

Executive Summary

Surveillance is essential in the design, implementation and evaluation of injury prevention efforts at the state and local level. In the US, there have been multiple efforts since 1999 to improve and standardize state-based injury surveillance. A workgroup with representatives from the State and Territorial Injury Prevention Directors Association (STIPDA), Council of State and Territorial Epidemiologists (CSTE), Society for Advancement of Violence and Injury Research (SAVIR), National Center for Injury Prevention and Control (NCIPC), and the National Center for Health Statistics (NCHS) was convened in 2006-2007 to develop current recommendations for injury surveillance in state health departments. Additionally, comments were requested from Directors of injury and violence prevention programs at state health departments. The purpose of this report is to: summarize previous efforts to enhance state-based injury surveillance; describe injury surveillance principles; address issues that have arisen since the initial 1999 report on injury surveillance in state health departments; make recommendations regarding issues that have not yet been addressed; and acknowledge some future challenges in injury surveillance.

Great progress has been made since 1999 when the document *Consensus Recommendations for Injury Surveillance in State Health Departments* was first published to define the processes of establishing ongoing statewide injury surveillance and to standardize data collection across states (STIPDA, 1999). However, there continues to be many challenges still facing state injury and violence prevention programs. While ICD-9-CM external cause coding (E-codes) has increased substantially since 1999, there are still issues with completeness and accuracy of E-codes in morbidity data. It is imperative that states assess these issues in their hospital discharge and emergency department data and actively provide feedback to the data providers; additionally, opportunities to educate data coders and health care providers are encouraged.

The Workgroup recommends that the 14 injuries and injury risk factors and the 11 data sets recommended in the 1999 document continue to be the core data collected by states. Since 1999, case definitions have been created for 13 of the injuries/risk factors. There has been progress and success in the area of combining data from multiple datasets to provide a more comprehensive picture of the circumstances surrounding the injury than would be obtained by the use of a single dataset. Partnerships are important in all areas of public health, including surveillance, and state injury and violence prevention programs must continually build relationships that contribute to data collection, analysis, and dissemination. Dissemination of the injury surveillance data collected is a critical aspect of a comprehensive injury prevention program that contributes to public awareness, health education and promotion, policy development, and research development. States must strive to have injury-related morbidity, mortality, and behavioral risk factor data electronically available at the state and local level to public health professionals, researchers, policy makers, and the public.

Work being conducted nationally has raised concerns regarding the undercounting of injury cases when using the definition proposed in the 2003 STIPDA report *Consensus Recommendations for Using Hospital Discharge Data for Injury Surveillance* (STIPDA, 2003). The injury case definition for national injury surveillance involving ICD-9-CM coded emergency department (ED) data has been changed in many data products of the National Center for Health Statistics; this definition expands the 2003 STIPDA definition for hospital discharge

data by including not only the first-listed injury diagnosis codes but also valid E-codes where the initial diagnostic code is not an injury. To standardize reports, the Workgroup recommends states that are able to use this new definition should do so in ED analyses. The Workgroup also suggests that further state-based analyses are needed to study the effects of using this expanded definition in reporting both state ED and hospital discharge data.

Natural disasters or deliberate violent actions with multiple casualties occur in the US. State injury and violence prevention programs have a role to play in all phases of a disaster and should establish and maintain expertise in disaster surveillance and epidemiology in order to respond immediately to an event. Standardized reporting methods and data collection instruments must be created for disaster surveillance so that states can respond more efficiently to events. There is a need for continued national leadership informed by state-based input in this area.

A serious concern when using billing data (such as is used in statewide hospital discharge and emergency department data) for injury surveillance is the issue of duplicate reporting. In order to determine the incidence of injury (a critical measure for evaluating prevention efforts), it is important to count a person-injury event only once and to include only the first or initial visit for the injury. Currently, there are no standardized guidelines or recommendations on how to de-duplicate injury surveillance data. Thus, states use different criteria and techniques to deal with this problem. Standardization of de-duplication processes is an important future challenge that needs to be addressed and disseminated widely to state injury and violence prevention programs.

Finally, the need for emergency medical system (EMS) information systems and databases has been well established, and many statewide data systems have been created. However, these EMS systems vary in their ability to collect patient and systems data and their capacity for analysis. There are current activities to standardize data collection by state and local EMS services across the nation. These efforts need to continue and be supported at the state level.

To address many of these issues, the Workgroup made the following recommendations for injury surveillance in state health departments:

Recommendations for improving coding of injury surveillance data:

1. State injury and violence prevention programs should regularly evaluate the completeness and quality of external cause coding in their statewide hospital discharge and emergency department databases.
2. State injury and violence prevention programs should provide information on the uses and adequacy of external cause coding to those who produce the data as a way to improve data quality.
3. State injury and violence prevention programs should explore the possibility of using statutory tools, rule making or other policy actions to enhance the completeness and specificity of external cause coding.
4. States should support efforts at the national level to improve external cause coding.

5. States should explore opportunities to provide training for health care providers and hospital coders regarding the importance of documenting the circumstances and causes of the injury incident in the medical record.

Recommendations for improving state injury surveillance capacities:

1. Utilizing the STIPDA STAT guidelines, state injury and violence prevention programs should conduct a self-review of surveillance capacity.
2. State injury and violence prevention programs should calculate and report the recommended Injury Indicators annually. Consideration should be given to participation in the multi-state document compiled by NCIPC.
3. A standardized approach to the addition and expansion of the Injury Indicators should be developed.
4. State injury and violence prevention programs should have injury morbidity, mortality, and risk behavior data available to partners, policymakers, and the public via web-based query systems.
5. State injury and violence prevention programs should make it a priority to invest in training staff in injury surveillance and epidemiology.
6. State injury and violence prevention programs with no statewide hospital discharge or emergency department data systems or no ready access to data from existing systems should work with other organizations and agencies in their state to establish such data systems or gain access to the data if it exists.

Recommendations regarding new challenges in injury surveillance:

1. States should use the expanded ED-specific injury case definition in analysis of their state's emergency department data if they have the requisite data elements.
2. Each state and territory should establish and maintain expertise in disaster surveillance and epidemiology and collaborate with the state all hazards preparedness programs.
3. State injury and violence prevention programs should support efforts at the national level to establish standardized reporting methods and data collection instruments for disaster surveillance.
4. Further investigation of expanding the current hospitalized injury case definition to include cases identified using external cause of injury data in order to be consistent with the current adopted ED case definition should be conducted.

Recommendations regarding future challenges in injury surveillance:

1. States should understand the importance of de-duplication of statewide hospital discharge and emergency department data systems; states should support and consider participation in efforts to develop standardized guidelines for the de-duplication of statewide injury morbidity data.
2. States should encourage local and state-level compliance with the standards for EMS and trauma registry data collection.