Impact of the COVID-19 Pandemic on National Center for Health Statistics Data Collections

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FCSM 2021 Research and Policy Conference

November 2, 2021

Public Health Data Systems

- Surveillance and survey data track major life events such as births and deaths, disease distribution, and health care utilization.
- Various data systems track different aspects of COVID-19.
  - See CDC COVID Data Tracker[1]
- Examples of COVID-19 data:
  - Cases from notifiable infectious disease systems
  - Deaths from vital statistics systems
  - Hospitalizations from 6000+ hospitals compiled in the Unified Hospital Time-Series Dataset

[1] www.cdc.gov/coronavirus/2019-ncov/cases-updates/index.html

Sampled In-Care Data

- To understand the epidemiology of COVID-19 among in-care populations, more in-depth information is needed.
- Collecting representative sampled data is a necessary alternative.
- For example:
  - Claim and electronic health record data are gathered from a national sample of hospitals in the National Hospital Care Survey.
  - Multi-modal surveys of a national sample of adult day services centers and of residential care communities in the National Post-Acute and Long-Term Care Survey.

Sampled Household Data

- Many individuals with COVID-19 can be asymptomatic or exhibit mild symptoms, many Americans may be undiagnosed.[1]
- To more fully understand the epidemiology of COVID-19,
  - A national sample survey with the capacity to conduct antibody tests, like the National Health and Nutrition Examination Survey, can provide information on diagnosed and undiagnosed COVID-19 cases.

[1] Kalish H et al. Undiagnosed SARS-CoV-2 seropositivity during the first 6 months of the COVID-19 pandemic in the United States. *Sci Transl Med*. 2021. https://doi.org/10.1126/scitranslmed.abh3826

COVID-19's Impact on NCHS Data

- These systems of health data collection aim to track different aspects of COVID-19 to meet data needs of diverse users.
- Due to COVID-19 safety concerns, public health data collection and processing were disrupted.
- In this session, representatives from NCHS discussed:
  - How COVID-19 affected their operations
  - What modifications were made in response to the pandemic

Addressing Data Quality

- While each NCHS program took unique approaches to modify their protocols, all addressed key dimensions of data quality:
  - Accuracy and consistency
  - Timeliness
  - Efficiency and burden
  - Relevance

Data Accuracy and Consistency

- Early in COVID-19, NCHS survey operations entailing in-person interactions were switched, where feasible, to phone/online interviews.
  - In-person data collection resumed after safety measures were instituted and in areas with low concentrations of COVID-19 cases.
- Efforts were made to minimize disruption and track impact of switching data collection modes on accuracy, consistency and completeness.
  - Assessing the effect of phone contacts on response rates and bias in the National Health Interview Survey (NHIS)

Timely Data Dissemination

- Where possible, some NCHS programs took unprecedented steps to release preliminary data before the release of official data files.
  - NCHS provided preliminary data on their COVID-19 dashboard for a subsample of hospitals that report to the National Hospital Care Survey.

Data Efficiency and Burden

- Due to expected delay in releasing NHIS data files during the pandemic, NCHS turned to a new online data collection platform.
  - The Research and Development Survey produced experimental estimates about COVID-19 relatively quickly.
  - NCHS partnered with the Census Bureau to include COVID-19-related content on the new Household Pulse Survey.[1]
    - Online data collection is less costly to administer and may be more convenient for respondents.

[1] www.census.gov/data/experimental-data-products/household-pulse-survey.html

Data Relevance

- Timely changes were made to NCHS surveys to replace less-prioritized content with new COVID-19–related items to monitor the pandemic.
  - National Health and Nutrition Examination Survey added new COVID-19–related items.
    - Most notably, antibody testing to produce national estimates on natural COVID-19 infections and on vaccine-induced immunity
  - National Health Care Surveys included new items about health care providers' experiences during the pandemic.
    - Telemedicine, personal protective equipment, and knowledge about fellow providers/staff testing positive for COVD-19

Conclusion

- NCHS data programs have demonstrated agility, resilience, innovation, and commitment in their efforts to meet their mission,
  - Incorporating new COVID-19–related items to monitor the pandemic
  - Implementing new data collection, processing, and dissemination plans to release data in an even more timely manner
- As more data become available, NCHS can further examine:
  - Impact of changes made to its data systems on data quality
  - Extent and impact of COVID-19 on the health of the nation

Thank you!

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