SOCIOECONOMIC DATA IN CROSS-DISCIPLINARY INFECTIOUS DISEASE RESEARCH

An introduction to resources from the BeYond-COVID (BY-COVID) project

Relevance of socioeconomic data for infectious diseases analysis and management

Amid the COVID-19 pandemic, various studies have demonstrated the profound influence of socioeconomic factors on the impact and spread of infectious diseases. An essential aspect of understanding the relationship between socioeconomic factors and health outcomes lies in the direct integration of socioeconomic data with health data. This integration provides crucial insights into how social disparities intersect with health disparities, ultimately influencing the effectiveness of public health interventions.

Examples of "health relevant" socioeconomic data include information from the Eurobarometer surveys concerning attitudes to COVID-19 vaccinations, or on behaviour during epidemic restrictions, as measured in the German GESIS Panel. CESSDA ERIC has provided researchers with information about COVID-19 specific resources from the CESSDA consortium and other relevant sources since the outbreak of the pandemic. CESSDA ERIC is participating in the BY-COVID project.

What is the BY-COVID project

The goal of the BY-COVID project is to facilitate access to COVID-19 and other infectious disease related (meta)data for scientific purposes, while ensuring accessibility to a broader audience, including medical professionals, government officials, and individuals in NGOs. The project establishes a framework to ensure that extensive data is made available under FAIR conditions at the European level. This involves the development of tools for storage, sharing, access, analysis, and processing of research data. Several activities co-organised by CESSDA Service Providers offer useful opportunities and resources with regards to socioeconomic data. Although BY-COVID is wrapping up in 2024, the data tools and resources developed will persist and remain accessible.

Detailed information can be found at:

BY-COVID

cessda

What services does BY-COVID provide, and how can you use them?

BY-COVID addressed challenges related to legal, organisational, and technical aspects of accessing and transferring data across diverse research domains. This was achieved by creating tools and platforms that facilitate multidisciplinary collaboration in data access and management, effectively addressing these obstacles.

FAIRsharing is a cross-disciplinary resource that maps and interlinks databases, standards and policies. The BY-COVID FAIRsharing Collection contains over 70 data sources including socioeconomic data, health and clinical data, images, genomic and phenotypic data and chemical biology, along with the standards used to describe the data.

Socioeconomic data are discoverable in the COVID-19 Data Portal. Currently more than 1100 Social sciences & humanities (SSH) data sets are included. You can search through metadata, for example, if you search for the term 'vaccination', the Portal will return dozens of data sets in the SSH section. The Portal links to the original repository that disseminates the data. CESSDA Service providers (KNAW-DANS, TAU-FSD, EKKE) in the context of BY-COVID have been working on the integration of socioeconomic data under the COVID-19 Data Portal. Primary sources for ingesting metadata in the COVID-19 Data Portal are the CESSDA Data Catalogue and European University Institute COVID-19 Knowledge Hub, recently the Dutch COVID-19 Metadata Portal has been integrated.

Infectious Diseases Toolkit

Another important source is the Infectious Diseases Toolkit (IDTk) bringing together tools and best practices for working with infectious disease data. IDTk includes a section on socioeconomic data developed by CESSDA.

Other tools and sources as follows:

- Training resources including materials on FAIR data sharing
- BY-COVID citizen engagement: an educational toolkit on data sharing for pandemic preparedness
- WorkflowHub: a registry for describing, sharing and publishing scientific computational workflows
- RO-Crate (Research Object Crate): a community effort to establish a lightweight approach to packaging research data with their metadata
- Pathogen Data Hubs: a set of tools that includes workflows for structured data storage and sharing of sequencing data and its analysis interpretations
- COVID-19 Disease Map: a knowledge repository of molecular mechanisms of COVID-19

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