

Experiences with INDICATOR: A Platform for Multi-source Monitoring, Modeling, and Responding to Changes in the Health of a Community; Human, Animal, and Environmental

Ian Brooks

*National Center for Supercomputing Application
University of Illinois at Urbana-Champaign*

INDICATOR is a platform for monitoring, modeling, and responding to changes in the health of a community; human, animal, and environmental. It has been operational since 2008 and was used by local public health authorities to successfully change their vaccination strategy during the 2009 H1N1 pandemic. INDICATOR is currently receiving data from multiple diverse sources, such as hospital emergency rooms, patient advisory nurses, school attendance offices, animal control, and the state climatologist. By combining multiple data types and sources, INDICATOR provides early detection of unusual events, but it will eventually go beyond simply detecting the signal to providing tools for public health officials to investigate and respond to the event. These tools will enable collaboration, support visual analysis of the current and historical events, and include the capability to model unusual events and their response to various control measures. With the spectrum of data types available within INDICATOR, it will become a resource for research on the relationship between different signals generated by different data types, and for the development of new detection approaches. These varied data types present significant challenges, however, both technical and social. This paper will discuss these challenges, the chosen solutions, their long and short term ramifications, and the lessons learned.