The Jamaica Injury Surveillance System
A Profile of the Intentional and Unintentional Injuries in Jamaican Hospitals
E Ward1, T McCartney2, S Arscott-Mills1, N Gordon1, A Grant1, AH McDonald3, DE Ashley1

ABSTRACT

Background: Injuries in Jamaica are a major public health problem as demonstrated by a hospital based computerized injury surveillance system established in 1999 that provides a risk profile for injuries.

Subjects and Method: Injury data from 2004 were selected to provide an annual profile, as comprehensive injury data were available from nine public hospitals. These nine public hospitals provide care for 70% of the Jamaicans admitted to hospitals annually.

Results: Data are presented on unintentional injuries where falls caused 44%, lacerations 27% and accidental blunt injuries were 17% of these. For motor vehicle related injuries, 55% were sustained while commuting by motorcars, 17% while riding motorbikes/bicycles and 16% of those injured were pedestrians. Most violence related injuries were due to fights (76%) with acquaintances (47%) who used sharp objects (40%) to inflict the injury.

Conclusion: The Jamaica Injury Surveillance System (JISS) data, augmented by data collected on injuries from the health centres and the sentinel surveillance system, give a measure of the magnitude of the impact of injuries on the health services. The JISS provides data on the profile of injuries seen and treated at health facilities in Jamaica. In collaboration with police data and community-based surveys, it can be used to complete the risk profiles for different types of injuries. The data generated at the parish, regional and national levels form the basis for the design and monitoring of prevention programmes, as well as serve to support and evaluate policy, legislative control measures and measures that impact on interventions.

Keywords: Injury Surveillance, Unintentional Injuries, Intentional Injuries, Motor Vehicle Related Injuries, Jamaica.

El Sistema de Vigilancia de Lesiones en Jamaica (SVLJ)
Un Perfil de las Lesiones Intencionales y no Intencionales en Hospitales de Jamaica
E Ward1, T McCartney2, S Arscott-Mills1, N Gordon1, A Grant1, AH McDonald3, DE Ashley1

RESUMEN

Antecedentes: Las lesiones constituyen un problema importante de la salud pública en Jamaica, como lo demuestra el sistema de vigilancia computarizada de las lesiones, establecido en 1999, el cual proporciona un perfil de riesgo de las lesiones.

Sujetos y Método: Datos de lesiones ocurridas en el 2004 fueron seleccionados a fin de ofrecer un perfil anual, ya que se disponía de un conjunto amplio de datos de nueve de los hospitales públicos. Estos nueve hospitales públicos dan atención al 70% de los jamaicanos ingresados a los hospitales cada año.

Resultados: Se presentan datos sobre lesiones no intencionales, según los cuales las caídas representaron el 44%, las laceraciones el 27% y las contusiones accidentales el 17%. En cuanto a las lesiones relacionadas con automóviles, el 55% fueron producidas durante la transportación diaria en vehículos automotores a centros de trabajo o estudio; el 17% se produjo en viajes en motos o bicicletas; y el 16% de los heridos fueron peatones. La mayoría de las lesiones relacionadas con la violencia se
INTRODUCCIÓN

Palabras claves: Vigilancia de lesiones, lesiones no intencionales, lesiones intencionales, lesiones automovilísticas, Jamaica

Injuries including violence-related injuries have been cited as a major cause of morbidity and mortality in Jamaica, as in other parts of the Caribbean and the rest of the world (1–5). An injury can be defined as damage, intentional or unintentional to the body, resulting from acute exposure to thermal, mechanical, electrical or chemical energy or from the absence of such essentials as heat or oxygen (1). Violence is defined as the intentional use of physical force or power, threatened or actual, against oneself, 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 (2).

An estimated five million people worldwide died from injuries in 1998 resulting in a mortality rate of 97.9 per 100,000 population. Injuries accounted for 9% of the world deaths and 12% of the world’s burden of disease (1). Road traffic injuries were the leading cause of injury-related death worldwide (3). Worldwide, men are three times as likely to die from injuries as females (1). Even in low- and middle-income countries where infectious diseases have traditionally been seen as the main public health problem, injuries are among the leading causes of death and disability (1). Data from the Americas on the External Cause of Injury (ECI) between 2000 and 2005 recorded that some 1,620 deaths occurred per day or approximately 593,000 deaths annually. In addition, for each death, between 10–20 non-fatal injuries were reported. This adds to the lifelong problem of disabilities with the resulting negative impact on families and society (6, 7). In the Caribbean, injuries are the leading cause of death among males 5 to 44-years old and account for 58% of deaths in the 15 to 24-year age group (8). The data from 2000–2004 show an estimate of 31 million years of potential life lost because of homicide and suicide, mostly due to the deaths of young people. Externally caused injuries are responsible for six million years of living with disabilities, compared with four million living with infectious disease and about a million living with cardiovascular disease and cancer. External cause of injury have also been cited as the leading cause of preventable mortality causing an average loss of 28.2 potential years of life (5, 6, 8).

In Jamaica, police data for 2004 reported fatalities of 55.5/100,000 from homicides, 13.6/100,000 from road traffic injuries and 1.6/100,000 from suicides (9). The impact of non-fatal injuries on the Jamaican health services is enormous. After obstetric conditions, injuries were the leading cause of discharge from Jamaican government hospitals in 2002 (10). By 2006, the estimated cost of hospital care for treatment of injuries was $2.2 billion Jamaican Dollars (11). Earlier studies had highlighted the burden of injuries on the health services. An unpublished study by McCartney and Taylor at the Kingston Public Hospital (KPH), the island’s main tertiary referral hospital for trauma, recorded that 1 in 3 elective surgery lists were cancelled because of emergency surgery to treat patients who had suffered grievous bodily harm. McDonald at the University Hospital of the West Indies (UHWI), the island’s main teaching hospital, reported that in 1996 trauma had accounted for 37% of patients seen in the hospital’s Accident and Emergency department (12).

This paper provides a profile of the injuries seen in Jamaican hospitals as captured in the Jamaica Injury Surveillance System (JISS).

Injury data combined with reports from the KPH that the workload due to injuries was causing increasing strain on the health staff and the resources of the facility and an escalating backlog of scheduled surgery. This led to the formation of a technical working group with the mandate to address the issue of injuries in the healthcare sector and establish an Injury Surveillance System. The working group was composed of professionals from the Tropical Medicine Research Institute, the Ministry of Health (MOH), KPH, UHWI and the Division of Violence Prevention from the US Centers for Disease Control and Prevention. The working group’s first objective was to develop a surveillance system to track injuries. The initial system was developed to monitor violence-related injuries and was called the Violence Related Injury Surveillance System (VRISS). This system was expanded in 1999 to track all injuries and is called the JISS (13).
Establishment of the JISS
The JISS was designed as a simple culturally appropriate
data capture system where trained medical records clerks
asked the who, what, where, why and how of the injury event
and recorded the answer in the patients’ registration database
(Box 1). The workload of the doctors and nurses was

• Designed to ensure that the system is simple, culturally
  appropriate while using standardized international definitions.
• Integrated into or a modification of an existing data collection
  system.
• Minimized workload due to implementation of the system and
  ensured that patient care is not compromised.
• Skills-based training used, reinforced by user prompts and
  training manuals.
• Incorporated a system for monitoring and quality assurance.
• Provided a system for report generation, analysis of data and for
  dissemination of information
• Outlined usage of the injury data to guide the development of and
  on-going evaluation of intervention programmes.

Box 1: Development of an Injury Surveillance System based on lessons learnt from JISS.

• Defined the epidemiological profile. Used existing data and
  where necessary established a data gathering mechanism at both
  the hospital and community level.
• Measured the impact of injuries on the society by estimating costs
  and disease burden.
• Used the data to identify priority areas for intervention.
• Involved communities in the planning and implementation of
  intervention programmes.
• Provided the basis for the establishment of an inter-sectorial
  mechanism to coordinate and implement interventions.
• Used the data to advocate for prevention programmes, legislative
  changes, ongoing research, resource allocation and policy
  change.
• Provided a system for ongoing monitoring, evaluation and feedback

Box 2: Use of an Injury Surveillance System to design a Control
Programme based on the Jamaican JISS experience.

SUBJECTS AND METHOD
In Jamaica, there are 23 public government run hospitals
providing care for the population. These hospitals together
with the tertiary teaching hospital, UHWI, provide 90% of
the hospital-based care in the island. The Type A hospitals
such as KPH are situated in the larger urban areas and pro-
provide the most complex mix of services available. Type B
hospitals are situated in smaller urban areas and receive
referrals from Type C hospitals. Type C hospitals are located
in rural centres and provide general outpatient and basic
inpatient services. The JISS system described in this paper
collects data from nine of the major hospitals which include
all seven of the government Type A and B hospitals as well
as two Type C hospitals that are currently being upgraded to
Type B status. These hospitals are the major providers of
inpatient care providing access to specialist services.

The JISS provided information on the characteristics of
the injured population and the risk factors associated with
injuries by tracking the circumstances, location and method
of injury. Injuries were categorized as: unintentional (acci-
dental) injuries, violence-related injuries, intentional self-
harm (attempted suicide) and motor vehicle related injuries.

RESULTS
Injury data from the island’s hospitals
Data collected from all 22 government hospitals for 2004
revealed that injuries represented 11% of the over 700 000 re-
registrations in the Accident and Emergency (A&E) depart-
ments. Unintentionally, Violence-related and Motor vehicle
related injuries accounted for 45%, 38% and 17% of the in-
jury cases respectively. Less than one per cent of injuries
-treated in hospitals were due to intentional self-harm, these
were not analysed in this paper.

Table 1: Fatalities from injuries in Jamaica based on Police data for 2004

<table>
<thead>
<tr>
<th>Type of Injury</th>
<th>Homicides</th>
<th>Road Traffic</th>
<th>Suicides</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male to Female ratio</td>
<td>9.4:1</td>
<td>3.7:1</td>
<td>3.7:1</td>
</tr>
<tr>
<td>Rate per 100 000</td>
<td>55.5/100 000</td>
<td>13.6/100 000</td>
<td>1.6/100 000</td>
</tr>
</tbody>
</table>

Source: Jamaica Constabulary Force Statistics Division, Kingston, Jamaica

Unintentional injuries seen in JISS Hospitals
In 2004, over 37 800 unintentional injuries were seen at all
the government hospitals representing 4.9% of total A & E
registrations and 45% of all injury registrations. Of these
injured patients 62% (23 232) were seen at the A&E
departments of nine major hospitals and JISS data were
analysed for 77% (17 777) of the unintentional injuries seen
at these nine hospitals (Table 2a and 2b).

The JISS data revealed that males were 1.8 times more
likely to experience unintentional injuries than females.
Among adolescents, the risk was 2.3 times higher for males
than females. Age breakdown demonstrated that 57% (10
196) of those seen for unintentional injuries were 19-
years or younger while 14% (2502) were in the 20 to 29-year age group. The elderly (60 years and older) accounted for 7% (1184) of the unintentional injuries reported.

**Mechanism**

Falls 44% (7788) were the most frequent mechanism of unintentional injury followed by lacerations, 27% (4773) and accidental blunt force injury 17% (3040), burns 3.6% (633), bites 4.0% (705) and gunshot 0.4% [70] (Table 3).

The majority of falls occurred in the home 5003 (76%) while the school and street each accounted for 12%. Fifty-one per cent of the fall victims were children (0–9-years) while 6% of fall victims were elderly (> 60 years).

Sixty-five per cent (3032) of accidental lacerations occurred in the home. The school and street or public area accounted for 8% and 10% respectively. Age breakdown showed that 48% of these lacerations occurred in the under 10 age group while 19% occurred in the 10–19-year age group.

For accidental blunt injuries, 46% (1384) occurred in the home with 15% in the street or public area and 14% in schools. Forty-eight per cent of blunt injuries were in children under 10-years of age while 22% were 10–19 years old.

The home was the location for 58% (550) burns. Age breakdown showed that 75% of these burns occurred in the under 10–19-year age group and 32% occurred in the 30–39-year age group.

<table>
<thead>
<tr>
<th>Mechanism of Injury</th>
<th>Gender</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male n</td>
<td>%</td>
</tr>
<tr>
<td>Falls</td>
<td>4612</td>
<td>40.6</td>
</tr>
<tr>
<td>Accidental laceration</td>
<td>3436</td>
<td>30.2</td>
</tr>
<tr>
<td>Accidental blunt</td>
<td>2091</td>
<td>18.4</td>
</tr>
<tr>
<td>Burns</td>
<td>362</td>
<td>3.2</td>
</tr>
<tr>
<td>Bites</td>
<td>376</td>
<td>3.3</td>
</tr>
<tr>
<td>Gunshot</td>
<td>55</td>
<td>.5</td>
</tr>
<tr>
<td>Other</td>
<td>430</td>
<td>3.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>11 362</td>
<td>64.1</td>
</tr>
</tbody>
</table>

Source: Jamaica Injury Surveillance System, Ministry of Health, Jamaica

* Kingston Public, Bustamante, Spanish Town, May Pen, Mandeville, St Ann’s Bay, Annotto Bay, Cornwall Regional and Savannah-La-Mar Hospitals

The Jamaica Injury Surveillance System

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Table 2a: Number of injuries seen by injury type and hospital in Jamaica, 2004

<table>
<thead>
<tr>
<th>Injury Type</th>
<th>A&amp;E departments</th>
<th>All hospitals*</th>
<th>A&amp;E departments</th>
<th>Referral Hospitals**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Traffic</td>
<td>14 065 (17%)</td>
<td>37 800 (45%)</td>
<td>32 202 (38%)</td>
<td>84 072</td>
</tr>
<tr>
<td>Unintentional</td>
<td>9 945 (18%)</td>
<td>23 232 (43%)</td>
<td>21 318 (39%)</td>
<td>54 495</td>
</tr>
<tr>
<td>Violence Related</td>
<td>7085 (71%)</td>
<td>17 777 (77%)</td>
<td>15 701 (74%)</td>
<td>40 563</td>
</tr>
</tbody>
</table>

Table 2b: Number of injuries seen by injury type and referral hospital in Jamaica 2004

*23 Government Hospitals (9 referral + other hospitals)
**9 Major hospitals
***JISS Data collected from 9 major hospitals

Sources: Hospital Monthly Statistics (HMSR) 2004
Jamaica Injury Surveillance System (JISS) 2004, Ministry of Health
Location
Sixty-two per cent (10,836) of unintentional injuries took place within the home, with the home being the most common location for falls, accidental lacerations, accidental blunt force injuries, burns and bites. Of the injuries occurring at home, 42% occurred in the under-10-year age group. Among the elderly, 72% of unintentional injuries occurred in the home.

The street or public area was the location where (13%) 2,251 of unintentional injuries occurred. Unintentional injuries from gunshots most frequently occurred in the street/public area. Adolescents 10–19 years old accounted for 28% (622) of injuries occurring in the street/a public area. Overall, children aged 19 years and under accounted for 47% of injuries occurring in the street/public areas. Schools/institutions accounted for (10%) 1,776 of unintentional injuries. Within the schools, 12% (932) of these injuries were falls and 8% (358) were accidental lacerations. Five per cent (786) of unintentional injuries occurred in industrial/commercial areas. Thirty per cent of injuries that took place in industrial/commercial areas occurred in the 20–29-year age group and 27% in the 30–39-year age group.

Disposition
The disposition of an injured patient reflects the severity of the injury sustained. Of the unintentional injuries seen, 11% required admission to hospital. The data from the JISS demonstrate that 48% of those injured in a fall required admission while 15% of accidental lacerations and 43% of accidental blunt injuries were admitted to hospital.

Intentional Injuries seen at JISS Hospitals
In 2004, over 32,200 Violence-related injuries (VRIs) were seen at all the government hospitals representing 4% of total A & E registrations and 38% of all injury registrations. Of these injured patients, 66% (21,318) were seen at the A & E departments of nine major hospitals and JISS data were analysed for 74% (15,701) of the VRIs seen at these nine hospitals (Table 2). The data demonstrated that as with unintentional injuries, males were 1.4 times more likely to present with a VRI than females. Young males (20–29-years) accounted for 33% of VRI visits while males 19 years and under accounted for 24% of injury visits. Males 29 years and under therefore accounted for more than half of male VRI injury visits.

Mechanism
Forty per cent (6,069) of the VRIs were inflicted by a sharp object while 31% (4,715) resulted from the use of a blunt object. Gunshot wounds accounted for 7% (1,074) of the
VRIs and 15% (2230) were due to the use of bodily force (Table 5).

Table 5: Circumstance of violence related injuries by gender in Jamaican hospitals* 2004

<table>
<thead>
<tr>
<th>Circumstance of Injury</th>
<th>Male</th>
<th>%</th>
<th>Female</th>
<th>%</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fight/argument</td>
<td>6436</td>
<td>74.5</td>
<td>4919</td>
<td>79.2</td>
<td>11 355</td>
<td>76.4</td>
</tr>
<tr>
<td>Robbery/Burglary</td>
<td>609</td>
<td>7.0</td>
<td>87</td>
<td>1.4</td>
<td>696</td>
<td>4.7</td>
</tr>
<tr>
<td>Drug/Gang related</td>
<td>258</td>
<td>3.0</td>
<td>27</td>
<td>0.4</td>
<td>285</td>
<td>1.9</td>
</tr>
<tr>
<td>Sexual assault</td>
<td>26</td>
<td>0.3</td>
<td>734</td>
<td>11.8</td>
<td>760</td>
<td>5.1</td>
</tr>
<tr>
<td>Child abuse</td>
<td>90</td>
<td>1.0</td>
<td>68</td>
<td>1.1</td>
<td>158</td>
<td>1.1</td>
</tr>
<tr>
<td>Other – Mob, Riot, Police shooting</td>
<td>1225</td>
<td>14.2</td>
<td>379</td>
<td>6.1</td>
<td>1604</td>
<td>10.8</td>
</tr>
<tr>
<td>Total</td>
<td>8644</td>
<td>100.0</td>
<td>6214</td>
<td>100.0</td>
<td>14 858</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Jamaica Injury Surveillance System. Ministry of Health, Jamaica
*Kingston Public, Bustamante, Spanish Town, May Pen, Mandeville, St Ann’s Bay, Annotto Bay, Cornwall Regional and Savannah-La-Mar Hospitals.

Victim perpetrator relationship

Examination of the victim perpetrator relationship revealed that an acquaintance was responsible for 47% (7089) of the VRIs reported while strangers inflicted 17% (2493) and an intimate partner 15% (2256). Gender stratification of these data demonstrated that an intimate partner inflicted 30% (1889) of the injuries experienced by women and females were victims of 84% (1889) of the injuries inflicted by an intimate partner. Thirty-seven per cent of the injuries perpetrated by an intimate partner were inflicted by bodily force (e.g. hitting, punching and kicking) and 14% by use of a blunt object (e.g. pipe or board). Fifty-four per cent (4699) of the injuries sustained by males were inflicted by an acquaintance. Individuals were generally more at risk from persons they knew since acquaintances were responsible for 47% (7089) of the injuries sustained in a fight or argument. An acquaintance inflicted 56% of the stab wounds, 20% of the gun shot wounds and 55% of the blunt injuries. Acquaintances were responsible for 38% of the VRIs occurring in the confines of the home, followed by an intimate partner 31% (732) and other relatives 20% (477). Acquaintances also inflicted 59% and 57% respectively of the injuries that occurred in a school or institution and on the street.

Injuries sustained during a robbery (76%) and gang or drug-related violence (69%) were more likely to be inflicted by a stranger. A stranger inflicted fifty per cent of the gunshot wounds.

Circumstance

Of the patients treated for VRIs, 76% (11 355) were injured during a fight or argument. A sharp object was used to inflict 40% (6069) of these injuries, followed by a blunt object 31%, (4715), bodily force 15%, (2230) and by gunshot 7%, (1074). An age breakdown of the VRIs sustained during a fight or argument reveals that 37% (1958) of the victims were in the 20–29 year age group (Table 6).

Table 6: Method of violence related injuries by gender in Jamaican hospitals* 2004

<table>
<thead>
<tr>
<th>Method of Injury</th>
<th>Male</th>
<th>%</th>
<th>Female</th>
<th>%</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blunt object</td>
<td>2674</td>
<td>30.0</td>
<td>2041</td>
<td>32.6</td>
<td>4715</td>
<td>31.0</td>
</tr>
<tr>
<td>Bodily force</td>
<td>689</td>
<td>7.7</td>
<td>1541</td>
<td>24.6</td>
<td>2230</td>
<td>14.7</td>
</tr>
<tr>
<td>Sharp object</td>
<td>4376</td>
<td>49.0</td>
<td>1693</td>
<td>27.0</td>
<td>6069</td>
<td>40.0</td>
</tr>
<tr>
<td>Gun shot</td>
<td>948</td>
<td>10.6</td>
<td>126</td>
<td>2.0</td>
<td>1074</td>
<td>7.1</td>
</tr>
<tr>
<td>Sexual assault</td>
<td>23</td>
<td>0.3</td>
<td>700</td>
<td>11.2</td>
<td>723</td>
<td>4.8</td>
</tr>
<tr>
<td>Other – choking, Burn strangulation</td>
<td>218</td>
<td>2.4</td>
<td>158</td>
<td>2.5</td>
<td>376</td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>8928</td>
<td>100.0</td>
<td>6259</td>
<td>100.0</td>
<td>15 187</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: Jamaica Injury Surveillance System Ministry of Health Jamaica
*Kingston Public, Bustamante, Spanish Town, May Pen, Mandeville, St Ann’s Bay, Annotto Bay, Cornwall Regional Savannah-La-Mar Hospitals.

Disposition

An indication of injury severity was derived from examining the disposition of the patients experiencing VRIs. For VRI, 17% (2472) required admission to hospital and the majority of those admitted were injured in a fight or argument. These data demonstrated that 49% of those admitted to hospital were suffering from stab wounds, 21% from gunshot wounds, 19% from blunt injuries and 7% from injuries resulting from the use of bodily force.

DISCUSSION

Injuries presenting to the referral hospitals over-represent the risk of injury to the population but JISS presents data from an islandwide surveillance system providing a profile of the seriously injured population in Jamaica. Sentinel sites collect data from the 54 Ministry of Health hospitals and health centres across the country. Three per cent of patients seen at these sentinel health facilities were seen for an injury as against the 11% seen and treated for injuries at hospitals. The serious nature of many injuries means that persons often bypass primary care centres and utilize hospital A & E units for care. In Jamaica, 90% of hospital-based care occurs in the government-based hospitals and in 2004 though user fees were charged, patients were not turned away due to inability to pay.

Data were available on 74% of injuries seen in the referral hospitals. Looking at the 26% of cases not tracked, it was noted that the system undercounts some of the more serious injuries like gunshot wounds as priority is given to patient care over registration in JISS. Hospitals have taken to doing registration at the bedside after the patient is stabilised and this has reduced the number of cases missed. Another limitation of the study was the absence of data from the UHWI where some of the most complex referral cases are
managed. Discussions are underway to establish the system there. Data on body part affected was not collected in this dataset and thus not available for analysis.

The JISS now provides data from all the major public hospitals so that health teams in the four health regions can direct their injury prevention programmes relevant to the local profile of injuries in their communities. The Violence Prevention Programme-Jamaica was formed in 2004 in response to a need for an inter-sectoral group to respond to the growing problem of violence and its impact on the health sector. Ongoing programmes are needed to provide training and counselling in communication and negotiation skills for individuals, families and communities to reduce the use of violence to resolve conflicts. Intimate partner violence is an area for development of community-based solutions. Efforts have already started through Womens’ Inc, Womens’ Media Watch and through the church’s violence prevention network. Police data report that 76% of violent deaths were inflicted by a firearm in 2004 (9), however, only 7% of persons treated for VRIs had their injuries inflicted by a firearm indicating the lethality of this form of violent intervention. More strangers inflicted injuries involving the use of a firearm compared to other forms of intentional injury.

The majority of MVRI fatalities were not necessarily drivers of motor vehicles but pedestrians and cyclists. Much of the attention of the police is currently focussed on the drivers but improvements in road infrastructure facilitating pedestrians and cyclists, and signage along with community and broad school-based education on road user safety is indicated. The majority of unintentional injuries occur at home and present an opportunity for focussed intervention. Falls in the younger and older age group continue to be a major cause of morbidity.

The presence of the injury surveillance system provides the evidence to guide the development of an Injury Control Programme (Box 2). The JISS has been operational for over 10-years and was integrated into the existing data collection system in Jamaican hospitals from the outset. The JISS provides an ongoing epidemiological profile and measures the impact of injuries on the health services and the society. The data provided allows for priority setting in intervention programmes and allows for evaluation of the effectiveness of the interventions. Community members and inter-sectoral groups are provided with information to guide their intervention and advocacy programmes. Data are provided that can support the need for legislative changes and serve to measure the effectiveness of these programmes and support policy changes.

These data used in collaboration with police data and community based surveys complete the risk profiles for different types of injuries. The data outlined can be generated at the parish, regional and national level and form the basis for the design and monitoring of prevention programmes. At the national level, the data are shared with the Planning Institute of Jamaica, the Ministries of National Security and Justice and other governmental and non-governmental agencies and serve to support policy and legislative control measures as well as to evaluate the impact of intervention programmes.

CONCLUSION

The JISS data, augmented by data collected on injuries from the health centres and the sentinel surveillance system, give a measure of the magnitude of the impact of injuries on the health services. There is need for ongoing support from the MOH to sustain and strengthen the JISS to ensure it will be responsive to the needs of Violence and Injury Prevention programmes as called for in the Mexico Ministerial declaration on Violence and Injury Prevention and the PAHO council meeting in 2008 (3, 5, 13, 14).

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