

Implementation of Signal Detection Capabilities in the Sentinel System

Bethesda Hyatt Regency • Bethesda, MD

December 3, 2018

Description: To continue advancing and modernizing the Sentinel System's data infrastructure for postmarket safety surveillance, the U.S. Food and Drug Administration is seeking broad stakeholder input on the landscape of methodological approaches for signal detection, as well as the opportunities and challenges to implement these approaches in Sentinel System's distributed data network. Discussion will also consider key governance and operational needs for implementing signal detection tools in a hypothesis free environment. Stakeholder input received at this workshop will further inform the Agency's thinking around these priority issues and support strategic planning in the Sentinel System.

8:30 a.m. Registration

9:00 a.m. Welcome and Introductions

Mark McClellan, Duke-Robert J. Margolis, MD, Center for Health Policy, Duke University
Gregory Daniel, Duke-Robert J. Margolis, MD, Center for Health Policy, Duke University

9:10 a.m. Presentation: Signal Identification in the Sentinel System: Past, Present, and Future

Michael Nguyen, U.S. Food and Drug Administration

Presentation: Integrating Signal Identification into FDA's Pharmacovigilance Framework

Monica Munoz, U.S. Food and Drug Administration

9:45 a.m. Session I: Statistical Considerations for Implementing Signal Identification in the Sentinel System

Objective: This session will explore key statistical considerations to implement signal detection tools in the Sentinel System, including issues surrounding data-reuse. The session will begin with a framing presentation by FDA. Panelists representing key stakeholder perspectives will further explore statistical considerations and discuss how signal detection capabilities could be operationalized in Sentinel. Discussion will seek to identify opportunities for how FDA could develop transparent and collaborative processes for selecting and developing signal detection methodologies.

Moderator: Mark McClellan

Presentation: Key Statistical Considerations for Implementing Signal Identification in the Sentinel System

Mark Levenson, U.S. Food and Drug Administration

Panelist: *Darren Toh, Harvard Medical School*

Panelist: *Juhaeri Juhaeri, Sanofi*

Panelist: *Mary Beth Ritchey, RTI International*

Panelist: *Simone Pinheiro, U.S. Food and Drug Administration*

11:00 a.m. **Break**

11:15 a.m. **Session II: Effectively Communicating Sentinel Signal Identification Information**

Objective: This session will focus on the communication of signal detection results to stakeholders. Given the potential for result uncertainty with signal detection analyses, policies will be needed to ensure clear lines of communication between FDA and key industry stakeholders along with processes to ensure effective dialogue around potential regulatory actions.

Moderator: Gregory Daniel

Presentation: Potential Processes for Communicating Result Uncertainty

Theresa Toigo, U.S. Food and Drug Administration

Panelist: *Stephen Evans, The London School of Hygiene & Tropical Medicine*

Panelist: *Joanne Waldstreicher, Johnson & Johnson*

Panelist: *Mary Frances Schubert, Merck & Company, Inc*

Panelist: *Diana Zuckerman, National Center for Health Research*

12:30 p.m. **Lunch**

1:30 p.m. **Session III: The Landscape of Signal Detection Approaches for Longitudinal Data**

Objective: A landscape presentation will provide an overview of select signal detection methods and orient the audience to key differentiating and shared features. This presentation will be followed by a series of focused presentations on existing methods and a discussion of the strengths, limitations and readiness for implementation in a distributed data environment.

Moderator: Gregory Daniel

Presentation: Landscape Overview of Signal Detection Techniques

Martin Kulldorff, Harvard Medical School and Brigham and Women's Hospital

Signal Detection Approach 1: *Judith Maro, Harvard Medical School and Harvard Pilgrim Health Care Institute*

Signal Detection Approach 2: *William DuMouchel, Oracle*

Signal Detection Approach 3: *Martijn Schuemie, Janssen Research & Development*

Signal Detection Approach 4: *Niklas Norén, Uppsala Monitoring Centre*

2:45 p.m. **Break**

3:00 p.m. **Session IV: Stakeholder Views on Implementing Signal Identification in the Sentinel System**

Objective: Stakeholders will provide their feedback and comments on the signal detection approaches presented in the previous session. The goal of this session is to solicit broad stakeholder feedback on the opportunities and challenges with implementing these approaches. A panel of reactors will provide initial comments that will lead into moderated discussion with the audience.

Moderator: Mark McClellan

Panelist: Andrew Bate, Pfizer Inc.

Panelist: Kenneth Hornbuckle, Eli Lilly and Company

Panelist: Miriam Sturkenboom, University Medical Center Utrecht

Panelist: Jennifer Nelson, Kaiser Permanente Washington Health Research Institute

Panelist: William Crown, OptumLabs

4:15 p.m. **Closing Remarks**

4:30 p.m. **Adjourn**