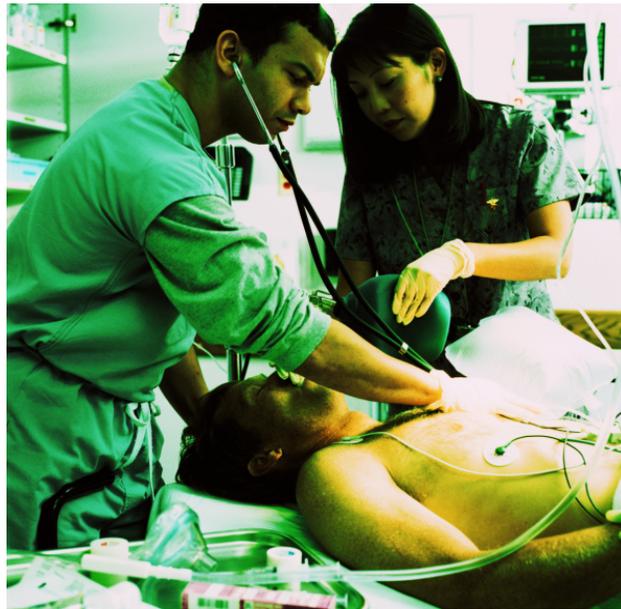


**Surveillance of Non-Fatal Injuries Treated
In Emergency Departments:
Instructions for Completing the Data Collection Form**



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Division of Violence Prevention
National Center for Injury Prevention and Control
Centers for Disease Control and Prevention

ACKNOWLEDGEMENTS

The data collection form included in this manual was developed by the Centers for Disease Control (CDC) and the Pan American Health Organization (PAHO) for use in gathering data on non-fatal injuries treated in emergency departments. It was initially piloted in injury surveillance demonstration projects funded by CDC and PAHO in Colombia, El Salvador, and Nicaragua from 2002 to 2007 and subsequently refined for use by other countries. The data elements included in the form are based on the *International Classification of External Causes of Injuries* (ICECI) and the *Injury Surveillance Guidelines* developed by CDC and the World Health Organization (1,2).

The following individuals contributed substantially to development and refinement of the data collection form and training instructions: Mark Anderson, Carmen Clavel-Arcas, Linda L. Dahlberg, Victoria Espitia, and Aybaniz Ibrahimova. We also wish to acknowledge the contributions of Alberto Concha-Eastman, Larry L. Jackson, and Rebecca Noe for their helpful comments on the data collection form.

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PURPOSE OF THE GUIDE

This guide provides information on the types of data that can be gathered in emergency departments to help countries understand the hidden epidemic of injury and make use of this information to prevent and control injuries and violence. The guide describes the data collection form that is used to gather this information in hospital emergency department settings. Definitions for the data elements that are included on the form are provided along with instructions for completing the form.

BACKGROUND

Injury: A major public health problem

Injuries and violence are a threat to health in every country of the world (3, 4). Nearly 6 million people worldwide die each year from injury and violence (5). Eight of the 15 leading causes of death for people between the ages of 15 and 29 years are injury-related such as road traffic injuries, suicides, homicides, drowning, burns, war-related injuries, poisonings, and falls (5). In total, injuries and violence account for 10% of global mortality and are expected to rise dramatically by the year 2050 (5).

For every person that dies, many more are victims of non-fatal injuries and violence (5). Victims of all types of injury also suffer a range of injury-related sequelae including infectious diseases, physical, sexual, reproductive and mental health problems (3, 4). Injury also places a massive burden on economies, costing billions in US dollars each year in health care, legal costs, absenteeism from work, lost productivity, and strains on economic development (5).

Awareness of injuries and violence, and the burden they pose on health systems and the economies of countries, is growing. Governmental and nongovernmental agencies are strengthening data collection systems, improving services for victims and survivors, and stepping up prevention efforts. Yet for much of the world, the idea that violence and injuries can be systematically prevented is still a novel one.

The international public health community is concerned about the damage that injuries cause to the health and the development of countries. For this reason, the World Health Organization (WHO), and the Centers for Disease Control and Prevention (CDC) assist Ministries of Health (MOH) in low and middle-income countries with efforts to prevent injuries and violence from occurring in the first place. Gathering data to inform prevention efforts is an important first step in the public health approach to injuries and violence.

Why collecting and disseminating data on non-fatal injury is important

Systematic data on non-fatal injuries is not available in most low and middle-income countries. However, information from high-income countries indicates that the numbers of people who die as a result of an unintentional injury or violence is only a fraction of those who are hospitalized for non-fatal injuries or who are treated in hospital emergency departments and released (3, 4).

To prioritize and direct prevention efforts, a clear understanding of fatal and non-fatal injury patterns is critical (5). Medical treatment-based surveillance systems such as in hospital emergency departments can be particularly useful in identifying non-fatal injury patterns within and across populations, occupations and industries, and with identifying specific safety issues. Additionally, medical treatment-based surveillance systems are particularly good at identifying injury trends among vulnerable populations such as women and children and the informal work sector in general. This information can assist governments and health officials when allocating prevention resources to reduce the public health burden of injuries and violence. Achieving important reductions in injuries and violence requires that data not only be collected but also analyzed and disseminated to relevant stakeholders to inform prevention efforts.

GATHERING DATA ON NON-FATAL INJURY IN EMERGENCY DEPARTMENTS

Overview of the data collection form

The data collection form is divided into five modules designed to gather information about the injured person and the injury event. The first module gathers demographic information on the patient; the second module gathers general data about the the injury event such as the type of event, the mechanism of injury, and place and activity at the time of injury. In the third module, more specific data is gathered on road traffic injuries, interpersonal violence, and self-directed violence. The last two modules gather information on alcohol and substance use and other clinical data related to the injury such as the nature of the injury, anatomic location, severity, and disposition of the case patient. All of these modules appear on the first page of the form along with the case definition, the name of the hospital or facility, and data entry information (e.g., date, clerk, and register number for the case).

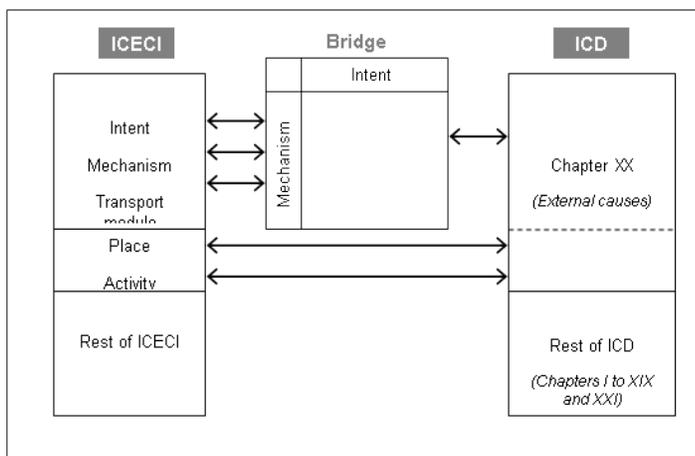
The second page of the data collection form gathers information about other types of health problems attended in the emergency department, including the reason for the consultation, vital statistics (e.g., heart rate and blood pressure), presumptive diagnosis, and procedures implemented. In some emergency departments, this is the form used for all health events seen in the emergency department and is the official emergency department record. In these instances, the demographic information from the first module is completed along with the information on page 2 of the data collection form.

Additional sources of information

The data elements included in the form are based on the *International Classification of External Causes of Injuries (ICECI)* and the *Injury Surveillance Guidelines* developed by CDC and the World Health Organization (1, 2). They are also based on lessons learned from the non-fatal injury surveillance systems developed and implemented by the Centers for Disease Control and Prevention and the Pan American Health Organization in Colombia, El Salvador, and Nicaragua as well as CDC technical assistance provided to other low and middle-income countries on injury surveillance.

The *International Classification of External Causes of Injuries (ICECI)* is a related classification in WHO's Family of International Classifications. It complements Chapter XX, External Causes of Morbidity and Mortality of ICD-10. The relationship between ICECI and ICD-10 has been adopted as a bridge between ICECI and ICD-10, making it possible to compare aggregated injury data classified according to either system (Figure 1).

Figure 1. Schematic diagram of relationship between ICECI and ICD



Source: International Classification of External Causes of Injuries (ICECI), Version 1.2 July 2004

Additional information on ICECI is available online:

<http://www.who.int/classifications/icd/adaptations/iceci/en/>

The *Injury Surveillance Guidelines* provide practical advice on how to develop information systems for the collection of systematic data on injuries, particularly in settings where resources, including trained staff and electronic equipment, are limited.

Additional information about these guidelines is available online:

http://www.who.int/violence_injury_prevention/publications/surveillance/en/

INSTRUCTIONS FOR COMPLETING THE DATA COLLECTION FORM

Data Entry and Facility Information:

A space is provided to insert the name of the hospital or facility where the patient is being seen. Information about the date of entry, clerk responsible for completing the information, and the register number should be filled out before proceeding with the patient information.

Case Definition:

The case definition used in the injury surveillance system is included at the top of the form for quick reference. The form is intended to collect information on first time visits for physical injuries. As such, a case is defined as: “First time visit for an external cause of physical injury attended in emergency department, or the facility where the system is implemented (e.g., ambulance, primary care, hospitalization, ICU, ophthalmology, trauma, etc.)”.

MODULE I – DEMOGRAPHIC INFORMATION

The first section of the data collection form gathers demographic information about the patient. In some emergency departments, this information is gathered on all patients when they present to the emergency department regardless of whether they are injured. For those with an injury meeting the case definition, the entire form is completed. For other patients, the demographic information is completed along with the diagnostic information on page two of the data collection form. This demographic section of the form should be completed by personnel in the admissions department or ambulance, whoever first sees the patient.

1. Last name of the injured person:

This is used as a patient identifier, which is necessary if the data are to be linked.

2. First name of the injured person:

This is used as a patient identifier, which is necessary if the data are to be linked. In some instances, only the first name of the person is known.

3. For children under 1 year old, the parents’ name should be collected (father or mother)

4. Source of information:

Record the person who provides the data about the injured person

Self - if is the same person

Family/relative of the person

Other

5. Age:

Record the age in full years. For example, if a person is 35 years and 11 months old, the recorder should enter 35 years.

6. Date of Birth:

Record day, month and year of birth

7. Birthday (<1 year):

If the age of the injured child is less than 12 months, it should be written as full months; if the age is below one month, it should be written as full days.

8. Sex:

Record the sex of the injured person using the following categories: Male, Female, Other and Unknown

9. Occupation or job title (paid work):

This variable is important for analyses of occupational-related injuries and, in conjunction with education, can also provide information on the socioeconomic status of the patient. Include the permanent occupation or economic activity of the injured person.

10. Education:

This variable should reflect the total number of completed years of schooling. The recorder should use the “highest” completed year.

11. Domicile:

Record the town, city, village, region, state and full address of the injured person. If the person has more than one address, select the one where he/she lives most frequently. If this information is not defined, for example a homeless person, then record “unknown”. Where a person lives can provide information about the general characteristics of the setting (e.g., whether it is an urban or a rural area; socioeconomic characteristics, etc.).

12. Address where the injury occurred:

Record the town or village, region, and complete address where the injury occurred. If it is not defined, record “unknown”. If it is the same as domicile then write the word “same”. The address where the injury occurred could be different than the address where the person lives. This information is important to know the characteristics of the place that might contribute to injuries. It is also important for the purpose of performing geographical analysis of injuries.

MODULE II: GENERAL INFORMATION ABOUT THE INJURY EVENT

This section of the form includes several variables to characterize and describe the injury event, including whether the injury was unintentional, intentional or from some other type of event such as a natural disaster. It also includes important information on the underlying cause or mechanism of injury as well as information on where the injury occurred and what the person was doing at the time when the injury occurred (e.g., working, traveling, engaged in a leisure activity). The specific variables included in this section of the data collection form are described below.

13. Day and Time of Event:

The exact date and time of the injury event should be recorded. Include the day, month, and year when the event occurred.

14. Time:

The time is given using a 2400 hour clock. For example, if the injury occurred at 3 PM the time should be recorded as 15:00 hours.

15. Previous visit?

If the patient was seen for the same injury during a previous visit it should be recorded including the the location (hospital, clinic, etc.) where the person was attended prior. Given the case definition, which focuses on first-time visits, patients with a previous visit for the same injury will be omitted in analyses of the incidence of injuries. If this information is not defined, record “unknown”.

16. Event type:

Record the setting in which the injury occurred. Did the injury occur in the context of an:

Isolated event: the person suffered an injury in an event that is not related to others e.g. multiple homicide, car-collision, etc.

Natural disaster: the person suffered an injury related to an earthquake, flooding, wild fire, etc.

War/civil conflict: the person received an injury in an event related to a conflict between two or more countries; riots, protests or other forms of civil insurrection, etc.

Terrorism: the person received an injury in an event related to terrorism inflicted for one person or group against another group.

Other: the person received an injury in an event different than the previous categories

Note: In most cases, the event will be isolated (patient fell or was in a traffic collision, etc.)

17. Intent:

Intent refers to the role played by a person or persons in the incident that caused the injury. Intent data provide information about the role of human intent in the occurrence of an injury. Personal, social, and legal sensitivities often apply to intentional injury cases, but can also apply to certain unintentional injuries. In some cases, the determination of intent can be unclear. In these cases, the physician may need to probe the patient further.

Intent is divided into broad categories and includes:

Unintentional: Injuries that are not inflicted by deliberate means. Included in this category are injuries due to traffic collisions, falls, burns, drownings, poisonings, work-related unintentional injuries, and natural disasters. **Note:** If “Road traffic injury” has been marked, it is necessary to complete the road traffic event variables in Module III.

Intentional – Interpersonal Violence: Violence is defined by the WHO as “the intentional use of physical force or power, threatened or actual, against another person, or against a group or community that either results in, or has a high likelihood of resulting in injury, death, psychological harm, maldevelopment or deprivation. Included in this category are injuries that result from physical assaults, intimate partner violence, child maltreatment, youth violence, sexual violence, and elder abuse. **Note:** If “Intentional-Interpersonal Violence” has been marked, it is necessary to complete the interpersonal violence event variables in Module III.

Intentional - Self-directed: An act inflicted upon oneself with the intent to harm, injure, or kill. Included in this category are acts of self-harm such as self-mutilation, suicide, and attempts of suicide. **Note:** If “Intentional-Self-Directed” has been marked, it is necessary to complete the self-directed event variables in Module III.

Legal Intervention: Injury or poisoning caused by police or other legal authorities, including security guards, during law enforcement activities. Included in this category are injuries from weapons such as mace, pepper spray, a firearm inflicted during legal action or while attempting to enforce the law such as arrest or restraint of arrested persons.

War / Terrorism: Injuries due to operations of war and civil insurrection and acts of violence by groups intended to advance a particular social, religious, or political agenda or disrupt economic activity or other essential services. Includes injuries to military and civilians caused by war.

Undetermined / Unknown: In some cases, intent is not known. In other words, the evidence indicating one type of intent is no more compelling than the evidence indicating another. For example, a person may state that the injury was the result of a fall. The fall could have been accidental (i.e., person slipped on a wet surface) or it could have occurred as a result of someone deliberately pushing the person (e.g., pushed down a flight of stairs). The physician should probe the patient to clarify intent. If the patient refuses to say or to provide sufficient information to determine intent, then intent should be recorded as unknown.

18. Place:

This variable collects the place or environment where the injury occurred and includes such locations as the home, school, sport or recreation area, street/highway, café or bar, farm, trade or service areas, industrial or construction areas, and bodies of water. More specific definitions for each category are provided below.

Home:

Includes house, apartment, farmhouse, boarding house, house trailer or tent, mobile home, garage attached or detached from the home, home garden or yard, home driveway. Excludes residential institutions such as jails, prisons or nursing homes, shelters, military institutions or camps, refugee areas, orphanages, dormitories, house under construction but not yet occupied, abandoned house, or area beyond property boundary.

School/education area:

Includes the main building and adjacent areas of private and public schools, universities, childcare facilities or day nursery, preschools, schoolyard, campus and school playground. Excludes sporting fields, athletic areas, dormitories.

Sport or recreation area: Indoor or outdoor sporting grounds, public swimming area or pool, skating rink, public park or picnic area, beach, amusement park, equestrian facility, racecourse for horses, automobiles or dogs, camp grounds, skiing or snowboarding area, lakes, etc.

Street/highway:

Includes the freeway, motorway, roadway, sidewalk or footpath, cycle path next to the road, parking garages and other parking areas, etc. Excludes home driveway, pedestrian mall, public transport areas such as bus terminals, railway terminals, airport, ferry or dock, private farm road.

Café, bar or similar:

Includes casino, bar, pub, dance club, night club, dance hall, swimming pool of hotel.

Farm:

Includes ranch, small farm, farm equipment buildings, barn, field or land under cultivation, private farm road. Excludes farmhouse or yard where the family lives on the premises.

Trade or service area:

Includes shopping mall, supermarket, bank, postal office, store, market stalls, gas or service station, commercial office building or other commercial areas such as radio/TV station. Excludes commercial parking garages, government office buildings, and medical care facilities.

Industrial/construction area:

Includes buildings or homes under construction, factory/plant, warehouse, shipyards, demolition sites, mines, quarries, oil/gas extraction facilities, power stations, etc.

Body of water:

Includes lake, sea, ocean, bay, natural ice, dam, estuary, reservoir, river, stream, canal, flooded area. Excludes beach, shore, bank, farm dam, harbour, port.

Other:

Residential institutions such as prisons and nursing homes; military institutions; shelters, orphanages, dormitories; hospitals or other medical care facilities; public religious place such as a church, mosque, temple, synagogue, cathedral; cultural areas such as music, cinema, theatre, gallery, library; public buildings such as courthouse, police station; public transport areas such as bus terminals, airports, railway terminals, ferry or doc.

Unknown:

In some cases, the place where the injury occurred is not known

19. Activity:

This variable gathers information on what the injured person was doing when the injury occurred. The specific categories are described below.

Working (inside home): An economic activity taking place inside a person's own residence in which the person is paid or receives some type of compensation for the tasks that are performed. *Example:* A person who has a home office and conducts business in his/her own home; a person who makes products at home to sell at a market.

Working (outside home): An economic activity taking place outside a person's own residence in which the person is paid or receives some type of

compensation for tasks that are performed. Included here are persons who perform and are compensated for household tasks in another home (e.g., a maid or paid housekeeper).

Educational activity: Activities that form part of a formal educational course or program of instruction provided by a school, college, university, or other educational institution. Includes activities within the classroom, physical education classes or other organized educational activities. Excludes practicing sports during free time at school, that are not part of a school-related activity; teaching a class since this would be classified as “working outside the home”.

Organized and/or informal sports:

Physical activity or competition under the auspices of a sport federation, club or similar organization. Includes activity with a coach or trainer. Also includes physical activity similar to competitive sport activities, but not organized (e.g., soccer game played in the street).

Traveling:

Moving from one place to another by transport or as a pedestrian (walking). Includes traveling to/from school, the doctor, or other places; traveling to/from a recreational or entertainment activity; traveling to/from sports or exercise during leisure time; traveling for sightseeing.

Leisure or play:

Diverse activities carried out for pleasure, enjoyment, relaxation or leisure. May be passive (watching television) or active (dancing); undertaken alone (reading) or with others (children playing hide and seek); may be commercial (attending an amusement park) or non-commercial (family picnic or eating a snack outside); may be formally organized (day trip) or not (child just playing).

Other:

Vital activities such as resting, sleeping, eating, washing or bathing oneself, getting dressed; religious or spiritual activities; household chores such as cooking, house cleaning or domestic work in the house that is not remunerated. Includes wandering, walking, running, crawling in and around the *home* without a specific purpose; sitting, standing; the victim’s activity is known, but is nothing in particular; religious/spiritual activities; activities during violence/aggression (e.g., fighting, arguing, having a tantrum, attempting suicide).

Unknown:

In some cases, the place is not known, for example the person is taken to an emergency department by persons who found the injured person in the street.

20. Mechanism of injury:

This variable records how the person sustained the injury (causes of injuries) or the process by which the injury occurred. The cause of injury is the underlying cause, rather than the direct cause. The underlying cause is what starts the chain of events that leads to an injury. The direct cause is what produces the actual physical harm. The underlying and direct causes can be the same or different. For example, if a person cuts his or her finger with a knife, the cut is both the underlying and direct cause. However, if a child falls and hits his head on a coffee table, the fall is the underlying cause (the action that starts the injury event), and the contact with the table is the direct cause (the action that causes the actual physical harm).

The data collection form uses the underlying cause rather than the direct cause of injury because the underlying cause is more important to prevention efforts. If we can prevent the underlying cause, we can stop the injury from occurring in the first place. In other words, without the underlying cause, there would be no direct cause. Reporting nonfatal injury data by the underlying cause of injury is consistent with how fatal injury data are reported. This way, users receive comparable fatal and nonfatal injury data for a specific cause (e.g., fall, poisoning, cut/pierce, etc.).

The specific mechanisms of injury included on the form are defined below:

Road traffic injury: Crashes or other injury events occurring in the course of transportation. It includes injury incidents involving a vehicle, object, or animal being used at the time of event to transport people or products from one place to another.

Sexual assault: Any sexual act, attempt to obtain a sexual act, against a person using physical force or coercion, by any person regardless of their relationship to the victim, in any setting, including but not limited to home and work. Includes rape, attempted rape, sodomy, attempted sodomy, anal or vaginal penetration with or by an object.

Fall/push/jump/(same level): Injury caused when a person drops suddenly due to the force of gravity and hits a surface at the same height, producing an injury.

Fall/push/jump/(higher level): Injury caused when a person drops suddenly due to the force of gravity and hits a surface either from a higher to lower level, producing an injury.

Struck by/against or crushed: Injury resulting from being struck by (hit) or crushed by a human, animal, or inanimate object or force other than a vehicle or machinery; injury caused by striking (hitting) against a human, animal, or inanimate object or force other than a vehicle or machinery.

Stab/cut: Injury that is the result of an incision, perforation or puncture with an instrument, object or cutting weapon. Excludes human bites; cuts or punctures during surgical or medical care; gunshot wounds; injuries caused by other projectiles such as BB or pellet guns or an arrow.

Gunshot with handgun: Penetrating injury as a result of a fired bullet or projectile shot by a handgun loaded with powder or explosive charge. Excludes injury caused by long gun.

Gunshot with rifle, shotgun or other long gun: Penetrating injury as a result of a fired bullet or projectile shot by a rifle, shotgun or other long gun loaded with powder or explosive charge. Excludes injury caused by handgun.

Gunshot with other or unspecified handgun: Penetrating injury as a result of one fired bullet or projectile shot by firearm of unknown type loaded with powder or explosive charge.

Other projectile: Penetrating injury as a result of a projectile from a BB, pellet gun, paintball, or bow and arrow.

Fire/smoke/flames: Injuries to tissues (destructive changes in the skin or deeper structures; damage to the respiratory tract or the lungs) caused by fire, smoke or flames. Includes contact with fire or flame including smoke inhalation (e.g., gasoline, kerosene, petroleum, ignited clothes or articles, smoke, fire or flames due to incendiary cigarettes or other instruments (rays).

Steam/hot vapors/hot objects: Injuries to tissues (destructive changes in the skin or deeper structures; damage to the respiratory tract or the lungs) caused by exposure to steam, hot vapors, or hot objects. Includes contact with liquid, steam or another gas (hot water in the bathtub, container, polymer warmed up in the stove, inhalation of air or hot gas, contact with melted metal); contact with hot object or another solid substance (contact with iron, stove, radiator, heater, etc.)

Exposure to extreme heat: Injuries to tissues (destructive changes in the skin or deeper structures; damage to the respiratory tract or the lungs) caused by exposure to extreme ambient heat.

Exposure to extreme cold: Injury caused by exposure to extreme cold (natural or man-made) conditions. Includes frostbite, hypothermia.

Exposure to extreme pressure: Injury caused by shock wave or pressure from a blast that is not the result of an explosion. Excludes flames after an explosion or volcanic eruption, and landmine-related injuries.

Hanging/strangulation/suffocation: Includes the compression of the neck by rope, cloth, a cord, belt, or another object which is bearing whole or part of the weight of the *hanging* person. Also includes the application of pressure with the hands on the throat of a person; restriction of blood flow or spinal cord damage by similar mechanisms; obstruction of airway by object covering mouth or nose (e.g., plastic bag, pillow).

Drowning/submersion: Drowning is the process of experiencing respiratory impairment (asphyxia) from submersion/immersion in liquid. Includes falls below the surface of water such as a bathtub, bucket, swimming pool, or natural body of water.

Ingestion/poisoning by drugs: Ingestion, inhalation, injection or absorption of drugs in amounts sufficient to cause a harmful effect. Includes substances dissolved in water or alcohol and then ingested; substances injected intravenously or subcutaneously; ingestion of tablets or pills.

Ingestion/poisoning by pesticides: Ingestion, inhalation, injection or absorption of pesticides in amounts sufficient to cause a harmful effect.

Ingestion/poisoning by gases or vapors: Ingestion, inhalation, injection or absorption of gaseous substances or chemical vapors in amounts sufficient to cause a harmful effect. Includes motor vehicle exhaust gasses, chemical dust molecules, inhaled aerosol.

Ingestion/poisoning by corrosive substance: Ingestion, inhalation, injection or absorption of substances of corrosive substances in amounts sufficient to cause a harmful effect. Includes tissue damage due to chemical effects of acid, alkaline.

Ingestion/poisoning by other unspecified substances: Ingestion, inhalation, injection or absorption of unspecified substances, toxins or other chemicals in amounts sufficient to cause a harmful effect.

Explosion from landmine: Injury caused by shock wave from landmines, booby traps, cluster munitions or improvised explosive devices (IEDs). Includes air pressure caused by explosion of a landmine or other device listed above, the objects projected by explosion.

Other explosive: Injury caused by shock wave from an explosive device. Excludes landmines, booby traps, cluster munitions or improvised explosive devices (IEDs).

Bite from a person: Injury caused by the bite of a person. Excludes subsequent visits for a bite injury that was previously treated but became infected.

Bite from an animal: Injury caused by the bite of an animal. Includes non-poisonous animal: dog, cat, horse, bird, shark, bat; poisonous animal: serpents, etc. Excludes bites that have become infected.

Bite/sting from an insect: Injury caused by the bite of an insect. Includes poisonous insects (scorpion, bees etc.) Excludes bites that have become infected.

Electrocution: Injury caused by exposure to an electrical current. Includes burn by electrical current, electrical shock, electrocution, welding and soldering injuries. Excludes eye injuries resulting from exposure to the light.

Neglect/abandonment: Failure of a caregiver to provide necessary food, water, basic shelter and safe living conditions where resources are otherwise available to the caregiver. Includes lack of food as the cause of inanition/exhaustion, insufficient nourishment, starvation; lack of water as the cause of dehydration, inanition/exhaustion.

Other: Examples: effort/excessive physical force (raising heavy object, rowing, running marathon, turning an ankle, etc.); adverse effects to medical and/or surgical treatments (reactions to medicines, objects forgotten in surgeries, etc.).

Unknown: Cases where it was not possible to define the mechanism of the injury.

21. Work-related injury:

This variable records whether the injury is related with any work activity that the person was doing at the moment of the injury. If the injury occurred while the patient was *working* for some type of compensation (either paid or in exchange for goods or services), then the following information should be recorded:

22. Type of industry: Describe the category of the industry, for example agriculture, oil, chemical, construction, manufacturing, etc.

23. Size of workplace: Approximate the number of persons in the workplace using the categories provided (less than 5 persons, 5-9 persons, 10-50 persons, 51-100 persons or greater than 100 persons).

24. Type of compensation: Include if the injured person received compensation in cash, bank deposit, or other type, or none. Do not record information for individuals doing house work for which no type of compensation is offered or earned. If this information is not defined record "unknown".

MODULE III: SPECIFIC DATA ABOUT THE EVENT

This section of the data collection form gathers more specific information about injuries related to road traffic events, including the mode of transport, the person injured, the other counterpart involved, and whether any safety elements were used. For interpersonal violence, information is gathered on the relationship of the perpetrator to the victim and the context in which the violence occurred. In the case of self-directed violence, whether the person had made a previous suicide attempt should be recorded as well as any factors that may have precipitated the current injury event. The specific variables are further defined below. Users should circle only one category corresponding to each variable (e.g., if the person was traveling by motorcycle, only motorcycle should be circled for mode of transport; if the injured person was driving the motorcycle, then the category – motorcycle/three-wheel motor vehicle driver – should be circled).

Road Traffic Events:

25. Mode of Transport: Describes the means by which the injured person was traveling from one place to another such as on foot (pedestrian), motorcycle, private car, three-wheel motor vehicle, pick-up or van, heavy transport vehicle or bus, other land transport, pedal cycle, watercraft, animal craft, aircraft, rail vehicle, other or unknown.

26. Person Injured: Describes the role of the injured person or how the person was involved with the specified *mode of transport* at the time of the injury event:

Pedestrian: A pedestrian is a person walking or standing on the road and includes, but is not limited to, persons traveling by means of a wheelchair, electric scooter, crutches or other walking devices or mobility aids. It also includes runners, joggers, those pulling or pushing strollers, carriages, carts and wagons, and those walking bicycles.

Motorcycle/three wheel motor vehicle driver: Any driver of a motorcycle or a three wheeled vehicle. Excludes person traveling as passenger of a motorcycle.

Motorcycle/three wheel motor vehicle passenger: Any occupant of a motorcycle or a three wheeled vehicle, other than the driver. Excludes person traveling as a driver of a motorcycle.

Driver of motor vehicle (car, bus, truck, taxi, etc.): Includes person driving a motor vehicle, bus, cart, animal, pedal cycle, motorcycle, three wheel motor vehicle, etc. Excludes person pulling or pushing strollers, carriages, carts and wagons, passengers in a motor vehicle, bus, cart, or on a pedal cycle, motorcycle, or three wheel motor vehicle, etc.

Passenger in motor vehicle: Any occupant of a transport vehicle other than the driver. Includes person in a vehicle sidecar; person in a vehicle that is pushed or pulled by another person; baby in a car seat. Excludes person boarding a vehicle; person traveling on top of a vehicle (roof, trunk, steps, or hanging on the outside of a vehicle).

Passenger in back of truck: Any occupant in back of truck other than the driver. Includes person in the cargo area of a truck or van, or traveling on top of a vehicle (roof, trunk, steps, or hanging on the outside of a vehicle). Excludes person boarding a vehicle.

Pedal Cyclist: Any rider of a pedal cyclist.

Driver or passenger of a water transportation vehicle.

Rider of animal or animal cart: Any rider of an animal or vehicle pulled by animal. Includes person riding an animal or a vehicle pulled by animal or animal cart.

Other: Includes person boarding or exiting from a vehicle (motor vehicle, bicycle, animal, cart etc.; person traveling on a vehicle (hood, luggage rack, stair, or hanging on the outside of a vehicle); any rider of an aircraft, or rail vehicle.

Unknown: the type of vehicle of the injured person is not defined or known.

27. Counterpart: Describes the other vehicle, object, person or animal (if any) with which the injured person, or the vehicle in which the injured person was traveling, collided. The categories include pedestrians, two or three wheel motor vehicle, car, pick-up or van, heavy transport vehicle, bus, rail vehicle, train, other non-motor vehicle, animal cart, pedal cycle, non-collision transport accident (thrown, fall, overturn), other and unknown.

28. Safety Elements: This variable records whether any safety measures were used at the time of injury. This information is very important to study and to demonstrate that safety measures, if used appropriately, reduce severity and/or prevent the injuries related to the transport. The form collects information on seat belts, helmets, reflective vests, child car seats, and personal flotation devices. More than one safety measure can be circled, if applicable.

Interpersonal Violence Events:

29. Relationship of perpetrator to the victim: Record the relationship of the person who perpetrated the violent act to the injured person. Choose only one option. The relation of perpetrator to the victim provides important information for the design of violence prevention programs and policies including those for violence against children, adolescents, and women. This information is also important in order to assess which hospital or other health care protocols may be necessary to address the patient's needs (e.g., counseling or referral services).

Partner or ex-partner: Includes present or ex-partner such as the legal husband or wife, ex-husband, ex-wife, fiancé, boyfriend/girlfriend.

Parent or step-parent: Include father, mother (biological or step).

Unrelated caregiver: This includes babysitter, nanny, etc.

Other relative: This includes sister, brother, stepbrother, stepsister, grandparent, cousin, children, aunt, uncle, etc.

Friend/Acquaintance: Includes neighbor, friends or colleagues at school or work, fiancé's father or mother, etc.

Official/legal authorities: Includes teachers, priests, clergy, employers, police, judges, government officials, military personnel, etc.

Unknown person (stranger): Persons unknown to the injured victim.

Other: Individuals who do not fit into the categories mentioned above.

Unknown (no information): The relation of the person committing the violent act to the injured person is not known.

30. Context: Record the context in which the violent injury occurred. Choose the category that best describes the context of the violence:

Family/domestic violence (e.g. child maltreatment by parents or caregivers, intimate partner violence, physical/sexual violence involving current or former partner, elder abuse, etc.).

Other interpersonal dispute (e.g. physical assault involving acquaintances, friends, neighbors, youth gangs, conflict with peers, etc.)

During a burglary, robbery or other crime.

Other

Unknown

Self-Directed Violence Events:

31. Prior attempt: Record whether the person has made a prior suicide attempt or committed other acts of self-harm before. The response options include: yes, no, or unknown, if this information is not available.

32. Precipitating Factors: Record which, if any, of the factors listed contributed to the act of self-harm, suicide or suicide attempt. The primary contributing factor should be listed in cases where there may be more than one factor.

Conflict with partner

Conflict with family (parents, children, siblings, another member of the family, etc.)

Physical illness/problem (diabetes, heart disease, cancer, HIV/AIDS, etc.)

Psychological condition (depression, post-partum depression, bipolar or anxiety disorders, schizophrenia, etc.)

Financial problems (recent loss of rank or privileges, bankruptcy, etc.)

Work problems (recent loss of job, conflict with an employer or co-worker, etc.)

Legal system encounters (e.g., arrest, garnishment of wages for child support or alimony, lawsuit against patient, etc.)

Death of family member

Victim of sexual or physical abuse

Difficulties with school

Unexpected or unplanned pregnancy

Other

Unknown

MODULE IV: ALCOHOL AND SUBSTANCE USE BY VICTIM/COUNTERPART

This section of the data collection form gathers information about alcohol and other substance use by the injured patient as well as by the counterpart involved in the injury event, or by the perpetrator in the cases involving interpersonal violence. The use of alcohol and other psychoactive substances by victims and perpetrators are important contributing factors in injury events.

Alcohol use by victim is collected using two methods, clinical observation and self report. The first method records alcohol consumption according to the characteristics of the person (e.g., if the patient smells of alcohol or if alcohol can be detected by breath, or unaffected behavior). The second method consists of self-reported responses to questions about alcohol consumption in the 6 hours before the injury event.

33. Alcohol use (victim): Clinical observation - record the information using the following categories:

No suspicion or evidence of use (no smell of alcohol, unaffected behavior, etc.)

Yes, there is suspicion or evidence of use (smell of alcohol, incoherent speech, affected gait, aggressive behavior)

Yes, confirmed by breath or blood test

Not applicable

Unknown

34. Alcohol use: Did you drink alcohol 6 hours before the injury event? Record response: Yes, No, Unknown

35. Other psychoactive substance use by victim: This includes the use of heroin, cocaine, marijuana, and other drugs. Information is collected by clinical observation and recorded using the following categories:

No suspicion or evidence of use (normal behavior, etc.)

Yes, there is suspicion or evidence of use (a feeling of euphoria, incoherent speech, affected gait, aggressive behavior). Collect the type of substance if possible.

Not applicable

Unknown

36. Alcohol or other substance abuse by counterpart or perpetrator: Information about alcohol consumption is collected by clinical observation using the following categories:

No suspicion or evidence of use (no smell of alcohol, unaffected behavior, etc.)

Yes, there is suspicion or evidence of use (smell of alcohol, incoherent speech, affected gait, aggressive behavior)

Yes, Confirmed by breath or alcohol test

Not applicable

Unknown

MODULE V: CLINICAL DATA ABOUT THE INJURY

The final module on the data collection form gathers clinical data relevant to the injury, including information on the nature of the injury, the anatomic location of the injury, the severity of the injury, and the disposition of the injured person. This information should be completed for each case.

37. Nature of the injury: Record according the clinical characteristic of the injury.

Laceration, abrasion

Cut/wound/bite

Systemic Organ Injury

Strain/sprain or dislocation

Fracture

Burn

Bruise, contusion

Traumatic brain injury

Other

Unknown

38. Anatomic location of the injury: Record the part of the body injured. More than one location may be selected and include:

Head, Face, Eyes, Ears, Nose, Neck, Thorax (front and back)

Back, Abdomen, Pelvis/Genitals

Shoulder/Arm, Elbow/Forearm

Wrist/Hand/Fingers

Hip/Thigh, Knee/Legs

Ankle/Feet/Toes

Systemic

Other

39. Severity: This variable describes the seriousness of the injury. These categories are defined according to the amount of time and type of treatment provided. Record the response option that characterizes the seriousness of the injury.

Minor or superficial: Includes injuries that require less than 1 hour of treatment (e.g. bruises, minor cuts).

Moderate: Includes injuries that require between 1 and 4 hours of treatment (e.g. fractures, sutures).

Severe: Includes injuries that require greater than 4 hours of treatment (e.g. internal hemorrhage, punctured organs, and severed blood vessels).

40. Disposition: This variable describes the ultimate clinical outcome for the injured person.

Treated and discharged
Transferred to hospital
Admitted to the hospital
Referred to other facility (specify which facility)
Left prior to discharge
Discharged against advice
Died on site/prior to discharge
Unknown

41. Preliminary Diagnosis (ICD Codes): The correspondent ICD codes of the preliminary diagnosis should be included here. It could be more than one ICD code, or a combination of codes in chapter XIX and XX.

42. Name: The person filling out the collection form should include his/her name here

PAGE 2 OF THE DATA COLLECTION FORM

This side of the form is intended to collect information about other types of health problems attended in the Emergency Department. As noted earlier, in some emergency departments, this is the form used for all type of health events seen in emergency department and is the official emergency department record for the patient. The following variables are included:

- 43. Reason for consultation:** Record here the cause of the consultation.
- 44. Actual disease or health problem:** Record what is the actual disease of problem that person has at that moment
- 45. Time of the last meal:** Record what was the time of the last food intake of the person
- 46. Hour of attention:** Record the time when the person was attended.
- 47. Antecedents:** Record information about the previous circumstances of the person
- 48. Physical exam:** Record information about Heart Rate (HR), Respiratory Rate (RR), Temperature (T), Blood Pressure (BP). Note: There is an injury scheme to mark the part of the body affected and also to collect information about Weight, Height and Glasgow points if exists.
- 49. Presumptive diagnosis:** Record the probably diagnosis of the person
- 50. Initial Indications:** Record the indications given by the health personnel
- 51. Completed by (Name and stamp):** Include the name of the person who perform the physical examination.
- 52. Procedures implemented:** Record the actions applied during the attention.

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