

Injury Indicators for Wales:

Consultation and Agreed Indicators

Ronan A Lyons, Jane Lyons, Samantha Turner

AWISS, Swansea University

A consultation on a proposed set of injury indicators for Wales was conducted by staff from the All Wales Injury Surveillance System (AWISS) and Public Health Wales NHS Trust in the autumn of 2017.

Appendix A contains the rationale for the proposed indicators which was sent to all those involved in the consultation (Appendix B). Twenty responses to the consultation were received from Health boards, Public Health Wales staff, academics, 3rd sector organisation and experts in injury prevention from a wide range of backgrounds.

A mixture of views were expressed in the consultation, very largely in support of the proposed indicators. However, several suggestions were made including:

- Excluding a work place indicator, due to poor data recording of work place injuries in the Emergency Department Data Set (EDDS). This will be further explored as data completeness improves.
- An overlay between the child indicators for 0-7 and 0-4 years was acknowledged. However, it was decided to keep both due to coherence with different Welsh Government strategies.
- 2 poisoning related indicators were recommended: one focussed on all age groups and the other on individuals aged 0-24 years
- It was recommended to extend the proposed self harm indicator to 10-24 years.
- A proposal to include a drowning related indicator was not supported due to small numbers.
- A proposal for an intimate partner violence indicator was not included as current data sources across Wales do not reliably capture information on the aggressor. This will be further explored as data completeness improves.

Following a meeting between Professor Ronan Lyons and Dr Ciaran Humphreys, the final list of indicators were agreed (listed in **Table 1**), including four injury related Public Health Outcomes Framework (PHOF) indicators (hip fractures, all injury deaths, deaths from road traffic incidents, and deaths from suicide). It was agreed all indicators would be presented as rates per 100,000 population, by year, age, gender, Health Board, Local Authority and area level deprivation. Indicators would be updated annually and made publicly available via an online tool on the AWISS website and via a succinct annual report.

Table 1: List of agreed injury indicators for Wales following consultation.

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
All Cause Injury (injuries resulting from all causes, all activities, in all locations and for all age groups)	Injury fatalities due to all cause injuries	Incidence rate per 100,000 population	Office of National Statistics (ONS) mortality dataset	Graphs presenting rates by: year, broad age group and gender, Health Board (HB), Local Authority (LA), and area level deprivation	On average, injuries result in 1,116 fatalities in Wales each year. They are the leading cause of death in younger people, with 55% of all deaths resulting from injury in 18-24 age group. The majority of injuries are preventable.	1) Measuring the Health and Well-being of a Nation 2) WHO targets and indicators for health 2020
	Emergency hospital admissions due to all cause injuries	Incidence rate per 100,000 population	Patient Episode Database for Wales (PEDW)	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	On average, injuries result in 39,934 hospital admissions in Wales each year. Hospital admissions can be used as a proxy indicator of the prevalence of serious injuries.	
	Emergency department attendances relating to all cause injuries	Incidence rate per 100,000 population	Emergency Department Data Set (EDDS) for Wales	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	On average, injuries result in 322,533 ED attendances in Wales each year. Emergency department attendances are used as a proxy of all medically attended injuries.	
	Disability Adjusted Life Years due to all cause injuries	Incidence rate per 100,000 population	ONS, PEDW and EDDS	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	DALYS are an internationally recognised metric for measuring the years of healthy life lost due to injury.	
Falls in the Elderly (65+)	Emergency hospital admissions due to falls in 65+	Incidence rate per 100,000 population	PEDW	Graphs presenting rates by: year, age and gender, HB, LA and area level deprivation	On average, falls result in 9,755 hospital admissions in adults aged 65+ in Wales each year. The risk of a fall related admissions increases in the	Falls prevention is one of four themes supported by the Older People's Commissioner in Wales http://www.ageingwellinwales.com/en/themes/falls-prevention It is also supported by Care and Repair Cymru

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
					<p>65+ age group, and is highest in the 85+ age group.</p> <p>Evidence exists for several effective fall preventative interventions.</p> <p>Most serious falls which occur in the elderly will result in a hospital admission. We have chosen to only present hospital admissions, as data relating to fall fatalities and ED attendances are less reliable. Work is continuing on improving the coding of falls in a new Emergency Department electronic record system being rolled out across Wales</p>	
Road traffic injuries (RTIs) in young adults aged 17-24	Injury fatalities due to Road Traffic Injuries in young adults aged 17-24 years	Incidence rate per 100,000 population	ONS	Graphs presenting rates by: year, age and gender, HB, LA, and area level deprivation	<p>Young adults are identified in several reports/analyses as the highest risk age group for RTIs.</p> <p>Evidence exists for several effective preventative interventions.</p>	<p>1) State of Child Health Report (17-19 age group)</p> <p>2) Road Safety Framework for Wales (16-24 age group)</p> <p>3) Identified as a high risk age group in 'Child Injuries Needs Assessment' report for Wales (17-24 age group)</p>
	Emergency hospital admissions due to Road Traffic Injuries in 17-24 age group	Incidence rate per 100,000 population	PEDW	Graphs presenting rates by: year, age and gender, HB, LA, and area level deprivation	<p>Young adults are identified in several reports/analyses as the highest risk age group for RTIs.</p> <p>Evidence exists for several effective preventative interventions.</p>	<p>1) State of Child Health Report (17-19 age group)</p> <p>2) Road Safety Framework for Wales (16-24 age group)</p> <p>3) Identified as a high risk age group in 'Child Injuries Needs Assessment' report for Wales (17-24 age group)</p>

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
Pedestrian and cycling injuries in children aged 0-16	Emergency hospital admissions due to pedestrian and cycling injuries in 0-16 year age group	Incidence rate per 100,000 population	PEDW	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	Child pedestrians are at greater risk of injury than any other age group. Several preventative interventions are in practice across Wales.	
Unintentional injuries in the home in children aged 0-7 years	Emergency department attendances due to unintentional injuries in the home in 0-7 age group in Wales	Incidence rate per 100,000 population. Also in line with Welsh Governments 'Early years outcome framework' - % of emergency department attendances in 0-7 age group which resulted from unintentional injuries in the home	EDDS	Graphs presenting rates by: year, age and gender, and area level deprivation	Unintentional injuries in the home in the 0-7 age group is a population health indicator in Welsh Governments 'Early Years Outcome Framework'	Indicator in Welsh Governments 'Early Years Outcome Framework'
Scalds and burns in children aged 0-4 years	Attendances at the Welsh Burns Unit due to burns and scalds in 0-4 age group	Incidence rate per 100,000 population	Welsh Centre for Burns and Plastic Surgery database	Graphs presenting rates by: year, gender and area level deprivation	On average, burns and scalds result in 184 attendances at the Welsh Burns Unit in children aged 0-4 in Wales each year. Burns can result in severe injuries and treatment can be very costly. Children in the 0-4 age group have been identified as a high risk group in AWISS analyses. Several effective interventions exist.	

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
Self-harm children and young adults (10-24 years)	Injury fatalities due to self-harm in young people aged 10-24 years	Incidence rate per 100,000 population	ONS	Graphs presenting rates by: year, gender, HB, LA, and area level deprivation	Suicide takes an enormous toll on the mental and physical well-being of family members and friends of the victim. The 15-19 age group are at greatest risk of suicide in Wales.	1) State of Child Health report (15-19 age group) 2) Identified as a high risk age group in the 'Child Injuries Needs Assessment' report for Wales (17-24)
	Hospital admissions due to self-harm in young people aged 10-24 years	Incidence rate per 100,000 population	PEDW	Graphs presenting rates by: year, gender, HB, LA and area level deprivation	The 15-19 age group are at greatest risk of self-harm in Wales.	1) State of Child Health report (15-19 age group) 2) Identified as a high risk age group in the 'Child Injuries Needs Assessment' report for Wales (17-24)
Poisoning in all age groups and 0 – 24 years	Emergency Department attendances due to poisoning in children and young people aged 0-24 years and all ages	Incidence rate per 100,000 population	EDDS	Graphs presenting rates by: year, gender, HB, LA and area level deprivation	Poisoning is the third leading cause of unintentional injury death in the WHO European Region. Each year 3,000 young children aged 0 to 14 die of acute poisoning. Inclusion recommended by several of the stakeholders; poisonings peak in 10-24 age group with approximately 7 admissions in this age group per day across Wales.	The European Child Safety Alliance produced a childhood poisoning factsheet which recommended "poison centres in Europe standardise and link their data on poisoning injuries in order to make recent statistics available and detailed"
	Hospital admissions due to poisoning in children and young people aged 0-24 years and all ages	Incidence rate per 100,000	PEDW	Graphs presenting rates by: year, gender, HB, LA and area level deprivation	Poisoning is the third leading cause of unintentional injury death in the WHO European Region. Each year 3,000 young children aged 0 to 14 die of acute poisoning. Inclusion recommended by several of the stakeholders; poisonings peak in 10-24 age group with approximately 7 admissions in this age group per day across Wales.	The European Child Safety Alliance produced a childhood poisoning factsheet which recommended "poison centres in Europe standardise and link their data on poisoning injuries in order to make recent statistics available and detailed"

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
Assaults in all age groups	Hospital admissions due to assault in all age groups	Incidence rate per 100,000	PEDW	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	Homicide and violence related injury takes an enormous toll on the mental and physical well-being of family members and friends of the victim.	Target 16.1 in the 17 Sustainable Development Goals (SDG) in the 2030 UN Agenda for Sustainable Development: Significantly reduce all forms of violence and related deaths everywhere
Home and leisure injuries in all age groups (European Core Health Indicator 29b)	ED and hospital admissions due to home and leisure injuries in all age groups (SUBTRACTION METHOD: All injuries minus Road Traffic Injuries, Self-Harm and Assaults)	Incidence rate per 100,000	EDDS. Comparable data available for a number of countries from the European Injury Data Base (IDB) Minimum Data Set	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	In 2014, 316,790 injuries occurred in the home or during leisure, which required an ED attendance and 31302 injuries occurring in the home or during leisure required an admission to hospital. This indicator is included in the European Commission's Core Health Indicators. Data from the European Injury Data Base will be utilised so that results are comparable to countries across Europe	A European Core Health Indicator
Road traffic injuries in all age groups (European Core Health Indicator 30b)	ED and hospital admissions due to RTIs in all age groups	Incidence rate per 100,000	EDDS. Comparable data available for a number of countries from the European Injury Data Base (IDB) Minimum Data Set	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	In 2014, 8006 road traffic injuries required an ED attendance and 2746 road traffic injuries required an admission to hospital. This indicator is included in the European Commission's Core Health Indicators. Data from the European Injury Data Base will be utilised so that results are	A European Core Health Indicator

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
					comparable to countries across Europe.	
PHOF: Hip fractures among older people	Emergency hospital admissions in those aged 65 and over where the admitting episode has a primary diagnosis of hip fracture.	European age-standardised rate per 100,000 population	PEDW and mid-year population estimates, Office for National Statistics (ONS)	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	Used by Public Health observatories across UK	
PHOF: Injury related deaths	Counts of deaths where the underlying cause of death is an injury	European age-standardised rate per 100,000 population	Public Health Mortality (PHM), Office for National Statistics and mid-year population estimates, ONS	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	Used by Public Health observatories across UK	
PHOF: Road Traffic injury deaths	Deaths from transport accidents or from sequelae of transport accidents	European age-standardised rate per 100,000 population	Public Health Mortality (PHM), Office for National Statistics and mid-year population estimates, ONS	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	Used by Public Health observatories across UK	
PHOF: Suicide	Deaths from intentional self-harm aged 10+ and from intentional self-harm or injury/poisoning of undetermined intent aged 15+	European age-standardised rate per 100,000 population	Public Health Mortality (PHM), Office for National Statistics and mid-year population estimates, ONS	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	Used by Public Health observatories across UK	

Appendix A

Proposed Injury Indicators for Wales

The purpose of this document is to consult with organisations and individuals with an interest in or remit for the prevention of injuries around the development and production of a core set of injury indicators for Wales. A list of consultees is provided in the appendix. Population health indicators, as summarised in the NHS and Association of Public Health Observatories (APHOs) document 'The Good Indicators Guide: Understanding how to use and choose indicators'[1] are:

- Succinct measures that aim to describe as much about a system as possible in as few points as possible
- Measures which help us to understand a system, compare and improve it

How were the indicators selected?

Selection Criteria

The selection criteria detailed in the Welsh Government and Public Health Wales (PHW) reports 'Public Health Outcomes Framework for Wales' [2] and Early Years Outcomes Framework [3] were utilised in the selection of our proposed injury indicators. The Public Health Outcomes Framework contains only four injury indicators, limited to one for morbidity (hip fractures) and three for mortality (overall injuries; road traffic, and suicide). These are insufficient to monitor and support preventive efforts. Our additional indicators are based upon consideration of a number of factors:

- Outcomes which are important to the health and well-being of the people of Wales
- Align with Welsh Government Policy
- Be amenable to interventions from public and other bodies that will lead to improved health and well-being, and reduce health inequalities
- Be limited in number in order to be manageable
- Form a coherent set, justified by rationale and evidence bases.
- Be capable of being summed up briefly in a way that will be readily understood by all.

- Where possible, be able to show important variation between areas and detect changes over time
- Be able to be produced in a timely way
- Where possible, be comparable with similar measures used outside of Wales
- Be statistically appropriate
- Utilise existing data collection systems where possible

Key Priority Areas in Wales

The All Wales Injury Surveillance System (AWISS) based in the Farr Institute at Swansea University, was requested to formulate list of key injury indicators, to improve injury surveillance and support injury prevention programs and policies throughout Wales. [4]

The first stage in the selection process was to identify key injury issues in Wales.

Injury is a leading cause of premature mortality, morbidity and disability across the globe, contributing to 8% of Disability Adjusted Life Years in the Global Burden of Diseases Study [5], however, this figure is likely to be underestimating the burden of injury due to the absence of long term disability weights for many diagnoses.

In Wales, injury is the leading cause of death between 1 and 45 years of age. 10% of people attend Emergency Departments with an injury each year (2009-2014 average) [6]. Treating injuries occupied 274,388 number of hospital beds in Wales in 2014.

There is increasing evidence that many people do not fully recover after injury and given the frequency of occurrence of injury it is a substantial contributor to musculoskeletal disability [7, 8] Post-traumatic stress disorder, other mental health conditions, and negative coping behaviours that increase the risk of earlier development of chronic physical disorders are also quite common following injury [9]

The 2012 Wales Burden of Injury Study revealed that some 50,000 healthy years of life are lost due to injuries, with an estimated societal cost of £1.52B, using standard NHS thresholds to evaluate the cost effectiveness of new treatments.

After discussions with Public Health Wales on a wide range of potential indicators the number was reduced to the listed below.

The selection of these overarching issues were predominantly based issues identified in government/international reports, high risk injury groups in Wales, injury types contributing the greatest overall burden to health in Wales, and injury types whereby effective preventable interventions have been demonstrated. Ten key issues were identified:

1. All cause injury
2. Falls in the elderly (65+)
3. Road traffic injuries in young adults (aged 17-24)
4. Pedestrian and cycling injuries in children aged 0-16
5. Injuries in the home children aged 0-7 years

6. Scalds and burns in children aged 0-4 years
7. Self-harm in children and young adults (15-19 years)
8. Assaults in all age groups
9. Home and leisure injuries in all age groups (European Core Health Indicator 29b)
10. Road traffic injuries in all age groups (European Core Health Indicator 30b)

The selection criteria was then used to propose specific indicators for these over-arching issues.

Who will produce the indicator figures?

The indicator figures will be produced by the All Wales Injury Surveillance System (AWISS) based at the Farr Institute of Health Informatics Research at Swansea University. AWISS will also produce a methodology report detailing the selection criteria and meta-data for each indicator.

How will the indicators be measured?

The majority of the injury indicators will be reported as an incidence rate per 100,000 population; both as crude and European Age Standardised Rates (EASRs). Injuries in children aged 0-7 in the home will also be reported as a proportion of all Emergency Department (ED) attendances, as this outcome indicator is specifically mentioned in Welsh Governments 'Early Years Outcome Framework' [3].

In what format will the indicators be presented?

Where possible, indicators will be presented by year (to monitor trends), age group and gender (to monitor high risk groups), Health Board (HB), Local Authority (LA - to identify high risk areas) and area level deprivation (to monitor inequalities).

What data sources will be used?

Existing data collection systems accessible to the AWISS team will be utilised, including: the Office for National Statistics (ONS) fatality data, hospital inpatient data, emergency department attendance data, attendance data from the Welsh Centre for Burns unit and the European Injury Data Base (IDB). The IDB is a European standardised database based on injury related Emergency Department (ED) attendances, which enables injury incidence to be compared in countries across Europe. The IDB is made up of two datasets; the Minimum Data Set (IDB-MDS) and the Full Data Set (IDB-FDS).

How often will the indicator figures be updated?

The indicator figures will initially be updated on an annual basis, with the potential in the future to be updated on a 6 monthly/quarterly basis.

Where will I be able to access the indicator figures?

An online interactive tool will be developed, enabling users to select their indicator of interest and presentation format (e.g. graphical display and tabular results by year, age & gender, HB, LA and area level deprivation). Through the online tool it will be possible to download the chart and tabular results of interest, as well as the full results spreadsheet containing rates for all indicators and presentation types.

Proposed Injury Indicators

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
All Cause Injury (injuries resulting from all causes, all activities, in all locations and for all age groups)	Injury fatalities due to all cause injuries	Incidence rate per 100,000 (Crude & European Age Standardised Rate (EASR))	Office of National Statistics (ONS) – national dataset	Graphs presenting rates by: year, broad age group and gender, Health Board (HB), Local Authority (LA), and area level deprivation	On average, injuries result in 1,116 fatalities in Wales each year. They are the leading cause of death in younger people, with 55% of all deaths resulting from injury in 18-24 age group. The majority of injuries are preventable.	1) Measuring the Health and Well-being of a Nation 2) WHO targets and indicators for health 2020
	Emergency hospital admissions due to all cause injuries	Incidence rate per 100,000 (Crude & EASR)	Patient Episode Database for Wales (PEDW) – national dataset	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	On average, injuries result in 39,934 hospital admissions in Wales each year. Hospital admissions can be used as a proxy indicator of the prevalence of serious injuries.	
	Emergency department attendances relating to all cause injuries	Incidence rate per 100,000 (Crude & EASR)	Emergency Department Data Set (EDDS) for Wales – national dataset	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	On average, injuries result in 322,533 ED attendances in Wales each year. Emergency department attendances are used as a proxy of all medically attended injuries.	
	Disability Adjusted Life Years due to all cause injuries	Incidence rate per 100,000 (Crude & EASR)	ONS, PEDW and EDDS	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	DALYS are an internationally recognised metric for measuring the years of healthy life lost due to injury.	
Falls in the Elderly (65+)	Emergency hospital admissions due to falls in 65+	Incidence rate per 100,000 (Crude & EASR)	PEDW	Graphs presenting rates by: year, age and gender (65-84, 85+), HB, LA and area level deprivation	On average, falls result in 9,755 hospital admissions in adults aged 65+ in Wales each year. The risk of a fall related admissions increases in the	Falls prevention is one of four themes supported by the Older People's Commissioner in Wales http://www.ageingwellinwales.com/en/themes/falls-prevention

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
					<p>65+ age group, and is highest in the 85+ age group.</p> <p>Evidence exists for several effective fall preventative interventions.</p> <p>Most serious falls which occur in the elderly will result in a hospital admission. We have chosen to only present hospital admissions, as data relating to fall fatalities and ED attendances are less reliable. Work is continuing on improving the coding of falls in a new Emergency Department electronic record system being rolled out across Wales</p>	
Road traffic injuries (RTIs) in young adults aged 17-24	Injury fatalities due to Road Traffic Injuries in young adults aged 17-24 years	Incidence rate per 100,000 (Crude & EASR)	ONS	Graphs presenting rates by: year, age and gender (17 -19, 20-24), HB, LA, and area level deprivation	<p>Young adults are identified in several reports/analyses as the highest risk age group for RTIs.</p> <p>Evidence exists for several effective preventative interventions.</p>	<p>1) State of Child Health Report (17-19 age group)</p> <p>2) Road Safety Framework for Wales (16-24 age group)</p> <p>3) Identified as a high risk age group in 'Child Injuries Needs Assessment' report for Wales (17-24 age group)</p>
	Emergency hospital admissions due to Road Traffic Injuries in 17-24 age group	Incidence rate per 100,000 (Crude & EASR)	PEDW	Graphs presenting rates by: year, age and gender (17-19, 20-24), HB, LA, and area level deprivation	<p>Young adults are identified in several reports/analyses as the highest risk age group for RTIs.</p> <p>Evidence exists for several effective preventative interventions.</p>	<p>1) State of Child Health Report (17-19 age group)</p> <p>2) Road Safety Framework for Wales (16-24 age group)</p> <p>3) Identified as a high risk age group in 'Child Injuries Needs Assessment' report for Wales (17-24 age group)</p>

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
Pedestrian and cycling injuries in children aged 0-16	Emergency hospital admissions due to pedestrian and cycling injuries in 0-16 year age group	Incidence rate per 100,000 (Crude & EASR)	PEDW	Graphs presenting rates by: year, 5 year age group and gender (0-4, 5-11, 12-16), HB, LA and area level deprivation	Child pedestrians are at greater risk of injury than any other age group. Several preventative interventions are in practice across Wales.	
Unintentional injuries in the home in children aged 0-7 years	Emergency department attendances due to unintentional injuries in the home in 0-7 age group in Wales	Incidence rate per 100,000 (Crude & EASR) Also in line with Welsh Governments 'Early years outcome framework' - % of emergency department attendances in 0-7 age group which resulted from unintentional injuries in the home	Emergency Department Data Set (EDDS) for Wales – national dataset	Graphs presenting rates by: year, age and gender (0-4, 5-7), and area level deprivation	Unintentional injuries in the home in the 0-7 age group is a population health indicator in Welsh Governments 'Early Years Outcome Framework'	Indicator in Welsh Governments 'Early Years Outcome Framework'
Scalds and burns in children aged 0-4 years	Attendances at the Welsh Burns Unit due to burns and scalds in 0-4 age group	Incidence rate per 100,000 (Crude & EASR)	Welsh Centre for Burns and Plastic Surgery database	Graphs presenting rates by: year, gender and area level deprivation	On average, burns and scalds result in 184 attendances at the Welsh Burns Unit in children aged 0-4 in Wales each year. Burns can result in severe injuries and treatment can be very costly. Children in the 0-4 age group have been identified as a high risk group in AWISS analyses. Several effective interventions exist.	

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
Self-harm children and young adults (15-19 years)	Injury fatalities due to self-harm in young people aged 15-19 years	Incidence rate per 100,000 (Crude & EASR)	ONS	Graphs presenting rates by: year, gender, HB, LA, and area level deprivation	Suicide takes an enormous toll on the mental and physical well-being of family members and friends of the victim. The 15-19 age group are at greatest risk of suicide in Wales.	1) State of Child Health report (15-19 age group) 2) Identified as a high risk age group in the 'Child Injuries Needs Assessment' report for Wales (17-24)
	Hospital admissions due to self-harm in young people aged 15-19 years	Incidence rate per 100,000 (Crude & EASR)	PEDW	Graphs presenting rates by: year, gender, HB, LA and area level deprivation	The 15-19 age group are at greatest risk of self-harm in Wales.	1) State of Child Health report (15-19 age group) 2) Identified as a high risk age group in the 'Child Injuries Needs Assessment' report for Wales (17-24)
Assaults in all age groups	Hospital admissions due to assault in all age groups	Incidence rate per 100,000 (Crude & EASR)	PEDW	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	Homicide and violence related injury takes an enormous toll on the mental and physical well-being of family members and friends of the victim.	Target 16.1 in the 17 Sustainable Development Goals (SDG) in the 2030 UN Agenda for Sustainable Development: Significantly reduce all forms of violence and related deaths everywhere
Home and leisure injuries in all age groups (European Core Health Indicator 29b)	ED and hospital admissions due to home and leisure injuries in all age groups (SUBTRACTION METHOD: All injuries minus Road Traffic Injuries, Self-Harm and Assaults)	Incidence rate per 100,000 (Crude & EASR)	Emergency Department Data Set (EDDS) for Wales – national dataset and European Injury Data Base (IDB) Minimum Data Set	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	In 2014, 316,790 injuries occurred in the home or during leisure, which required an ED attendance and 31302 injuries occurring in the home or during leisure required an admission to hospital. This indicator is included in the European Commission's Core Health Indicators. Data from the European Injury Data Base will be utilised so that results are comparable to countries across Europe	A European Core Health Indicator

Overarching Injury Issue	Specific Indicator	Measure	Data Source	Presentation format	Brief Justification	Relevant targets/indicators
Road traffic injuries in all age groups (European Core Health Indicator 30b)	ED and hospital admissions due to RTIs in all age groups	Incidence rate per 100,000 (Crude & EASR)	Emergency Department Data Set (EDDS) for Wales – national dataset and European Injury Data Base (IDB) Minimum Data Set	Graphs presenting rates by: year, 5 year age group and gender, HB, LA and area level deprivation	<p>In 2014, 8006 road traffic injuries required an ED attendance and 2746 road traffic injuries required an admission to hospital.</p> <p>This indicator is included in the European Commission's Core Health Indicators.</p> <p>Data from the European Injury Data Base will be utilised so that results are comparable to countries across Europe.</p>	A European Core Health Indicator

References

- 1 Pencheon D. The Good Indicators Guide: Understanding how to use and choose indicators. NHS Institute for Innovation and Improvement; Coventry: 2007. <http://www.apho.org.uk/resource/view.aspx?RID=44584>
- 2 Measuring the health and well-being of a nation Public Health Outcomes Framework for Wales. Public Health Wales: 2016. <http://gov.wales/docs/phhs/publications/160329frameworken.pdf>
- 3 Early Years Outcomes Framework. Welsh Government: 2015. <http://gov.wales/docs/dcells/publications/150916-early-years-outcomes-framework-en.pdf> (accessed 26 Apr2016).
- 4 Lyons RA, Turner S, Lyons J, Walters A, Snooks HA, Greenacre J, Humphreys C, Jones SJ. All Wales Injury Surveillance System revised: development of a population based system to evaluate single and multi-level interventions. *Inj Prev* 2015;0:1-6. Published Online First: [09/12/15] doi:10.1136/injuryprev-2015-041814 <http://injuryprevention.bmj.com/content/early/2015/12/09/injuryprev-2015-041814.full>
- 5 UK health performance: findings of the Global Burden of Disease Study 2010. *The Lancet* 2013; 381:997-1020. [http://dx.doi.org/10.1016/S0140-6736\(13\)60355-4](http://dx.doi.org/10.1016/S0140-6736(13)60355-4)
- 6 Preventing Child Injuries in Wales: Needs Assessment Report. Swansea University 2016.

7. Gabbe BJ, et al. Association between the number of injuries sustained and 12-month disability outcomes: evidence from the INJURY-VIBES study. PLoS ONE 9(12): e113467. doi:10.1371/
8. Gabbe BJ, et al. Long-term health status and trajectories of seriously injured patients: a population based longitudinal study. PLoS Med 2017 (due out 5th July).
9. Lyons RA, Finch CF, McClure R, van Beeck E, Macey S. The Injury LOAD Framework- conceptualising the full range of deficits and adverse outcomes following injury and violence. Int J Inj Contr Saf Promot. 2010;17(3):145-159. DOI: 10.1080/17457300903453104. <http://www.tandfonline.com/doi/abs/10.1080/17457300903453104>

Acknowledgements

The authors would like to thank Public Health Wales who funded this report as part of its continuing support towards injury prevention. The views in this report are entirely those of the authors and should not be assumed to be the same as those of Public Health Wales.

Appendix B

Injury Indicators Consultees

Public Health Wales Executive Team

Aidan Fowler - Director for NHS Quality Improvement and Patient Safety

Chrissie Pickin - Executive Director of Health and Wellbeing

Huw George - Deputy Chief Executive and Director of Operations & Finance

Mark Bellis - Director of Policy Research and Development

Phil Bushby - Director of People and Organisational Development

Quentin Sandifer - Executive Director Public Health Services and Medical Director

Rhiannon Beaumont-Wood - Executive Director of Quality, Nursing and Allied Health Prof

Tracey Cooper - Chief Executive

Health Boards in Wales - Directors of Public Health

Catherine Woodward (Powys Teaching Health Board)

Fiona Kinghorn (Cardiff and Vale UHB - Public Health Wales)

Kelechi Nnoaham (Cwm Taf LHB - Executive Directorate)

Ros Jervis (Hywel Dda UHB - Director of Public Health)

Sandra Husbands (ABM ULHB - Public Health Wales - Health Protection)

Sarah Aitken (Aneurin Bevan UHB - Public Health Wales)

Teresa Owen (BCUHB - Corporate Office)

Welsh Government

Dr Heather Payne

Ms Janette Cooper

Mr Roger Perks

Ms Catherine Bridges

Mr Irfon Rees

Ms Lynne Regan

Mr Stephan Wall

Organisations and individuals with a particular interest in injury control

Ms Julie Barrett, Chartered Institute of Environmental Health

Ms Catriona Williams, Children in Wales

Ms Karen McFarlane, Children in Wales

Ms Katrina Phillips, Child Accident Prevention Trust

Mr Errol Taylor, Royal Society for the Prevention of Accidents

Mr Ian Thomas, Age Concern Cymru

Dr Antony Johansen, Lead National Hip Fracture Database, Royal College of Physicians

Prof Ann John, Swansea University (self-harm/suicide)

Prof Tom Potokar, Wales Centre for Burns and Plastic Surgery (burns/scalds)

Dr Sarah Jones, Public Health Wales (injuries/road traffic injuries)

Prof Simon Moore (Cardiff University) (violence)