

Injury Profile 2014

Vancouver Coastal Health Authority

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Our Region

The Vancouver Coastal Health Authority (VCH) is one of five geographically distinct health authorities in British Columbia (BC). The VCH region covers a large geographic area and includes both urban and rural communities. It is comprised of three health service delivery areas (HSDA): North Shore/Coast Garibaldi (i.e. Coastal Urban and Coastal Rural), Richmond, and Vancouver.

The Vancouver HSDA is further divided into six local health areas (LHA), and the North Shore/Coast Garibaldi HSDA further divided into seven (two LHAs in Coastal Urban and five in Coastal Rural). The estimated VCH population is 1.2 million, approximately 25% of BC's population.

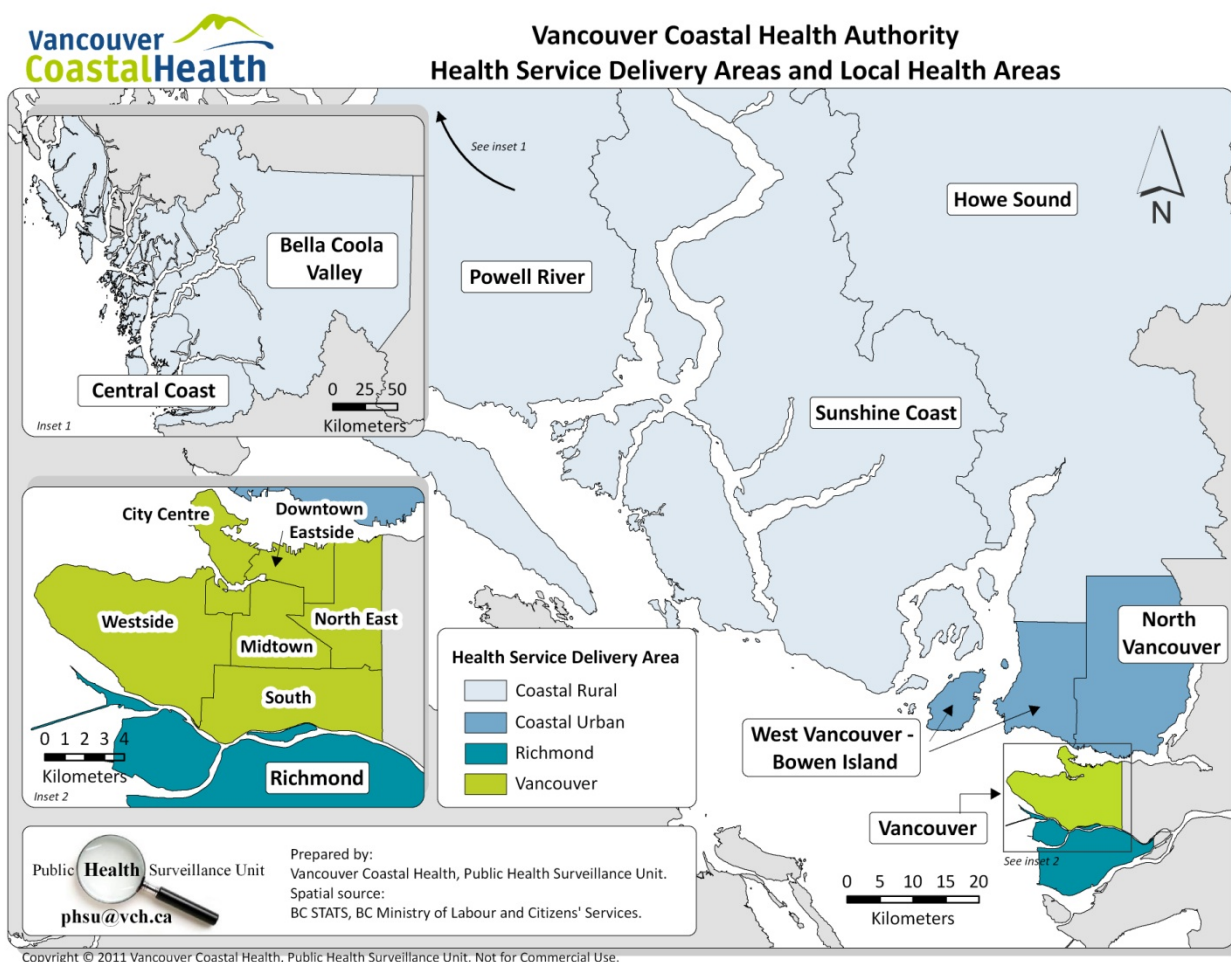


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1. Introduction

1.1. About this injury profile summary report

This injury profile summary report looks at injuries occurring in the VCH region overall and within the VCH Health Service Delivery Areas (HSDA); Richmond, Vancouver, Coastal (Urban and Rural). The injury data included here is from available emergency room visits, hospital admissions, and vital statistics. Primarily, cause of injury is presented as the number of cases, the rate of injury per 100,000 population, age and sex. This is a summary of the descriptive epidemiological report *Injury Profile 2014, Vancouver Coastal Health Authority*. <link>

1.2. Purpose

The objective of this report is to:

- Highlight the burden of injury in Vancouver Coastal Health and its communities
- Identify the cause of injury and trends stratified by age, sex and local health area

It is intended to:

- Contribute to a better understanding of the current burden of injury in VCH
- Support discussion of injury prevention priorities by a broad range of stakeholders
- Guide injury prevention collaboration between VCH and its partners

1.3. VCH Regional Injury Prevention Priorities

The VCH Regional Injury Prevention priorities were agreed on, after the release of the 2012 VCH Injury Profile, by multiple VCH programs, including: Public Health, Regional Trauma Services, Aboriginal Strategic Health Initiative, Primary Care, Acquired Brain Injury Program, Regional Fall and Injury Prevention Program, Mental Health & Addictions, and BC Children's Hospital.

The VCH regional injury priorities are:

- Road safety
- Falls for all ages
- Sport-related injuries
- Suicide and self-inflicted injuries

2. Executive Summary

Introduction

- The VCH Injury Profile was developed to highlight the burden of injury and identify the cause of injury and trends, as well as support discussion about injury prevention priorities.

*Significant **increases** in population injury rates over time*

- ER visits across VCH are increasing modestly for 7 of the top 8 causes of injury, with the largest increase being poisoning/overdose (32% increase from 2010-11 to 2012-13)
- Hospitalizations across VCH are increasing significantly for injuries due to overexertion (9% increase from 2005-7 to 2008-10) driven primarily by a 63% increase in overexertion hospitalizations in Coastal Rural.
- Mortality due to injury across VCH is increasing significantly for deaths due to falls (40% increase from 2006-8 to 2009-11)

*Significant **decreases** in population injury rates over time*

- Hospitalizations across VCH are decreasing significantly for suicide/attempted suicide (17% decrease from 2005-7 to 2008-10) and homicide/assault (22% decrease from 2005-7 to 2008-10)
- Mortality due to injury across VCH is decreasing significantly for transport-related causes (39% decrease from 2006-8 to 2009-11)

Premature Mortality

- Potential Years Life Lost (PYLL) has been decreasing in most HSDAs 1997 to 2011, particularly the Downtown Eastside.

Notable cause specific injuries rates in the different sub regions compared to the VCH average

- Fall injury rates in Howe Sound and Coastal Urban are higher compared to the VCH average for both ER visits and hospitalizations
- Motor Vehicle Collisions (MVC) injury rates in Howe Sound are over twice the ER visit rate compared to the VCH average
- Sports-related injury rates in Howe Sound are almost four times the ER visit rate compared to the VCH average
- Vancouver experiences a higher ER visit rate due to poisoning /overdose compared to the average of the other sub regions, primarily due to alcohol, followed by illicit drugs

3. Methodology

Injury information used in this profile comes from several data sources. Data limitations exist and are listed below.

3.1. Data Sources

VCH ER Visits

Visits to emergency rooms (ER) come from nine out of 13 acute care hospitals across the region and provide coverage for approximately 95% of the population in VCH. Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: presenting complaint, nature of injury, mechanism of injury and activity at time of injury.

BC Children's Hospital ER Visits

BC Children's Hospital provides expert care for the province's most seriously ill or injured children. Many of the specialized pediatric services are not available anywhere else in the province. Only children residing in the VCH region at the time of their injury were included in this profile. The data is from the Canadian Hospitals Injury Reporting and Prevention Program (CHIRPP), Public Health Agency of Canada. The CHIRPP database contains information about the circumstances of the injury that is completed by the patient or an accompanying adult on a one page self administered CHIRPP questionnaire. Injury-related visits are captured through ICD-9 codes.

Hospitalization

All Canadian hospitals (except those in Quebec) submit their hospitalization records directly to the Canadian Institute of Health information (CIHI) for inclusion in the Discharge Abstract Database (DAD). Data for Vancouver Coastal Health is broken down by fiscal year, age group, local health area and cause of injury. Cases include all hospitalizations types - acute, surgical and rehab cases.

Mortality

BC Vital Statistics Agency collects death records for BC residents. Data was collected for Vancouver Coastal Health residents and broken down by age group, local health area and cause of injury.

3.2. Limitations

Physicians and various health professionals are responsible for diagnosing and documenting the cause of injury for ER visits, hospitalization admissions and deaths, therefore consistency and accuracy of our results cannot be assumed. Additionally, each source differs in the number of years of data that could be collected; therefore, comparing results between ER, hospitalizations and mortality should be done with caution. Some causes of injury may be over reported as it

may be commonly documented as the cause of injury, although it may not be the primary cause of injury (i.e. Cuts/pierces). Here are some specific limitations to data sources:

Some specific limitations to the data sources include:

VCH ER

- Nine out of thirteen VCH hospitals are included in the VCH ER dataset. Individuals may visit all thirteen hospitals and individuals may visit ER's outside of the VCH region.
- Residents of Richmond HSDA, Vancouver HSDA, Coastal Urban HSDA and Howe Sound LHA were included in the VCH ER data. All other Coastal Rural LHA's, Powell River, Sunshine Coast, Bella Coola Valley and Central Coast, are excluded from the analysis due to small numbers.
- Individuals may have more than one visit to the ER for the same injury, which may lead to over reporting of injuries.
- Children's data comes from two data sources that have different collection methods; merging the data sets is not possible. Therefore, children and youth (0-19 years old) are presented within BC Children's ER data and within ER data from the nine participating ER's in VCH separately.

Hospitalizations

- Hospitalization data can vary over time and between areas for factors not related to health, such as accessibility of treatment, and medical or administrative decisions that may affect the number of hospitalizations and lengths of hospital stay.
- The number of cases refers to hospitalizations and is not the number of individuals hospitalized.

4. VCH Burden of Injury

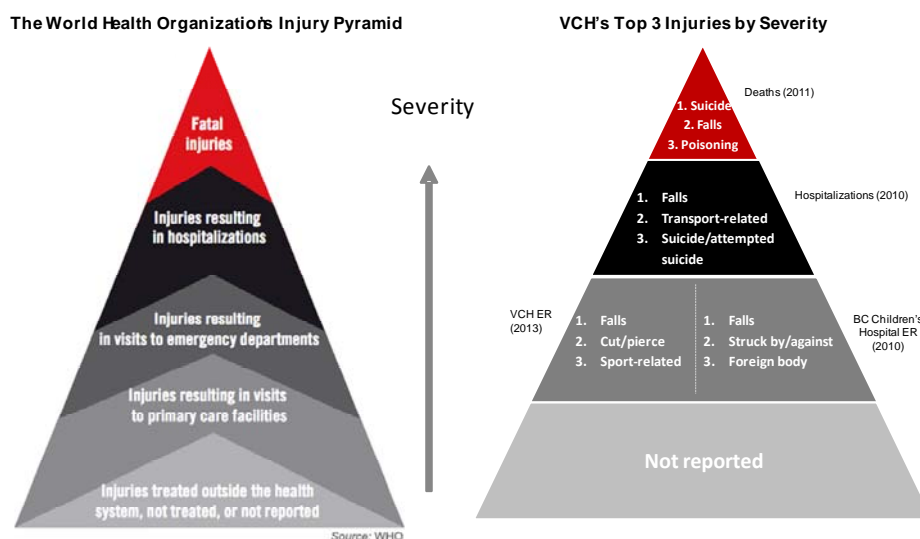
The burden of injury can be measured by financial cost, mortality, morbidity, or other indicators. In this summary report, mortality is represented by deaths and premature mortality by potential years of life lost (PYLL), morbidity by emergency room (ER) visits and hospitalizations and financial cost of injury by hospital costs.

Figure 1, below, shows the World Health Organization’s injury pyramid, which illustrates the distribution of injury severity types contributing to the overall burden of injury. Deaths represent a small percentage of those injured, followed by hospitalization, visits to the emergency department or general practitioner, and finally, untreated injuries or unreported medical care (World Health Organization, 2004).

The top three injuries by severity in ER, hospitalization, and mortality data, measured by rate per 100,000 people, are presented in Figure 1 to show a summary of the burden of injury by cause amongst VCH residents presenting to VCH hospitals.

- The top three causes of death due to injury per 100,000 VCH residents are caused by suicide, falls, and poisoning
- The top three causes of hospitalization due to injury per 100,000 VCH residents are falls, transport-related and suicide/attempted suicide
- The top three causes of ER visits due to injury per 100,000 VCH residents are falls, cut/pierces and sport-related
- The top three causes of BC Children’s Hospital ER visits per 100,000 VCH residents aged 0-19 years old is falls, struck by/against and foreign body

Figure 1: The Injury Pyramid and the VCH Top Three Injuries by Severity



4.1. VCH Cause of Injury Ranking (crude rates per 100,000 population)

- The number one ranked cause of injury for ER visits and hospitalizations is falls (Table 1 and Table 2)
- The number one ranked cause of injury for mortality is suicide (Table 3)

Table 1. ER Visits due to injury in residents of Vancouver Coastal Health (VCH) and Health Service Delivery Areas/Howe Sound LHA. Rates per 100,000 population.

Cause of Injury	VCH				Richmond				Vancouver				Coastal Urban				Howe Sound			
	2012-2013		2010-2011		2012-2013		2010-2011		2012-2013		2010-2011		2012-2013		2010-2011		2012-2013		2010-2011	
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank
Falls	1381.0	1	1273.2	1	1337.3	1	1230.7	1	1108.5	2	1000.0	2	2173.4	1	1986.6	1	2371.8	3	2621.4	3
Cut/pierces	1372.8	2	1183.1	2	1304.3	2	1108.1	2	1461.9	1	1226.0	1	853.4	3	837.0	3	2882.2	2	2692.9	2
Injuries involving sport activities	789.8	3	775.1	3	732.6	3	737.4	3	514.2	4	478.8	4	1309.7	2	1292.8	2	3349.7	1	3570.0	1
Poisoning including overdoses	554.9	4	419.9	4	256.2	5	192.0	5	756.7	3	562.4	3	219.3	6	202.1	6	330.1	8	286.2	8
Motor Vehicle Collisions	363.1	5	338.2	5	430.7	4	371.7	4	317.7	5	311.1	5	357.2	4	323.0	4	841.9	5	724.0	5
Bicycling	231.5	6	220.5	6	106.2	7	99.4	7	152.2	7	154.9	6	296.8	5	266.5	5	2016.7	4	1841.5	4
Bite/sting	180.9	7	164.0	7	145.0	6	133.3	6	166.7	6	150.8	7	152.6	7	139.2	7	787.8	6	711.1	6
Fire/Burn	111.3	8	89.5	8	95.5	8	76.5	8	106.4	8	81.7	9	91.4	9	70.3	9	392.5	7	407.8	7

Table 2. Hospitalization due to injury in residents of Vancouver Coastal Health (VCH) and Health Service Delivery Areas (HSDA). Rates per 100,000 population.

Cause of Injury	VCH				Richmond				Vancouver				Coastal Urban				Coastal Rural			
	2008-2010		2005-2007		2008-2010		2005-2007		2008-2010		2005-2007		2008-2010		2005-2007		2008-2010		2005-2007	
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank
Falls	397.6	1	390.7	1	295.5	1	264.3	1	339.8	1	350.5	1	530.0	1	519.1	1	755.9	1	677.9	1
Transport Related	96.4	2	98.9	2	62.8	2	60.5	2	87.6	2	90.8	2	105.4	2	105.2	2	214.6	2	227.4	2
Suicide/Attempted Suicide	41.5	3	49.8	3	36.4	3	46.5	3	37.1	3	46.5	3	39.4	5	41.3	5	89.6	3	100.4	3
Struck by/against	36.1	4	41.2	4	21.1	5	29.3	4	32.3	5	38.7	5	45.2	4	47.7	4	76.8	4	70.2	4
Overexertion	35.4	5	32.4	6	27.3	4	24.4	5	27.7	6	27.4	6	53.4	3	52.1	3	70.4	5	43.3	6
Assault	28.2	6	36.2	5	13.6	7	13.5	6	32.8	4	43.5	4	21.5	7	24.0	6	41.0	7	59.9	5
Unintentional Poisoning	21.1	7	20.9	7	16.1	6	11.8	7	18.9	7	21.4	7	24.0	6	18.7	7	41.0	6	42.1	7
Foreign Body	11.4	8	11.6	8	8.8	8	7.1	8	11.0	8	10.6	8	10.9	8	13.9	8	21.5	8	23.4	8
Fire Flame and Hot Substance	5.6	9	5.6	9	4.5	9	3.5	9	5.5	9	6.0	9	3.9	9	4.0	9	13.2	9	10.7	9

Table 3. Mortality due to injury (unintentional and intentional) in Vancouver Coastal Health (VCH) and Health Service Delivery Areas (HSDA). Rates per 100,000 population.

Cause of injury	VCH				Richmond				Vancouver				Coastal Urban				Coastal Rural			
	2009-2011		2006-2008		2009-2011		2006-2008		2009-2011		2006-2008		2009-2011		2006-2008		2009-2011		2006-2008	
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank
Suicide	9.8	1	10.6	1	5.0	2	7.9	1	10.5	1	11.7	1	10.8	1	8.0	1	13.8	1	14.2	2
Accidental falls	8.5	2	6.0	3	7.7	1	3.6	3	7.5	3	5.7	3	10.8	2	6.9	2	12.3	2	11.9	3
Accidental poisoning	6.8	3	7.4	2	2.9	3	1.6	4	9.0	2	10.2	2	2.8	3	4.2	3	7.7	4	6.7	4
Transport accidents	3.1	4	5.1	4	2.1	4	4.9	2	3.0	4	4.3	4	2.1	4	4.0	4	8.1	3	14.2	1
Homicide/assault	1.5	5	1.8	5	1.0	5	1.6	5	1.9	5	2.2	5	*	*	1.1	5	*	*	*	*

* two few observations

4.2. Significant Changes in Cause of Injury

Statistically significant changes, which are greater than 5%, in the causes of injury leading to ER, hospitalization or death per 100,000 population have been identified and summarized below. The following tables show the causes of injury that have significantly increased in recent years (Table 4) and the causes of injury that have significantly decreased in recent years (Table 5). Key interpretation points are listed below for the significant changes for VCH and its HSDAs.

Significant Changes in Causes of Injury – VCH

- ER:
 - The ER visit rate has significantly increased for seven of the top eight causes of injury
 - The largest increase in ER visit rate is due to poisoning/overdose (32%)
- Hospitalization:
 - The hospitalization rate is significantly increasing across VCH for injuries caused by overexertion (9%), driven primarily from a large increase in hospitalization due to overexertion in Coastal Rural (63%)
 - The hospitalization rate is significantly decreasing for injuries caused by suicide/attempted suicide (17%), homicide/assault (22%), and struck by/against (12%)
- Mortality:
 - The mortality rate is significantly increasing for deaths caused by falls (40%)
 - The mortality rate is significantly decreasing for deaths caused by transport (39%)

Significant Changes in Causes of Injury – VCH Health Service Delivery Areas

- ER:
 - The ER visit rate is significantly increasing for most top eight causes in injury for all HSDAs, most notably ER visit rates in Richmond (33%) and Vancouver (35%) due to poisoning/overdose
 - The ER visit rate is significantly decreasing in Howe Sound only for sport-related (6%) and falls (10%)
- Hospitalization:
 - The hospitalization rate is significantly increasing for injuries caused by overexertion in Coastal Rural (63%)
 - The hospitalization rate is significantly decreasing for injuries caused by suicide/attempted suicide in Richmond (22%) and Vancouver (20%), as well as homicide/assault in Vancouver (25%) and Coastal Rural (32%)
- Mortality:
 - The mortality rate is significantly increasing for deaths caused by falls in Richmond (114%), Vancouver (30%) and Coastal Urban (58%)
 - The mortality rate is significantly decreasing for deaths caused by transport in Richmond (58%), Vancouver (29%) and Coastal Rural (43%)

Table 4: A summary of significant increases in ER visits, hospitalizations and mortality rates per 100, 000 by HSDA

Significant Increases (crude rates per 100,000 population, based on statistically significant findings only, using a cut off of >5% change between time periods)		VCH*	Richmond	Vancouver	Coastal Urban	Coastal Rural*
VCH ER Visits (excluding BC Children's Hospital) Top 8 Cause of Injury. 2012-2013 average compared to the 2010-2011 average *Coastal Rural includes Howe Sound LHA only	Falls	↑8%	↑9%	↑11%	↑9%	-
	Cut / pierces	↑16%	↑18%	↑19%	-	↑7%
	Motor vehicle collision	↑7%	↑16%	-	↑11%	↑16%
	Poisoning / Overdose	↑32%	↑33%	↑35%	↑9%	↑15%
	Bite / Sting	↑10%	↑9%	↑11%	↑10%	↑11%
	Fire / Burn	↑24%	↑25%	↑30%	-	-
	Struck by/against	-	-	-	↑13%	-
	Bicycling	↑5%	↑7%	-	-	↑10%
Hospitalizations Top 9 Cause of Injury. 2008-2010 average compared to the 2005-2007 average	Overexertion	↑9%	-	-	-	↑63%
	Falls	-	↑12%	-	-	↑12%
Mortality Top 5 Cause of Injury. 2009-2011 average compared to the 2006-2008 average	Falls	↑40%	↑114%	↑30%	↑58%	-

Table 5: A summary of significant decreases in ER visits, hospitalizations and mortality rates per 100, 000 by HSDA

Significant Decreases (crude rates per 100,000 population, based on statistically significant findings only, using a cut off of >5% change between time periods)		VCH*	Richmond	Vancouver	Coastal Urban	Coastal Rural*
VCH ER Visits (excluding BC Children's Hospital) Top 8 Cause of Injury. 2012-2013 average compared to the 2010-2011 average *Coastal Rural includes Howe Sound LHA only	Sport related	-	-	-	-	↓6%
	Falls	-	-	-	-	↓10%
Hospitalizations Top 9 Cause of Injury. 2008-2010 average compared to the 2005-2007 average	Suicide / attempted suicide	↓17%	↓22%	↓20%	-	-
	Homicide / assault	↓22%	-	↓25%	-	↓32%
	Struck by / against	↓12%	↓28%	↓17%	-	-
Mortality Top 5 Cause of Injury. 2009-2011 average compared to the 2006-2008 average	Transport	↓39%	↓58%	↓29%	-	↓43%

5. VCH Results

The causes of injury will be presented throughout this section by overall VCH results. The results are organized by data source; VCH emergency room visits, BC Children's emergency room visits, VCH hospitalizations and VCH mortality. The VCH figure numbers, figure titles and key interpretation points are listed below.

Richmond, Vancouver, Coastal Urban and Coastal Rural results can be found in the appendix.

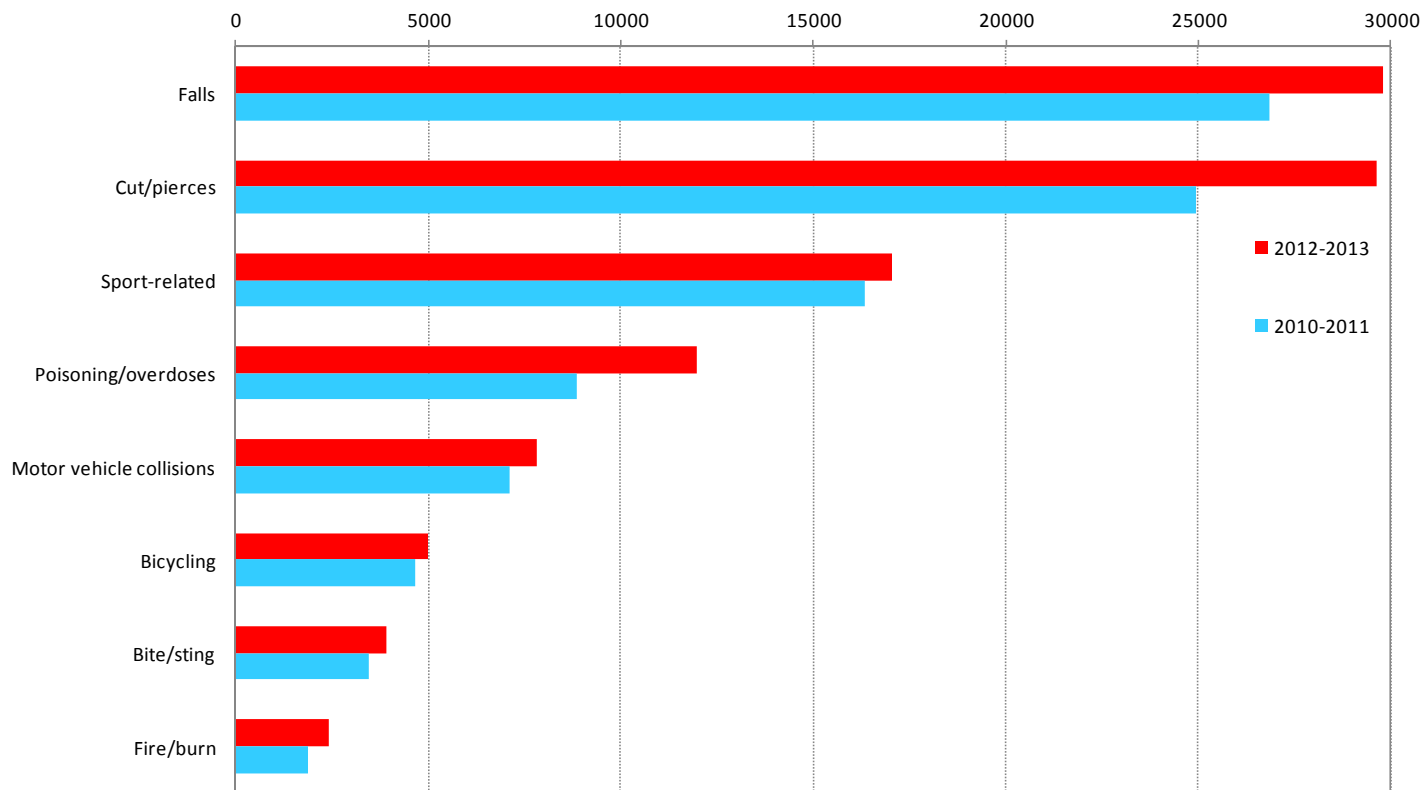
5.1. Summary of Results – VCH Emergency Room Visits

- Figure 2: Top eight injury-related emergency room (ER) visits among residents:
 - The total number of injuries presenting to ER departments is increasing for all eight causes of injury
 - The largest increase in number from 2010/2011 to 2012/2013 is poisoning/overdose (35%), followed by cut/pierces (19%) and falls (11%)
- Figure 3: Top three injury-related emergency room (ER) visits by age group:
 - The total number of injuries presenting to ER departments is increasing for all three causes of injury by age group
 - The largest increase in number from 2010/2011 to 2012/2013 is poisoning/overdose (52%) for those aged 65+
 - The second largest increase in number from 2010/2011 to 2012/2013 is poisoning/overdose (40%) for those aged 45-64
- Figure 4: Top three VCH injury-related emergency room (ER) visit rates per 100,000 population by age group:
 - The rate per 100,000 for the top three causes of injury by age group is significantly increasing for those aged 25-44, 45-64 and 65+
 - The largest significant increase from 2010/2011 to 2012/2013 is poisoning/overdoses (39%) for those aged 65+, followed by poisoning/overdose (37%) for those aged 45-64 and cut/pierces (27%) for those aged 65+
- Figure 5: Male top three injury-related emergency room (ER) visit rates per 100,000 population by age group:
 - The visit rate per 100,000 for the top three causes of injury by age group is significantly increasing for those aged 15-24 (except sport-related), 25-44, 45-64 and 65+
 - The largest significant increase from 2010/2011 to 2012/2013 is poisoning/overdoses (42%) for those aged 25-44, followed by

poisoning/overdose (40%) for those aged 45-64 and poisoning/overdose (35%) for those aged 65+

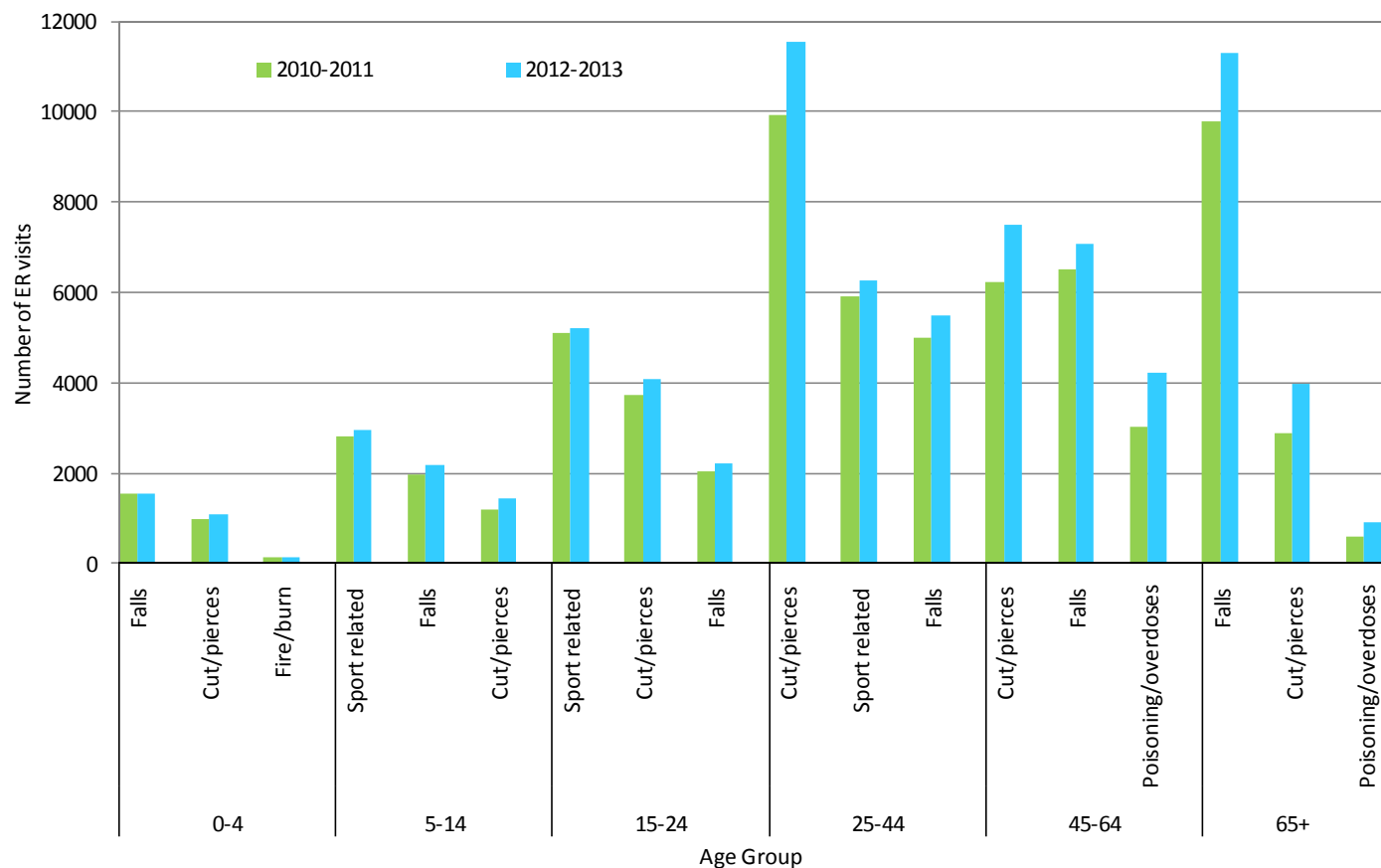
- Figure 6: Female Top three injury-related emergency room (ER) visit rates per 100,000 population by age group
 - The visit rate per 100,000 for the top three causes of injury by age group is significantly increasing for those aged 25-44, 45-64 and 65+ (except motor vehicle collisions)
 - The largest significant increase from 2010/2011 to 2012/2013 is cut/pierces (33%) for those aged 65+, followed by poisoning/overdose (30%) for those aged 45-64 and cut/pierces (21%) for those aged 25-44.

Figure 2: Top eight injury-related emergency room (ER) visits among VCH residents



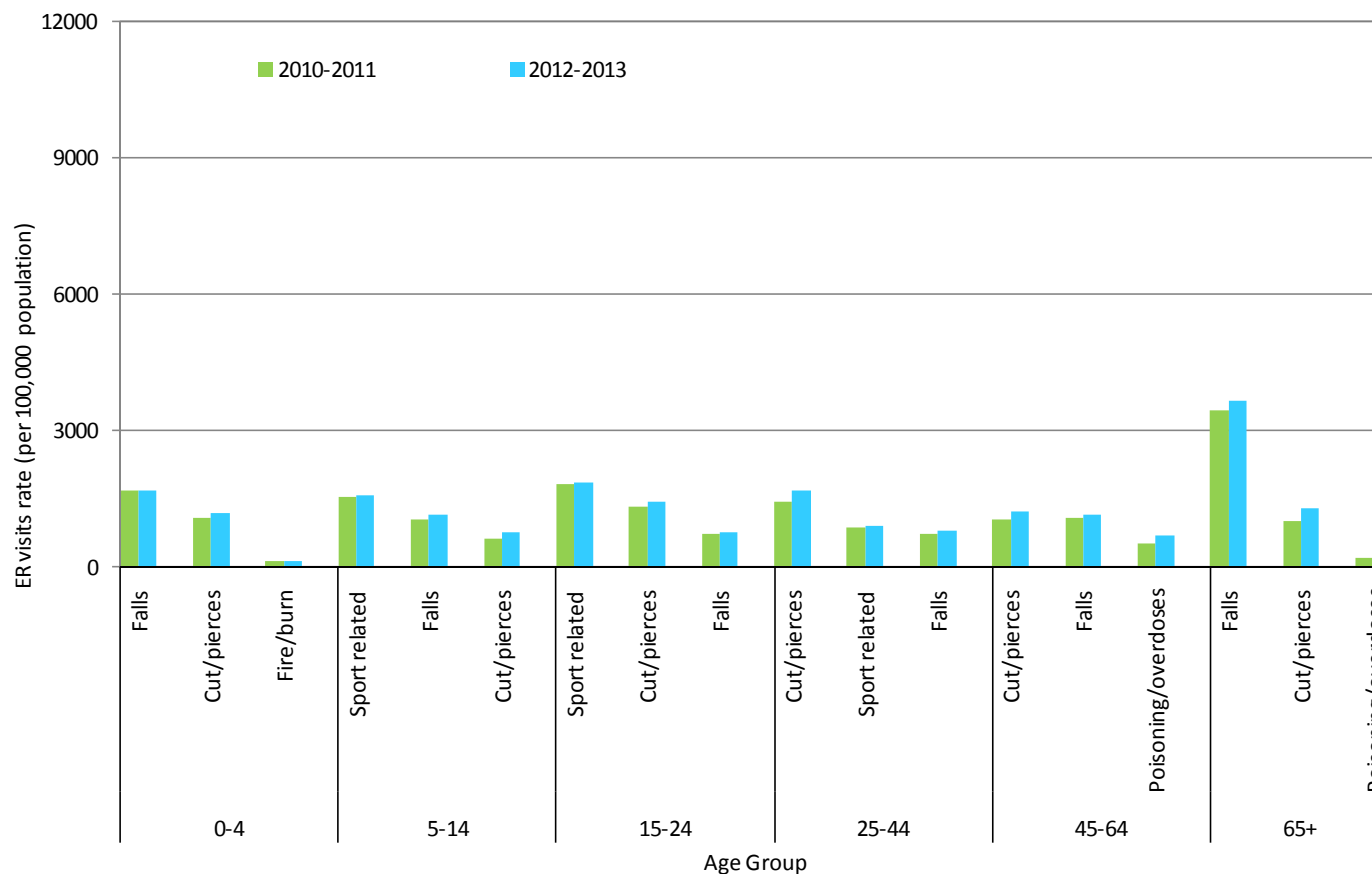
*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 3: Top three injury-related emergency room (ER) visits by age group



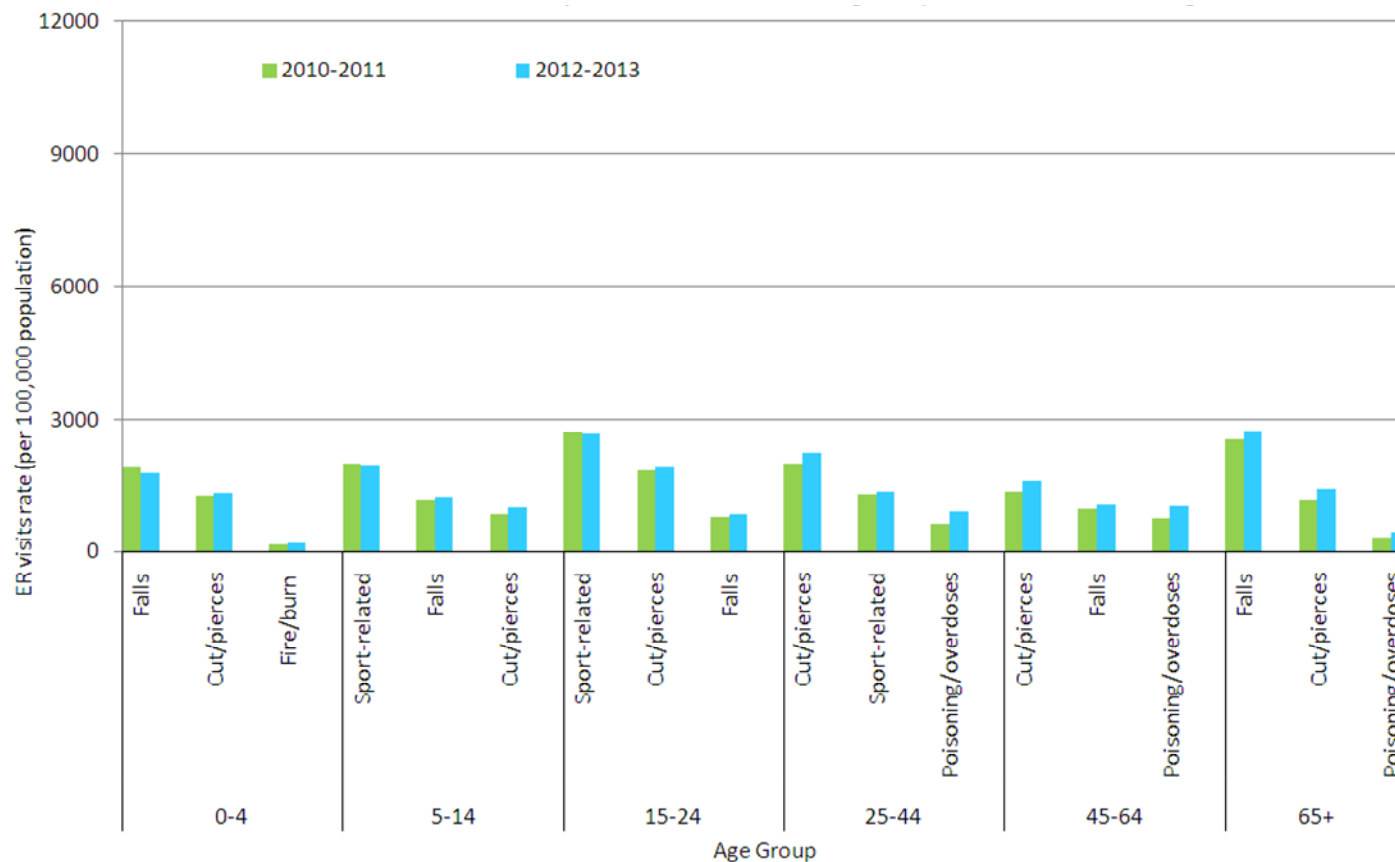
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Figure 4: Top three VCH injury-related emergency room (ER) visit rates per 100,000 population by age group



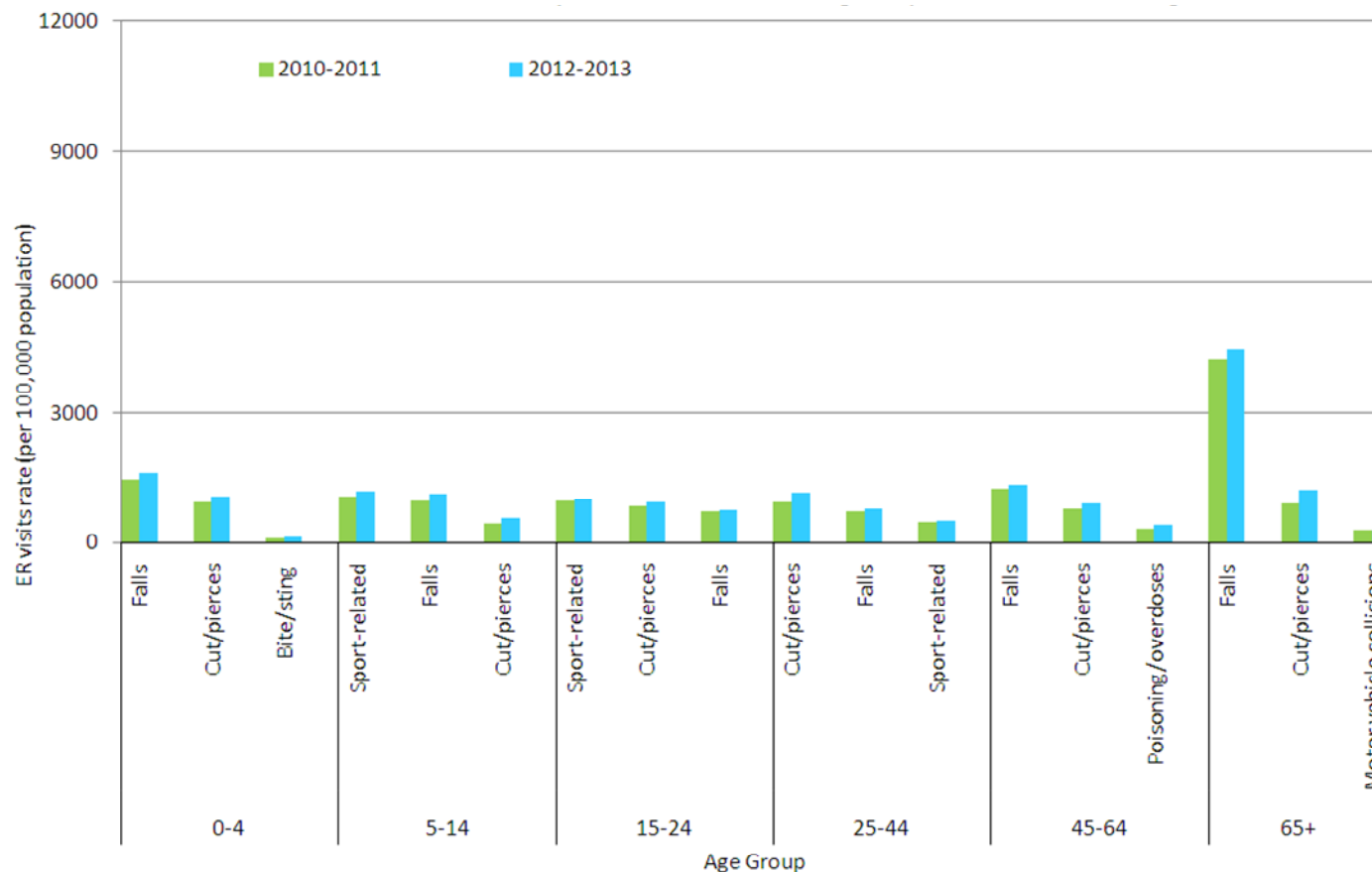
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Figure 5: Male top three injury-related emergency room (ER) visit rate per 100,000 population by age group



*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 6: Female top three injury-related emergency room (ER) visit rate per 100,000 population by age group



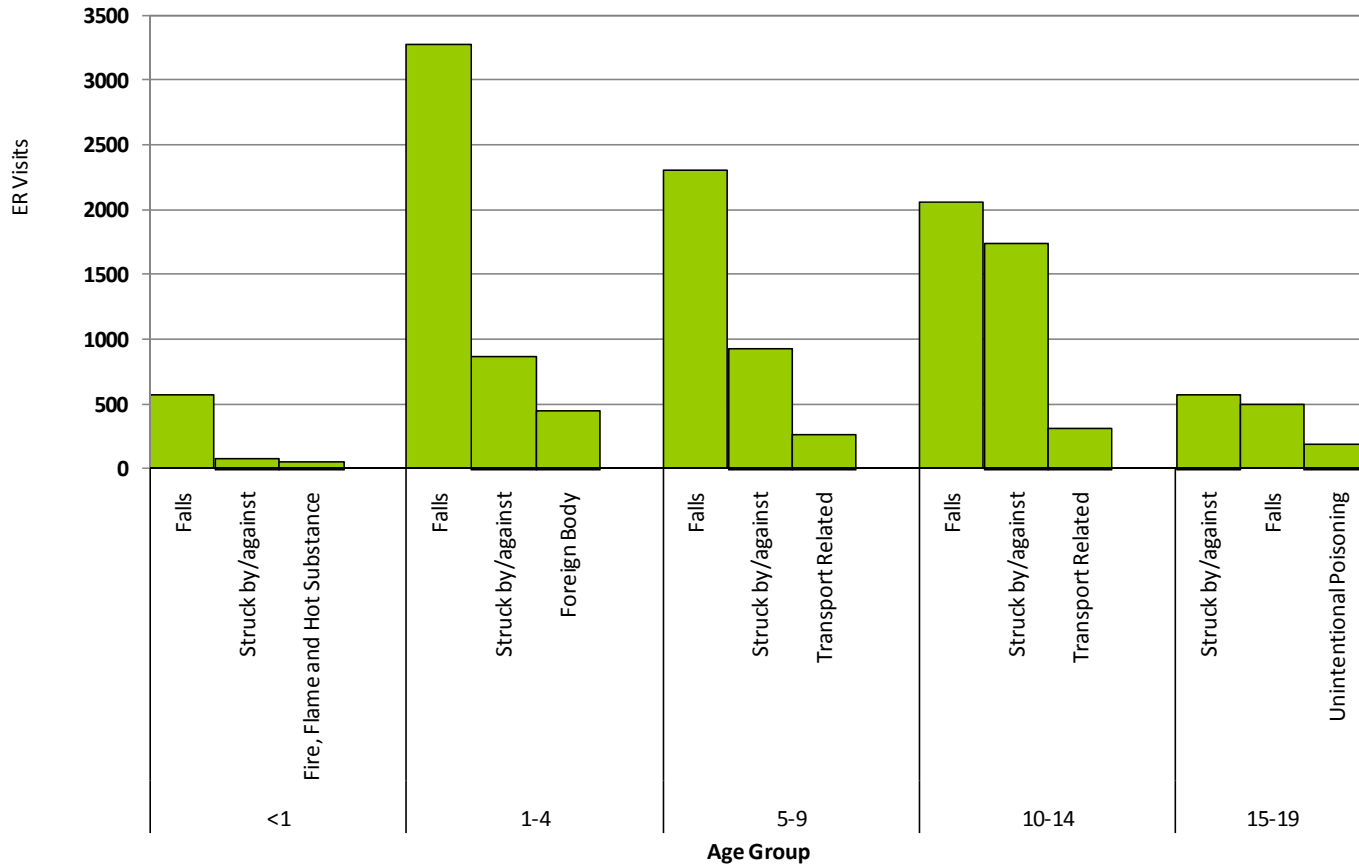
*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

5.2. Summary of Results – BC Children’s Hospital Emergency Room Visits among VCH Residents

- Figure 7: Top three injury related emergency room (ER) visits from BC Children’s Hospital (BCCH) by age group
 - The highest number of injuries presenting to BCCH ER departments is caused by falls
 - The highest number of all injuries presenting to BCCH ER between 2007/2008 – 2009/2010 (fiscal years) are those aged 1-4 (5766), followed by those aged 10-14 (4916) and those aged 5-9 (4086)

- Figure 8: Top three injury related emergency room (ER) visit rate from BC Children’s Hospital (BCCH) per 100,000 population by age group
 - The highest visit rate per 100,000 for the top three causes of injury by age group is falls those aged 1-4 (2841), <1 (1893) and 5-9 (1623)

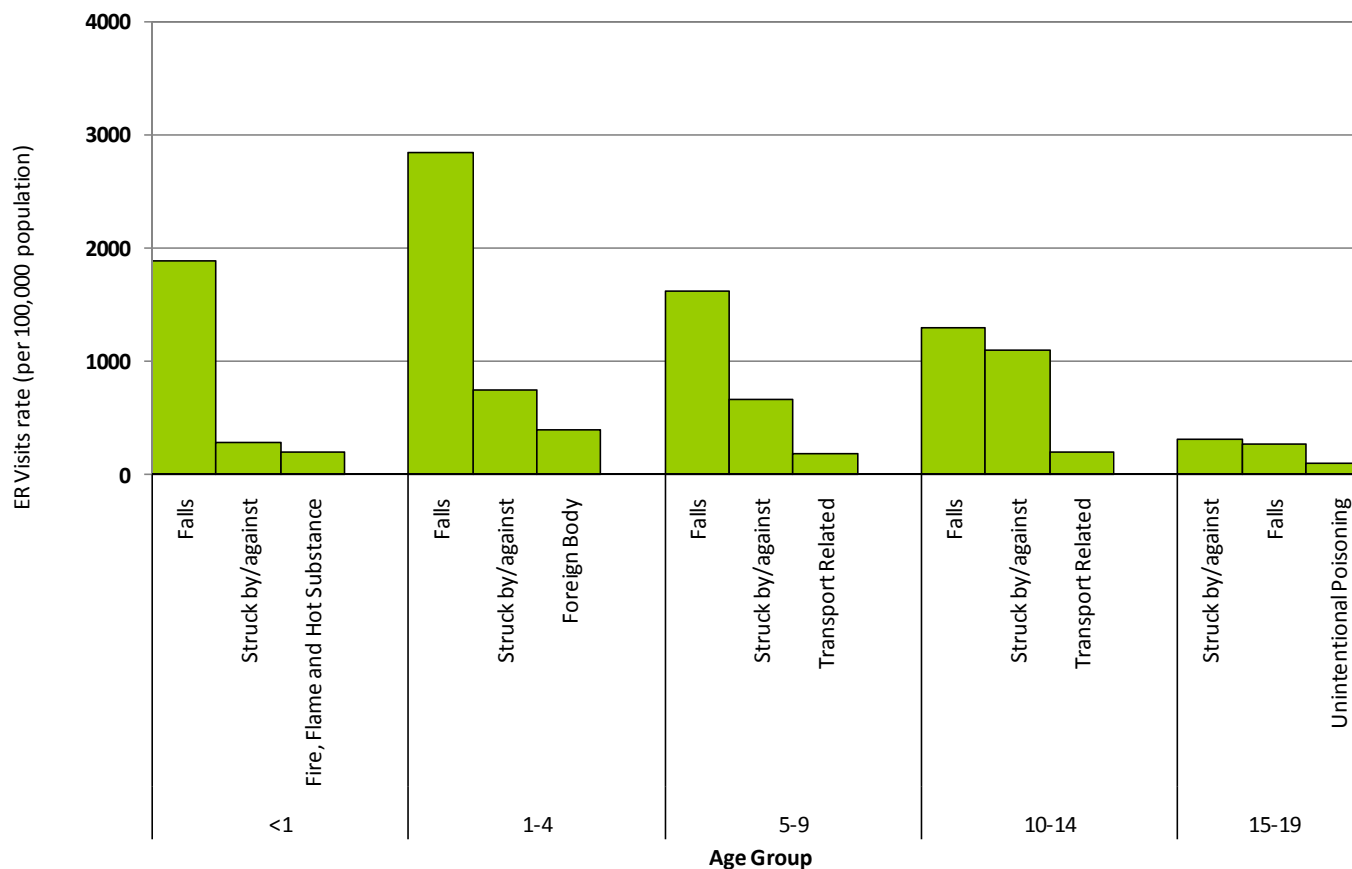
Figure 7: Top three injury-related ER visits from BC Children’s Hospital by age group



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449, W45.00 and W45.09), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), fire, flame and hot substance (X00-X06, X08-X19) and unintentional poisoning (X40-X49).

Source: Canadian Hospitals Injury Reporting and Prevention Program, Public Health Agency of Canada, BCIRPU, 2013.

Figure 8: Top three injury-related ER visit rate from BC Children’s Hospital per 100,000 population by age group



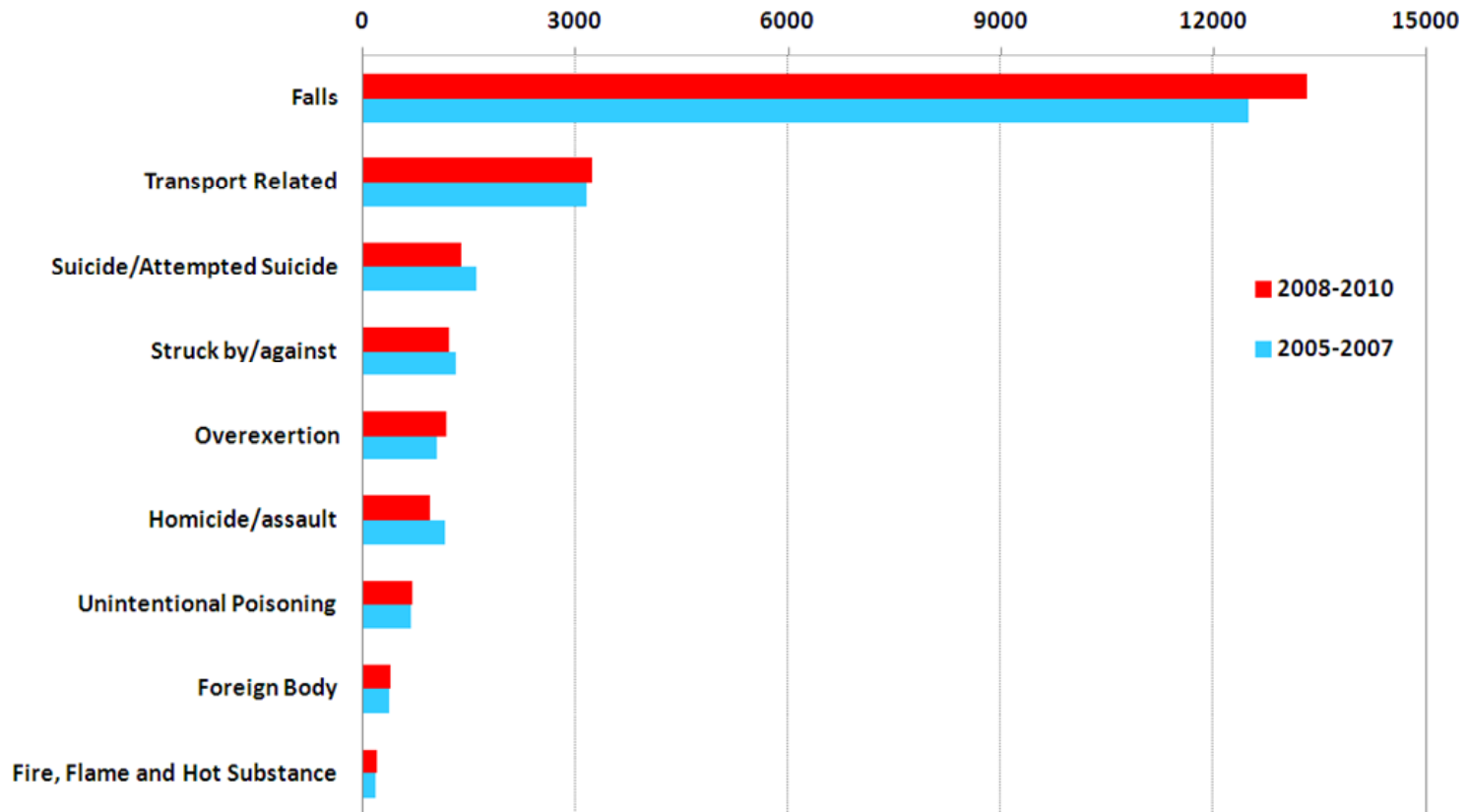
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449, W45.00 and W45.09), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), fire, flame and hot substance (X00-X06, X08-X19) and unintentional poisoning (X40-X49).

Source: Canadian Hospitals Injury Reporting and Prevention Program, Public Health Agency of Canada, BCIRPU, 2013.

5.3. Summary of Results – Hospitalizations and Related Costs

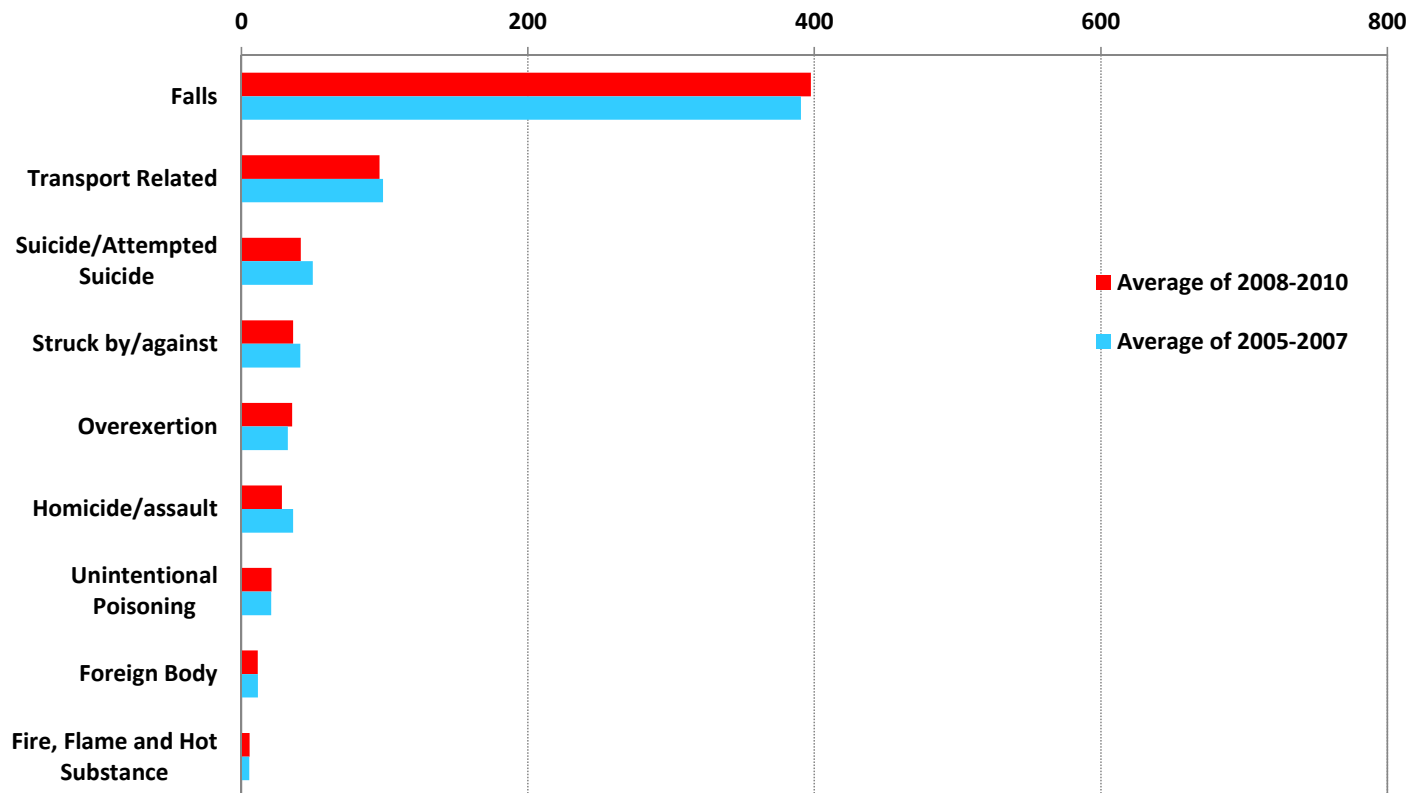
- Figure 9: Top eight injury related hospitalizations among VCH residents
 - The total number of hospital admissions due to injuries is increasing for overexertion (14%), falls (7%), fire, flame, hot substance (6%) unintentional poisoning (5%) , foreign body (3%) and transport related (2%)
 - The total number of hospital admissions due to injuries is decreasing for homicide/assault (18%), suicide/attempted suicide (13%) and struck by/against (8%)
- Figure 10: Top eight injury related hospitalizations per 100,000 population among VCH residents
 - The rate of falls exceeds all other rates of injury related hospitalizations
- Figure 11: Top three injury related hospitalizations among VCH residents by age group
 - The total number of hospitalizations is increasing for all three causes of injury for those aged 25-44, 45-64 and 65+
 - The largest increases in average number from 2005-2007 to 2008-2010 is falls (15%) for those aged 44-64, transport related (15%) for those aged 44-64 and unintentional poisoning (15%) for those aged 65+
- Figure 12: Top three injury related hospitalizations per 100,000 population by age group
 - Falls for those aged 65+ far exceeds all other rates
 - There is no significant increase or decrease in injury related hospitalizations between 2005-2007 to 2008-2010 for the top three causes of injury by age group
- Figure 13: Top ten major direct hospitalization costs due to injury hospitalization, by cause of injury
 - Falls attributed the greatest hospitalization costs in VCH at approximately \$52.1 million in 2010/2011
- Figure 14: Direct hospitalization costs due to injury hospitalization, by age group
 - The majority of hospitalization costs due to injuries are among those aged 65+

Figure 9: Injury-related hospitalizations among VCH residents



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49), overexertion (X50), homicide/assault (X85-X99, Y00-Y09) and fire, flame and hot substance (X00-X06, X08-X19).
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

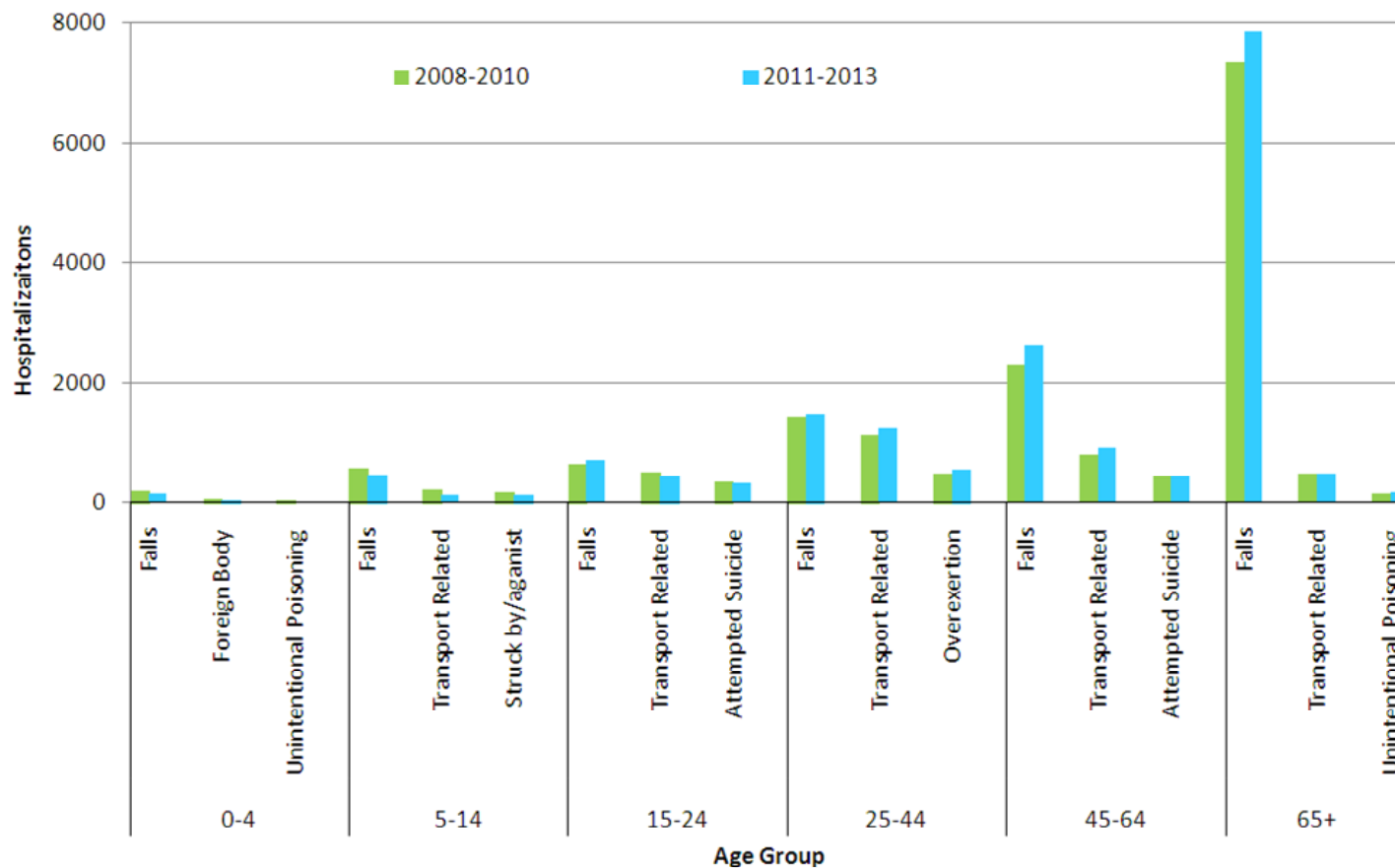
Figure 10: Injury related hospitalization rate per 100,000 population among VCH residents



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49), overexertion (X50), homicide/assault (X85-X99, Y00-Y09) and fire, flame and hot substance (X00-X06, X08-X19).

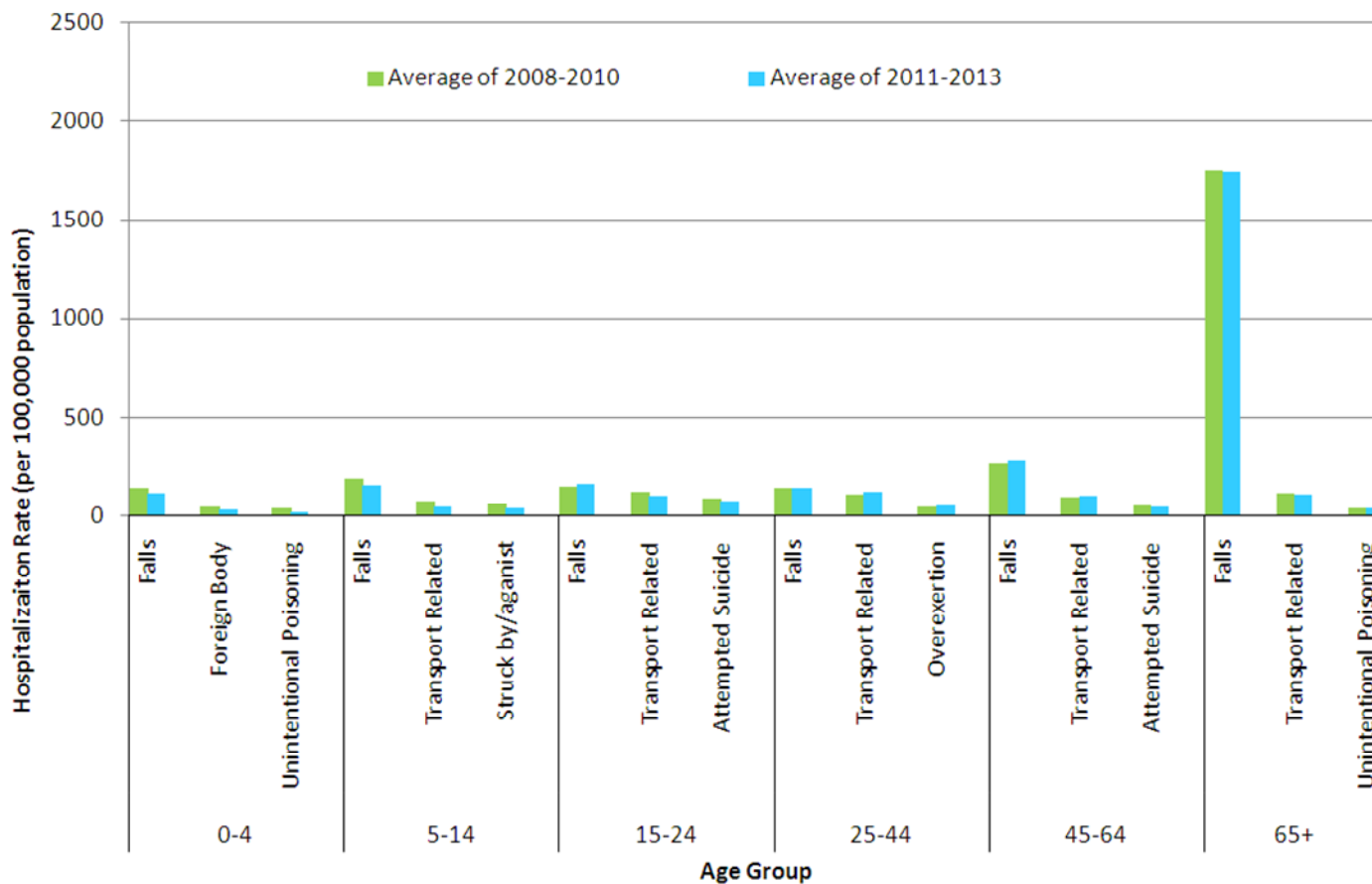
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure 11: Top three injury-related hospitalization by age group



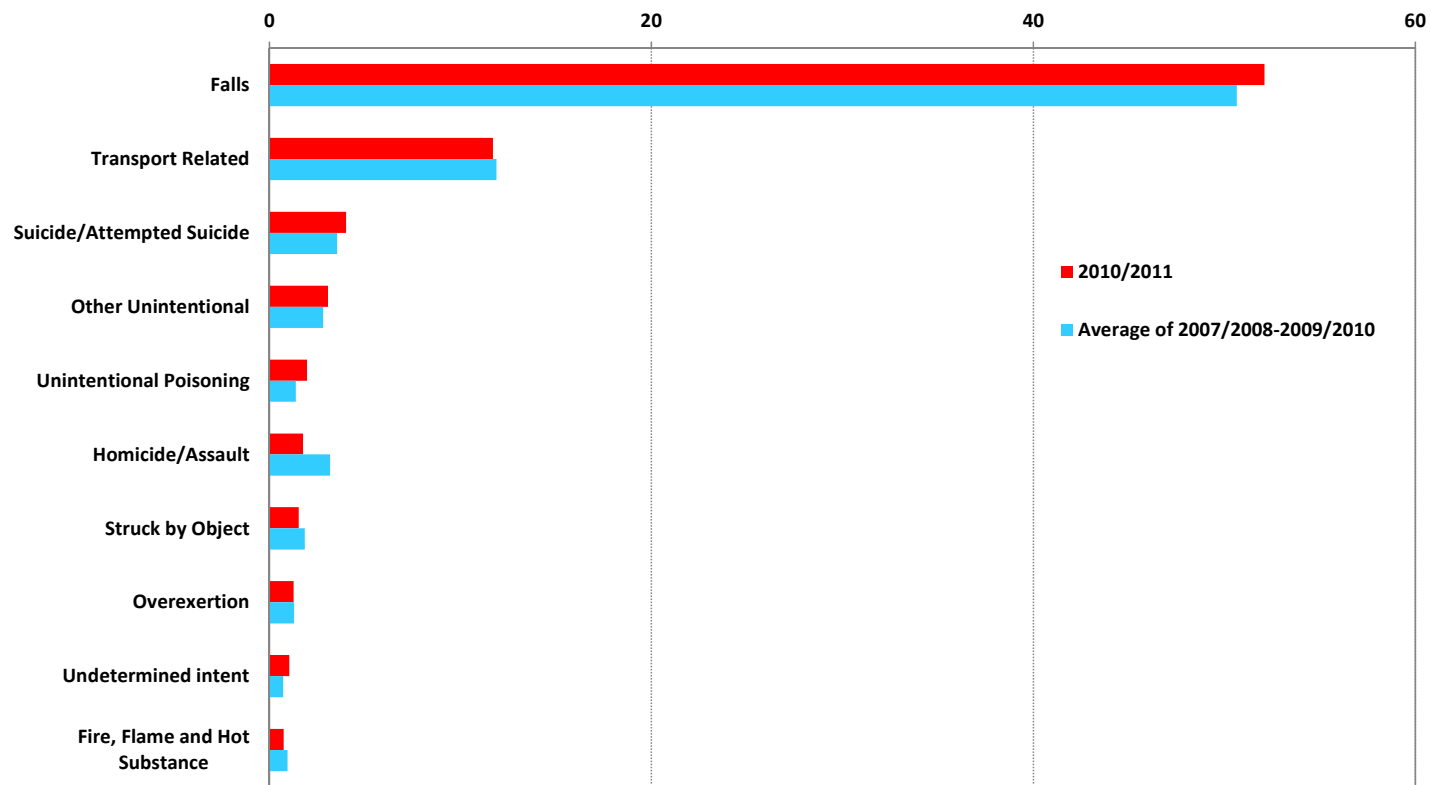
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49) and overexertion (X50).
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure 12: Top three injury-related hospitalization per 100,000 population by age group



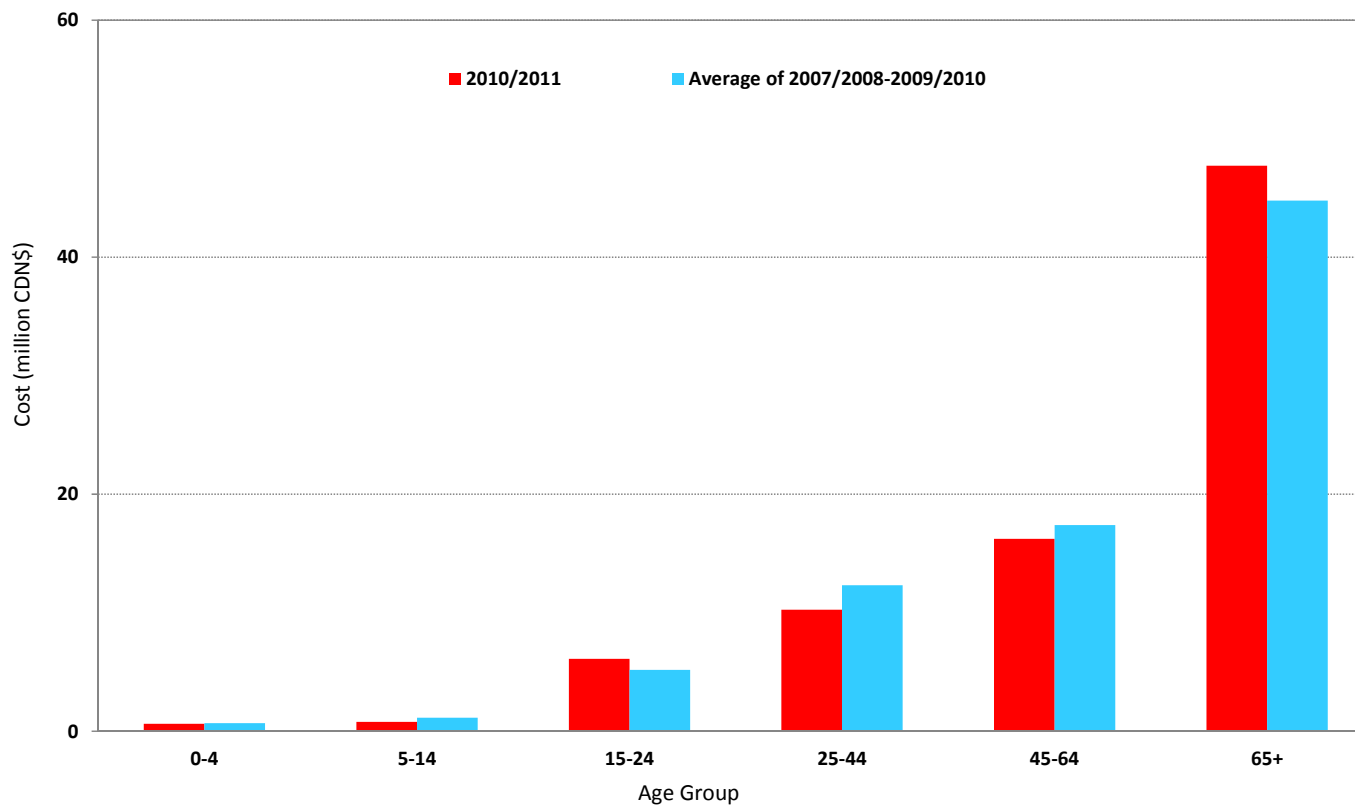
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49) and overexertion (X50).
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure 13: Top 10 major direct hospitalization costs in Canadian Dollars (in Million) by cause of injury, Vancouver Coastal Health, 2010/2011 compared to average of previous three fiscal years



Note: The dollar value is estimated using the latest year of Cost per Weighted Case (CWC). This approach is used to allow comparisons over time.
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU Injury Data Online Tool, 2013.

Figure 14: Direct hospitalization costs in Canadian Dollars (in Million) due to injury hospitalization, by age group, Vancouver Coastal Health, 2010/2011 compared to average of previous three fiscal years



Note: The dollar value is estimated using the latest year of Cost per Weighted Case (CWC). This approach is used to allow comparisons over time.
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU Injury Data Online Tool, 2013.

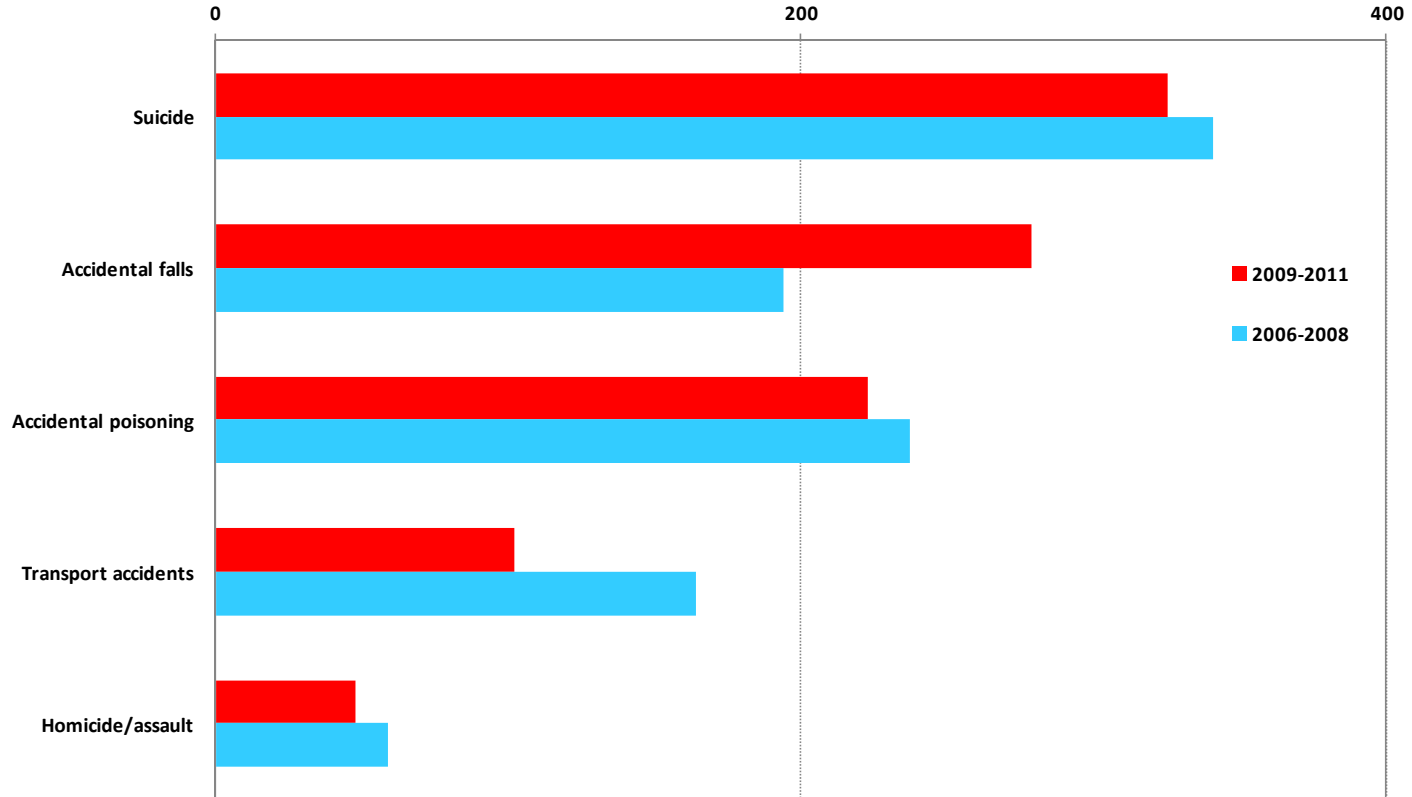
5.4. Summary of Results – Mortality and Premature Mortality

- Figure 15: Top five injury related deaths among VCH residents
 - The total number of deaths due to injuries between 2006-2008 and 2009-2011 is increasing for accidental falls by 44%
 - The total number of deaths due to injuries between 2006-2008 and 2009-2011 is decreasing significantly for accidental transport by 38%

- Figure 16: Top five injury related mortality rate per 100,000 among VCH residents
 - The mortality rate per 100,000 for accidental falls is increasing significantly (40%)
 - The mortality rate per 100,000 for accidental transport is decreasing significantly (39%)

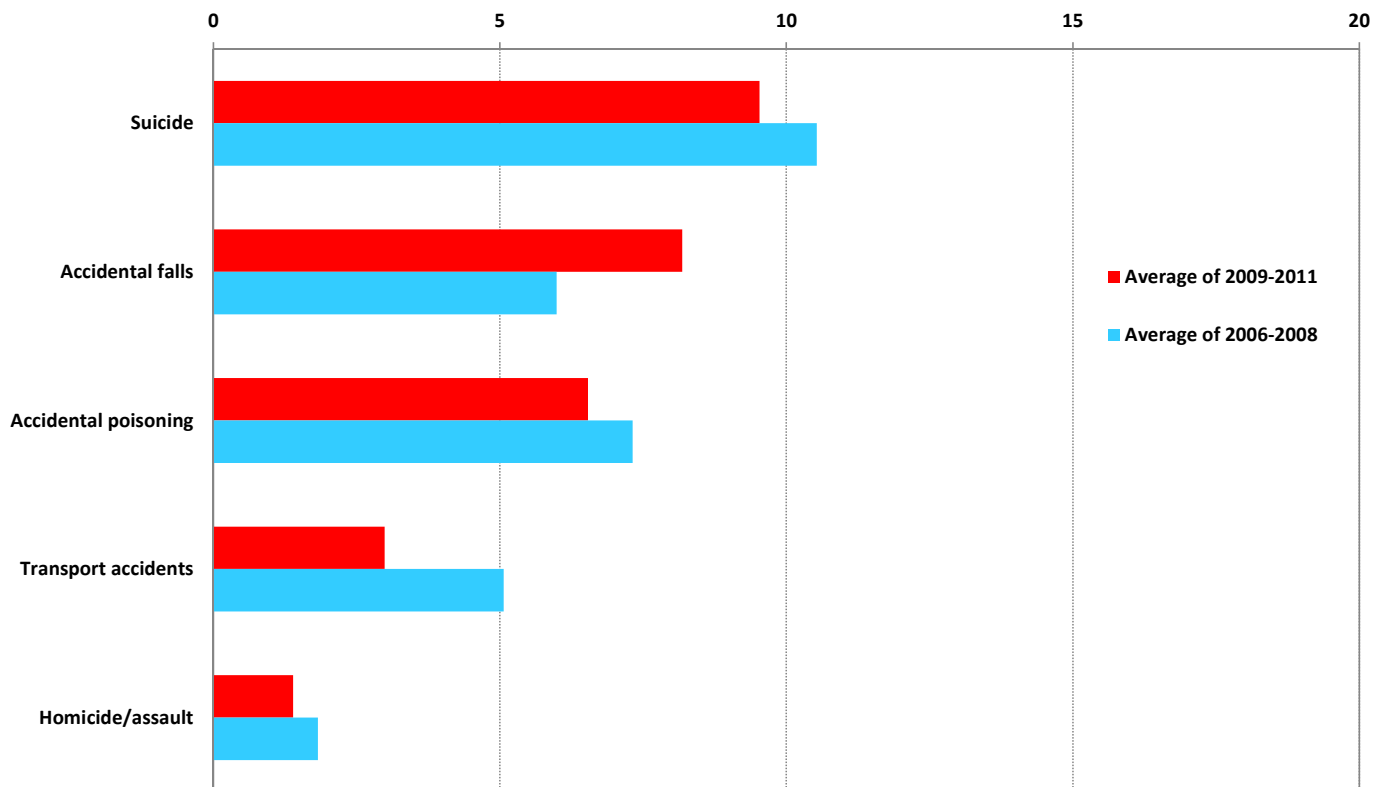
- Figure 17: Potential Years of Life Lost Standardized Rate (PYLLSR) per 1000 population due to external causes of death by Local Health Areas (LHA)
 - PYLLSR shows a decreasing trend for the majority of LHAs
 - PYLLSR is below the BC average in urban LHAs, except the Downtown Eastside
 - For rural LHAs, PYLL is often trending above the BC average. Due to the small population sizes in the rural areas these differences are not statistically significant but bare closer examination.

Figure 15: Top five injury-related deaths among VCH residents



ICD 10 codes were used to identify the injury-related death. Each above injury was defined as suicide (X60-X84, Y870), accidental falls (W00-W19), accidental poisoning (X40-X49), transport accidents (V010-V99, Y850, Y859) and homicide/assault (X85-Y09, Y871).
 Source: Vista Web Application, BC Vital Statistics Agency.
 Prepared by: Public Health Surveillance Unit, Vancouver Coastal Health, April 2014

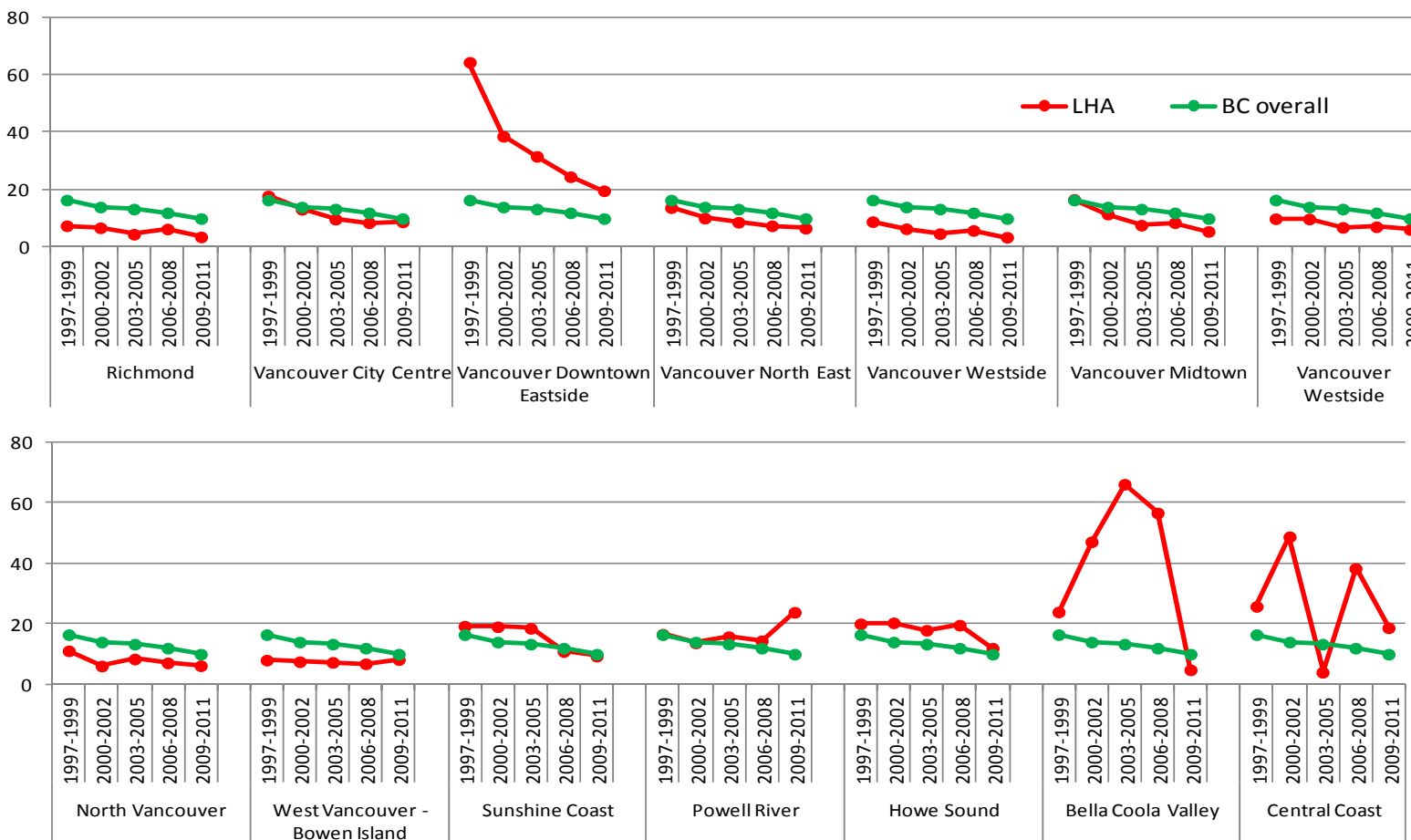
Figure 16: Top five injury-related mortality per 100,000 population among VCH residents



ICD 10 codes were used to identify the injury-related death. Each above injury was defined as suicide (X60-X84, Y870), accidental falls (W00-W19), accidental poisoning (X40-X49), transport accidents (V010-V99, Y850, Y859) and homicide/assault (X85-Y09, Y871).

Source: Vista Web Application, BC Vital Statistics Agency.

Figure 17: Potential years of life lost standardized rate (PYLLSR) per 1000 population due to external causes of death by LHAs



Source: BC Vital Statistics Agency (Vista)
 Prepared by: Public Health Surveillance Unit, Vancouver Coastal Health, April 2014

6. Cause Specific Injury

Five causes of injury are explored further in this section; falls, motor vehicle collision/transport related, sport-related, overdoses/poisoning and suicide/self-inflicted injury. Data is broken down by VCH, Richmond, Vancouver, Coastal Urban and Howe Sound. Emergency room visits and hospitalizations are the sources of data for this analysis. However, ER visit data is not available for suicide/self-inflicted injuries. Each cause of injury has a summary page that lists the figure numbers and titles, as well as key interpretation points.

6.1. Falls

Emergency Room Visits:

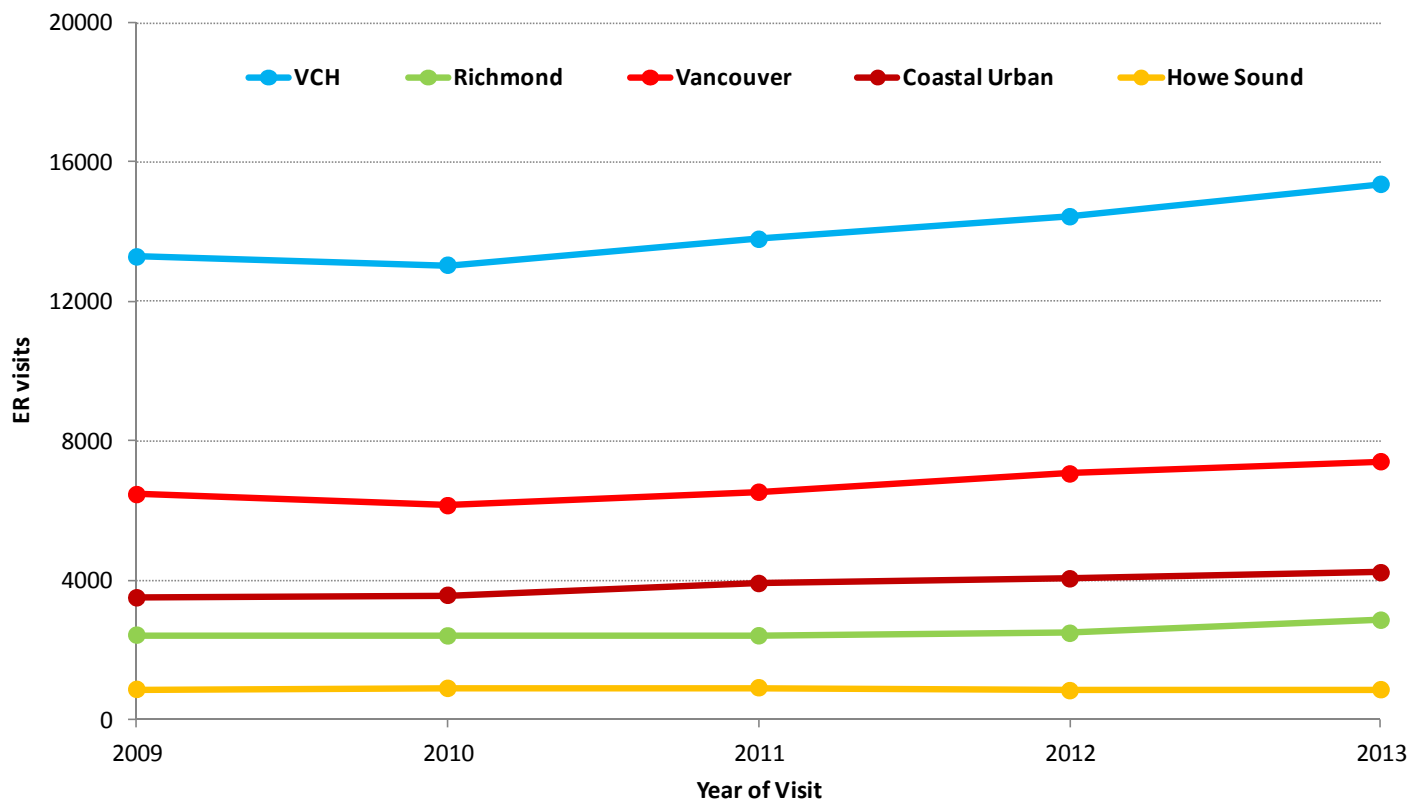
- Figure 18: Number of ER visits due to falls by HSDAs and Howe Sound LHA
 - Vancouver HSDA experiences the largest number of ER visits due to falls compared to the other areas
 - The total number of visits due to falls appears to be increasing
- Figure 19: Number of ER visits by males due to falls by geography and age group / Figure 20: Number of ER female visits due to falls by geography and age group
 - Females aged 45-64 and 65+ years old experience the largest number of ER visits due to falls compared to males aged 45-64 and 65+ years old in all areas
 - Of the total ER visits due to falls in 2013 for those aged 65+, females accounted for approximately 66% and males accounted for 34%
- Figure 21: Number of ER visits due to falls per 100,000 population by geography Howe Sound and Coastal Urban experience higher rates of ER visits due to falls compared to the VCH rate
 - Whilst Vancouver experiences the highest number of ER visits due to falls, Vancouver has the lowest rate per 100,000
- Figure 22: Number of ER male visits due to falls per 100,000 population by HSDAs and Howe Sound LHA / Figure 23: Number of ER female visits due to falls per 100,000 population by HSDAs and Howe Sound LHA
 - The rate of ER visits due to falls for males and females is highest in those aged 0-4 years and 65+ (Does not include BC Children's Hospital ER data)

Hospitalizations:

- Figure 24: Number of hospitalizations due to falls by HSDAs and age group
 - The number of hospitalizations due to falls appears to be increasing for VCH in those aged 45-64 from 428 in 2001 to 855 in 2010

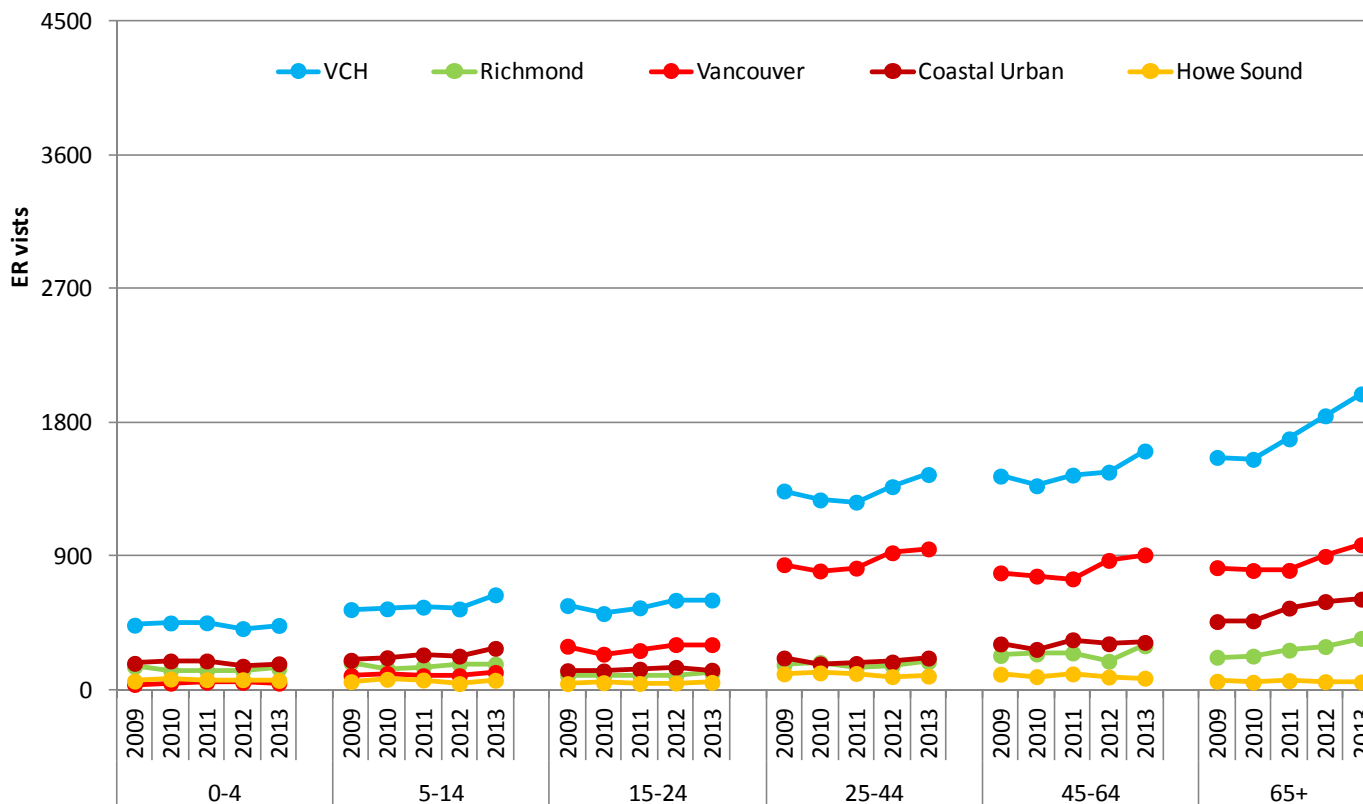
- The number of hospitalizations due to falls appears to be increasing for VCH in those aged 65+ from 1807 in 2001 to 2681 in 2010
- Figure 25: Number of hospitalizations due to falls per 100,000 by HSDA and age group
 - The hospitalization rate due to falls appears to be higher for Coastal Rural compared to the VCH rate for those aged 15-24, 25-44, 45-64 and 65+

Figure 18: Number of ER visits due to falls by HSDAs and Howe Sound LHA Vancouver Coastal Health Authority, 2009-2013



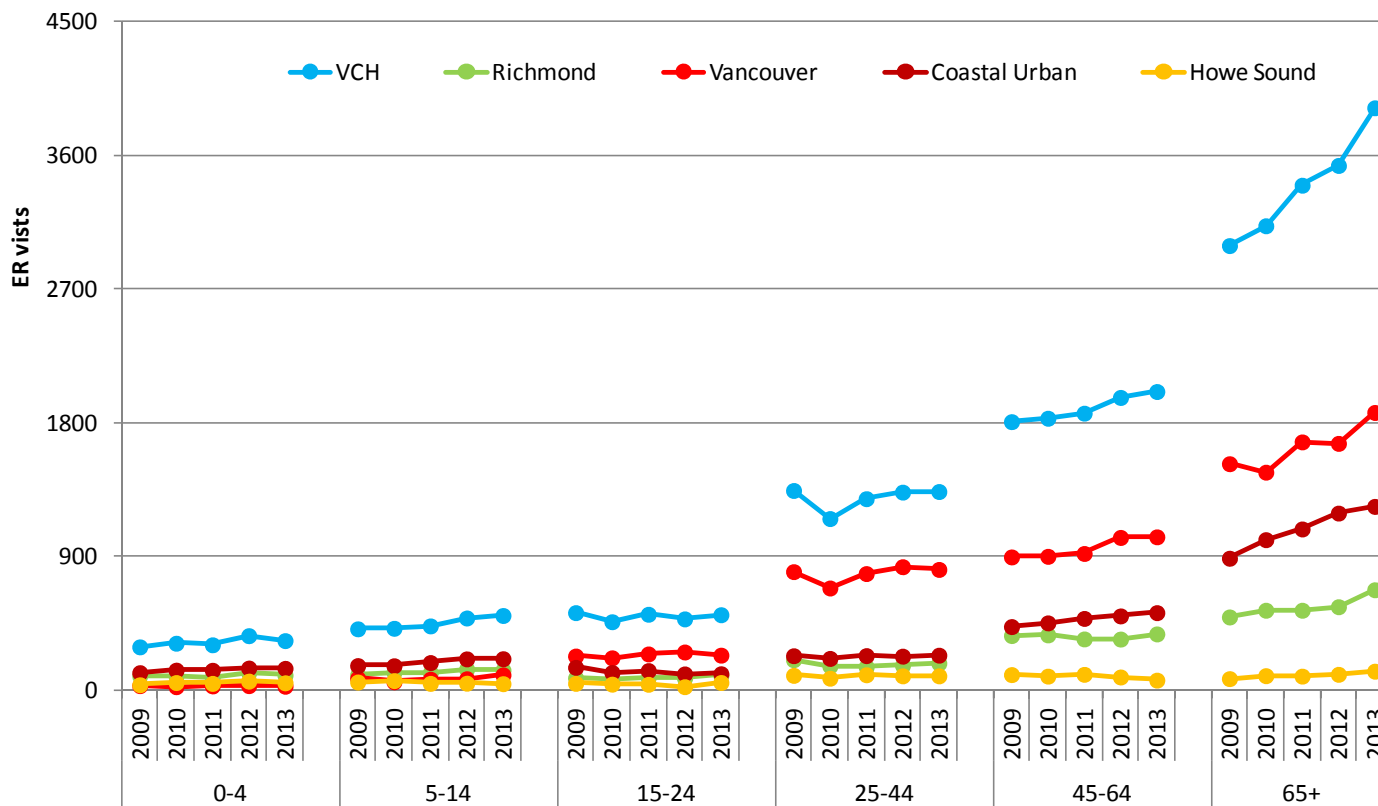
*Falls-related visits are captured through ICD-9 codes E880-E886, E888, E957, E968.1 and E987, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 19: Number of ER male visits due to falls by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



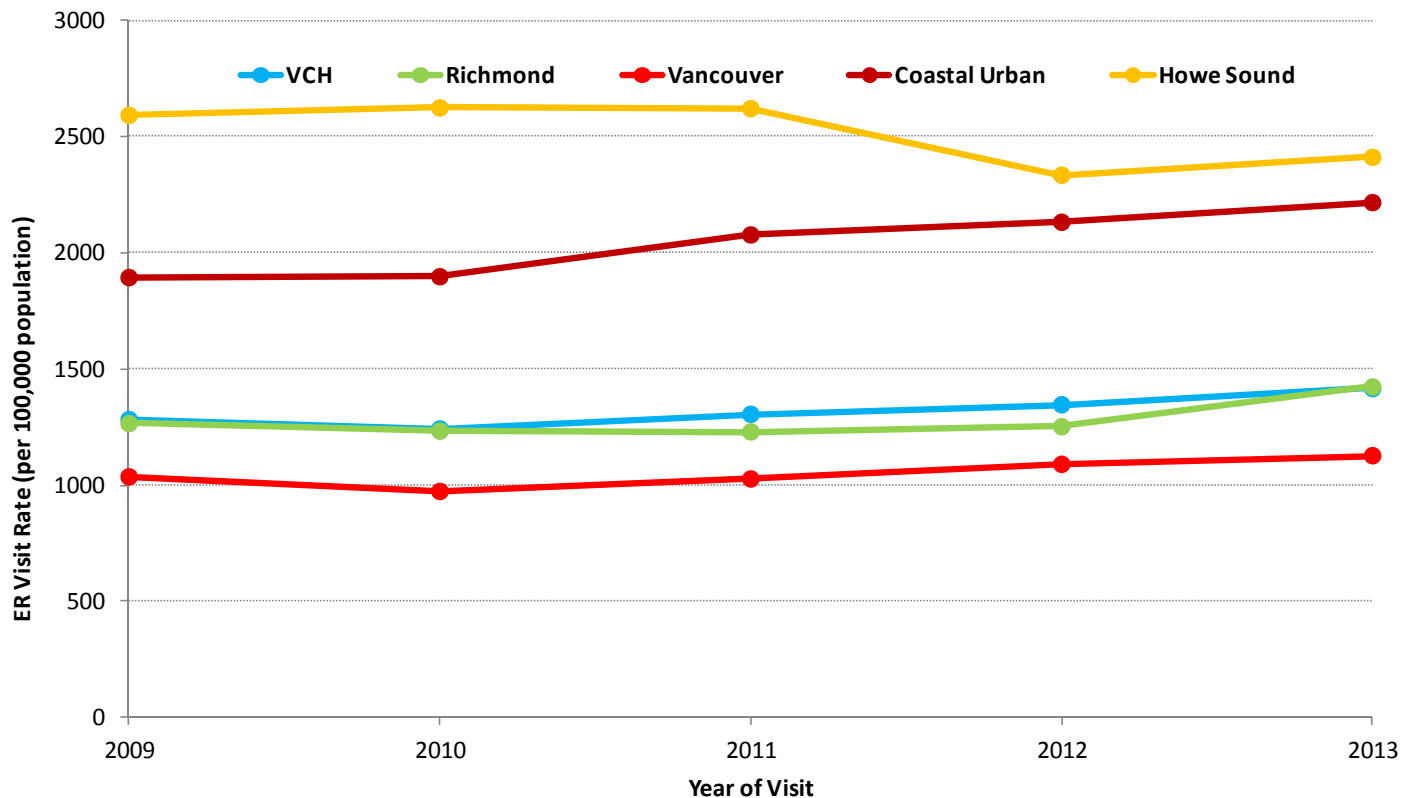
*Falls-related visits are captured through ICD-9 codes E880-E886, E888, E957, E968.1 and E987, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 20: Number of ER female visits due to falls by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



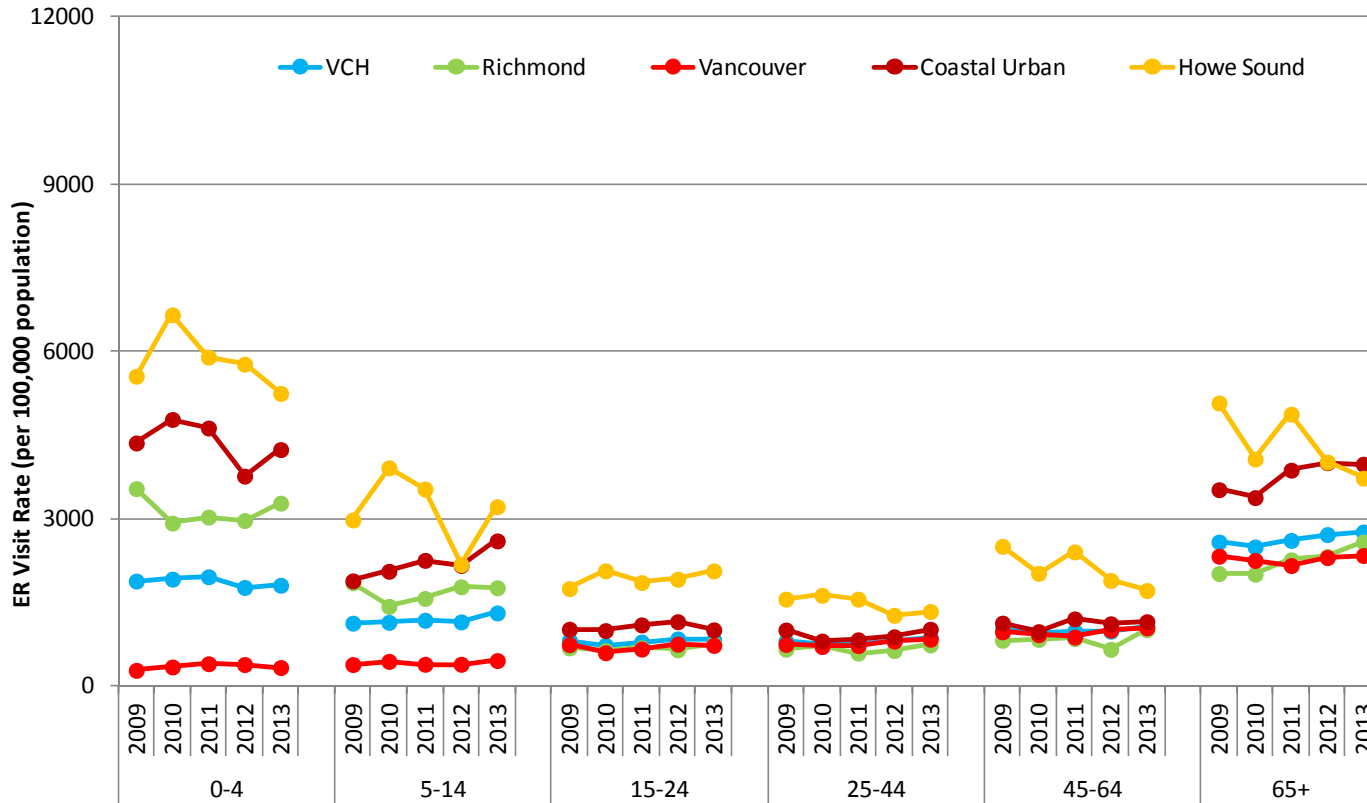
*Falls-related visits are captured through ICD-9 codes E880-E886, E888, E957, E968.1 and E987, and a key word search through the following data fields: *presenting complaint*, *nature of injury*, *mechanism of injury* and *activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 21: Number of ER visits due to falls per 100,000 population by HSDAs and Howe Sound LHA, Vancouver Coastal Health Authority, 2009-2013



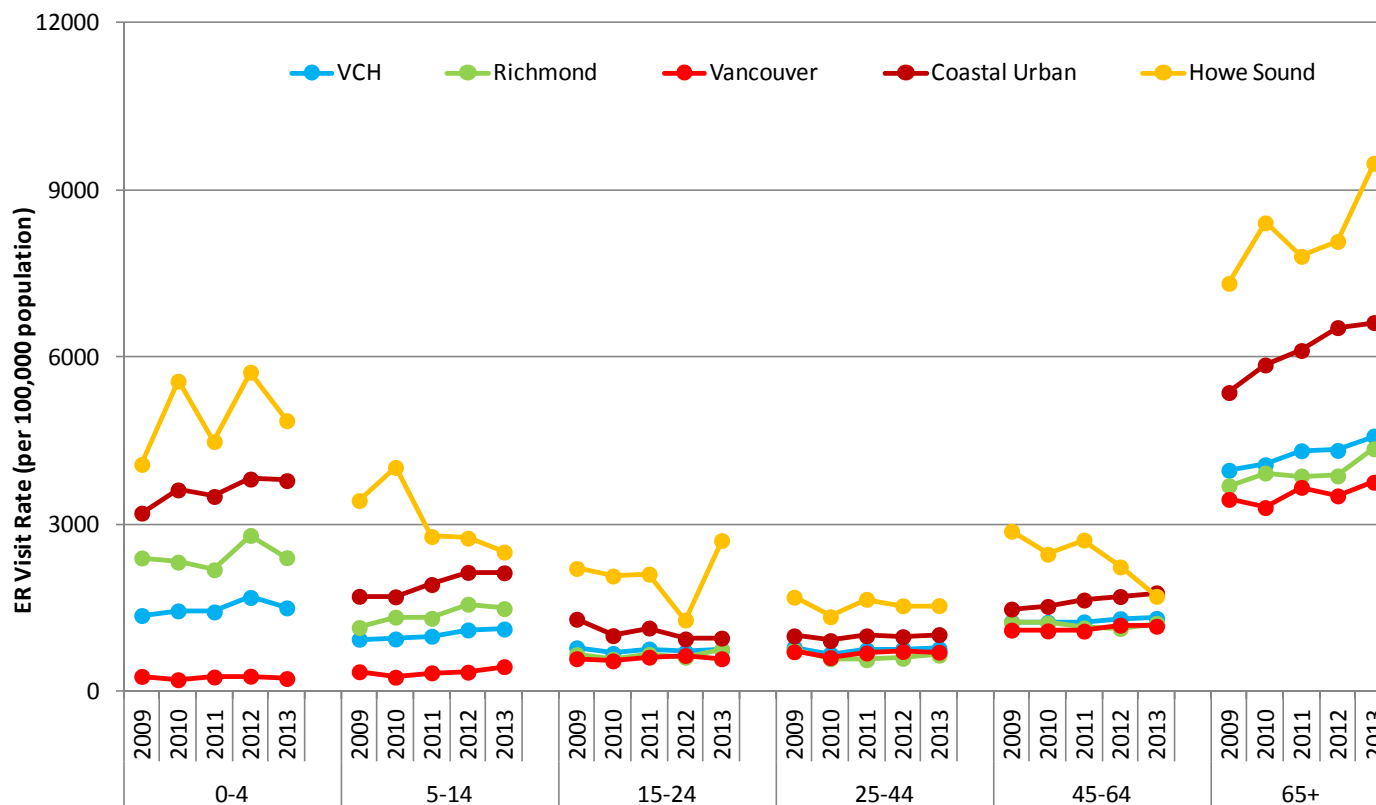
* Falls-related visits are captured through ICD-9 codes E880-E886, E888, E957, E968.1 and E987, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 22: Number of ER male visits due to falls per 100,000 population by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



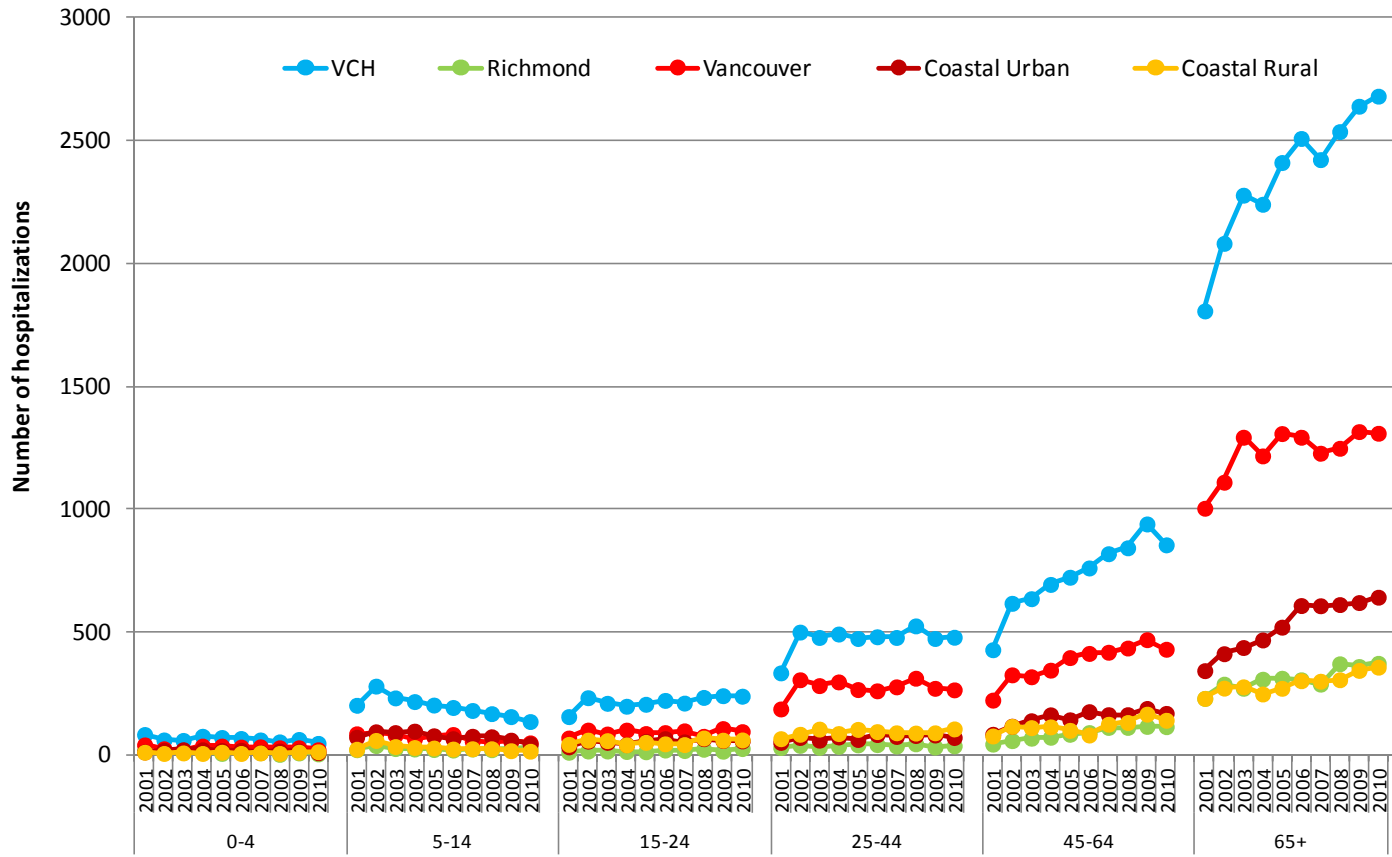
*Falls-related visits are captured through ICD-9 codes E880-E886, E888, E957, E968.1 and E987, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 23: Number of ER female visits due to falls per 100,000 population by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



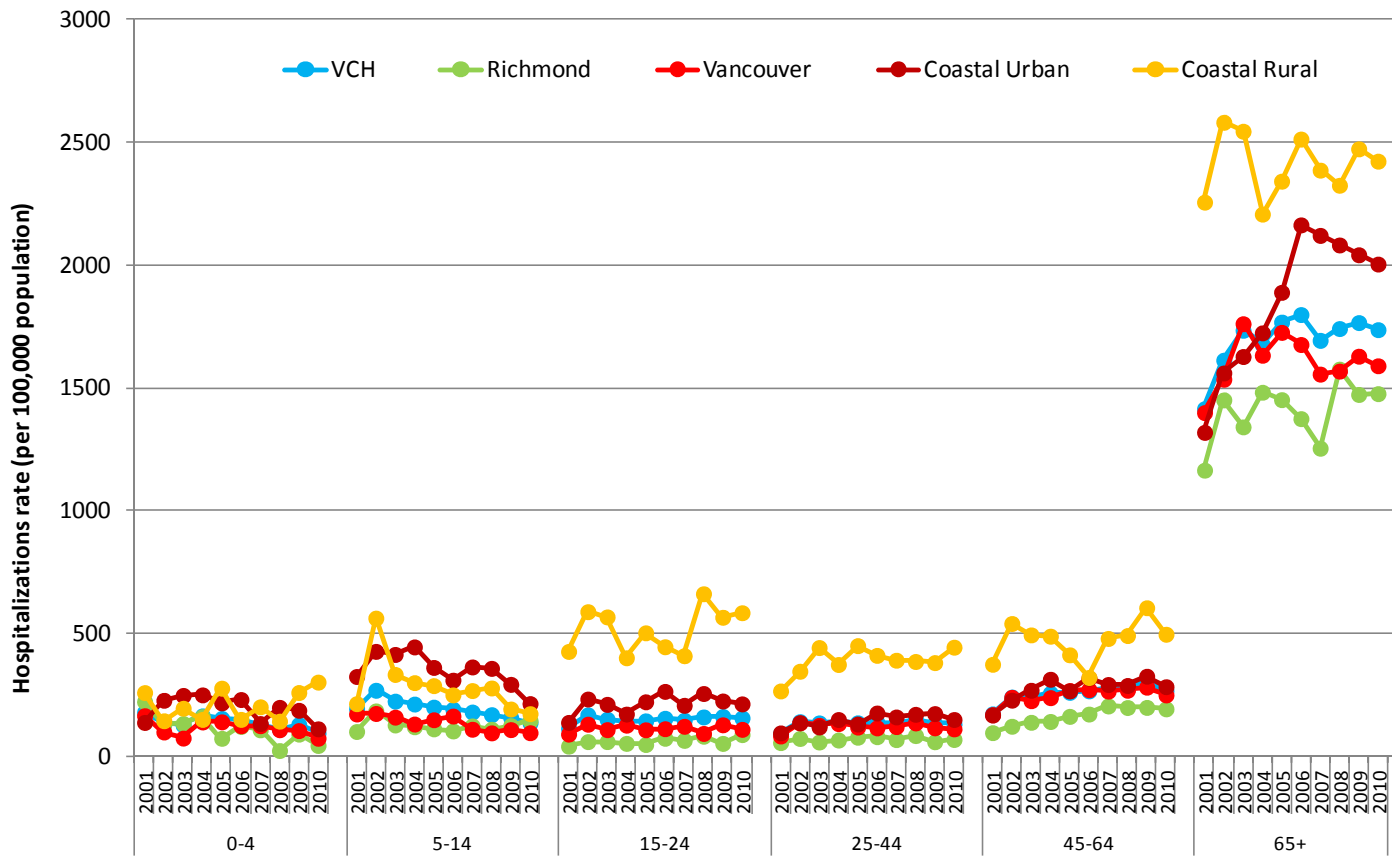
*Falls-related visits are captured through ICD-9 codes E880-E886, E888, E957, E968.1 and E987, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 24: Number of hospitalizations due to falls by HSDAs and age group, Vancouver Coastal Health Authority, 2001-2010



*Falls-related hospitalization are captured by ICD 10 code W00-W19.
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013

Figure 25: Number of hospitalizations due to falls per 100,000 population by HSDAs and age group, Vancouver Coastal Health Authority, 2001-2010



*Falls-related hospitalization are captured by ICD 10 code W00-W19.
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013

6.2. Motor Vehicle Collisions/Transport-related

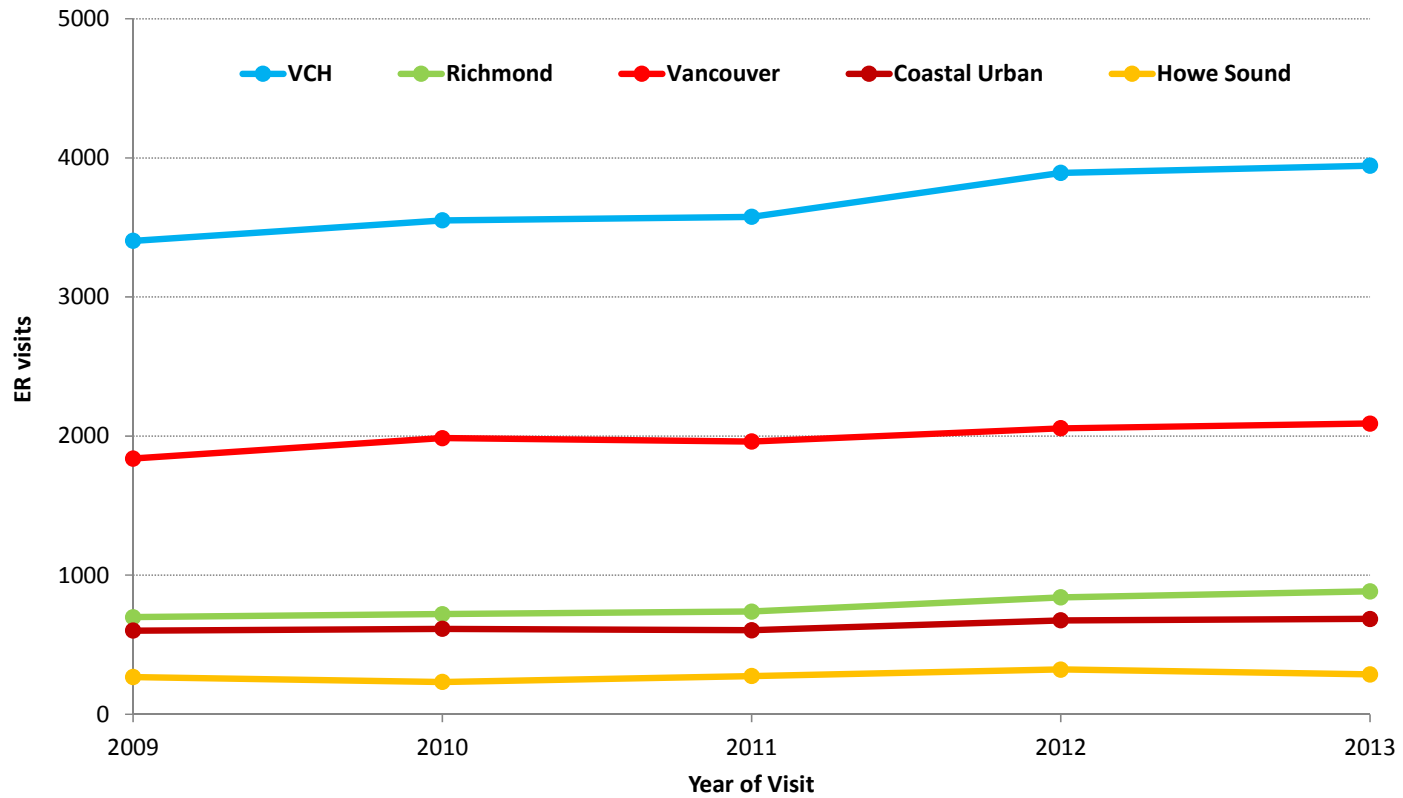
Emergency Room Visits

- Figure 26: Number of ER visits due to MVCs by HSDAs and Howe Sound LHA
 - Vancouver HSDA experiences the largest number of ER visits due to MVCs compared to the other areas
- Figure 27: Number of ER visits by males due to MVCs by HSDAs and Howe Sound LHA and age group / Figure 28: Number of ER visits by females due to MVCs by HSDAs and Howe Sound LHA and age group
 - ER visits in VCH due to MVCs appear to be increasing for males and females aged 45-64
 - The trend in ER visits due to MVCs appears to be similar for males and females for all age groups and HSDAs
- Figure 29: Number of ER visits due to MVCs per 100,000 population by HSDAs and Howe Sound LHA
 - Howe Sound experiences a higher rate of ER visits due to MVCs compared to the VCH rate
 - Whilst Vancouver experiences the highest number of ER visits due to MVCs (Figure 29), Vancouver has the lowest rate per 100,000
- Figure 30: Number of ER visits by males due to MVCs per 100,000 population by HSDAs and Howe Sound LHA and age group / Figure 31: Number of ER visits by females due to MVCs per 100,000 population by HSDAs and Howe Sound LHA and age group
 - The rate of ER visits due to MVCs for males and females is higher for Coastal Rural compared to the VCH rate (Does not include BC Children's Hospital ER data)

Hospitalizations

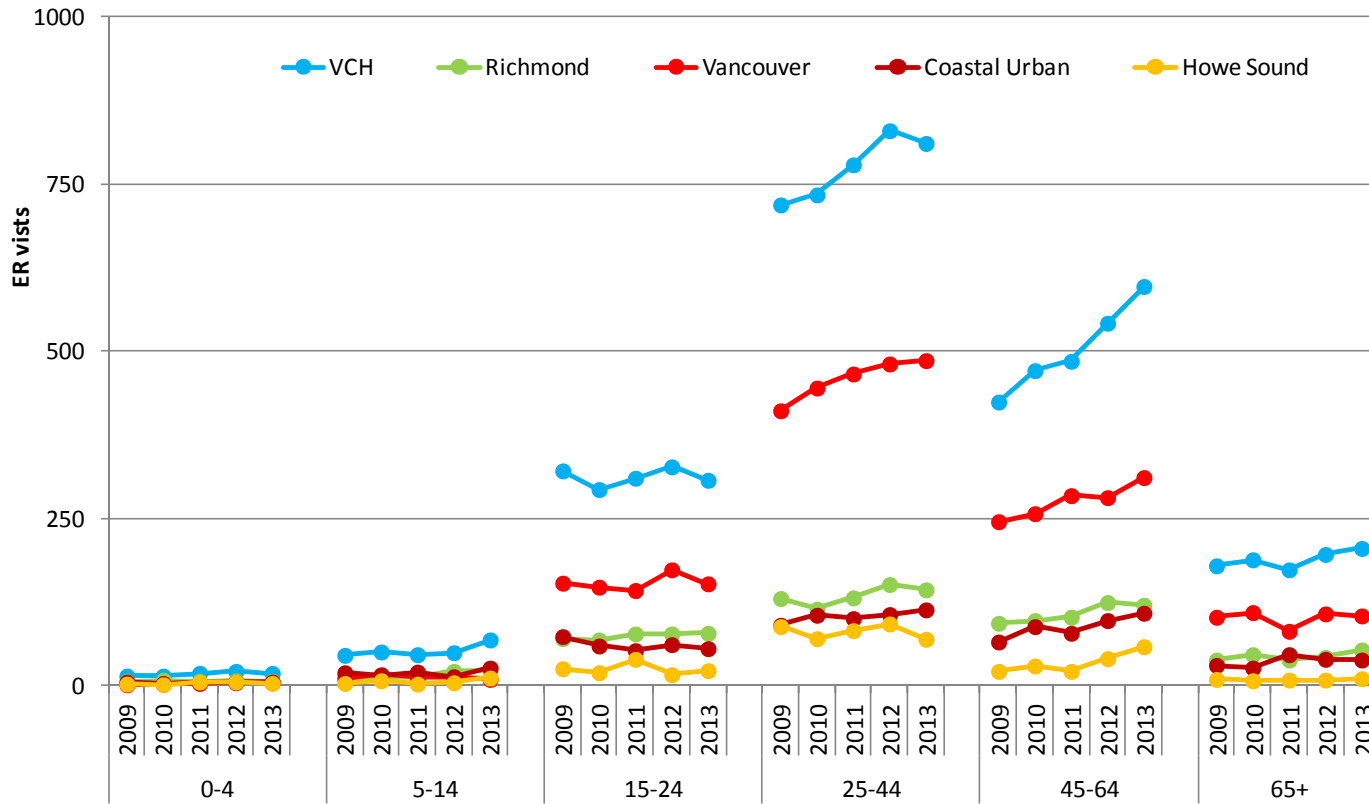
- Figure 31: Number of hospitalizations due to transport-related injuries by HSDAs and age group
 - The number of hospitalizations due to MVCs appears to be increasing in VCH in those aged 45-64 from 203 in 2001 to 301 in 2010.
- Figure 32: Number of hospitalizations due to MVCs per 100,000 by HSDA and age group
 - The hospitalization rate due to MVCs appears to be higher for Coastal Rural compared to the VCH rate for those aged 15-24, 25-44, and 45-64.

Figure 26: Number of ER visits due to motor vehicle collisions by HSDAs and Howe Sound LHA, Vancouver Coastal Health Authority, 2009-2013



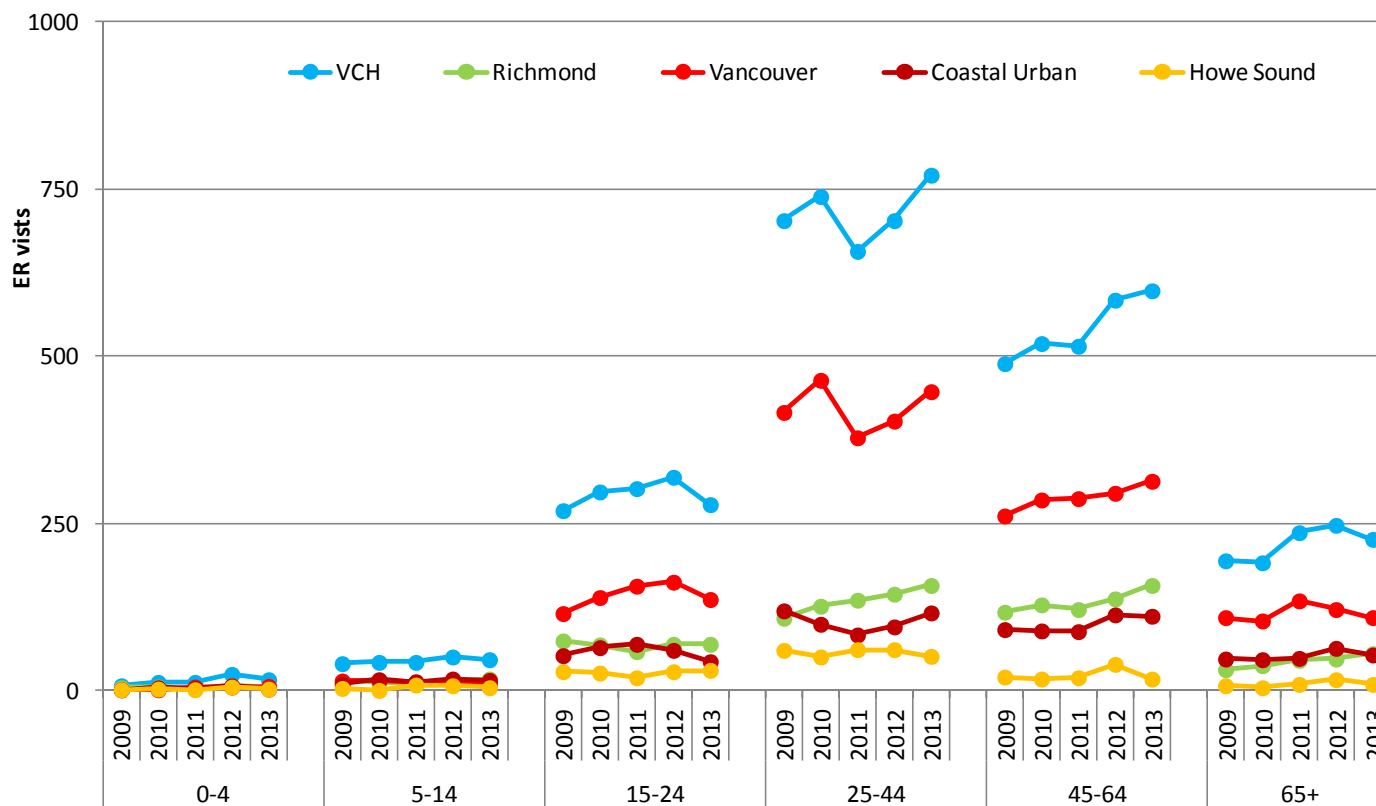
*Motor vehicle collision-related visits are captured through ICD-9 codes E810-E819, E958.5, E968.5, E988.5 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 27: Number of ER male visits due to MVC's by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



*Motor vehicle collision-related visits are captured through ICD-9 codes E810-E819, E958.5, E968.5, E988.5 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

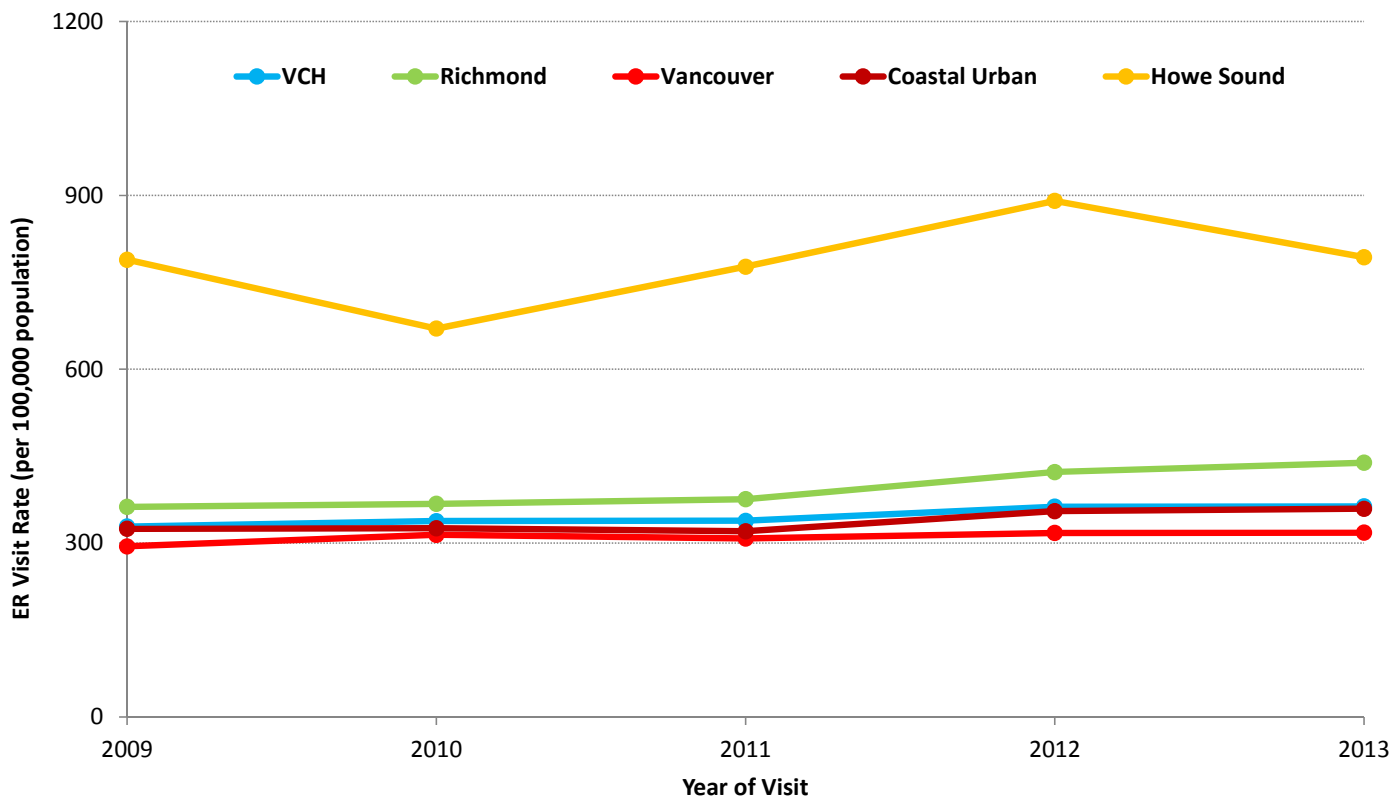
Figure 28: Number of ER female visits due to MVC's by HSDAs/Howe Sound and age group, Vancouver Coastal Health Authority, 2009-2013



*Motor vehicle collision-related visits are captured through ICD-9 codes E810-E819, E958.5, E968.5, E988.5 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

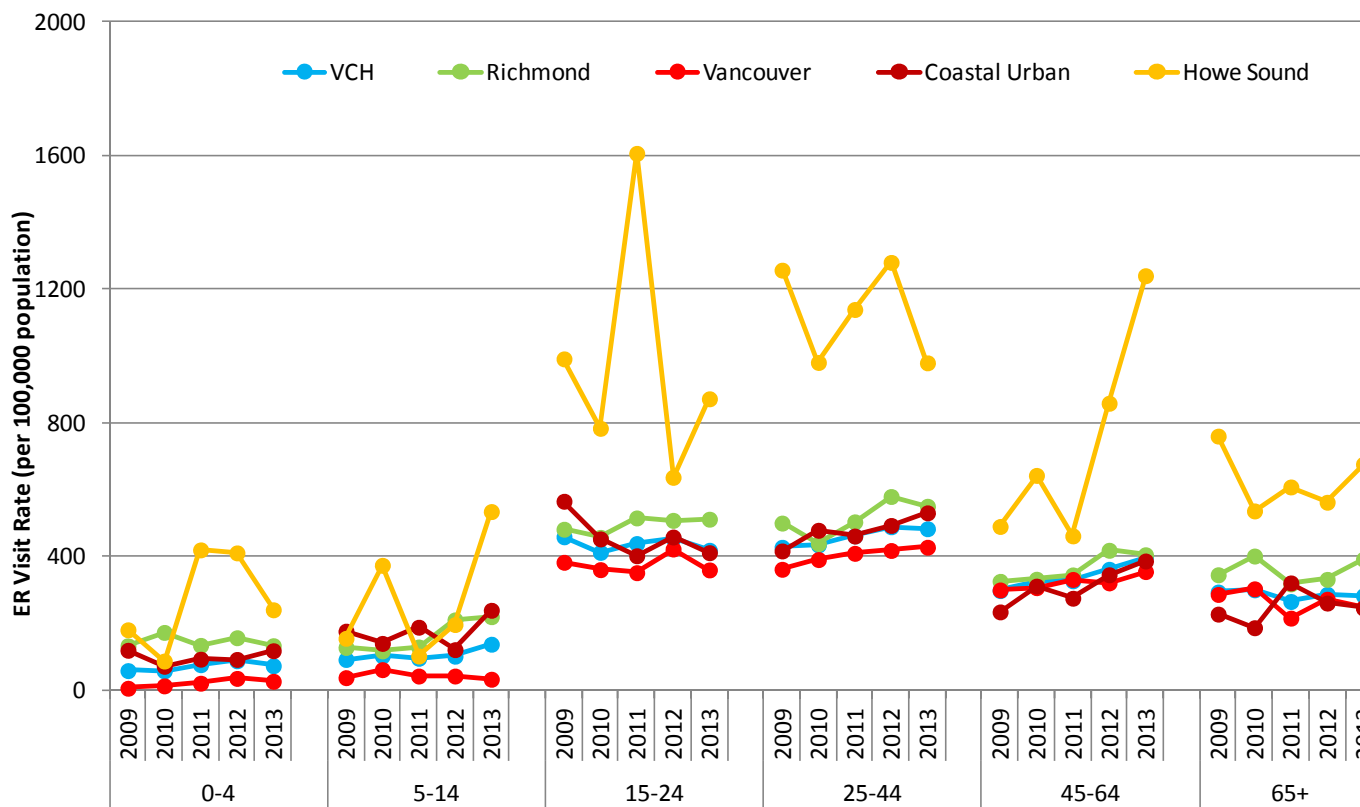
Figure 29: Number of ER visits due to motor vehicle collisions per 100,000 population by HSDAs and Howe Sound LHA, Vancouver Coastal Health Authority, 2009-2013



*Motor vehicle collision-related visits are captured through ICD-9 codes E810-E819, E958.5, E968.5, E988.5 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

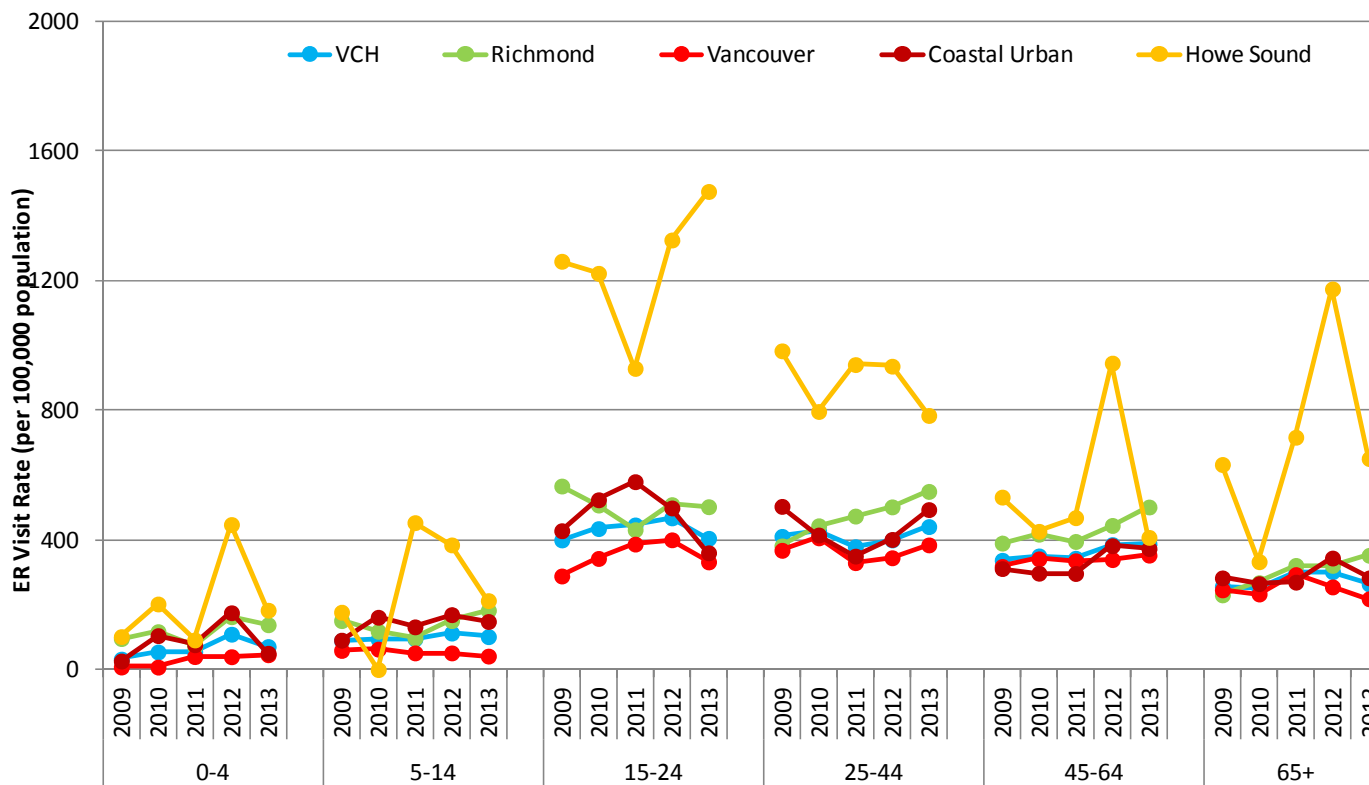
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 30: Number of ER male visits due to motor vehicle collisions per 100,000 population by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



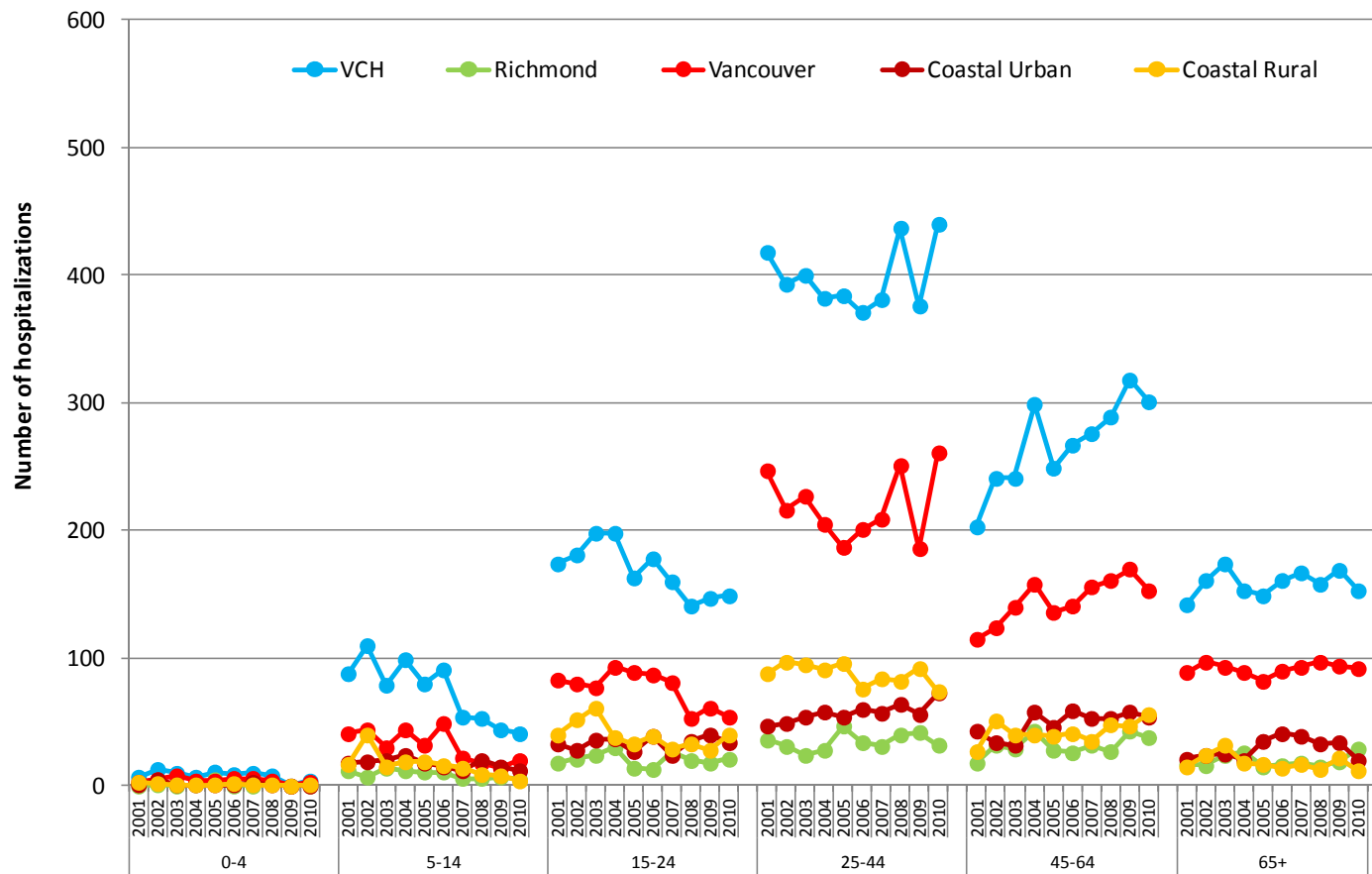
*Motor vehicle collision-related visits are captured through ICD-9 codes E810-E819, E958.5, E968.5, E988.5 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury* and *activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 31: Number of ER female visits due to motor vehicle collisions per 100,000 population by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



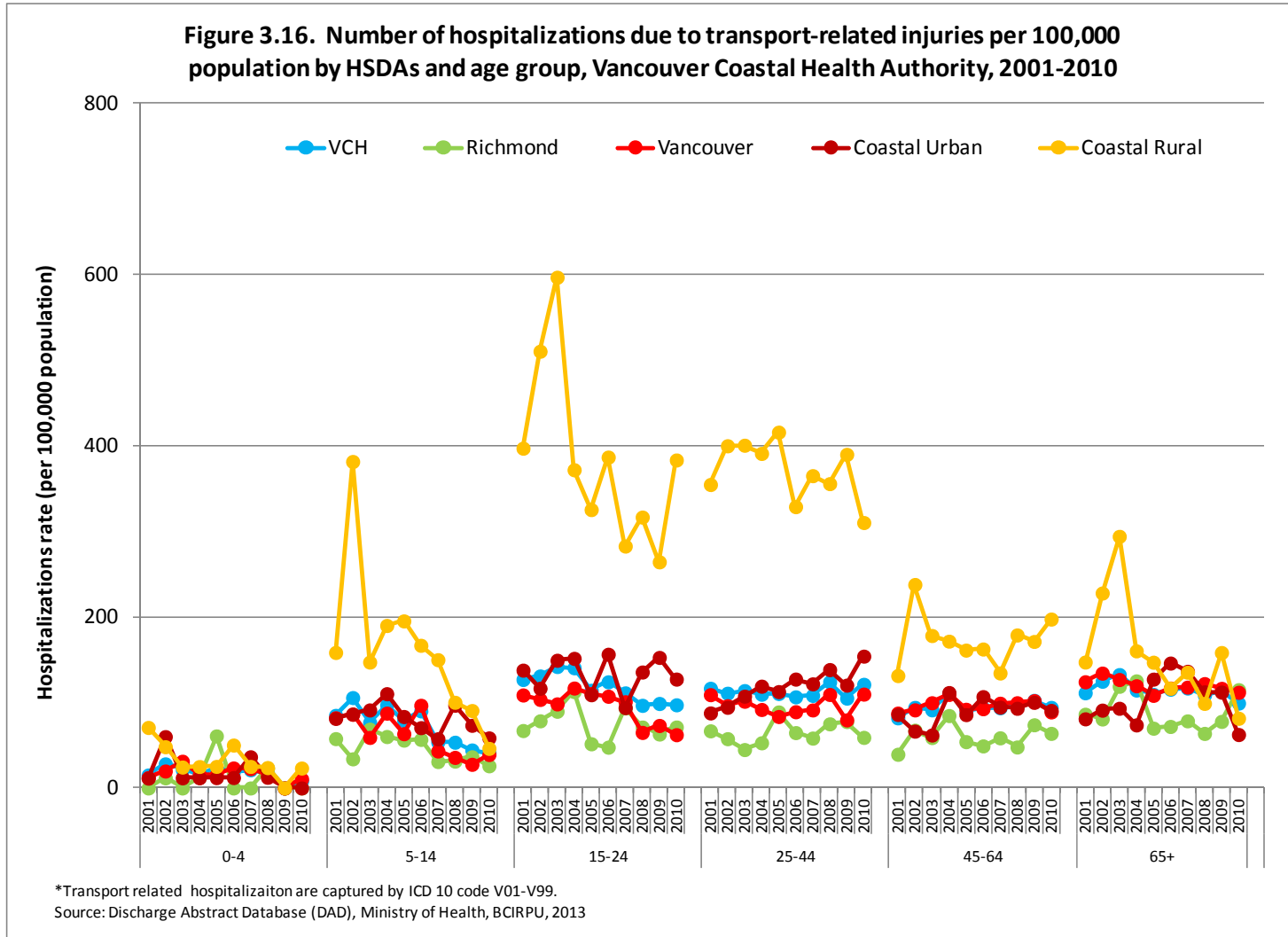
*Motor vehicle collision-related visits are captured through ICD-9 codes E810-E819, E958.5, E968.5, E988.5 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 32: Number of hospitalizations due to transport-related injuries by HSDAs age group, Vancouver Coastal Health Authority, 2001-2010



*Transport related hospitalizations are captured by ICD 10 code V01-V99.
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013

Figure 33: Number of hospitalizations due to transport-related injuries per 100,000 populations by HSDAs and age group, Vancouver Coastal Health Authority, 2001-2010



6.3. Sport-related

Emergency Room Visits:

- Figure 34: Number of ER visits due to sport-related activities by HSDAs and Howe Sound LHA
 - Vancouver HSDA experiences the largest number of ER visits due to sport-related activities compared to the other areas
 - The total number of visits due to sport-related activities appears to be stable

- Figure 35: Number of ER visits by males due to by sport-related activities HSDAs and Howe Sound LHA and age group / Figure 36: Number of ER visits by females due to sport-related activities by HSDAs and Howe Sound LHA and age group
 - ER visits in VCH due to sport-related activities are higher for males compared to females for those aged 15-24, 25-44 and 45-64 (does not include BC Children's Hospital ER data)
 - The difference in number between males and females in each age group appears to be similar for each HSDA

- Figure 37: Number of ER visits by males due to snow and pedal related activities HSDAs and Howe Sound LHA / Figure 38: Number of ER visits by females due to snow and pedal related activities by HSDAs and Howe Sound LHA
 - ER visits in VCH due to snow and pedal related activities are higher for males compared to females (does not include BC Children's Hospital ER data)

- Figure 39: Number of ER visits due to sport-related activities per 100,000 population by HSDAs and Howe Sound LHA
 - Howe Sound and Coastal Urban experience a higher rate of ER visits due to sport-related activities compared to the VCH rate
 - Whilst Vancouver experiences the highest number of ER visits due to sport-related activities (Figure 39), Vancouver has the lowest rate per 100,000

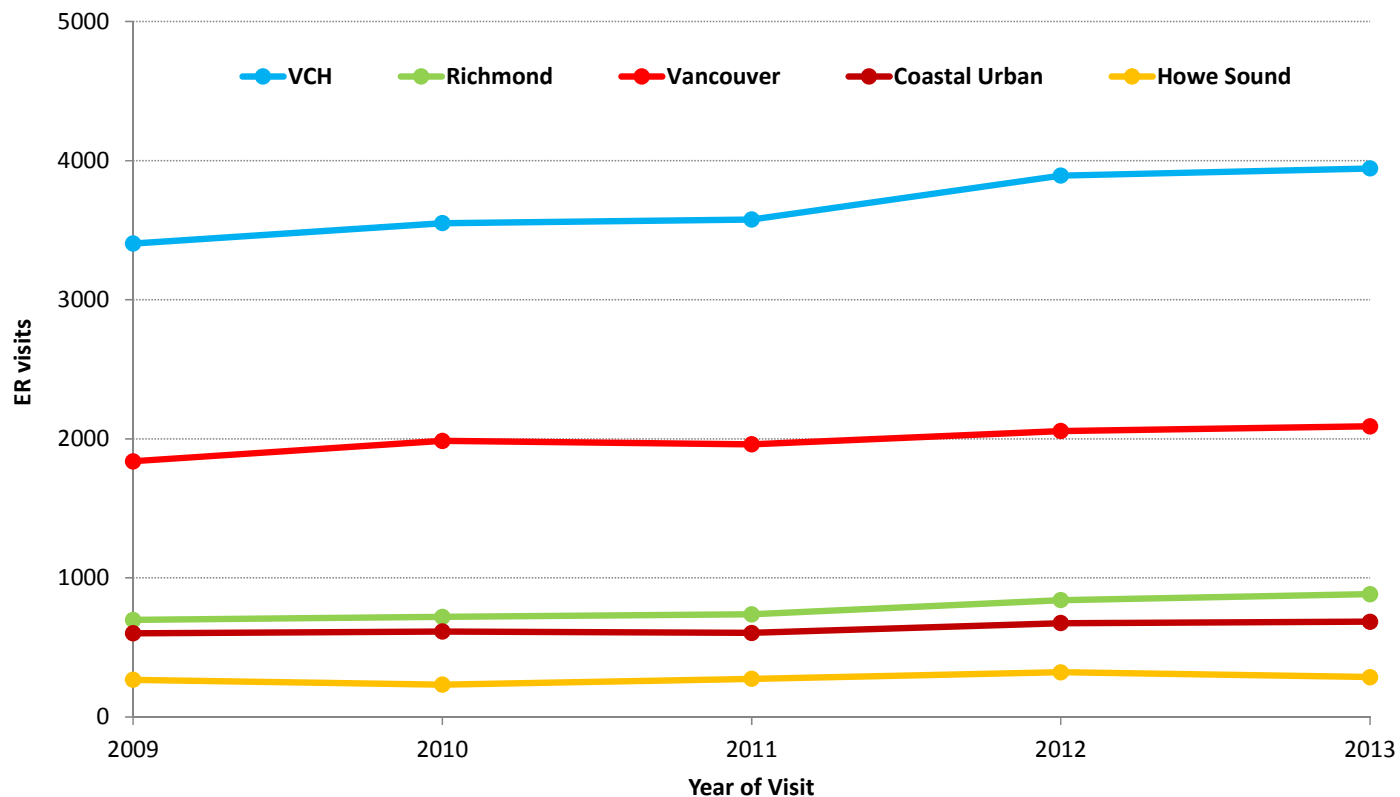
- Figure 40: Number of ER visits by male due to sport-related activities per 100,000 population by HSDAs and Howe Sound LHA and age group / Figure 41: Number of ER female visits due to sport-related activities per 100,000 population by HSDAs and Howe Sound LHA and age group
 - The rate of ER visits due to sport-related activities for males and females is higher for Coastal Rural compared to the VCH rate (Does not include BC Children's Hospital ER data)

- Figure 41: Number of ER visits by male due to snow and pedal cycling-related activities per 100,000 population by HSDAs and Howe Sound LHA / Figure 42: Number of ER visits

by female due to snow and pedal cycling-related activities per 100,000 population by HSDAs and Howe Sound LHA

- Howe Sound experiences the highest rate of ER visits due to snow and pedal cycling-related activities

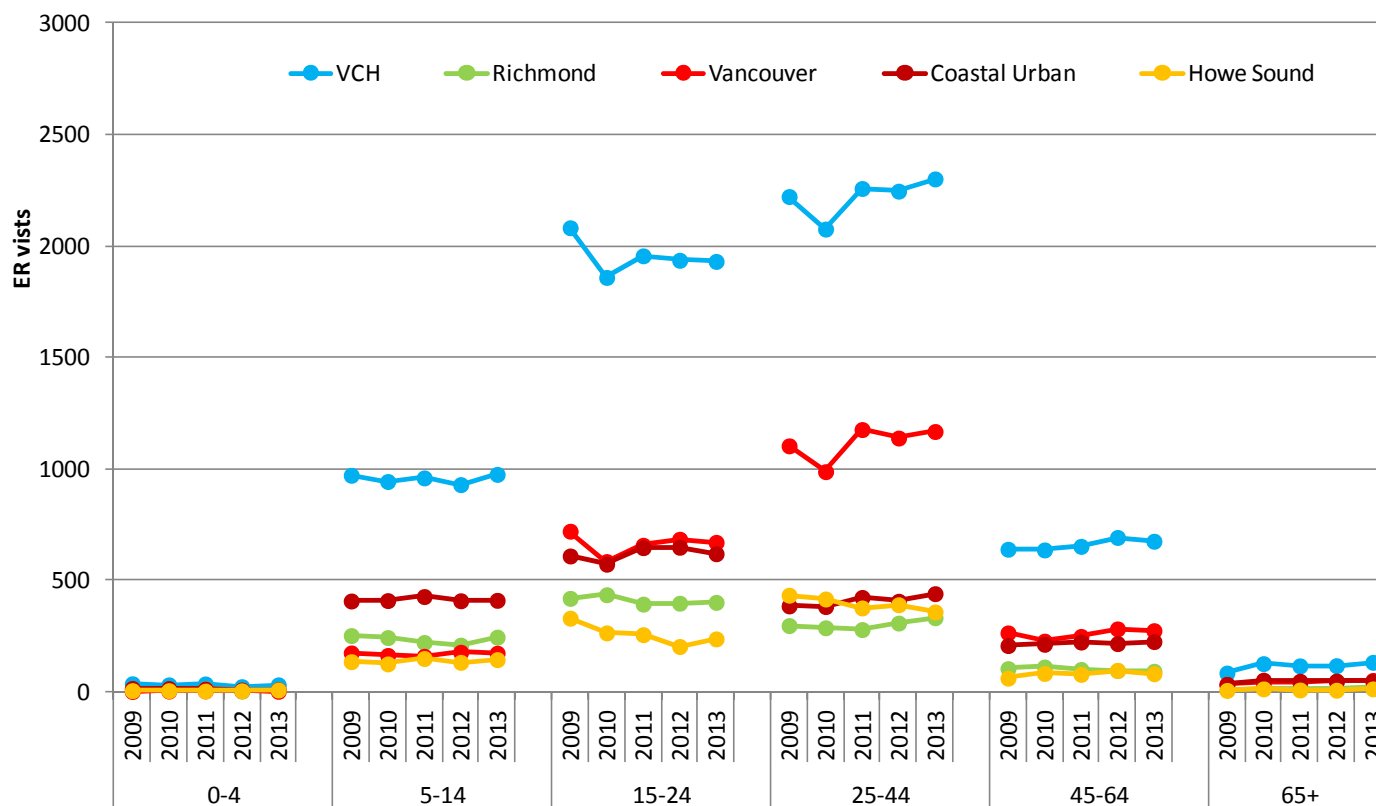
Figure 34: Number of ER visits due to sport-related activities by HSDAs and Howe Sound LHA, Vancouver Coastal Health Authority, 2009-2013



*Motor vehicle collision-related visits are captured through ICD-9 codes E810-E819, E958.5, E968.5, E988.5 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

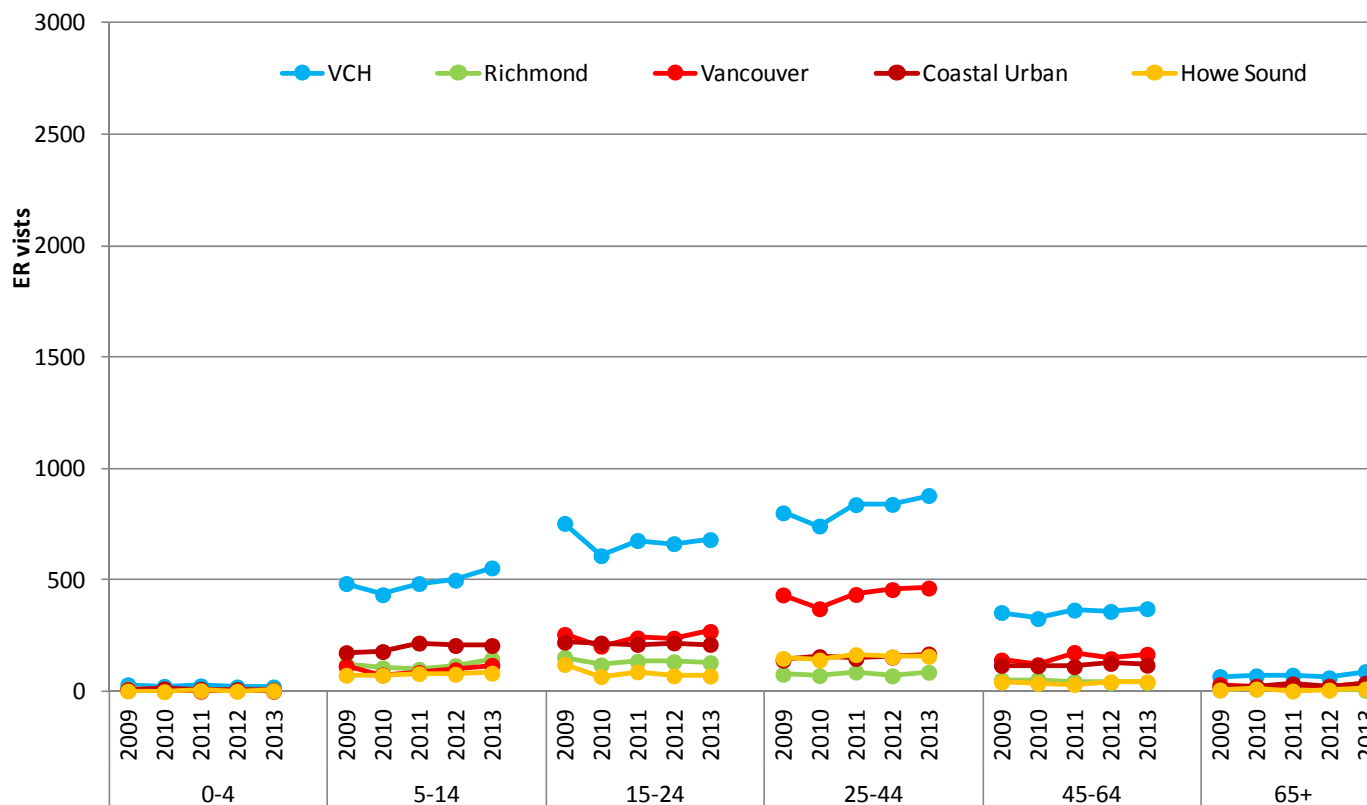
Figure 35: Number of ER male visits due to sport-related activities by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



*Sport-related visits are captured through a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

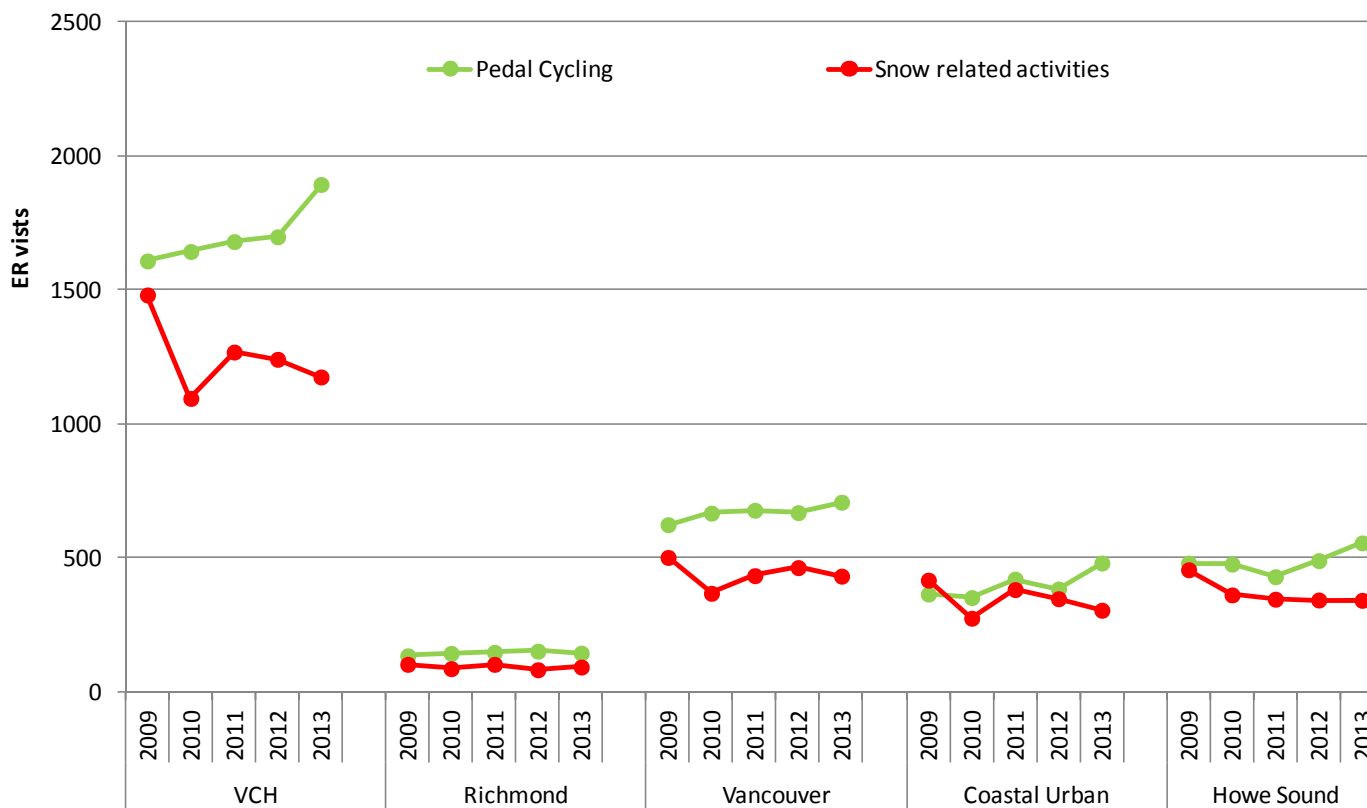
Figure 36: Number of ER female visits due to sport-related activities by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

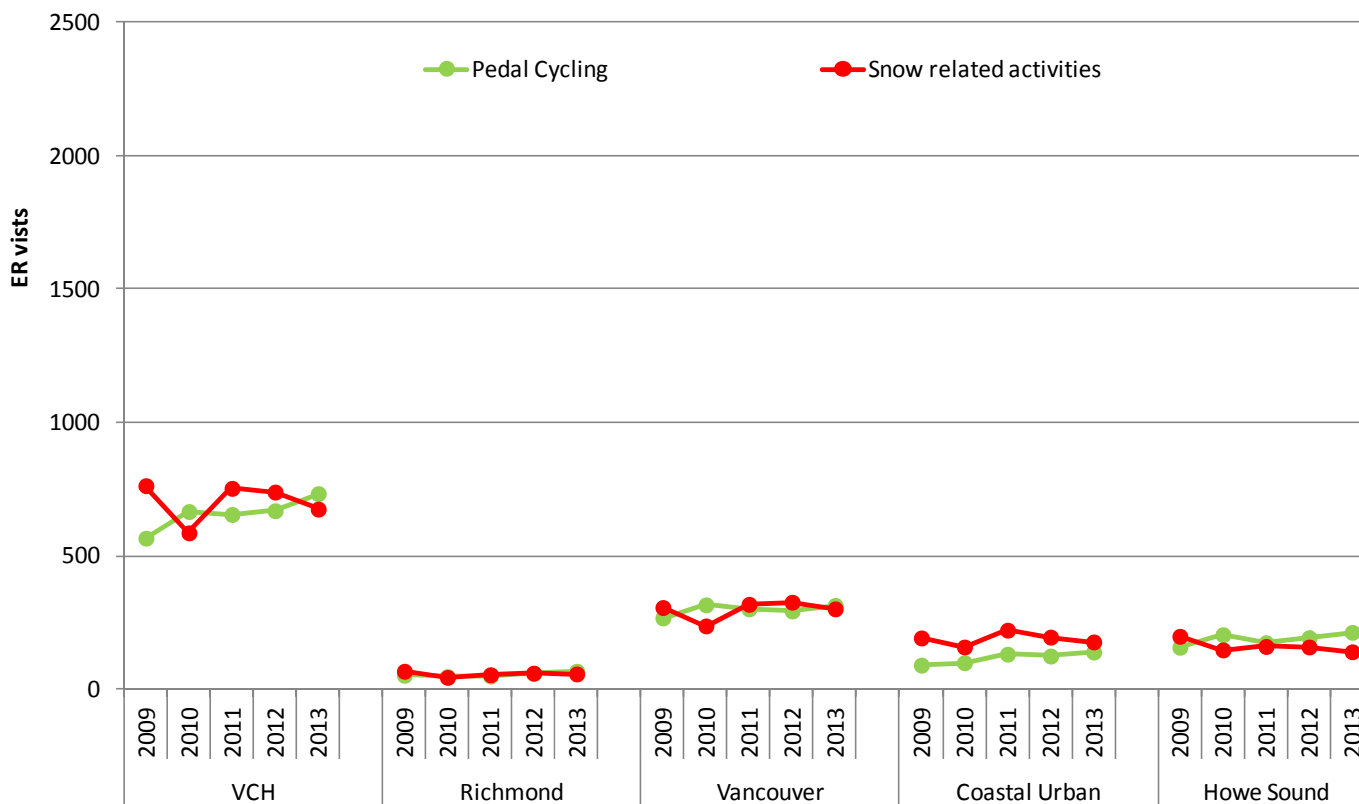
Figure 37: Number of ER male visits due to snow and pedal cycling related activities by HSDAs/Howe Sound LHA, Vancouver Coastal Health Authority, 2009-2013



*Sport-related visits are captured through a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

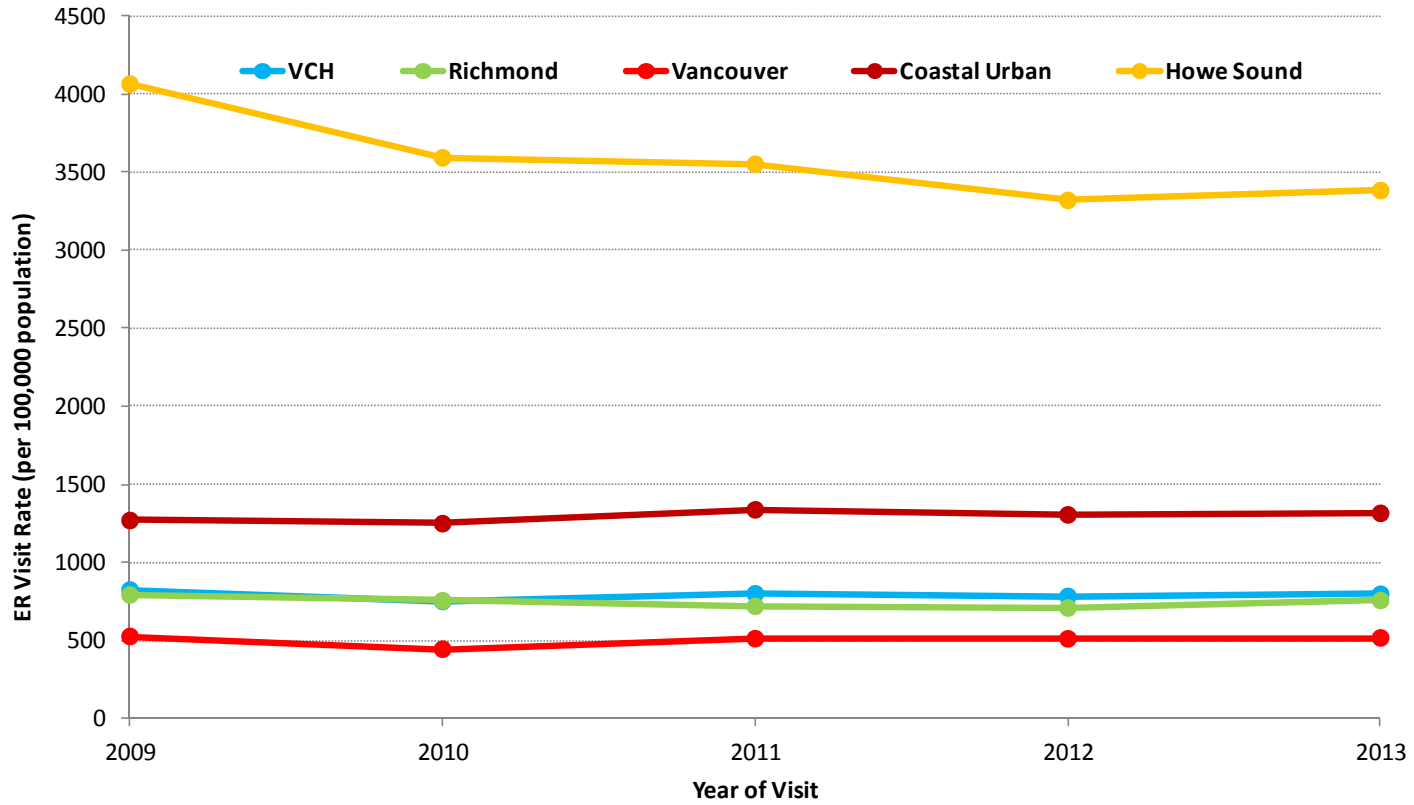
Figure 38: Number of ER female visits due to snow and pedal cycling related activities by HSDAs/Howe Sound LHA, Vancouver Coastal Health Authority, 2009-2013



*Sport-related visits are captured through a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

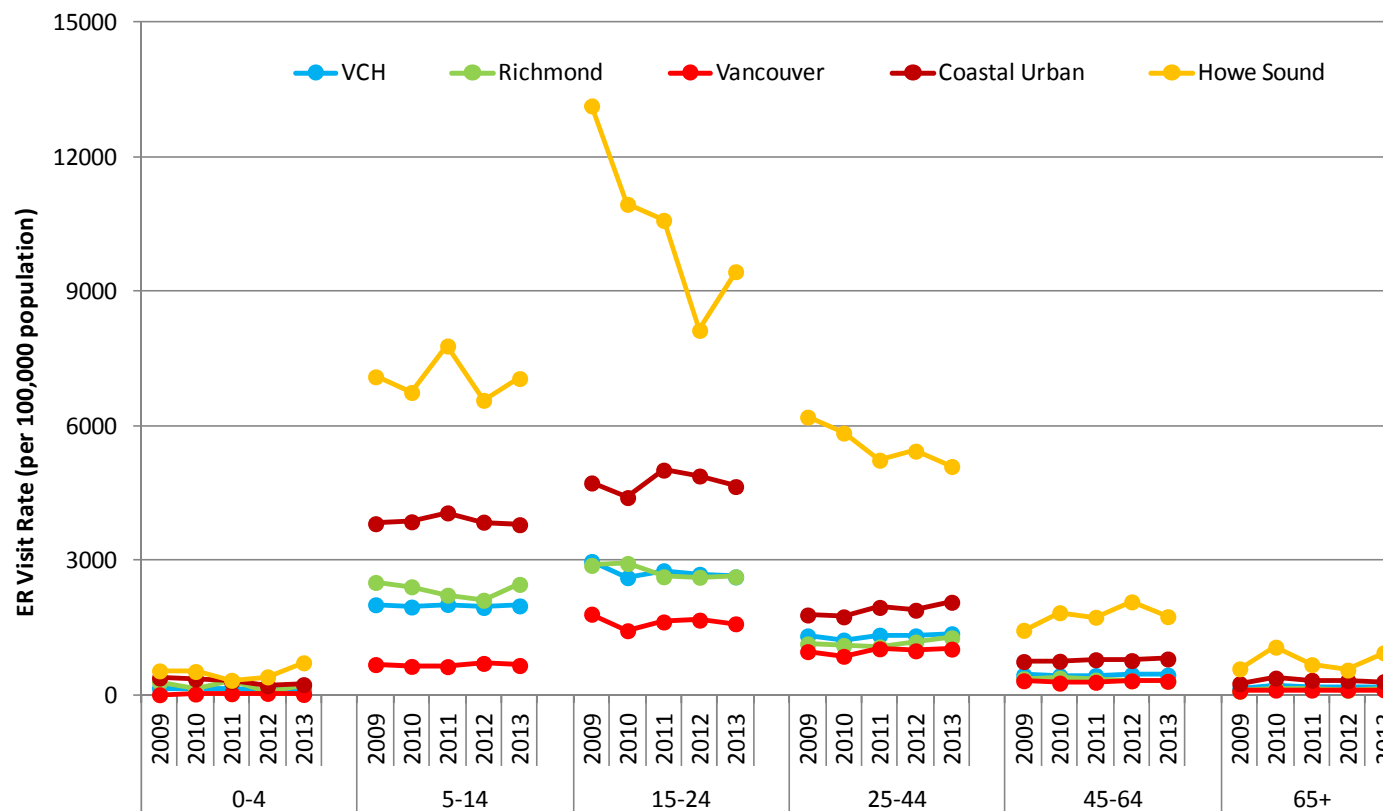
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 39: Number of ER visits due to sport-related activities per 100,000 population by HSDAs and Howe Sound LHA, Vancouver Coastal Health Authority, 2009-2013



* Sport-related visits are captured through a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

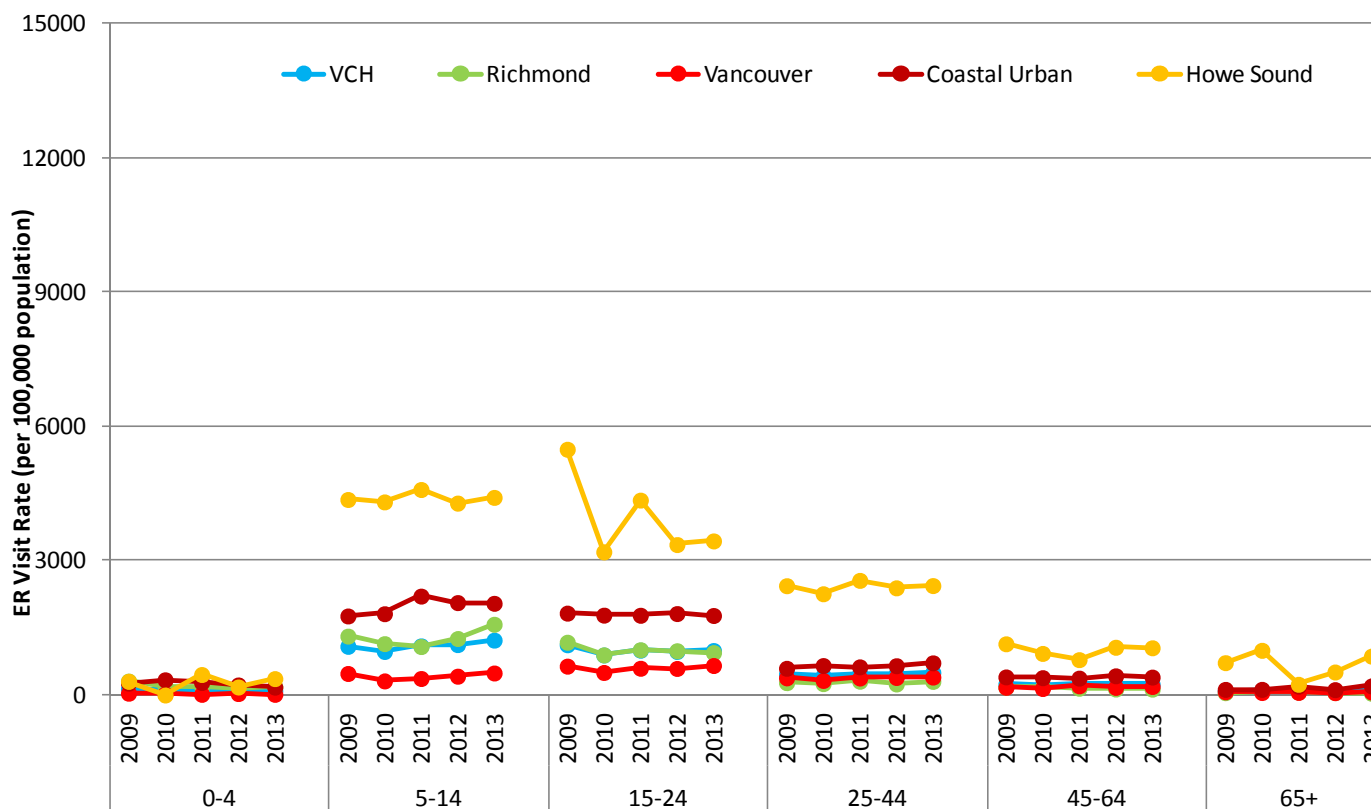
Figure 40: Number of ER male visits due to sport-related activities per 100,000 population by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



*Sport-related visits are captured through a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury* and *activity at time of injury*.

Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

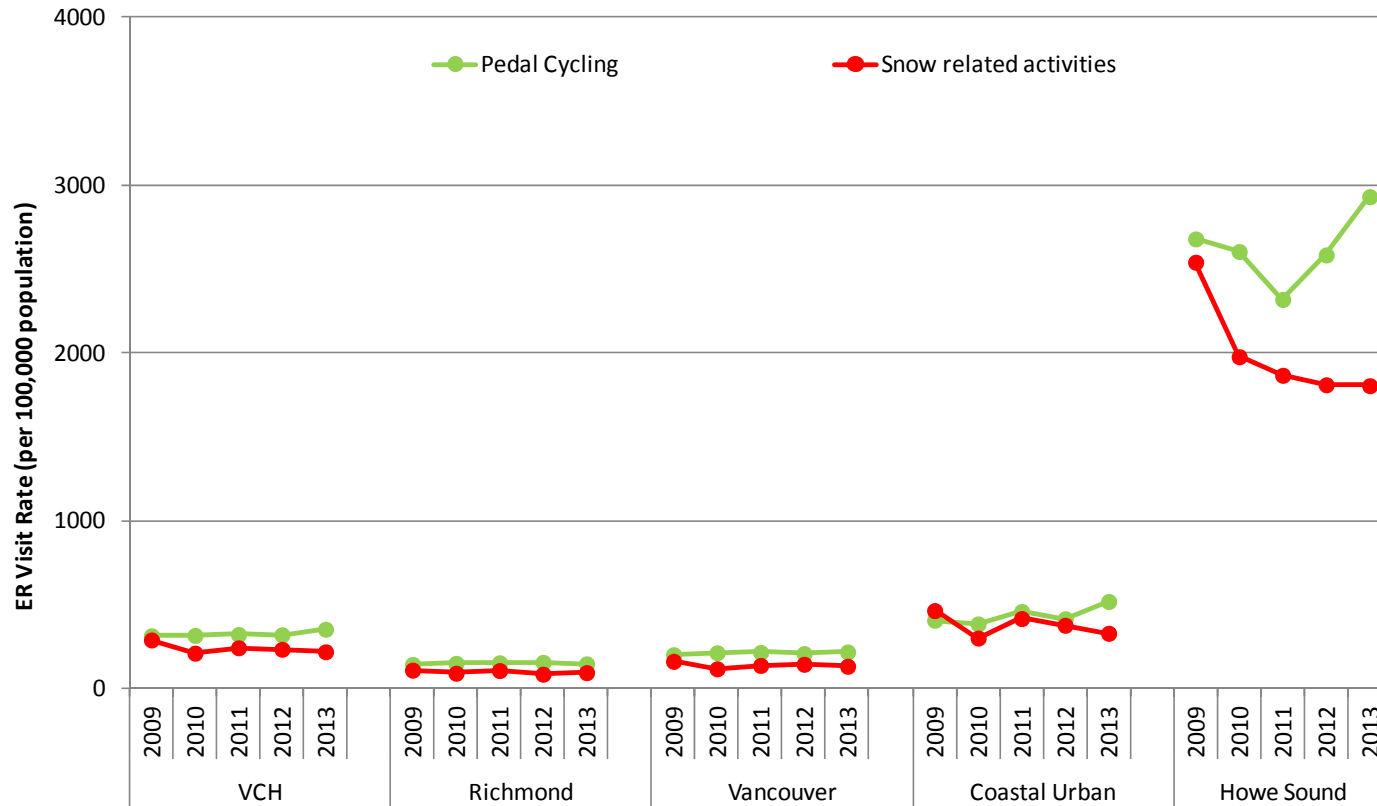
Figure 41: Number of ER female visits due to sport-related activities per 100,000 population by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

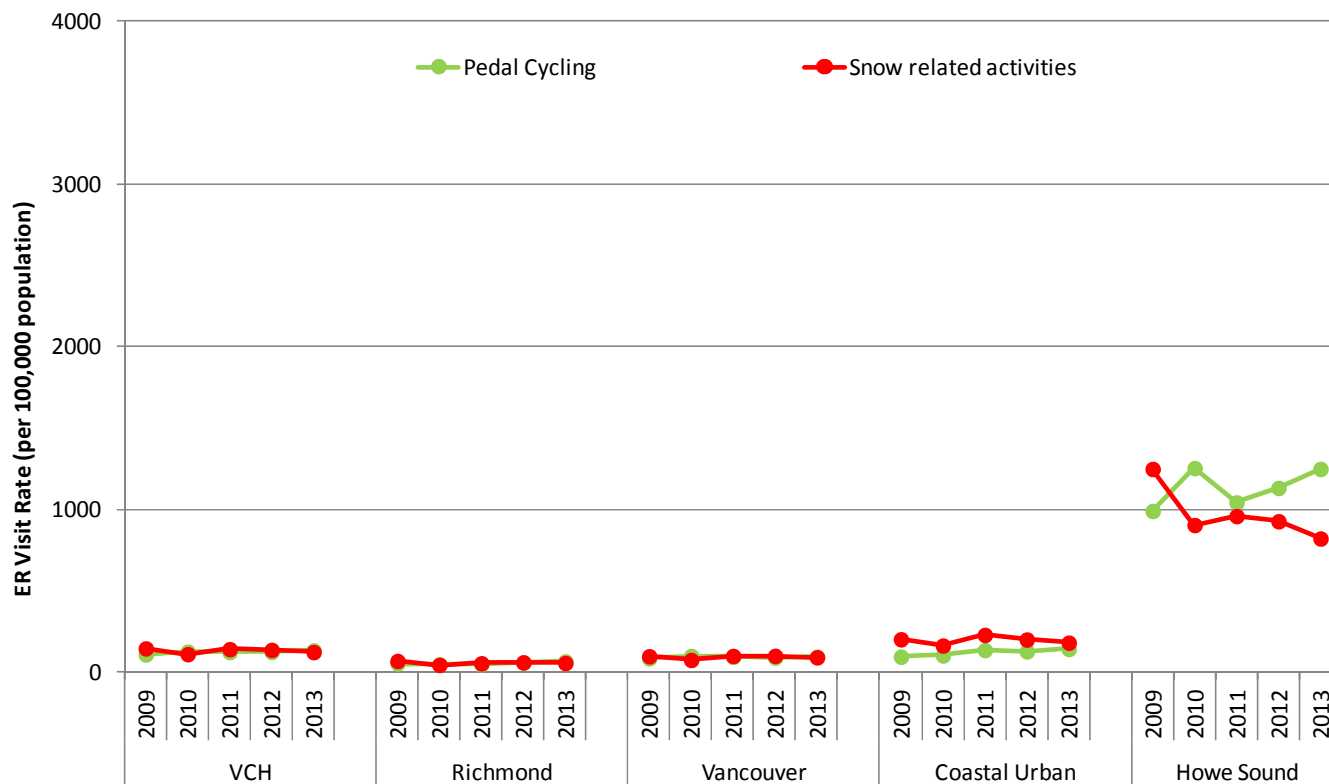
Figure 42: Number of ER male visits due to snow and pedal cycling related activities per 100,000 population by HSDAs/Howe Sound LHA, Vancouver Coastal Health Authority, 2009-2013



*Sport-related visits are captured through a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 43: Number of ER female visits due to snow and pedal cycling related activities per 100,000 population by HSDAs/Howe Sound LHA, Vancouver Coastal Health Authority, 2009-2013



*Sport-related visits are captured through a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

6.4. Overdose/poisoning

Emergency Room Visits:

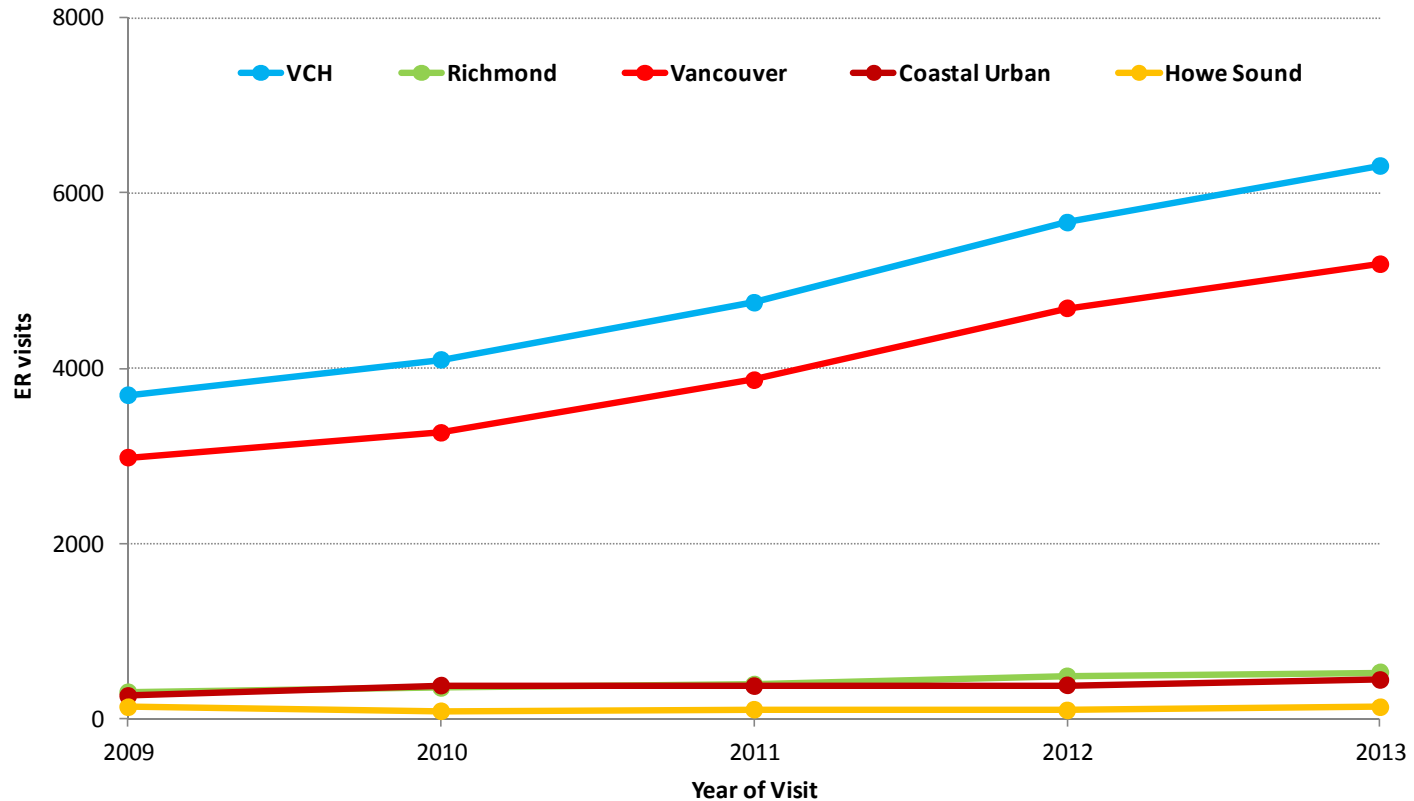
- Figure 44: Number of ER visits due to poisoning by HSDAs and Howe Sound LHA
 - The total number of visits due to poisoning appears to be increasing
 - Vancouver HSDA experiences the largest number of ER visits due to poisoning compared to the other areas
- Figure 45: Number of ER visits by male due to poisoning HSDAs and Howe Sound LHA and age group / Figure 46: Number of ER visits by female due to poisoning by HSDAs and Howe Sound LHA and age group
 - ER visits in Vancouver due to poisoning are higher for males compared to females for those aged 25-44, 45-64 and 65+
 - ER visits in Vancouver due to poisoning are increasing for males and females for those aged 15-24, 25-44, 45-64 and 65+
- Figure 47: Number of ER visits due to poisoning by age group and substances
 - ER visits due to alcohol, illicit drug, medication, as well as other substances and unknown is increasing for those aged 15-24, 25-44, 45-64 and 65+
 - ER visits due to poisoning is most commonly due to alcohol
- Figure 48: Number of ER visits by male due to poisoning by HSDAs and Howe Sound LHA and substances / Figure 49: Number of ER visits by female due to poisoning by HSDAs and Howe Sound LHA and substances
 - ER visits due to poisoning from all substance types are higher in Vancouver for males and females
 - ER visits in Vancouver due to poisoning from alcohol, illicit drugs, medication and other substances are increasing for females
 - ER visits in Vancouver due to poisoning from alcohol, illicit drugs, medication other and unknown substances are increasing for males
- Figure 50: Number of ER visits due to poisoning per 100,000 population by HSDAs and Howe Sound LHA
 - Vancouver experiences a higher rate of ER visits due to poisoning compared to the VCH rate
 - Vancouver experiences the highest number of ER visits due to poisoning (Figure 50), and Vancouver has the lowest rate per 100,000

- Figure 51: Number of ER visits by male due to poisoning per 100,000 population by HSDAs and Howe Sound LHA and age group / Figure 52: Number of ER visits by female due to poisoning per 100,000 population by HSDAs and Howe Sound LHA and age group
 - The rate of ER visits due to poisoning for males and females is higher in Vancouver compared to the VCH rate for those aged 15-24, 25-44, 45-64 and 65+
 - The rate of ER visits due to poisoning for males and females is increasing in Vancouver and Richmond for males and females aged 15-24, 25-44, 45-64 and 65+
- Figure 53: Number of ER visits due to poisoning per 100,000 population by age group and substances
 - The highest rate of ER visits is due to poisoning by alcohol
 - ER visits due to poisoning by alcohol, illicit drugs, medication and others are increasing for those aged 15-24, 25-44, 45-64 and 65+
- Figure 54: Number of ER male visits due to poisoning per 100,000 population by HSDAs and Howe Sound LHA and substance / Figure 3.38 Number of ER female visits due to poisoning per 100,000 population by HSDAs and Howe Sound LHA and substance
 - The highest rate of ER visits is due to poisoning by alcohol in all HSDAs and LHA
 - The rate of ER visits due to poisoning from alcohol is highest for males and females in Vancouver

Hospitalization:

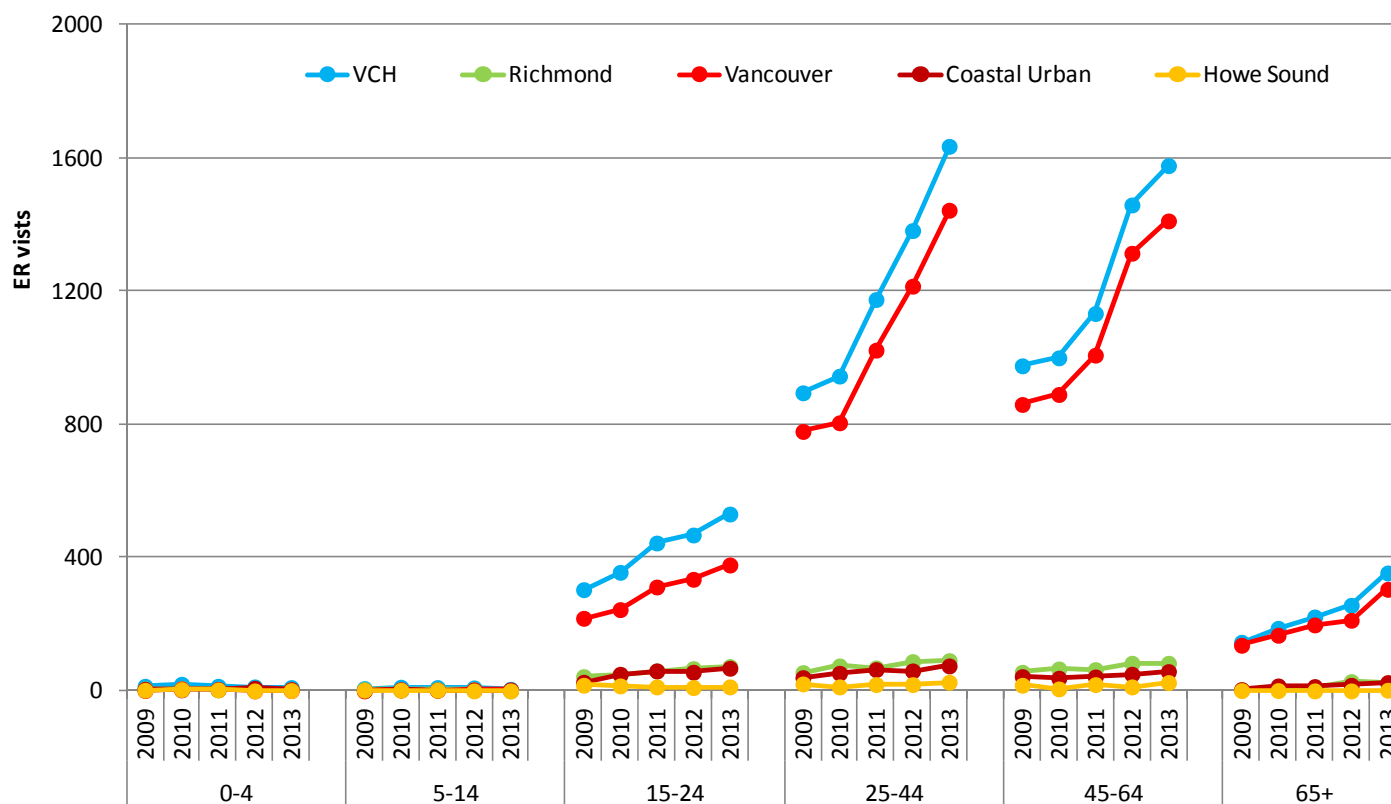
- Figure 55: Number of hospitalizations due to unintentional poisoning by HSDAs and age group
 - The number of hospitalizations due to unintentional poisoning is highest in Vancouver
- Figure 56: Number of hospitalizations due to unintentional poisoning per 100,000 by HSDA and age group
 - The hospitalization rate due to unintentional poisoning appears to be higher for Coastal Rural compared to the VCH rate for those aged 15-24, 25-44, 45-64 and 65+

Figure 44: Number of ER visits due to poisoning by HSDAs and Howe Sound LHA Vancouver Coastal Health Authority, 2009-2013



*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

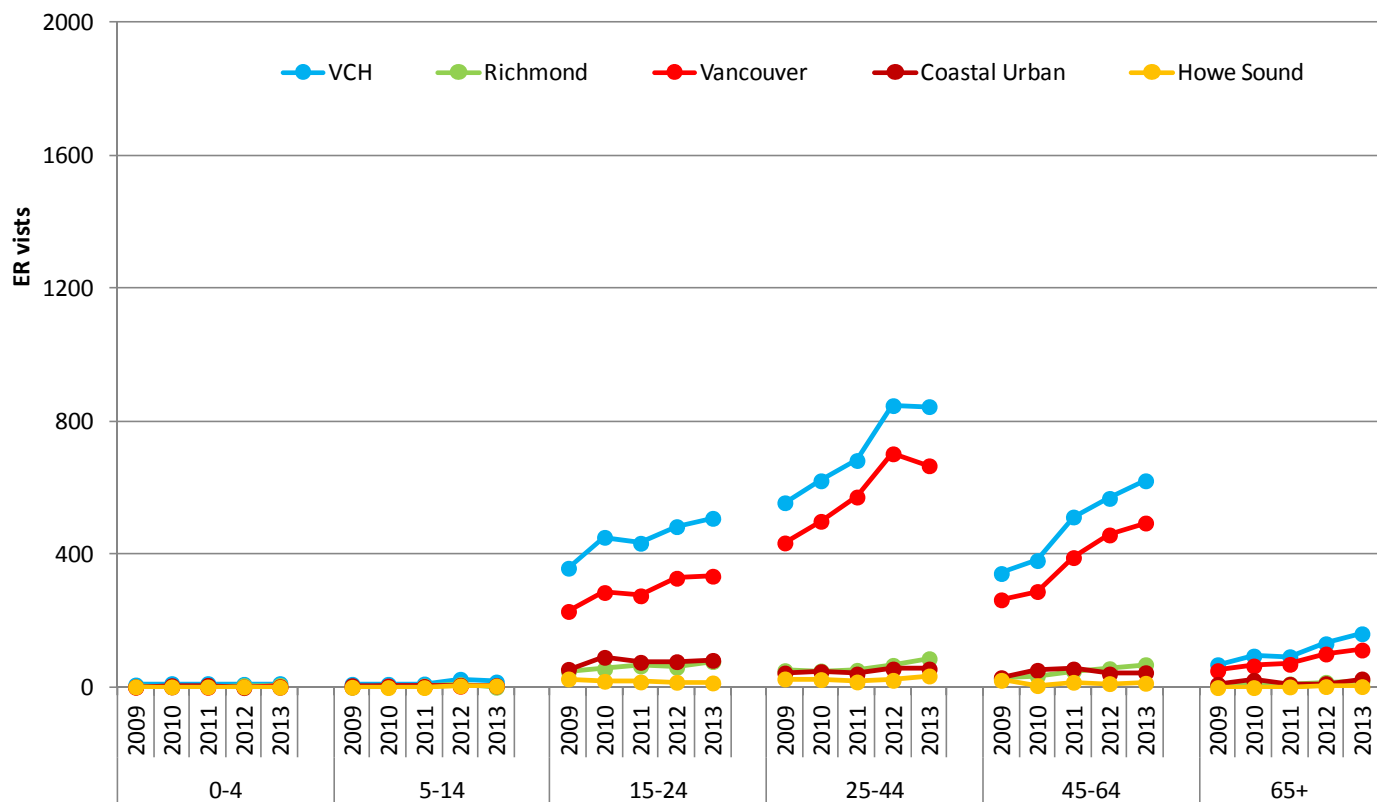
Figure 45: Number of ER male visits due to poisoning by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.

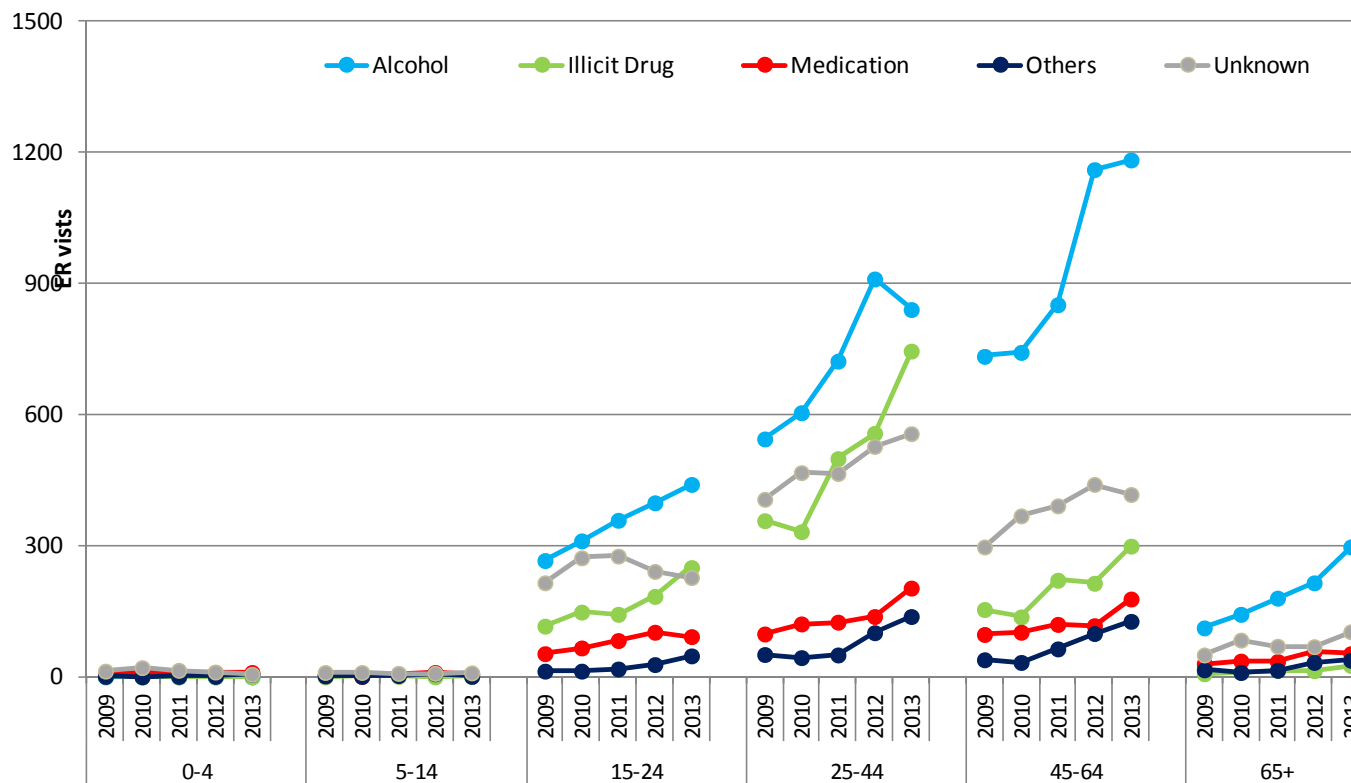
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 46: Number of ER female visits due to poisoning by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

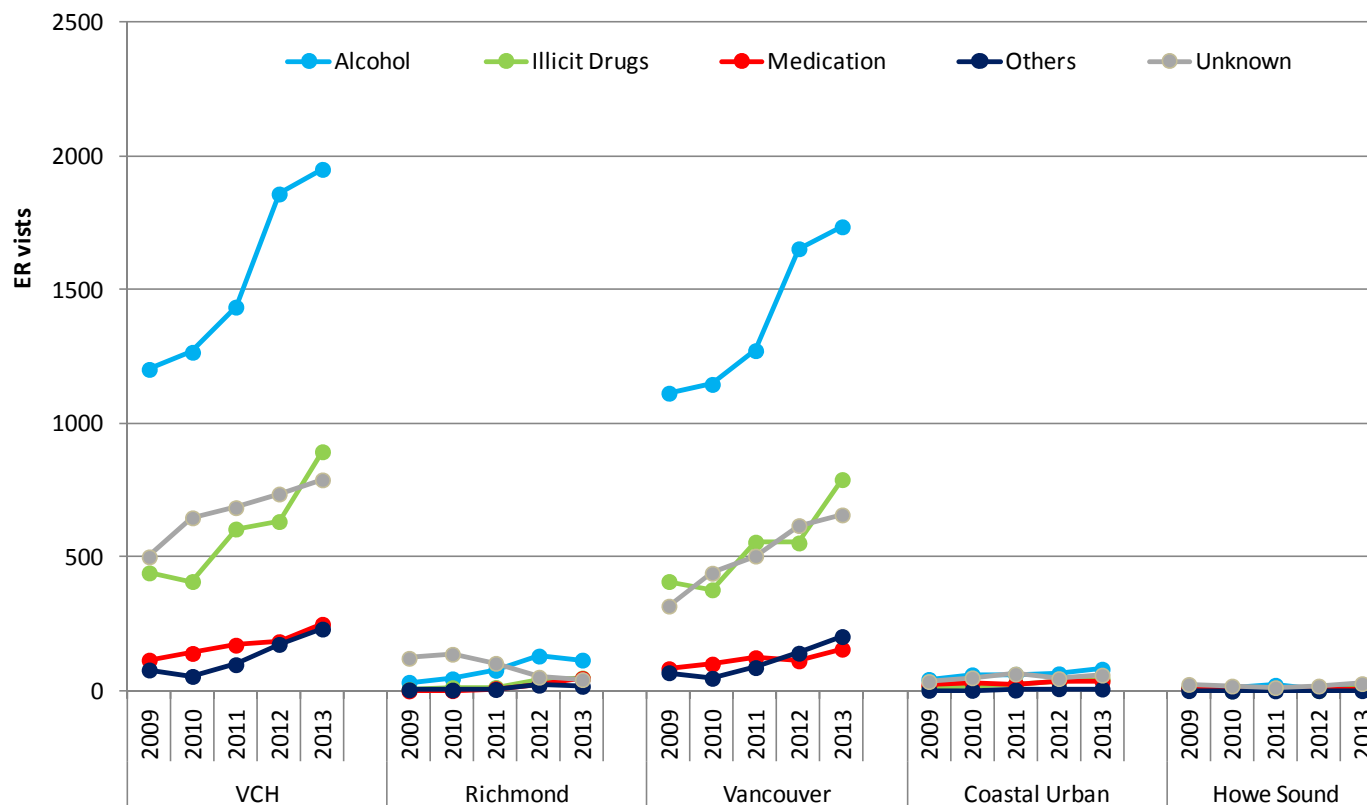
Figure 47: Number of ER visits due to poisoning by age group and substances Vancouver Coastal Health Authority, 2009-2013



*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.

Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

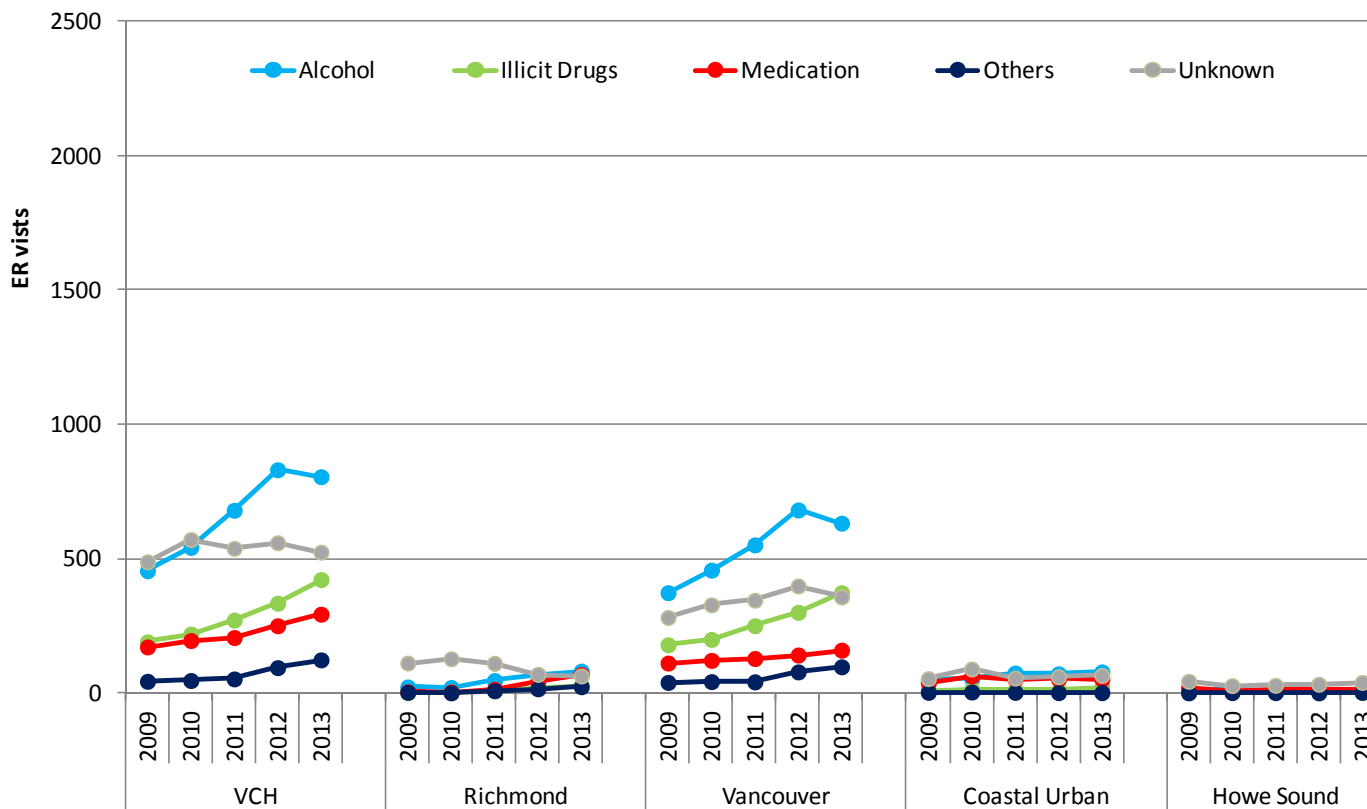
Figure 48: Number of ER male visits due to poisoning by HSDAs/Howe Sound LHA and substances, Vancouver Coastal Health Authority, 2009-2013



*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.

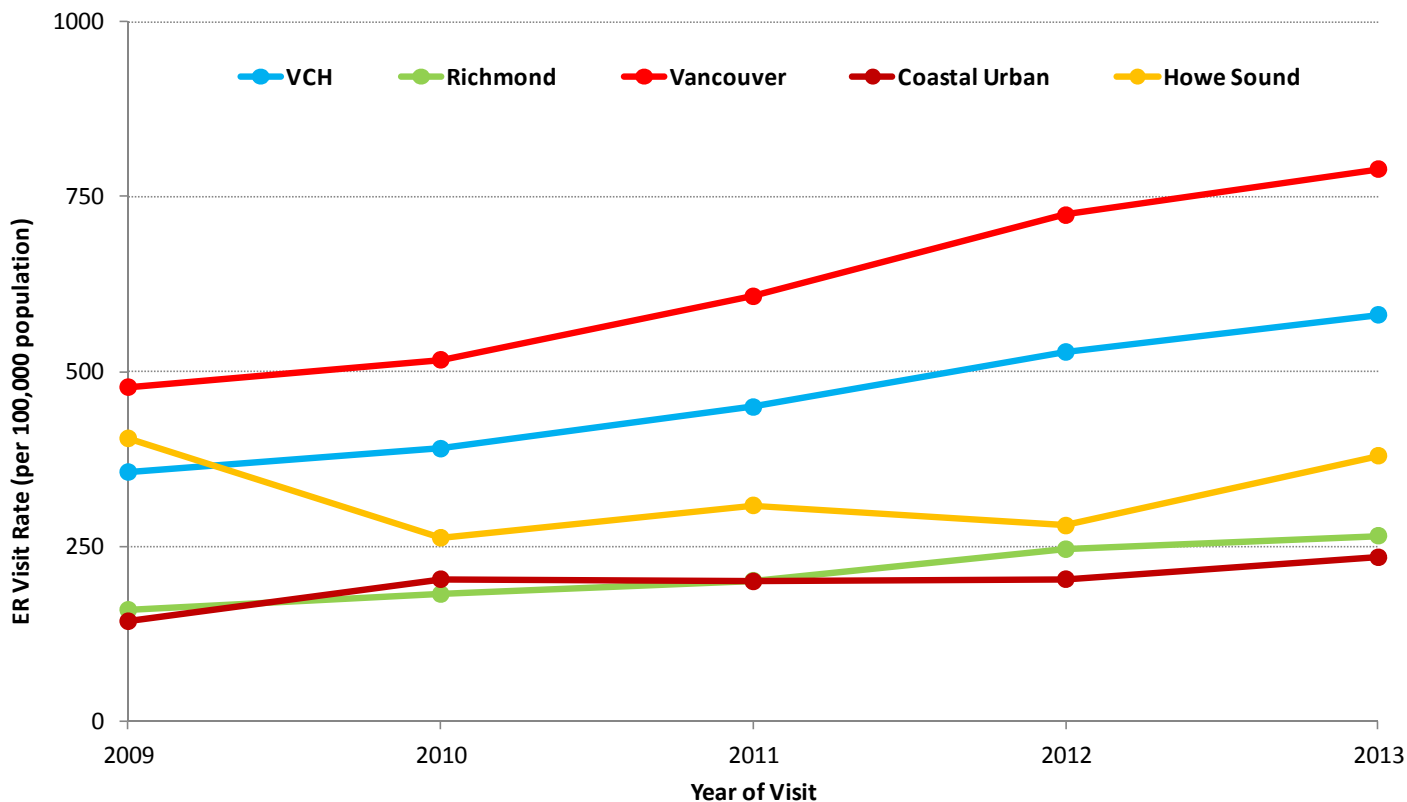
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 49: Number of ER female visits due to poisoning by HSDAs/Howe Sound LHA and substances, Vancouver Coastal Health Authority, 2009-2013



*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

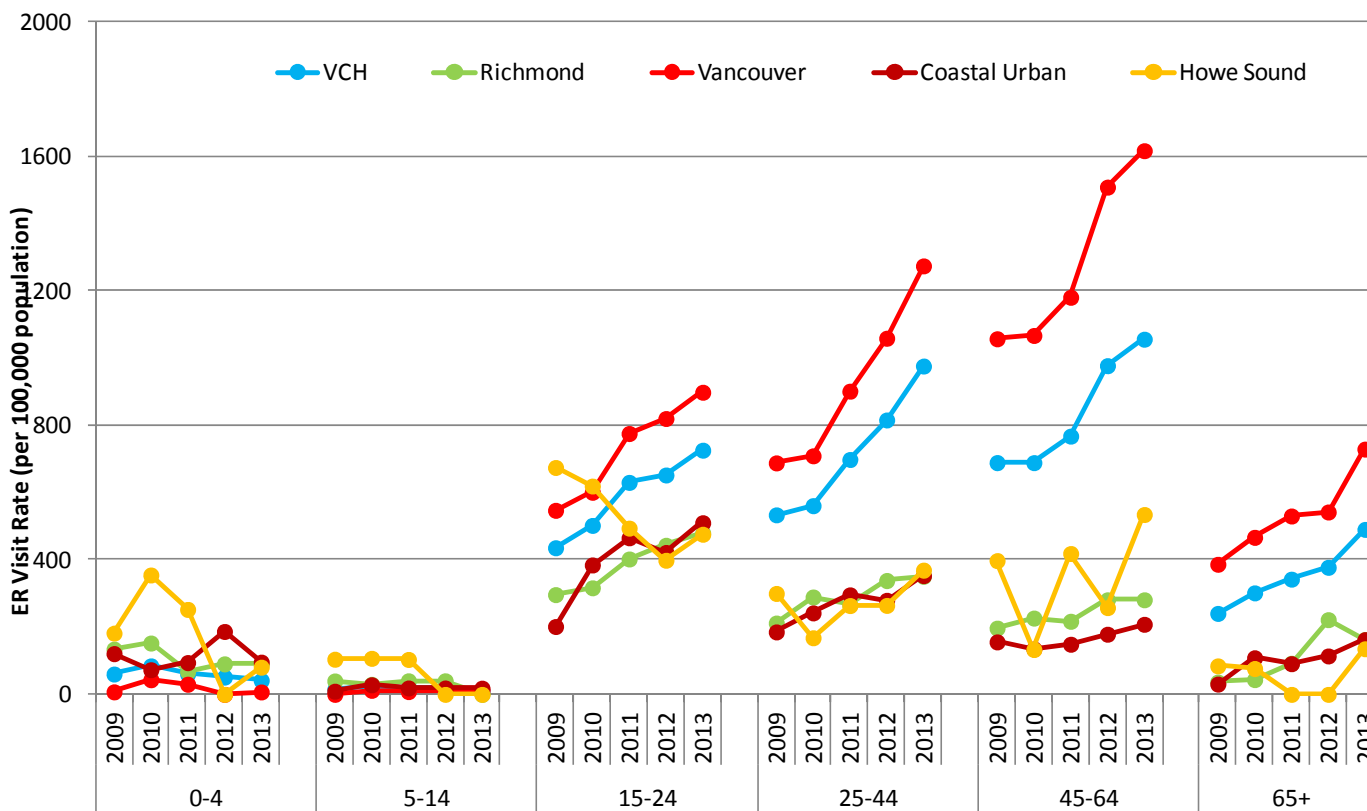
Figure 50: Number of ER visits due to poisoning per 100,000 population by HSDAs and Howe Sound LHA, Vancouver Coastal Health Authority, 2009-2013



*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

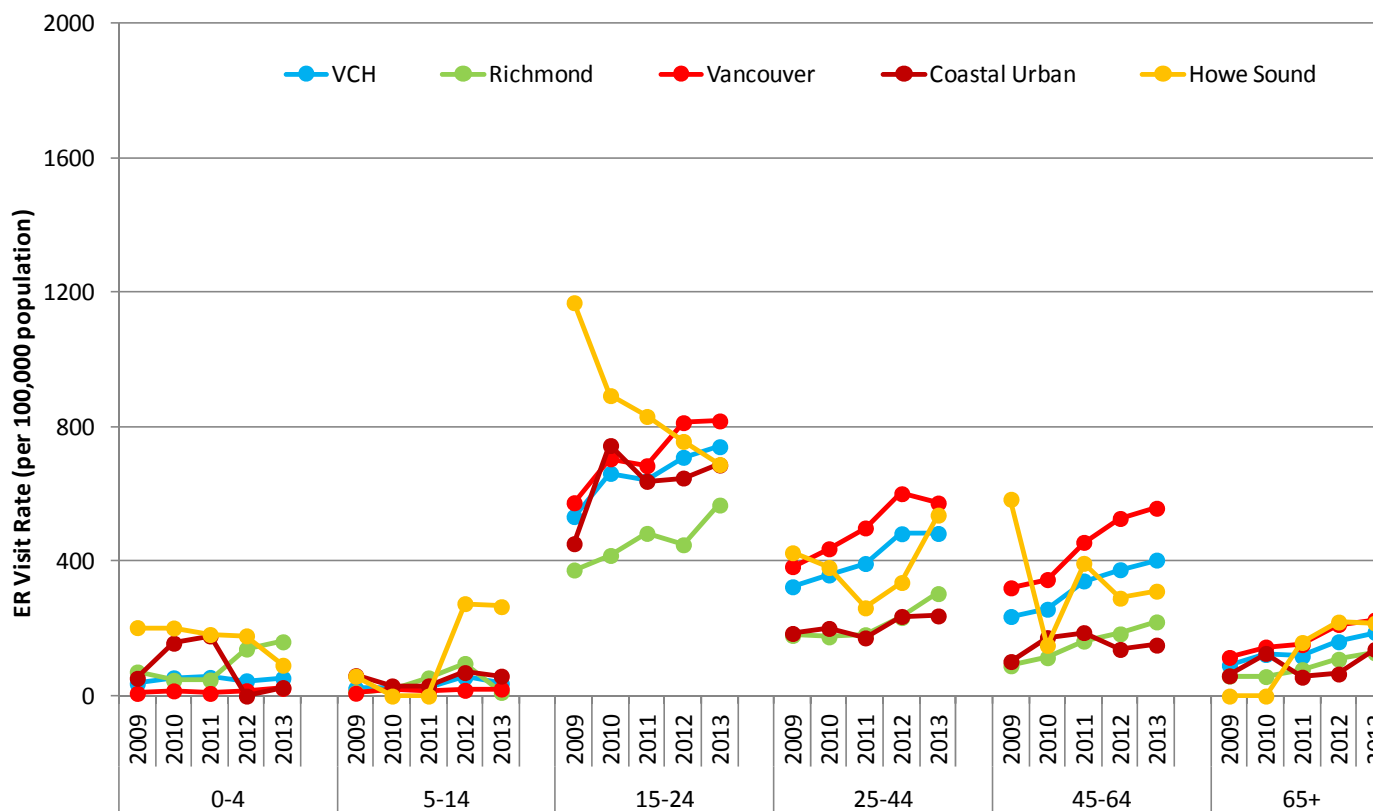
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 51: Number of ER male visits due to poisoning per 100,000 population by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



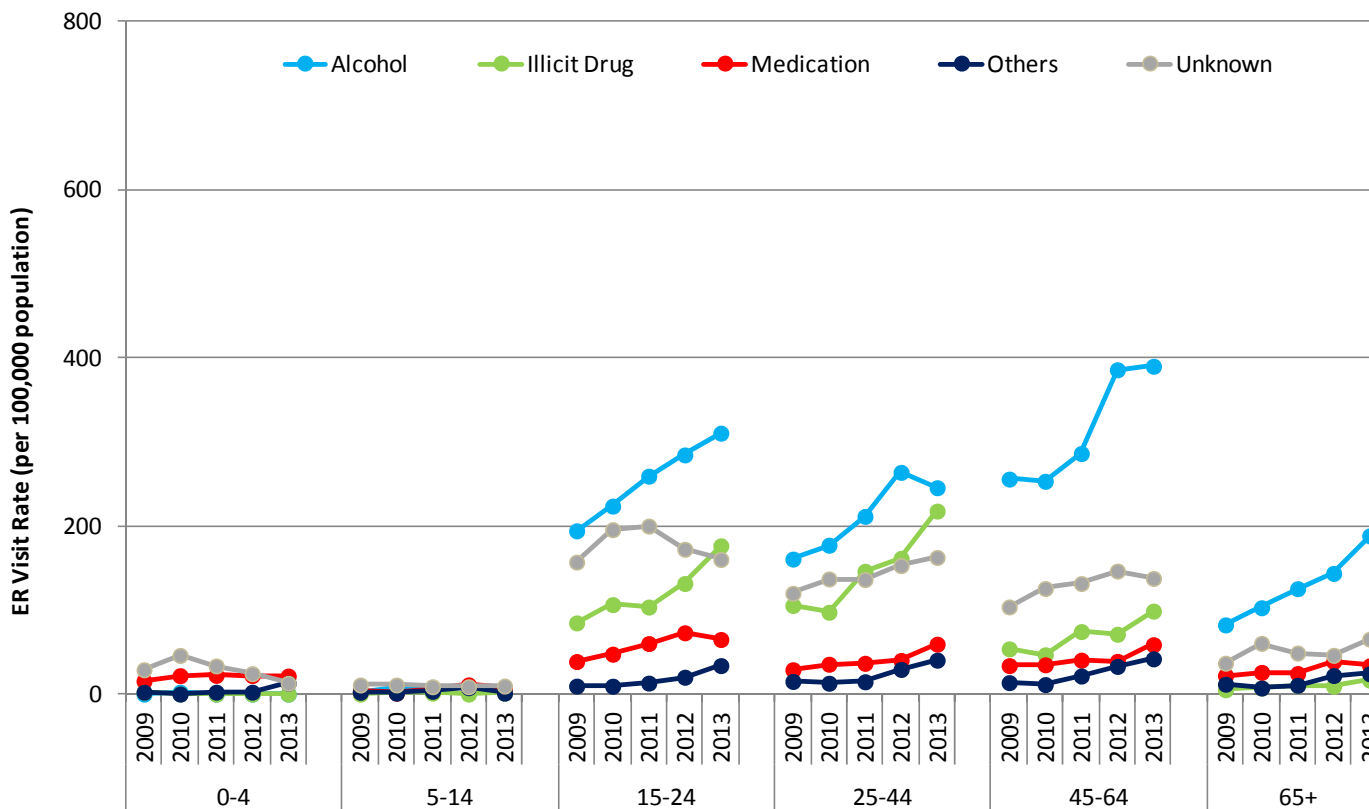
*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 52: Number of ER female visits due to poisoning per 100,000 population by HSDAs/Howe Sound LHA and age group, Vancouver Coastal Health Authority, 2009-2013



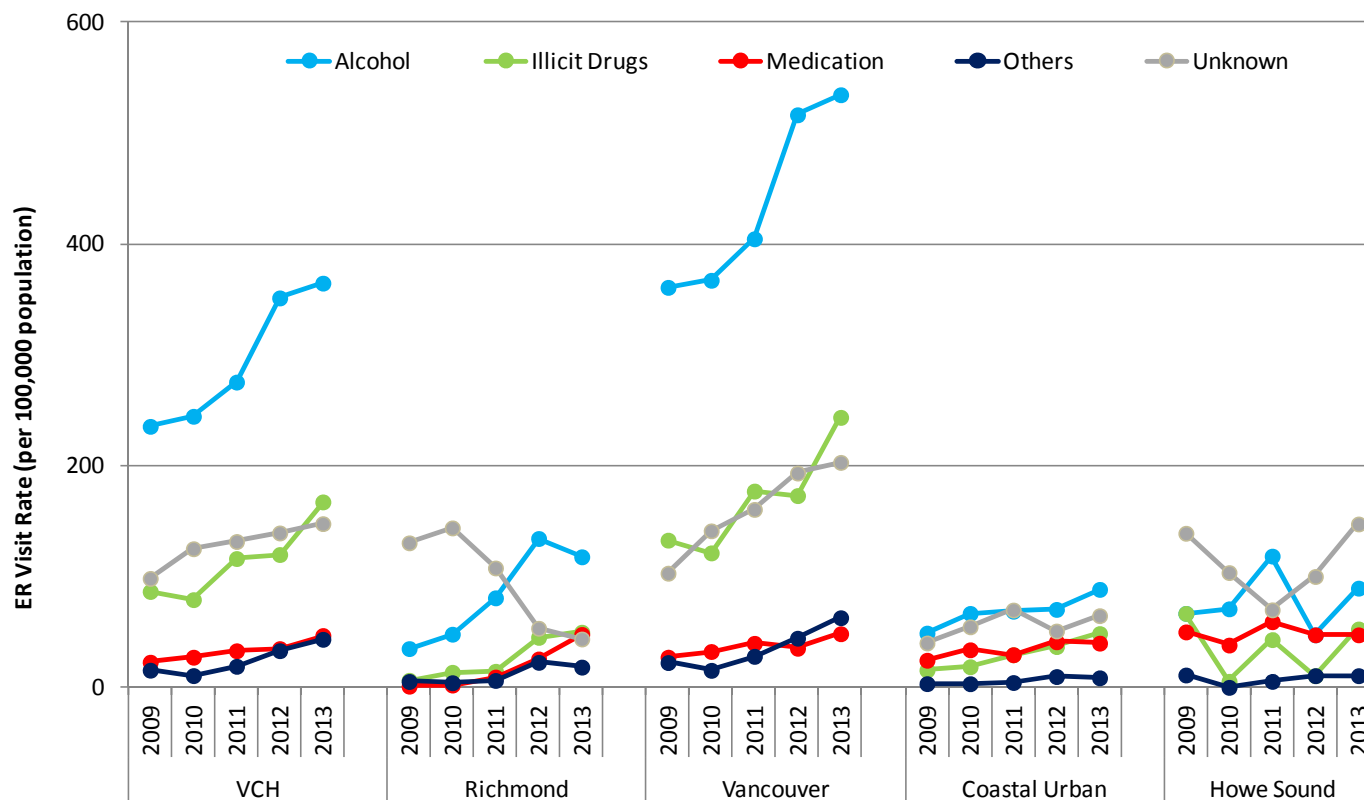
*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 53: Number of ER visits due to poisoning per 100,000 population by age group and substances, Vancouver Coastal Health Authority, 2009-2013



*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

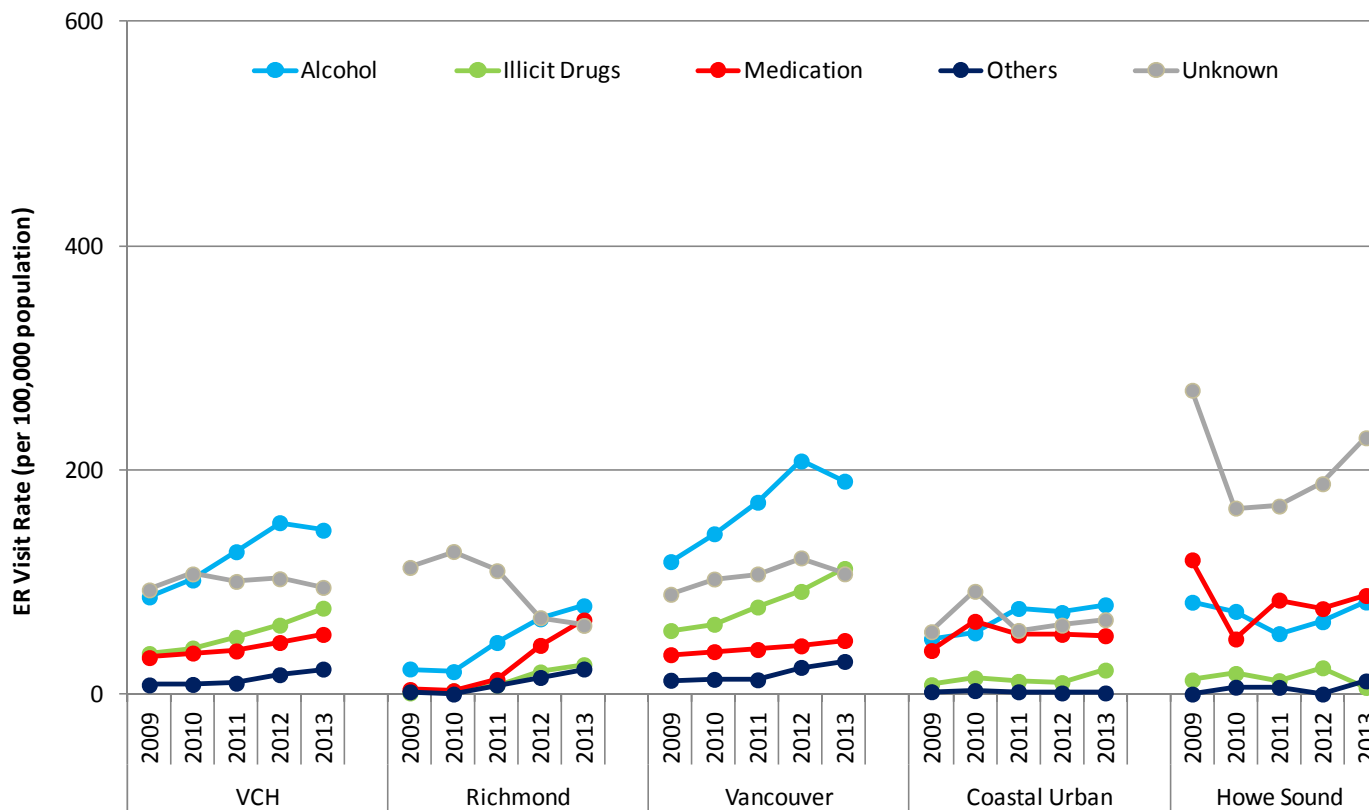
Figure 54: Number of ER male visits due to poisoning per 100,000 population by HSDAs/Howe Sound LHA and substances, Vancouver Coastal Health Authority, 2009-2013



*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

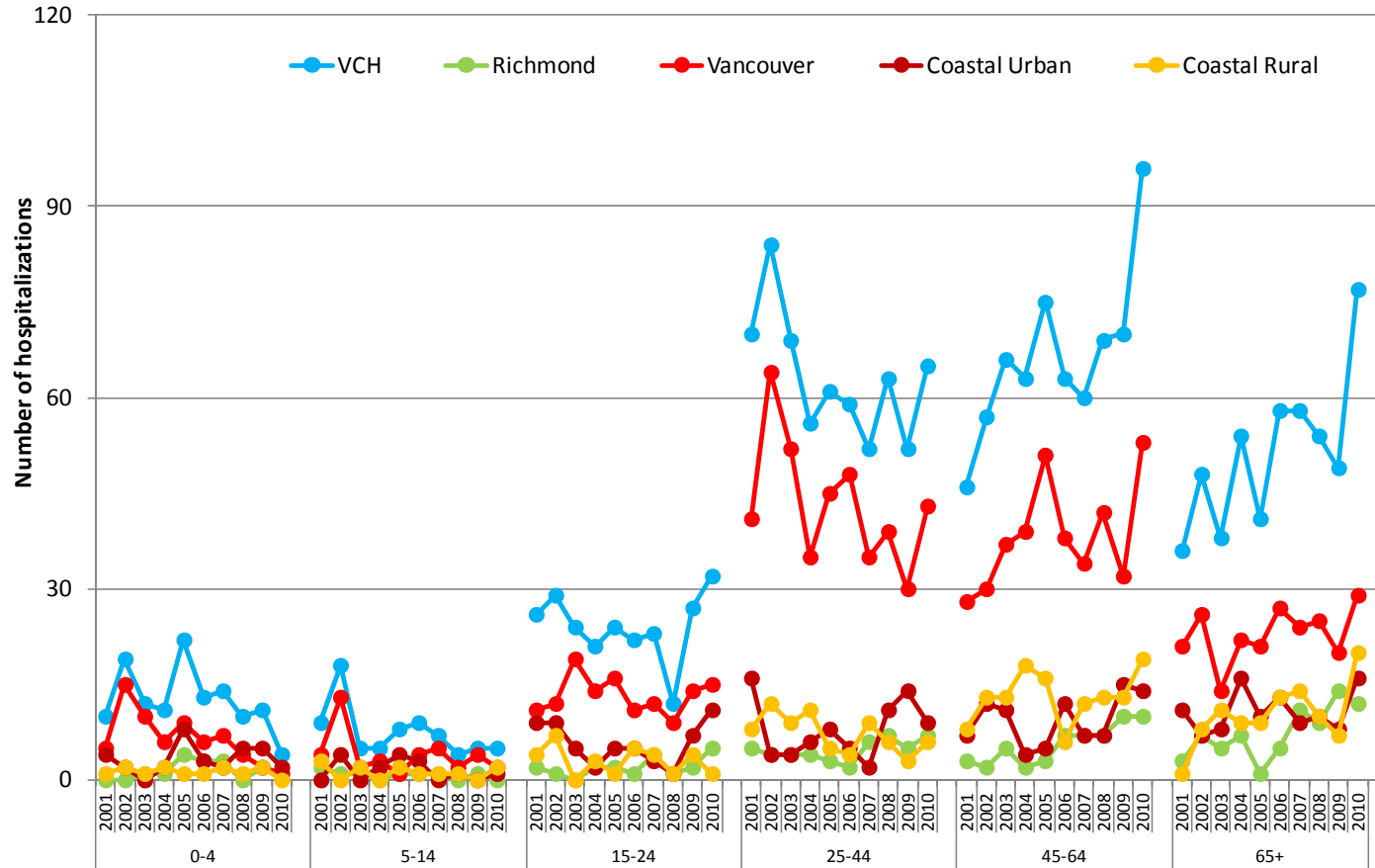
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 55: Number of ER female visits due to poisoning per 100,000 population by HSDAs/Howe Sound LHA and substances, Vancouver Coastal Health Authority, 2009-2013



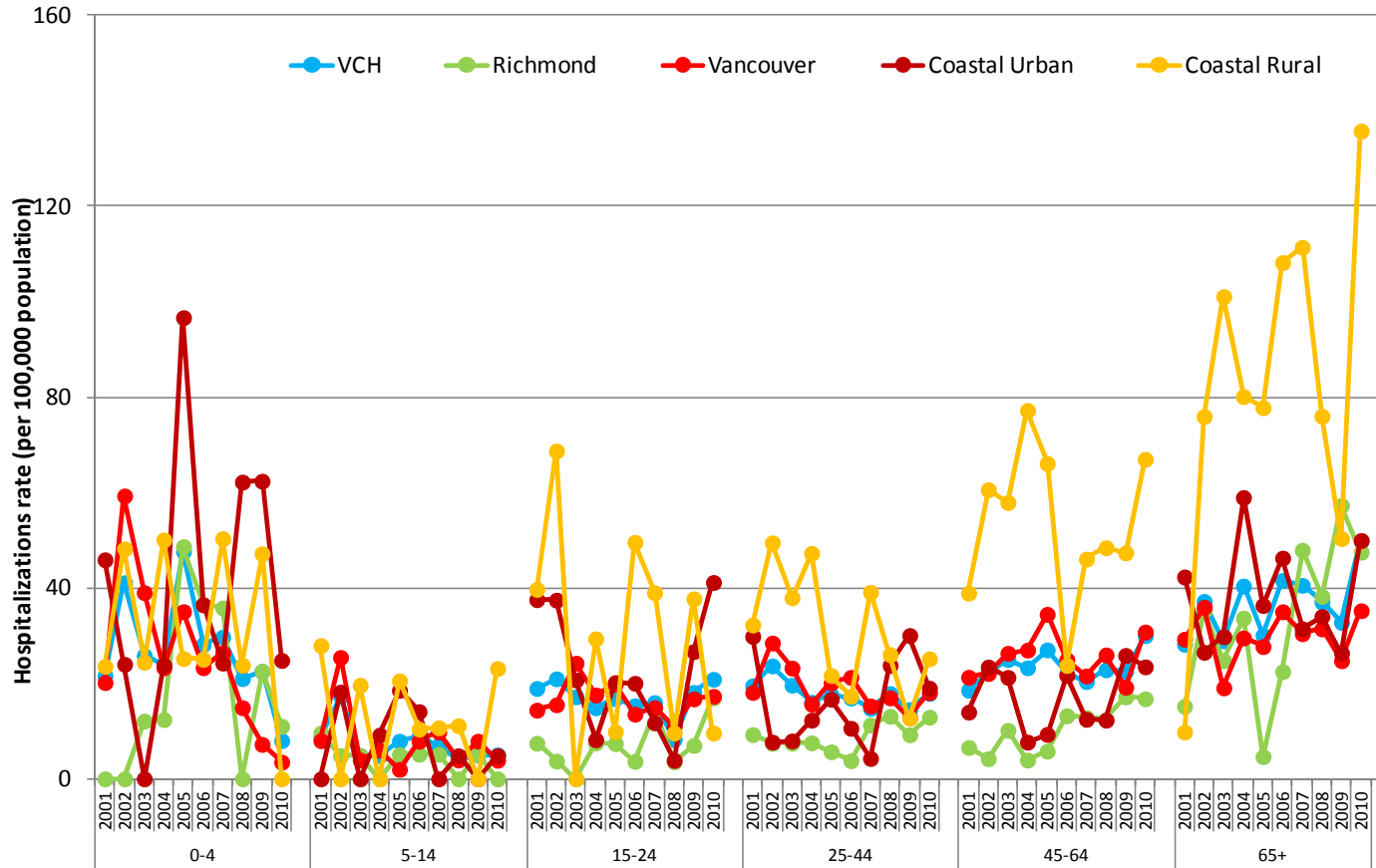
*Poisoning related visits are captured through ICD-9 codes 960-979, 980-988, 989, E850-E858, E860-E869, E935 and ICD 10 codes T36-T39, T41-T65 and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure 56: Number of hospitalizations due to unintentional poisoning by HSDAs and age group, Vancouver Coastal Health Authority, 2001-2010



*Unintentional poisoning are captured by ICD 10 code X00-X49.
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013

Figure 57: Number of hospitalizations due to unintentional poisoning per 100,000 population by HSDAs and age group, Vancouver Coastal Health Authority, 2001-2010



*Unintentional poisoning are captured by ICD 10 code X00-X49.
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013

6.5. Suicide/Self-inflicted Injury

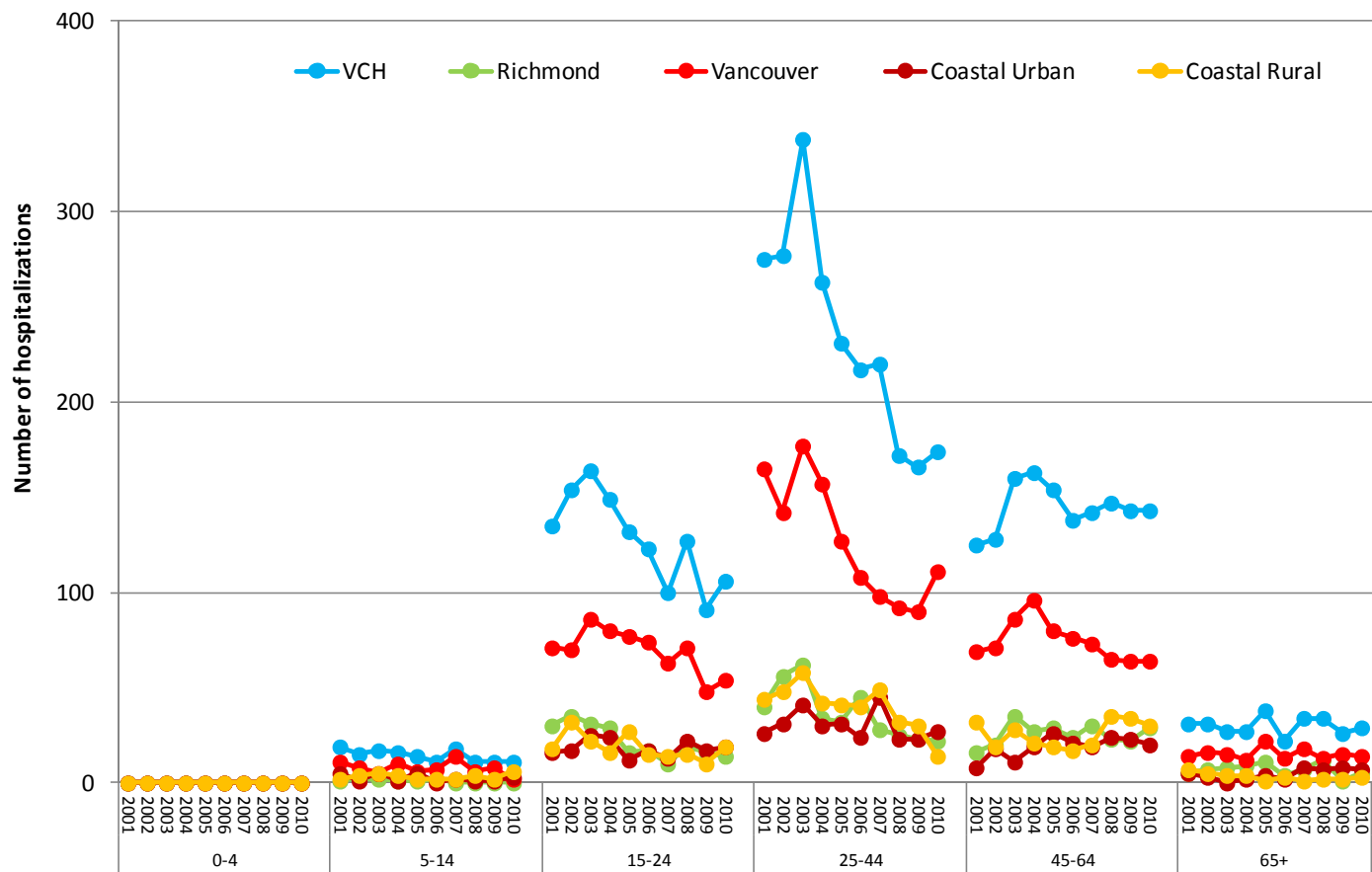
Emergency Room visits are not reliably captured for this cause of injury.

Hospitalization

- Figure 58: Number of hospitalizations due to suicide/self-inflicted injuries by HSDAs and age group
 - The number of hospitalizations due to suicide/self-inflicted injuries in VCH appears to be decreasing for those aged 15-24 and 24-44.
 - The number of hospitalizations due to suicide/self-inflicted injuries is highest in Vancouver

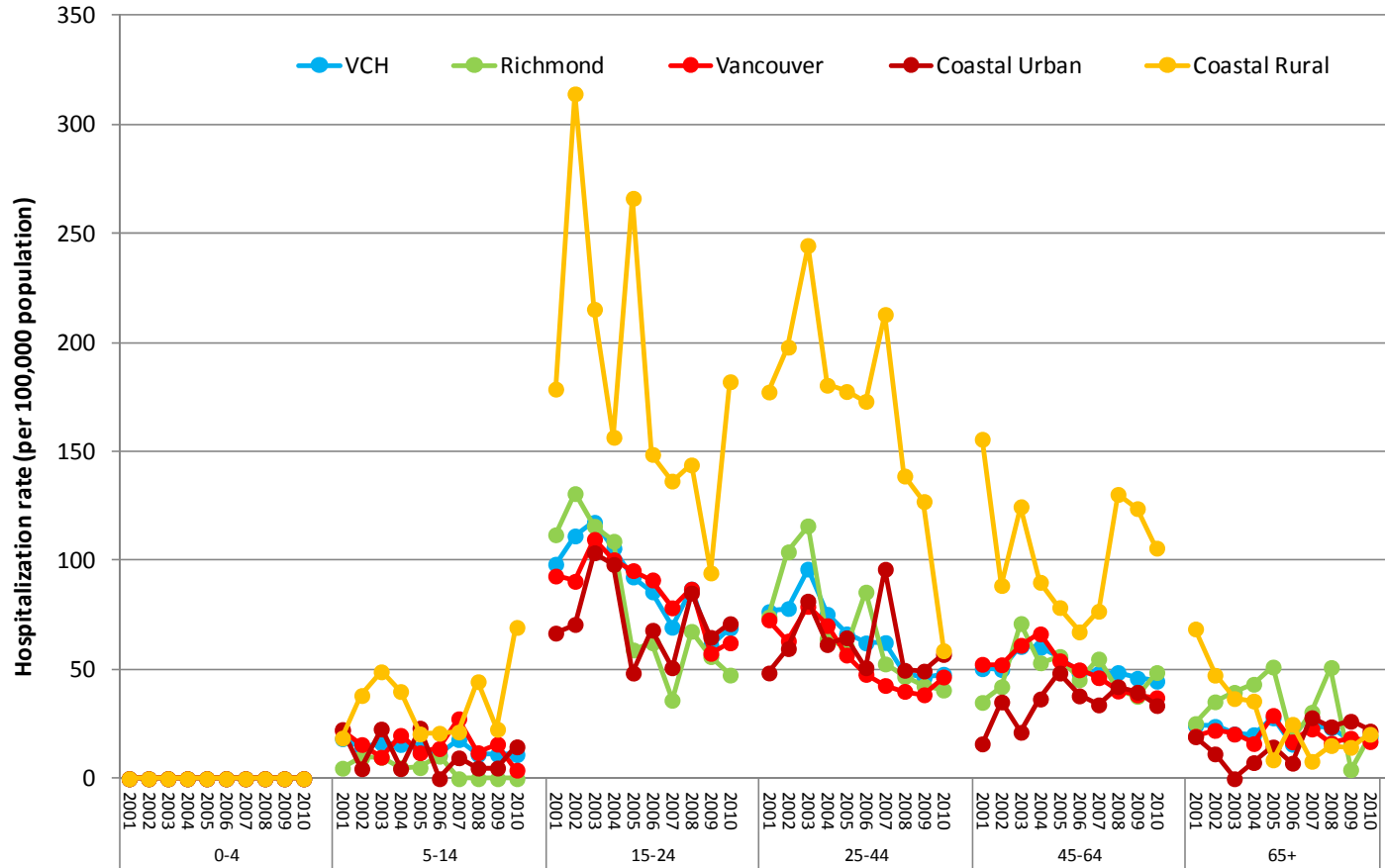
- Figure 59: Number of hospitalizations due to suicide/self-inflicted injuries per 100,000 by HSDA and age group
 - The hospitalization rate due to suicide/self-inflicted injuries appears to be higher for Coastal Rural compared to the VCH rate for those aged 5-14, 15-24, 25-44 and 45-64

Figure 58: Number of hospitalizations due to suicide/self-inflicted injuries by HSDAs and age group, Vancouver Coastal Health Authority, 2001-2010



*Suicide/self-inflicted injuries are captured by ICD 10 code X60-X84.
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013

Figure 59: Number of hospitalizations due to suicide/self-inflicted injuries per 100,000 population by HSDAs and age group, Vancouver Coastal Health Authority, 2001-2010



*Suicide/self-inflicted injuries are captured by ICD 10 code X60-X84.
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013

7. Population Specific Injury

7.1. Aboriginal

Aboriginal populations in BC have significantly higher rates of injury when compared to non-Aboriginal populations of BC. Between 2001 and 2006, deaths for Aboriginal people from external causes was two to five times higher than non-Aboriginal people residing in BC (BC Provincial Health Officer, 2009).

The First Nations Regional Health Survey showed that 10% of children, 35% of youth and 20% of adults reported being injured in the previous year. Home was the most commonly reported location of injury and falls was the most common cause of injury. Approximately, 24% of adults reported being at a job or business at the time the injury occurred. Furthermore, 20% of injuries among youth and 27% of injuries among adults occurred when the individual reported to be under the influence of alcohol (First Nations Health Authority, 2012).

7.2. Alcohol & Drug Use

The risk of unintentional injury is increased by use of alcohol or other drugs. Alcohol consumption has been associated with injuries in a wide variety of settings and from a number of causes, including those related to traffic, falls, fires, sports, and the workplace, and those resulting from interpersonal and self-inflicted violence (Vallance et al., 2012; Office of the Superintendent of Motor Vehicles, 2014).

7.3. Children & Youth

The BC McCreary Centre Society surveyed over 30,000 British Columbian students in grades 7-12 in 2013. Results showed that males were more likely than females to be injured. The top five activities at the time of injury were playing or training for sports or recreational activities, walking or running outside, snowboarding or skiing, bicycle riding and motor vehicle collision. As a result of their injury, 16% of youth had experienced a concussion in the past year. Females reported purposely cutting or hurting themselves and attempting suicide more times than males in the past year (BC McCreary Centre Society, 2014).

8. References

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- Smith, A., Stewart, D., Poon, C., Peled, M., Saewyc, E., & McCreary Centre Society (2014). From Hastings Street to Haida Gwaii: Provincial results of the 2013 BC Adolescent Health Survey. Vancouver, BC: McCreary Centre Society.
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- Vallance, K., Martin, G., Stockwell, T., et al. (2012, January 1). Overdose Events in British Columbia: Trends in Substances Involved, Contexts and Responses. Retrieved June 2, 2014, from http://www.carbc.ca/Portals/0/propertyagent/558/files/180/carbc_bulletin8.pdf

APPENDIX A: Definitions

A1. VCH ER

Injuries are monitored through International Classification of Diseases (ICD) 9/10 codes, presenting complaints, discharge diagnoses and injury related fields. A group of refined and specific keywords or logical keyword combinations searches through presenting complaints, discharge diagnoses and injury related fields. A refined group of ICD 9-CM codes, which are modified from US CDC's recommended framework of E-code groups (http://www.cdc.gov/injury/wisqars/ecode_matrix.html), are used to group the cause of injuries.

A2. Hospitalization/BC Children ER

The ICD 10 is used to define the injuries. The following injuries listed in the profile are defined below:

Falls:

Including falls on same level, and from various heights and objects, fall or dropped while being carried, fall involving wheelchair, ice skates, skis, skateboard, etc., fall due to pushing or collision with other person, diving or jumping into water (if injury other than drowning). Excludes falls from animals, burning buildings, fire, water (with drowning), machinery, transport vehicles, and falls onto sharp objects.

Fire, Flames & Hot Substances:

Injuries caused by fire and flames; hot appliances, objects or liquids; steam; acid burns. Unintentional burning by fire, smoke and fumes asphyxia; burns due to contact with hot objects, substances or caustics. Excludes fire in machinery, non-stationary transport and other vehicles, watercraft fires, radiation burns and electric current

Foreign Body:

Foreign body entering through eye or natural orifice

Homicide/assault:

The infliction of fatal or non-fatal injuries by another person, by any means, with intent to kill or injure. Injuries resulting from legal intervention and operations of war are excluded

Overexertion:

Overexertion and strenuous movements from excessive physical exercise, recreation, lifting, pulling, and pushing.

Self-inflicted injury/suicide:

Fatal or non-fatal injuries purposefully caused by the victim to him/herself

Struck by/against object:

Includes struck by falling object, striking against or struck by persons or objects, caught unintentionally between objects. Excludes striking against person or object with a fall; injury involving operating machinery or motor vehicle; cutting or piercing instrument; incident resulting in drowning or submersion.

Transport related:

Involves a device designed primarily for, or being used at the time primarily for, conveying persons or goods from one place to another. This includes land, water, air and space transport.

Unintentional poisoning:

Including unintentional overdose of drugs, medicaments and biological substances, poisoning by alcohol, chemicals, house products and other noxious substances. Excludes adverse reactions to drugs used properly and as directed

A3. Mortality

The ICD 10 is used to define the injuries. The following injuries listed in the profile are defined below:

Accidental Falls:

Refer to the falls definition as above Hospitalization/BC Children ER

Accidental Poisoning:

Refer to the unintentional poisoning definition as above Hospitalization/BC Children ER

Exposed to Smoke, Fire and Flames:

Injuries caused by smoke, fire and flames

Homicide:

Refer to the homicide/assault definition as above Hospitalization/BC Children ER

Suicide:

Refer to the self-inflicted injuries/suicide definition as above Hospitalization/BC Children ER

Transport accidents:

Refer to the transport-related definition as above Hospitalization/BC Children ER

APPENDIX B: Analysis

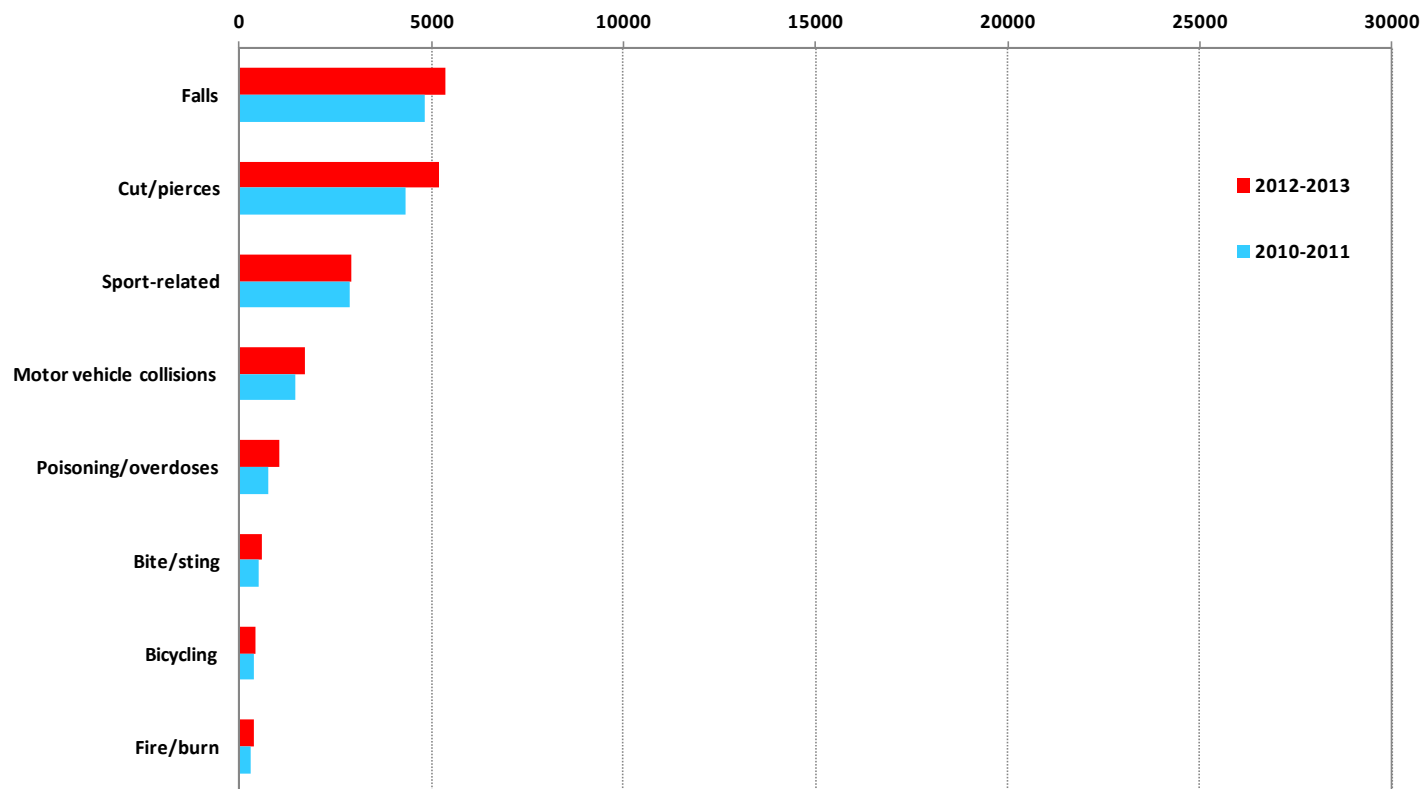
Resident status is determined by the postal code at the time of ER visit/hospitalization/death.

Population rates are calculated using population estimates extracted from BC Stats as of April 4, 2014. Fisher's Exact testing is used to detect the significant rate changes occurred between comparator years. A p value of < 0.05 determined a significant change.

The Potential Years of Life Lost Standardized Rate (PYLLSR) is a measure of premature mortality expressed as the rate of potential years of life lost (PYLL) per 1,000 population. The PYLLSR is a theoretical measure that allows comparison of premature mortality rates between sex, disparate geographic regions or populations, or over time periods. A higher PYLL index indicates lower health status.

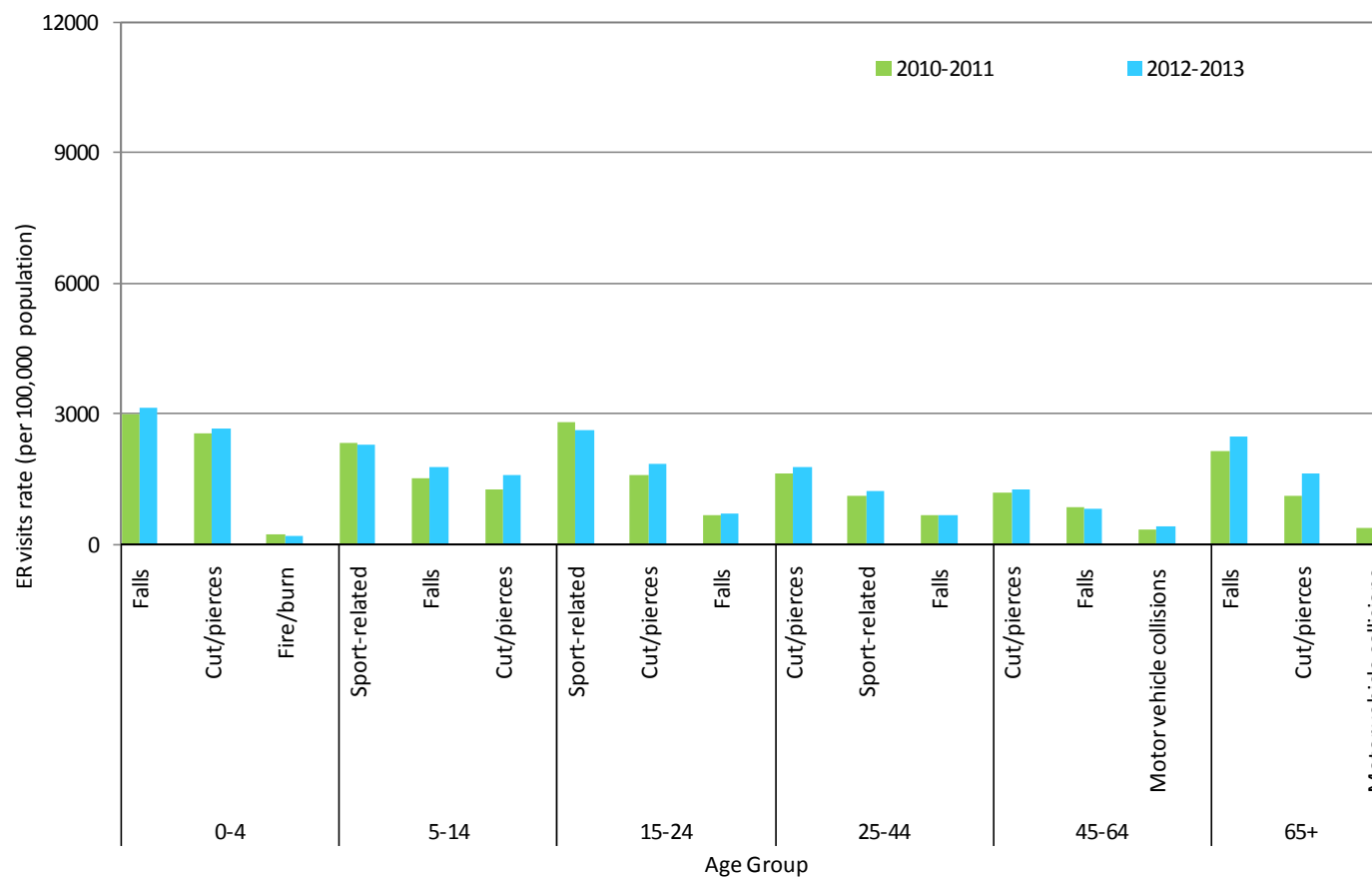
APPENDIX C: Richmond - Injury Graphs

Figure C1: Top eight injury-related emergency room (ER) visits among Richmond residents



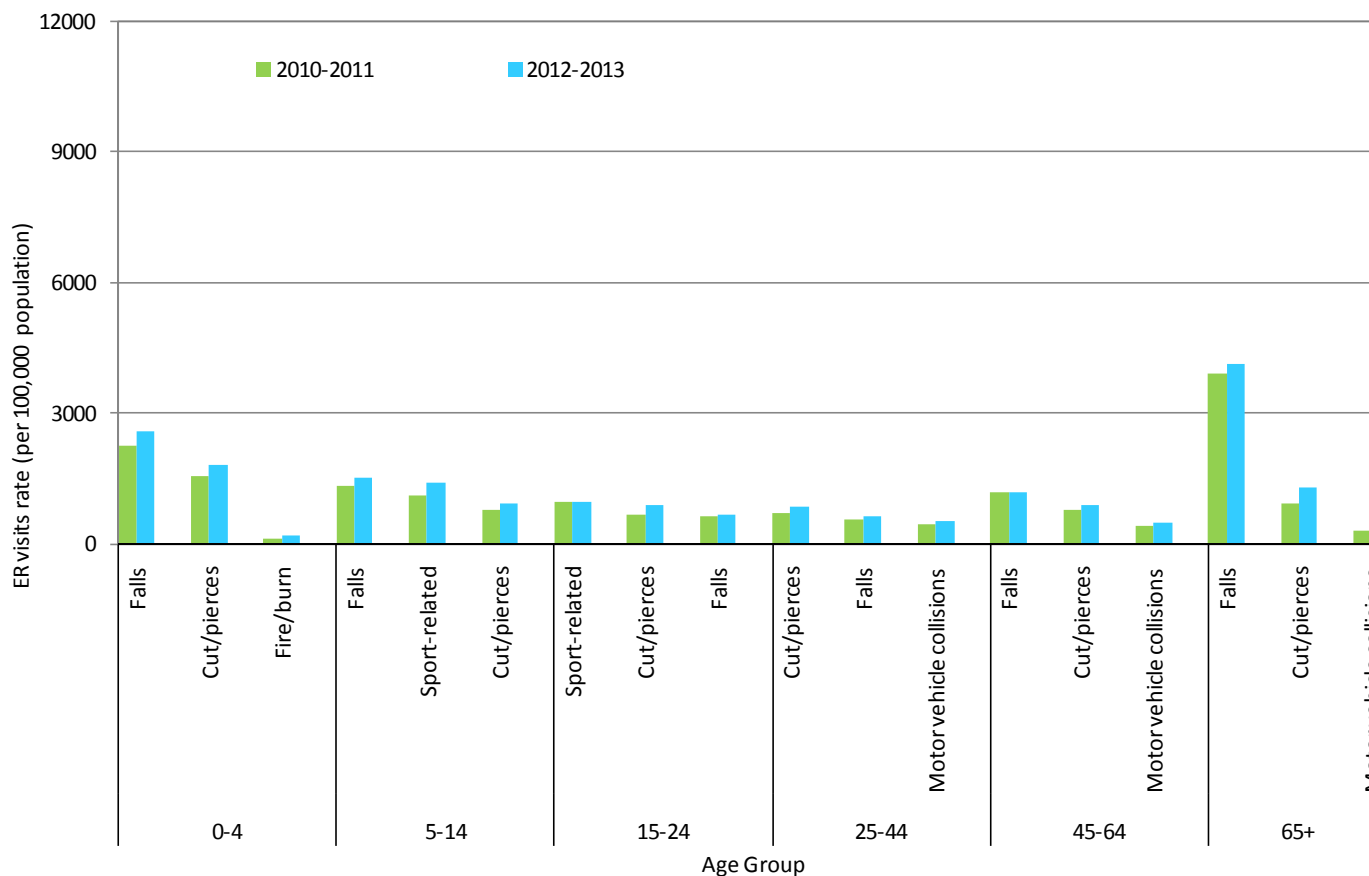
*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure C2: Male top three injury-related* emergency room (ER) visit rate per 100,000 population by age group. Richmond Residents, 2012-2013 average compared to 2010-2011 average



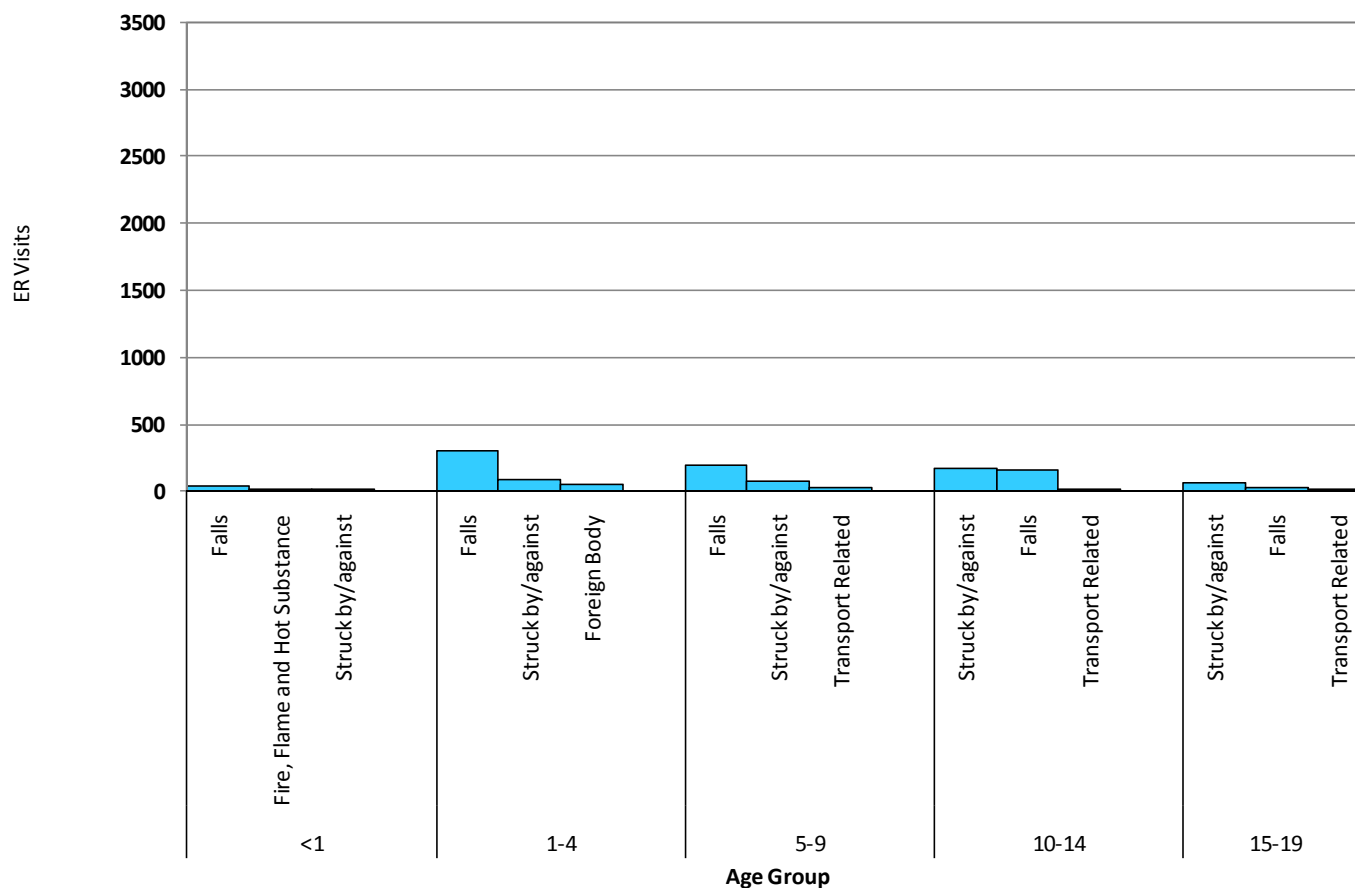
*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure C3: Female top three injury-related* emergency room (ER) visit rate per 100,000 population by age group. Richmond Residents, 2012-2013 average compared to 2010-2011 average



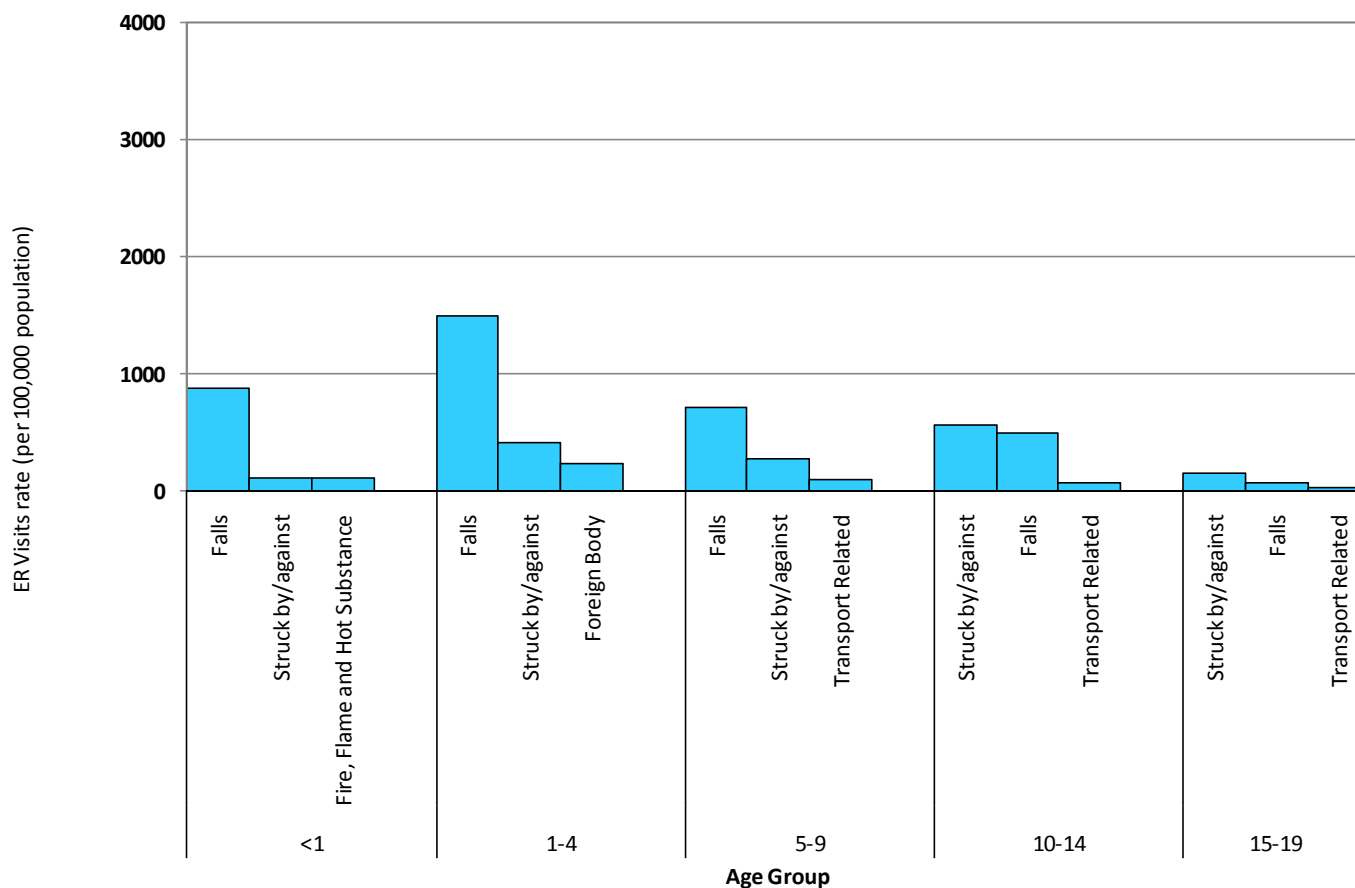
*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure C4: Top three injury-related ER visits from BC Children’s Hospital by age group. Richmond HSDA Residents, 2007/2008 – 2009/2010



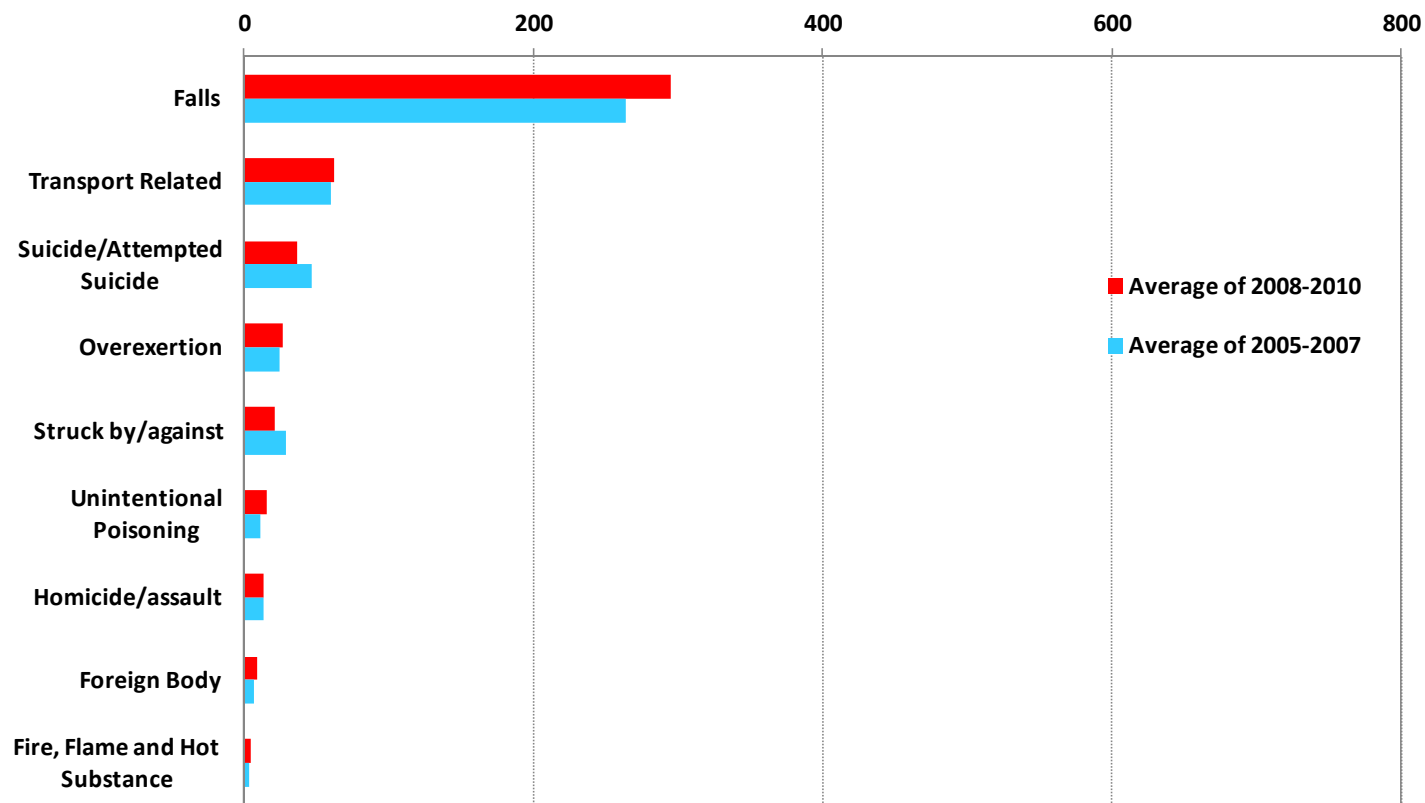
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449, W45.00 and W45.09), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), fire, flame and hot substance (X00-X06, X08-X19) and unintentional poisoning (X40-X49).
 Source: Canadian Hospitals Injury Reporting and Prevention Program, Public Health Agency of Canada, BCIRPU, 2013.

Figure C5: Top three injury-related* ER visits rate from BC Children’s Hospital per 100,000 population by age group. Richmond HSDA Residents, 2007/2008 – 2009/2010



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449, W45.00 and W45.09), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), fire, flame and hot substance (X00-X06, X08-X19) and unintentional poisoning (X40-X49).
 Source: Canadian Hospitals Injury Reporting and Prevention Program, Public Health Agency of Canada, BCIRPU, 2013.

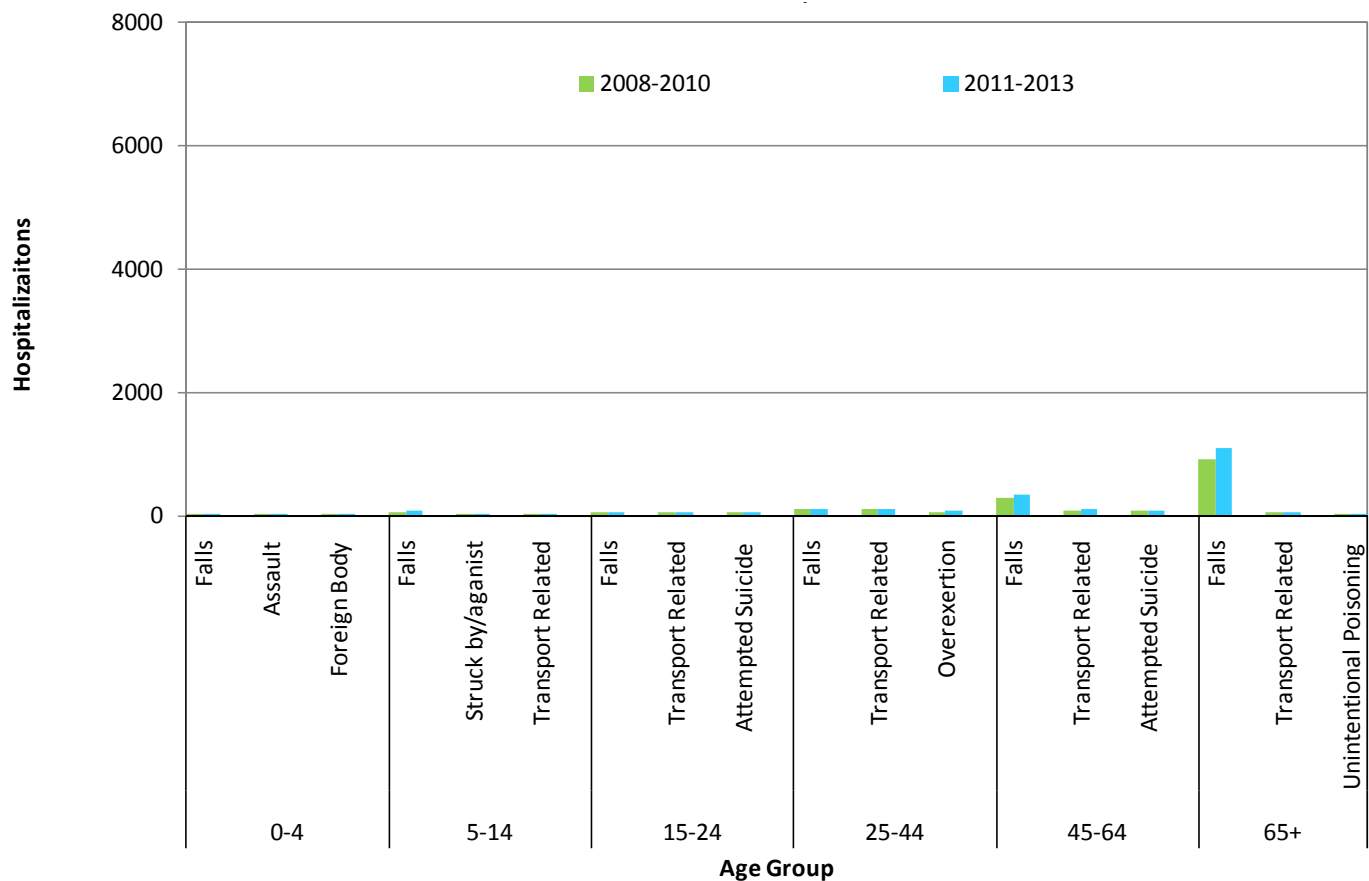
Figure C6: Injury-related hospitalizations per 100,000 population among Richmond residents



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by object (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49), overexertion (X50), homicide/assault (X85-X99, Y00-Y09) and fire, flame and hot substance (X00-X06, X08-X19).

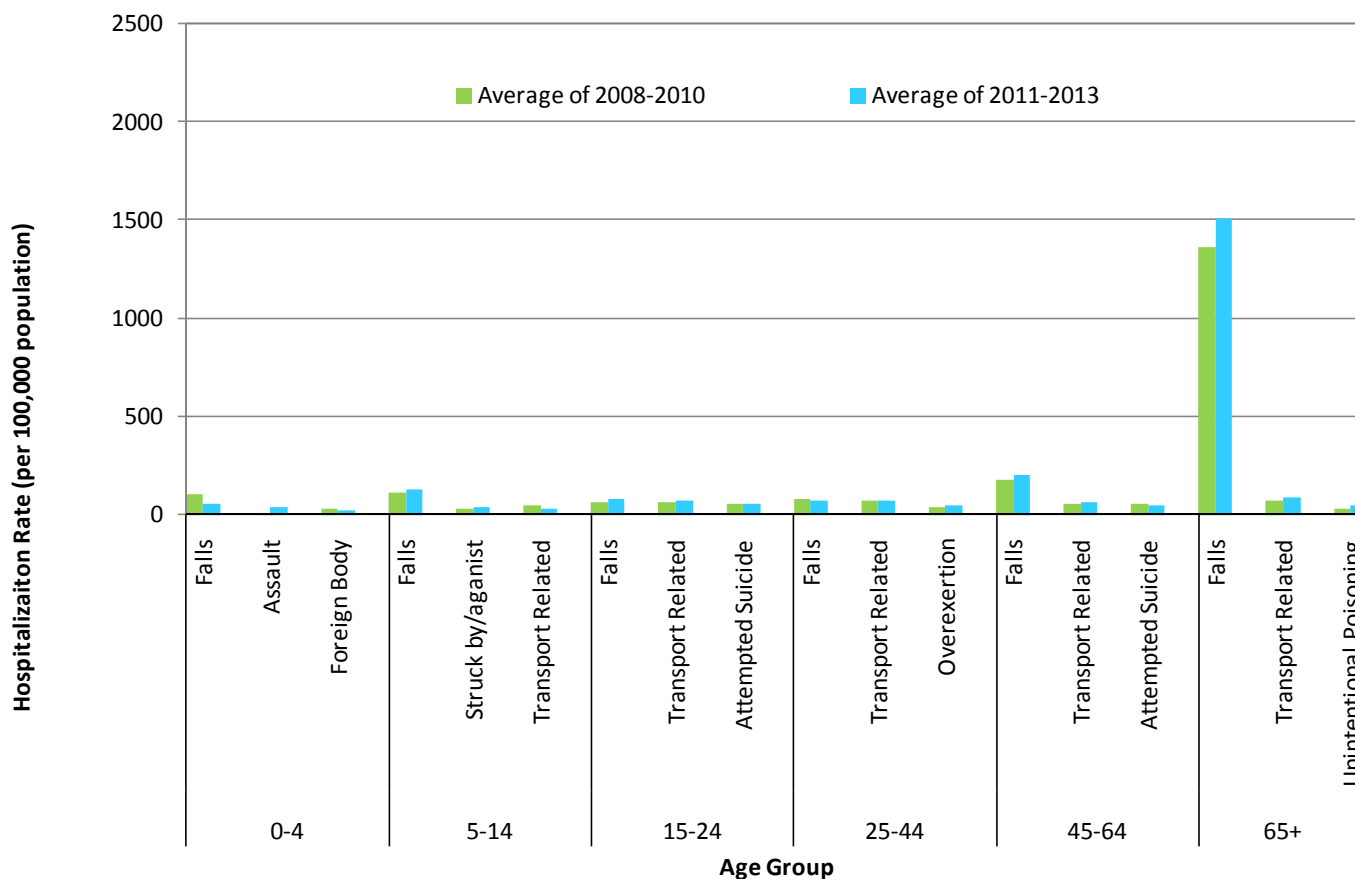
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure C7: Top three injury-related* hospitalization by age group. Richmond HSDA Residents, 2008-2010 compared to 2005-2007



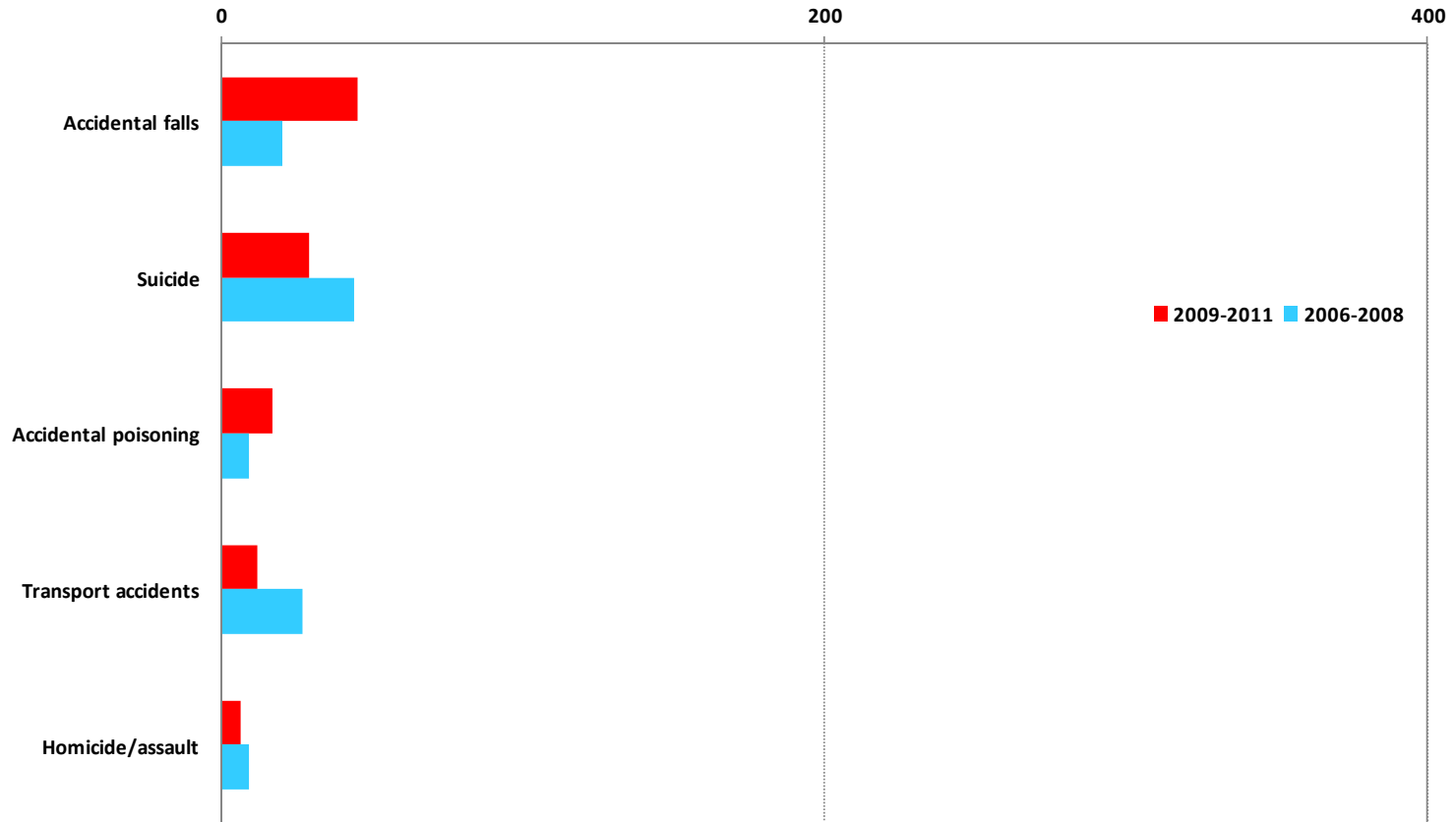
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by /against (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49), overexertion (X50) and homicide/assault (X85-X99, Y00-Y09).
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure C8: Top three injury-related hospitalization per 100,000 population by age group. Richmond HSDA Residents, 2008-2010 average compared to 2011-2013 average



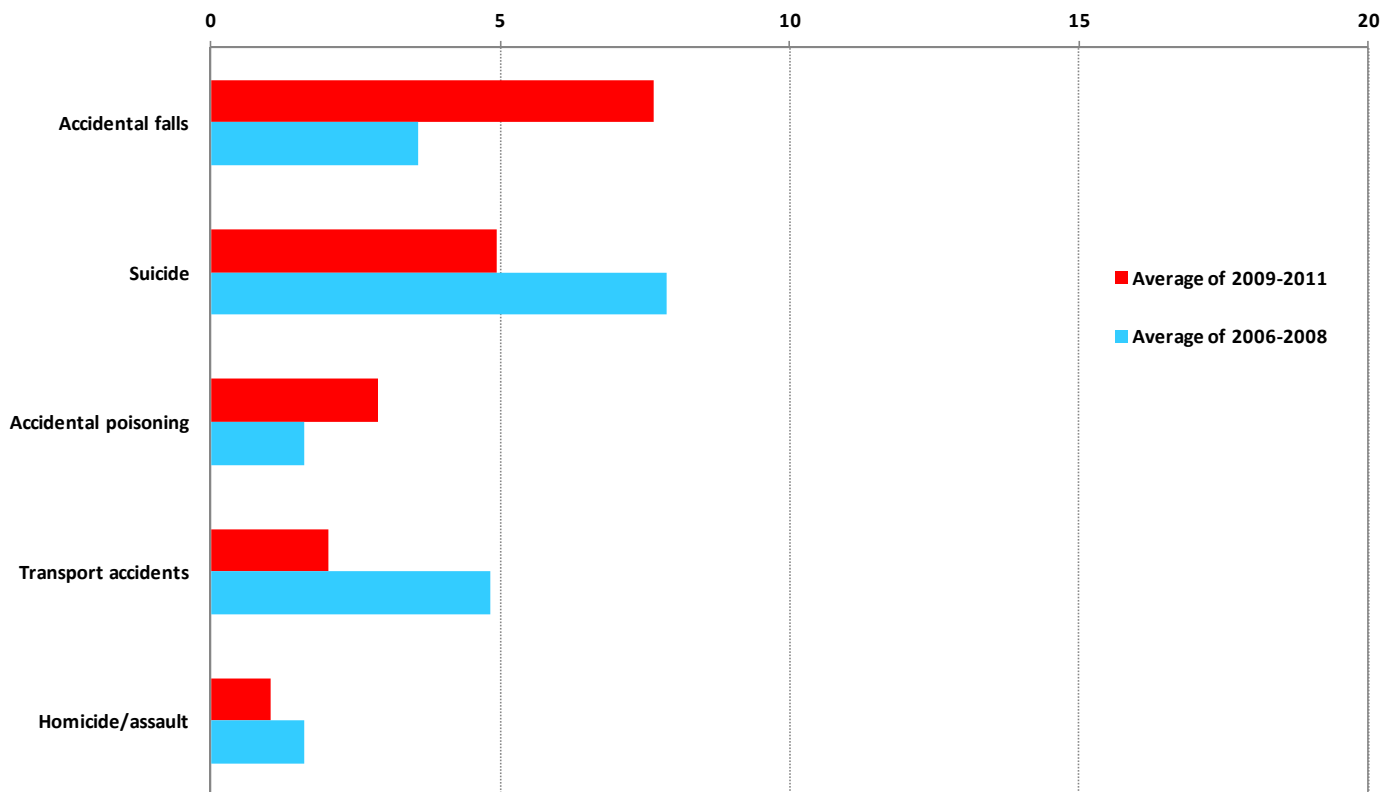
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by /against (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49), overexertion (X50) and homicide/assault (X85-X99, Y00-Y09).
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure C9: Top five injury-related deaths among Richmond residents



ICD 10 codes were used to identify the injury-related death. Each above injury was defined as accidental falls (W00-W19), suicide (X60-X84, Y870), accidental poisoning (X40-X49), transport accidents (V010-V99, Y850, Y859) and homicide/assault (X85-Y09, Y871).
 Source: Vista Web Application, BC Vital Statistics Agency.
 Prepared by: Public Health Surveillance Unit, Vancouver Coastal Health, April 2014

Figure C10: Top five injury-related per 100,000 population among Richmond residents

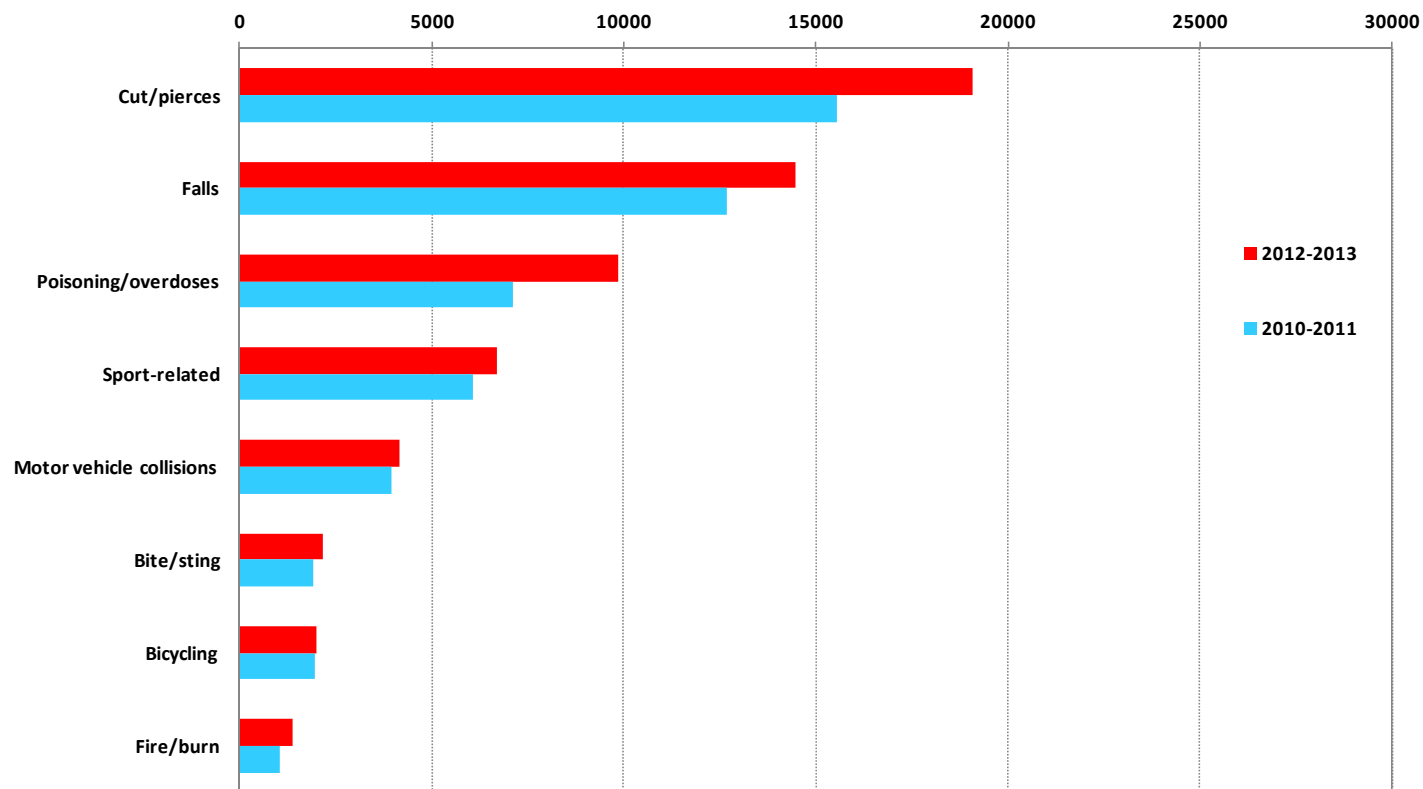


ICD 10 codes were used to identify the injury-related death. Each above injury was defined as accidental falls (W00-W19), suicide (X60-X84, Y870), accidental poisoning (X40-X49), transport accidents (V010-V99, Y850, Y859) and homicide/assault (X85-Y09, Y871).

Source: Vista Web Application, BC Vital Statistics Agency.

APPENDIX D: Vancouver – Injury Graphs

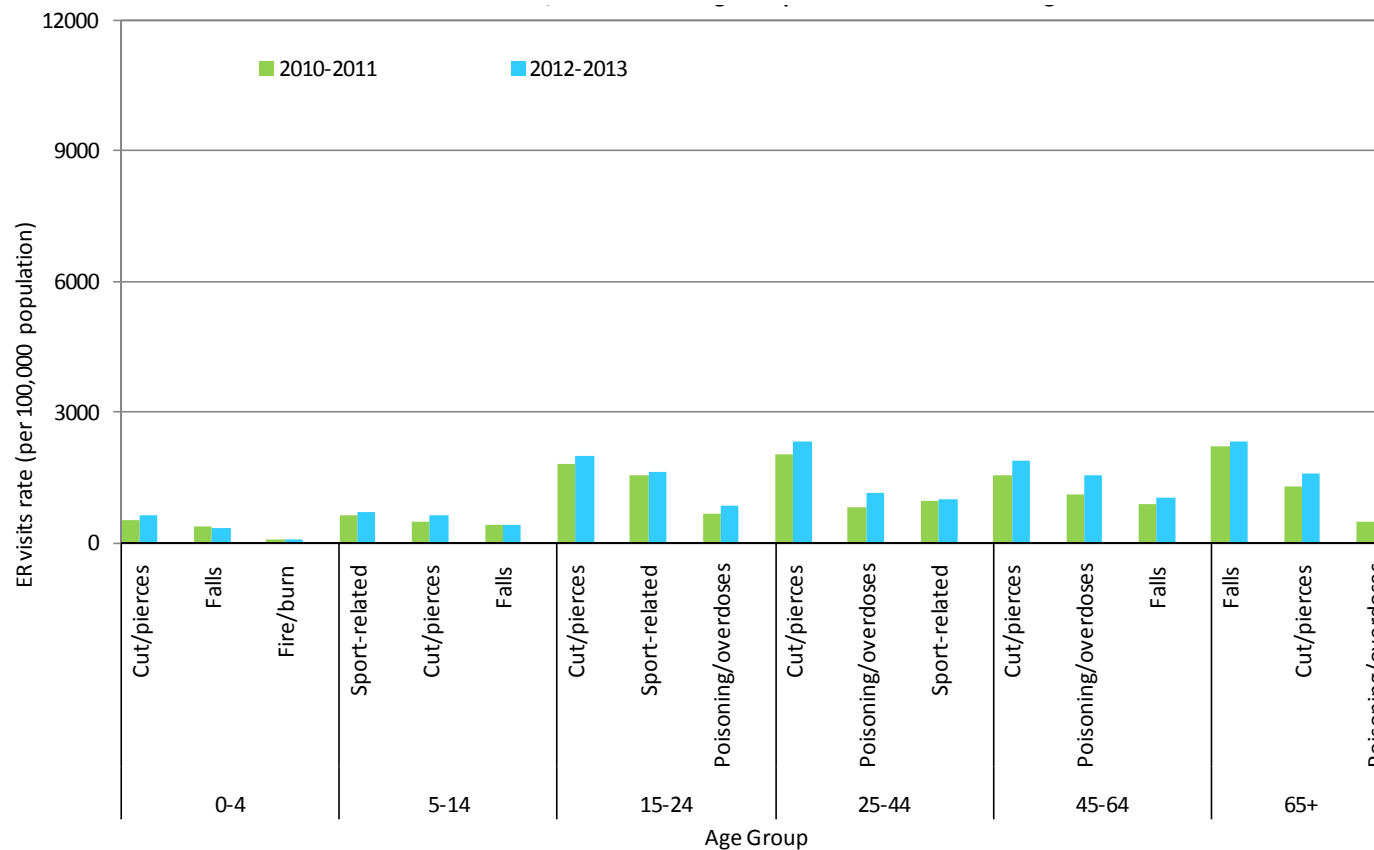
Figure D1: Top eight injury-related emergency room (ER) visits among Vancouver residents



*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

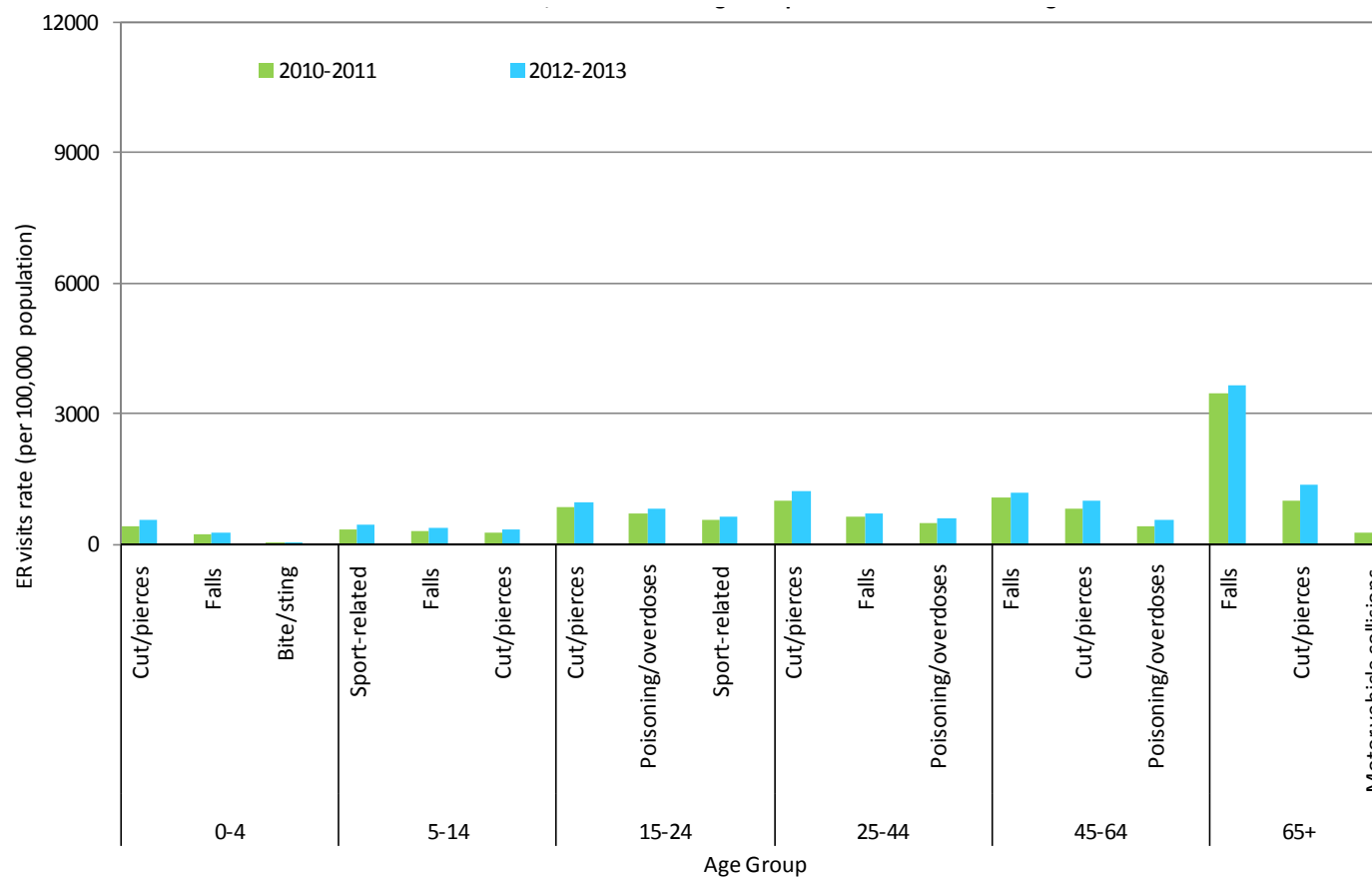
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure D2: Male top three injury-related* emergency room (ER) visits per 100,000 population by age group. Vancouver Residents, 2012-2013 average compared to 2010-2011 average



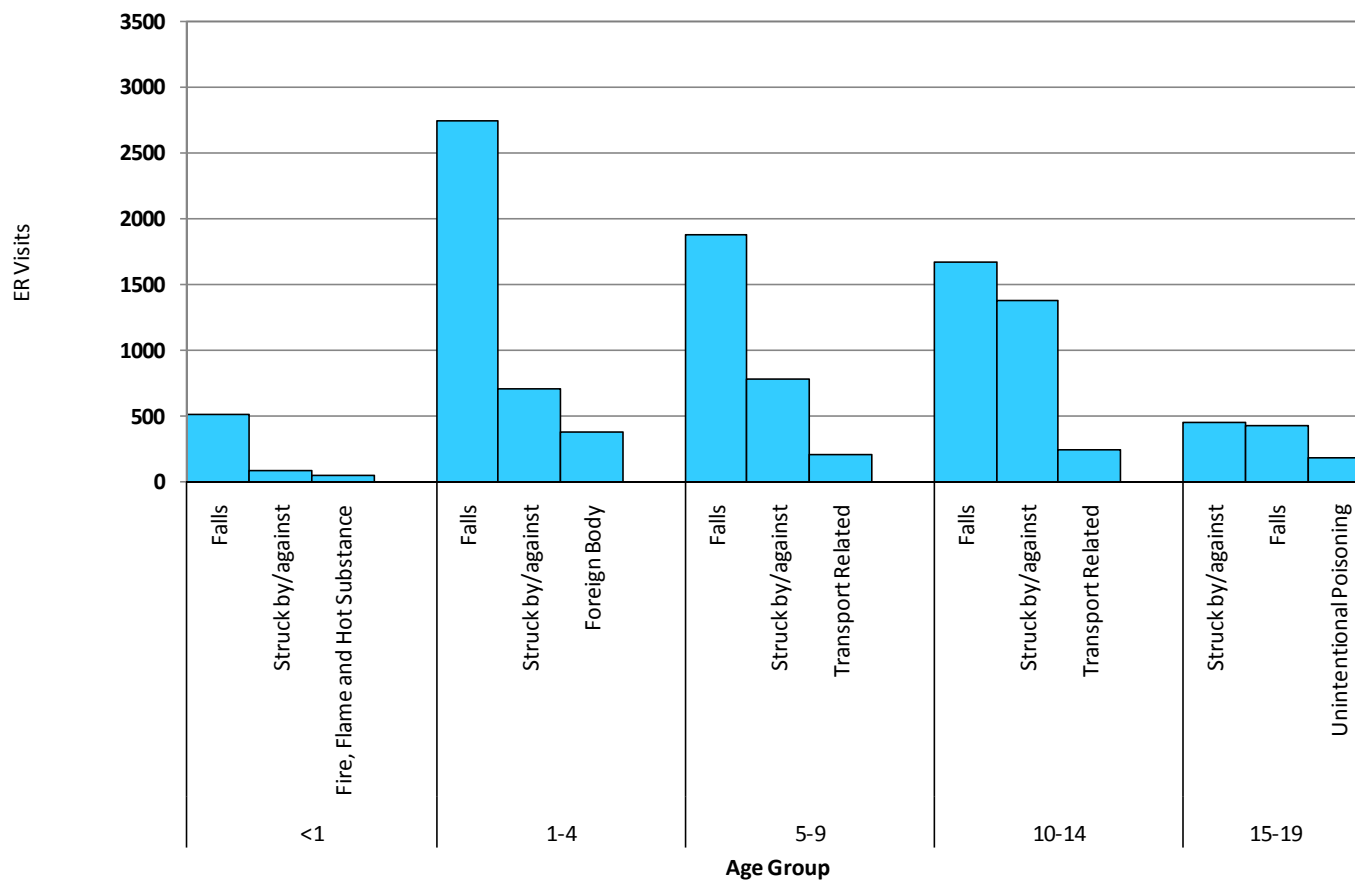
*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure D3: Female top three injury-related* emergency room (ER) visits per 100,000 population by age group. Vancouver Residents, 2012-2013 average compared to 2010-2011 average



*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

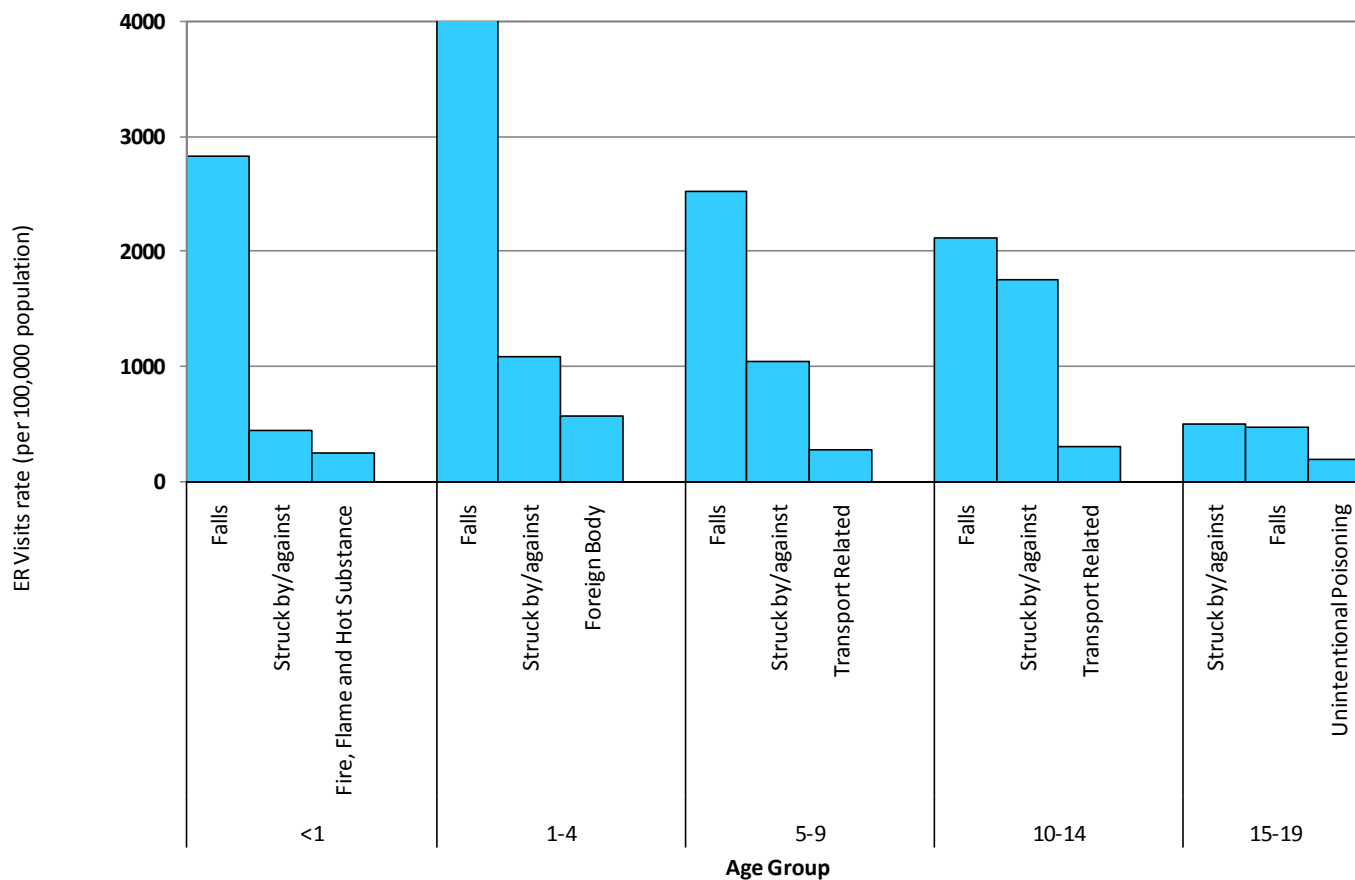
Figure D4: Top three injury-related ER visits from BC Children’s Hospital by age group. Vancouver HSDA Residents, 2007/2008 – 2009/2010



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449, W45.00 and W45.09), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), fire, flame and hot substance (X00-X06, X08-X19) and unintentional poisoning (X40-X49).

Source: Canadian Hospitals Injury Reporting and Prevention Program, Public Health Agency of Canada, BCIRPU, 2013.

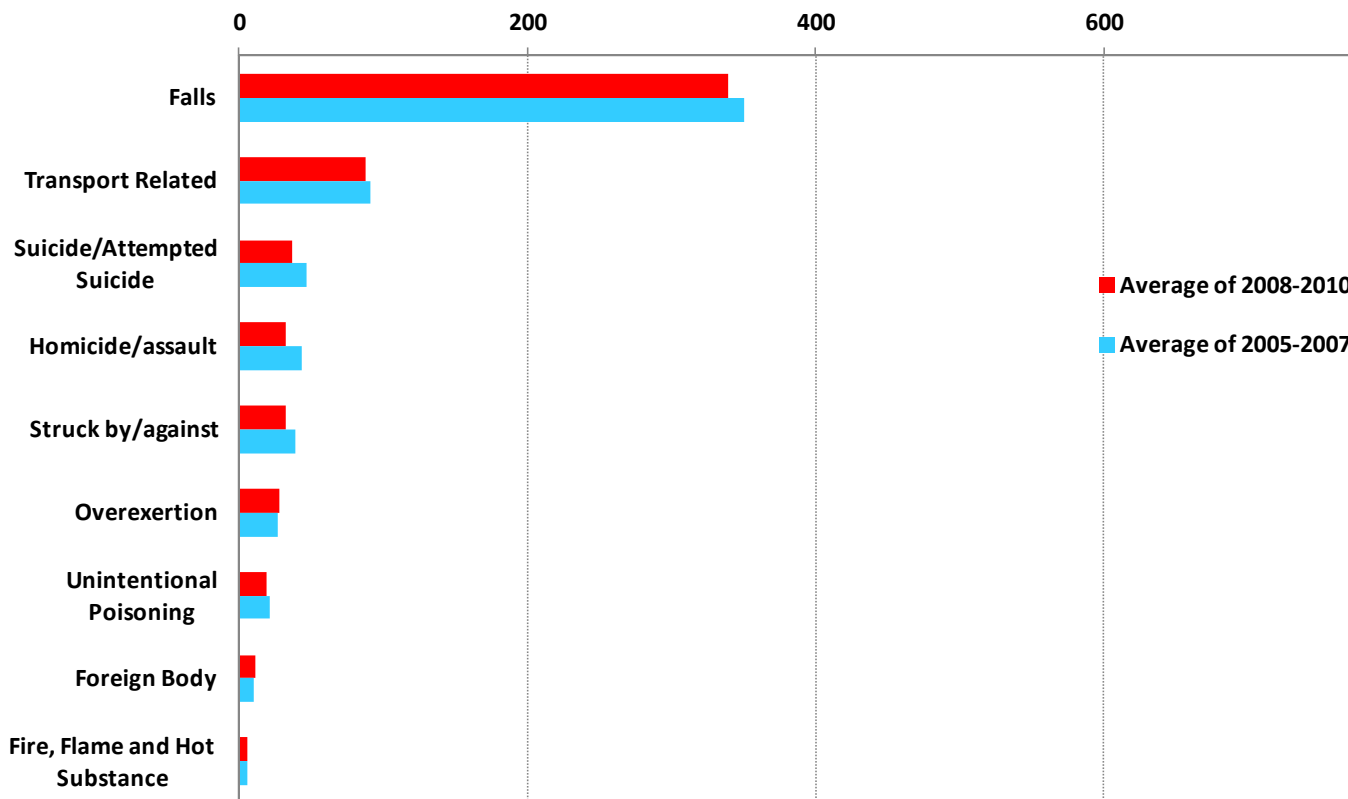
Figure D5: Top three injury-related* ER visits from BC Children’s Hospital per 100,000 population by age group. Vancouver HSDA Residents, 2007/2008 – 2009/2010



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449, W45.00 and W45.09), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), fire, flame and hot substance (X00-X06, X08-X19) and unintentional poisoning (X40-X49).

Source: Canadian Hospitals Injury Reporting and Prevention Program, Public Health Agency of Canada, BCIRPU, 2013.

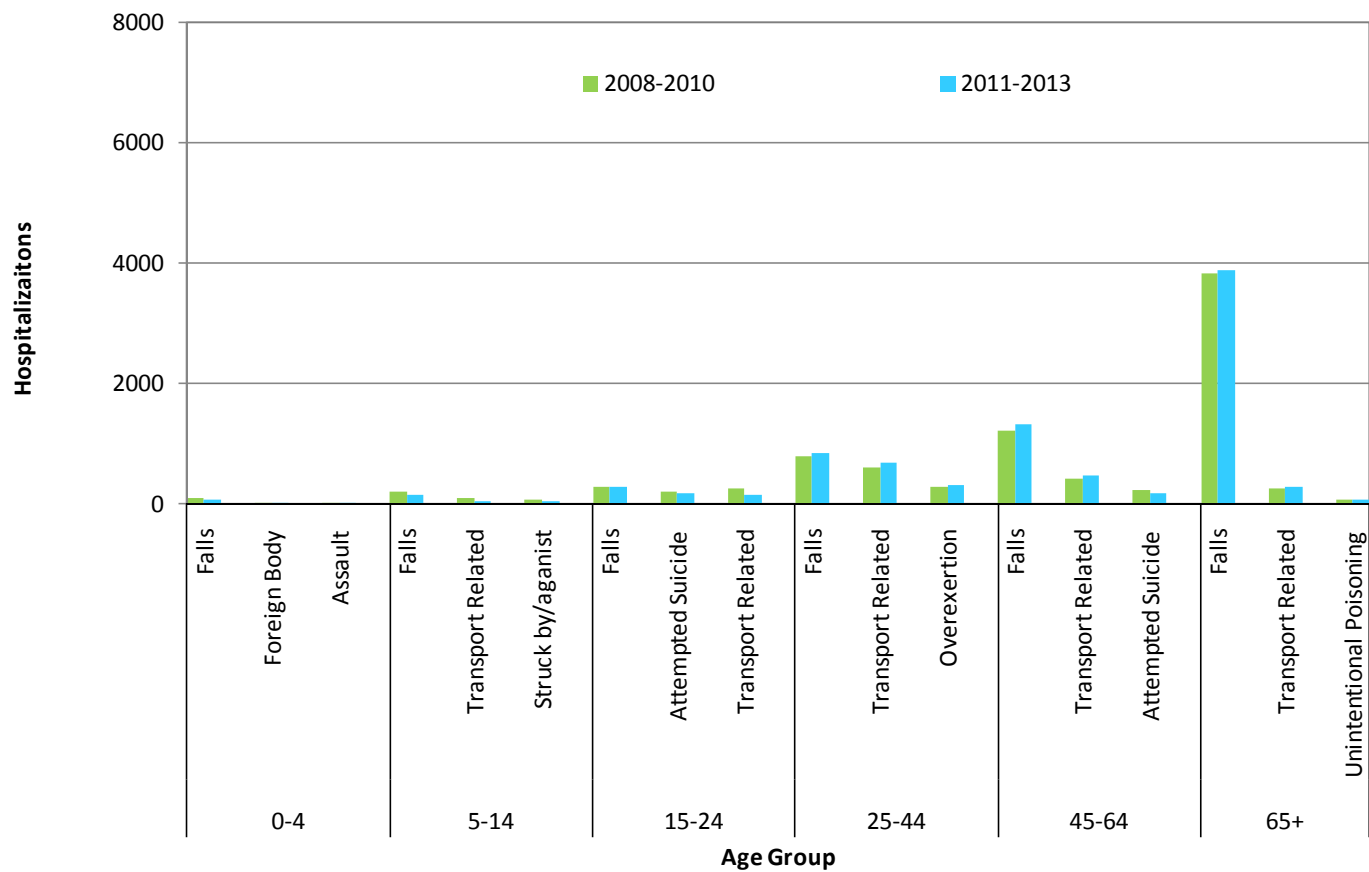
Figure D6: Injury-related hospitalizations per 100,000 population among Vancouver residents



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W44 struck by object (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49) overexertion (X50), homicide/assault (X85-X99, Y00-Y09) and fire, flame and hot substance (X00-X06, X08-X19).

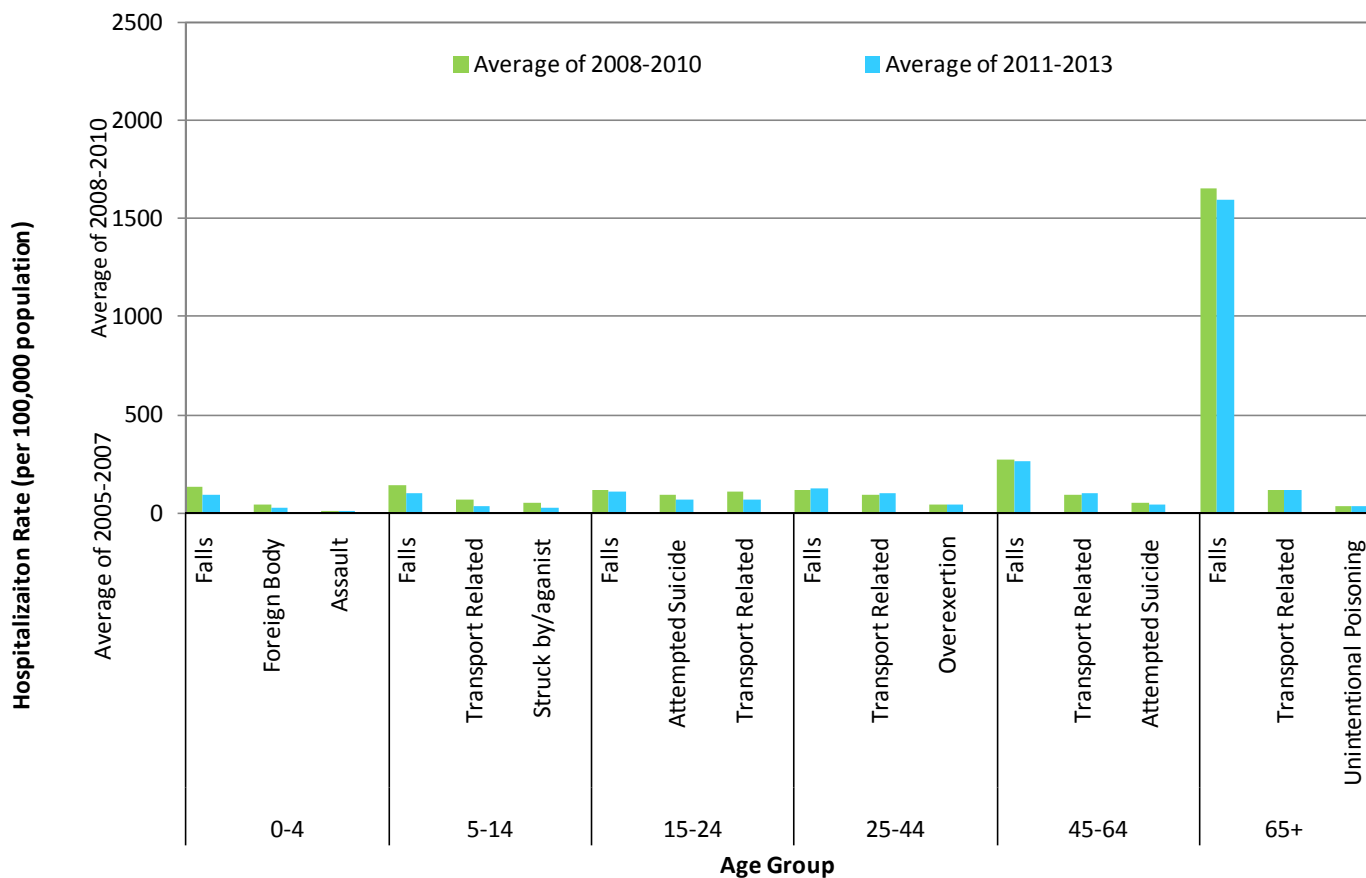
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure D7: Top three injury-related* by age group. Vancouver HSDA Residents, 2008-2010 compared to 2005-2007



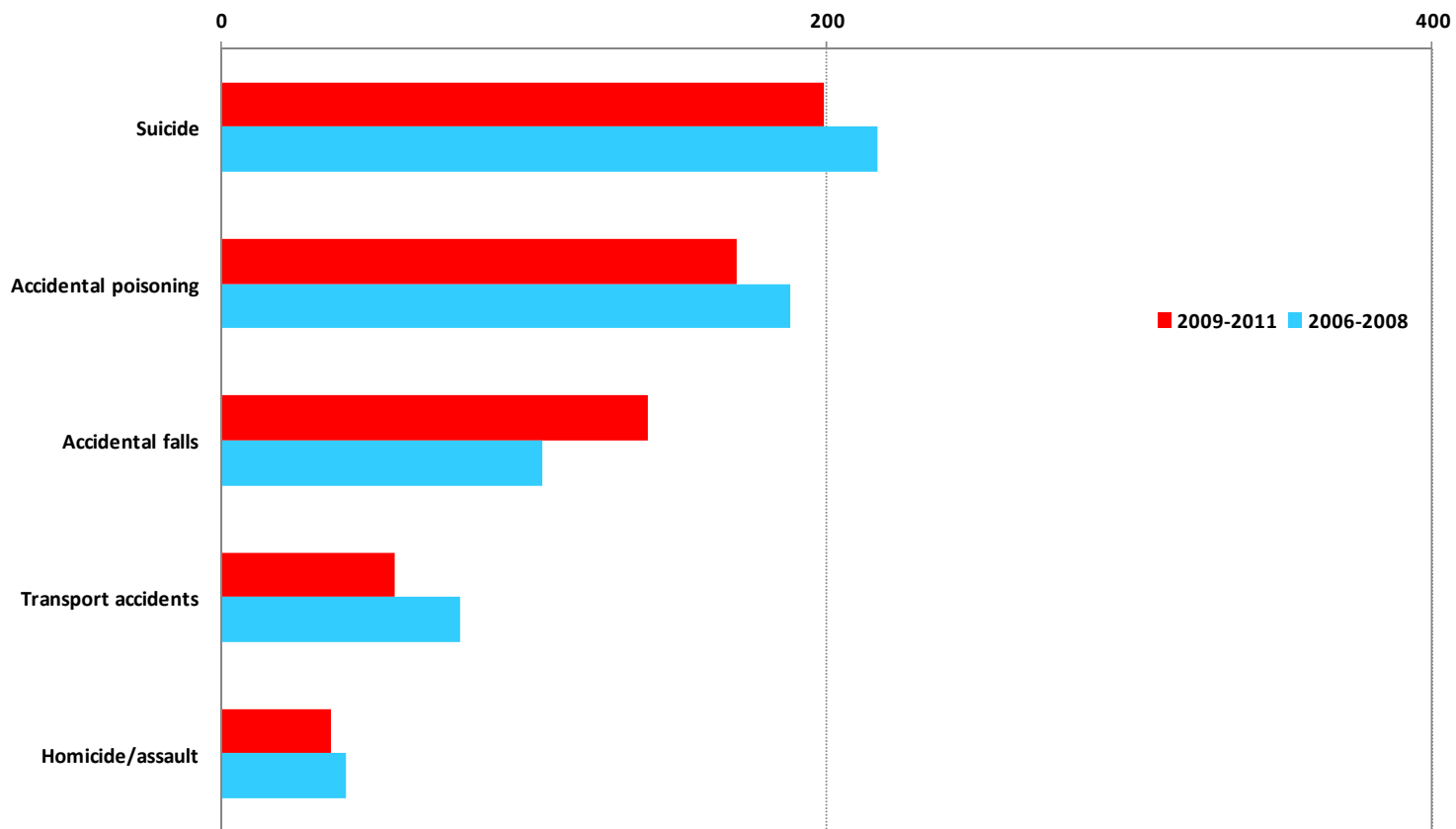
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49), overexertion (X50 and fire, flame and hot substance (X00-X06, X08-X19). Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure D8: Top three injury-related* hospitalization per 100,000 population by age group. Vancouver HSDA Residents, 2008-2010 average compared to 2005-2007 average



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49), overexertion (X50 and fire, flame and hot substance (X00-X06, X08-X19). Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure D9: Top five injury-related deaths among Vancouver residents

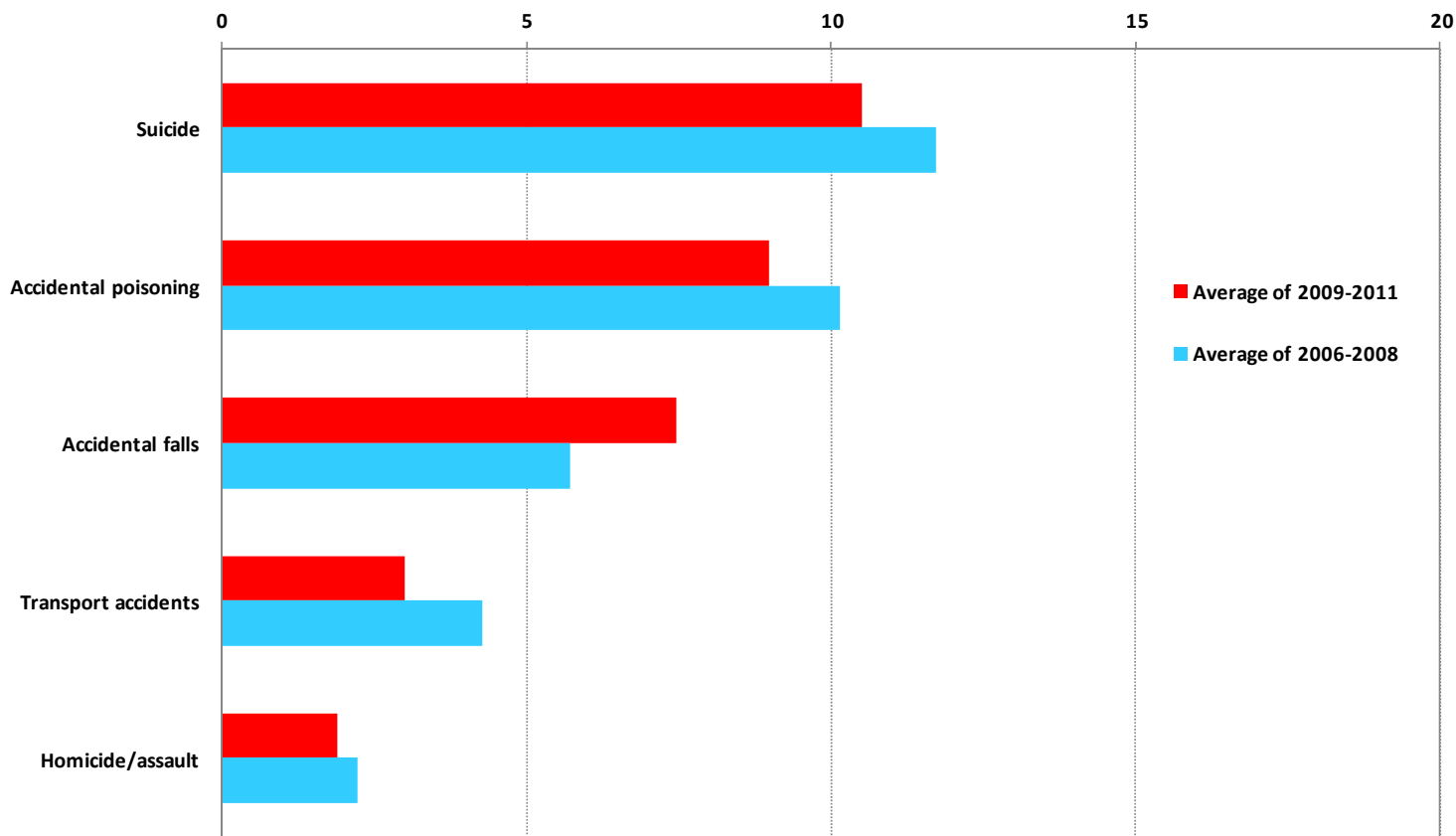


ICD 10 codes were used to identify the injury-related death. Each above injury was defined as suicide (X60-X84, Y870), accidental poisoning (X40-X49), accidental falls (W00-W19), transport accidents (V010-V99, Y850, Y859) and homicide/assault (X85-Y09, Y871).

Source: Vista Web Application, BC Vital Statistics Agency.

Prepared by: Public Health Surveillance Unit, Vancouver Coastal Health, April 2014

Figure D10: Top five injury-related mortality rate per 100,000 population among Vancouver residents



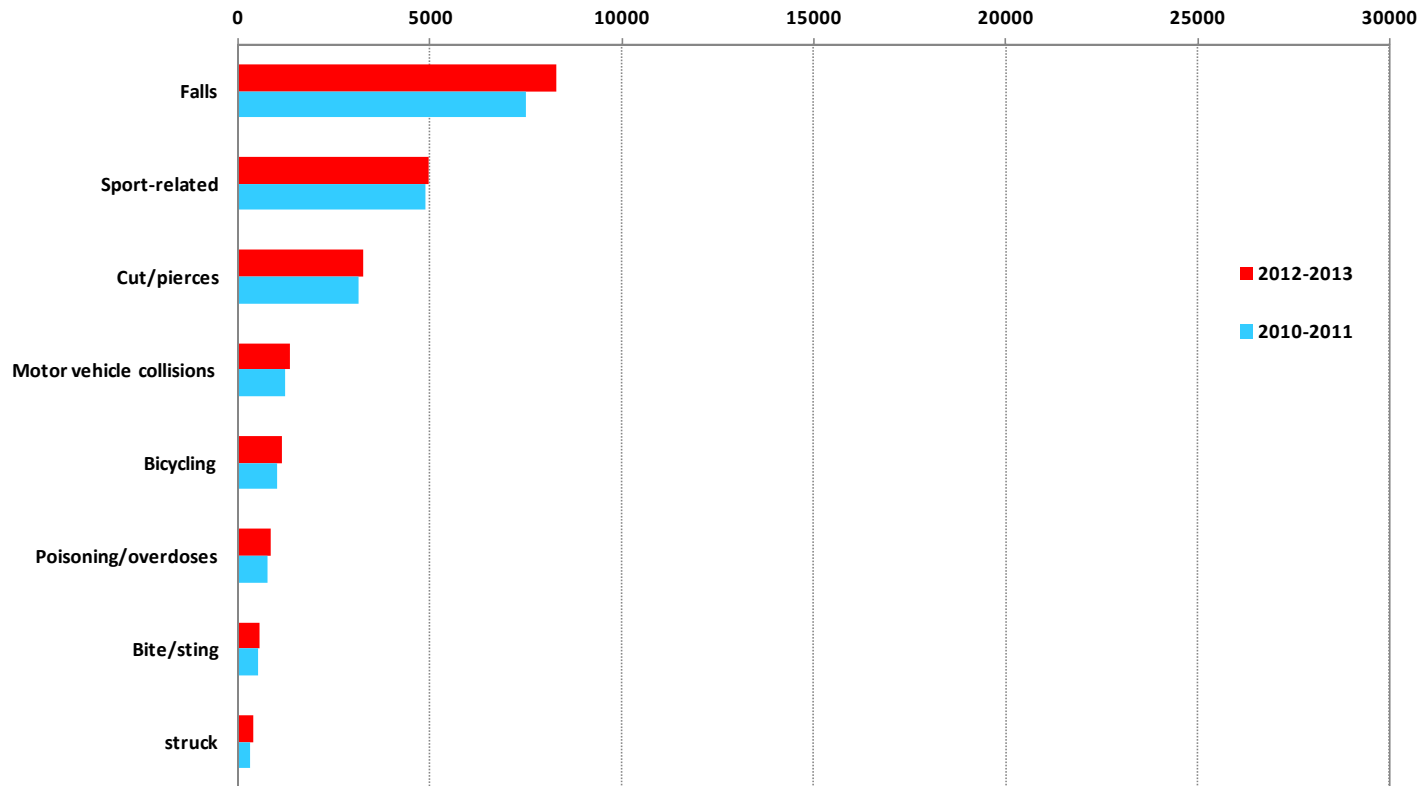
ICD 10 codes were used to identify the injury-related death. Each above injury was defined as suicide (X60-X84, Y870), accidental poisoning (X40-X49), accidental falls (W00-W19), transport accidents (V010-V99, Y850, Y859) and homicide/assault (X85-Y09, Y871).

Source: Vista Web Application, BC Vital Statistics Agency.

Prepared by: Public Health Surveillance Unit, Vancouver Coastal Health, April 2014

APPENDIX E: Coastal Urban - Injury Graphs

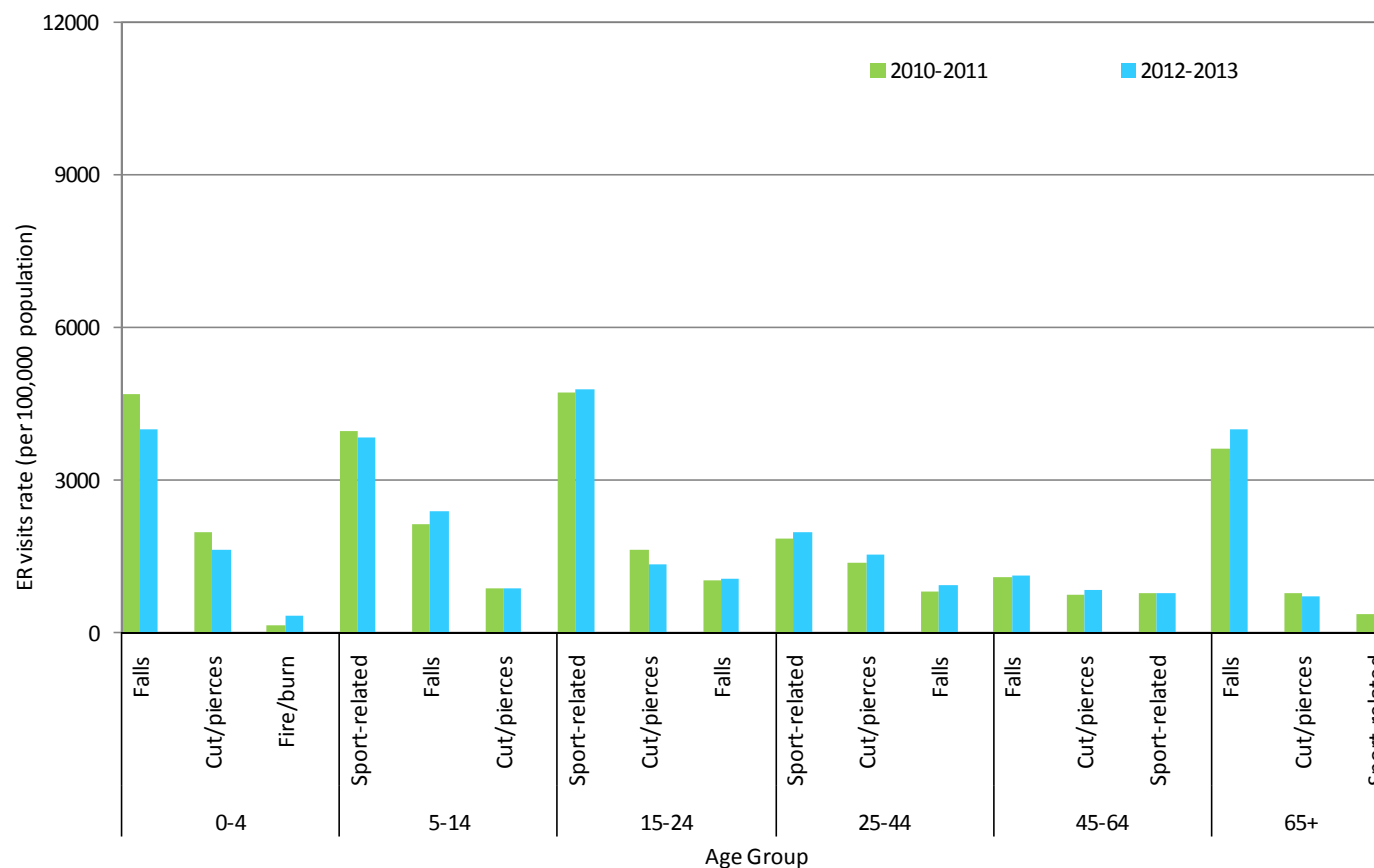
Figure E1: Top eight injury-related emergency room (ER) visits among Coastal Urban residents



*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*

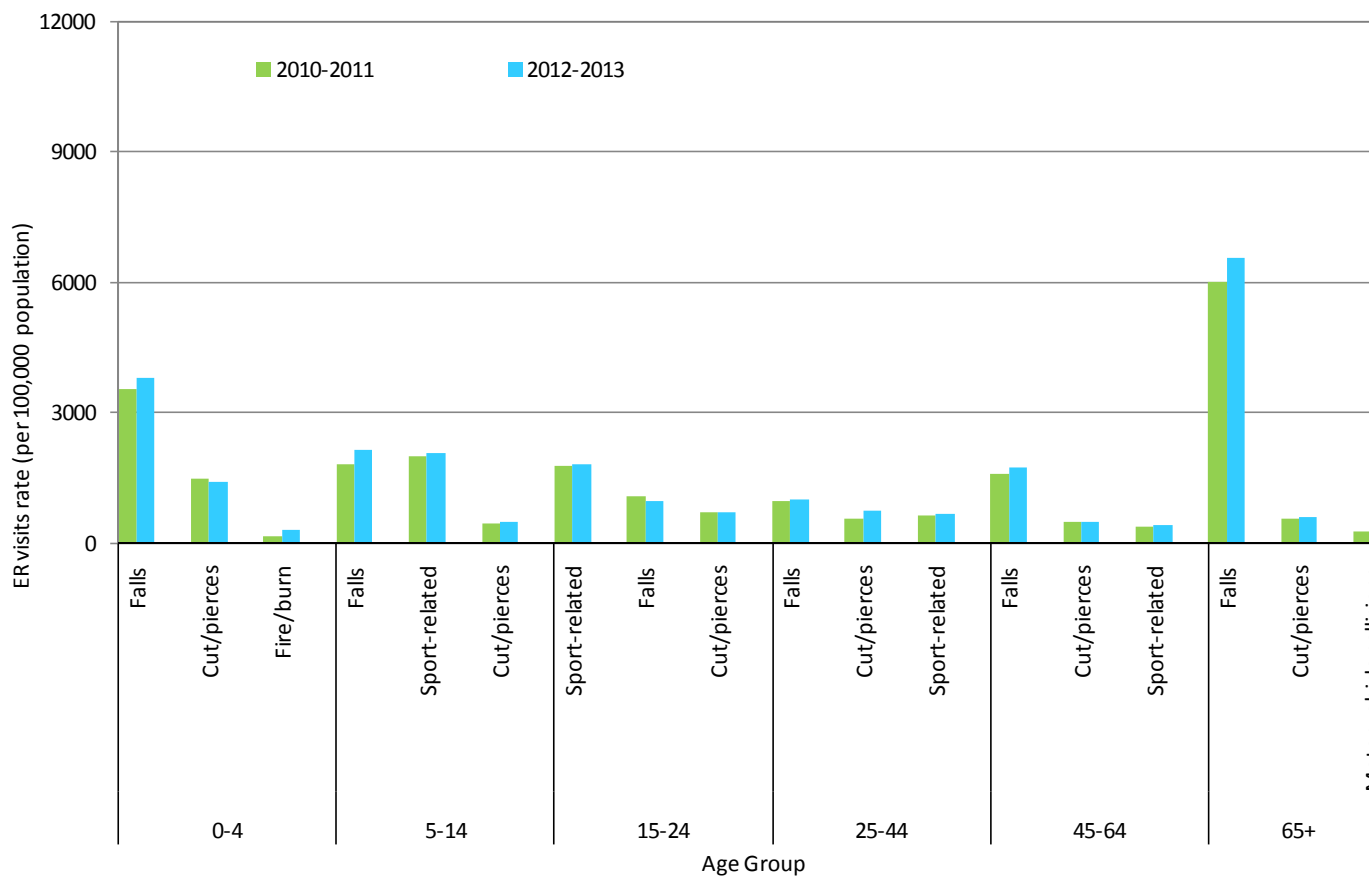
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure E2: Male top three injury-related* emergency room (ER) visit rate per 100,000 population by age group. Coastal Urban Residents, 2012-2013 average compared to 2010-2011 average



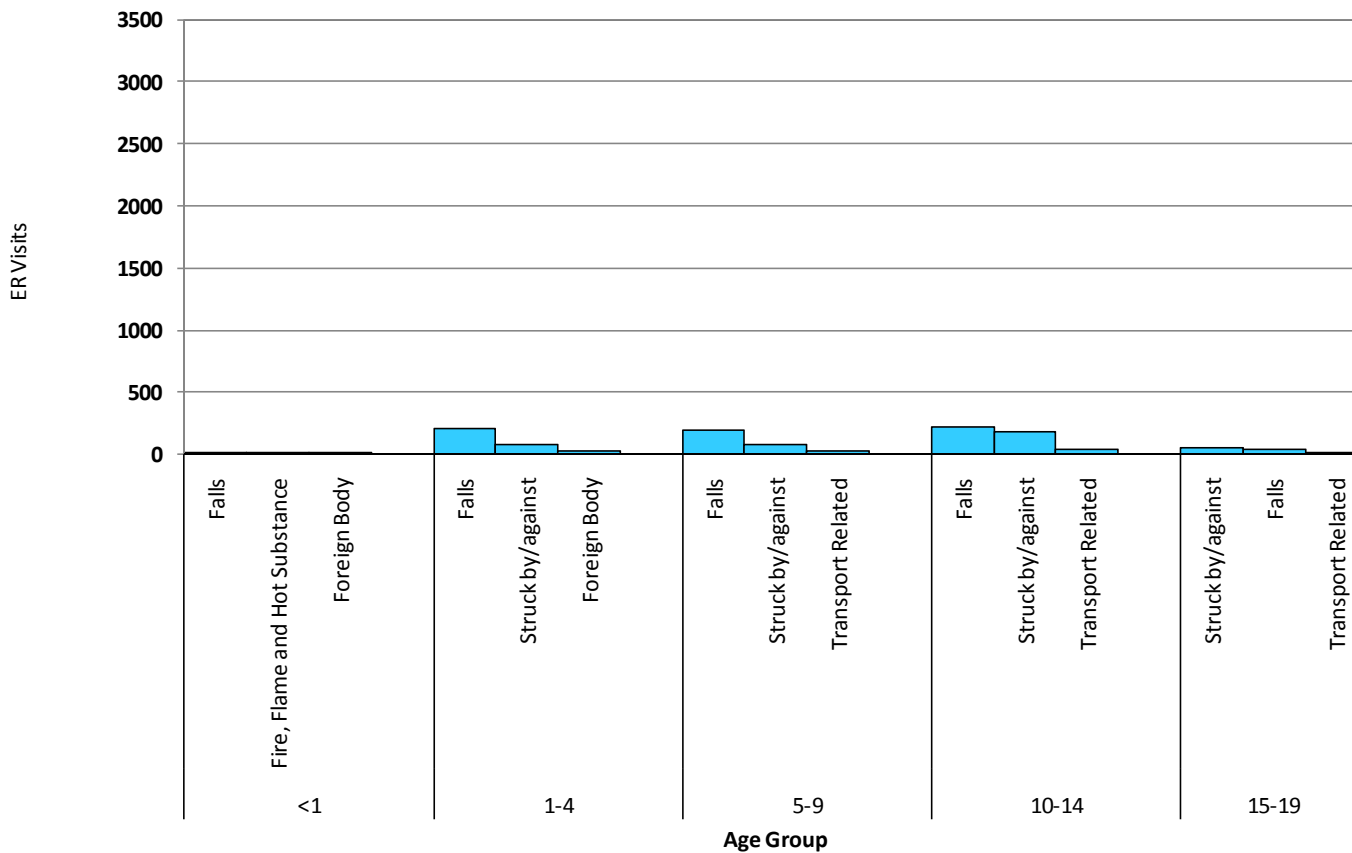
*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure E3: Female top three injury-related* emergency room (ER) visit rate per 100,000 population by age group. Coastal Urban Residents, 2012-2013 average compared to 2010-2011 average



*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury.*
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

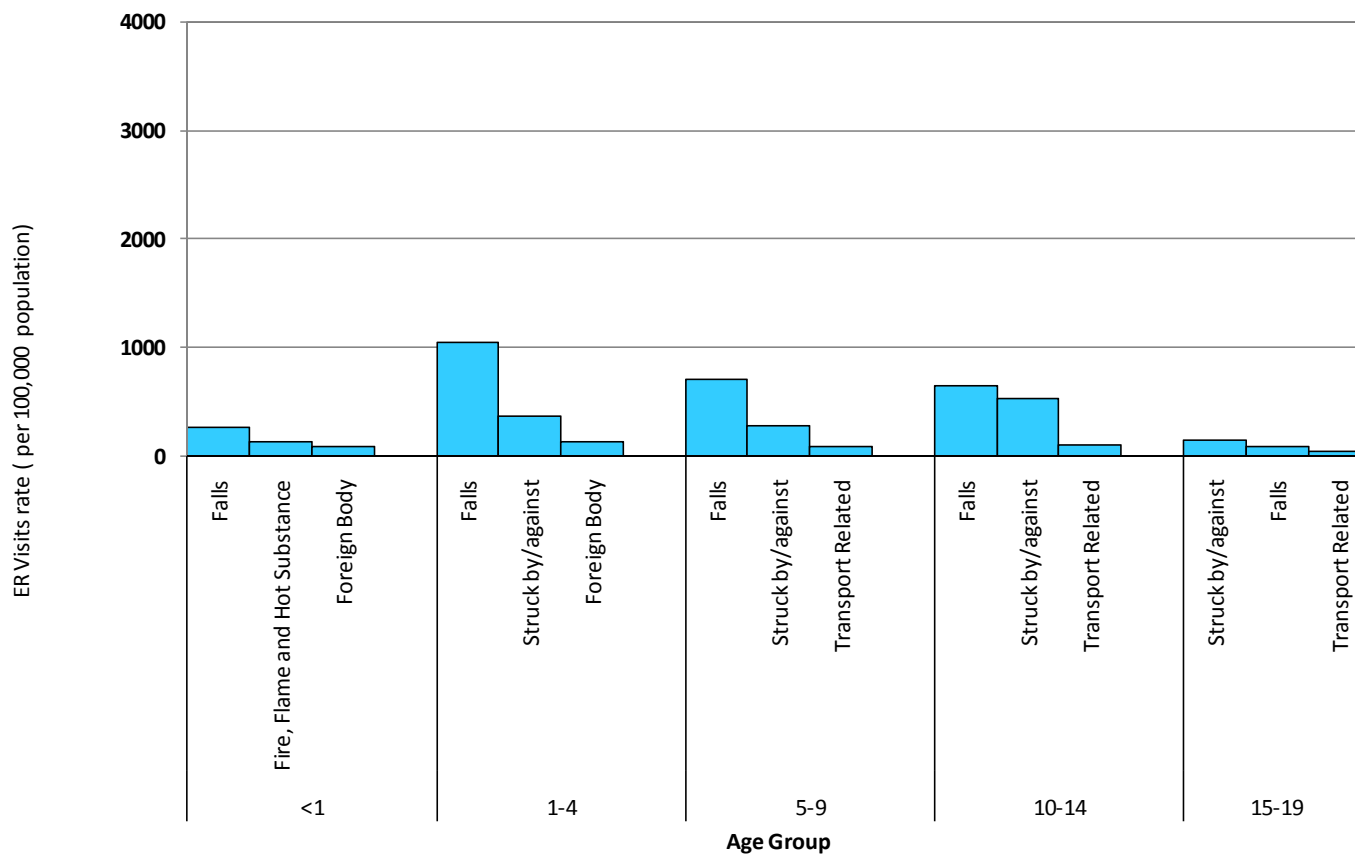
Figure E4: Top three injury-related* ER visits from BC Children’s Hospital by age group. Coastal Urban HSDA Residents, 2007/2008 – 2009/2010



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449, W45.00 and W45.09), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), fire, flame and hot substance (X00-X06, X08-X19) and environment/natural factor (W53-W599, W64-W649, W92-W949, W99, X20-X399, X51-X519, X53-X549, X57-X579).

Source: Canadian Hospitals Injury Reporting and Prevention Program, Public Health Agency of Canada, BCIRPU, 2013.

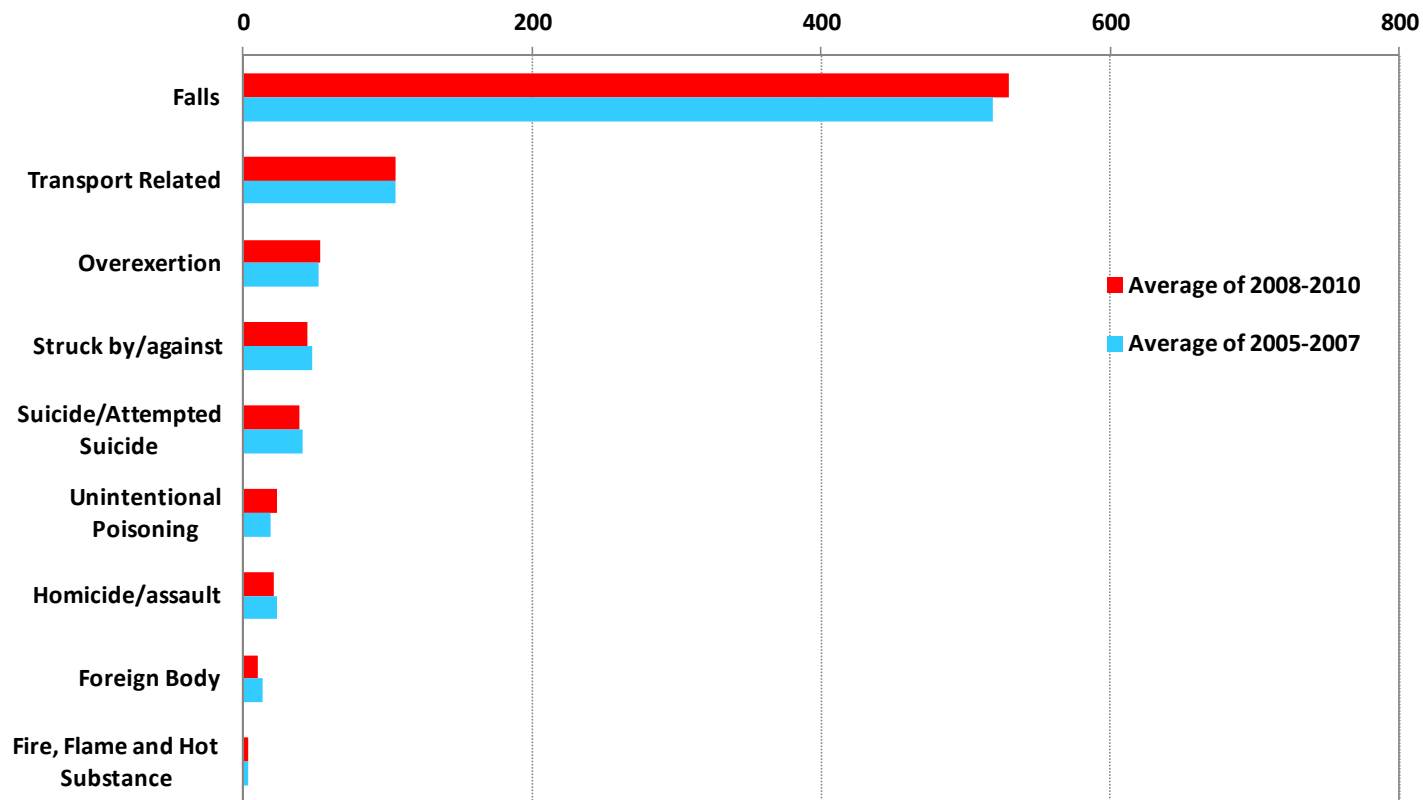
Figure E5: Top three injury-related ER visits rate from BC Children’s Hospital per 100,000 population by age group. Coastal Urban HSDA Residents, 2007/2008 – 2009/2010



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449, W45.00 and W45.09), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), fire, flame and hot substance (X00-X06, X08-X19) and environment/natural factor (W53-W599, W64-W649, W92-W949, W99, X20-X399, X51-X519, X53-X549, X57-X579).

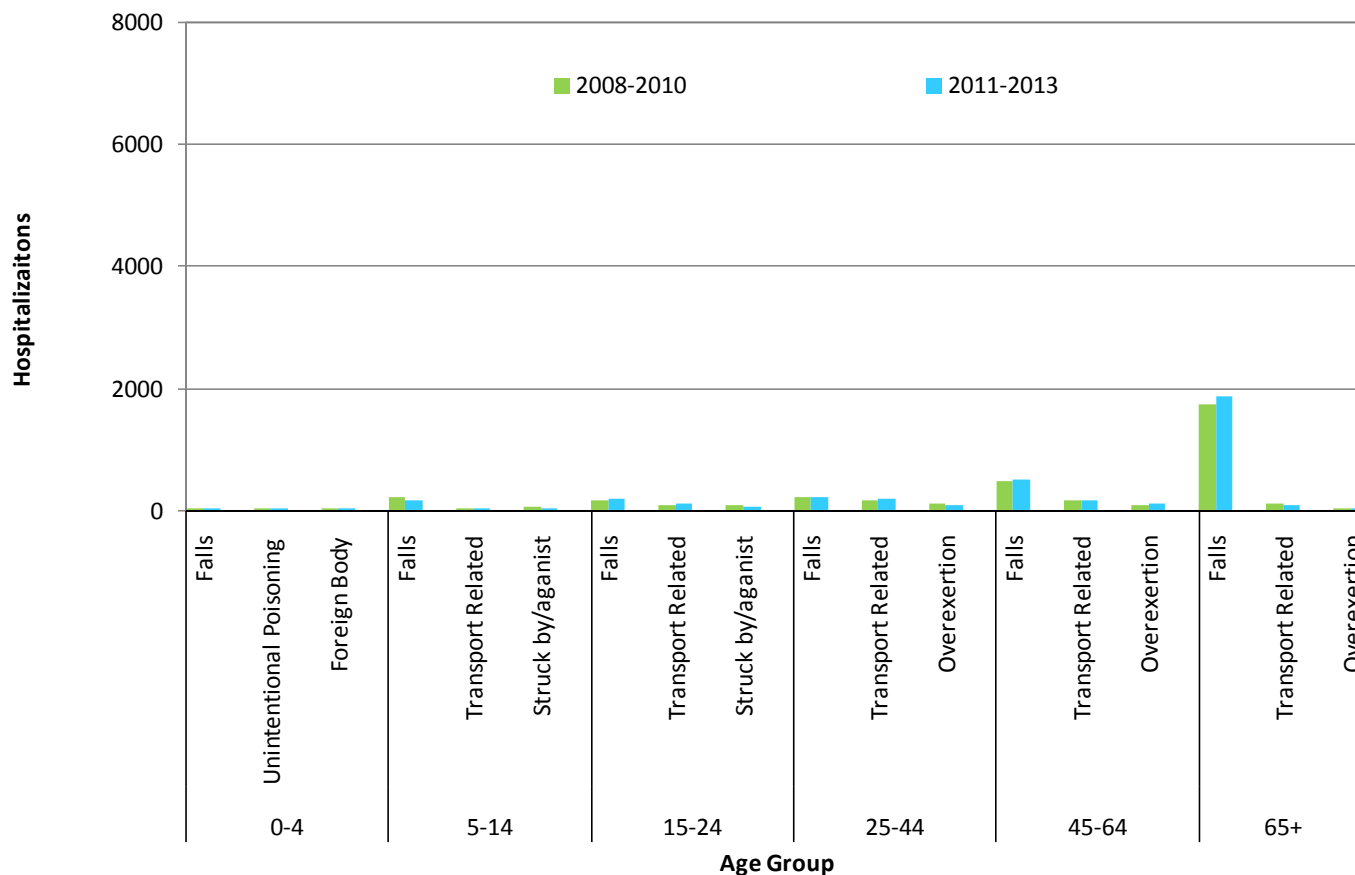
Source: Canadian Hospitals Injury Reporting and Prevention Program, Public Health Agency of Canada, BCIRPU, 2013.

Figure E6: Injury-related hospitalizations per 100,000 population among Coastal Urban residents



ICD10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by object (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49), overexertion (X50), homicide/assault (X85-X99, Y00-Y09) and fire, flame and hot substance (X00-X06, X08-X19).
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

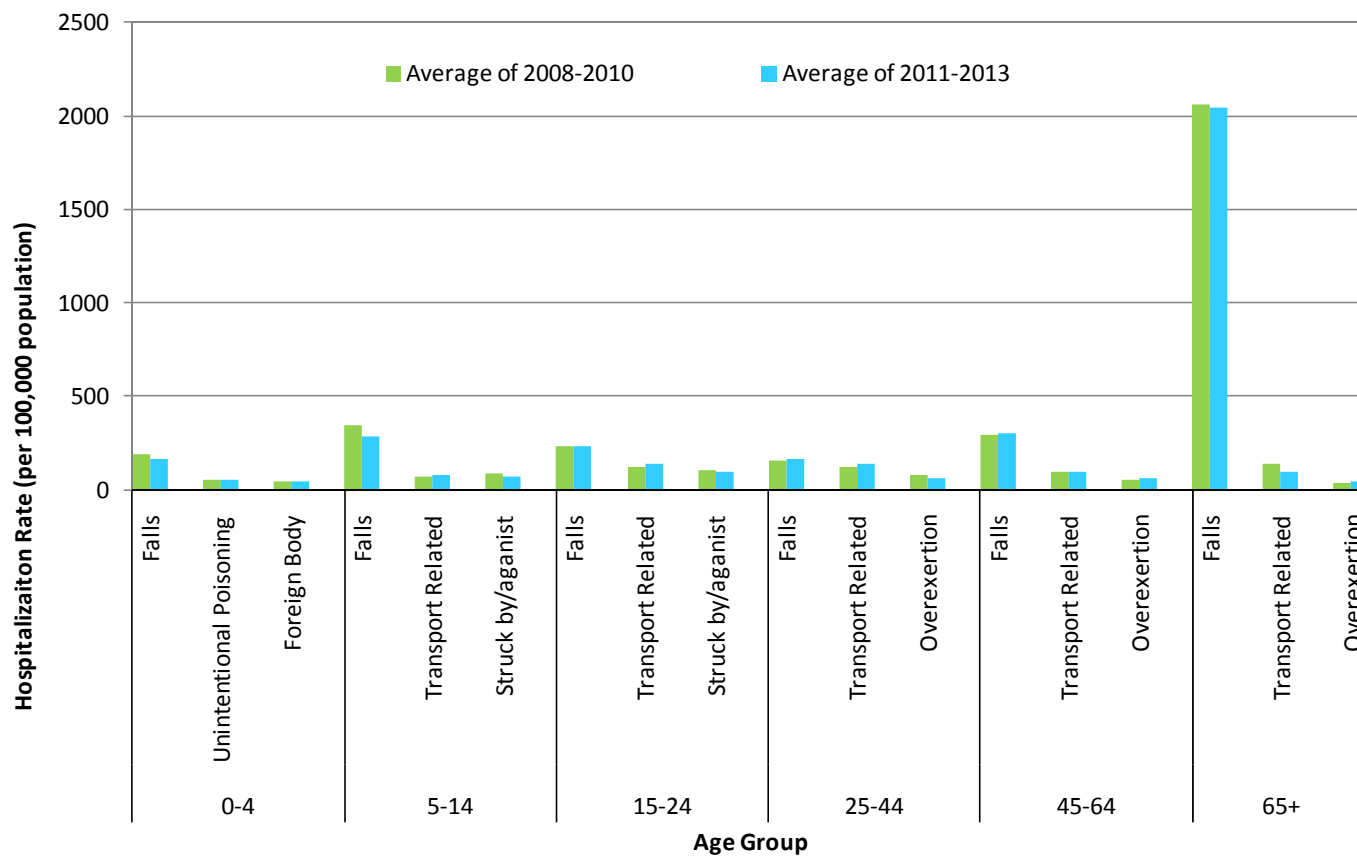
Figure E7: Top three injury-related* hospitalizations by age group. Coastal Urban Residents, 2008-2010 compared to 2005-2007



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by object (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49) and overexertion (X50).

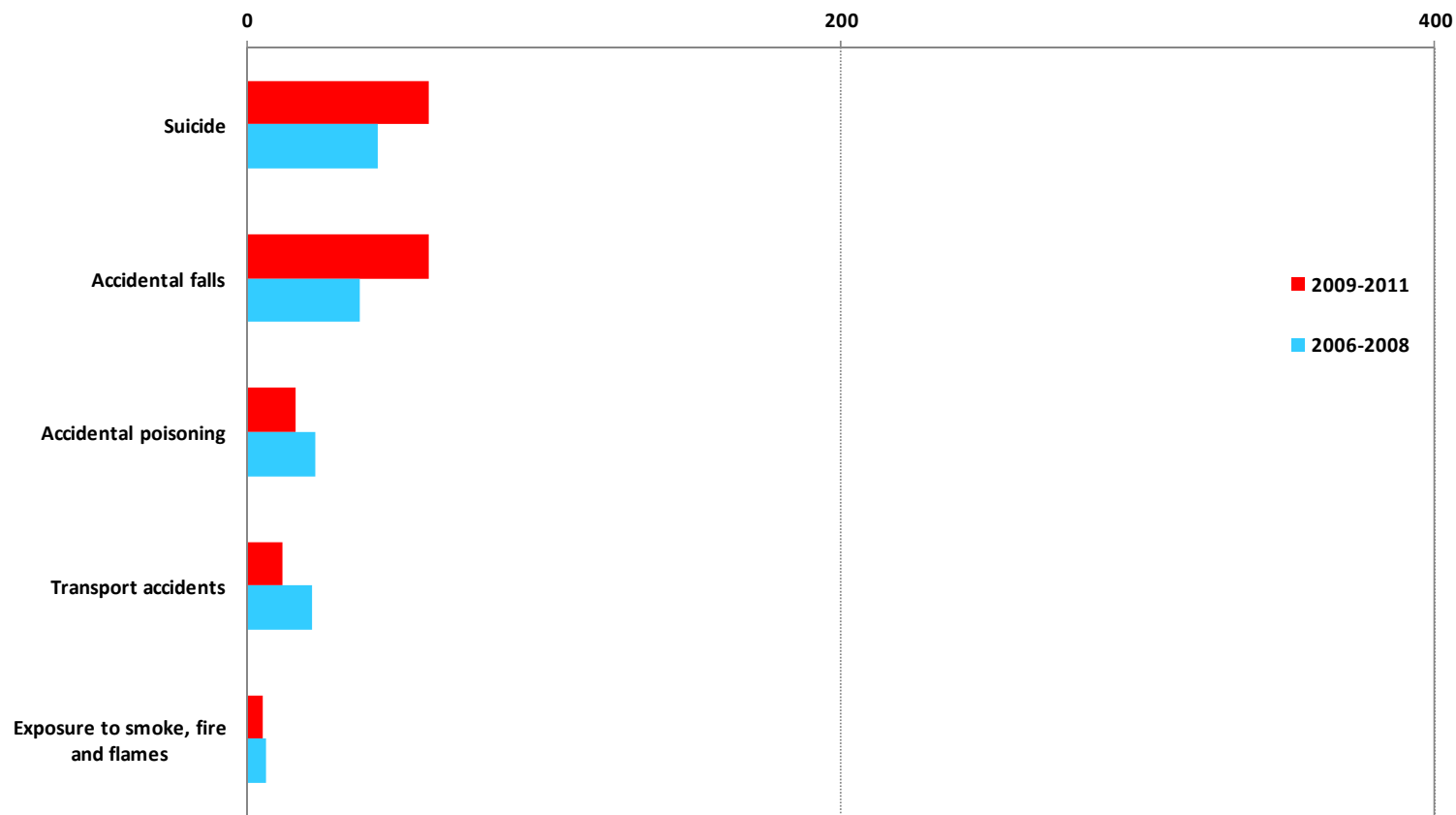
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure E8: Top three injury-related* hospitalizations per 100,000 population by age group. Coastal Urban Residents, 2008-2010 average compared to 2011-2013 average



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by object (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49) and overexertion (X50).
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure E9: Top three injury-related deaths among Coastal Urban residents

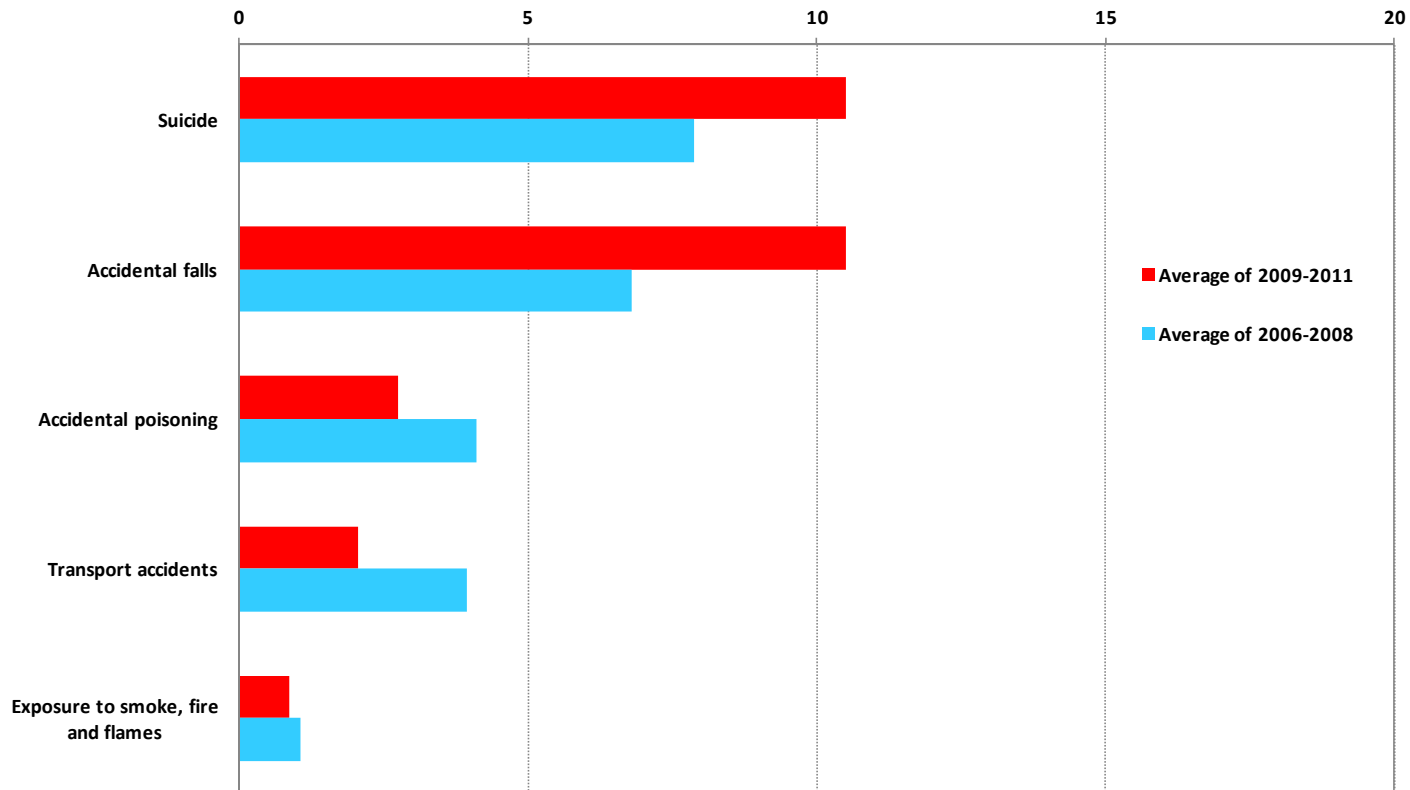


ICD 10 codes were used to identify the injury-related death. Each above injury was defined as suicide (X60-X84, Y870), accidental falls (W00-W19), accidental poisoning (X40-X49), transport accidents (V010-V99, Y850, Y859) and exposure to smoke, fire and flames (X00-X09).

Source: Vista Web Application, BC Vital Statistics Agency.

Prepared by: Public Health Surveillance Unit, Vancouver Coastal Health, April 2014

Figure E10: Top five injury-related mortality rate per 100,000 population among Coastal Urban residents

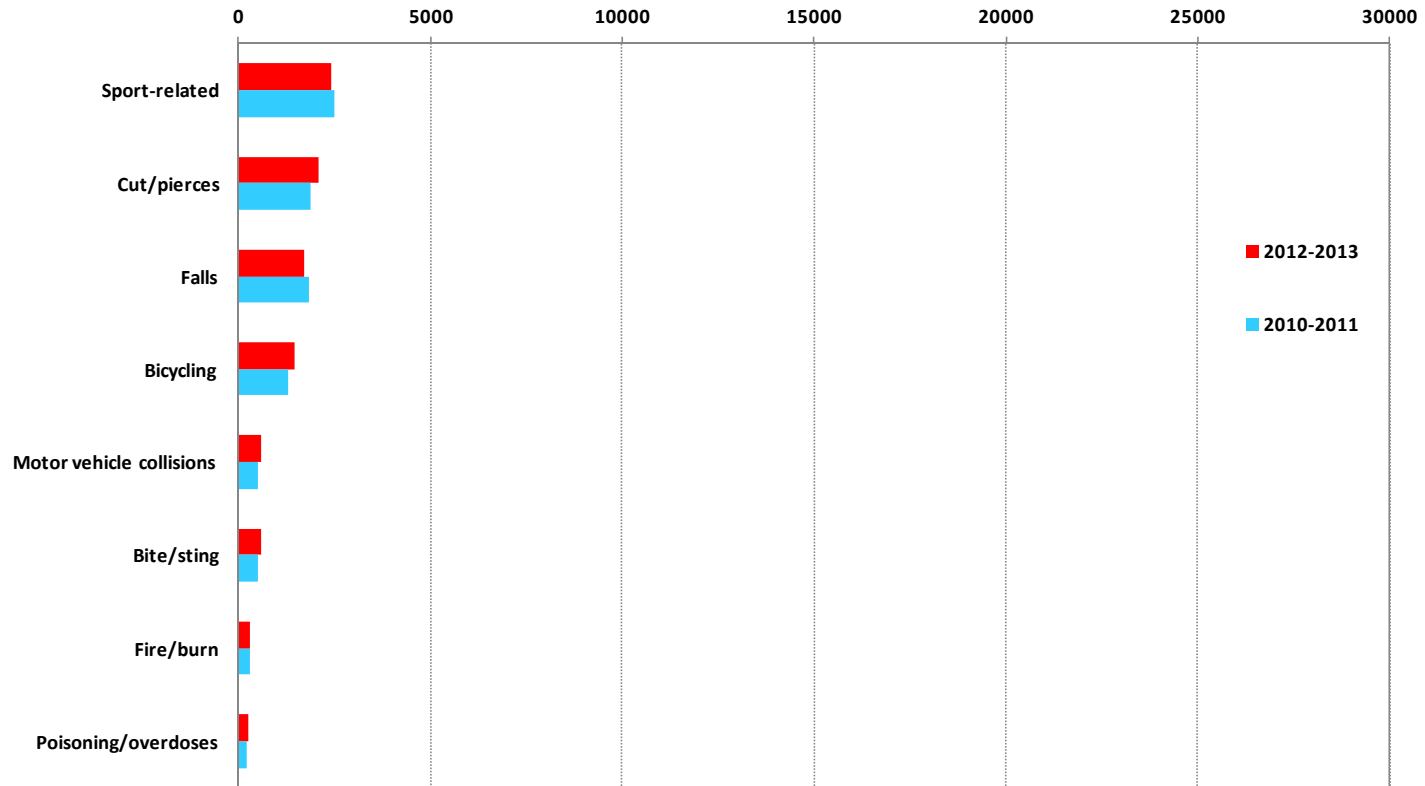


ICD 10 codes were used to identify the injury-related death. Each above injury was defined as suicide (X60-X84, Y870), accidental falls (W00-W19), accidental poisoning (X40-X49), transport accidents (V010-V99, Y850, Y859) and exposure to smoke, fire and flames (X00-X09).

Source: Vista Web Application, BC Vital Statistics Agency.

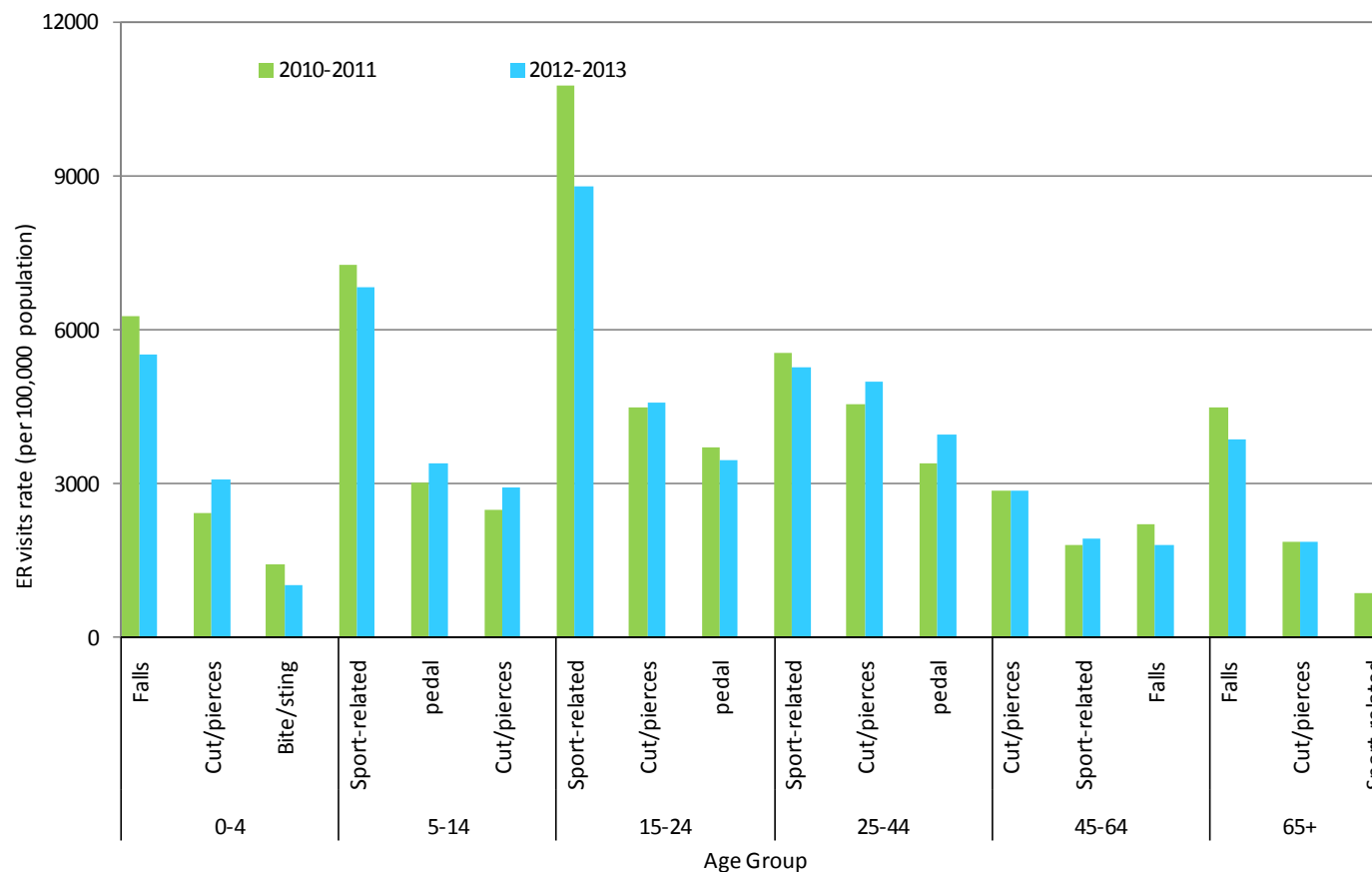
APPENDIX F: Coastal Rural - Injury Graphs

Figure F1: Top eight injury-related emergency room (ER) visits among Howe Sound residents



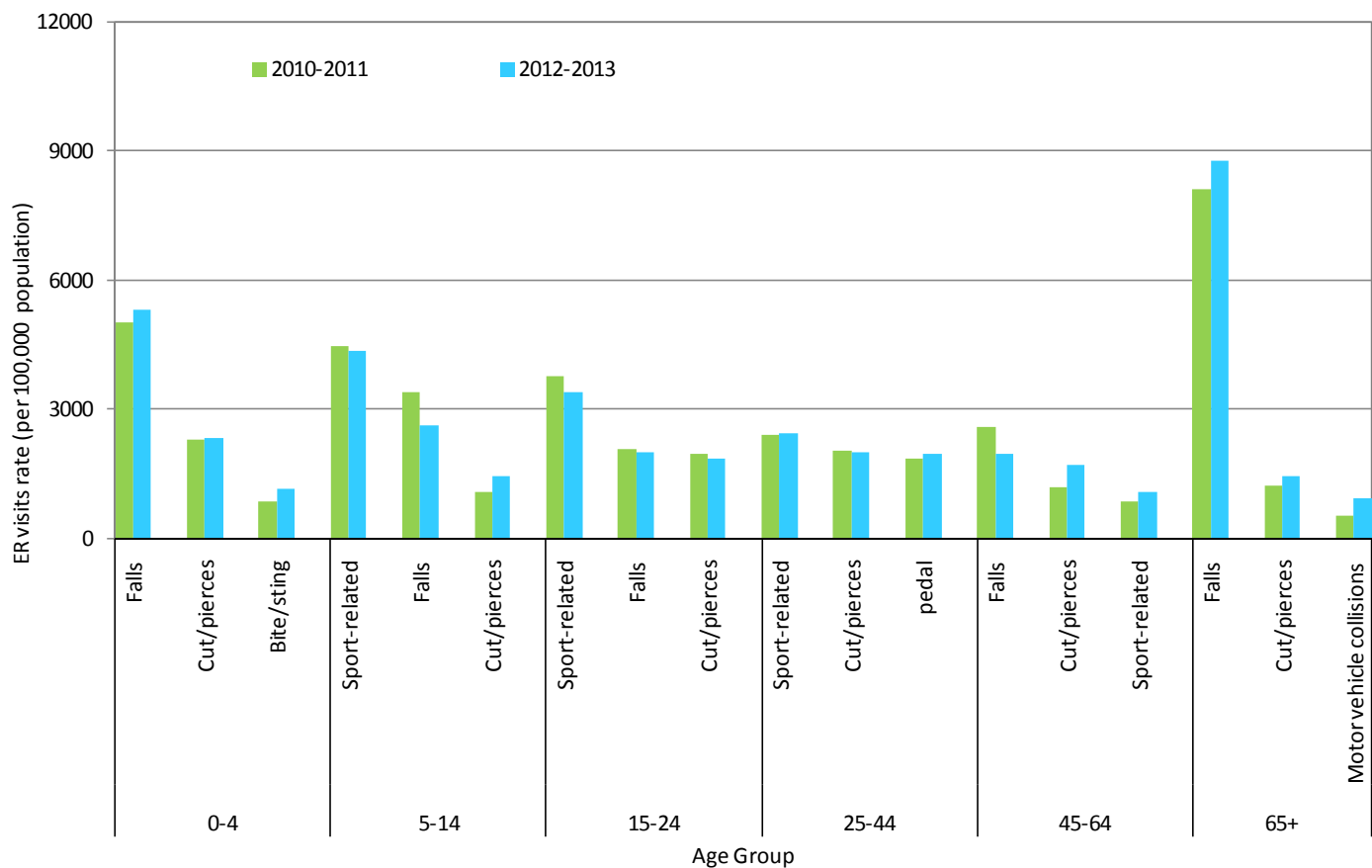
*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
 Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul's Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure F2: Male top three injury-related emergency room (ER) visit rate per 100,000 population by age group. Howe Sound Residents, 2012-2013 average compared to 2010-2011 average



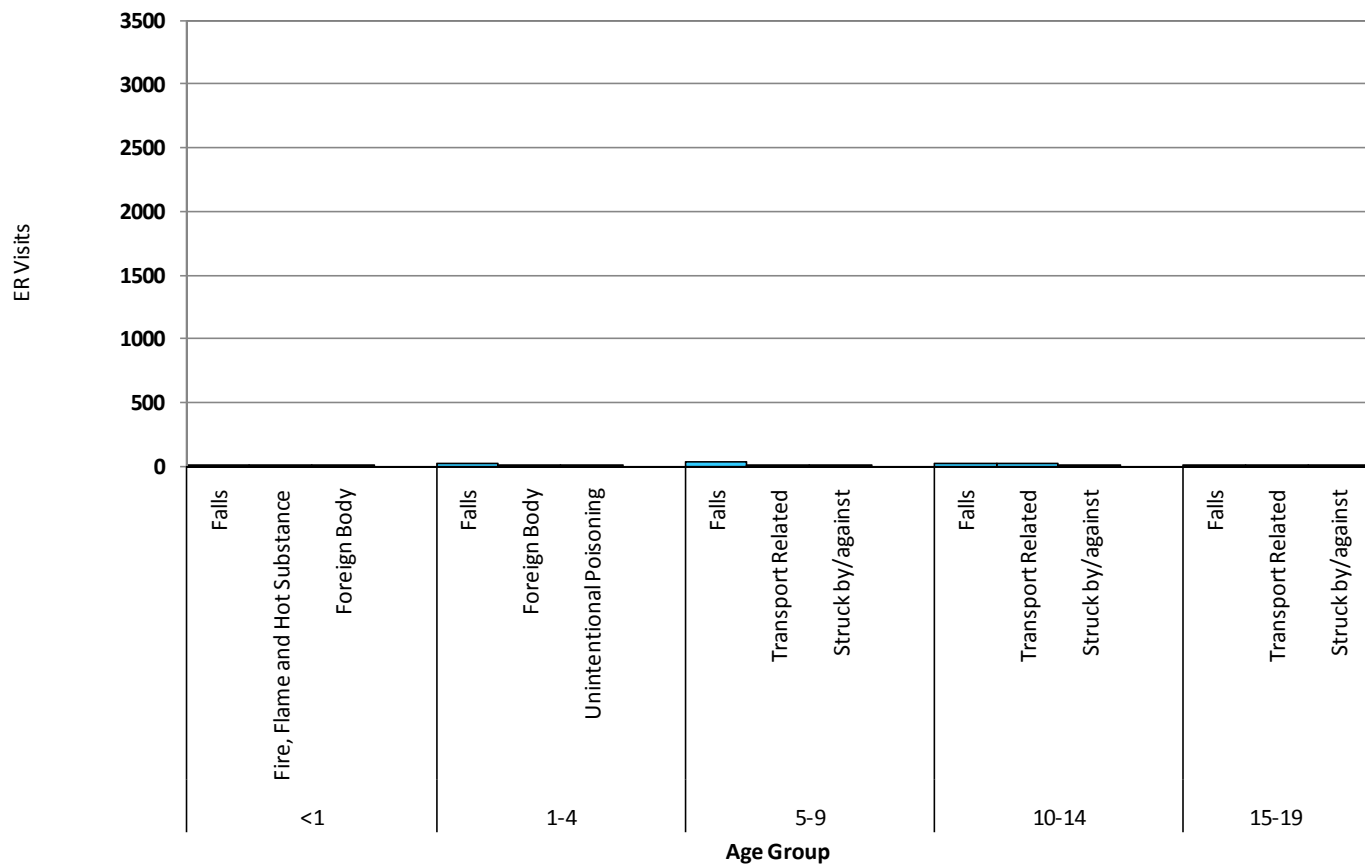
*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure F3: Female top three injury-related emergency room (ER) visit rate per 100,000 population by age group. Howe Sound Residents, 2012-2013 average compared to 2010-2011 average



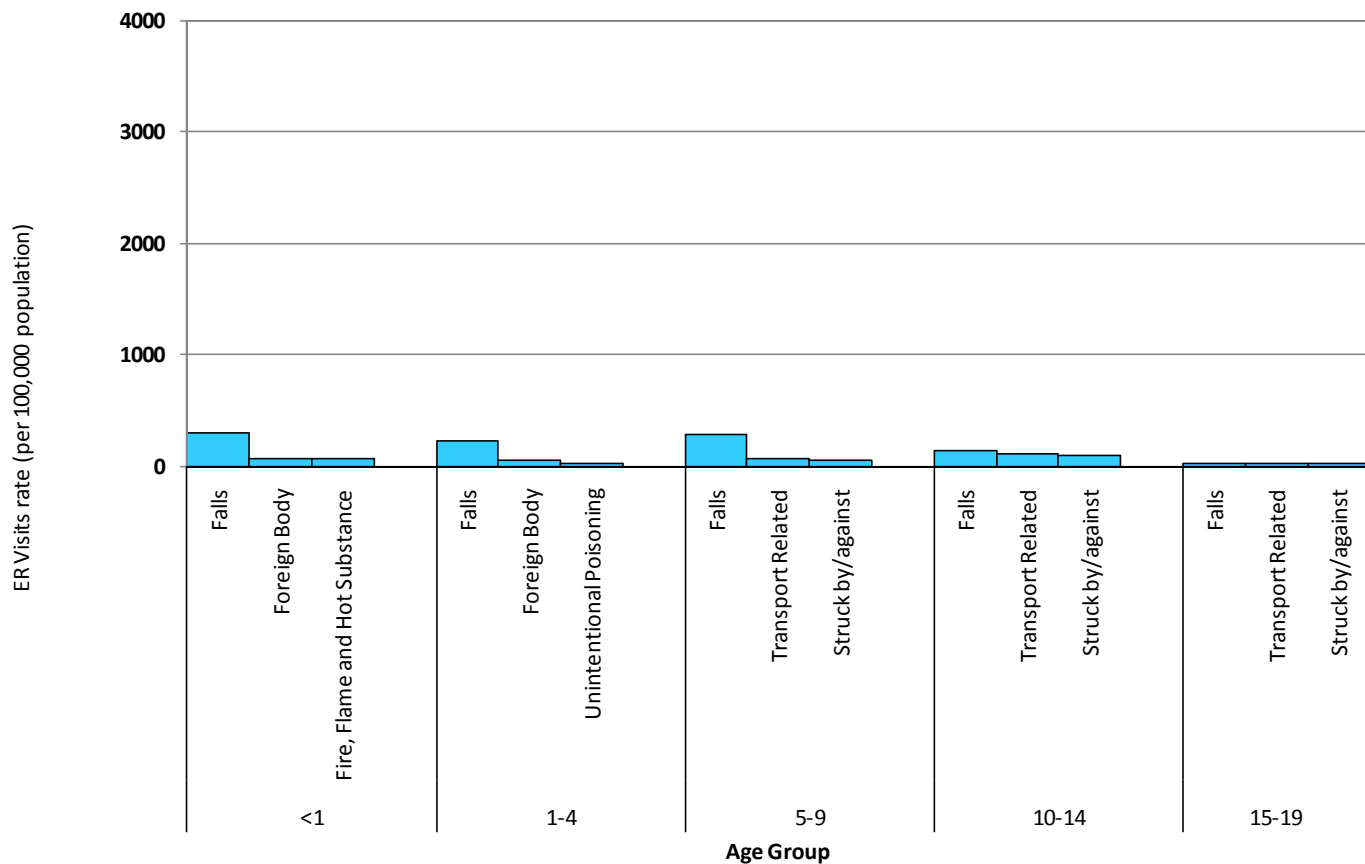
*Injury-related visits are captured through ICD-9 codes 800-999, all ICD-9 E codes, and a key word search through the following data fields: *presenting complaint, nature of injury, mechanism of injury and activity at time of injury*.
Source: ER visits data include data reported for nine of 13 acute care facilities in VCH and are collected through three different information systems. These systems are: 1 – CareCast (Richmond Hospital, UBC Hospital and Vancouver General Hospital); 2 – Eclipsys (Mount Saint Joseph Hospital and St. Paul’s Hospital) and; 3 – McKesson (Lions Gate Hospital, Pemberton Health Centre, Squamish General Hospital and Whistler Health Care Centre). ER data is current as of January 2014.

Figure F4: Top three injury-related* ER visits from BC Children’s Hospital by age group. Costal Rural HSDA Residents, 2007/2008 – 2009/2010



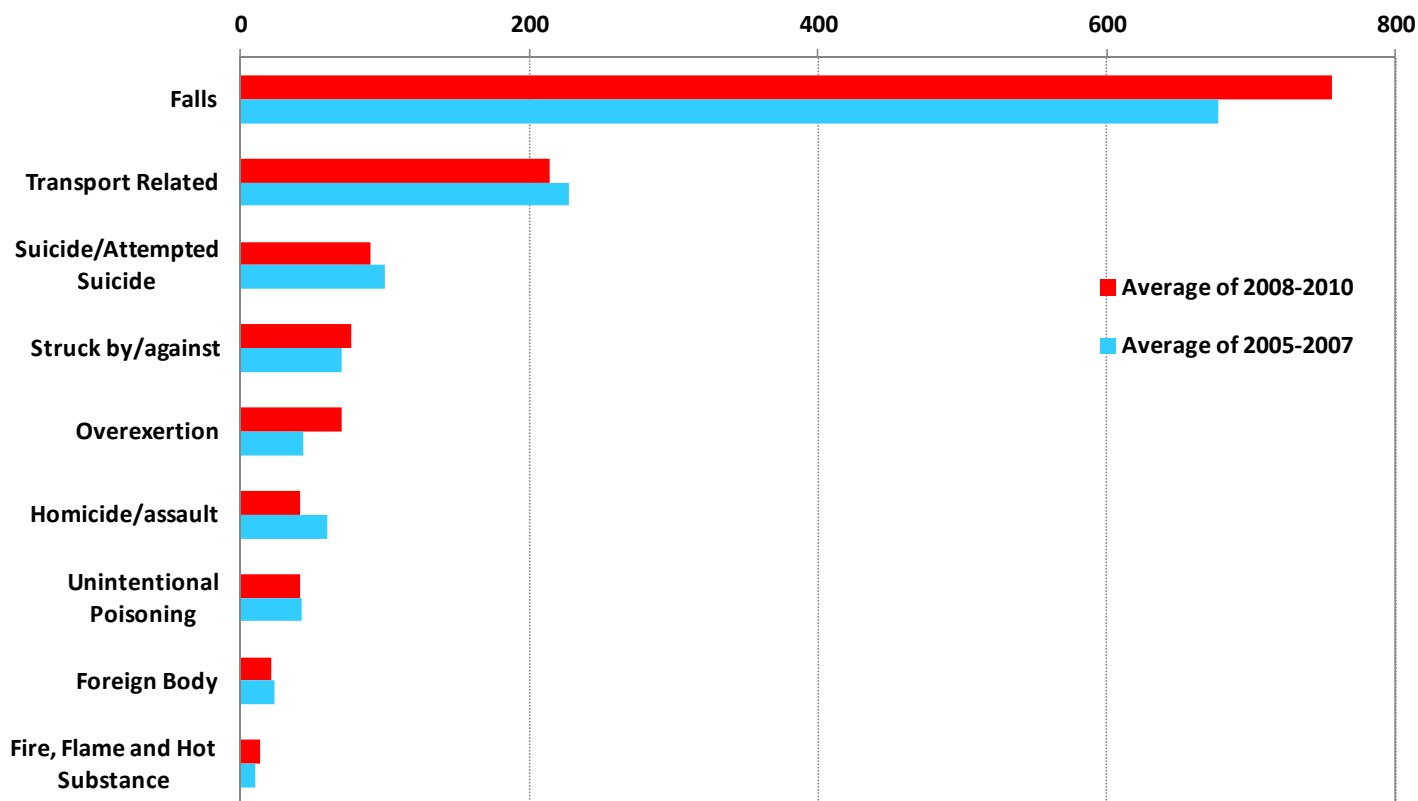
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449, W45.00 and W45.09), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), fire, flame and hot substance (X00-X06, X08-X19).
 Source: Canadian Hospitals Injury Reporting and Prevention Program, Public Health Agency of Canada, BCIRPU, 2013.

Figure F5: Top three injury-related* ER visits from BC Children’s Hospital per 100,000 population by age group. Costal Rural HSDA Residents, 2007/2008 – 2009/2010



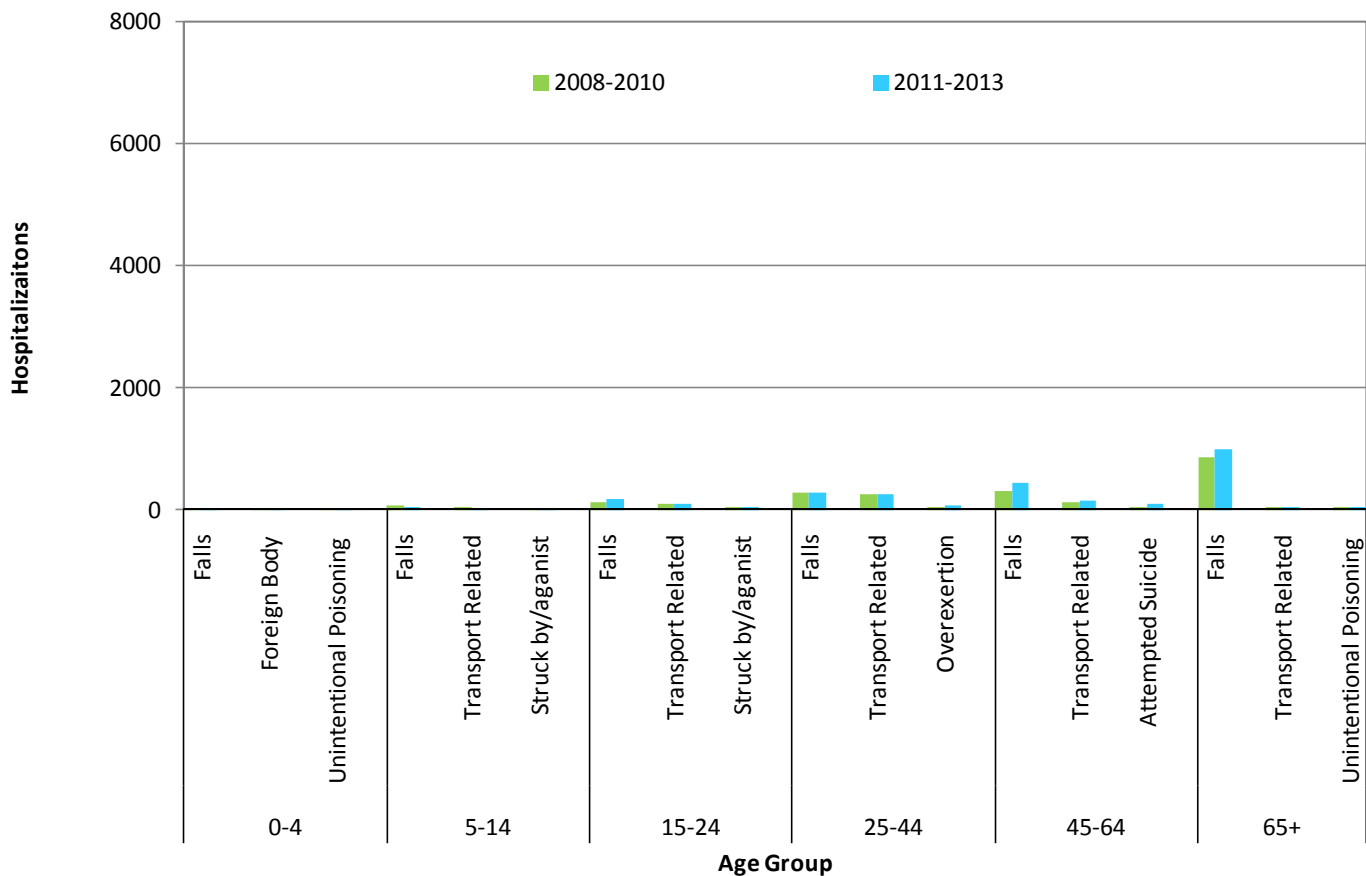
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449, W45.00 and W45.09), struck by/against (W20-W23, W50-W52), transport accidents (V01-V99), fire, flame and hot substance (X00-X06, X08-X19).
 Source: Canadian Hospitals Injury Reporting and Prevention Program, Public Health Agency of Canada, BCIRPU, 2013.

Figure F6: Injury-related hospitalizations per 100,000 population among Coastal Rural residents



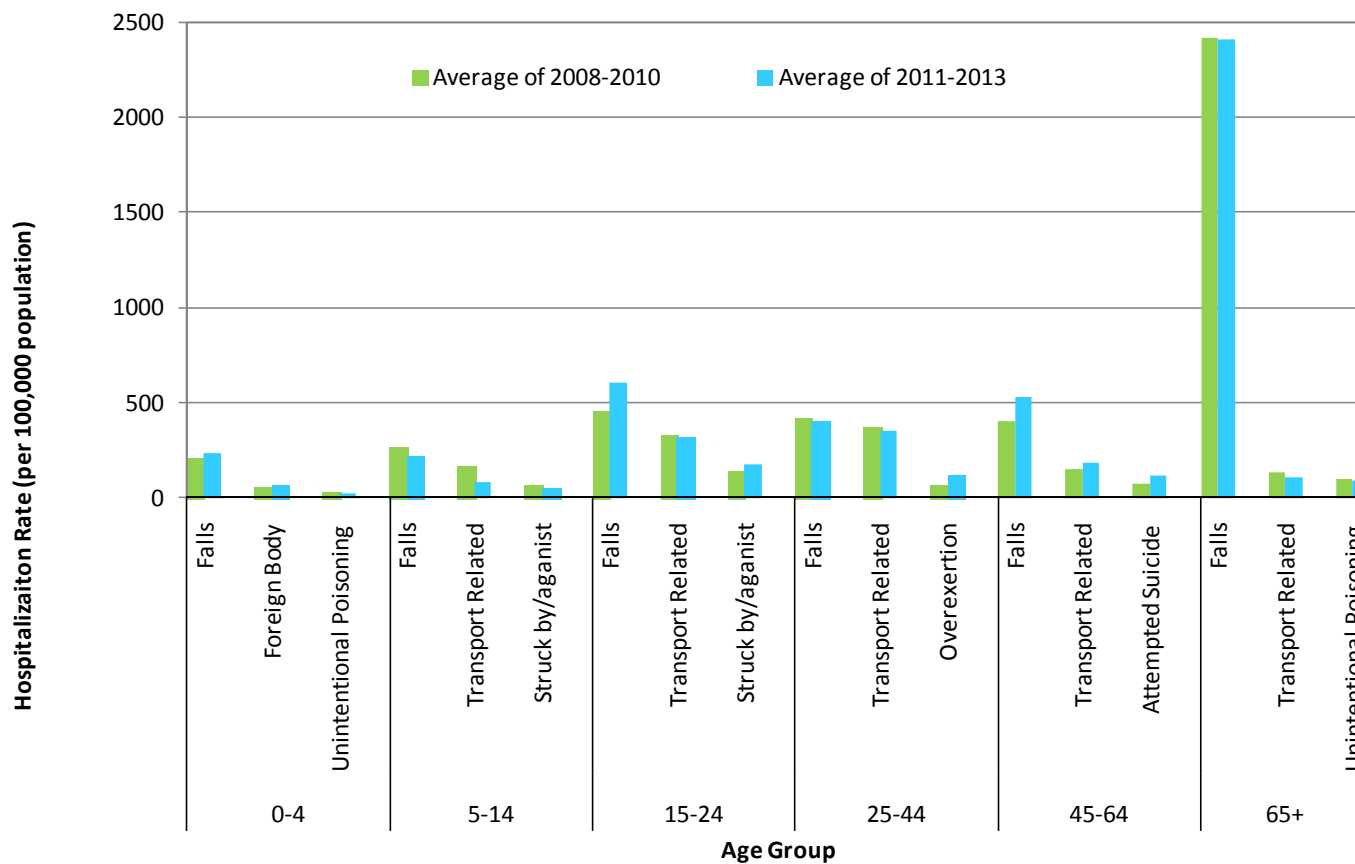
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by object (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49), overexertion (X50), homicide/assault (X85-X99, Y00-Y09) and fire, flame and hot substance (X00-X06, X08-X19).
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure F7: Top three injury-related* hospitalizations by age group. Coastal Rural Residents, 2008-2010 compared to 2005-2007



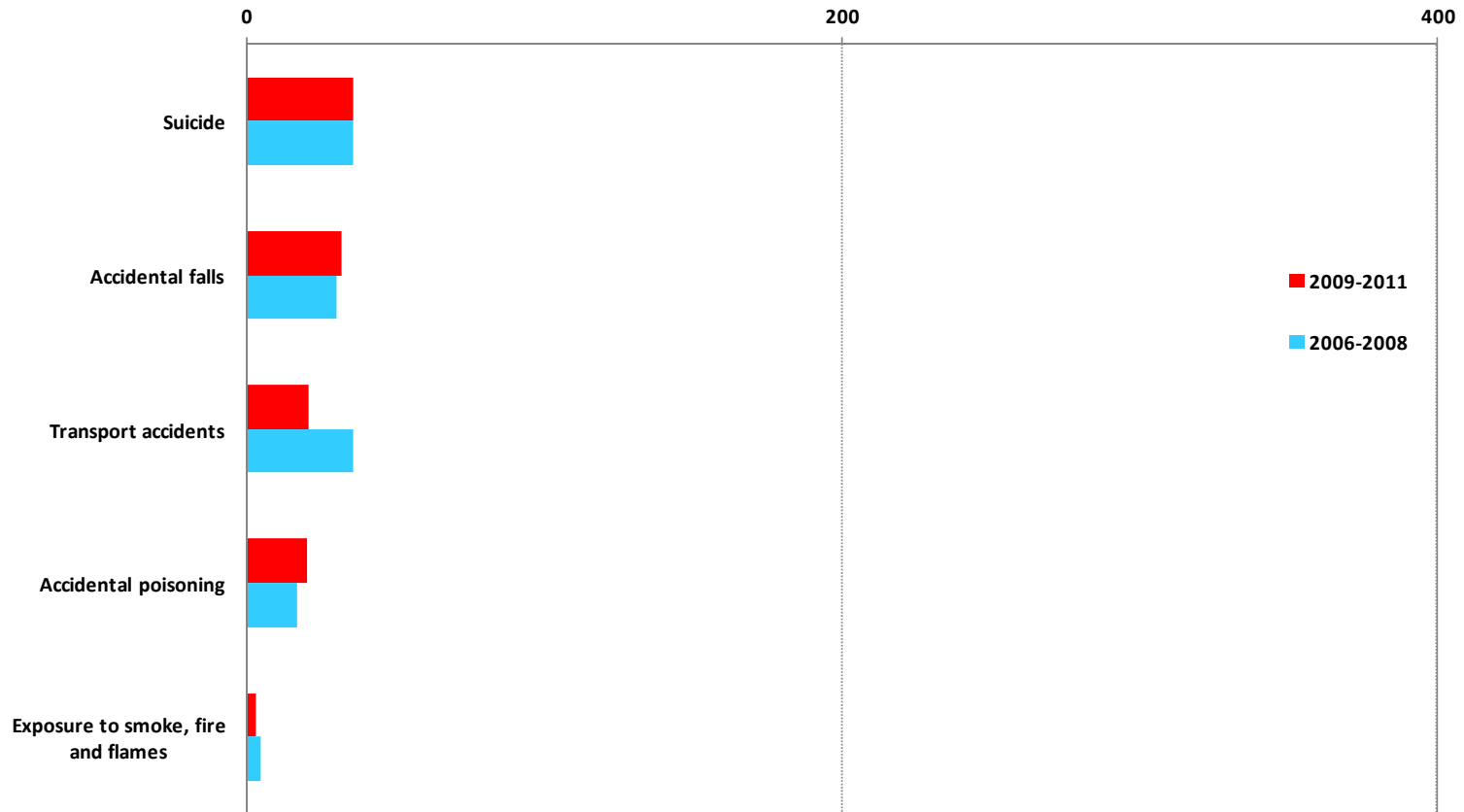
ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by object (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49) and overexertion (X50).
 Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure F8: Top three injury-related* hospitalizations per 100,000 population by age group. Coastal Rural Residents, 2008-2010 average compared to 2011-2013 average



ICD 10 codes were used to identify the injury-related hospitalization. Each above injury was defined as falls (W00-W19), foreign body (W44-W449), struck by object (W20-W23, W50-W52), transport accidents (V01-V99), suicide/attempted suicide (X60-X84), unintentional poisoning (X40-X49) and overexertion (X50).
Source: Discharge Abstract Database (DAD), Ministry of Health, BCIRPU, 2013.

Figure F9: Top five injury-related deaths among Coastal Rural residents

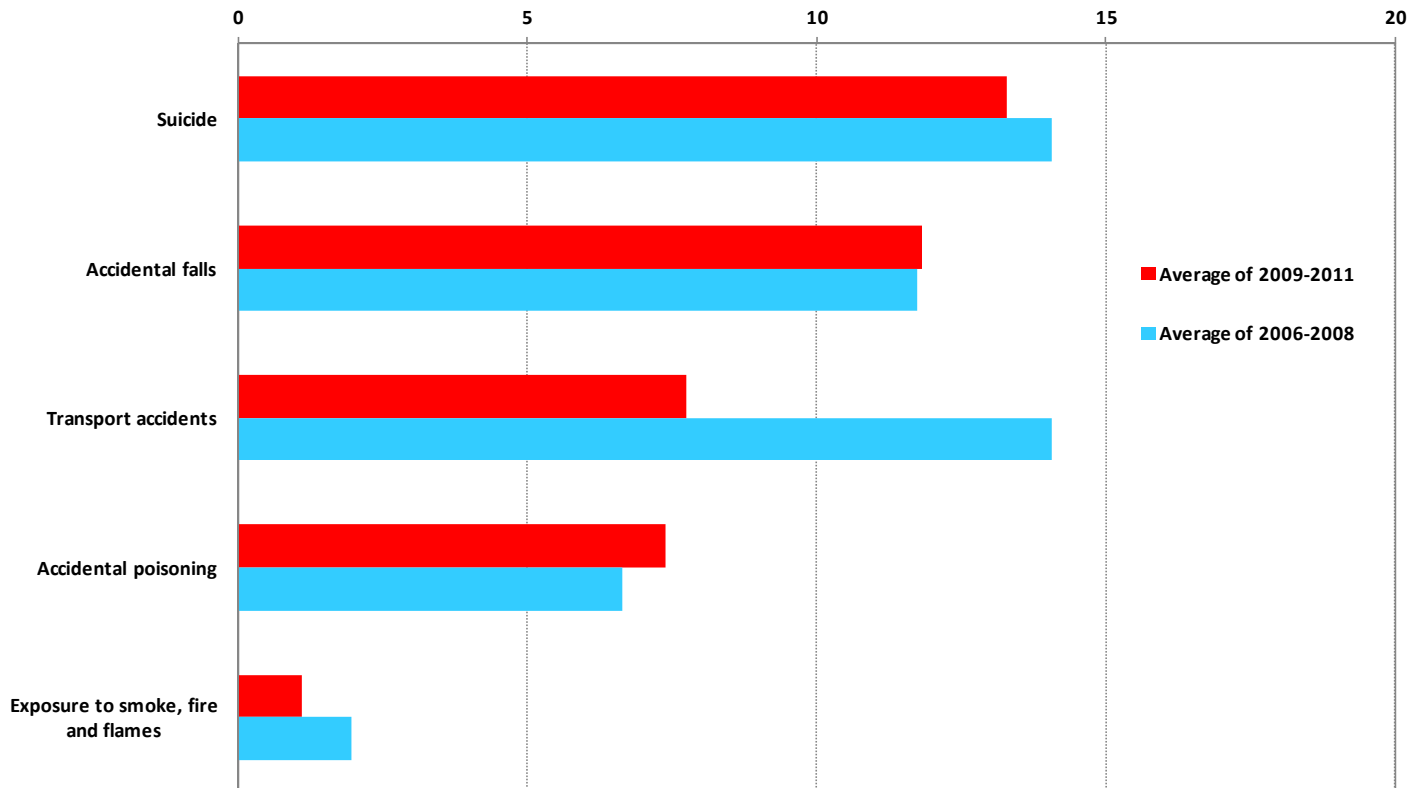


ICD 10 codes were used to identify the injury-related death. Each above injury was defined as suicide (X60-X84, Y870), accidental falls (W00-W19), transport accidents (V010-V99, Y850, Y859), accidental poisoning (X40-X49) and exposure to smoke, fire and flames (X00-X09).

Source: Vista Web Application, BC Vital Statistics Agency.

Prepared by: Public Health Surveillance Unit, Vancouver Coastal Health, April 2014

Figure F10: Top five injury-related mortality rate per 100,000 population among Coastal Rural residents



ICD 10 codes were used to identify the injury-related death. Each above injury was defined as suicide (X60-X84, Y870), accidental falls (W00-W19), transport accidents (V010-V99, Y850, Y859), accidental poisoning (X40-X49) and exposure to smoke, fire and flames (X00-X09).

Source: Vista Web Application, BC Vital Statistics Agency.

APPENDIX G: Health Link BC

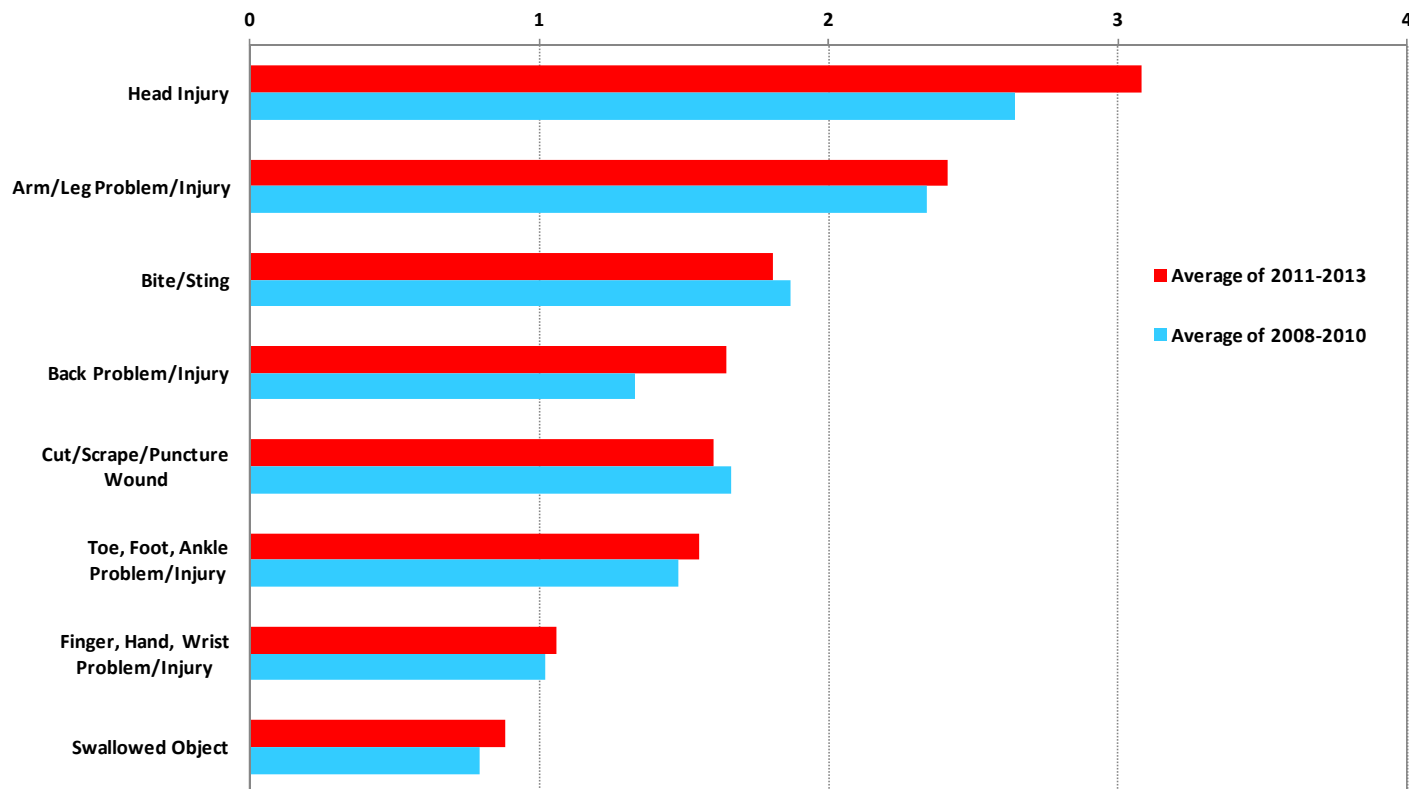
Table 1. HealthLink Calls due to injury in residents of Vancouver Coastal Health (VCH) and health service delivery areas.

Triage Problem	VCH				Richmond				Vancouver				Coastal Urban				Coastal Rural			
	2011-2013		2008-2010		2011-2013		2008-2010		2011-2013		2008-2010		2011-2013		2008-2010		2011-2013		2008-2010	
	N	Rank	N	Rank	N	Rank	N	Rank	N	Rank	N	Rank	N	Rank	N	Rank	N	Rank	N	Rank
Head Injury	3203	1	3027	1	356	1	371	1	1988	1	1791	1	572	1	613	1	287	1	252	3
Arm/Leg Problem/Injury	2505	2	2678	2	302	2	353	2	1538	2	1565	2	410	2	461	2	255	3	299	2
Bite/Sting	1878	3	2143	3	209	3	256	3	1072	3	1208	3	313	3	343	3	284	2	336	1
Back Problem/Injury	1714	4	1525	6	204	4	214	5	1024	6	886	6	308	4	263	6	178	4	162	6
Cut/Scrape/Puncture Wound	1665	5	1907	4	186	5	240	4	1052	4	1124	4	269	5	326	4	158	6	217	4
Toe, Foot, Ankle Problem/Injury	1613	6	1698	5	185	6	201	6	1044	5	1043	5	225	6	291	5	159	5	163	5
Finger, Hand, Wrist Problem/Injury	1103	7	1168	7	118	7	165	7	723	7	711	7	158	8	165	8	104	7	127	7
Swallowed Object	918	8	907	8	109	8	115	8	503	8	529	8	203	7	174	7	103	8	89	8

Table 2. HealthLink Calls due to injury in residents of Vancouver Coastal Health (VCH) and health service delivery areas. Rates per 100 calls.

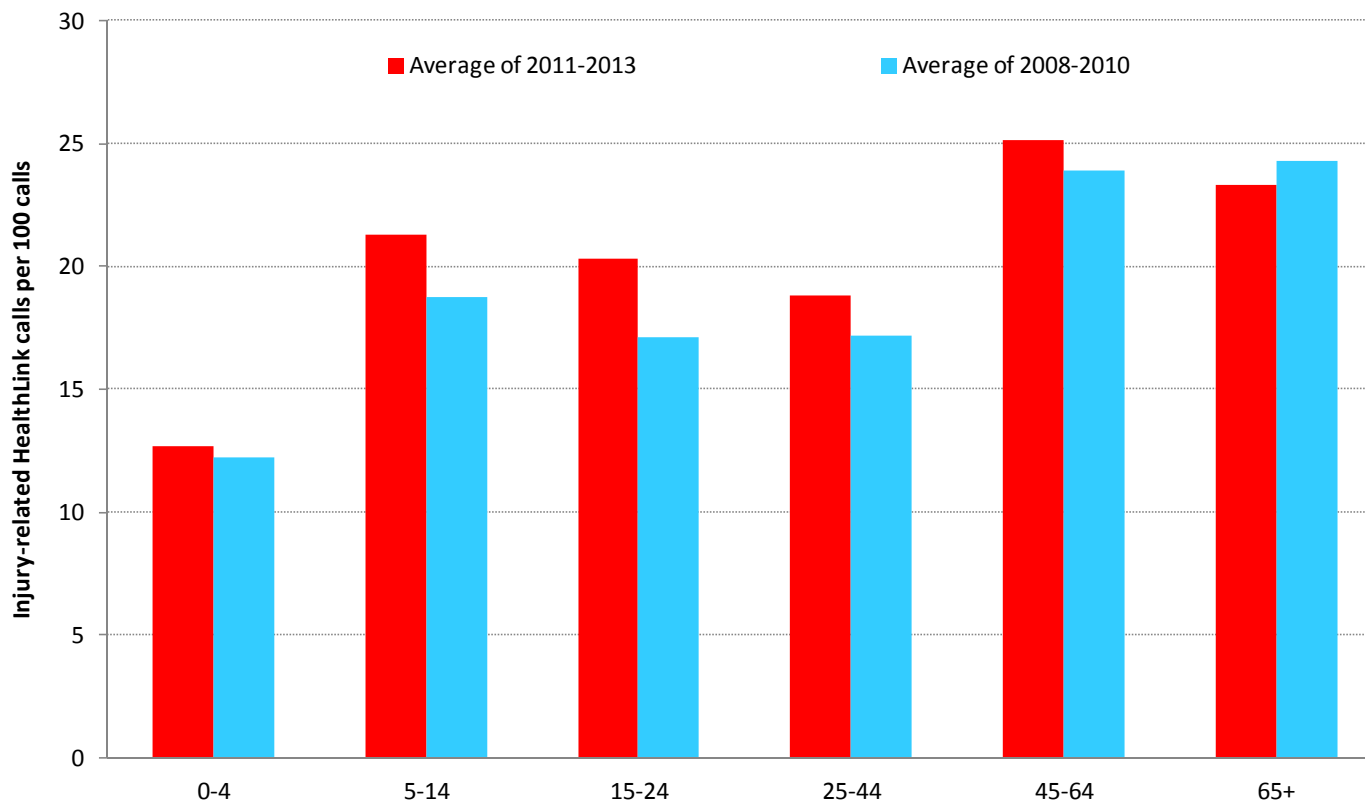
Triage Problem	VCH				Richmond				Vancouver				Coastal Urban				Coastal Rural			
	2011-2013		2008-2010		2011-2013		2008-2010		2011-2013		2008-2010		2011-2013		2008-2010		2011-2013		2008-2010	
	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank	Rate	Rank
Head Injury	3.1	1	2.6	1	2.7	1	2.4	1	3.1	1	2.6	1	3.3	1	3.1	1	2.9	1	2.3	3
Arm/Leg Problem/Injury	2.4	2	2.3	2	2.3	2	2.3	2	2.4	2	2.3	2	2.4	2	2.3	2	2.6	3	2.7	2
Bite/Sting	1.8	3	1.9	3	1.6	3	1.6	3	1.7	3	1.8	3	1.8	3	1.7	3	2.9	2	3.1	1
Back Problem/Injury	1.6	4	1.3	6	1.5	4	1.4	5	1.6	6	1.3	6	1.8	4	1.3	6	1.8	4	1.5	6
Cut/Scrape/Puncture Wound	1.6	5	1.7	4	1.4	5	1.5	4	1.7	4	1.6	4	1.6	5	1.7	4	1.6	6	2.0	4
Toe, Foot, Ankle Problem/Injury	1.6	6	1.5	5	1.4	6	1.3	6	1.6	5	1.5	5	1.3	6	1.5	5	1.6	5	1.5	5
Finger, Hand, Wrist Problem/Injury	1.1	7	1.0	7	0.9	7	1.1	7	1.1	7	1.0	7	0.9	8	0.8	8	1.0	7	1.2	7
Swallowed Object	0.9	8	0.8	8	0.8	8	0.7	8	0.8	8	0.8	8	1.2	7	0.9	7	1.0	8	0.8	8

Figure G1: Top eight injury-related HealthLink calls among VCH residents



* Injury-related calls are based on triage problem when patients called to HealthLink BC
 Source: HealthLink BC, Emergency and Health Services Commission.
 HealthLink BC data is current as of January 2014.

Figure G2: Injury-related HealthLink calls per 100 calls by age group among VCH residents



* Injury-related calls are based on triage problem when patients called to HealthLink BC
 Source: HealthLink BC, Emergency and Health Services Commission.
 HealthLink BC data is current as of January 2014.