International Society for Disease Surveillance
ISDS Webinar Report

Multivariate Count Time Series Modeling of Surveillance Data

Michael Höhle, PhD – Leonhard Held, PhD

Date: Monday, September 19, 2016 at 12:00 - 1:30 pm ET

Slides and recording available at:
http://www.syndromic.org/events/isds-webinars/upcoming-recent/1067-webinar-multivariate-count-time-series-modeling

Presenter: Michael Höhle, Associate Professor, Department of Mathematics, Stockholm University, Sweden

Presenter: Leonhard Held, Prof. Dr., Department Chair, Epidemiology, Biostatistics and Prevention Institute, University of Zurich
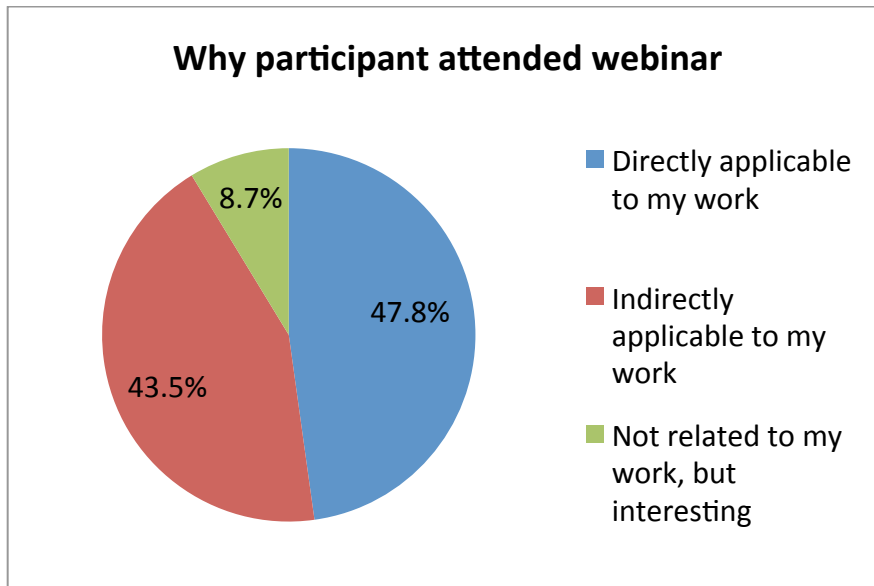
Description:
Surveillance data on various notifiable diseases usually consist of multiple time series of daily, weekly, or monthly counts of new infections. Data are typically reported in several strata defined through administrative geographical areas, gender and/or age groups. Statistical modeling of the resulting multivariate time series is an important task in infectious disease epidemiology. We will discuss time series models - specifically developed for multivariate surveillance count data - that can be used for two distinct roles, understanding and prediction of disease spread. We will describe such applications using the hhh4 model class in the open source R package surveillance.
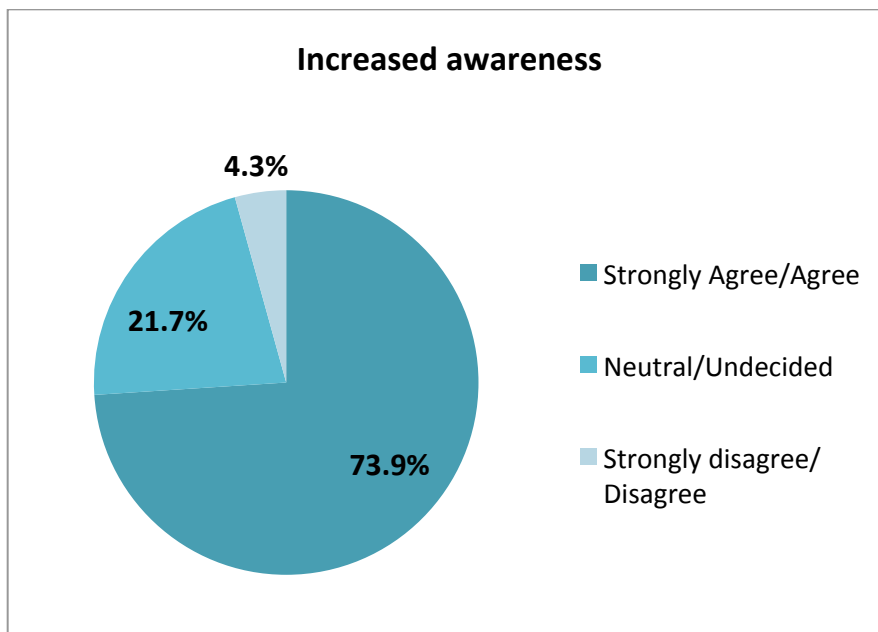
Attendance:

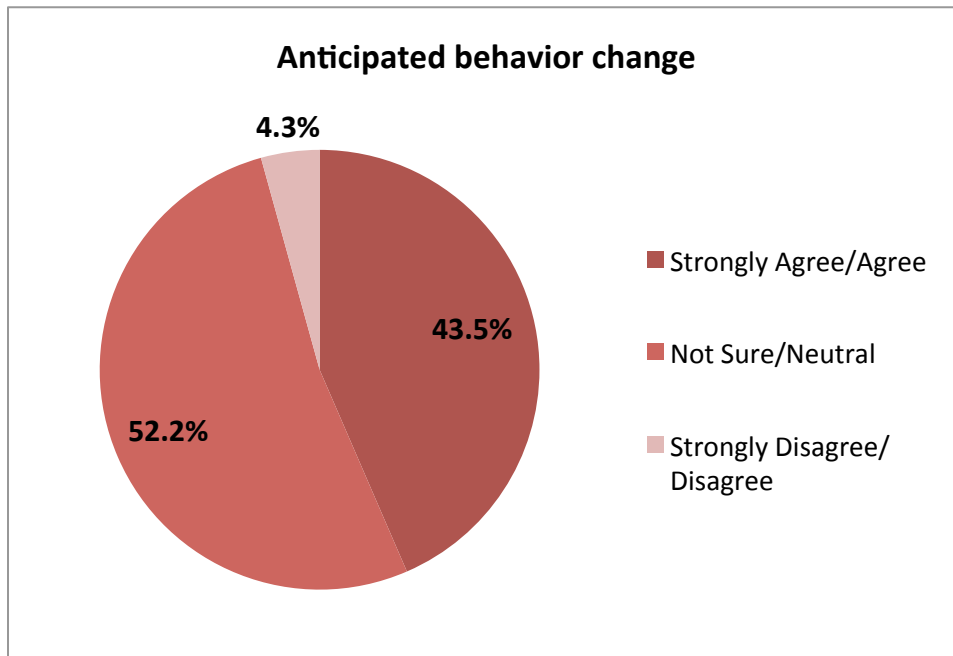|	# People
Registered for webinar	129
Attended (percentage based on # of registrants)	71 (55.0%)
Completed Exit Survey (percentage based on # of attendees)	23 (32.4%)

Post-Webinar Survey:

1. *I attended this webinar because the topic is: (check all that apply)*

Why participant attended webinar

- Directly applicable to my work — 47.8%
- Indirectly applicable to my work — 43.5%
- Not related to my work, but interesting — 8.7%

2. *I feel I have a better awareness and understanding of the webinar topic.*

Increased awareness

- Strongly Agree/Agree — 73.9%
- Neutral/Undecided — 21.7%
- Strongly disagree/ Disagree — 4.3%

3. I will consider changing how I do something as a result of this webinar.

Anticipated behavior change

4.3%

43.5%

52.2%

- Strongly Agree/Agree
- Not Sure/Neutral
- Strongly Disagree/ Disagree

4. This webinar met my expectations as an educational experience.

Educational utility

4.3%

8.7%

87.0%

- Strongly Agree/Agree
- Neutral/Undecided
- Strongly disagree/ Disagree
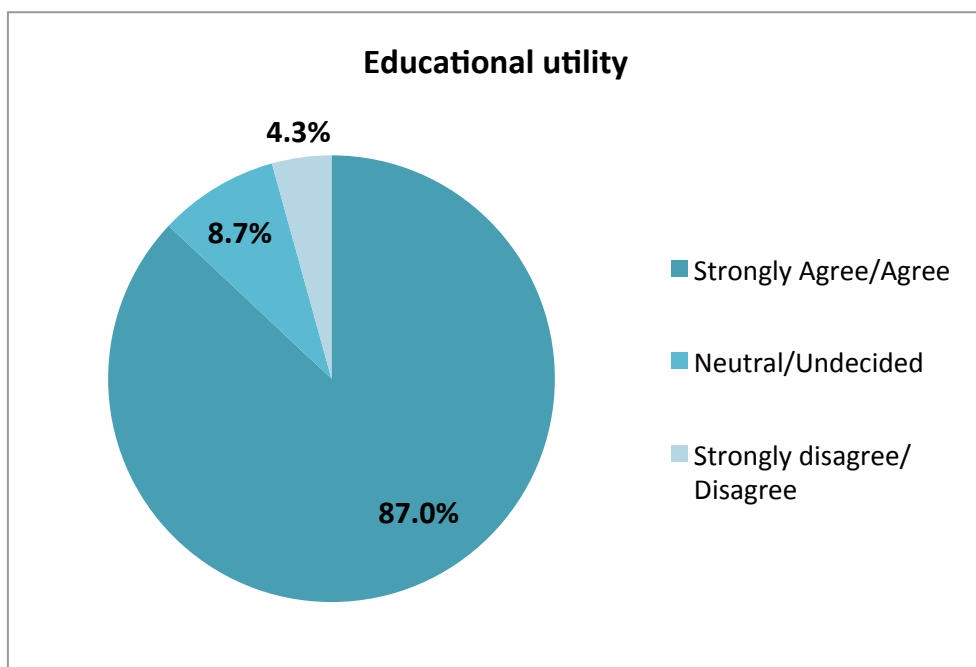
5. *This webinar provided usable ideas and/or techniques that I can integrate into my practice/research.*

Usable ideas/techniques

- Strongly Agree/Agree
- Neutral/Undecided
- Strongly Disagree/Disagree

4.3%
8.7%
87.0%
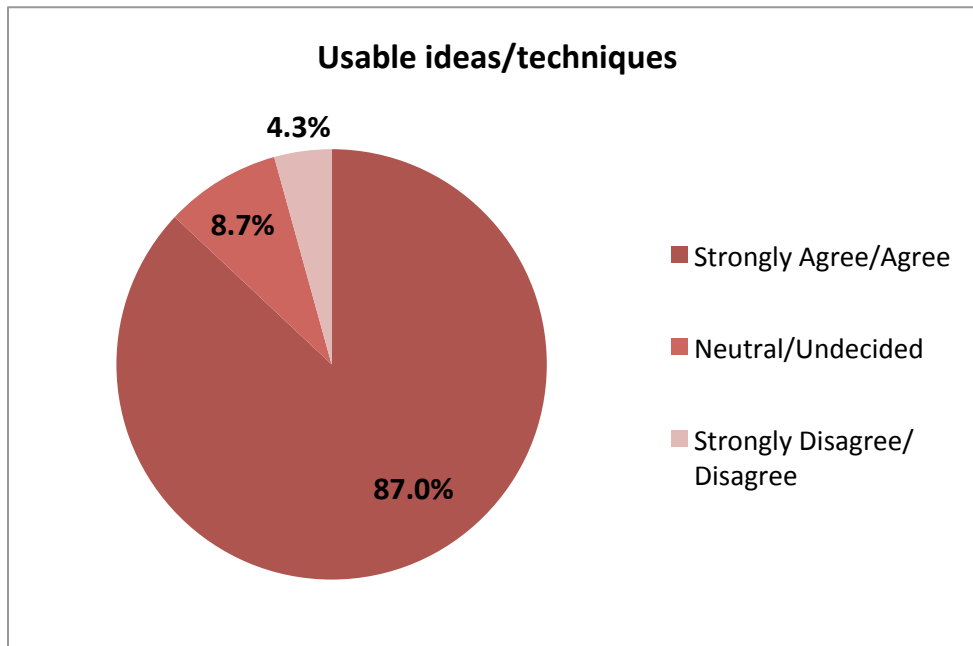
Do you have any additional feedback?

- Thank you
- That presentation was very informative and useful. As we gather more and more surveillance data, time-series modeling on count based surveillance data and identify anomalies become more and more valuable. However, majority of epidemiologists have never had such a training in school. I think time-series forecasting using surveillance data should be incorporated into future MPH Epi curriculum. Thanks for providing such a training opportunity. Look forward to receiving your slides so I can share with my teammates.
- This is an excellent webinar and provides very useful information to us working at local health departments.
- I quit after 20 minutes. Too technical, too much statistics.

For more information about ISDS:

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