

# Sentinel's SUMMER ISSUE



**Sentinel System Key Database Statistical Information and Updates:**

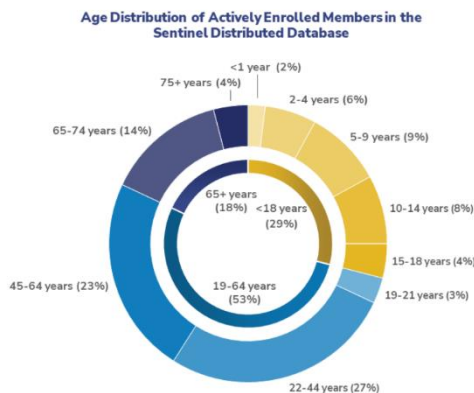
Review Changes to Various Key Database Graphics



**Targeted Learning with an Undersmoothed Lasso Propensity Score Model:**  
For Large-Scale Covariate Adjustment in Healthcare Database



**Opportunities and Challenges in the Use of Large Language Models:**  
New Webinar in the Sentinel Innovation Seminar Series



**2024 Sentinel System Key Database Statistics and Updates:**

Each year, Sentinel refreshes its Key Database Statistics to highlight changes in the patient characteristics of the Sentinel Distributed Database. Graphics are used to visualize the composition of the Sentinel System and display the data from our contributing Data Partners that are used to assess the safety of approved

medical products. These data are routinely gathered through the use of a distributed

program that is run following the approval of each data refresh. Further information can be found on the Sentinel website link [here](#).

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### **Targeted Learning with an Undersmoothed Lasso Propensity Score Model for Large-Scale Covariate Adjustment:**

This manuscript recently published in the American Journal of Epidemiology describes a project led by Richard Wyss, PhD from the Sentinel Innovation Center. The paper focuses on the use of Lasso regression for large scale Propensity Score (PS) estimation in healthcare database studies. Further information can be found on the Sentinel website link [here](#).

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## **Engage with the Sentinel Community**

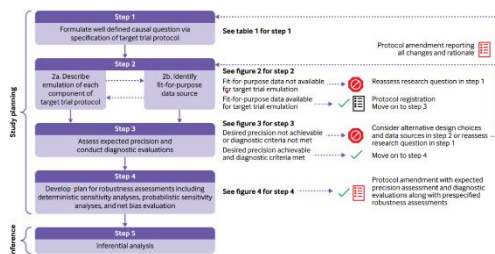
### **The 2024 Sentinel Innovation and Methods Seminar Series**

The Innovation and Methods Webinar Series is hosted by the Innovation Center (IC) and serves as a platform to engage with experts and innovators around topics related to the IC strategic priorities. The latest information on upcoming webinars will be made available on the Sentinel Website.

Follow the steps below to access the most recent and upcoming webinars series:

1. Go to the [Sentinel Initiative](#) website homepage.
  2. On the homepage, click on the top bar menu option: [News & Events](#).
  3. Click on the [Meetings, Workshops, & Trainings](#) tab located on the left vertical menu bar.
  4. The Meeting, Workshops & Trainings page displays details for a variety of events, trainings, and webinars.
  5. Access webinars information and materials within the [2024 Sentinel Innovation and Methods Seminar Series](#) page.
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### **Sentinel Public Webinars**

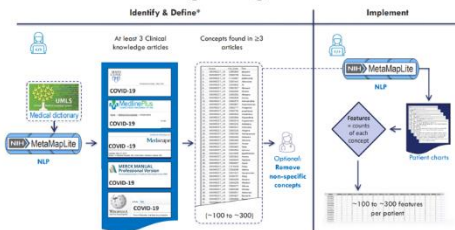


## **A Process Guide for Inferential Studies Using Healthcare Data to Evaluate Causal Effects of Drugs (PRINCIPLED)**

On February 29, 2024, Dr. Rishi Desai delivered a presentation on inferential studies using healthcare data to evaluate causal effect. The presentation introduced a stepwise process covering the range of considerations, including 1) Formulating a causal question, 2) Describing the emulation of each component of the protocol, 3) Assessing expected precision and diagnostic evaluations, 4) Planning the assessment, and 5) Completing Inferential analyses, to foster a generation of reliable and reproducible evidence.

[Learn more >>](#)

## **Automated Feature Engineering**



## **Data-driven Phenotyping Algorithms for Acute Health Conditions: Applying PheNorm to COVID-19**

On March 25, 2024, Dr. Joshua Smith presented on automated phenotyping algorithms that can reduce development time and operator dependence compared to manually developed algorithms. One such approach, PheNorm, has performed well for identifying chronic health conditions, but its performance for acute conditions is largely unknown. We evaluated PheNorm applied to symptomatic COVID-19 disease to investigate its potential feasibility for rapid phenotyping of acute health conditions.

[Learn more >>](#)

## **Sentinel Community Building and Outreach Center (CBOC) Training Series**

### **CBOC INFORMATIONAL VIDEOS**

The Sentinel Community Building and Outreach Center has created informational videos to provide on-demand resources to become more familiar with Sentinel. Click below to learn more about two recently released videos.



**MAJOR MOMENTS** details the evolution of Sentinel as a national resource, starting from the Mini-Sentinel pilot in 2009 to Sentinel today.

[Click here to watch the video.](#)



**THE SENTINEL USERBASE** highlights various groups of stakeholders that can use Sentinel as a resource to inform their work.

[Click here to watch the video.](#)



**EHR vs. CLAIMS:** CBOC explores how claims and EHR data may be used to address different dimensions of a scientific question or problem. This video details the limits and strengths of each identified resource and how they both affect the outcomes of scientific studies.

[Click here to watch the video.](#)



**MACHINE LEARNING IN DISTRIBUTED DATA NETWORKS:** This video discusses how access to larger amounts and more complex types of electronic health data in distributed data networks like the FDA Sentinel System has created a growing interest in the use of data-adaptive machine learning techniques.

[Click here to watch the video.](#)



For more meetings, workshops, trainings, and events, [click here!](#)

## [SENTINEL SYSTEM MEETINGS, WORKSHOPS, AND TRAININGS](#)



**SENTINEL VIEWS** is a data visualization application designed to increase comprehension of the Sentinel System study results. It has been integrated into the existing Sentinel querying and reporting infrastructure, to support the work of the Sentinel System. The Sentinel Views web graphics are interactive and help to visualize results. The tool also includes a public facing dashboard accessible to the general public.

[Click here to watch the video.](#)



Tell us what you want to see more of. **Select an option below!**

Select an option below.

[Spotlight: 2024 Key Database Statistics](#)

[Highlight: Targeted Learning with an Undersmoothed Lasso Propensity Score Model](#)

[Engage with Sentinel Training Section](#)

[New Analytic Packages, Methods, Data, and Tools Project](#)

[Recent Reports, Publications, and Presentations](#)

### [New Methods, Data, and Tools](#)

Validity of Inpatient Electronic Health Record-Based Measures of Oxygen-Related Therapy in the United States: Lessons Applicable for Studying COVID-19 Endpoints

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Risk of Arterial and Venous Thrombotic Events Among Patients with COVID-19: A Multi-National Collaboration of Regulatory Agencies from Canada, Europe, and United States

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smdi: An R Package to Perform Structural Missing Data Investigations on Partially

Drug Safety Surveillance with EHR Data: A Promise Not Yet Fulfilled

Observed Confounders in Real-world Evidence Studies

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For new analytic packages, methods, data, and tools projects, [click here!](#)

### Recent Documents, Presentations, and Publications

COVID-19 Pandemic Related Changes in Healthcare Utilization Among Insured Persons in the US and its Impact on Pharmacoepidemiologic Research

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Monitoring of Safety and Effectiveness of COVID-19 Therapeutics: Aim 1 Protocol Development

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Characterization of COVID-19 Genomic Data in Sentinel Distributed Database

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Medical Literature and Cannabis Use

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