

PURPOSE

The purpose of this hand-out is to guide you and your team through a syndromic surveillance classifier (or syndrome) evaluation process, as well as facilitate team work and peer-to-peer learning.

As a team, complete each task in sequence. The tasks are written for you to problem solve and learn from one another's expertise and knowledge. Your team should determine how you go about completing the work based on the instructions. Most importantly, have fun and enjoy this opportunity to discuss surveillance science and public health practice with one another.

OBJECTIVES

Evaluate your team's assigned classifier using BioSense Platform tools by completing the following tasks. At the end of this activity, each participant should be able to...

- 1. describe the classifier's scope and purpose,*
- 2. identify evaluation guidelines,*
- 3. describe the rationale for making or not making refinements, and*
- 4. possess a rudimentary ability to manipulate the tools and resources available on the BioSense Platform.*

ACTIVITY TASKS

1. Form your team.
 - a. Acquaint yourself with your new team members with (re)introductions (e.g. name, job/role, workplace, something about their syndromic surveillance system).
 - b. Read this entire document to ensure every team member knows what the team should accomplish during the activity.
 - c. Assign the following team roles.
 - *Operator* – responsible for projecting their desktop and running ESSENCE or other BioSense Platform application(s) for your team throughout the activity
 - *Recorder* – responsible for keeping notes on your team’s discussions and help share the team’s work with the other teams
 - *Reporter* – responsible for presenting your team’s findings to the other teams at the end of the activity
 - *Time keeper* – responsible for ensuring that the team is aware of the activity’s elapsed and remaining time
2. Define the **public health purpose** of surveillance using your assigned classifier/syndrome. Be sure to discuss and note the team’s discussion on each of the following:
 - a. The public health concern related to the opioid-crisis
 - b. The approximate likelihood that the syndrome is present in emergency department (ED) visit data
 - c. What added insight(s) may be gained by trends in this syndrome across shared inter-jurisdictional data
3. Define the **scope of syndromic surveillance** using the classifier on ED visit data. Be sure to discuss and note the team’s thoughts on each of the following:
 - a. Purpose or intention: The public health question(s) to be answered by the surveillance, and associated planned or possible action(s)
 - b. Relative priority of sensitivity versus specificity

- c. Time frame for surveillance and observation
 - d. Inclusions or exclusions to the data given the above; e.g., facility or visit types, etc.
 - e. Additional or supplementary data sources; e.g., EMS, 911, poison control center, etc.
- 4. Review your team's assigned classifier's definition and discuss the results that one might find when it is performed or queried against ED visit data.
- 5. Using BioSense ESSENCE, examine the classifier's performance and determine whether and how it might be refined for better performance. Suggestion: consider doing one or more of the following as time allows.
 - a. Execute the classifier as a query against the **CCQV dataset** and **shared workshop dataset**.
 - b. Review query results at line-level and in visualizations; e.g., time-series.
 - c. Roughly identify keywords that drive results by percentage of probable records captured per classifier terms or term combinations.
 - d. Gauge the proportion of suspect or probable syndrome-visits captured, or missed, by the classifier query.
- 6. If classifier's performance can be improved, make the appropriate component changes, and save and share it with your team using the BioSense ESSENCE *Query Manager*.
- 7. Discuss and note your team's thoughts on how the classifier should be used at local, state, regional and national levels. Be sure to identify and address interpretation differences at the different levels and document additional information needs to interpret the results.

8. Prepare a 5-minute report-out to share your team's key findings with the other teams. Assist your team reporter to prepare 1 or 2 slides that address the following questions:
 - a. What is your team's definition of the public health concern, and how does that relate to the classifier's surveillance scope and purpose?
 - b. Why did your team change or not change the classifier? If it was changed, how does it differ from where you started?
 - c. What caveats or other descriptors should accompany this classifier to help with the interpretation of results?
 - d. What public health action would your team propose from a surveillance signal?