NACCHO
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2014 Model Practices

Applicant Information

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2014 Model Practice

Responsiveness and Innovation:

1. Clay County Public Health Center is located in Liberty, Missouri. The county is part of the Kansas City Metropolitan area and has 221,939 residents, according to the 2010 Census. Whites comprise 88.8% of the population, 5.7% are black or African American, 2.2% are Asian alone. Hispanic or Latino residents comprise 6.2% of the population. The Median Household income for 2007-2011 was $60,507 and 7.8% of residents are below poverty level. In 2011, 33.6% of Clay County students were enrolled in free/reduced lunch.Kids Count in Missouri. (2012). Clay County. Retrieved from http://oseda.missouri.edu/kidscount/county_pdfs/clay.pdf

U.S. Census Bureau. State and County Quick Facts: Clay County Missouri, Retrieved from October 17, 2013 from http://quickfacts.census.gov/qfd/states/29/29047.html

2. Large proportions of health problems are subclinical, unreported, or not known. Therefore it is important for public health to use multiple methods of communicable disease surveillance for earlier detection of disease clusters or outbreaks. Earlier detection of disease clusters or outbreaks may help to decrease the spread of communicable diseases and ultimately reduce morbidity and mortality. Unfortunately, common methods of reporting involve double entry of data, providing more opportunities for data entry errors and may have lower reporting rates due to difficultly of use for stakeholders. Timely information on potential outbreaks is vital for a quick response of the school district using the recommendations from the local public health agency.

3. a. The entire population is subject to communicable diseases, but the school syndromic surveillance system itself monitors approximately 39,761 students in the five major Clay County public school districts.b. Each week we have an approximate reporting form return rate of 85% to 95% of participating schools.

The school syndromic surveillance system monitors approximately 17.9% of the total Clay County Population. There are 46,207 residents ages 5 to 19 years in Clay County. Through the public schools, the Clay County Syndromic Surveillance System monitors approximately 86% of the county's population ages 5 to 19 years.

4.Before the current system was implemented in 2010, we conducted syndromic surveillance through faxes and entering data into a spread sheet since 2007. Weekly reports were completed, but the process involved entering all of the data manually into a spreadsheet. Reports were generated and disseminated to users, but not on a weekly basis.

5.The current practice is an improvement because it provides a supplemental monitoring of the population using a more automated system. This system allows for more frequent and significantly more efficient analysis of data and weekly dissemination of reports to stakeholders.

6.Rather than rely on reports of disease through passive surveillance, syndromic surveillance continuously collects aggregate data. Information from the system is used to supplement passive surveillance and to implement immediate control measures to contain and prevent further spread of the disease/condition. Surveillance helps achieve several public health functions including case/outbreak detection, public health interventions, assessing the distribution and spread of illness, hypothesis generation, and planning guidance. This practice also assists the LPHA to streamline and coordinate containment efforts with our local school district partners.

School syndromic surveillance is not new to public health, but is a creative use of existing practice which allows for more efficient analysis of large amounts of data on a weekly basis. It improves on the more commonly used method of faxing data and manually entering data into a spreadsheet. The system also assists with streamlined and coordinated communications between Clay County Public Health Center and School District coordinators.

6b.1. No current tools or practices were used in an original way to create this practice.

7.Syndromic Surveillance is evidence based.

Centers for Disease Control and Prevention. (2004). Framework for evaluating public health surveillance systems for early detection of outbreaks. MMWR. 2004;53 1-11. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5305a1.htm

Centers for Disease Control and Prevention. (2004). Overview of syndromic surveillance: What is syndromic surveillance? Morbidity and mortality weekly report: MMWR. 53. 5-11. Retrieved from http://www.cdc.gov/mmwr/preview/mmwrhtml/su5301a3.htm

Mandl, K. D., Overhage, J. M., Wagner, M. M., Lober, W. B., Sebastiani, P., Mostashari, F., ... and Grannis, S. (2004). Implementing syndromic surveillance: a practical guide informed by the early experience. Journal of the American Medical Informatics Association, 11(2), 141-150. Retrieved from http://171.67.114.118/content/11/2/141.short

LHD and Community Collaboration:

1. Through the Clay County School Syndromic Surveillance System, we seek to support the monitoring of the burden of diseases on the population, and to help in timely detection of any unusual occurrence or increase in selected symptoms of diseases mostly common in school-aged children. Information from the system is used to supplement other information available to the local health system and to implement immediate control measures when necessary to contain and prevent further spread of the disease/condition and possible outbreak. Surveillance helps achieve several public health functions including case/outbreak detection, public health interventions, assessing the distribution and spread of illness, hypothesis generation, and planning guidance.The specific goals and objectives of our practice are as follows: Achieve a minimum of a 70% response rate (percentages of schools who submit a reporting form) each week of school syndromic surveillance. Conduct and complete reports all weeks school is in session. We aim for 90% of reports to be released on or before each Friday school is in session.

Twice per school year (near the end of each semester) conduct a qualitative assessment of all users who participate in the system and/or read the weekly reports.

2. In an effort to better detect clusters of diseases and prevent outbreaks, Clay County Public Health Center improved its school syndromic surveillance system in place since 2007 to the more automated School Syndromic Surveillance System in 2010. The system was implemented in order to supplement the passive communicable disease surveillance system. In a metropolitan area of Clay County, Missouri, it was not feasible to accept traditional faxed information on a weekly basis. Submission of information electronically allows large amounts of data to be collected analyzed easily and frequently.

To achieve the goals and objectives of the practice, we have a written standard operating procedure that outlines the processes and methods of the system.

2a. School district coordinators were already familiar with syndromic reporting when we upgraded the system in 2010. The steps taken to implement the program involved training the users on how to work with the new form.

Each year Clay County Public Health Center pilots the reporting document within the health center and the school district health coordinators.

3. We chose to include only the major public school districts K-12 grade. Private school districts, very small school districts (less than 20 students), and daycares are not included in school syndromic surveillance.

4.The timeframe for the practice is August to May of each school year. The current system was implemented in the 2010-2011 school year.

5.The Clay County school district coordinators are involved each year with the planning and implementation of data collection. The coordinators provide feedback on suggested changes. Depending on the school, individual school nurses, and school health aides are also directly involved.5.a. A majority of the communication takes place through e-mails. We meet as a group two to three times each year through the Public Health Partnership meetings, which is a collaboration between the Clay County Public Health Center and other partners in the local public health system. This relationship furthers the practice goals by keeping the partnership focus to maintaining, fostering, and promoting the health of citizens of Clay County.

Typically syndromic surveillance involves a few sites that collect information. The school district health coordinators saw enough value in the system to have all schools report on a regular basis rather than a sample.

A secondary benefit to the school syndromic surveillance system is the open line of communication between Clay County Public Health Center and Participating School Districts. The regular communication and feedback has built trust in the recommendations from the local public health agency. The partnership of Clay County Public Health Center and the Clay County Public School Districts is stronger because of the School Syndromic Surveillance System.

6. Costs associated with this practice are the staff time of the epidemiology specialist to update documents on an annual basis and the up-front software costs (current cost of Adobe Acrobat X Pro is $278; Microsoft Excel 2007 is $99.69. There are no ongoing support costs).

The schools do not incur extra out-of-pocket costs for participating in the system, only staff time to fill out the reporting forms.

Evaluation:

1.Through the Clay County School Syndromic Surveillance System, we seek to support the monitoring of the burden of diseases on the population, and to help in timely detection of any unusual occurrence or increase in selected symptoms of diseases mostly common in school-aged children. Information from the system is used to supplement other information available to the local health system and to implement immediate control measures when necessary to contain and prevent further spread of the disease/condition and possible outbreak. Surveillance helps achieve several public health functions including case/outbreak detection, public health interventions, assessing the distribution and spread of illness, hypothesis generation, and planning guidance. It is difficult to measure what, if any, specific outbreaks could have been found sooner with the use of the School Syndromic Surveillance System. However, there have been no official outbreaks discovered early through data from the School Syndromic Surveillance.Achieve a minimum of a 70% response rate (percentages of schools who submit a reporting form) each week of school syndromic surveillance. Every week we monitor the percentage of schools who return their forms and we achieve an 85%-95% response rate. Conduct and complete reports all weeks school is in session. We aim for 90% of reports to be released on or before each Friday school is in session. We consistently meet the goal of releasing the weekly reports every week of the school year. Typically reports are released on Wednesdays or Thursdays each week. Twice per school year (near the end of each semester) conduct a qualitative assessment of all users who participate in the system and/or read the weekly reports. Presently we do not have any way to evaluate the outcomes of our practice (early identification of disease clusters and outbreaks.

2. We evaluate the practice twice per year through a user survey that assesses the quality and usefulness of the system. We do not currently have a system in place that evaluates outcomes.

3.a. All of the data Clay County Public Health Center collects through the School Syndromic Surveillance System is primary data. Data are collected on a weekly basis through the adobe form submitted by email or a faxed version of the form.

Clay County Public Health Center evaluates the practice through a user survey twice per year. A link to an online survey is mailed to all people who send the reports.

2.b. We do not use secondary data sources to evaluate our practice.

2.c.Maintain the use sentinel surveillance systems in collaboration with county partners to monitor the public's health.

2.d. We evaluate our processes through the percentage of schools who submit forms and the percentage of weeks where data are analyzed and reports are released.

Biannual survey results are analyzed using frequency distributions and percentages.

2.e. From the biannual surveys we have adjusted length of the weekly reports (users stated they were too long) and adjusted our training program to meet user needs. Through user feedback, we decided to move up the due date of the form to allow for more timely turnaround of data. Additionally, we added a new symptom to the weekly reporting form that the stakeholders were interested in monitoring.

Sustainability:

1. In practice, we have found it is useful to make the process as efficient as possible and to have more than one person at Clay County Public Health Center who is familiar with accepting the forms, analysis of data, and updating the weekly reports.It is difficult to assess the effectiveness of the surveillance system. Outbreaks are uncommon. No outbreaks have been detected earlier on using the school syndromic surveillance system, however based on relationship built with school health nurses we are assured that if they are aware of a confirmed communicable disease they would not wait to submit the report but call the office to discuss potential outbreaks..

2.With partner collaboration, we have found it be most beneficial to involve stakeholders and frequently request their feedback. We show flexibility with schools and other partners by allowing multiple methods form submission and communication. This flexibility results in high return rates of forms and high levels of satisfaction with the system. The school health nurses have expressed appreciation for receiving information each week that analyzes syndromic information in the county's schools.

3. This practice is an improvement over what Clay County Public Health Center had before.

4.No.

5.a.Buy-in from the school districts is vital to the sustainability of school syndromic surveillance. This system has maintained a reliable means of communication in both the communicable disease reporting, and in getting required recommendations and control measures to the schools in a timely manner when needed. After the H1N1 Influenza outbreak of 2009, the school districts have come to realize that this system is a vital tool in monitoring, and keeping track of such events. Districts are highly committed in having an on-going relationship with Clay County Public Health Center. Each school district superintendent and some of the nurse coordinators are also actively involved in the county public health emergency planning committee meetings.

One Epidemiology Specialist devotes an average of 8 hours per week maintaining the system, collecting forms, cleaning data, and performing data analysis. More time is invested in the system where there is an indication of an unusual occurrence, questions from participants, or multiple schools using alternative methods of reporting (e.g. fax, phone). Additional time is needed for the initial set-up of the system and training of participants.

The quality of the system is checked twice per year through surveys to collect user feedback. For stakeholders within the health center, there continues to be enough staff to maintain the system.

Clay County Public Health Center has a written standard operating procedure that outlines the methods of the system so it may be continued if the current staff member who runs the system is no longer able to do so.

How did you learn about the Model Practices Program:

Colleague in my LHD

Overview:

1. Clay County, Missouri (LHD is in Liberty, MO)2. Large proportions of health problems are subclinical, unreported, or not known, therefore it is important for public health to use multiple methods of communicable disease surveillance for earlier detection of disease clusters or outbreaks. Earlier detection of disease clusters or outbreaks may help to decrease the spread of communicable diseases and ultimately reduce morbidity and mortality. Unfortunately, common methods of reporting involve double entry of data, providing more opportunities for data entry errors and may have lower reporting rates due to difficulty of use and time involved for stakeholders.

3.Through the Clay County School Syndromic Surveillance System, we seek to support the monitoring of the burden of diseases on the population, and to detect unusual occurrence of selected disease symptoms common in school-aged children.

The goals and objectives of our practice are as follows:

- Achieve a minimum of a 70% response rate (percentages of schools who submit a reporting form) each week of school syndromic surveillance.
- Conduct and complete reports for all weeks that school is in session. We aim for 90% of reports to be released on or before each Friday that school is in session.
- Twice per school year (near the end of each semester) conduct a qualitative assessment of all users who participate in the system and read the weekly reports.

4.This system uses inexpensive technology that allows 62 schools from all of the county's five major public school districts to weekly report aggregate data on certain symptoms. Data acquisition is manual, requiring staff from each school to send each report. Using the form, schools have the ability to report to Clay County Public Health Center (CCPHC) quickly and seamlessly through email. Once received, data from the forms are accepted and automatically populated into a spreadsheet, decreasing the amount of time needed for data entry.

Each year CCPHC creates an electronic form using Adobe LiveCycle Designer. Data are analyzed using standard Epidemiological weeks for nearly every week of the school year. The "email form" button on the reporting document automatically sends the form to the Syndromic Surveillance account. Data are collected in aggregate form (i.e. no personal identifiers). Electronic versions of the form are accepted and automatically complied into an Adobe Acrobat Pro response file. All data are reported as rate per 1,000 student population (rates automatically calculate in form).

Information collected is analyzed each week and a report thoroughly reviewed by Epidemiology staff and then disseminated to partners within the Clay County local public health system. Current weekly data are compared to data from previous weeks to determine any changes suggestive an unusual occurrence. If any unusual activity is suspected within a school or district, further analysis is conducted and the school nurse and School District Health Coordinator are contacted for more information and to discuss the findings. Weekly reports are emailed to CCPHC Communicable Disease and Epidemiology staff, CCPHC management, local public health agencies in adjacent jurisdictions, Clay County School District Health Coordinators, Clay County Emergency Room Managers, Clay County Hospital Infection Control Staff, and various other stakeholders in the local public health system.

To improve and maintain reporting rates and partnership, on-site and recorded trainings are offered to provide information on the purpose of syndromic surveillance, the process of reporting, and report interpretation.

5. Weekly milestones include receiving the data, analysis of data, and release of weekly reports.Biannual milestones include the user survey.

Annual milestones are to develop and/or update the reporting document, supplemental documents, and the reports.

6. This is an ongoing system, but we assess the quality and usefulness of the system from users and the partners within the local public health system who receive reports.

7.This system has been successful due to its relative ease of use and buy-in from community stakeholders. We work with the school district health coordinators to collect data and the coordinators take pride when their schools have high or perfect reporting rates. Involving stakeholders and assessing feedback has led to changes to the system that makes it more user-friendly and improves reporting rates.

8.The Clay County School Syndromic Surveillance system was developed in an effort to better detect clusters of diseases and prevent outbreaks. With warning from the system, we are able to identify unusual occurrences more quickly than with only passive communicable disease reporting. The weekly reporting provides consistent and constant communication between integral partners within the local public health system.