

Injury

Description:

The Fellow will be located within the Massachusetts Department of Public Health's Injury Surveillance Program and function primarily as an injury surveillance evaluator and an epidemiologist for the selected area/s of injury interest.

Day-to-Day Activities:

Depending on the selected area/s of interest, the Fellow will be meeting with internal and external partners, participating in research and epidemiology working groups, analyzing relevant databases (using standard guidelines) to assess the burden of the area of interest, and writing up findings for presentations and/or reports.

Potential Projects:

ISP provides the analysis of surveillance data for all injuries. Therefore, a Fellow could choose to work on a wide variety of topics within injury – both intentional and unintentional. Additionally, ISP has expertise in the development of new surveillance systems and an ongoing interest in expanding surveillance methods, presentation of surveillance data, and evaluation of surveillance systems. A fellow could choose either a specific injury or category of injury (e.g. falls, homicides, or traumatic brain injury) or a particular group within an injury type/category (e.g. youth homicide, firearm homicide, injuries to children). Alternatively, or in combination with the above, a fellow could explore new surveillance methodology or data presentation models. Some suggestions are described below. However, the program would also encourage the fellow to suggest alternate topics that reflect either a public health need and/or the fellow's particular interest.

Potential topics include, but are not limited to:

1. Topics focused on particular injury or category of injury:
 - o Traumatic Brain Injury (TBI): This injury topic includes numerous injury areas as the causes of TBI are multiple: falls, auto crashes, violence, sports injuries are all examples. Despite the importance of the problem, and potential devastating effects of a TBI, the actual scope of the problem and the system burden in MA are not well understood. Using multiple datasets, including the new statewide Trauma Registry, a Fellow could describe the scope of the problem and produce a model report with findings.
 - o Intimate Partner Violence (IPV) is a public health concern of interest in the MDPH. Again, utilizing selected datasets including the MA Violence Death Reporting System and an in-house IPV database that includes 16 years worth of data and includes relationship of offender to victim, the Fellow could assess the data, prepare findings, and describe the problem in MA.

- Suicide and Occupation: The ISP works closely with the Bureau's Occupational Health Surveillance Program. Both ISP and OHSP have had an interest in exploring suicide and occupation. A preliminary examination of suicide by occupation conducted by the two programs produced findings that were unusual: based on that preliminary work, MA did not show the highest rates in those occupational groups typically identified as most at risk. An in-depth analysis of at least 2 years (2007-2008) of data using the MA Violent Death Reporting System has been proposed as a follow-up and would be available to a Fellow to work on.
 - Underutilized Variables in MAVDRS: MAVDRS, as previously mentioned, is an extraordinarily rich and complex data set. Analysis has, to date, been limited to the more standard descriptive epidemiology, focused on the typical demographic differences – age, race, sex, etc. A closer examination of these data by a Fellow, including variables that are not frequently analyzed, such as weapon type, would be a challenging and useful project. A fellow would be encouraged to select variables for analysis, develop a short report with findings, and work with MAVDRS staff to disseminate any findings of note.
- 2. Topics that focus on particular groups across injury types:
 - Racial and Ethnic Disparities: Identification of racial and ethnic disparities and their effect on the population's health are a priority concern of the MDPH. Descriptive epidemiology of these differences, across injury types, would assist in directing resources to those populations most in need. This activity could cross injury types or focus on one type of injury, one age group, a geographic area, or an injury category – intentional or unintentional. Again, the availability and utilization of multiple data sources would be encouraged.
 - Homicide or Suicide by Selected Demographic Factor: A detailed analysis of homicide or suicide in a particular age group – such as youth homicide, or more broadly youth violence. Our data show that particular groups have higher injury rates in some areas than others. A project of this type would focus on either a particular age, race/ethnicity, or geographic area, for example, thus providing guidance for the development of prevention activities.
 - Injury, Emergency Department Utilization and Selected Variables: An examination of injuries treated in the ED by age group (or other selected variable) could have significant implications in the era of health reform. Issues of cost, health care access, and possible disparities may all come into play. Analysis of ED use by urgency status of diagnosis, geography, age, day of week or time of day may all reveal gaps in the delivery system or reveal injury areas that demand more prevention activity. The same approach could be applied to a specific injury or injury category.
- 3. Topics that focus on Methods or Presentation/Dissemination :
 - Innovative Methods/Data Presentation: Methodological issues unique to surveillance systems are frequently not fully identified, described and incorporated into ongoing

work. A fellow with a particular interest in methodological issues would be encouraged to identify, describe and prepare recommendations related to surveillance methods. One possibility would be the application of capture-recapture methods to our data. Appropriate consultation with a biostatistician familiar with these issues would be facilitated by Dr. Ozonoff

- o Qualitative data analysis is often overlooked in the analysis of surveillance data. MAVDRS and WRISS both contain unique, qualitative data. A fellow with an interest in qualitative methods would be encouraged to develop a scientifically rigorous, valid and reliable method for analysis of these data. Again, consultation with other experts in this area would be facilitated.
- o Presentation of Data: Surveillance data are collected and analyzed to assist with prevention activities. Novel methods of data presentation are needed if the public are to be engaged and compelled to act by the data. A fellow could work on developing novel presentations for standard data – utilizing GIS, graphics, etc. This would most likely be part of a larger project, but ISP is anxious to develop new presentation methods.
- o Evaluation: Several opportunities for surveillance system evaluation exist. The development/implementation of a comprehensive evaluation for MAVDRS and WRISS would be a suitable project and would have significant utility for ISP programs. Other topics upon further discussion with the Fellow are possible. Since we would like this to be a mutually beneficial experience, ISP is quite flexible in trying to meet the Fellow's needs/interests, while furthering the work of injury surveillance at MDPH.

Emergency Preparedness Role:

There is no role per se designated. However, the Department's Emergency Preparedness Bureau (EPB) works to enhance the capacity of public health and health care organizations to prepare for and respond to emergencies that threaten the public's health. The Fellow would be expected to be familiar with the website: <http://www.mass.gov/dph/emergencyprep>, and the Continuity of Operations Plan (COOP) for MA Government Agencies.

Assignment Location:	Boston, MA
Primary Mentor:	Victoria Ozonoff, PhD ISP Program Director Massachusetts Department of Public Health
Secondary Mentor:	Best Hume, MPH Project Director Massachusetts Department of Public Health