

**ABSTRACT**

# Maryland ESSENCE expansion to incorporate prescription medication data

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**Objective**

The purpose of this paper is to describe Maryland’s process of enhancing its Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) by incorporating additional data sources such as prescription medication data.

**Introduction**

Maryland has a powerful syndromic surveillance system, ESSENCE, which is used for the early detection of disease outbreaks, suspicious patterns of illness, and public health emergencies. ESSENCE incorporates traditional and non-traditional health indicators from multiple data sources (emergency department chief complaints, over-the-counter (OTC) medication sales, and poison control center data).

Initially, 15 (30%) acute care hospitals in the National Capital Region and Baltimore Metro Region of the state were sending emergency department (ED) data to ESSENCE. DHMH began planning several years ago to increase the number of hospitals reporting to ESSENCE.

In 2007, Maryland’s Governor introduced a homeland security initiative that outlined 12 Core Goals for A Prepared Maryland. One of core goals was to improve biosurveillance and in 2009, Maryland successfully incorporated 100% (45) acute-care hospitals into ESSENCE. Maryland continues to enhance and improve ESSENCE by incorporating additional data sources such as prescription medication data.

**Methods**

First, Maryland contacted the agency which developed ESSENCE, to learn about what data and software developments needs to occur in order to add another data source into ESSENCE system. Next, Maryland started on efforts to obtain the prescription medication data.

Currently, there is only one state that collects prescription medication data for biosurveillance. Maryland contacted the state to learn more about how this process is setup in their state.

With the help of Board of Pharmacy, Maryland started to work with chain pharmacies that were already sending OTC data to ESSENCE to incorporate prescription medication and

**Table 1** List of surveillance medications

Amino-penicillins
Tetra-cyclines
Quinolones/Fluoroquinolones
Neuraminidase Inhibitors
M2 Inhibitors

an additional pharmacy that was participating in the State’s Antiviral purchase program. Although pursuing efforts to obtain data from pharmacies, Maryland learned that Center for Disease Control and Prevention (CDC) already receives prescription medication data from a third party vendor. Maryland contacted CDC and learned that CDC has data, which Maryland is seeking and is willing to share it with State.

**Results**

Currently, Maryland is in the process of working with its partners to incorporate the prescription medication data into ESSENCE. Maryland will have a fully automated system that creates alerts and allows near real-time surveillance on antivirals and prescription medications used to treat category A agents (see Table 1 above).

**Conclusion**

Maryland will be one of the first States to incorporate prescription medication data into its syndromic surveillance system. Addition of prescription medication into ESSENCE will make Maryland’s syndromic surveillance more robust and enhance its capability for early detection of outbreaks and public health emergencies. ESSENCE will continue to be a tool used for situational awareness and inform decision makers in Maryland. Lastly, the process of incorporation prescription medication has provided an opportunity for Maryland to collaborate with other partners and CDC.

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