

Additional file 1 to Tainio et al. 2014 (BMC Public Health).

Table S1: Disability weights and duration of injury for different injury types (Begg and Tomijima 2006). For the injuries with duration of 'lifelong', the duration is same as the expected life expectancy of the person with same age and gender (see Table S3, Additional file 2).

Injury type	Disability weight	Duration (year)
Fractured skull	0.431	0.107
Fractured skull (lifelong)	0.361	Lifelong
Fractured face bones	0.223	0.118
Fractured vertebral column	0.226	0.14
Fractured rib or sternum	0.199	0.115
Fractured pelvis	0.247	0.126
Fractured clavicle, scapula or humerus	0.143	0.112
Fractured radius or ulna	0.18	0.112
Fractured hand bones	0.1	0.07
Fractured femur	0.372	0.14
Fractured femur (lifelong)	0.272	Lifelong
Fractured patella, tibia or fibula	0.271	0.09
Fractured ankle	0.196	0.096
Fractured foot bones	0.077	0.073
Injured spinal cord (lifelong)	0.725	Lifelong
Dislocations shoulder, elbow or hip	0.074	0.034
Dislocations other dislocation	0.074	0.019
Sprains	0.064	0.038
Intracranial injuries	0.359	0.067
Intracranial injuries (lifelong)	0.361	Lifelong
Internal injuries	0.208	0.042
Open wound	0.108	0.024
Injury to eyes	0.108	0.019
Injury to eyes (lifelong)	0.299	Lifelong
Amputations, thumb, finger (lifelong)	0.134	Lifelong
Amputations, arm (lifelong)	0.257	Lifelong
Amputations, toe (lifelong)	0.102	Lifelong
Amputations, foot, leg (lifelong)	0.3	Lifelong
Crushing	0.218	0.094
Burns <20%	0.158	0.083
Burns >20% (lifelong)	0.255	Lifelong
Burns <20% (lifelong)	0.001	Lifelong
Burns >20%	0.441	0.279
Injured nerves (lifelong)	0.064	Lifelong
Poisoning	0.909	0.008

Table S2: Description of the transport modes used in the study. Number in the parenthesis refers to the STRADA code of the mode.

Mode of transport	Sub-modes
Pedestrian	Pedestrian (10)
Bicycle	Bicycle (20)
Other active travel mode	Roller skates (11), wheel chair (12), skateboard (13), kick bike (14, 15) and other pedestrian (16)
Moped	Moped (30) and scooter (31)
Motorcycle	Motorcycle (40), heavy motorcycle (41) and light motorcycle (42)
Car	Passenger car (50) and minivan (51)
Truck	Truck (60), heavy truck (61) and light truck (62)
Bus	Bus (70)
Other, unknown, missing	Other (80), snowmobile (81), tram (82), tractor (83), train (84), rider (85), all-terrain vehicle (86), unknown (90), missing (0)

Table S3: Remaining life expectancy at different age and gender. The life expectations are based on a model life table, called Coale and Demeny West level 26 (Murray 1994). Life expectancy data was used to calculate the loss of life expectancy (YLL) and the duration of injuries for lifelong injuries.

	Life expectancy			Life expectancy	
Age	Male	Female	Age	Male	Female
0	80.00	82.50	51	30.06	33.07
1	79.36	81.84	52	29.12	32.14
2	78.36	80.87	53	28.19	31.22
3	77.37	79.90	54	27.26	30.29
4	76.38	78.92	55	26.32	29.37
5	75.38	77.95	56	25.42	28.46
6	74.39	76.96	57	24.52	27.55
7	73.39	75.97	58	23.61	26.65
8	72.39	74.97	59	22.71	25.74
9	71.40	73.98	60	21.81	24.83
10	70.40	72.99	61	20.95	23.95
11	69.40	72.00	62	20.09	23.07
12	68.41	71.00	63	19.22	22.20
13	67.41	70.01	64	18.36	21.32
14	66.41	69.01	65	17.50	20.44
15	65.41	68.02	66	16.71	19.59
16	64.42	67.03	67	15.93	18.74
17	63.42	66.04	68	15.15	17.90
18	62.43	65.06	69	14.36	17.05
19	61.43	64.07	70	13.58	16.20
20	60.44	63.08	71	12.89	15.42
21	59.44	62.10	72	12.21	14.63
22	58.45	61.12	73	11.53	13.85
23	57.46	60.13	74	10.85	13.06
24	56.46	59.15	75	10.17	12.28
25	55.47	58.17	76	9.62	11.60
26	54.48	57.19	77	9.08	10.93
27	53.49	56.21	78	8.53	10.25
28	52.50	55.23	79	7.99	9.58
29	51.50	54.25	80	7.45	8.90
30	50.51	53.27	81	7.01	8.36
31	49.52	52.29	82	6.56	7.83
32	48.53	51.31	83	6.12	7.29
33	47.54	50.34	84	5.68	6.76
34	46.55	49.36	85	5.24	6.22
35	45.57	48.38	86	4.90	5.83

36	44.58	47.41	87	4.56	5.43
37	43.60	46.44	88	4.22	5.04
38	42.61	45.47	89	3.88	4.64
39	41.63	44.50	90	3.54	4.25
40	40.64	43.53	91	3.30	3.98
41	39.67	42.57	92	3.05	3.71
42	38.69	41.61	93	2.80	3.43
43	37.72	40.64	94	2.56	3.16
44	36.74	39.68	95	2.31	2.89
45	35.77	38.72	96	2.14	2.71
46	34.81	37.77	97	1.97	2.53
47	33.86	36.83	98	1.80	2.36
48	32.90	35.88	99	1.63	2.18
49	31.95	34.94	100	1.46	2.00
50	30.99	33.99			

Table S4: DALYs, YLDs and YLLs due to transport injuries and fatalities in Sweden in 2007-2011. The YLDs in the 'YLD (Sweden)' row are adjusted for the data coverage. See text for details.

Year	2007	2008	2009	2010	2011	Average
Population of Sweden	9,147,057	9,216,748	9,256,347	9,340,682	9,415,570	9,275,281
YLD (based on data)	5,589	7,513	6,073	7,756	6,422	-
Coverage of population in injury data	64%	70%	74%	82%	89%	-
YLD (Sweden)	8,713	10,762	8,193	9,485	7,251	8,881
YLL (Sweden)	17,531	14,273	13,030	9,748	11,182	13,153
DALY (Sweden) (YLD+YLL)	26,244	25,036	21,223	19,233	18,433	22,034
Percentage of DALYs due to YLDs	33%	43%	39%	49%	39%	41%
YLDs per 100 000 inhabitants	95	117	89	102	77	96
YLLs per 100 000 inhabitants	192	155	141	104	119	142

Table S5: Contribution of lifelong and temporal injuries to total YLDs in Sweden.

Injury type	Number of injuries		YLDs	
	#	%	YLDs	%
Lifelong injury	2,167	2%	31,900	96%
Temporal injury	121,206	98%	1,454	4%
All injuries	123,373	100%	33,354	100%

Table S6: Average DALYs, YLDs and YLLs in Sweden due to injuries (YLDs) and fatalities (YLLs) sustained in different mode of transport. The results are averaged over the five study years. YLDs presented in this table are adjusted for the data coverage. See text for details.

Mode of transport	YLD (injury)	YLL (deaths)	DALY (YLD+YLL)	% (DALY)
Pedestrian	1,391	1,237	2,628	12%
Bicycle	1,933	636	2,569	12%
Other active travel mode	109	0	109	0%
Moped	870	505	1,375	6%
Motorcycle	816	2,038	2,855	13%
Car	3,378	7,811	11,189	51%
Truck	113	537	650	3%
Bus	66	75	141	1%
Other, unknown, missing	205	313	518	2%
Total	8,881	13,153	22,034	100%

Table S7: The average and median YLDs (SD = standard deviation) per injured person for different mode of transport and gender (temporal injuries).

Mode of transport	YLD per injured person (male)			YLD per injured person (female)		
	Average	Median	SD	Average	Median	SD
Pedestrian	0.0143	0.0160	0.0127	0.0164	0.0202	0.0114
Bicycle	0.0129	0.0070	0.0115	0.0134	0.0160	0.0116
Other active travel mode	0.0123	0.0070	0.0107	0.0144	0.0160	0.0116
Moped	0.0115	0.0056	0.0115	0.0087	0.0026	0.0100
Motorcycle	0.0148	0.0160	0.0120	0.0132	0.0070	0.0111
Car	0.0077	0.0024	0.0103	0.0065	0.0024	0.0093
Truck	0.0092	0.0026	0.0112	0.0079	0.0024	0.0098
Bus	0.0096	0.0026	0.0116	0.0124	0.0026	0.0133
Other, unknown, missing	0.0133	0.0070	0.0127	0.0135	0.0070	0.0122
Average	0.0114	0.0026	0.0118	0.0126	0.0070	0.0116

Table S8: The average and median YLDs (SD = standard deviation) per injured person for different age categories and gender (lifelong injuries). For graphical presentation of averages YLDs, see Figure 1.

Age category	YLD per injured person (male)			YLD per injured person (female)			Number of lifelong injuries (male)	Number of lifelong injuries (female)
	Average	Median	SD	Average	Median	SD		
0-9	24.3	27.2	7.3	29.6	28.1	7.3	12	14
10-19	23.1	22.9	6.9	26.4	24.2	8.3	227	115
20-29	22.2	20.4	8.7	25.9	22.1	9.5	258	102
30-39	17.1	16.1	6.7	21.2	18.2	8.0	178	71
40-49	15.1	13.3	5.6	16.3	14.3	6.1	161	70
50-59	10.4	9.5	3.2	11.7	10.6	4.3	175	93
60-69	6.9	6.6	2.2	8.3	7.7	2.7	171	114
70-79	4.0	3.9	1.0	4.8	4.7	1.4	122	111
80+	2.1	2.1	0.5	2.4	2.4	0.7	97	76

Table S9: Percentage of different injuries in different modes of transport.

Injury type	Pedestrian	Bicycle	Other active travel mode	Moped	Motor-cycle	Car	Truck	Bus	Other, unknown, missing
Fractured skull	0.2%	0.5%	0.7%	0.3%	0.5%	0.2%	0.5%	0.3%	0.6%
Fractured skull (lifelong)	0.1%	0.1%	0.2%	0.1%	0.2%	0.1%	0.2%	0.1%	0.0%
Fractured face bones	2.3%	5.3%	2.7%	1.9%	1.6%	1.4%	1.8%	1.3%	2.0%
Fractured vertebral column	0.8%	1.1%	0.4%	1.0%	5.4%	3.7%	6.3%	4.5%	4.4%
Fractured rib or sternum	1.0%	1.9%	0.7%	1.6%	7.4%	3.2%	3.5%	3.8%	3.5%
Fractured pelvis	1.3%	1.0%	0.5%	0.6%	1.7%	0.6%	1.1%	1.3%	1.7%
Fractured clavicle, scapula or humerus	8.4%	7.9%	7.5%	6.4%	10.0%	0.9%	2.0%	3.8%	5.9%
Fractured radius or ulna	24.9%	13.2%	23.2%	6.0%	6.1%	0.8%	1.4%	4.4%	8.1%
Fractured hand bones	4.9%	6.6%	8.7%	4.8%	6.6%	0.9%	1.1%	2.6%	4.5%
Fractured femur	4.1%	2.1%	2.1%	1.7%	2.1%	0.5%	0.6%	3.3%	2.8%
Fractured femur (lifelong)	0.1%	0.1%	0.0%	0.6%	1.2%	0.2%	0.3%	0.1%	0.6%
Fractured patella, tibia or fibula	7.0%	3.3%	3.4%	4.9%	7.7%	0.7%	1.1%	2.1%	3.5%
Fractured ankle	5.0%	1.4%	1.8%	1.7%	2.5%	0.2%	0.2%	0.7%	2.0%
Fractured foot bones	1.6%	1.1%	1.7%	2.7%	3.0%	0.3%	1.0%	1.3%	0.7%
Injured spinal cord (lifelong)	0.1%	0.1%	0.0%	0.1%	0.7%	0.4%	0.3%	0.4%	0.6%
Dislocations shoulder, elbow or hip	1.3%	1.5%	1.5%	0.6%	1.7%	0.1%	0.4%	0.4%	1.3%
Dislocations other	1.0%	0.7%	0.9%	0.4%	0.3%	0.3%	0.2%	0.6%	0.4%

Table S10: Percentage of different injury types in the present, Lapostolle et al. (2009) and Murray and Lopez (1996) studies.

	Present (male)	Present (female)	Lapostolle et al. 2009 (male)	Lapostolle et al. 2009 (female)	Murray and Lopez 1996
Fractured skull	0.4%	0.2%	0.5%	0.3%	1.8%
Fractured skull (lifelong)	0.1%	0.1%	0.1%	0.1%	0.3%
Fractured face bones	2.9%	2.5%	2.2%	1.7%	3.1%
Fractured vertebral column	2.6%	1.4%	1.4%	1.4%	3.1%
Fractured rib or sternum	3.0%	1.4%	3.0%	4.0%	3.0%
Fractured pelvis	0.8%	1.1%	1.1%	1.5%	2.2%
Fractured clavicle, scapula or humerus	5.7%	6.0%	4.4%	2.8%	5.1%
Fractured radius or ulna	7.3%	17.4%	4.8%	4.1%	5.8%
Fractured hand bones	4.8%	3.5%	3.4%	1.6%	1.1%
Fractured femur	2.1%	2.4%	1.0%	0.5%	7.3%
Fractured femur (lifelong)	0.3%	0.1%	0.7%	0.3%	0.4%
Fractured patella, tibia or fibula	3.5%	4.3%	3.4%	2.3%	9.4%
Fractured ankle	1.8%	2.7%	1.6%	1.2%	3.2%
Fractured foot bones	1.1%	1.3%	1.7%	1.1%	0.9%
Injured spinal cord (lifelong)	0.2%	0.2%	0.4%	0.5%	1.5%
Dislocations shoulder, elbow or hip	1.3%	0.7%	1.5%	0.7%	1.5%
Dislocations other dislocation	0.6%	0.6%	16.6%	37.2%	0.0%
Sprains	26.2%	28.9%	7.4%	5.6%	2.5%
Intracranial injuries	8.0%	7.2%	0.8%	0.5%	35.7%
Intracranial injuries (lifelong)	1.6%	0.9%	0.9%	0.5%	1.9%
Internal injuries	0.8%	0.4%	2.9%	1.8%	2.7%
Open wound	24.4%	16.7%	39.5%	30.0%	5.4%
Injury to eyes	0.1%	0.0%	0.3%	0.3%	0.0%
Injury to eyes (lifelong)	0.0%	0.0%	0.0%	0.0%	0.1%
Amputations, thumb, finger (lifelong)	0.0%	0.0%	0.0%	0.0%	0.1%
Amputations, arm (lifelong)	0.0%	0.0%	0.0%	0.0%	0.0%
Amputations, toe (lifelong)	0.0%	0.0%	0.0%	0.0%	0.0%

Amputations, foot, leg (lifelong)	0.0%	0.0%	0.0%	0.0%	0.1%
Crushing	0.0%	0.0%	0.1%	0.1%	0.8%
Burns <20%	0.1%	0.0%	0.0%	0.0%	0.0%
Burns >20% (lifelong)	0.0%	0.0%	0.0%	0.0%	0.0%
Burns <20% (lifelong)	0.0%	0.0%	0.0%	0.0%	0.1%
Burns >20%	0.0%	0.0%	0.0%	0.0%	0.0%
Injured nerves (lifelong)	0.0%	0.0%	0.1%	0.0%	0.2%
Poisoning	0.0%	0.0%	0.0%	0.0%	0.6%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Table S11: Sensitivity analysis. YLDs per person with alternative AIS-codes presented in Additional file 1, and the comparison to baseline results. See text for details.

Mode of transport	Average YLDs per person, alternative AIS-to-injury matrix (lifelong injuries)		Average YLDs per person, main results (lifelong injuries)		Difference	
	Average	Median	Average	Median	Average	Median
Pedestrian	8.8	6.2	9.4	6.3	94%	97%
Bicycle	12.5	11.3	12.8	11.5	98%	98%
Other active travel mode	14.4	19.9	14.7	20.0	98%	100%
Moped	18.9	22.1	18.7	18.5	101%	119%
Motorcycle	15.6	15.4	17.2	15.4	91%	100%
Car	17.6	18.1	18.4	17.8	95%	102%
Truck	14.7	12.6	15.3	13.4	96%	94%
Bus	9.6	6.7	10.2	6.5	94%	104%
Other, unknown, missing	16.8	15.7	19.5	16.1	86%	98%

Table S12: Sensitivity analysis. YLDs per person with and without 76 815 injuries for which the exact injury type could not be defined. See text for details.

Mode of transport	Average YLDs per person, main results		Average YLD per person, all injuries		Difference	
	Male	Female	Male	Female	Male	Female
Pedestrian	0.19	0.11	0.33	0.25	172%	228%
Bicycle	0.27	0.21	0.27	0.20	100%	93%
Other active travel mode	0.31	0.11	0.23	0.22	74%	194%
Moped	0.46	0.37	0.34	0.14	75%	40%
Motorcycle	0.70	0.63	0.70	0.45	101%	70%
Car	0.39	0.28	0.23	0.16	60%	58%
Truck	0.38	0.93	0.32	0.36	84%	38%
Bus	0.38	0.15	0.18	0.27	48%	177%
Other, unknown, missing	0.56	0.52	0.50	0.36	89%	70%
Average	0.34	0.20	0.30	0.21	88%	106%

Figure S1: The fraction of YLDs due to different injury types.

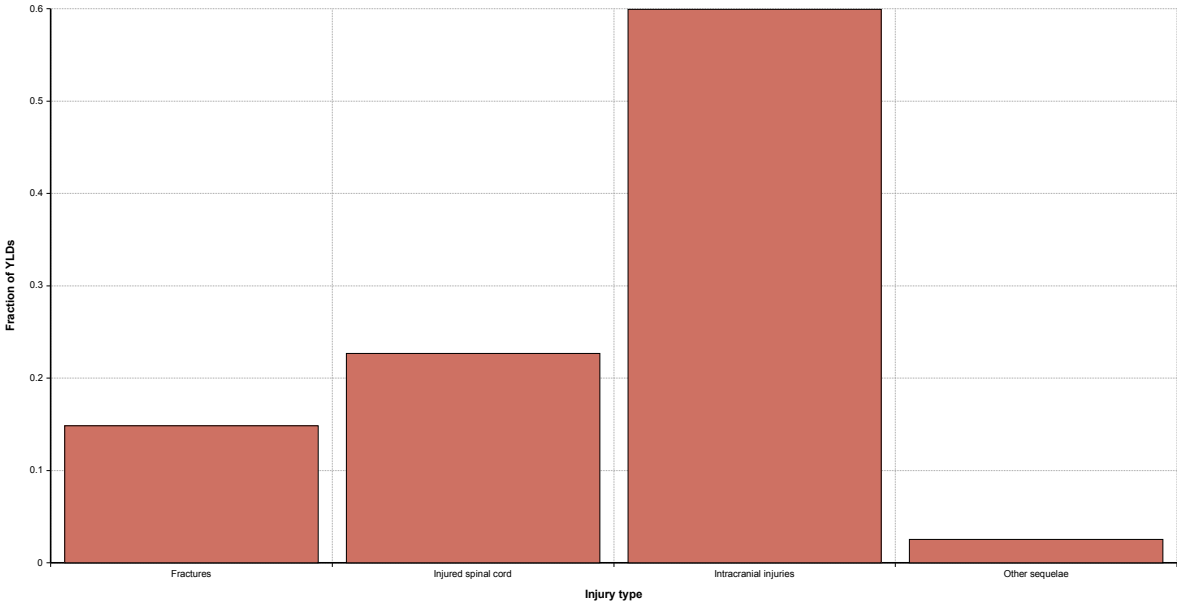
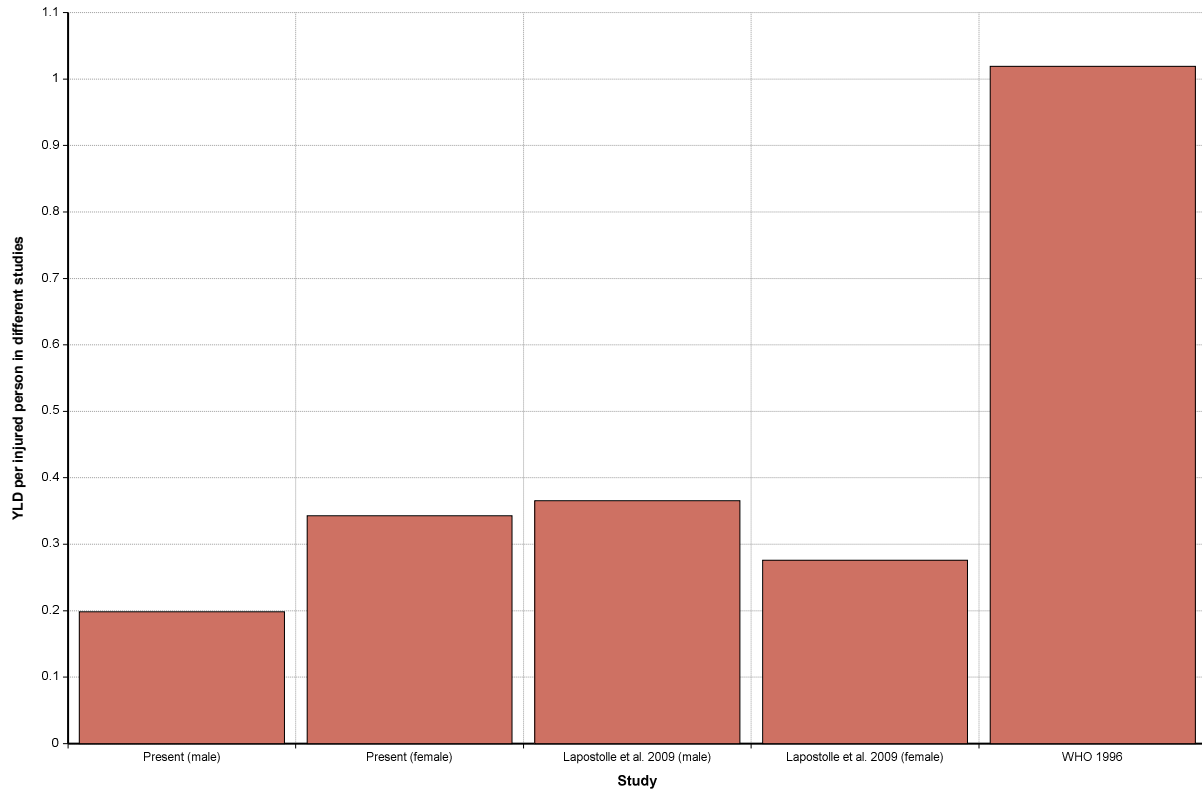


Figure S2: YLD per injury in different studies.



References

Begg S, Tomijima N: Global burden of injury in the year 2000: an overview of methods. World Health Organization (WHO); 2006:1–22.

Lapostolle A, Gadegbeku B, Ndiaye A, Amoros E, Chiron M, Spira A, Laumon B: The burden of road traffic accidents in a French Departement: the description of the injuries and recent changes. BMC Public Health 2009, 9.

Murray CJL, Lopez AD: The global burden of disease: a comprehensive assessment of mortality and disability from diseases, injuries, and risk factors in 1990 and projected to 2020. Cambridge, MA: Published by the Harvard School of Public Health on behalf of the World Health Organization and the World Bank ; Distributed by Harvard University Press; 1996.

Murray CJL: Quantifying the Burden of Disease – The technical basis for disability-adjusted life years. Bull. World Health Organ. 1994, 72:429–445.