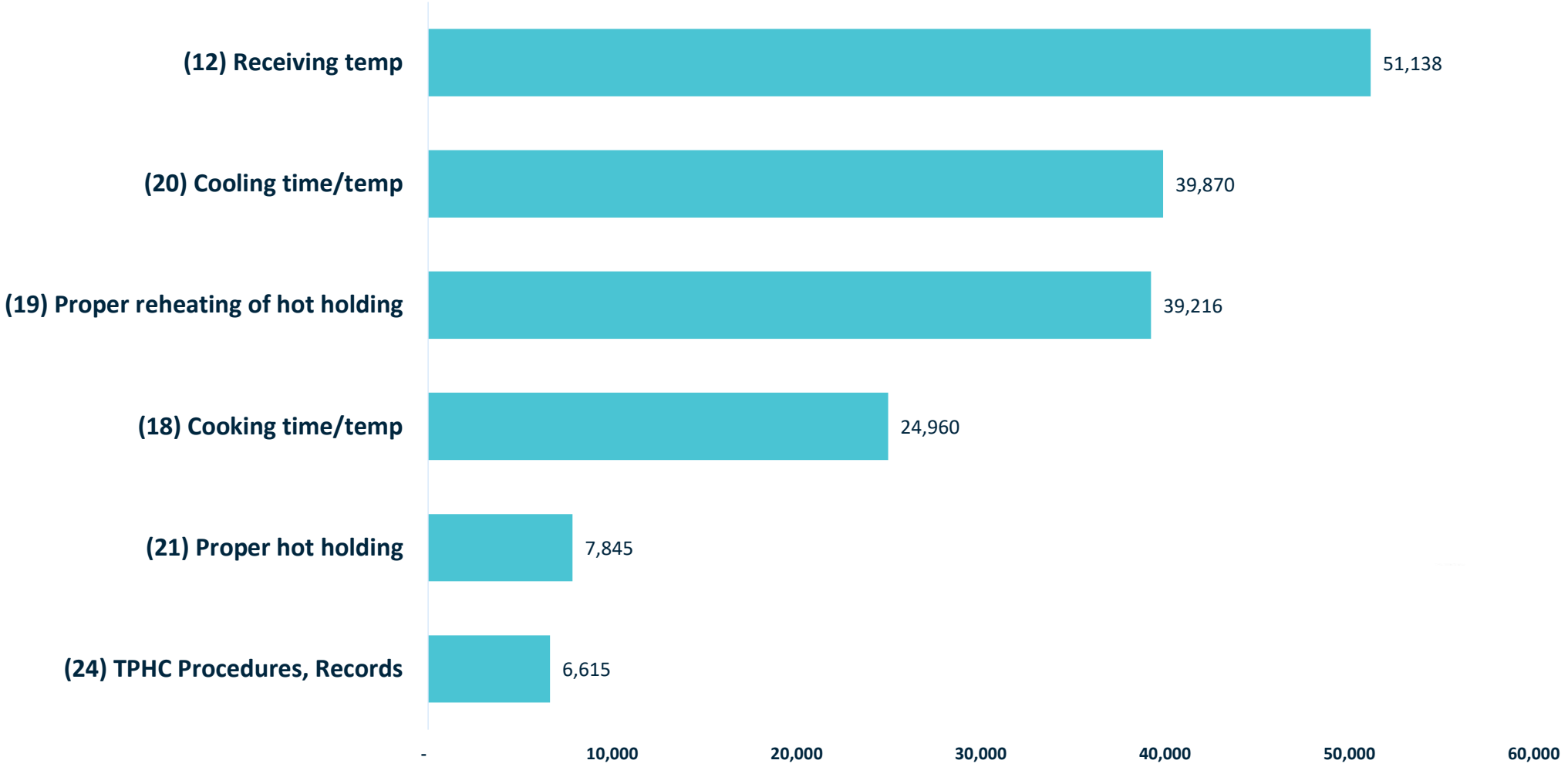
Risk Category	Number of Facilities (%)	Number of Inspections (%)
High	5,175 (17%)	15,449 (19%)
Medium	16,797 (55%)	45,693 (56%)
Low	8,427 (28%)	19,784 (24%)
TOTAL	**30,399**	**80,926**

* This represents the top retailer brands for which we have risk categorization, which is ~20% of the full inspection data set.

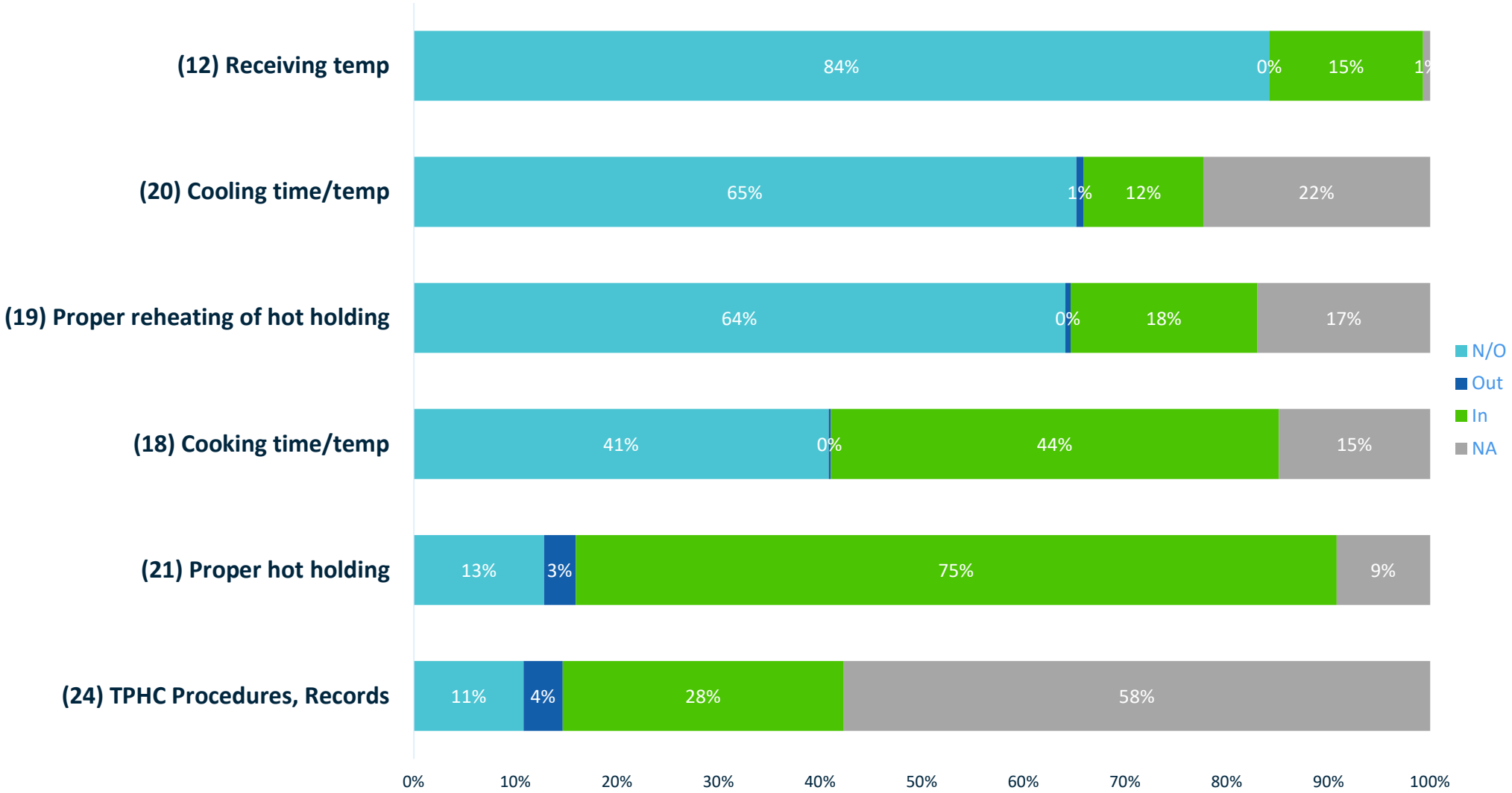
Top Risk Factors OUT OF COMPLIANCE during High or Medium Risk Inspections



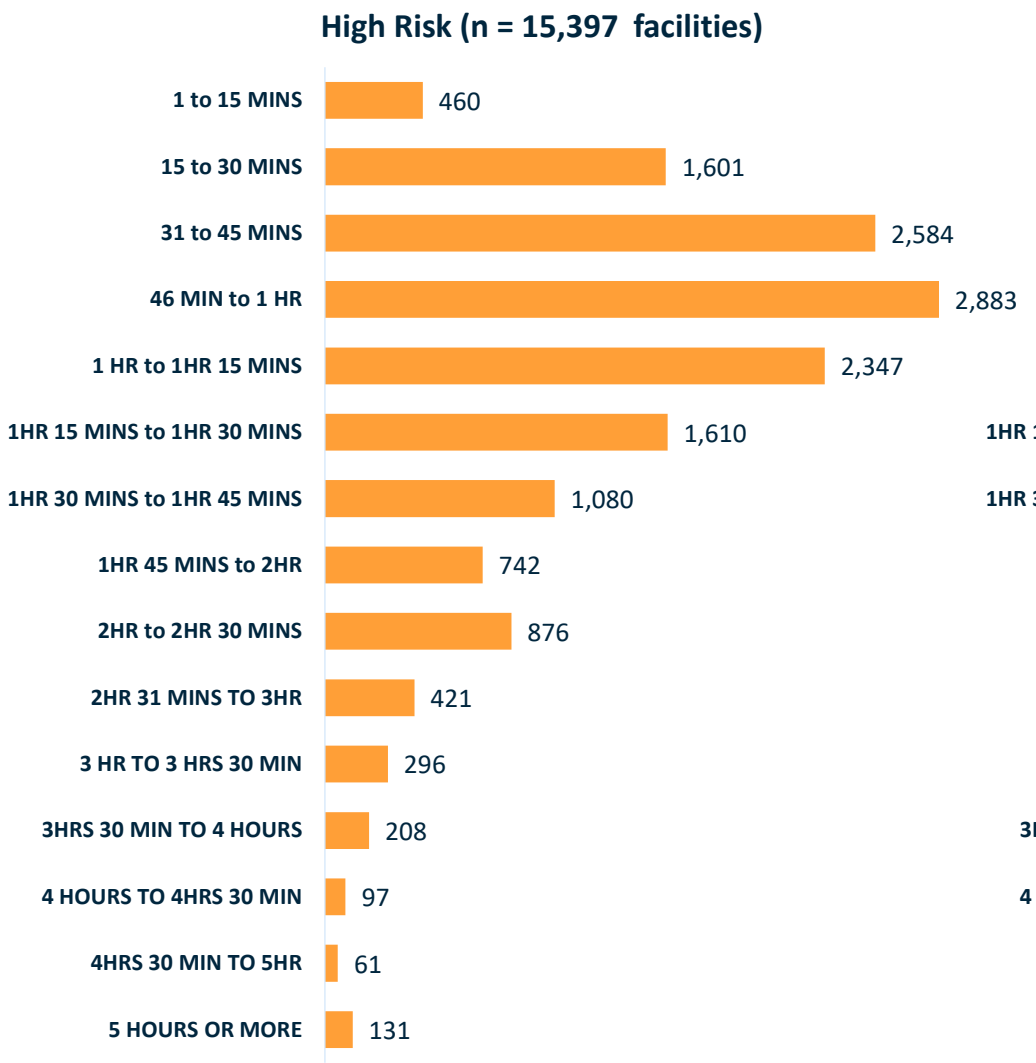
Top Risk Factors NOT OBSERVED during High or Medium Risk Inspections

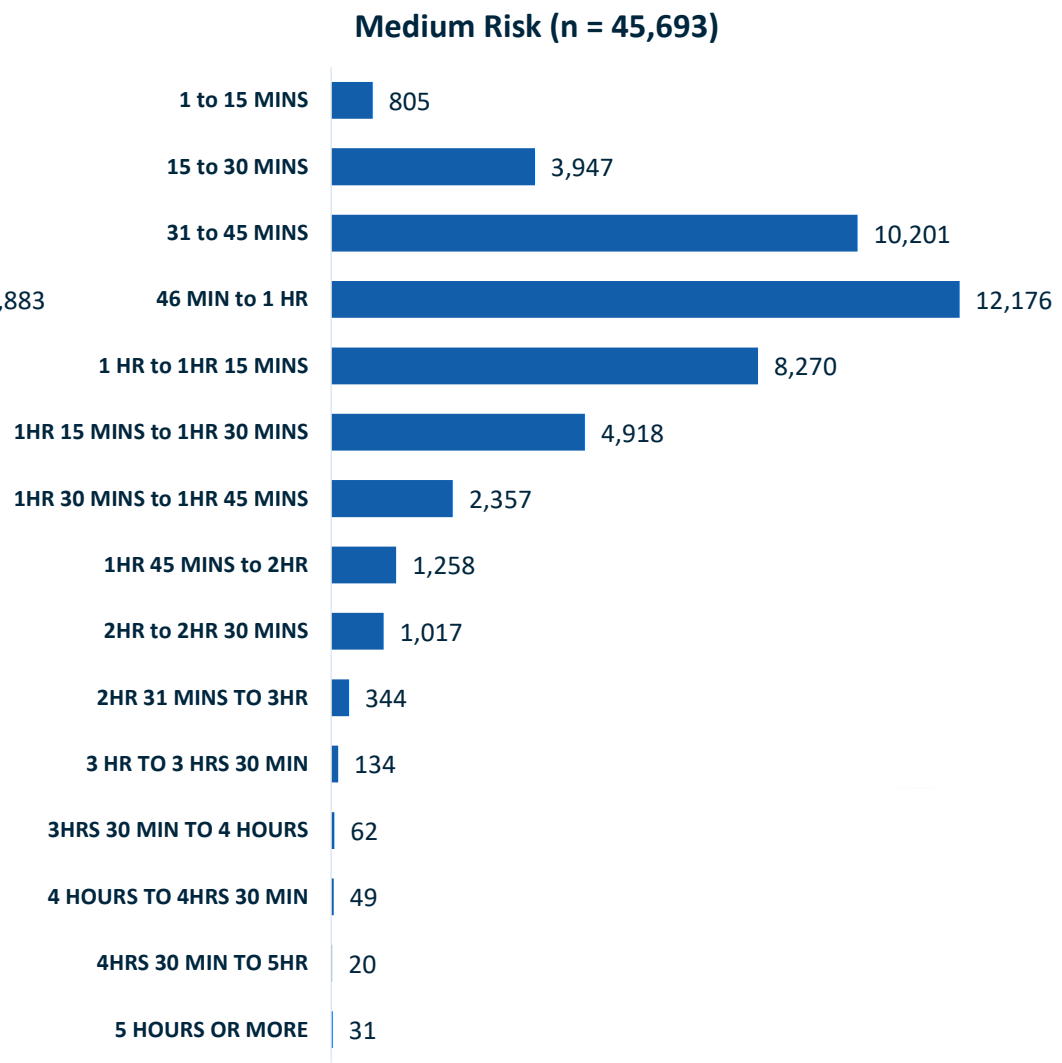


Key Foodborne Illness Risk Factor Compliance Status
High or Medium Risk Retailers

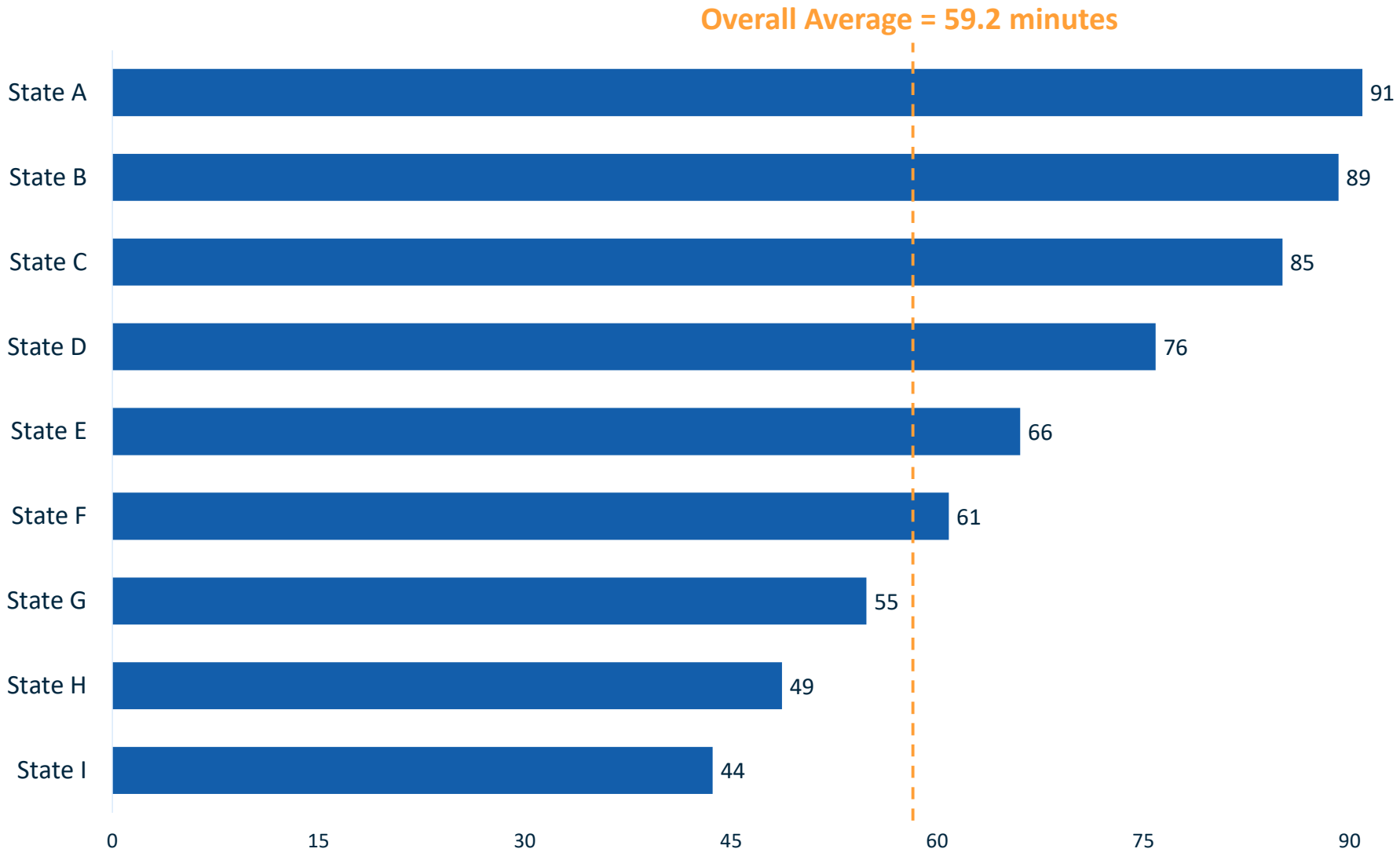


Routine Inspection Duration – High and Medium Risk Facilities

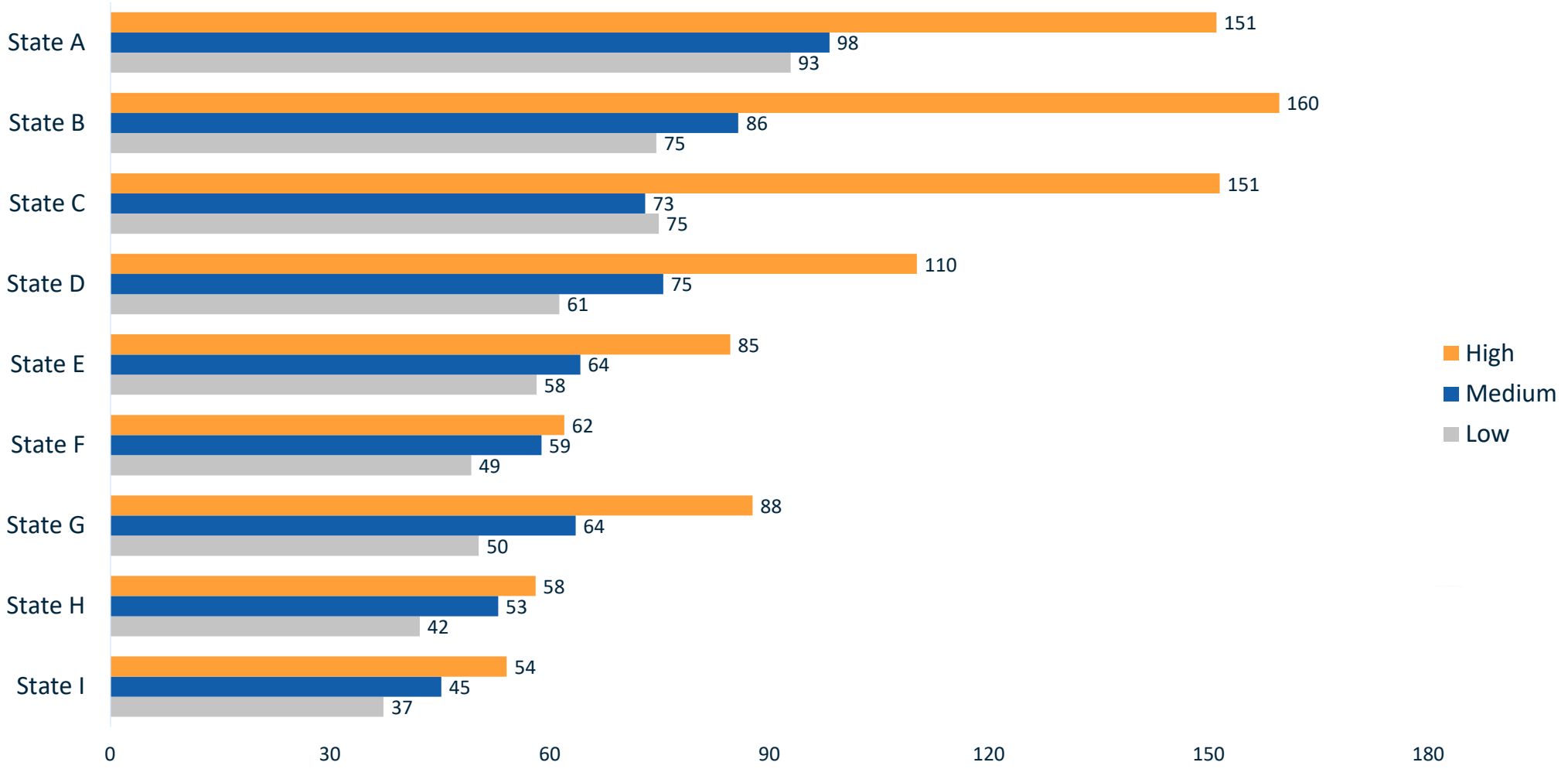




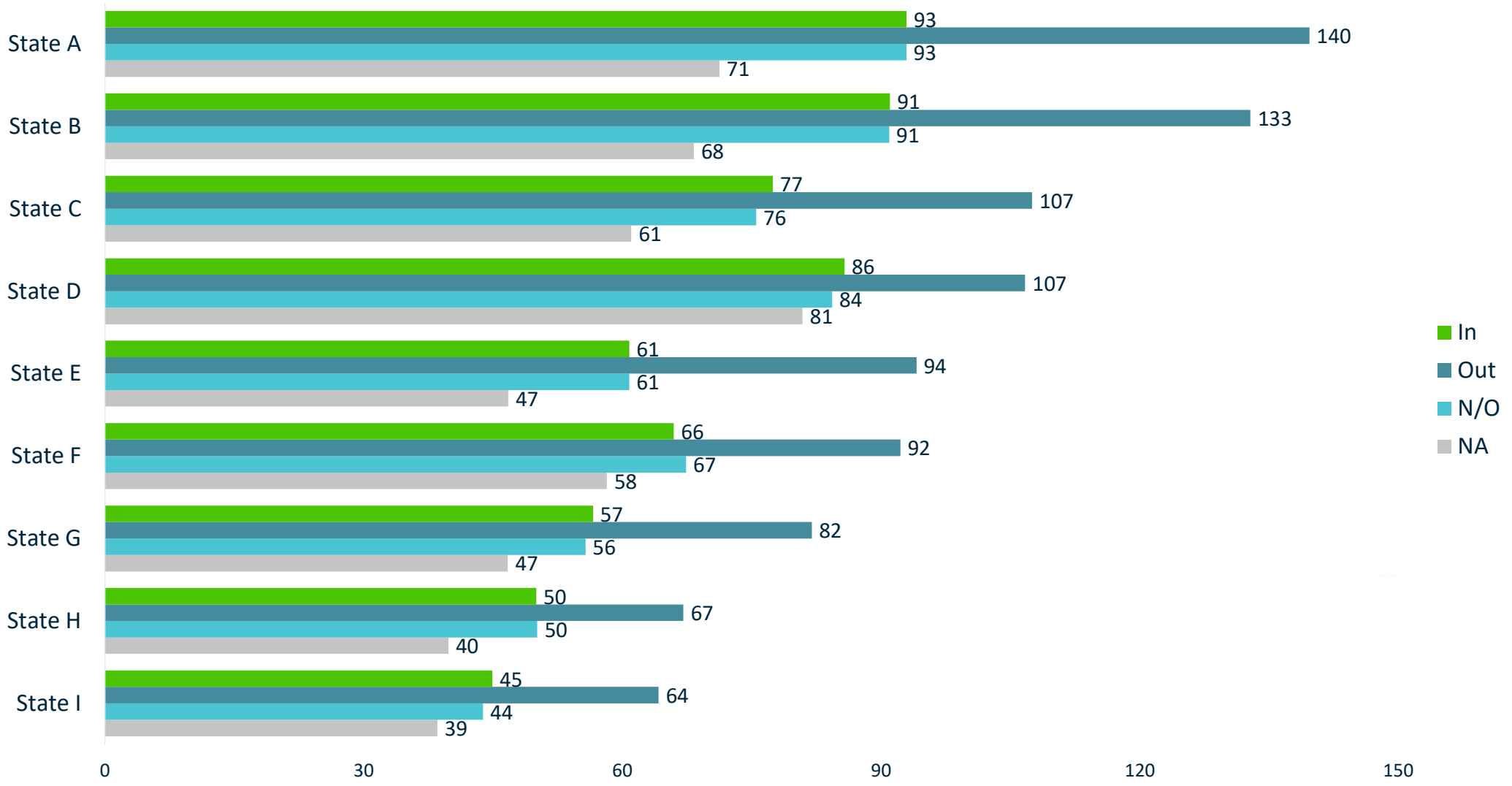
Routine Inspection Duration by State



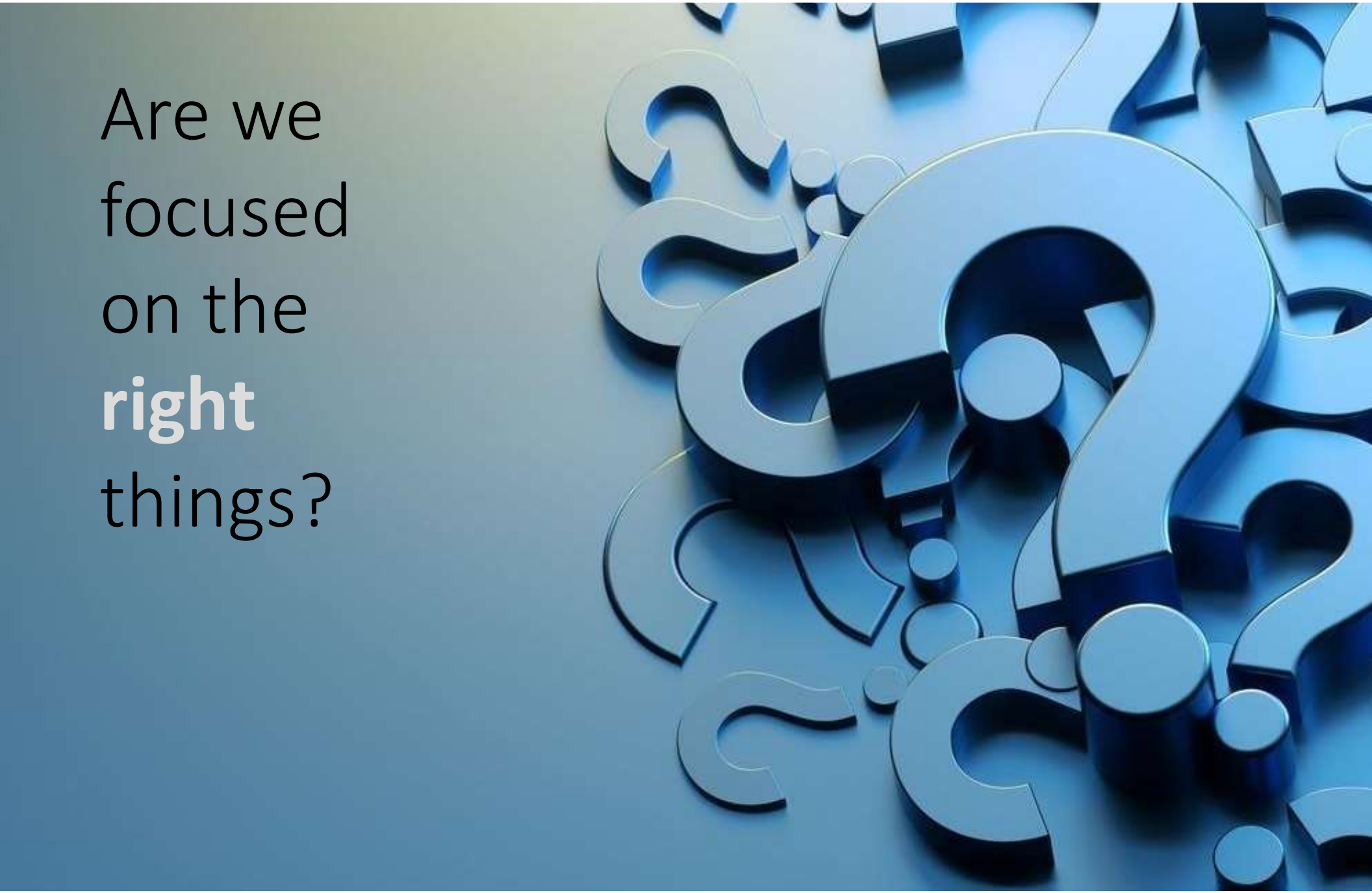
Routine Inspection Duration by State and Risk Level



Average Duration of Inspections (in minutes) for the Compliance Status of Five Key Foodborne Illness Risk Factors, by State



Are we focused on the **right** things?



Questions future data analysis can help answer

- Are we observing the right things and inspecting at the right time?
- Are we looking for and finding the root cause of risk factor violations?
- Is compliance for the moment or permanent?
- Are our actions having a positive public health impact?

FDA Retail Food Risk Factor Study

FDA Retail Risk Factor Study

FOODSHIELD

CONNECT · SHARE · PROTECT · IMPACT
AFDO

Risk Factor Studies – Policy Drivers

Deeper Dive into Compliance Data

Cold Violation Comparison from 2018 to 2021

2018 (45°F)

Risk Category	January	February	March	April	May	June	July	August	September	October	November	December
1	0%	25%	0%	0%	0%	0%	0%	0%	17%	0%	0%	0%
2	26%	18%	27%	29%	30%	27%	31%	37%	40%	26%	25%	18%
3	27%	26%	19%	15%	-58%	52%	45%	41%	47%	25%	36%	19%
4	32%	33%	27%	34%	40%	51%	46%	56%	51%	45%	30%	34%
TOTAL	**30%**	**27%**	**25%**	**29%**	**40%**	**45%**	**41%**	**48%**	**48%**	**35%**	**30%**	**29%**

2019 (41°F)

Risk Category	January	February	March	April	May	June	July	August	September	October	November	December
1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	42%	55%	54%	47%	48%	46%	68%	56%	64%	47%	50%	40%
3	62%	57%	59%	50%	71%	61%	75%	70%	67%	69%	45%	64%
4	66%	66%	67%	71%	66%	78%	91%	75%	76%	72%	50%	52%
TOTAL	**60%**	**60%**	**62%**	**60%**	**61%**	**65%**	**82%**	**70%**	**72%**	**63%**	**49%**	**51%**

	January	February	March	April	May	June	July	August	September	October	November	December
2018-2019 Difference												

2020 (41°F)

Risk Category	January	February	March	April	May	June	July	August	September	October	November	December
1	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	33%
2	42%	64%	52%	35%	38%	36%	42%	55%	36%	28%	24%	0%
3	51%	83%	73%	39%	58%	52%	59%	59%	51%	43%	46%	20%
4	56%	67%	59%	34%	53%	68%	64%	57%	59%	54%	46%	15%
TOTAL	**51%**	**69%**	**60%**	**35%**	**50%**	**58%**	**55%**	**56%**	**52%**	**42%**	**40%**	**13%**

	January	February	March	April	May	June	July	August	September	October	November	December
2019-2020 Difference	-8%		-2%	-25%	-10%	-7%	-26%	-14%	-9%		-9%	-38%

2021 (41°F)

Risk Category	January	February	March	April	May	June	July	August	September	October	November	December
1	0%	0%	0%	0%	100%	0%						
2	22%	31%	37%	28%	36%	41%						
3	36%	36%	36%	50%	49%	37%						
4	41%	36%	43%	44%	48%	47%						
TOTAL	**35%**	**35%**	**40%**	**40%**	**46%**	**45%**						

	January	February	March	April	May	June	July	August	September	October	November	December
2020-2021 Difference	-16%	-34%	-19%		-4%	-14%						
Difference from 2019	-76%	-84%	-82%	-56%	-65%	-70%						

2018 - Baseline Year (**45° F**)
35% inspections OUT of compliance

2019 – 1st Year of Change (**41° F**)
63% inspections OUT of compliance

Change (Red vs. Green)

2020 – 2nd Year of Change (**41° F**)
49% inspections OUT of compliance*

Change (Red vs. Green)

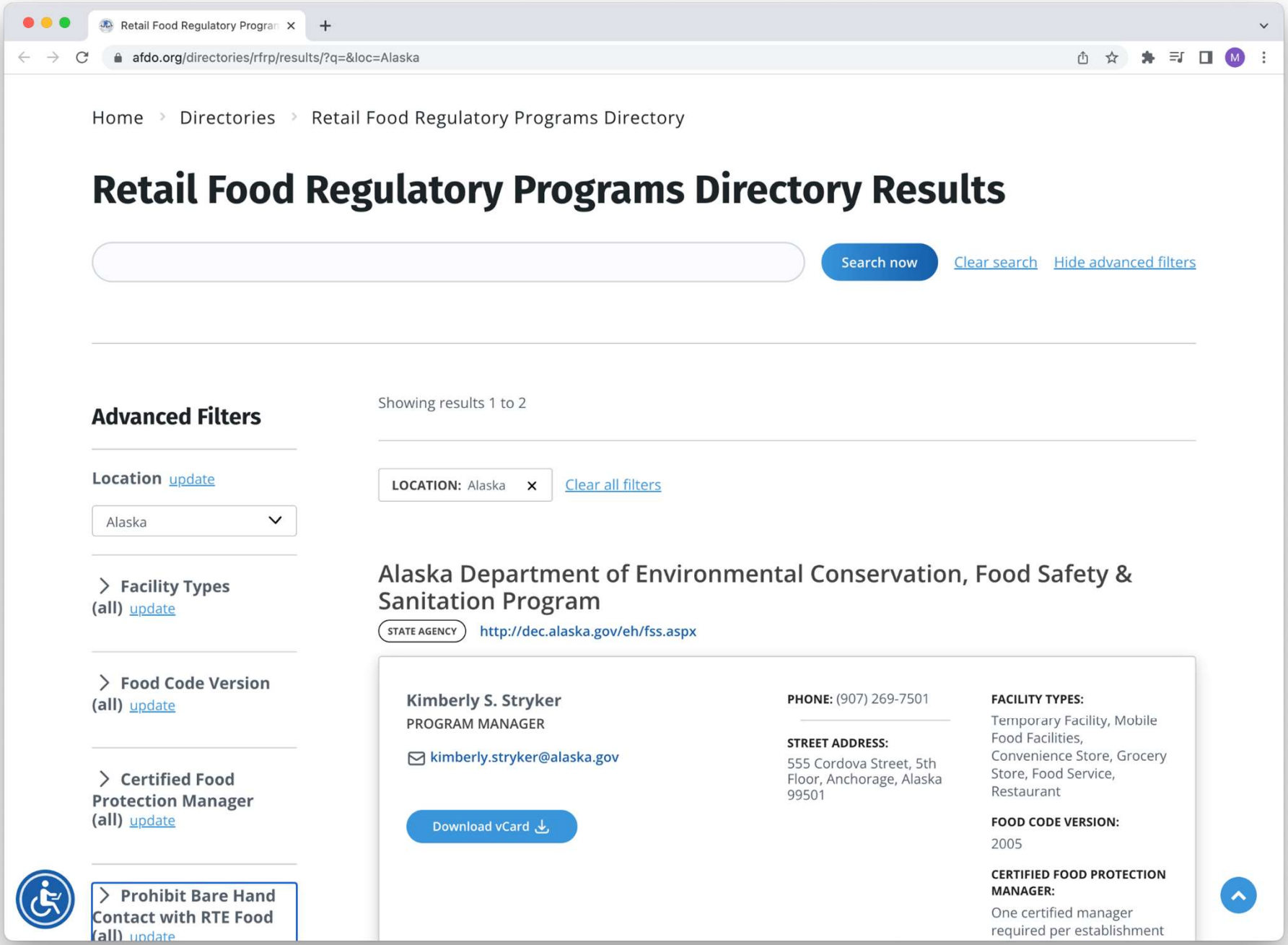
2021 – 3rd Year of Change (**41° F**)
40% inspections OUT of compliance

Change (Red vs. Green)

Foodborne Illness Investigations

- Foodborne illnesses and outbreaks must become a priority.
- Beginning conversations with industry when “signals” of a potential foodborne outbreak are evident.
- Resources: webinars, workshops, and training.

Resources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Retail Food Regulatory Programs Directory Results
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Clear search
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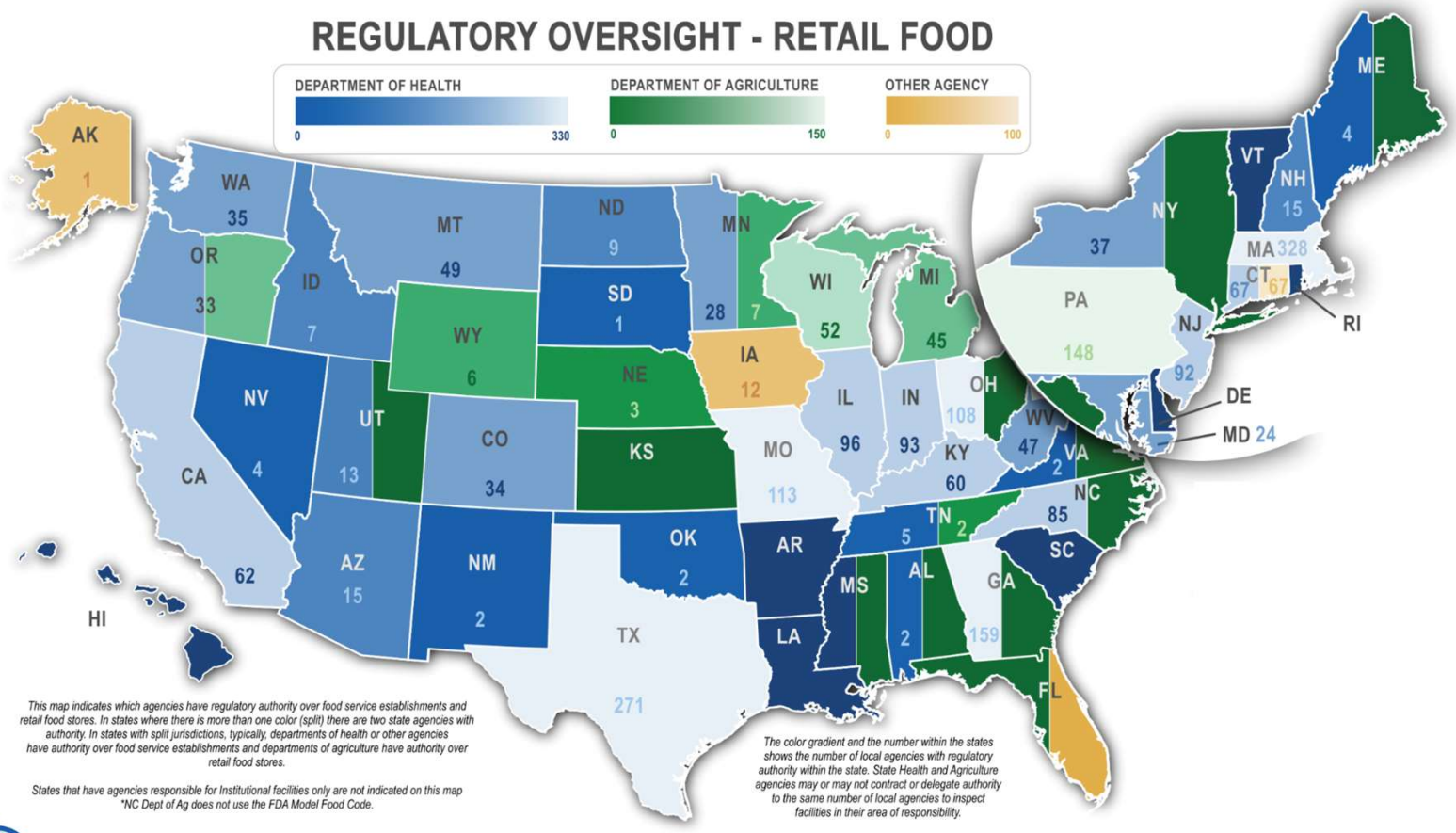
Advanced Filters
Location update
Alaska
Facility Types (all) update
Food Code Version (all) update
Certified Food Protection Manager (all) update
Prohibit Bare Hand Contact with RTE Food (all) update
Showing results 1 to 2
LOCATION: Alaska
Clear all filters
Alaska Department of Environmental Conservation, Food Safety & Sanitation Program
STATE AGENCY
http://dec.alaska.gov/eh/fss.aspx
Kimberly S. Stryker
PROGRAM MANAGER
kimberly.stryker@alaska.gov
Download vCard
PHONE: (907) 269-7501
STREET ADDRESS:
555 Cordova Street, 5th Floor, Anchorage, Alaska 99501
FACILITY TYPES:
Temporary Facility, Mobile Food Facilities, Convenience Store, Grocery Store, Food Service, Restaurant
FOOD CODE VERSION:
2005
CERTIFIED FOOD PROTECTION MANAGER:
One certified manager required per establishment

Regulatory Oversight – Associa

afdo.org/directories/re/

Regulatory Oversight



Inspection Responsibility Map

afdo.org/directories/ir/

Inspection Responsibility Map

Educational Conference

127th AFDO Annual Educational Conference

WHEN: June 10 – 14, 2023

WHERE: Norfolk, Virginia

Mark your calendar!

Educational Conference

128th AFDO Annual Educational Conference

WHEN: June 8-12, 2024

WHERE: Grand Rapids, MI

Mark your calendar!

Public Health Focused Programs

- Performance Metrics for Program and Staff Public Health Focused
- Data Is Frequently Used Monitor Progress and Changes Made as Needed
- Leaders Must Change and Evolve Programs:
  Today's Answer Likely Isn't Tomorrow's Answer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AFDO
IMPACT • PROTECT
ASSOCIATION
OF FOOD
& DRUG
OFFICIALS