CDC Foundation
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ILLINOIS PUBLIC HEALTH INSTITUTE

FORECASTING AND MODELING LISTENING SESSIONS

Summary of Key Takeaways

PREDICT

Modeling and Forecasting

- Evaluate and emulate, as appropriate, existing forecasting models such as weather and flu modeling.
- Implement an integrated systems approach such that there is coordination across modeling centers and incentives are aligned.
- Prior to data collection, intentionally match the question at hand and approaches to and sources of collecting data.
- Clarify modeling targets and goals to all relevant stakeholders.
- Model and forecast at both individual and population-based levels.
- Communicate assumptions and limitations to those utilizing the forecasts.

Infrastructure

- Utilize existing tools and resources related to modeling and forecasting while growing the academic and workforce support.
- Offer workshops whereby modelers and front-line public health officials come together to learn from one another.
- Implement a data lake and a system that links laboratory and electronic medical record (EMR) data.
- Make short- and long-term investments in a more robust informatics workforce and maintain these investments and the Center's capacity and readiness even when there are no major events or crises. Prioritize operations.

Data Collection and Accessibility

- Collect local-level data as they could offer guidance into new threats.
- Feed data back to communities, so communities understand the value of providing data.
- Evaluate what policies need to be changed to allow for increased access and data connectivity.
- Collect data on variables related to social determinants of health.
- Enforce a national standard for data reporting including minimum data sets and definitions, to improve data access and sharing.

Real-Time and Granular Data

- Obtain disaggregated and state and local-level data.
- Include human behavior and feedback loops into modeling for infectious disease dynamics. Create clusters with metagenomic and genomic data to better understand the relationship of individual transmissions.
- Report preliminary data without revisions to reduce latency.
- Build modeling systems to include early noise and bias.

COVID-19 and Other Diseases

- Analyze what COVID-19-related policies have been effective in minimizing transmissibility, severe illness, death and inequities and apply these policies to other infectious and non-infectious diseases.
- Address challenges of non-compliant individuals.
- Collaborate across sectors to understand vector-borne and other zoonotic diseases.
- Maintain pooled testing capacity.

Surveillance

- Integrate routine surveillance in the United States and globally, including genetic, serological, active and sentinel surveillance to help with case follow-up.
- Integrate modeling into existing surveillance programs.

CONNECT

Partnerships

- Implement a systematic approach to partnering with peer organizations and having structured relationships; maintain these relationships outside of "peace" times.
- Implement a nationwide collaborative and/or advisory committee with key stakeholders.

Data Sharing

- Standardize data use agreements.
- Address legal and privacy issues related to data sharing.
- Integrate platforms for ease of data sharing.

INFORM

Communications

- Prioritize communications including to the public.
- Maintain ongoing dialogue among stakeholders and between public health, including communications on processes and uncertainty.
- Establish dedicated roles for communicators to interface between data modelers, decision makers and other stakeholders.
- Provide basic graphics and visuals that are easily digestible to the public.
- Involve local community members in the translation of the data for local consumption.
- Keep in mind the potential politization of data.
- Keep in mind who is asking the questions and why.
- Create and host a peer-reviewed journal related to forecasting and modeling.