

**Missouri Department of Health and Senior Services**  
**Public Health Event Detection and Assessment Program**  
***ESSENCE for Local Public Health Agencies***



***Q: What is ESSENCE?***

**A:** Electronic Surveillance System for the Early Notification of Community-based Epidemics (ESSENCE) software acquires and evaluates several data sources as an early indicator of infectious diseases or unusual clusters. Currently, ESSENCE’s main source of data is daily emergency department (ED) visits grouped into ‘syndrome’ categories based on chief complaints and diagnostic ICD-9-CM codes. This information is used to determine via statistical analysis if the number of visits is greater than expected for that facility or geographic area when compare to previously established data.

***Q: How often does DHSS receive electronic data from reporting sites?***

**A:** DHSS receives real-time data feeds from most facilities. Records are loaded into ESSENCE roughly the same time when they are processed by the facility.

***Q: What syndrome groups does ESSENCE analyze?***

**A:** The syndrome groups are Botulism-like, Fever, Gastrointestinal, Hemorrhagic, Neurological, Rash, Respiratory, and Shock/Coma.

***Q: How is ESSENCE used for early event detection?***

**A:** ESSENCE displays the number of ED visits in each syndrome category in any given day. The system will “flag” a syndrome group whose number of visits is significantly higher than the expected number when compared to historical data. The overall goal is to detect anomalies as early as possible in order to contain and/or prevent further effects of adverse health events, such as naturally occurring outbreaks or acts of bioterrorism.

***Q: How is ESSENCE used for situational awareness?***

**A:** ESSENCE is use to measure the severity of an adverse event on public’s health by monitoring number of counts over time, varying demographics and geographical regions. Examples of adverse events include heat-related illness, slips and falls during the winter, and tracking progress of known outbreaks.

***Q: How will using ESSENCE benefit local public health agencies?***

A: ESSENCE may be useful in numerous of ways. It can confirm findings from your existing surveillance system and/or aid you to conduct local situational awareness during public health events (i.e. power outages, known disease outbreaks). In addition, ESSENCE can be use as part of enhanced surveillance during the county fair, local tournaments, or other large gatherings of people to detect adverse health events as early as possible.

***Q: Are LPHAs responsible for monitoring ESSENCE on a daily basis?***

A: DHSS staff are responsible for daily ESSENCE viewing and communications. However, LPHAs are provided with ESSENCE access as well. This is to enhance their own disease tracking effort, and if needed in the future, to facilitate communications between DHSS, LPHA, and hospital staff regarding suspicious anomalies.

***Q: How often can I expect to hear from DHSS regarding a suspicious cluster?***

A: Individuals using ESSENCE for public health surveillance at the state level will make every attempt to resolve anomalies using DHSS resources. However, there will be occasions when it becomes necessary for DHSS to seek the expertise of a LPHA. LPHA staff may simply be asked to view ESSENCE and give an opinion about its findings, contact their local hospital, or undertake an investigation.

***Q: Which hospitals participate in ESSENCE?***

A: A map of ESSENCE participating hospitals can be found at [http://www.dhss.mo.gov/ESSENCE/Missouri\\_ESSENCE\\_Map.pdf](http://www.dhss.mo.gov/ESSENCE/Missouri_ESSENCE_Map.pdf). This includes facilities in both Missouri and Illinois.

***Q: How much information on residents and/or hospitals is included in ESSENCE?***

A: Hospital name and location are included in ESSENCE. Patient-level data include age, sex, race, zip code, and county of residence as well as chief complaint and diagnosis information, however, personally identified data like name, address, and social security number are not included. The most uniquely identified data in ESSENCE is the medical record number.

***Q: How do I acquire ESSENCE?***

A: ESSENCE is entirely web-based, no software needs to be installed or site license to be obtained. After completing a DHSS Automated Security Access Processing (ASAP) Network Request Form Online, a limited number of users at each LPHA will be granted a username and password via email. Please become familiar with Missouri ESSENCE policies and procedures (<http://www.dhss.mo.gov/ESSENCE/PoliciesProcedures.pdf>) before accessing ESSENCE.

***Q: What kind of data security is maintained by DHSS and within ESSENCE?***

A: Personal identifiers such as name, address, date of birth and social security number are not included in ESSENCE. Security is ensured during e-mailing, storage and use of ESSENCE data to protect the patient, the physician, and the facility's identity. DHSS aims to maintain a secure environment for the data and strongly urges everyone to keep usernames and passwords confidential and not share them.

***Q: What HIPAA issues should I be aware of as an ESSENCE user?***

A: These data are being transmitted for public health purposes and are covered under the reporting rule 19 CSR 10-33.040. ESSENCE data should be handled in the same manner as any other confidential information typically used in the LPHA setting (communicable disease, STD, other case reports).

***Q: Are there any other privacy issues I should be aware of?***

A: The reporting rule states that information specific to any patient, physician, or hospital should not be shared with individuals outside of public health. This means that care must be taken to not divulge this information during press conferences, conversations with media, public meetings, or in publications.

***Q: Will DHSS train new ESSENCE users?***

A: Yes, DHSS will provide self-study materials for new users, followed by on-site, in-person sessions or Adobe Acrobat web-based seminars. Additional policies and communication protocols can be found at the ESSENCE homepage.

***Q: Whom do I contact if I have questions?***

A: Missouri ESSENCE Team can be contacted at **573-522-8329** or **ESSENCE@dhss.mo.gov**.

Division of Community and Public Health  
Bureau of Communicable Disease Control & Prevention

Missouri Department of Health and Senior Services  
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