Center for Forecasting & Outbreak Analytics (CFA)

Better Data, Better Analytics, Better Response

Analytics Inform Response Efforts Across an Epidemic

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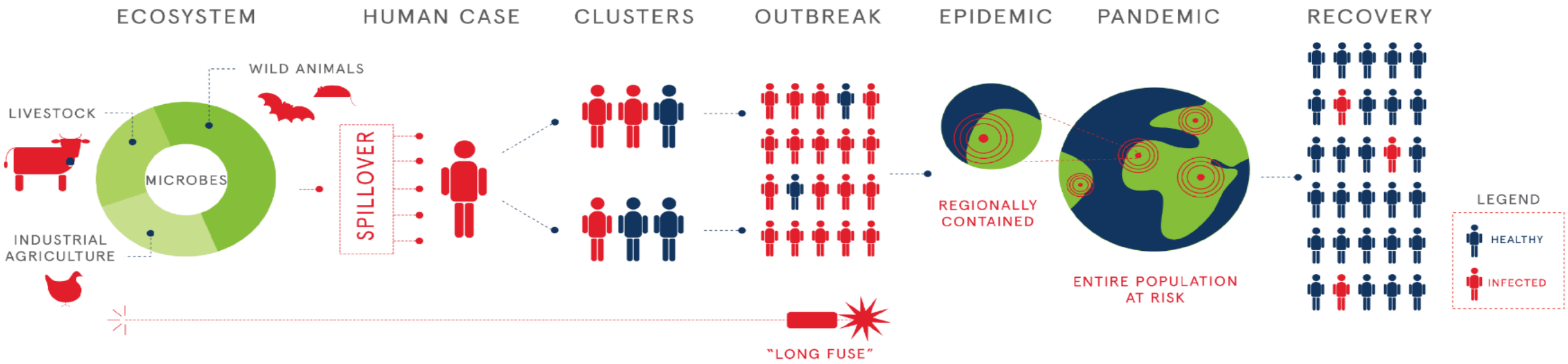

Examples of Outbreak Analytics

- Prospective Scenario Analyses
- Risk Assessment Tools
- Parameter Estimations
- Vaccine Effectiveness
- Pathogen Characterization
- Disease Risk Mapping
- Burden, Impact Assessments
- Therapeutic Effectiveness
- Phylogenetics
- Disease Forecasting
- Outbreak Management Scenario Analyses

CFA Value in Outbreaks of Novel Pathogens

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Make sense of uncertainty early in an outbreak

- Assess epidemic potential and severity
- Quantify risk and timing of imported cases
- Assess risk to the homeland

Provide early warning, situational awareness

- Develop good-bad-worst planning scenarios; bound uncertainty
- Assess expected impact of interventions
- Produce short term forecasts

Get critical data for the response

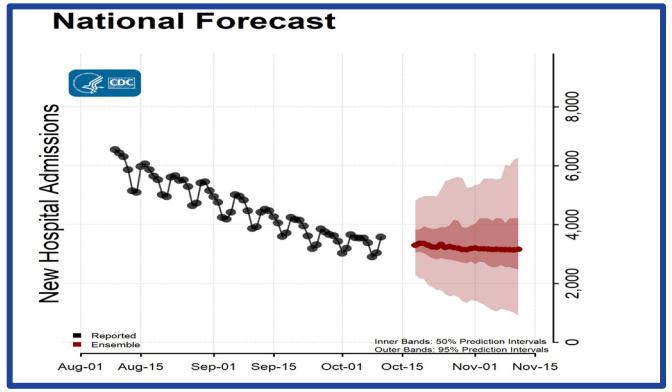
- Resource demand projections
- Inform design and targeting of prevention measures
- Monitor vax, treatment effectiveness over time
- Provide data to update scenarios and forecasts

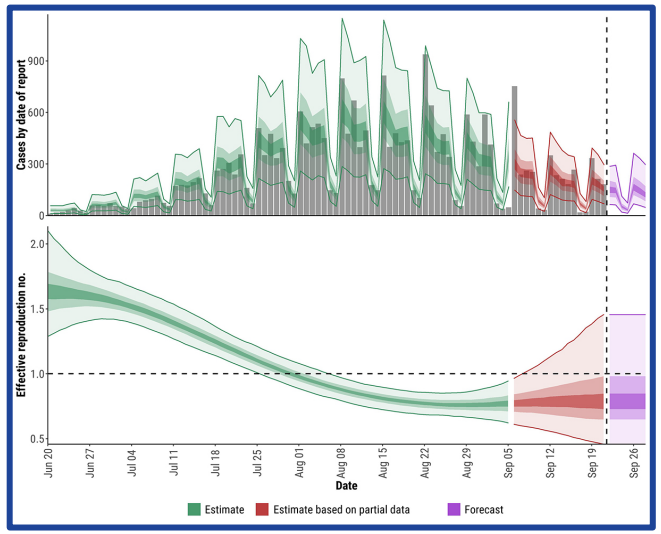
Support **policy, guidance & response**

- Inform policy and guidance on:
- Border controls
- Testing, quarantine & isolation
- Countermeasure demand
- Vaccine prioritization
- Surveillance design

Potential Rapid Increase of Omicron Variant Infections in the United States

Updated Dec. 20, 2021 Español | Other Languages Print





CDC Monkeypox Technical Report 3; Fig 7

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CFA Recent Successes

- **Response Support**
  - Anticipation of Omicron surge
  - COVID-19 Forecast Ensemble
  - Assessing China COVID modeling
  - Forecasts of U.S. mpox outbreak
  - Ebola in Uganda analytical support
- Inform Products: Technical Reports
- CFA Workforce Growing
- Piloting the Virtual Analyst Platform
- Appropriation - FY23
- CFA Establishment Finalized

Network to Advance Outbreak Analytics

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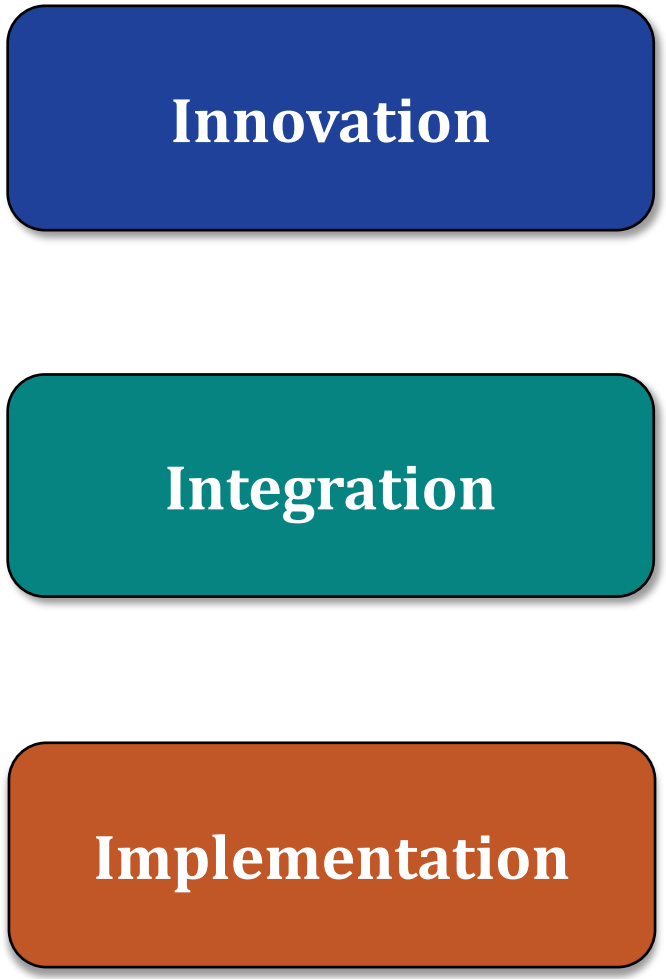
- CFA will support a network of:
  - **Innovators** to advance the science of outbreak analytics
  - **Integrators** to design and test innovative capabilities in collaboration with public health jurisdictions
  - **Implementors** to scale innovations among jurisdictions
  - Coordination and surge capacity in an emergency
- Necessary connection with STLT jurisdictions
- This network will improve speed, accuracy, and use of data & analytics during health emergencies
- Grants.gov Forecast Opportunity (CDC-RFA-FT-23-0069)



Demographic, Social, and Comorbidity Data Table

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Objective: Develop a comprehensive table that includes demographic, social, and comorbidity data that can be used to estimate the number of individuals impacted by a public health emergency

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Needs:

- Access to national-level demographic data by geographic location

Epidemiological Studies

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Objective: Expand CFA's data network for investigating trends and monitor emerging health threats

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Needs:

- Indirect access to large-scale (millions), de-identified U.S. patient medical records
- Analysis of records to detect, monitor, and characterize emerging infectious and non-infectious threats and trends

Data Scientist Support

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Requirement: quantitative analyses, data science, data engineering, epidemiological modeling and other relevant support, for modeling and forecasting public health response data

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Needs:

- Provide staffing support to CFA in the areas above – modelers, software developers with modeling experience, cloud and data engineering
- Able to surge support during emergencies
- Interface tightly with CFA staff and other contractors as needed

Training Support

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Requirement: Design a comprehensive training program for CFA staff that covers infectious disease modeling, data science, and applied large-scale cloud computing; provide regular training events

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Needs:

- Provide training program management including curriculum development
- Support staff assessment on key skills across multiple competencies
- Deliver trainings at regular events and provide recorded video archives of presentations and training materials

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Link to where the contracts will be posted:

https://sam.gov/content/opportunities

Industry Partners Can Help Advance CFA's Mission

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- Support public health response capabilities through enabling technology driven approaches, like advanced analytics and outbreak forecasting
- Support updated public health data authority allowing CDC to support decisions at the federal, state, and local levels
- Support operational and workforce authorities to ensure CDC can rapidly respond to urgent public health needs

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Questions:

CFA@cdc.gov

For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.