Letters to the Editor

USING ICD-9-CM E-CODES IN ADDITION TO CHIEF COMPLAINT KEYWORD SEARCHES FOR IDENTIFICATION OF ANIMAL BITE-RELATED EMERGENCY DEPARTMENT VISITS

We read with interest the article by Bregman and Slavinski demonstrating the use of emergency department (ED) data for animal bite surveillance.[1] Currently, the North Carolina Division of Public Health (NC DPH) utilizes statewide ED visit data for animal bite surveillance. Our experience has been that using International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) external cause-of-injury codes (E-codes), in addition to chief complaint and triage note keyword searches, enhances animal bite surveillance.

The North Carolina Disease Event Tracking and Epidemiologic Collection Tool (NC DETECT) is a statewide syndromic surveillance system created in 2004 by the NC DPH in collaboration with the Carolina Center for Health Informatics at the University of North Carolina Department of Emergency Medicine. Currently, more than 99% (115 of 116) of acute care hospitals in North Carolina submit ED visit data daily to NC DETECT, including chief complaints, triage notes, and up to 11 ICD-9-CM final diagnosis codes or E-codes. NC DETECT reports that are available to authorized users include an Animal Bite Keyword Report that contains ED visits with animal bite-related keywords in chief complaint or triage note fields and an Animal Bite ICD-9-CM Report that includes ED visits coded as E906 (Other injury caused by animals), E906.0 (Dog bite), E906.1 (Rat bite), E906.3 (Bite of other animal except arthropod), E906.5 (Bite by unspecified animal), and/or E906.9 (Unspecified injury caused by animal).

Animal bite surveillance using both ICD-9-CM E-codes and chief complaint keyword searches may result in increased surveillance sensitivity. From January 1, 2008, through December 31, 2010, there were 26,353 NC DETECT ED visits made by North Carolina residents with a dog bite E-code (E906.0). A chief complaint keyword search similar to that used by Bregman and Slavinski was employed on a 10% random sample (n=2,636) of the dog bite E-coded visits. There were 1,833 (69.5%) sample visits that contained the word "dog" or a common misspelling (e.g., dob or bog) and the word "bite" or some derivation (e.g., bit or bitten) in the chief complaint field. The word "animal" or a recognized mammalian animal (e.g., cat) and the word "bite" or some derivation of the word were found in the chief complaint fields of 281 (10.7%) sample visits. However, 522 (19.8%) dog bite E-coded sample visits would not have been identified as animal bite-related ED visits using only this keyword search criteria. In 411 (78.7%) of those 522 visits, the chief complaint field contained a description of the injury or its sequelae (e.g., a facial laceration or abscess), rather than specifying a bite.

Animal bite surveillance using ED visit data may vary by public health agency due to syndromic surveillance system capabilities, availability of ICD-9-CM codes, and the desired balance of surveillance sensitivity and specificity. However, ICD-9-CM final diagnosis codes and E-codes are considered part of a minimum dataset for syndromic surveillance systems using ED visit data.[2] Therefore, we encourage agencies that collect this data element to consider using animal bite-related ICD-9-CM E-codes in addition to chief complaint keyword searches for identification of animal bite-related ED visits.

Sarah Rhea, DVM, MPH[a,b]
Amy Ising, MSIS[b]
Anna Waller, ScD[b]
Marilyn Goss Haskell, DVM, MPH[c]
David J. Weber, MD, MPH[a,d]

[a]University of North Carolina, Department of Epidemiology, Chapel Hill, NC

[b]University of North Carolina, Department of Emergency Medicine, Carolina Center for Health Informatics, Chapel Hill, NC

[c]North Carolina Division of Public Health, Raleigh, NC

[d]University of North Carolina, Departments of Medicine and Pediatrics, Chapel Hill, NC

The Institutional Review Boards of the University of North Carolina at Chapel Hill and the North Carolina Division of Public Health approved this study. The North Carolina Public Health Data Group and NC DETECT do not take responsibility for the scientific validity or accuracy of the methodology, results, statistical analyses, or conclusions presented.

REFERENCES

1. Bregman B, Slavinski S. Using emergency department data to conduct dog and animal bite surveillance in New York City, 2003–2006. Public Health Rep 2012;127:195-201.
2. International Society for Disease Surveillance. Final recommendation: core processes and EHR requirements for public health syndromic surveillance, January 2011 [cited 2012 Apr 9]. Available from: URL: http://www.syndromic.org/meaningfuluse/EDdata

ERRATA

The article by Ayala et al., "Actions to Control High Blood Pressure Among Hypertensive Adults in Texas Counties Along the Mexico Border: Texas BRFSS 2007" in the March/April 2012 issue of *Public Health Reports*,[1] contained two typographical errors.

In Table 1 on page 176, the prevalence of taking antihypertensive medication among hypertensive males was inadvertently reported as 77.9% with a standard error of 0.9, the same values as for the total prevalence of adults in Texas taking antihypertensive medication. The correct prevalence for hypertensive males in Texas taking antihypertensive medication is 74.5% with a standard error of 1.6.

A second error also occurred on page 176, where it was incorrectly reported that "Hispanic adults were 40 times less likely to take action to control their hypertension (OR=0.6, 95% CI 0.5, 0.8) than non-Hispanic people." The correct statement is that "Hispanic hypertensive adults were 0.6 times as likely, or 40% less likely, to take action to control their hypertension (OR=0.6, 95% CI 0.5, 0.8) compared with non-Hispanic hypertensive adults." The authors and *PHR* regret the errors.

REFERENCE

1. Ayala C, Fang J, Escobedo L, Pan S, Balcazar HG, Wang G, et al. Actions to control high blood pressure among hypertensive adults in Texas counties along the Mexico border: Texas BRFSS 2007. Public Health Rep 2012;127:173-85.