

**Missouri Department of Health and Senior Services
Public Health Event Detection and Assessment Program
Missouri ESSENCE Policies and Procedures**



Updated May 1, 2009

The Public Health Event Detection and Assessment (PHEDA) program’s mission is to help state and local partners respond to adverse public health events by providing information and tools for early event detection and situational awareness. The following policies, procedures, and protocols have been developed to assure that this mission is accomplished. This document will be updated as PHEDA and all Missouri ESSENCE users encounter new challenges and opportunities along the way. Please contact us at ESSENCE@dhss.mo.gov for suggestions regarding this document.

By applying for Missouri ESSENCE access and logging into the system, users are agreeing to follow these policies, procedures, and protocols. Therefore, it is important to review this document carefully.

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Maintaining Confidentiality of Syndromic Surveillance Data	Document No.	ESSENCE 1	
	Effective Date		
	Revision Date		
	Revision No.		
	Page No.		
	Approval/Signed		
1.0	Purpose		
	1.1 The purpose of this policy is to assure that individuals accessing data collected under 19 CSR 10-33.040, the Reporting Rule, comply with confidentiality and privacy requirements.		
2.0	Revision History		
	Date	Revision No.	Modification
3.0	Persons Affected		
	3.1 Public health professionals employed by Missouri Department of Health and Senior Services (DHSS) who use syndromic surveillance data as part of their job description.		
	3.2 Missouri local public health agencies and other public health entities.		
	3.3 Patients, physicians, and health care providers whose data are obtained by the Reporting Rule (19 CSR 10-33.040).		
4.0	Policy		
	4.1 It is the policy of DHSS that all data gathered under the Reporting Rule are protected to avoid inappropriate disclosure of confidential information via personal communications or insecure networks.		
5.0	Definitions		
	5.1 <u>Syndromic surveillance</u> : Use of data from non-traditional sources (e.g., chief complaints from emergency department visits, absenteeism data, over-the-counter drug sales) in order to identify increases in predefined clinical syndromes of interest before the specific disease diagnosis is made and before the traditional case reporting occurs.		
	5.2 <u>ASAP</u> : Automatic Security Access Processing; an online network access request system maintained by DHSS.		
	5.3 <u>LPHA</u> : Local public health agency.		
	5.4 <u>Relevant personnel</u> : LPHA, DHSS, or hospital personnel that work with		

	<p>quality assurance, safety, and communicable disease control activities (e.g., surveillance, reporting, investigations) or personnel in charge of communications regarding communicable disease or related public health issues.</p> <p>5.5 <u>Authorized user</u>: Individual given permission to use ESSENCE by DHSS; this individual must be a public health authority or hospital representative using data to fulfill the public health mission.</p> <p>5.6 <u>Public Health Event Detection and Assessment Program</u>: Also called PHEDA, is the program that oversees syndromic surveillance at DHSS, including Missouri ESSENCE.</p>
6.0	<p>Responsibilities</p> <p>6.1 Authorized users who access confidential information collected under the Reporting Rule must ensure that data are not shared with individuals or organizations that are not fulfilling a public health mission. This includes intentional or unintentional sharing.</p> <p>6.2 Policy 2 addresses responsibilities regarding the ASAP Process and acquiring access to syndromic surveillance data via Missouri ESSENCE web site. Users will also be required to follow the security guidelines described in the ASAP process as maintained by DHSS.</p>
7.0	<p>Procedures</p> <p>7.1 Relevant personnel may apply to become an authorized user by completing an ASAP Request (Policy 2).</p> <p>7.2 ASAP requests are processed by ITSD and reviewed by a PHEDA representative. Once access is granted, the individual is contacted with password and username to be used when logging on to the system.</p> <p>7.3 Only authorized users may access ESSENCE.</p> <p>7.4 Once access is granted, authorized users must implement appropriate safeguards to assure the confidentiality of data (including patient, physician, and health care provider identity) during use, storage, and transmission of data. This security is maintained by accessing ESSENCE solely via secure data networks as defined by DHSS Information Technology Services Division (ITSD).</p> <p>7.5 Authorized users are responsible for implementing measures that prevent the unintentional sharing of downloaded data (on computers, disks, mass storage devices, etc.).</p> <p>7.6 ESSENCE users are not to e-mail files containing confidential information outside of a secure network. This security is best maintained by sharing internet-linked data rather than downloaded files.</p> <p>7.7 Care should be taken to not identify any patient, physician, or health care provider directly or indirectly during public meetings, press conferences, interviews with the media, academic meetings, or in publications.</p>

Missouri ESSENCE Access Process	Document No.	ESSENCE 2	
	Effective Date		
	Revision Date		
	Revision No.		
	Page No.		
	Approval/Signed		
1.0	Purpose		
	1.1 The purpose of this policy is to assure that appropriate personnel are granted access to the Missouri ESSENCE web site by using the ASAP Process.		
2.0	Revision History		
	Date	Revision No.	Modification
3.0	Persons Affected		
	3.1 Public health professionals employed by Missouri Department of Health and Senior Services (DHSS) who use syndromic surveillance as part of their job description.		
	3.2 Missouri local public health agencies.		
	3.3 Staff employed by hospitals that send data to DHSS under the Reporting Rule (19 CSR 10-33.040) who are responsible for infection control, quality assurance, disease investigation, or other relevant duties.		
4.0	Policy		
	4.1 It is the policy of DHSS that the Missouri ESSENCE web site should be available 24/7 to authorized users at an appropriate level of access for the purpose of using syndromic surveillance data to fulfill the public health mission.		
5.0	Definitions		
	5.1 <u>Syndromic surveillance</u> : Use of data from non-traditional sources (e.g., chief complaints from emergency department visits, absenteeism data, over-the-counter drug sales) in order to identify increases in predefined clinical syndromes of interest before the specific disease diagnosis is made and before the traditional case reporting occurs.		
	5.2 <u>ASAP</u> : Automatic Security Access Processing; an online network access request system maintained by DHSS used for the purpose of granting access to secure systems and designating user names and pass codes.		
	5.3 <u>LPHA</u> : Local public health agency.		

	<p>5.4 <u>Employee</u>: Any individual working under the direction of DHSS, a local public health agency, or other public health entity.</p> <p>5.5 <u>Supervisor</u>: The individual responsible for one or more employees who request access to state data such as an LPHA administrator or DHSS manager.</p> <p>5.6 <u>Relevant personnel</u>: LPHA, DHSS, or hospital personnel that work with quality assurance, safety, and communicable disease control activities (e.g., surveillance, reporting, investigations) or personnel in charge of communications regarding communicable disease or related public health issues.</p> <p>5.7 <u>Authorized user</u>: Individual given permission to use ESSENCE by DHSS; this individual must be a public health authority using data to fulfill the public health mission.</p> <p>5.8 <u>Public Health Event Detection and Assessment Program</u>: Also called PHEDA, is the program that oversees syndromic surveillance at DHSS, including Missouri ESSENCE.</p>
6.0	<p>Responsibilities</p> <p>6.1 Individuals who access confidential information collected under the Reporting Rule must ensure that data are not shared with individuals or organizations that are not fulfilling a public health mission.</p> <p>6.2 As part of the ASAP Process, the local security officer for the DHSS or LPHA employee must approve the request for ESSENCE access; for hospital employees, the program security officer (Public Health Event Detection and Assessment (PHEDA) Program Coordinator) is responsible for approving requests.</p> <p>6.3 It is the responsibility of the agency that employs an authorized user to notify us at ESSENCE@DHSS.MO.GOV when individuals no longer need access to ESSENCE <i>within five business days</i>.</p>
7.0	<p>Procedures</p> <p>7.1 Supervisors may direct relevant personnel to request ESSENCE access or may be contacted by their staff to ask for permission to request access by using the ASAP Process as administrated by ITSD at DHSS.</p> <p>7.1.1 Supervisors are encouraged to limit the number of users to between 1 and 4 individuals per organization; however, accommodations can be made for larger organizations.</p> <p>7.2 LPHA and DHSS staff should use the ASAP Process for public health professionals, accessed at: HTTP://WWW.DHSS.MO.GOV/ESSENCE/INFORMATION.HTML</p> <p>7.3 Staff from hospitals that send data to DHSS under 19 CSR 10-33.040 should use the ASAP Process for Private Providers, accessed at: HTTP://WWW.DHSS.MO.GOV/ESSENCE/ESSENCEHOSPITALS.HTML</p> <p>7.4 By completing the ASAP application, it is understood the user must maintain the confidentiality of the information observed while using ESSENCE.</p> <p>7.4.1 By completing the ASAP application, it is understood that the user will</p>

	<p>conform to all Missouri ESSENCE Policies and Procedures.</p> <p>7.5 A PHEDA representative will send e-mail to the authorized user with their unique username and password.</p> <p>7.5.1 Users may not share their username and password with others for any reason. Sharing of personal access information can lead to denial of further ESSENCE access due to strict confidentiality guidelines protecting patient-level data.</p> <p>7.5.2 It is the responsibility of the agency that employs an authorized user to notify us at ESSENCE@DHSS.MO.GOV <i>within five business days</i> when individuals no longer need access to ESSENCE.</p>
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Missouri ESSENCE Levels of Access		Document No.	ESSENCE 3										
		Effective Date											
		Revision Date											
		Revision No.											
		Page No.											
		Approval/Signed											
1.0	<p>Purpose</p> <p>1.1 The purpose of this policy is to assure that the appropriate level of access to the Missouri ESSENCE web site is granted based on job duties and affiliations.</p>												
2.0	<p>Revision History</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Date</th> <th style="width: 33%;">Revision No.</th> <th style="width: 33%;">Modification</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>				Date	Revision No.	Modification						
Date	Revision No.	Modification											
3.0	<p>Persons Affected</p> <p>3.1 Public health professionals employed by Missouri Department of Health and Senior Services (DHSS) who use syndromic surveillance as part of their job description.</p> <p>3.2 Missouri local public health agencies.</p> <p>3.3 Staff employed by hospitals that send data to DHSS under 19 CSR 10-33.040 who are responsible for infection control, quality assurance, disease investigation, or other relevant duties.</p>												
4.0	<p>Policy</p> <p>4.1 It is the policy of DHSS that the Missouri ESSENCE web site should be available to authorized users at appropriate levels of access for the purpose of using syndromic surveillance data to fulfill the public health mission. Currently, the two levels of access to be granted are statewide and hospital.</p>												
5.0	<p>Definitions</p> <p>5.1 <u>Syndromic surveillance</u>: Use of data from non-traditional sources (e.g., chief complaints from emergency department visits, absenteeism data, over-the-counter drug sales) in order to identify increases in predefined clinical syndromes of interest before the specific disease diagnosis is made and before the traditional case reporting occurs.</p> <p>5.2 <u>ASAP</u>: Automatic Security Access Processing; an online network access request system maintained by DHSS used for the purpose of granting access to secure systems and designating user names and passwords.</p> <p>5.3 <u>LPHA</u>: Local public health agency.</p> <p>5.4 <u>Relevant personnel</u>: LPHA, DHSS, or hospital personnel that work with</p>												

	<p>quality assurance, safety, and communicable disease control activities (e.g., surveillance, reporting, investigations) or personnel in charge of communications regarding communicable disease or related public health issues.</p> <p>5.5 <u>Authorized user</u>: Individual given permission to use ESSENCE by DHSS; this individual must be a public health authority using data to fulfill the public health mission.</p> <p>5.6 <u>Health care provider</u>: The hospital or other facility that sends electronic patient data to DHSS for the purpose of syndromic surveillance.</p> <p>5.7 <u>Hospital View</u>: In this view, data are limited to patient-level data for a given hospital or hospital system.</p> <p>5.8 <u>State View</u>: In this view, all patient-level data for all currently reporting ESSENCE hospitals in the state of Missouri are available to certain users.</p> <p>5.9 <u>Aggregate View</u>: This restriction allows hospitals to view statewide data at the summary level only, but without the ability to view information for other hospitals specifically.</p> <p>5.10 <u>Public Health Event Detection and Assessment Program</u>: Also called PHEDA, is the program that oversees syndromic surveillance at DHSS, including Missouri ESSENCE.</p>
6.0	<p>Responsibilities</p> <p>6.1 DHSS is responsible for determining what level of access to the Missouri ESSENCE web site is appropriate for LPHA staff, DHSS staff, and hospital staff.</p> <p>6.2 Responsibilities regarding the ASAP Process are outlined in Policy 2.</p>
7.0	<p>Procedures</p> <p>7.1 Statewide access will be granted to authorized users who are employed by DHSS or LPHAs.</p> <p>7.1.1 Statewide access comprises all available data for patient-level and aggregated views for all hospitals, counties, and zip codes included in Missouri ESSENCE.</p> <p>7.1.2 Data are patient-level but do not contain identifiable variables (e.g., name, address, social security number) but are considered private due to indirectly identifiable variables (medical record number, age, sex, zip code).</p> <p>7.2 Hospital-level access will be granted to authorized users employed by health care providers that send data to DHSS under the Reporting Rule (19 CSR 10-33.040).</p> <p>7.2.1 Hospital-level data will include patient-level data for the hospital or hospital group that employs the authorized user.</p> <p>7.2.2 Aggregated views visible at the hospital level are designed to protect the information submitted by each health care provider.</p>

ESSENCE Communications for Outages, Delays, and Technical Assistance Requests	Document No.	ESSENCE 4	
	Effective Date		
	Revision Date		
	Revision No.		
	Page No.		
	Approval/Signed		
1.0	Purpose		
	1.1 The purpose of this policy is to outline ways in which Missouri ESSENCE users and Public Health Event Detection and Assessment (PHEDA) Program Staff should communicate regarding outages, delays, technical issues, and general comments.		
2.0	Revision History		
	Date	Revision No.	Modification
3.0	Persons Affected		
	3.1 Public health professionals employed by Missouri Department of Health and Senior Services (DHSS) who use syndromic surveillance as part of their job description.		
	3.2 Missouri local public health agencies.		
	3.3 Staff employed by hospitals that send data to DHSS under the Reporting Rule (19 CSR 10-33.040) who are responsible for infection control, quality assurance, disease investigation, or other relevant duties.		
4.0	Policy		
	4.1 It is the policy of the PHEDA Program that communications regarding outages, significant delays, and technical issues related to the Missouri ESSENCE website will be via group e-mails to all affected parties via ESSENCE@DHSS.MO.GOV .		
5.0	Definitions		
	5.1 <u>LPHA</u> : Local public health agency.		
	5.2 <u>Authorized user</u> : Individual given permission to use ESSENCE by DHSS; this individual must be a public health authority or hospital representative using data to fulfill the public health mission.		
	5.3 <u>Public Health Event Detection and Assessment Program</u> : Also called PHEDA, is the program that oversees syndromic surveillance at DHSS,		

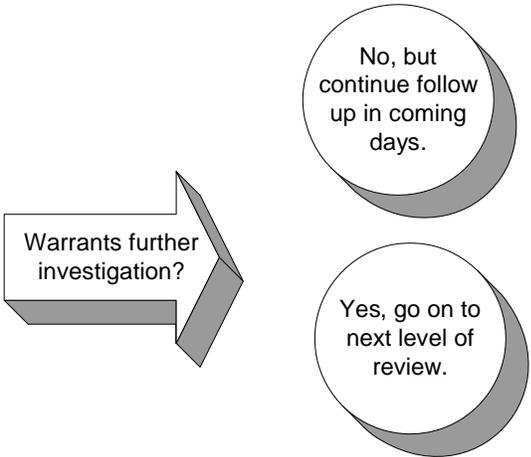
	including Missouri ESSENCE.
6.0	<p>Responsibilities</p> <p>6.1 The PHEDA Program is responsible for notifying Missouri ESSENCE users about outages, significant delays, and technical issues related to the Missouri ESSENCE website.</p> <p>6.2 Missouri ESSENCE users are encouraged to report outages or other technical problems found in the system to us at ESSENCE@DHSS.MO.GOV</p> <p>6.3 PHEDA is responsible for responding to e-mail sent to the ESSENCE@DHSS.MO.GOV address concerning the ESSENCE application in a timely manner.</p>
7.0	<p>Procedures</p> <p>7.1 PHEDA will notify authorized users when significant delays, outages, or technical issues affecting Missouri ESSENCE are detected.</p> <p>7.2 Authorized ESSENCE users and others with questions, comments, or technical problems should communicate via the ESSENCE@DHSS.MO.GOV e-mail address or PHEDA staff at (573) 751-6161.</p> <p>7.2.1 PHEDA is responsible for responding to e-mail sent to this account at least three times daily, Monday - Friday except state holidays.</p> <p>7.2.2 On weekends or after hours, DHSS can be contacted by calling (573)751-6161. This number is forwarded to the Department Situation Room (DSR) when Division of Community and Public Health staff are not available. In the case of an emergency, the DSR is prepared to handle any event that may affect users or has the list of contacts that can aid in dealing with the event.</p>

Single Hospital-Single Syndrome Flag Investigation

Level I Review: ESSENCE Hospital/Alert Flags

Routine Flag Review

1. >1 red alert in a row for same syndrome.
2. Upward trend in subsequent days.
3. Magnitude of increase (e.g., double expected frequency, small p-value, etc.).
4. Pattern within subsyndromes (e.g., NVD, Cough+Sore Throat, etc.).
5. Pattern within age, sex, geographic area.
6. Other observation or clue from supporting information.



No, but continue follow up in coming days.

Yes, go on to next level of review.



Ask colleagues for help and advice!

Level III Review: Follow-up Protocol

See **How to Follow Up at the Local Level** for tips on communication with local public health agencies and hospitals.

These are guidelines developed with DHSS employees in mind. Local jurisdictions are encouraged to consider their own communities when designing their own protocols.

Level II Review: Other Supporting Information

ESSENCE Geographic Review

1. Have other hospitals in area experienced similar increase?
2. Have area residents experienced similar increase (use region/syndrome alerts)?
3. Is a particular zip code or cluster of zip codes affected (mapping portal or region/syndrome alerts)?

Over-the-Counter Drug Sales

1. Have retailers in this geographic area experienced an increase in relevant sales during the last 5 days?

MOHSIS

1. Have residents of this geographic area been diagnosed with probable or confirmed illness related to this syndrome ?
2. Are these cases outbreak-related or related to a food service establishment, day care, nursing home, etc.?
3. How do the numbers of cases reported for this area compare to the usual frequency reported?

Follow -up and Documentation

1. If the LPHA contacts the hospital, ask them to please inform you of any findings.
2. If you contacted the hospital, please inform the LPHA of anything you have learned ASAP.
3. If something significant has occurred, please contact the Senior Epi for the region ASAP.
4. Document your findings.



IMPORTANT
***PLEASE contact local public health agency (LPHA)
that oversees the hospital prior to contacting that hospital!
This keeps LPHA in the loop and ensures
hospitals are not double-called on the same flag!***

Step 1: Follow up with LPHA

1. Making contact
 - a. Always contact LPHA first to keep them informed and to ensure no double-calling of hospitals for same alert. This is the jurisdiction in which the hospital is located.
 - b. Call and ask to speak with communicable disease nurse or epidemiologist or talk to known ESSENCE user in the jurisdiction.
 - c. May e-mail contact instead if you know they respond to e-mail requests in a timely manner.
2. What to say/provide
 - a. Summarize findings and be specific about why you think it needs further investigation.
 - b. E-mail figures, password protected spreadsheets, information on ESSENCE as needed. Send password in separate e-mail.
3. What to ask
 - a. Do they know of a trend/event related to this syndrome in or around their community?
 - b. Have they seen similar increases in this syndrome at sentinel sites (e.g., schools, nursing homes, other health care providers).
4. Next steps
 - a. If no further investigation is needed, agree to update each other on new findings.
 - b. Do they want to contact the hospital or do they grant permission for you to do so?
Note: It is usually better to have LPHA contact hospital themselves
 - c. If they do not want to contact hospital or if you wish to contact them yourself, please ask for contact name and phone number at hospital to make follow up easier.
 - d. If they contact hospital themselves, please ask them to review guidelines below.

Step 2: Follow up with Hospital

Hospitals are busy! Be prepared and specific.

1. Be specific about what you have found in terms of symptoms, age groups, sex, county/location of residence.
2. Offer password-protected patient list, figures, information on ESSENCE and let them know you have a medical record number if that would help.
3. Ask if they have seen an increase in this syndrome group, especially within age, sex, geographic groups you identified.
4. Ask if they have seen an increase in lab orders or positive lab findings for any relevant conditions.
5. Ask if they have seen an increase in traffic from a nursing home, school, day care, or group home.
6. If senior epidemiologist agrees, may suggest increasing lab testing for specific conditions if no lab data are available, especially during ongoing outbreak/investigation.

Step 3: Document and Continue to Monitor/Communicate

1. Document findings.
2. If the LPHA follows up with the hospital, ask them to please inform you of their findings.
3. If you follow up with the hospital, make sure you inform the LPHA of your findings, even if the answer from the hospital is that there is no concern about an outbreak at that time.
4. Make sure everyone involved knows that flag investigations are rare so if they see anything unusual in the coming days, they should let you know right away.

During ongoing public health events (natural disasters, HAZMAT events, outbreaks), ESSENCE can be an important source of new or confirmatory information. Any public health authority with ESSENCE access can create a situational awareness report. Please contact ESSENCE@dhss.mo.gov for help with accessing ESSENCE.

Step 1: Query ESSENCE

1. Refer to <http://www.dhss.mo.gov/ESSENCE/Training.html> for instructions on ESSENCE basics. These instructions assume a moderate level of ESSENCE ability.
2. Use the Query Portal to build your query.
3. Select the appropriate geographic area. ESSENCE may be queried by hospital location, county of patient residence, or zip code of patient residence. For example, emergency department (ED) visits may be important to track for residents of a certain area after a natural disaster, but for a workplace-based event, nearby hospitals should be searched because we cannot assume that people work in the same county where they reside.
4. Select the appropriate medical grouping system. ESSENCE parses all free text chief complaints into syndrome and subsyndrome categories. When it does this, it corrects spelling and groups like complaints together. Whenever possible, use these existing medical groupings because it will capture more visits than you may be able to think up on your own. However, avoid selecting more than one syndrome or subsyndrome at a time since ESSENCE will give you one record per category you request, and if a person is in two categories at once (fever and cough), they will appear twice in your list. If none of these categories fit the situation, then use "Chief Complaints" which will allow you to perform a free text query.
5. The most important tip on free text querying is: follow the instructions provided on the query screen in ESSENCE!
6. When performing a free text query, use your imagination to think of all the terms possibly associated with the event you are monitoring. One tip is to not spell out terms completely: for example, use ^therm^ instead of hypothermia because you might miss visits that misspell hypothermia or say "hypothermic".
7. You can narrow down age, sex, and date ranges for better results.
8. ESSENCE will produce a variety of nice figures like a time series and pie charts on demographics. You can use "Graph Options" to rename these and "Save Image" to save as a pdf. These can be inserted into your report.
9. You can also download data into Excel for extra analysis.
10. The ESSENCE Map Portal is another tool for reporting.

Step 2: Create a Report

1. ESSENCE is a unique system that contains a very specific type of data with specific limitations, which should be noted up front in any report on ESSENCE findings. You should say that only specific hospitals report to ESSENCE and you can refer them to a current map on the DHSS ESSENCE web page. Also, ESSENCE does not include physician office visits, urgent care, etc.. Chief complaint data are just the admission reason given at the ED and do not constitute a final diagnosis.
2. Please be clear to say, "there were 10 ED visits in the Fever syndrome on date x among y county residents detected in ESSENCE", rather than "there were 10 cases of fever in y county".
3. Typically, only aggregate numbers are reported. It is your responsibility to comply with ESSENCE Policies and Procedures, which means to be careful not to divulge any information that could potentially identify a patient or a hospital.
4. Use figures and tables from ESSENCE. The time series helps to put recent events in perspective, with either the last 90 days or a year-to-date range depicted.
5. Feel free to give your interpretation on the trends you observe using words like "this suggests" or "may be attributable to".

Step 3: Share as Appropriate

1. Identify your audience early on and write with them in mind. Avoid inflammatory language whenever possible since ESSENCE data are preliminary at best!
2. Put final report into pdf so it cannot be altered easily.
3. Check with your supervisory before distributing too widely beyond the Bureau of Communicable Disease Control and Prevention.