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

Denys T Lau, PhD
Senior Science Advisor
Division of Health and Nutrition Examination Surveys
National Center for Health Statistics

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

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](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.

Data Relevance

- Timely changes were made to NCHS surveys to replace less-prioritized content with new COVID-19–related items to monitor the pandemic.
    • 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 COVID-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!

Contact information:

Denys T Lau
wyr1@cdc.gov