Updates from the CDC Environmental Public Health Tracking Program

Health and Air Quality Applications Program Review, October 2021

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Emergency Management, Radiation, and Chemical Branch

Division of Environmental Health Science and Practice

TRACKING PROGRAM GOAL

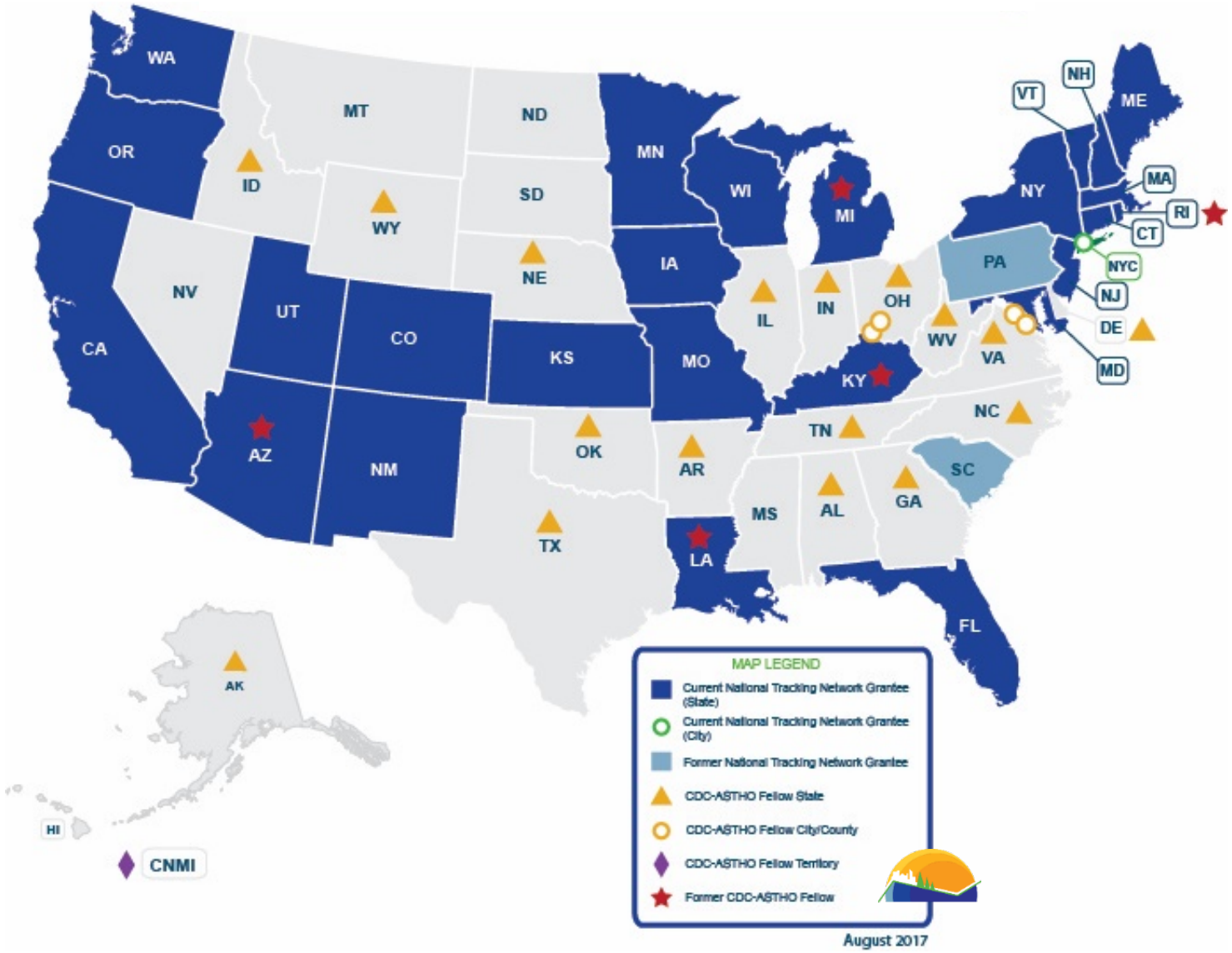
Increase the number of **data-driven environmental public health actions** and decisions by providing information from a nationwide network of standardized, integrated health and environmental data.

The Tracking Program

26
Grantees
25 states / 1 city

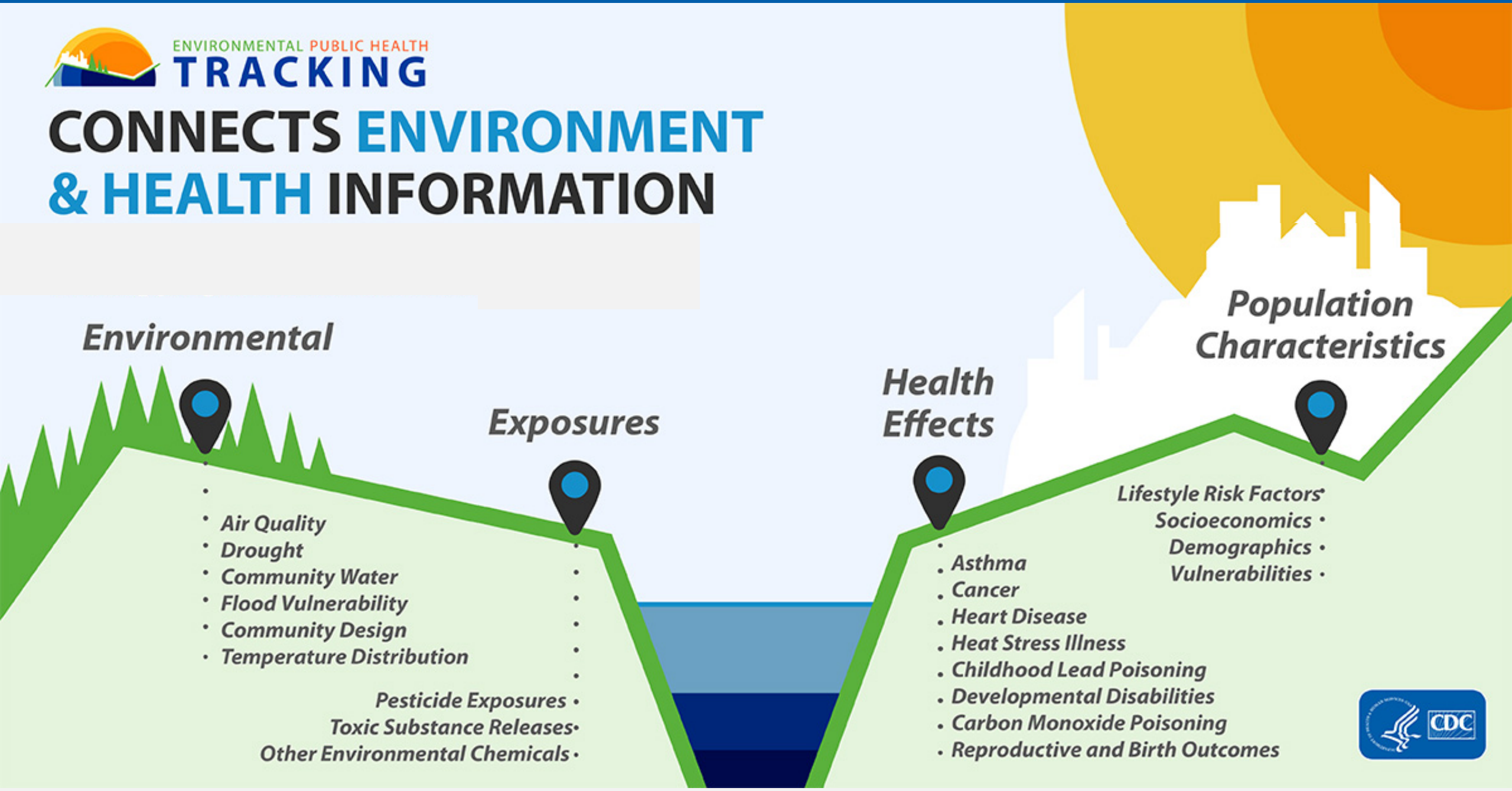
41
CDC-ASTHO Fellowships
Since 2009

25+
Partnerships
With CDC Programs, Other Federal Agencies, National Organizations



ENVIRONMENTAL PUBLIC HEALTH TRACKING

CONNECTS ENVIRONMENT & HEALTH INFORMATION



ENVIRONMENTAL PUBLIC HEALTH TRACKING

HELPS IMPROVE HEALTH WITH DATA, TOOLS, AND EXPERTISE

Target prevention activities

Monitor community health

Identify communities at risk

Support epidemiologic studies

Educate residents

Inform city or state planning

Inform health policies

Visit the Tracking Network today

www.cdc.gov/ephtracking

Check out examples of Tracking in Action success stories and products!

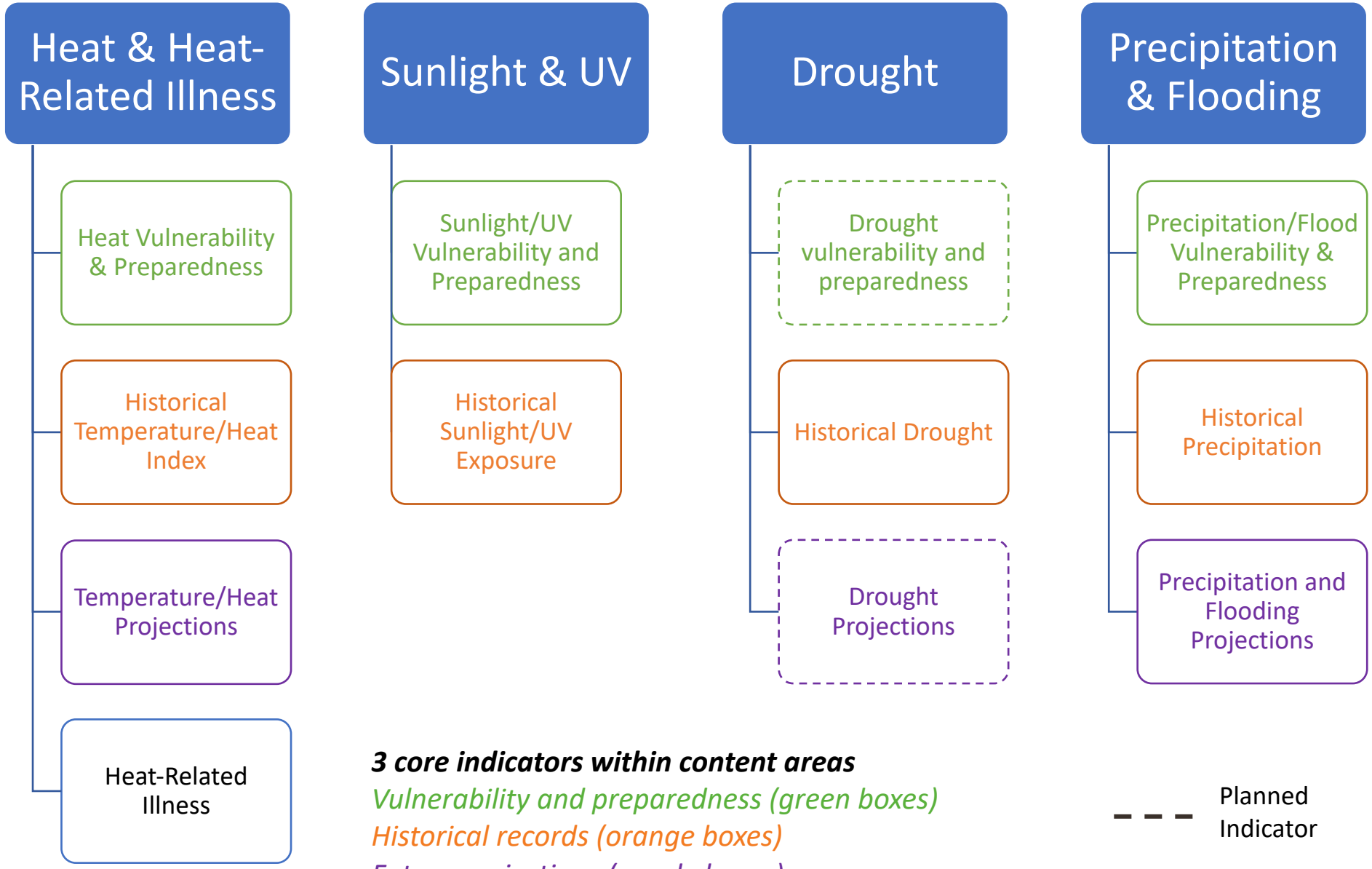
CDC

Looking Forward –

Division of Environmental Health Science and Practice Priority Areas

- Climate and Natural Disasters
  - Wildfires and prescribed burnings
  - Extreme Heat
  - Drought
  - Flooding
  - Hurricanes
- Harmful algal blooms (HABs)
- Pollen
- Nuclear/Radiation disasters
- Radon
- Childhood lead poisoning
- Asthma
- Drinking water

Climate-related Content Areas and Indicators in the Tracking Network



3 core indicators within content areas

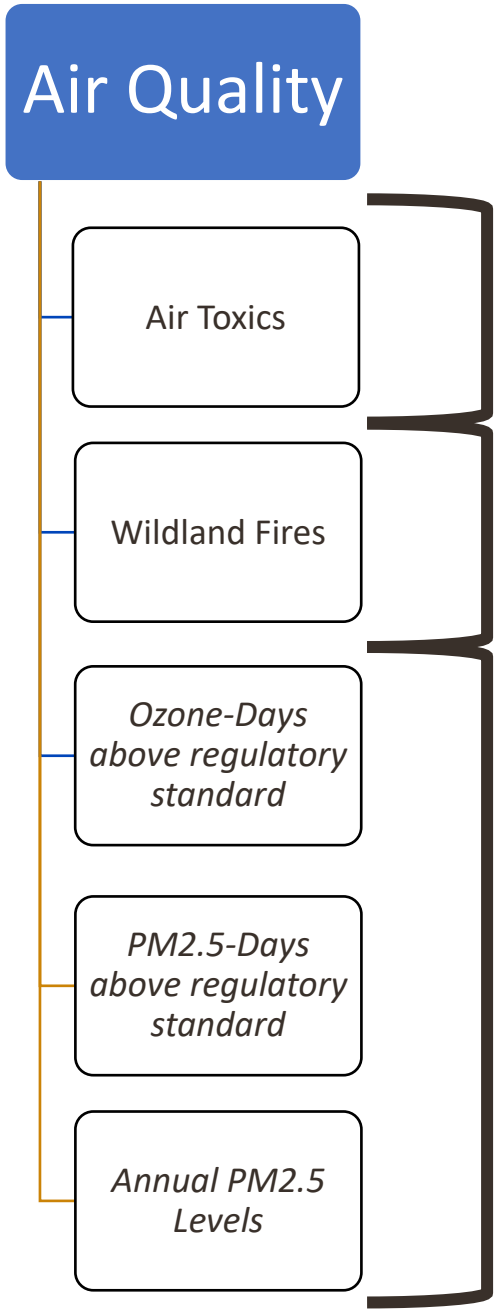
Vulnerability and preparedness (green boxes)

Historical records (orange boxes)

Future projections (purple boxes)

– – – Planned Indicator

Air Quality Related Content Areas and Indicators in the Tracking Network



EPA

National Air Toxics Assessment

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

EPA

AQS

Examples of Existing Gaps

Climate

- Inland flooding
- Coastal flooding
- Soil conditions
- Climate shifts from historic baseline

Other Environmental Hazards

- PAHs in air
- PM2.5 speciation
- Cyanotoxins/ Harmful Algal Blooms (HABs)
- Aeroallergens/ Pollen

Exposures

- Agricultural pesticide exposure
- Long-term air pollution exposure

Health Outcomes

- Vector-borne disease
- HAB toxin related health effects

National/Global Environmental Health Challenges

Internal/External Research Teams

Data & expertise

Identify research gaps, provide processed data

Public health, data science, and informatics expertise

Interagency/ Inter-organization partnerships addressing EH challenges

ENVIRONMENTAL PUBLIC HEALTH TRACKING

Identify useful public health actions and data

Internal CDC Partner Programs

Tracking Partnerships

Academic papers

Press releases

Blogs

Tracking Portal Content

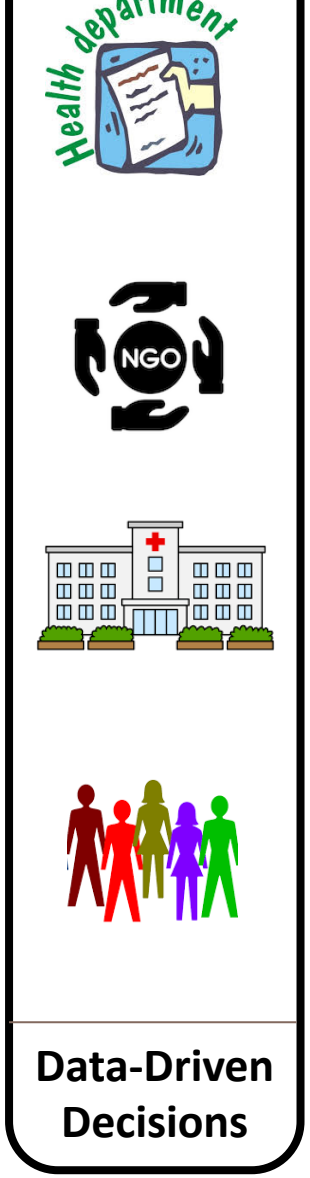
Dashboards

Email Alerts

Reports

Blogs

Data-Derived Products



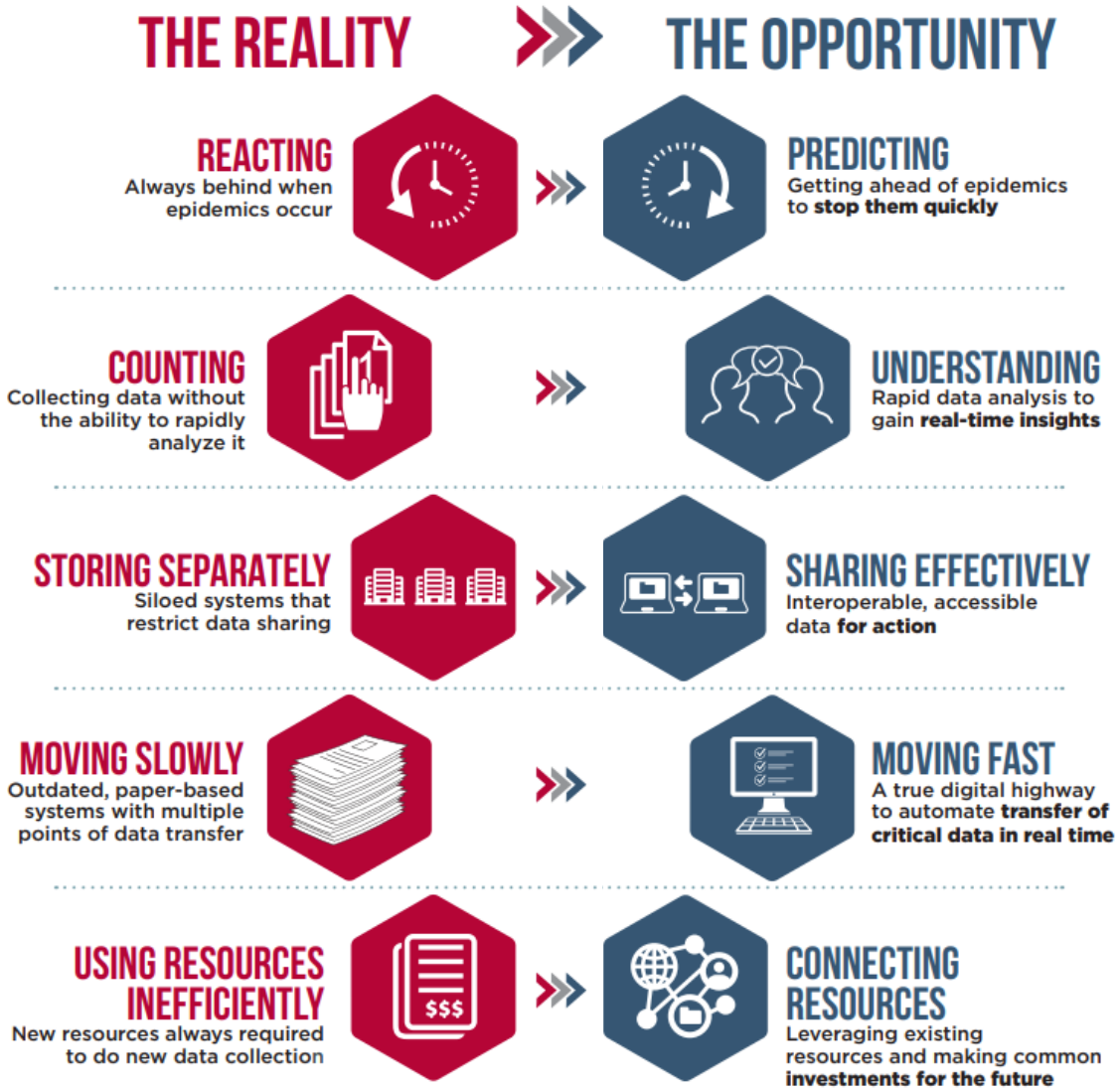
Data-Driven Decisions

CDC Public Health Data Modernization Initiative

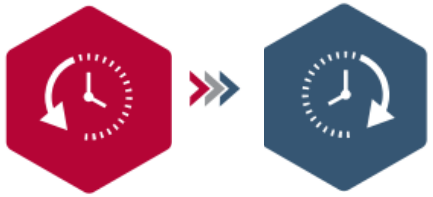
The goal of CDC's Public Health Data Modernization Initiative is to transform CDC from a culture of primarily historical data analysis to predictive data science.

Tracking is well-positioned to take the lead in this area and has traditionally been at the cutting edge of applied data science within CDC.

CDC Public Health Data Modernization Initiative



Planned Improvements to Climate-related Content



Rapid data updates (e.g., eliminate delays of a year or more)

Finer temporal and spatial scales (e.g., daily, census tract)

Operationalize data more effectively (e.g., dashboards, apps, email reports)

Leverage new data products (e.g., NASA ECOSTRESS, MERRA2, AirNow, PurpleAir)

Looking Forward – Opportunities for Collaboration

- Characterize exposure, vulnerabilities, and health impacts to take public health action
  - Wildfires and prescribed burnings: forest, agricultural
  - Air pollution: Traffic-related pollutants
  - Climate-related events and natural/manmade disasters: Heat, HABs

- Joint collaborations to assess the effectiveness of policy and other interventions on reducing health impacts
  - Quantify changes in AQ concentrations/sources, in places with no monitors

- Using the Tracking Network as a Decision Support System and as a platform to host earth science data products
  - Need expertise and resources to transform raw data for public health
  - Need repeatable, sustainable data products to support ongoing surveillance

Questions or Comments?

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