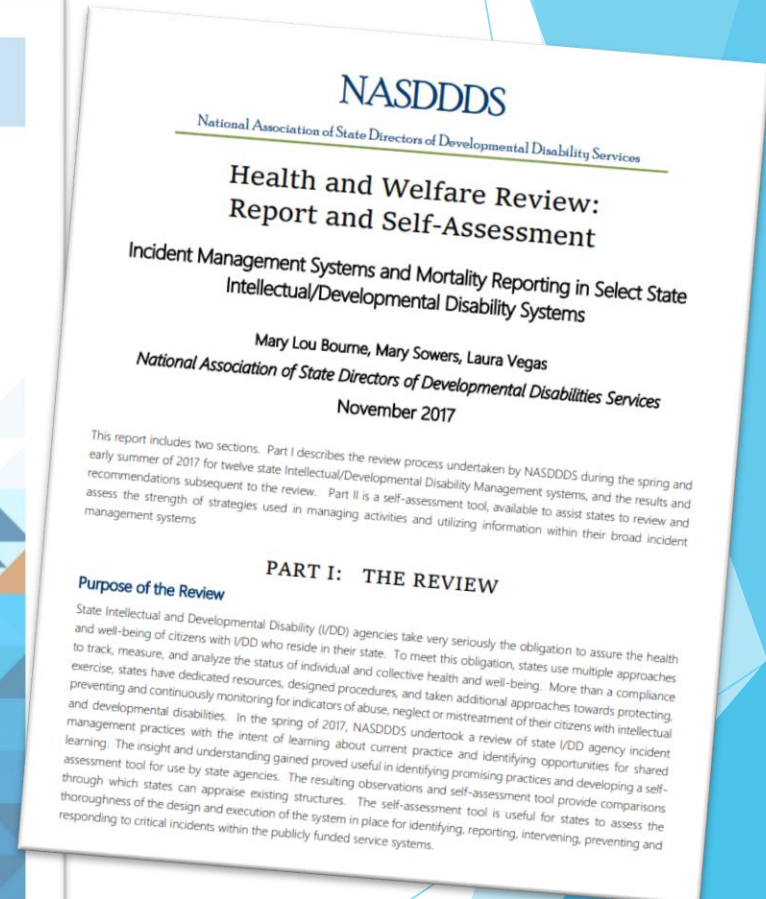
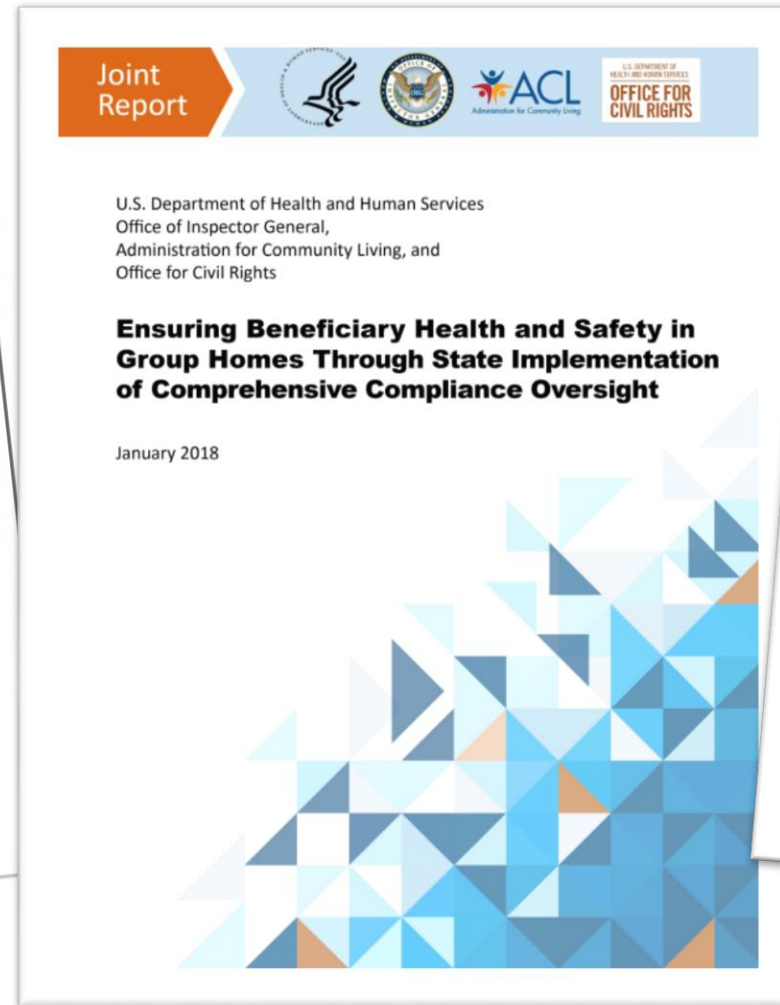
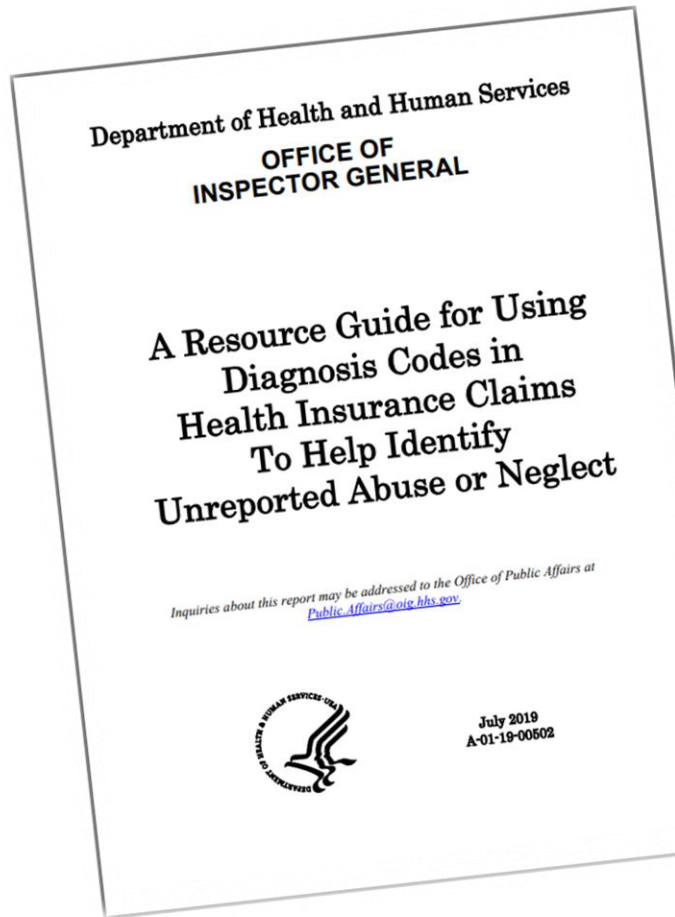


Detecting Unreported Critical Incidents in Medicaid Claims

The CT DDS Journey to Improve Quality Through Technology



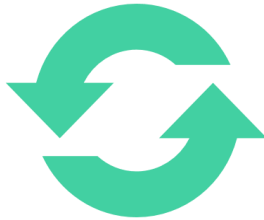
The Changing Landscape



Presentation Overview



Background
Information



Responding to
Change



Using Claims to
Identify Potential
Critical Incidents



Expanding
Capabilities



What's Next

Background

- ▶ OIG Audits
- ▶ Joint Report
- ▶ Health and Welfare Review
- ▶ Technical Assistance
- ▶ Medicaid Waiver Assurances



Responding to Change

- ▶ DDS took immediate steps to shore up systems that protect individuals

Abuse is wrong.

Say **NO** to Abuse.

There are lots of different
types of abuse:



NASDDDS Organizational Self Assessment



Do people know what to report, when to report, and who to report it to?



Do people know what happens once reported?



How do we trend and analyze incidents?



How do we identify improvement efforts?

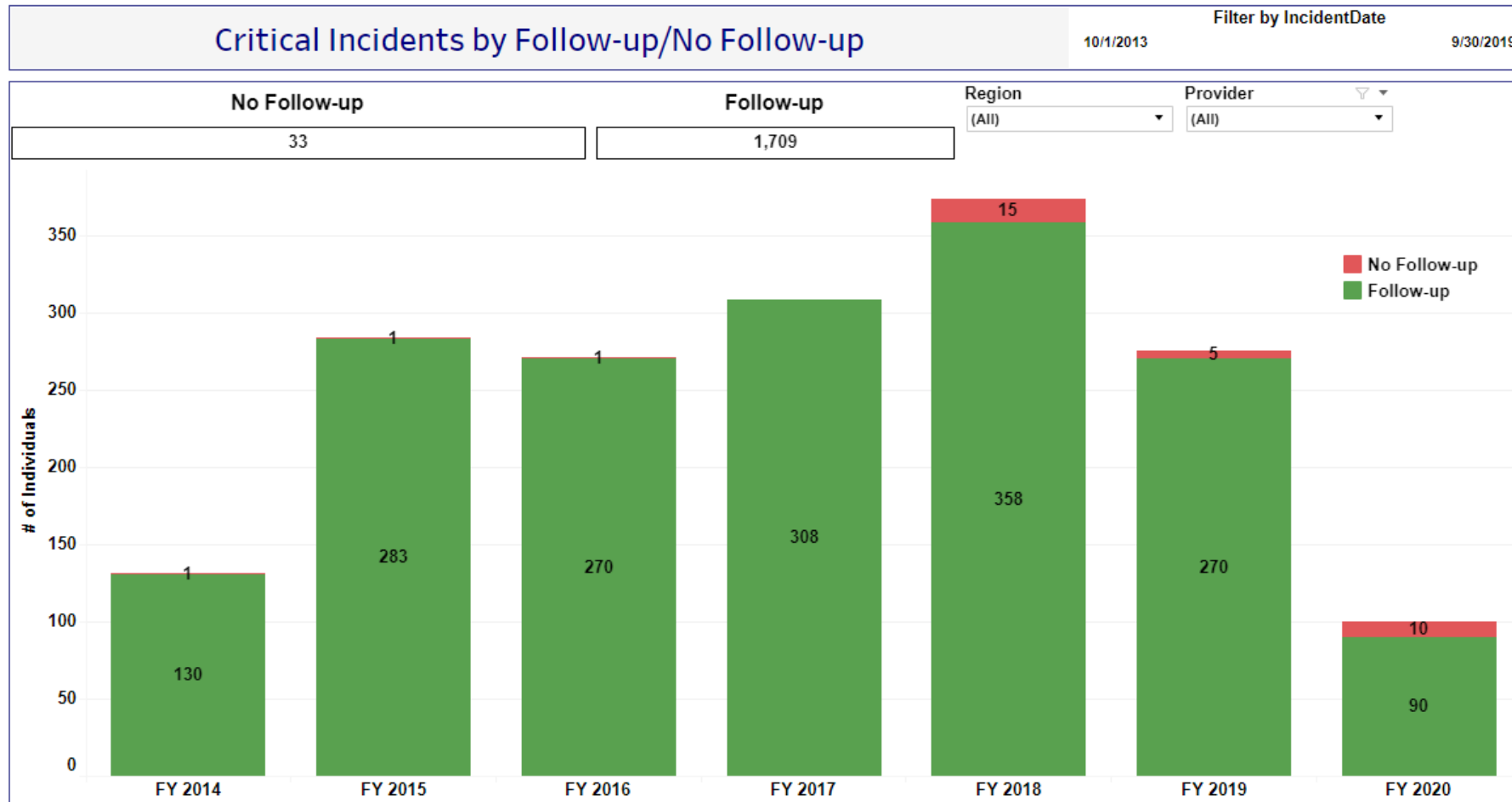


How do we engage partners and stakeholders?

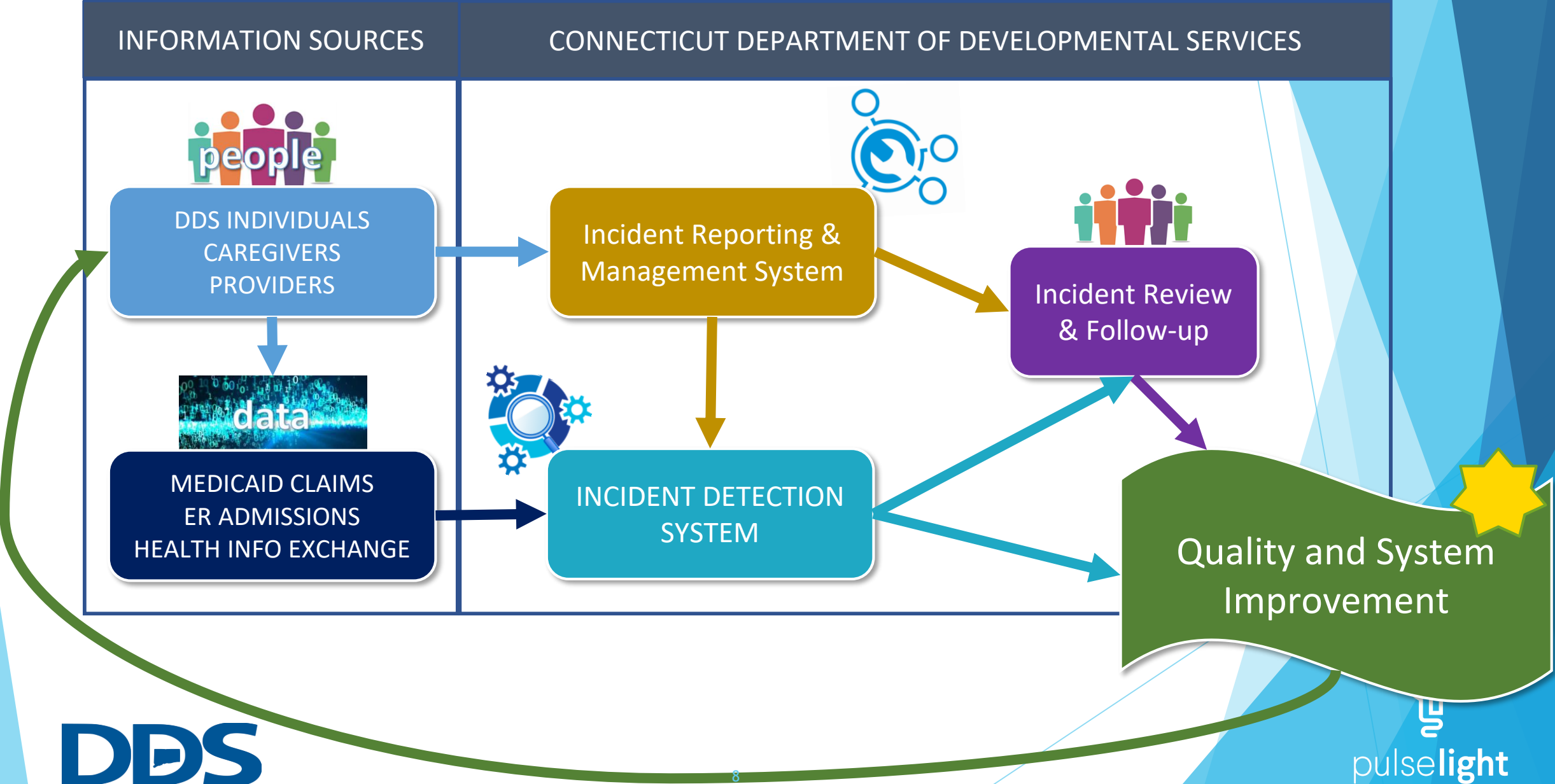


How do we manage Mortality Review?

We Were Only Seeing Part of the Picture

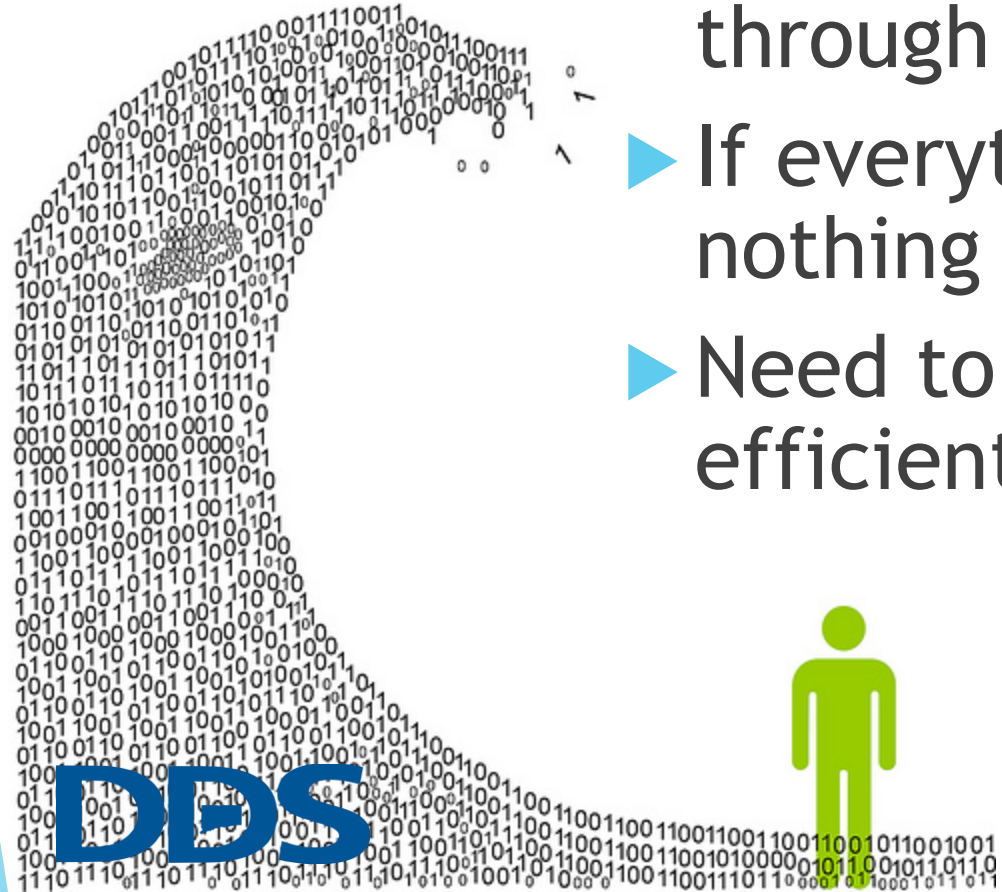


Quality & System Improvement Ecosystem



Using Claims to Identify Potential Critical Incidents

- ▶ Too many claims to wade through
- ▶ If everything is a top priority, nothing is
- ▶ Need to use Resources efficiently



Problem: We lacked technical expertise to use raw claims data
Solution: Let's leverage an existing resource



The Pulselight Story

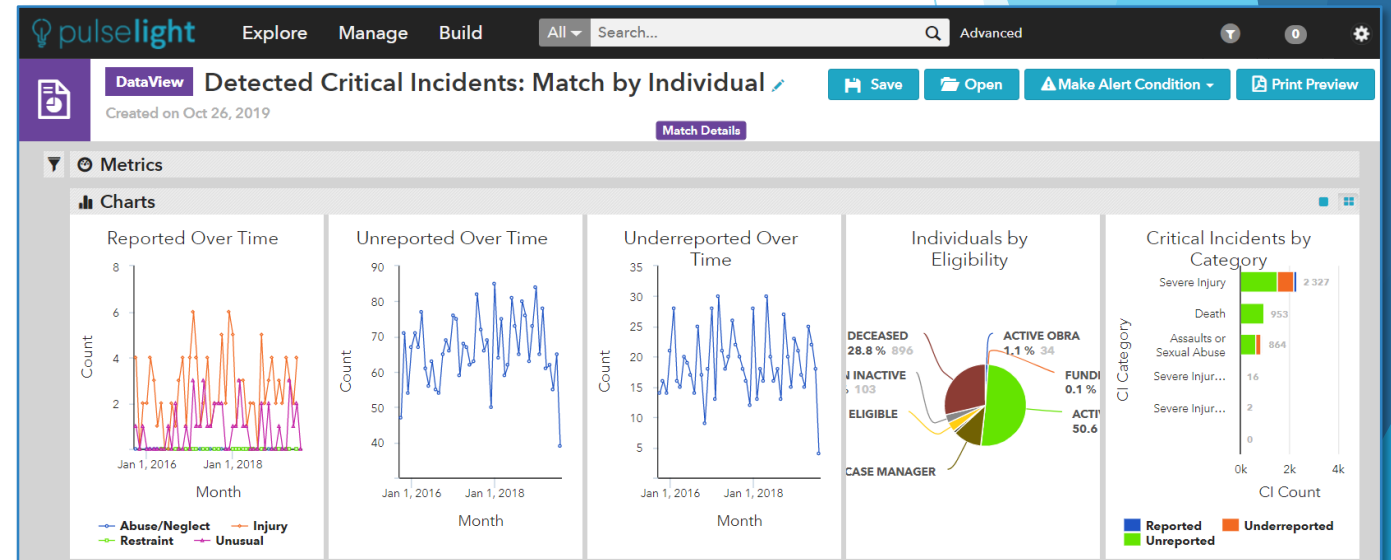


- ▶ The Pulselight software was built as a general-purpose analytic platform and application that was designed to address multiple and varied healthcare challenges.
- ▶ We already had years worth of Medicaid claims and 3rd-party data in our data stores
- ▶ CT DDS turned to us to see if we could help

Incident Detection System

An analytic solution that:

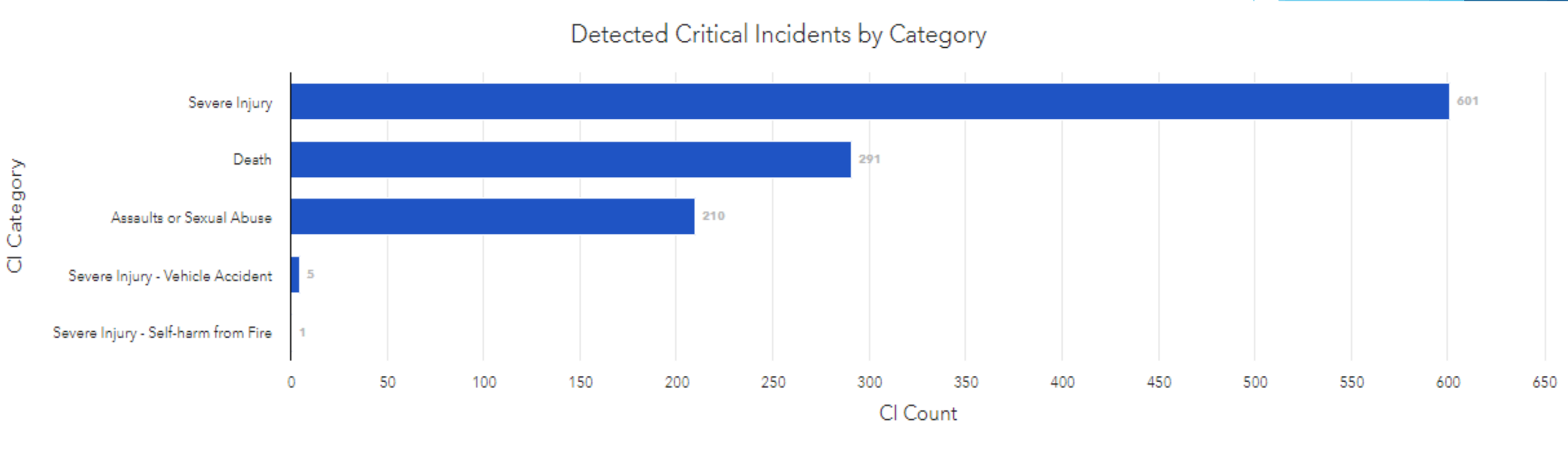
- ▶ Utilizes Medicaid claims and data from reported incidents
- ▶ Detects critical incidents in claims data – using state definitions & categorizations
- ▶ Shows medical history and context around individuals with detected incidents
- ▶ Matches detected critical incidents with reported critical incidents
- ▶ Prioritizes incidents for better resource allocation
- ▶ Analyzes volumes and trends of incidents by individual, residence or provider



What We Found



Expanding Capabilities



Distinct Providers
474

Distinct
Individuals
922

Detected Critical
Incidents
1,108

The “Telescope Effect”

The telescope has always been an incredibly useful tool. It can show us things that are normally impossible to see.



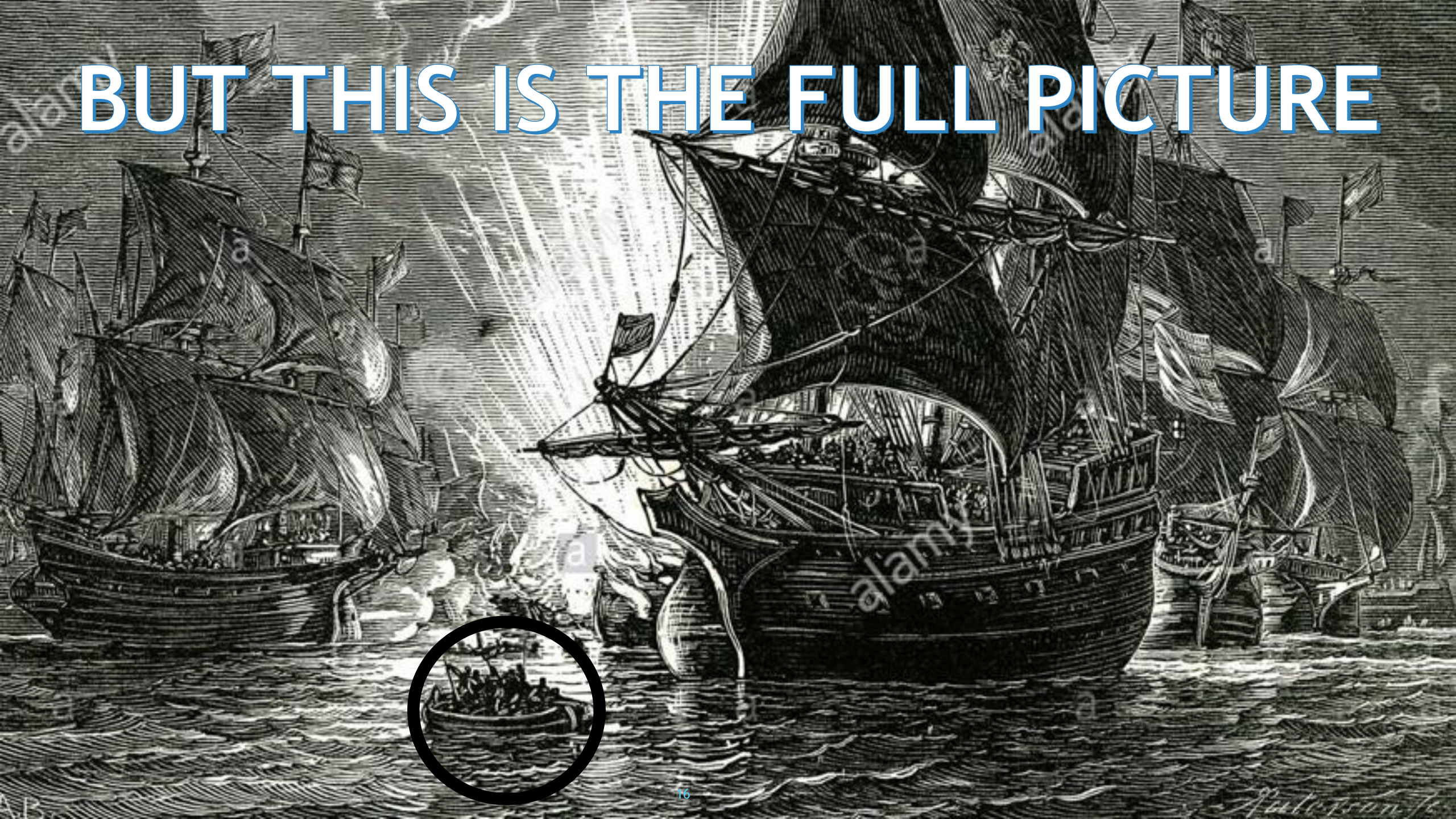
One problem with a telescope, though, is that it can only show you one small piece of the whole picture at a time.



He sees this...

Take the soldier who looks out into the harbor with his telescope for signs of a pending attack.

BUT THIS IS THE FULL PICTURE



The Story of Jane Doe and Provider Acme, Inc.

Jane Doe has one reported incident

- ▶ In October 2015, while living at Acme (location A), she fell and broke her elbow



The Story of Jane Doe and Provider Acme, Inc.

Jane Doe: Reported Incident

- ▶ Oct 2015: Acme (A), elbow fracture

Jane Doe: Detected Incidents

- ▶ Oct 2015: Acme (A), elbow fracture
- ▶ Sep 2017: Acme (A), femur fracture
- ▶ Apr 2018: Acme (B), aspiration pneumonia



The Story of Jane Doe and Provider Acme, Inc.

Acme, Inc. (50+ locations) 10/15 - forward

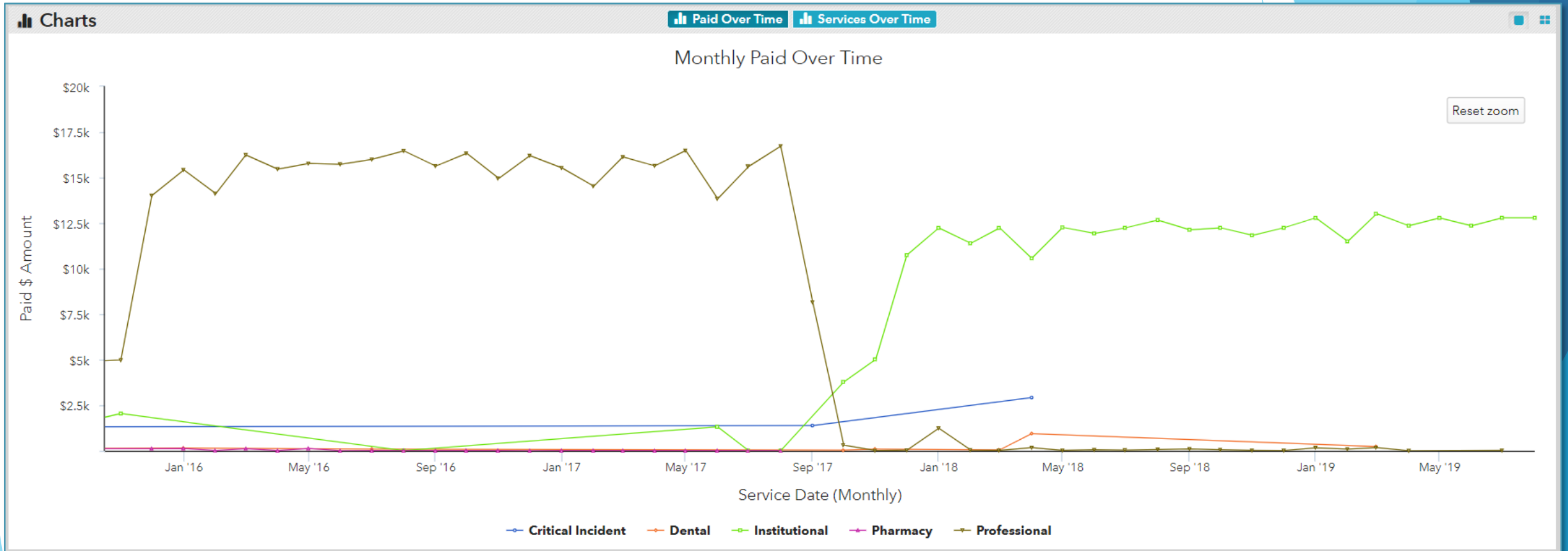
- ▶ 124 Detected Critical Incidents
- ▶ 35 Reported Incidents
- ▶ 94 Unreported Incidents
 - ▶ 65 Aspiration pneumonia
 - ▶ 9 Injury (fractures, contusions, etc.)
 - ▶ 8 Infection
 - ▶ 5 Complications w/ prosthetic devices, implants, grafts
 - ▶ 3 Injury from Assault
 - ▶ 2 Choking (asphyxiation)
 - ▶ 1 Adverse effects of antipsychotics
 - ▶ 1 Suspected sexual abuse

Full Context of an Incident

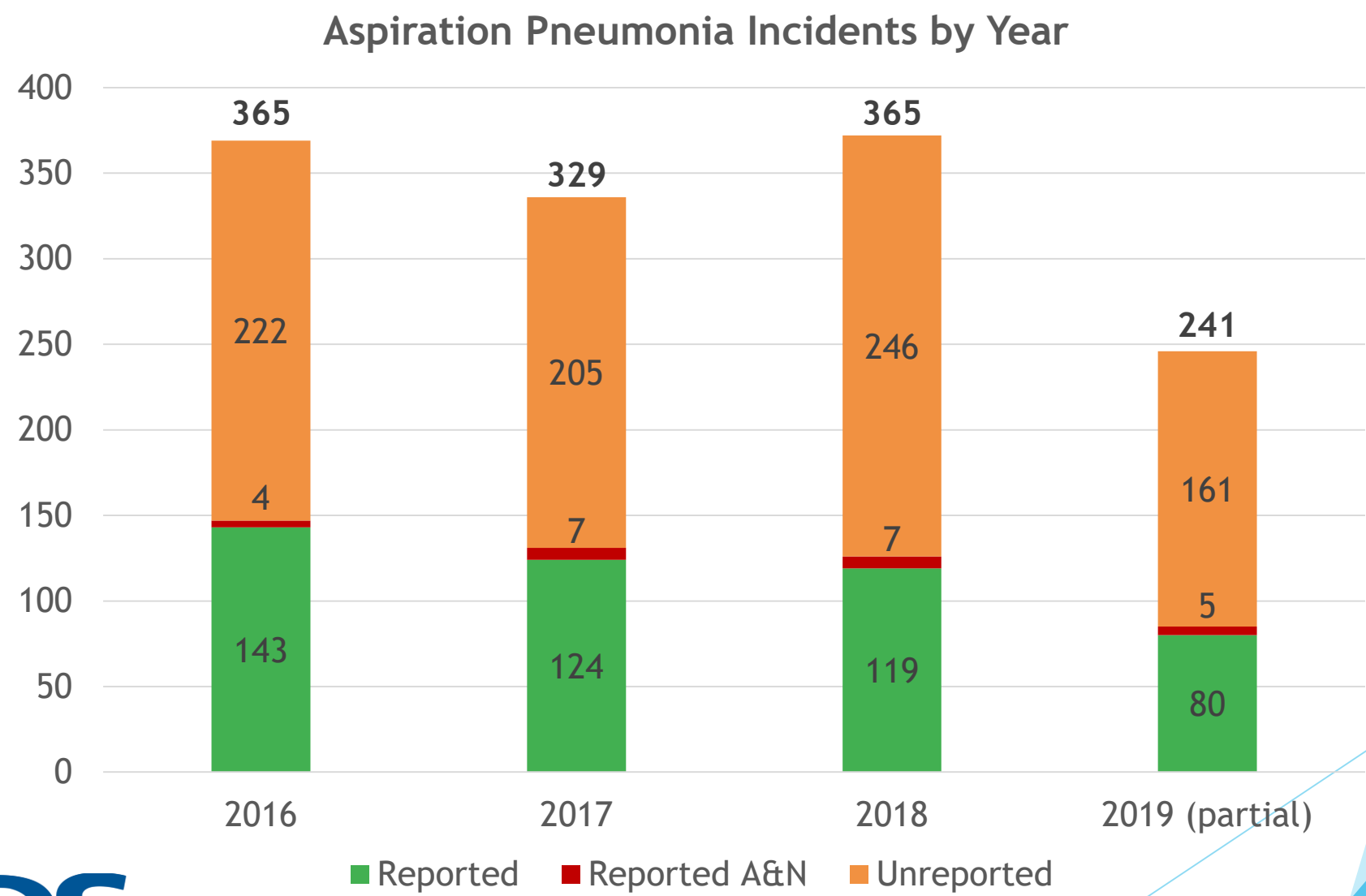
► Sep 2017: Acme (A), femur fracture

Data 63 results							
Detected CI Start Date ↓	Detected CI End Date	CI Trigger Dx Code	Service Start	Service End	Revenue Code	Procedure Code	Modifier
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 16, 2017		99285 - Emergency dept visit	
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 19, 2017	0440 - Speech Therap...		
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 19, 2017	0370 - Anesthesia, Ge...		
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 17, 2017	Sep 17, 2017		27506 - Treatment of thigh fracture	AS
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 19, 2017	0480 - Cardiology, Ge...		
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 19, 2017	0360 - Operating Roo...		
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 19, 2017	0300 - Laboratory, Ge...		
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 19, 2017	0121 - Room and Boa...		
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 19, 2017	0351 - CT Scan, Head ...		
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 19, 2017	0391 - Administration,...		
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 19, 2017	0710 - Recovery Roo...		
Sep 16, 2017	Sep 19, 2017	S72141A - Displaced intertrochanteric fracture of right femur,...	Sep 16, 2017	Sep 19, 2017	0250 - Pharmacy, Gen...		

Full Context of an Individual - Jane Doe



Is This Just More Work?



Prioritization

(Separate the “Wheat from the Chaff”)

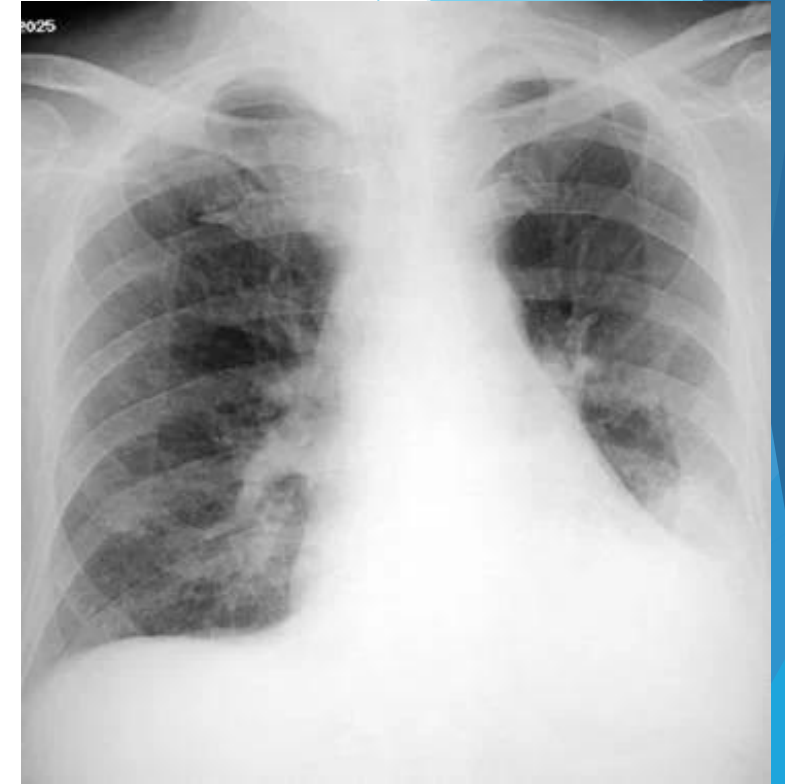
- ▶ Pulselight prioritizes incidents based on risk of abuse or neglect using machine learning algorithms
- ▶ Model “features” include metrics from the incident, the individual, the provider and the residential placements



Single-Incident Reviews to System-wide Discoveries (The Chaff is still Important!)

Every identified incident does not have to lead to a personal review and follow-up

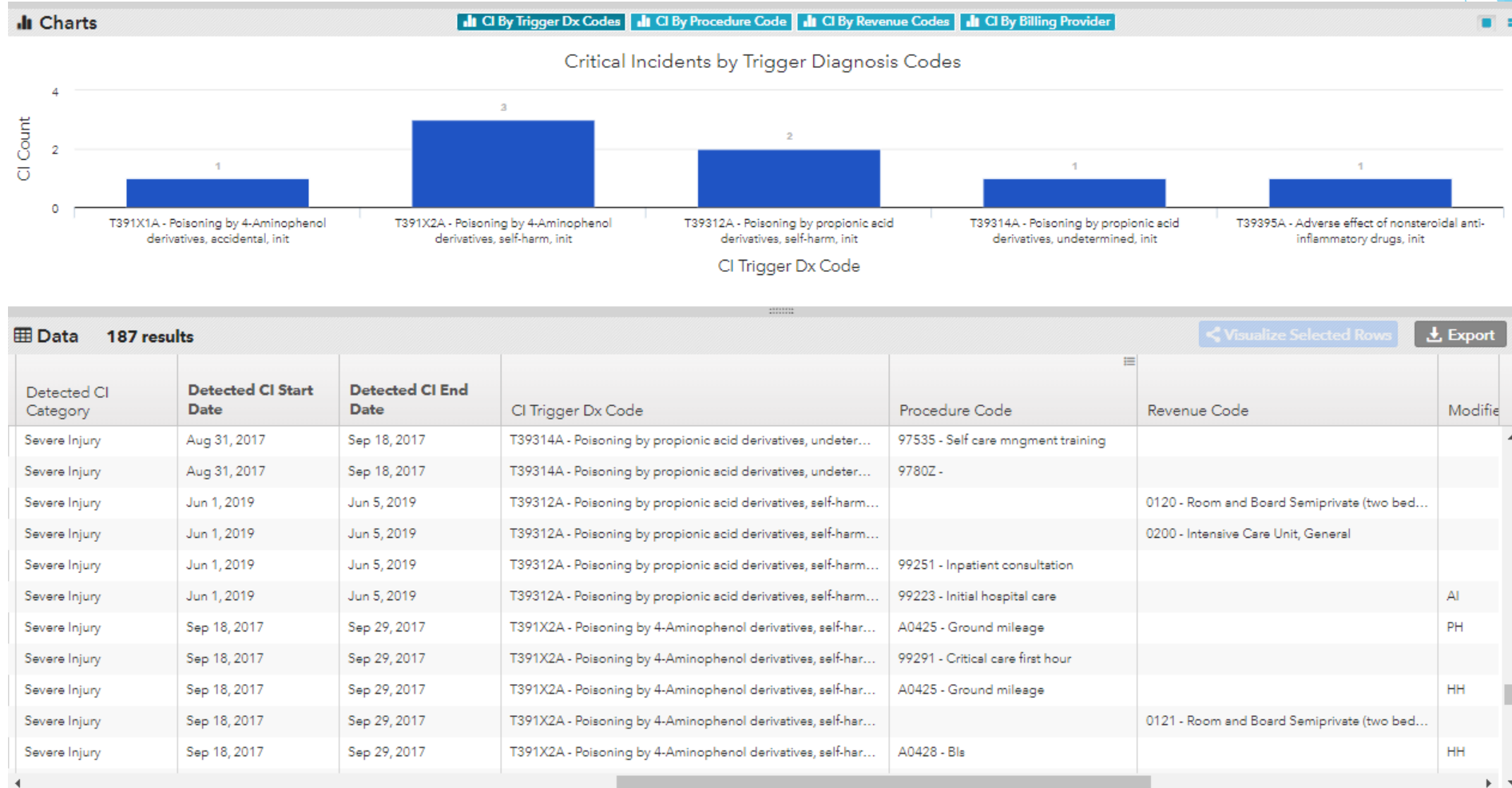
- ▶ System Intelligence
 - ▶ Ex. “Aspiration Pneumonia is occurring more than we thought.”
- ▶ Technical Insight
 - ▶ Ex. “Maybe we need to adjust our critical incident definitions.”
- ▶ Population Health Improvement
 - ▶ Update Safe Swallowing Guidelines
 - ▶ Update Training & “Train the Trainer” Programs



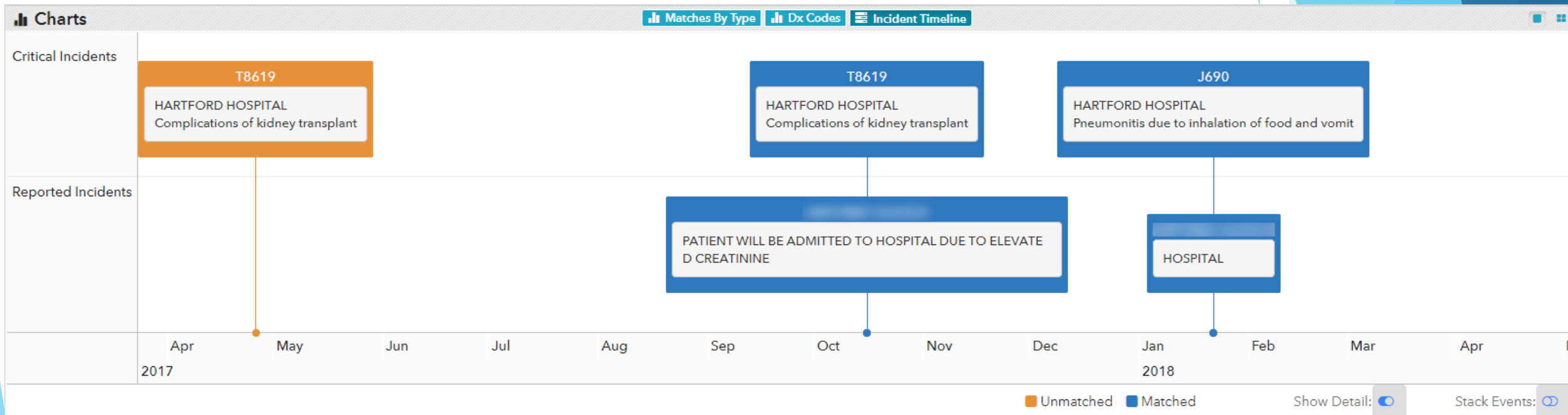
“Compliance should be the floor.”

-Josh “Critical Incident” Scalora

Medication Errors



Mortality



What's Next?

- ▶ Work together to share “lessons learned”
- ▶ Adopt standard “Critical Incident” definitions and claim set
- ▶ Ensure access to Medicare claims for dual-eligible individuals
- ▶ Use data to help people live healthier, safer and more empowered lives





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