

CO Data Ecosystem: Charting A Way Forward

Matt Hinds-Aldrich, PhD

American Assoc. of Insurance Services

Data & Surveillance Work Group Co-Lead

Data to Understand the Problem

- Our Great White Whale – CO Exposure Prevalence
 - No single source of truth
 - Fire Protection Research Foundation report - detailed snapshot

CDC – National Environmental Public Health Tracking

IHME – Global Health Data Exchange Registry

CDC – WONDER

USFA – NFIRS

NTSB – Aviation Accident Database & Synopses

CPSC – National Electronic Injury Surveillance System (NEISS)

OSHA – Accident Database

CPSC – Collection of Injury Statistics and Technical Reports related to CO Incidents

NHTSA – Fatality Analysis Reporting System (FARS)

Different Uses | Different Data

- **Incident data** collected by Fire Departments & EMS Providers
- **Epidemiological data** gathered to surveil population health risks / trends
- **Data loggers** to take periodic readings in specific occupancies for research on chronic exposures
- **Industrial Hygiene data** to measure workers exposures and dosages
- **CO Alarm installation and testing data** how many homes have alarms
- **Code compliance inspection data** of commercial properties if required to have functioning CO alarms
- **Hospital Reimbursement records** to understand CO treatment rates and severity

Data to Justify Legal / Code Changes

- **Laws and Code Changes Have Financial Impacts**
 - No Data : No Problem
 - No Problem : No Capital To Fix the Problem
- **Requiring CO Alarms in more occupancies**
 - Schools / Daycares / Early Education
 - Single Family Residential
 - Hotels & Motels
 - Any property with fuel fed appliances or heating systems
- **Administrative Procedures Act (APA) Regulations**
 - State agencies must provide Cost-Benefit Analyses of any new regulatory burden
 - Could we articulate the economic benefit of CO Alarms if required?

Data to Change Medical Interventions

- Pre-hospital (EMS) interventions
 - Estimating COHB levels after Pre-hospital Oxygen Therapy administration
 - Early blood draws vs. O₂ Therapy
 - Non-rebreather masks vs. CPAP
- Hospital interventions
 - Hyperbaric O₂ Therapy vs. Normobaric O₂ Therapy
 - Patient outcomes with CO Exposures and additional co-morbidities

Emergency Incident Data



Data To Change Behavior

- Informing public education messaging
 - Pets and CO?
 - Identifying symptomology
- Infographics
- Marketing strategies to change behavior

RIGHT

Message
Person
Medium
Time

- Consumer Marketing Segmentation Data
 - Experian Mosaic | ESRI Tapestry