

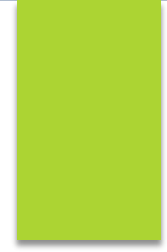
# Widgets, Trends, KPIs & Answers

OUR DATA USE EVOLUTION STORY

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# Pre-2014

NUMBER OF INSPECTIONS  
NUMBER OF LICENSES





# 2014

THE FOCUS WAS STILL ON  
COUNTING WIDGETS THROUGH  
FILTERED EXPORTS INTO EXCEL  
DOCUMENTS .

- ▶ Number of inspections
- ▶ Number of complaints
- ▶ Number of enforcement actions
- ▶ Number of facilities by risk level
- ▶ Payments/revenue

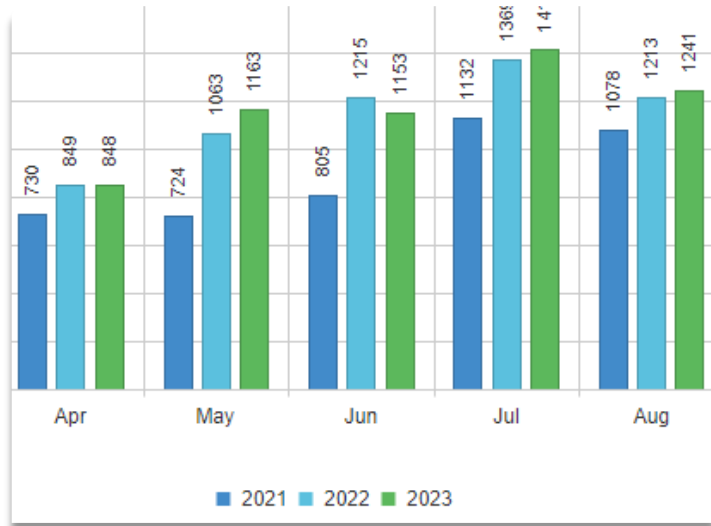


2015

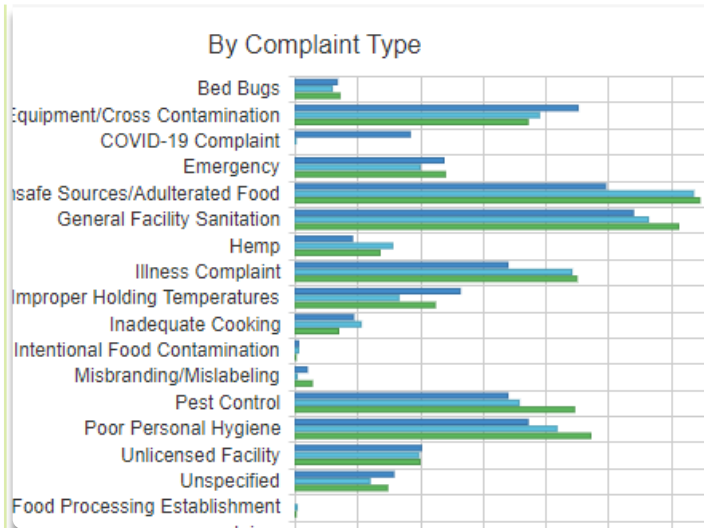
DEVELOPED A MANAGEMENT  
DASHBOARD FOR TREND  
ANALYSIS AND  
MONITORING A FEW KPIS

- ▶ Inspection trends
- ▶ Complaint trends
- ▶ Violation trends
- ▶ Revenue trends
- ▶ On-time completion %
  - ▶ Routine
  - ▶ Complaint response
  - ▶ Follow-up

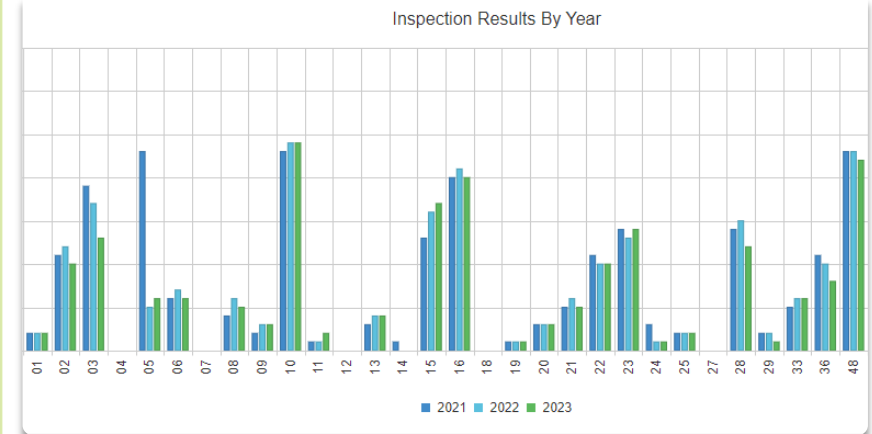
# Trend Analysis



INSPECTION TRENDS



COMPLAINT TRENDS



VIOLATION TRENDS

# KPIs

## By Inspection Reason

Inspection Reason	Scheduled	Completed	Still In Draft	Finished On Time	Finished Overdue	Not Started	Avg Days Overdue	% Finished On Time
Follow Up-Letter of Correction	2554	2554	0	2490	64	0	10.47	97 %
Follow Up-Risk Control Plan	169	169	0	159	10	0	3.90	94 %
Illness Complaint	479	479	0	469	10	0	1.80	98 %
Non-Illness Complaint	1704	1704	0	1679	25	0	26.52	99 %
Physical Recheck	3096	3096	0	2967	129	0	9.85	96 %
<b>Totals</b>	<b>8002</b>	<b>8002</b>	<b>0</b>	<b>7764</b>	<b>238</b>	<b>0</b>	<b>11.18</b>	<b>97 %</b>



2021

WITH SEVERAL YEARS OF DATA COLLECTION AND DATA USE UNDER OUR BELTS, WE WANTED TO SEE WHAT QUESTIONS OUR DATA COULD ANSWER

Inspections

Inspection time

Inspection type

Violations

Repeat violations

Complaints

Complaint types

Response time



Outbreaks

Licenses

Enforcement actions

Geography

Payments

Risk levels

Operation type



# Retail FFM Special Project

**CREATE A POWERBI PAGE THAT  
BRINGS TOGETHER COMPLAINT  
AND INSPECTION DATA FOR THE  
PURPOSE OF DEVELOPING A  
MORE DYNAMIC RISK BASED  
INSPECTION FREQUENCY MODEL.**



# Statement of Work

Complaint Power BI – Multiple pages (Complaints & inspection results, inspection & program performance, maybe another page for a Map)

(all multi select filters for: risk level, complaint type (including none), complaint status, classification/sub classification, outbreaks Y/N, organization, date range, county, zip code, franchise, inspector, inspection type, day of the week of the visit, (consumer information, anonymous, other state agencies, person), Risk factor violation(s), method of receipt, method of response, Number of complaints per facility (0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10) – This would mean that if 2 was chosen, we would see results representing the facilities that have 2 complaints in the date range based on other filters. If 2 and 3 are selected we would see results from facilities with 2 or 3 complaints in the date range).

Number of Complaints	Average number of Routine inspections completed annually
Average Number of Risk Factor Violations per Routine inspection report.	Average number of repeat risk factor violations per Routine inspection.
Average Number of Complaints annually.	Average number of follow-up inspections conducted by follow-up type
Average Response time (file date to inspection date or status change date).	Average number of COS for Out of compliance Risk Factor Violations on Routine inspection reports.
Average inspection time based on filters.	Average date between reporting and visit date.
Number of Outbreak Investigations based on filters	Map of results with locations based on filters.
List of facilities meeting filters with columns for boxes.	

#### Complaint/FBI Risk Factor and FC Intervention Compliance correlations

To identify whether or to what extent complaints are indicators for foodborne illness risk factors on routine inspection reports.

To identify whether or to what extent complaints are indicators for repeat foodborne illness risk factors on routine inspection reports.

To identify whether or to what extent complaints are indicators for foodborne illness outbreaks at food establishments.

To identify whether the number of complaints that a facility receives is an indicator for foodborne illness risk factors on routine inspection reports.

To identify whether the types of complaints that a facility receives are an indicator for foodborne illness risk factors on routine inspection reports.

To identify whether or to what extent complaints are indicators that a facility requires a follow up inspection.

To identify whether or to what extent complaints influence inspection time.

To identify if any of the following influence the results:

- Establishment's static risk level
- Facility classification – sub-classification
- Facility location
- The time since the last complaint
- Complaint investigation response time
- Complaint investigation results
- Inspection time

The ultimate goal of the project is to see if the analysis of complaint and inspection supports establishing a more dynamic risk based inspection frequency model that incorporate:

- Establishment type
- Static risk assessment based on menu, processes and served population
- Complaint data
- Outbreak data
- Historical inspection data

#### Some scenarios:

I want to compare the average number of risk factor violations marked out on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with zero complaints to the average number of risk factor violations marked out on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with facilities that have had 1 complaint reported between 1/1/2015 and 12/31/2019 and the complaint was verified. **(Complaint – No Complaint Page)**

I want to compare the average number of risk factor violations marked out on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with zero complaints to the average number of risk factor violations marked out on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with facilities that have had 1 or more illness complaint reported between 1/1/2015 and 12/31/2019. **(Complaint – No Complaint Page)**

I want to compare the average number of repeat risk factor violations marked out on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with zero complaints to the average number of repeat risk factor violations marked out on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with facilities that have had 1 or more illness complaint reported between 1/1/2015 and 12/31/2019. **(Complaint – No Complaint Page)**

I want to compare the average number of follow up inspections completed between 1/1/2015 and 12/31/2019 at medium risk facilities with zero complaints to the average number of follow up inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with facilities that have had 1 or more illness complaint reported between 1/1/2015 and 12/31/2019. **(Complaint – No Complaint Page)**

I want to compare the average number of physical recheck inspections completed between 1/1/2015 and 12/31/2019 at medium risk facilities with zero complaints to the average number of physical recheck inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with facilities that have had 1 or more illness complaints reported between 1/1/2015 and 12/31/2019. **(Complaint – No Complaint Page)**

I want to compare the average number of risk factor violations marked out on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with a full service classification with 1 or more complaints reported between 1/1/2015 and 12/31/2019 with an average complaint response time that is less than 30 days to the average number of risk factor violations marked out on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with a full service classification with facilities with 1 or more complaints reported between 1/1/2015 and 12/31/2019 with an average response time of more than 10 days. **(Response time page)**

I want to compare the average inspection time on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with zero complaints to the average inspection time on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities with facilities that have had 2 complaints reported between 1/1/2015 and 12/31/2019 and both of the complaints were either verified or unresolvable. **Inspections Page**

I want to compare the average number of risk factor violations marked out on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities that have a catering sub-classification with zero outbreaks between between 1/1/2015 and 12/31/2019 to the average number of risk factor violations marked out on routine inspections completed between 1/1/2015 and 12/31/2019 at high risk facilities that have a catering sub-classification with at least 1 outbreak between 1/1/2015 and 12/31/2019. **(Complaint – No Complaint Page)**

I want to know which risk factor violations are more prevalent on routine inspections completed between 1/1/2019 and 12/31/2020 at low risk facilities that have zero complaints. **Complaint analysis page**

I want to know which risk factor violations are more prevalent on routine inspections completed between 1/1/2019 and 12/31/2020 at low risk facilities that have 5 reported complaint between 1/1/2017 and 12/31/2018 that was either unresolvable or verified. **Complaint analysis page**

I want to know which risk factor violations are more prevalent on routine inspections completed between 1/1/2019 and 12/31/2020 at low risk facilities that have 2 or more reported complaints between 1/1/2017 and 12/31/2018. **Complaint analysis page**

I want to know which risk factor violations are more prevalent on routine inspections completed between 1/1/2019 and 12/31/2020 at facilities with and outbreak during 1/1/2015 and 12/31/2020. **Complaint analysis page**

#### Future Question:

Can a point/scoring system be created that places an establishment on an inspection priority list instead of having a set inspection frequency and this point/scoring will adjust either up or down when new data is added such as an inspection is completed or a complaint is added to the facility? Perhaps, once a specific value is achieved the inspections will not only be reprinted by will move from a regular due list to a high priority due list. For example, if points are adjusted based on the following:

- Date of last routine inspection
- Number of closed complaints total
- Number of closed complaints (verified)
- Number of pending complaints
- Certain type of pending complaints
- Average number of risk factor violations on routine inspection reports
- Certain risk factor violations may have higher point value

Complaint – No complaint page:

Filters:

**UNIVERSAL FILTERS (these may be on the Facility details page, but if so need to apply to all pages)**

Risk Level

Organization

County, City, Zip

Facility classification

Facility sub classification

#### COMPLAINT FILTERS

Number of Complaints (0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, More than 10 – Multi select) If I want 2 it will only give inspections from facilities with 2 complaints within the filtered parameters) If I want at least 2 I will select 2, 3, 4, 5, etc.

Date range for complaints (complaints received at facilities within the date range for complaints) the inspection date range need to be independent)

Complaint type – One complaint may have more than one type, any complaints that include the complaint type will appear.

Complaint status

Outbreak

#### INSPECTION FILTERS

Inspection date range

Inspection type

Inspection reason

Inspection line item based on inspection type

Visual: One Inspection - One row – The same facility may have more than one inspection that meets the filters.

Visual: the grid below should be a possible report, however columns 3-7 could be displayed only as the **AVG** average with a number such as AVG Number of Complaints 1.4. An additional visual component may be a gauge or meter display with the average number.

1	2	3	4	5	6	7
Business ID	Inspection Reason	Number of Follow ups for this inspection based on the follow-up type	Number of complaints received for this facility based on the complaint date selection and complaint filters	Number of violations OUT on this inspection based on the low item selection	Number of Outbreaks based on the complaint filters	Number of repeat risk factor violations identified on this inspection
12885	Routine	2	1	5	0	2
	Routine	2	Same facility as inspection above	3	0	2
20011	Routine	1	3	6	1	8
20158	Routine	0	0	0	0	0
	AVG	AVG	AVG	AVG	AVG	AVG

- Average number of repeat risk factor violations on routine inspection reports
- Average number of follow-up inspections conducted
- Number of outbreaks
- Risk level of the facility
- Certain sub-classifications such as Catering
- Other items

My hope is that the **OpenUI** page we are creating will provide us with the necessary data elements we will add to the point/score.



Risk Level

Risk Level 4 (High)

Organization

Multiple selections

InspectionType

Multiple selections

Inspection Reason

Routine

Line Item Group

Foodborne Illness Risk Factors

Complaint Status

All

State-County

All

City

All

Zip

All

# of Complaints

All

Complaint Type

All

Inspection Date

7/1/2015

5/30/2024

Complaint Filing Date

12/26/2013

5/24/2024

# of Repeat Violation

All

Compliance

All

Outbreak

All

# of Outbreaks

All



BusinessID	Number of violations OUT	AVG # of violations OUT	Number of repeat risk factor violations	AVG # of repeat risk factor violations	Number of follow-ups	AVG # of follow-ups
10001						
Routine	1	1.00	0	0.00	0	0.00
Total	1	1.00	0	0.00	0	0.00
10015						
Routine						
282253	3	3.00	1	1.00	2	2.00
337404	2	2.00	0	0.00	0	0.00
360229	2	2.00	0	0.00	0	0.00
Total	7	2.33	1	0.33	2	0.67
Total	7	2.33	1	0.33	2	0.67
10023	7	2.33	1	0.33	1	0.33
10025						
Routine						
227270	0	0.00	0	0.00	0	0.00
252774	0	0.00	0	0.00	0	0.00
278233	6	6.00	1	1.00	1	1.00
313120	1	1.00	1	1.00	1	1.00
Total	7	1.75	2	0.50	2	0.50
Total	7	1.75	2	0.50	2	0.50
10026	10	2.00	1	0.20	4	0.80
Total	25526	1.89	3986	0.30	4800	0.36

# Results

## High Risk Food Establishments

Number of Complaints	Average Number of Risk Factor Violations Per Routine Inspection	Average number of Repeat Risk Factors per Routine Inspection	Average Number of Follow-up per Routine Inspection
All	2.01	0.31	0.37
Zero	1.29	0.12	0.26
1.00	2.84	0.40	0.48
2.00	3.60	0.65	0.62
3.00	3.81	0.86	0.73
more than 3	3.90	1.00	0.67
At least one verified			
1.00	2.72	0.30	0.44
2.00	3.72	0.69	0.63
3.00	3.94	0.86	0.79
more than 3	3.98	1.07	0.71

# Our Data Use Evolution Story

OVER THE COURSE OF 10 YEARS WE  
MOVED FROM COUNTING A FEW  
WIDGETS TO USING OUR DATA TO  
ANSWER QUESTIONS AND MOVE IN  
THE DIRECTION OF A MORE  
DYNAMIC RISK-BASED APPROACH  
TO PRIORITIZING INSPECTIONS.

# Next Chapter

**WE PLAN TO CONTINUE TO LOOK TO OUR DATA HELP US BE MORE EFFECTIVE AND EFFICIENT.**

**WE NEED TO FIND BETTER WAYS TO COMMUNICATE OUR STORY TO EMPLOYEES, INDUSTRY AND GOVERNMENT LEADERS USING OUR DATA.**