

Teaching MPH students “shoe leather epidemiology” through foodborne illness outbreaks, case investigations, and surveillance at the Super Bowl

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Introduction

Recruiting and retaining experienced staff is a challenge for many local and state public health departments. Therefore, training the next generation of public health workers should be a priority. Unfortunately, most graduate students in public health get little or no experience in real-world situations such as outbreak investigations.

Abstract

Graduate level public health students in Arizona are getting training through a class that thrusts them into the frontlines of real-world epidemiology. Students in the Student Aid for Epidemiology Response (SAFER) program have conducted foodborne illness outbreak interviews, monitored first aid stations at Super Bowl XLII, analyzed surveillance data, and are doing case investigations of enteric diseases. This real-world experience – provided by the Maricopa County Department of Public Health (MCDPH), along with other county and state health departments, is bolstered by classroom education at the University of Arizona College of Public Health (UA).

The SAFER program, now in its fourth year, has clocked over 475 hours of student time and has succeeded for several key reasons:

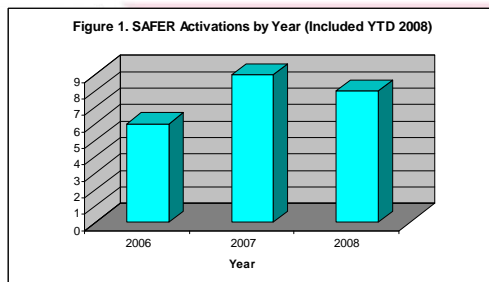
- ❖ A full-time UA staff member is dedicated to the program
- ❖ Unlike other student response teams, SAFER is linked to an accredited course on disease investigation techniques with guest speakers who share their experiences from the field
- ❖ Students serve as an extension of the MCDPH rather than as a separate team

- ❖ SAFER students mobilize within 24 hours in most instances
- ❖ Students are fully trained in epidemiologic practices before being mobilized
- ❖ Constant communication occurs between MCDPH staff and the SAFER coordinator

The impact of the SAFER collaboration has a number of positive consequences for the health department, including increasing surge capacity, facilitating the maintenance and implementation of accurate, user-friendly protocols used for students and regular staff alike, and perhaps most significantly, practical, real world training for future public health workers.

Outbreak Response

- ❖ At least once per year, MCDPH trains incoming students on how to investigate outbreaks
- ❖ Training protocol is shared with other entities as a model for investigations
- ❖ Student teams generally respond to call for assistance within 24 hours (can be as quickly as 2 hours)
- ❖ Student responsibilities under the direction of an epidemiologist include interviews, data entry, literature search, and compilation of educational materials



Super Bowl XLII

- ❖ The SAFER program coordinator worked with MCDPH senior epidemiologists and fire department chiefs to develop a screening form for syndromes of interest
- ❖ When fire department staff at EMS First Aid Stations encountered patients with gastrointestinal, skin, respiratory and/or neurological symptoms, they notified SAFER team.
- ❖ SAFER students were deployed to the location (if not already present) to complete a short screening form
- ❖ Students entered the data shortly after survey completion
- ❖ Students analyzed and uploaded data for MCDPH epidemiologists



Surveillance Results

- ❖ Surveillance activities began on 1/31/08 and continued each day through game day on 2/3/08. In the days preceding the Super Bowl, activities were held in and around the stadium at the NFL Experience (NFLX).
- ❖ Very few individuals met the screening criteria for suspicious clusters among surveys completed at the NFLX
 - A total of 26 individuals were interviewed
 - The majority of cases were GI related
- ❖ On game day (02/03/08), 20 individuals were interviewed
 - Again the majority (42%) of cases were GI related.
- ❖ Based on analysis of the presumptive cause of illness and other information, cases were determined to not be related to each other
- ❖ The level of illness was below the expected thresholds, based on data from previous stadium events

Discussion

- ❖ The partnership between SAFER and MCDPH has been beneficial for both groups:
 - MCDPH wrote protocols and developed training for outbreaks that is used not only for students but for other staff, as well
 - Students provide much needed help to short-staffed public health departments which is especially crucial in large scale outbreaks
 - Students learn about the practice of public health at the local level – something often overlooked in public health graduate program curricula
- ❖ The SAFER program has now been established as an accredited course, required for all MPH Epidemiology students. Students benefit in many ways:
 - Receive class credit for activities
 - Learn the importance of public health work
 - Are exposed to a variety of real world situations

Future Directions

- ❖ For the first time, the SAFER course will be required for students majoring in epidemiology thereby increasing the number of participants each semester
- ❖ Additional projects, particularly those that would allow students to work on projects from a distance and expand opportunities for field experience
- ❖ Expanding the SAFER curriculum to include:
 - More speakers from different program areas
 - More field experience in diverse public health settings
- ❖ Students will be required to block out a number of hours each week when they are available to work on projects

