# Data Surveillance

*Work Group Introduction and Overview*

*Patrick Smith | R•E•M Risk Consultants*
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# Introductions

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Research Coordinator
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# Agenda

- Introductions
- Data vs Information
- Data Surveillance
- Work Group Goals

# Data vs Information

*What's the difference?*

**What do you think about when you hear the words 'Data' and 'Information'?**

# What is Data?

- Raw facts and figures.

- Very little meaning until they are sorted or are used to make calculations.

- Raw data along is not enough to make a decision.

- The word 'data' is derived from the Latin word 'datum' which means 'something that is given'
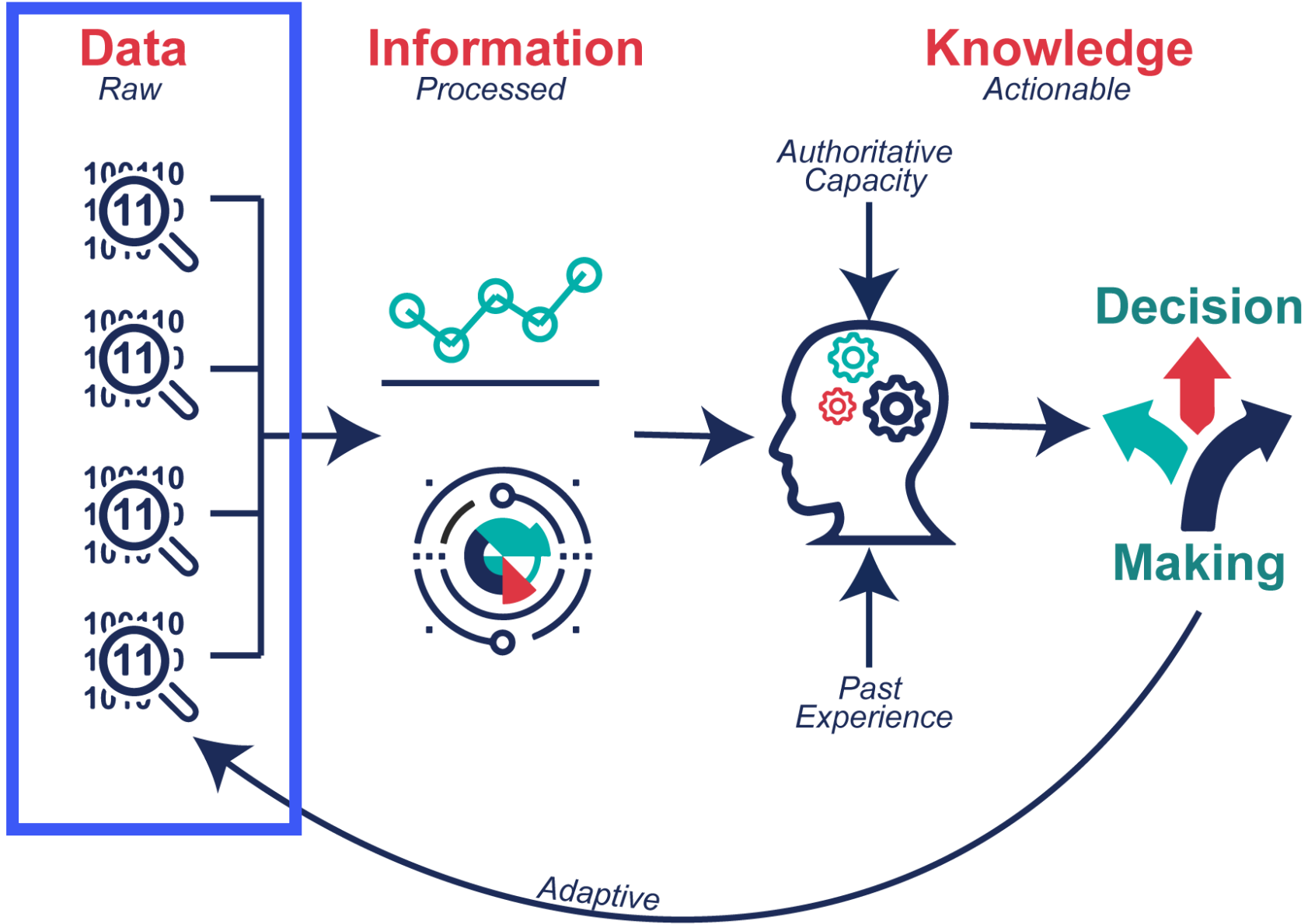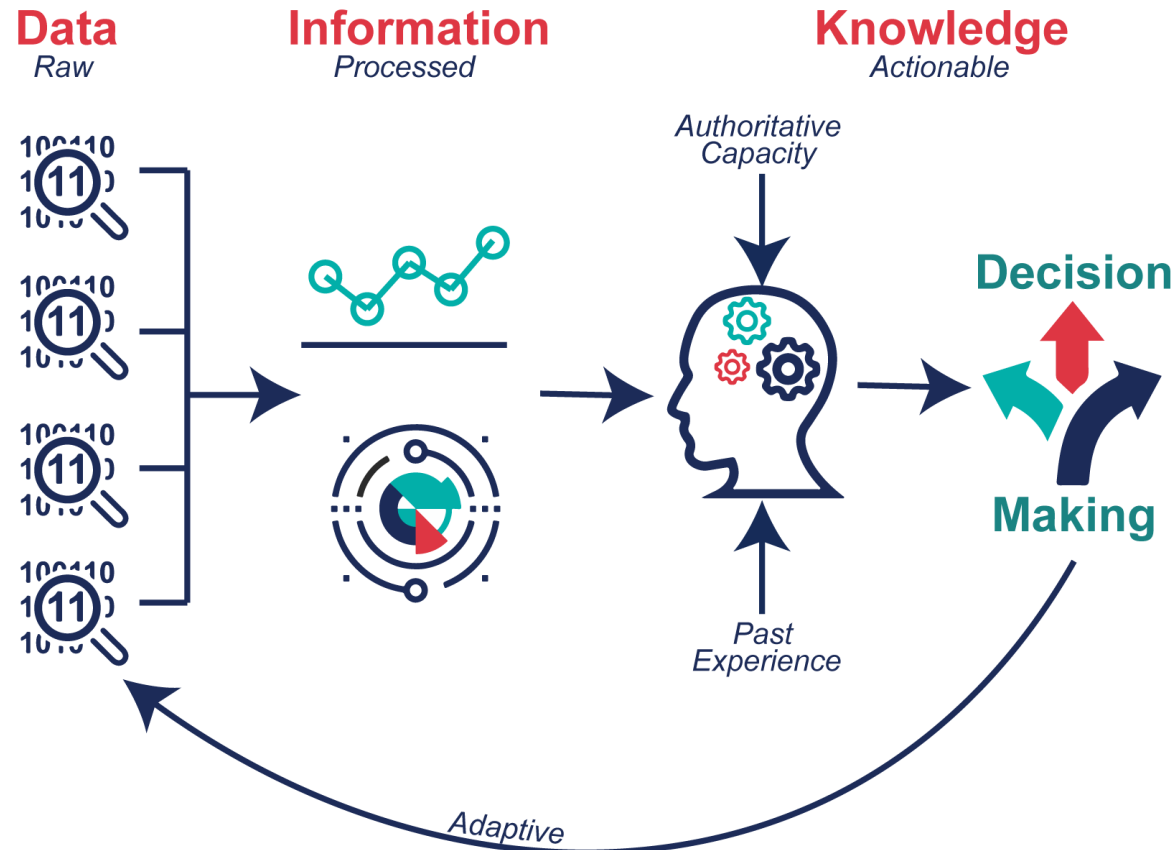
# What is Information?

- Data that has been processed within a context to give it meaning

- Interpretation of data to make it useful

- Information is dependent on data.

- Information is sufficient to help make a decision in the respective context.

- The word 'information' is derived from the Latin word 'information' which means 'formation or conception'

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Safety Coalition
by NCOAA

# What are examples of information?

# Without Good Data We Make Bad Decisions

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**Data** *Raw*   **Information** *Processed*   **Knowledge** *Actionable*

*Authoritative Capacity*

**Decision**

**Making**

*Past Experience*

*Adaptive*

# How Do We Get Good Data?

*Data Surveillance 101*

# Data Surveillance

- Electronic data collected, captured, recorded, retained, processed, intercepted, analyzed, or shared by surveillance technology.

- Surveillance tools could include surveys, 'big data' systems or data bases, other collection methods.

- Data surveillance facilitates collecting useful raw data that can be used to create actionable information.

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# CO Data Challenges

*State of Existing Data Collection*

# Data Availability

- One of the greatest challenges related to carbon monoxide safety is that the surveillance data collected on carbon monoxide injuries and deaths is fragmented and incomplete.

- Incomplete data about incidents leads to poor information and inability to make good decisions.

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# No National Surveillance System

- There is no national surveillance system that specifically monitors carbon monoxide poisoning, resulting in significant underreporting of deaths and injuries in the US.

- We must improve data collection and analysis of carbon monoxide poisoning in order to effectively advocate for change.

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**Existing Data is 'Siloed' in Multiple Databases/ Organizations**

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- Existing data collection efforts are disconnected and 'siloed' from each other.

- Data is being collected by multiple groups.

- Each existing effort only tells part of the story.

# What types of information would you like to identify about CO incidents?

# Work Group Goals

*Plan for 2023-2024*

# About Our Work Group

- This working group will review existing data sources, make recommendations for changes to the reporting systems, and conduct or support independent research on carbon monoxide poisoning prevalence.

# 1. Assess

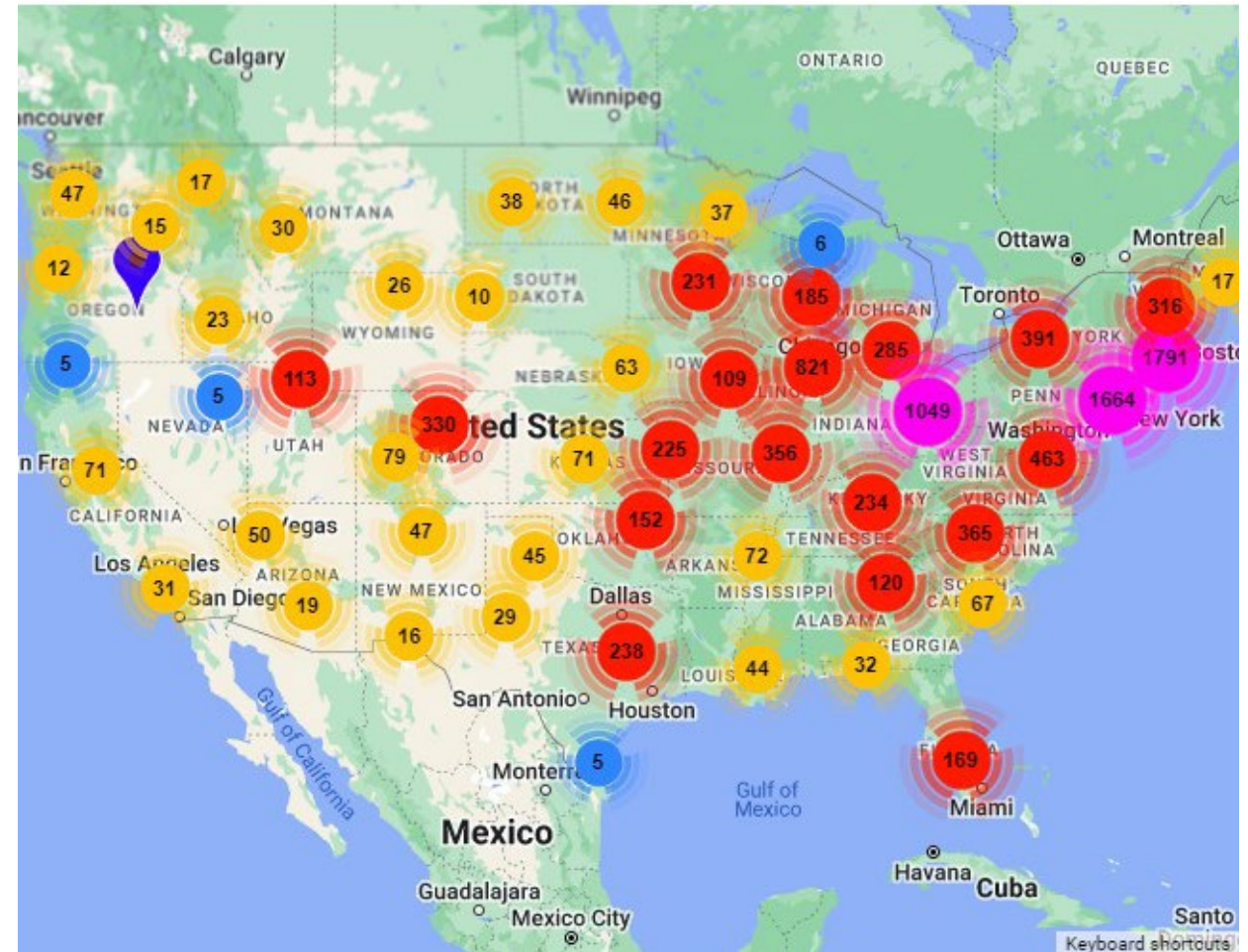- Identify what existing data sources are available

# 2. Analyze

- Identify gaps in data collection.

- Define contributing factors to under-reporting of incidence.

- Determine what information we want to ultimately determine from data collection efforts.

# 3. Implement

- Conduct a prevalence study in the U.S.

- Real Time Data Collection

# Goals for the Year

- Support research on the prevalence of carbon monoxide poisoning.
- Support other work groups

- Host Quarterly Conference Calls
- Provide Educational Webinars

# Real Time Mapping

*Progress Update*

# Carbon Monoxide Poisoning Automated Newsmedia Monitor

- Search Google News hourly around the clock

LexiGraph

https://lexigraph.ai

clark@lexigraph.ai

# Carbon Monoxide Poisoning Automated Newsmedia Monitor

- Search Google News hourly around the clock

- Label and add metadata via Web-based tool

LexiGraph
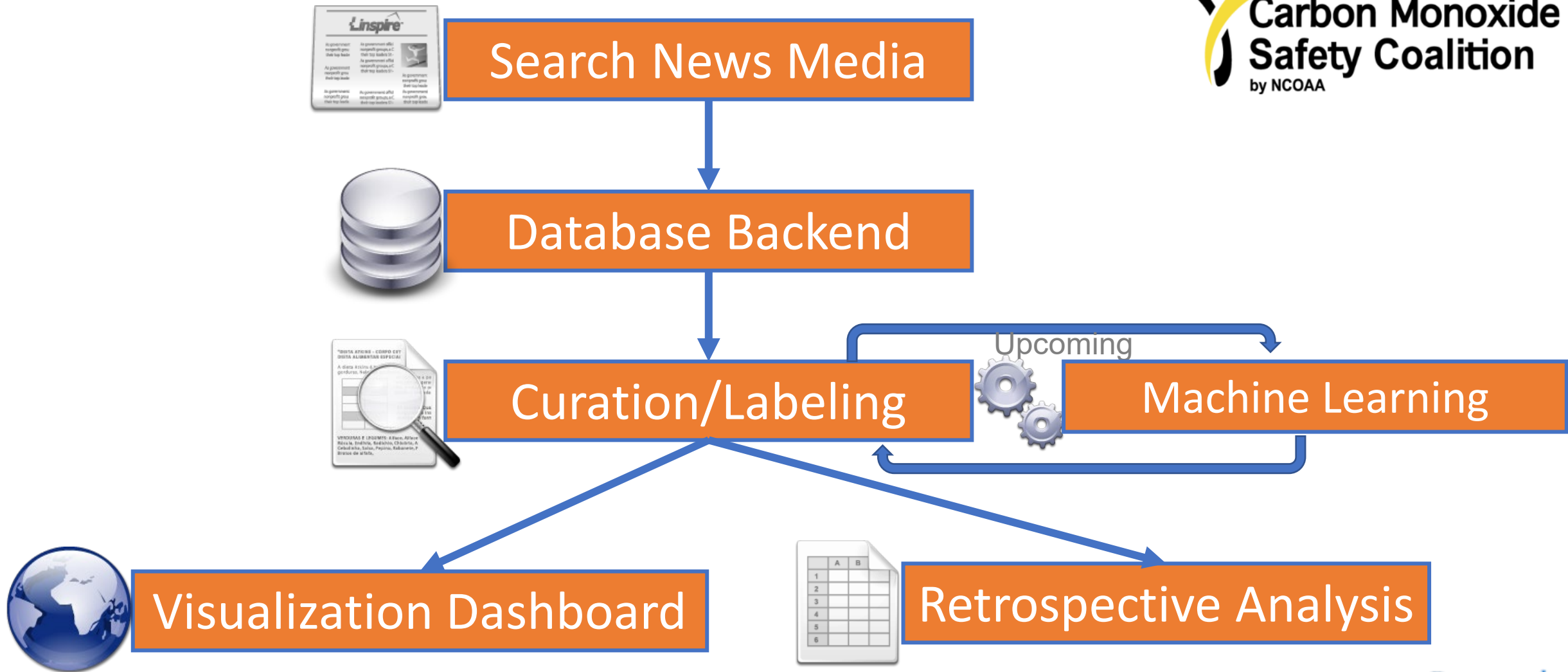https://lexigraph.ai

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- Label and add metadata via Web-based tool

- AI tools for automated labeling

- Map-based visualization for easy search and browse

- Export data to Excel for analysis

**LexiGraph**

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Search News Media

Database Backend

Curation/Labeling

Upcoming

Machine Learning

Visualization Dashboard

Retrospective Analysis

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LexiGraph
https://lexigraph.ai

LexiGraph Processing Sequence

# Data Labeling Tool



- CO Alarm Status

- # of Injuries

- # of Deaths

- Location

# Articles since April 2023

| Total | 1900 |
|---|---|
| Labeled | 1300 |
| Relevant | 109 |
| Distinct Event | 29 |

Approximately **10** events of interest per month
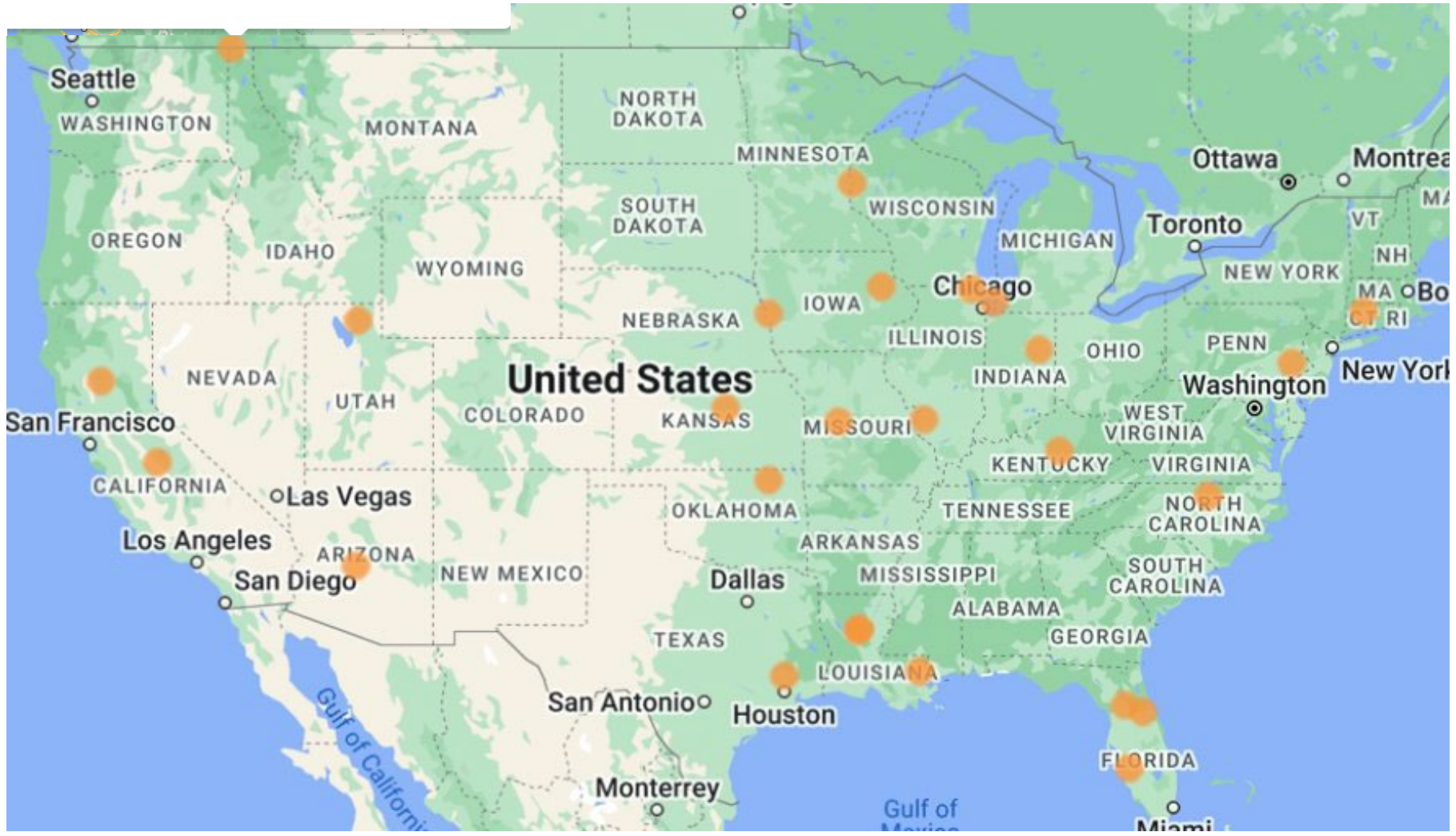
# Credits

- Christina Binkowski, christina@ncoaa.us
- Clark Freifeld, clark@lexigraph.ai

# Questions