SEAN

Societal Experts Action Network

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Data for Decision Making

- Decisions have to be made
- No perfect data – all types have strengths and limitations
- Understanding strengths and limitations can help policy makers to choose the right data tool(s) for the problem at hand
- Combinations of data often provide the most comprehensive and nuanced understanding.

This SEAN Report considers:

7 Common Types COVID-19 Data

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5 Criteria for Evaluating Them

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7 Data Types

1. **Number of confirmed COVID-19 cases**.

2. Hospitalizations: Measures strain on hospitals and #severe cases.

3. **ER visits**: Measures patient-initiated care and #people with symptoms.

4. **Reported confirmed COVID-19 deaths**.

5. **Excess Deaths compared to a similar time period**: Measure of all deaths related to COVID-19.

6. **Fraction positive viral tests**: Used to estimate total #infected

7. **Representative prevalence surveys**: Estimate #with current or past infections.

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5 Criteria for Evaluating Data

1. Representativeness

- Does the reporting population represent the population of interest? (e.g. if some do not have access to testing, then statistics based on tests will not represent them)
- Are groups of special concern (e.g. those most at risk such as communities of color) adequately covered?

2. Bias

- Are there systematic factors that could cause the values reported to be overestimates or underestimates of the actual values? (Confirmed vs. all COVID-19 deaths).
- Is there a difference between what is reported and what one wants to measure? (e.g. fraction of positive tests vs. prevalence).

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Criteria for Evaluating Data

Uncertainty, Sampling, and Measurement Error

- Do small sample sizes cause unstable numbers? (e.g. death rates in small counties)
- Have people been measured twice? (e.g. people with multiple tests)
- Do tests produce accurate results? (false negatives/false positives).

Timeliness

- Is there a time lag in reporting the numbers?
- Are the numbers consistently updated, or are there time gaps in delivery of the data? (e.g. less reporting of deaths on weekends)
- Do time lags differ across sources? (e.g. some counties may report death data more quickly than others).

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Criteria for Evaluating Data

Space (Geographical Coverage)

- Do the numbers cover all geographic areas of interest?
  - E.g. areas without testing may effectively be excluded from testing data.
- Are areas of particular concern covered?
  - E.g. communities of color, areas with limited hospital resources.
- Do all areas use the same measurement and classification system?
  - E.g. including probable COVID-19 deaths, vs. only certified COVID-19 deaths.
- Do the indicators count persons outside the given jurisdiction?
  - E.g. if people cross county lines to get tested/hospitalized.

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