



View from the Emergency Department

13 October 2008



Gerry Lane, Consultant in
Emergency Medicine



Emergency Consultant view

- Frustrated
- Exasperated
- Incensed

13 October 2008



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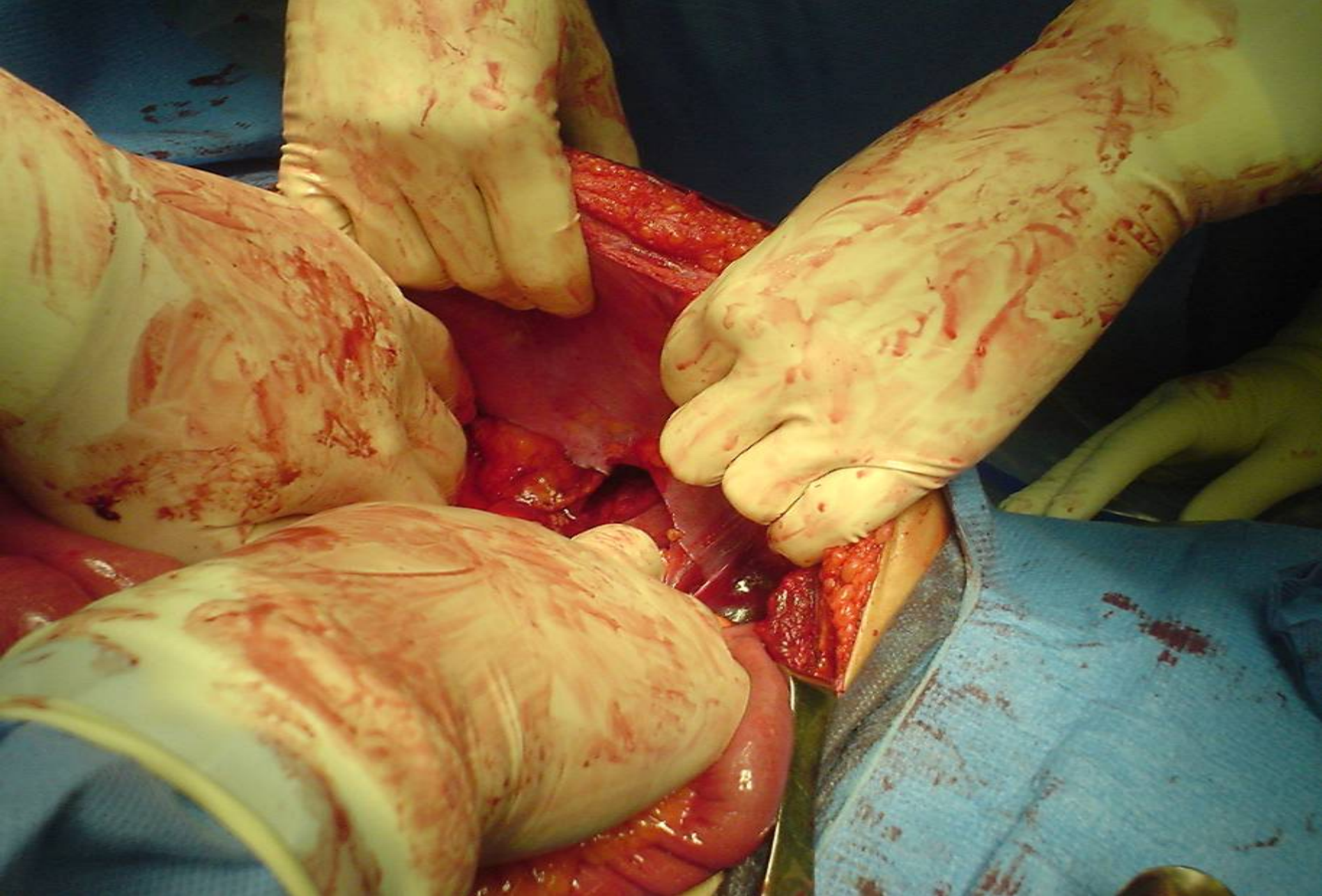
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EMERGENCY
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Road safety is not an accident, events are predictable & preventable



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Predictable, preventable

January

John Granville (45), Fermoy, Co Cork
John Flahive (20), Ballyheigue, Co Kerry
James Grealish (73), Oranmore, Co Galway
Arvydas Bruzas (38), Oldcastle, Co Meath
Arthur O'Connor (59), Monkstown, Co Cork
Philip Quinn (38), Ballivor, Co Meath
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Slawomir Krenek (24), Navan, Co Meath
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Gordon Daly (23), Carrigaline, Co Cork
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Eamonn O'Connell (36), Charlestown, Mayo
James Donehy (21), Urlingford, Co Kilkenny
Máirtín Ammergem (19), Medfield, Co Galway
Aine Ní Conchúir (18), Leitir Mór, Co Galway
Paolo Zaccaro (18), Urlingford, Co Louth
Alan Kelly (18), Urlingford, Co Louth

Germlane Consultant

Emergency Medicine

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Not an Accident

***British Medical Journal* bans "accidents"**

Accidents are not unpredictable

– "The word crash indicates in a simple factual way what is observed, while accident seems to suggest in addition a general explanation of why it occurred without any evidence to support such an explanation."

- ***BMJ* 2001;322:1320-1321 (2 June)**

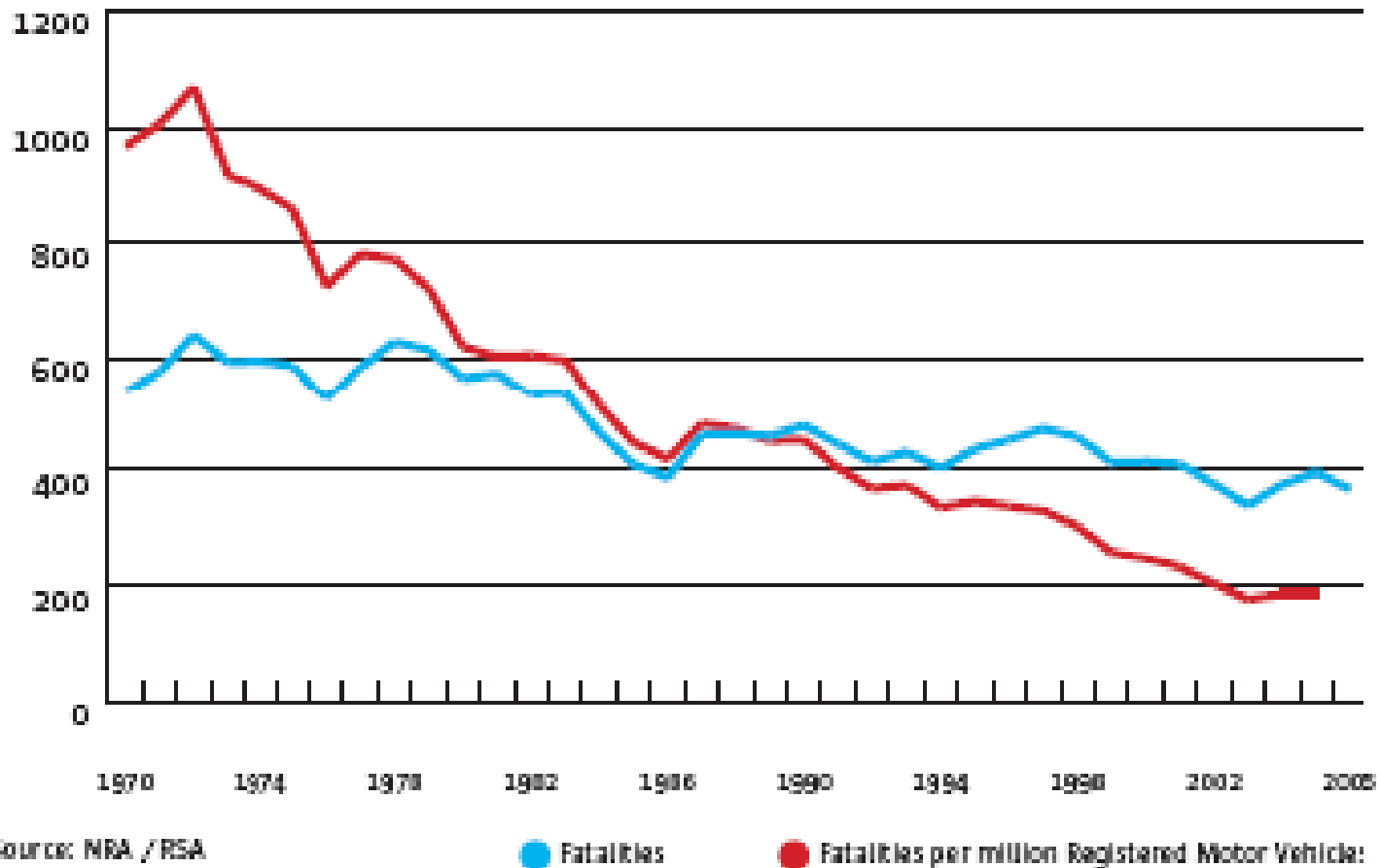
Not Casualty and not "A&E".

Re-named by Medical Council 2000.



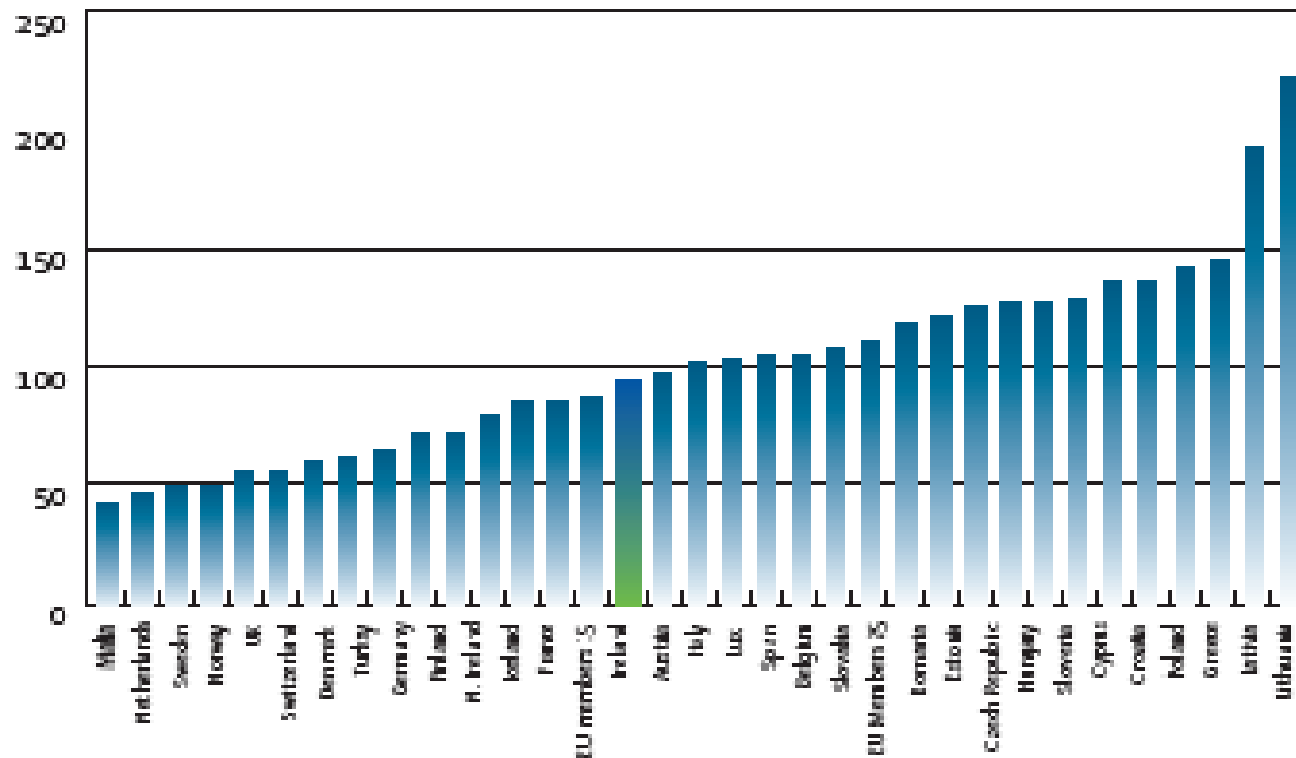
Fatalities 1970-2006

Fatalities per annum and Fatalities per million registered vehicles, 1970 - 2006



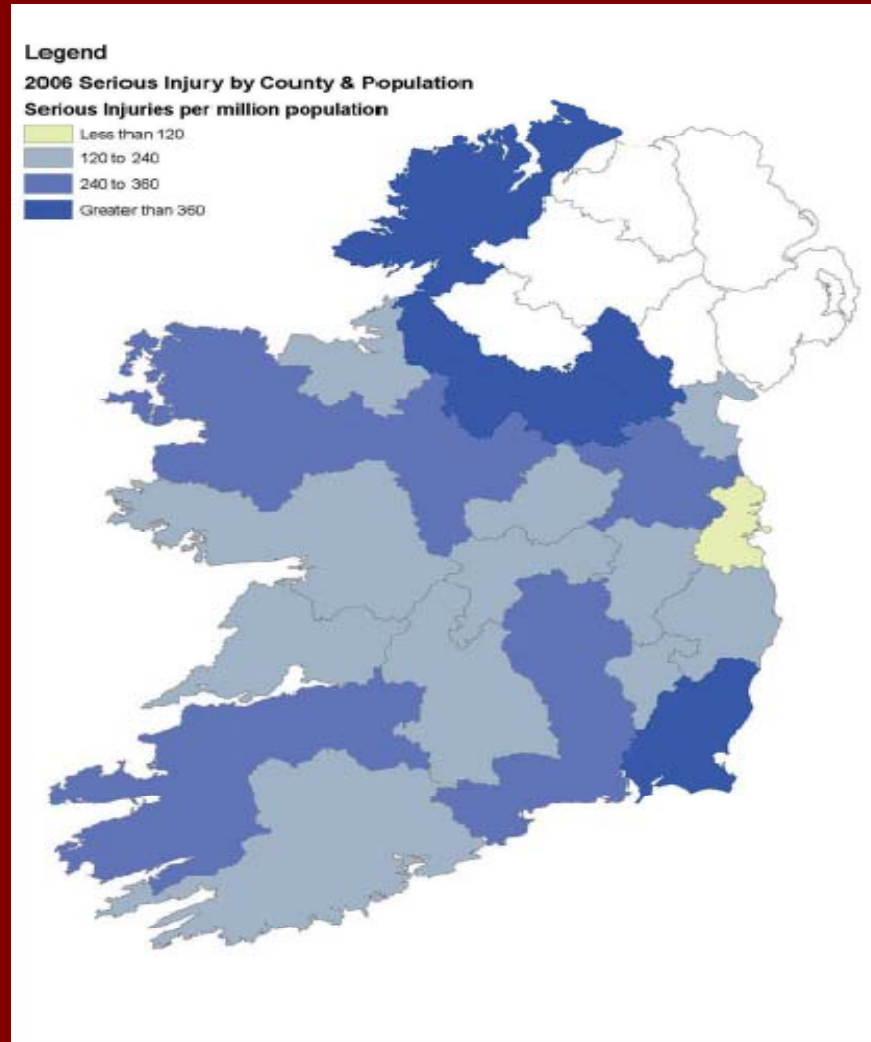
2007, 78 per million , we need <50

2005 European Road Deaths - per million population



Source: NRA, / RSA, OECD / IRTAD and ECMT

Dangerous Territory



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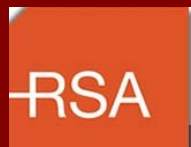


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Donegal Fatalities, Bronze Medal

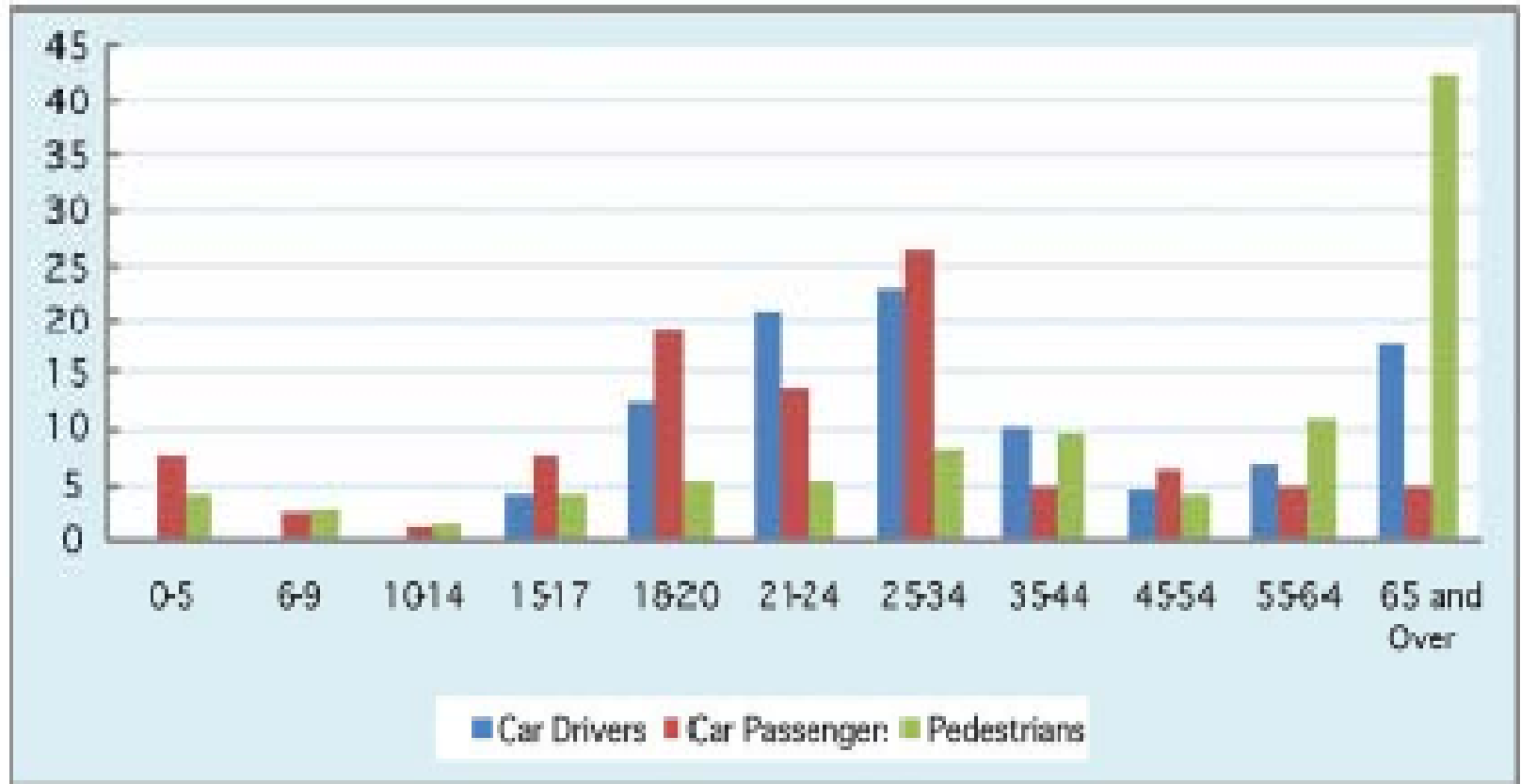
Road Fatalities (1998 to 2006 inclusive, Donegal statistics)

Fatalities	1998	1999	2000	2001	2002	2003	2004	2005	2006
Donegal	26	27	18	14	17	23	30	28	19



Deaths are the tip of the Iceberg

Figure 5a: Fatalities Classified by Road User and Age In 2006



20:1 Injury : Death

Table 5 Persons Killed and Injured In Each County, 2002-2006

County	Persons Killed					Persons Injured				
	2002	2003	2004	2005	2006	2002	2003	2004	2005	2006
Leinster										
Carlow	11	4	7	9	7	114	102	73	127	83
Dublin	49	37	45	41	34	2,113	1,828	1,621	1,716	1,713
Kildare	19	17	19	14	23	416	287	288	356	266
Kilkenny	9	9	9	6	4	237	146	186	240	199
Laois	5	11	8	14	8	133	132	143	187	181
Longford	8	6	5	9	6	140	102	104	104	90
Louth	19	14	9	14	14	337	364	316	367	308
Meath	18	14	22	30	22	399	345	296	420	397
Offaly	6	7	4	8	9	121	149	116	167	180
Westmeath	10	15	13	12	18	199	208	177	194	168
Wexford	7	16	16	21	20	351	330	295	377	395
Wicklow	11	9	14	8	11	264	282	238	318	234
Munster										
Clare	16	9	8	12	9	189	168	143	237	236
Cork	35	30	29	39	33	1,054	977	880	1,025	898
Kerry	8	15	14	11	21	255	220	241	344	348
Limerick	21	13	17	17	16	520	361	458	487	466
Tipperary NR	5	13	10	10	15	123	128	151	179	181
Tipperary SR	10	8	9	5	11	161	161	195	163	176
Waterford	12	5	4	9	8	254	220	233	298	234
Connacht										
Galway	26	17	25	21	19	466	401	340	404	421
Leitrim	5	0	4	8	3	58	84	45	78	72
Mayo	14	9	12	14	11	264	208	225	250	232
Roscommon	5	6	9	5	5	177	154	178	167	163
Sligo	9	5	9	11	4	131	97	124	205	143
Ulster (part of)										
Cavan	7	15	8	10	7	214	202	243	291	187
Donegal	20	23	29	27	19	360	440	397	448	444
Monaghan	11	8	16	11	8	156	166	161	169	160
TOTAL	376	335	374	396	365	9,206	8,262	7,867	9,318	8,575

Letterkenny

- Exclude dead and critical
 - >1000 ED Attendances
 - 320 Admissions
 - ALOS 3 days
 - 1089 bed days lost
- Commonest age 18
 - Oldest 80
 - Youngest 1
 - Average 31
- 42% < 24 y
- 67% < 34 y

Principle diagnosis	Total	Pcnt	LOS	Inpat Bed	Avg Age
S060 Concussive injury	75	23	2	141	31
S099 Unspecified injury of head	23	7	1	30	18
S625 Fracture of lower end of radius	10	3	2	18	19
S098 Other specified injuries of head	9	3	2	20	33
S199 Unspecified injury of neck	8	3	2	16	44
S220 Fracture of thoracic vertebra	8	3	4	30	31
S222 Fracture of sternum	6	2	2	13	39
S325 Fracture of pubis	6	2	3	19	31
S626 Fracture of lower end of both ulna and radius	6	2	1	7	15
S301 Contusion of abdomen in wall	6	2	3	14	35
S825 Fracture of medial malleolus	4	1	6	20	41
Z488 Other specified surgical follow-up care	4	1	6	18	37
S822 Fracture of shaft of tibia	4	1	4	15	16
S821 Fracture of upper end of tibia	4	1	12	48	32
S490 Fracture of clavicle	4	1	1	5	36
S723 Fracture of shaft of femur	4	1	9	36	19
S021 Fracture of base of skull	4	1	6	19	21
S010 Open wound of scalp	4	1	2	8	37
S424 Fracture of lower end of humerus	4	1	2	7	11
Z041 Examination and observation following transport accident	3	1	2	6	23
S826 Fracture of lateral malleolus	3	1	6	14	55
S020 Fracture of vault of skull	3	1	2	6	39
S024 Fracture of malar and maxillary bones	3	1	1	4	27
S399 Unspecified injury of abdomen, lower back and pelvis	3	1	1	4	16
S623 Fracture of other metacarpal bone	3	1	2	6	33
S018 Open wound of other parts of head	3	1	1	3	20
S082 Diffuse brain injury	3	1	23	88	22
S701 Contusion of thigh	3	1	3	10	23
S224 Multiple rib fractures	3	1	5	15	57
M546 Low back pain	3	1	1	4	33
M542 Cervicalgia	3	1	1	3	28
S380 Injury of spleen	2	1	12	24	38
S026 Fracture of mandible	2	1	2	4	19
S225 Flail chest	2	1	1	2	28
S223 Fracture of rib	2	1	6	12	51
F040 Posttraumatic amnesia	2	1	6	12	51
S019 Open wound of head, part unspecified	2	1	4	7	24
S109 Superficial injury of neck, part unspecified	2	1	1	2	74
R51 Headache	2	1	2	4	34
S430 Dislocation of shoulder joint [glenohumeral joint]	2	1	2	4	40
S620 Fracture of upper end of ulna	2	1	3	6	15
M795 Pain in limb	2	1	1	2	14
R103 Pain localized to other parts of lower abdomen	2	1	4	7	13
S628 Fracture of other finger	2	1	1	2	11
S620 Fracture of navicular [scaphoid] bone of hand	2	1	1	2	24
S198 Other specified injuries of neck	2	1	1	2	57
S120 Fracture of first cervical vertebra	1	0	3	3	41
S053 Focal brain injury	1	0	1	1	36
M548 Other dorsalgia	1	0	2	2	37
S122 Fracture of other specified cervical vertebra	1	0	3	3	29
S134 Sprain and strain of cervical spine	1	0	1	1	49
M864 Chronic osteomyelitis with draining sinus	1	0	1	1	22
Q268 Other specified pregnancy-related conditions	1	0	1	1	29
M478 Other spondylosis	1	0	1	1	52
R073 Other chest pain	1	0	3	3	26
G469 Transient cerebral ischaemic attack, unspecified	1	0	3	3	74
I200 Unstable angina	1	0	1	1	64
S065 Traumatic subdural haemorrhage	1	0	2	2	18
R262 Difficulty in walking, not elsewhere classified	1	0	16	16	18
I615 Intracerebral haemorrhage, intraventricular	1	0	14	14	79
J151 Pneumonia due to Pseudomonas	1	0	16	15	72
S068 Other injuries of eye and orbit	1	0	1	1	13
S001 Contusion of eyelid and periocular area	1	0	1	1	1
S011 Open wound of eyelid and periocular area	1	0	1	1	4
M419 Unspecified scoliosis	1	0	1	1	53
J189 Pneumonia, unspecified	1	0	15	15	72
S013 Open wound of ear and auditory structures	1	0	2	2	21
S066 Traumatic subarachnoid haemorrhage	1	0	25	25	68
S820 Fracture of patella	1	0	7	7	35
S625 Fracture of thumb	1	0	3	3	64
S628 Fracture of other and unspecified parts of wrist and hand	1	0	3	3	21
S630 Dislocation of wrist	1	0	1	1	18
S881 Traumatic amputation of other single finger (complete/partial)	1	0	2	2	44
S720 Fracture of neck of femur	1	0	6	6	68

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The € Cost

Table A2: Total Cost of Road Collisions In 2006

Type	Number of collisions	Cost per collision	Total cost (€)
Fatal	321	€2,667,600.00	€856,299,600.00
Serious	653	€356,382.00	€232,717,446.00
Minor	5044	€35,100.00	€177,044,400.00
Material Damage	22399	€2,808.00	€62,896,392.00
Total	28417	N/A	€1,328,957,838.00

Counter measures in each cell, Medicine's contribution



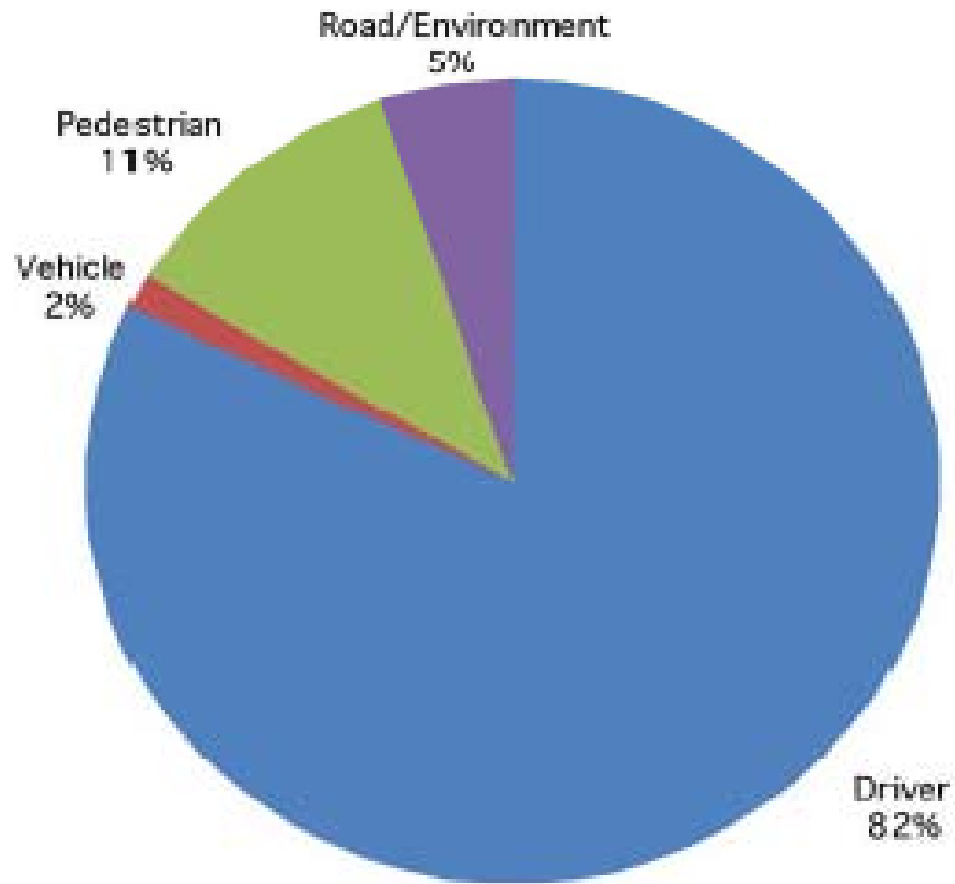
	human	vehicle	environment
precrash			
crash			
postcrash			

World wide epidemic

- Someone was killed or seriously injured on the world's roads every 'six seconds'
- The UN's General Assembly session ... road deaths are now the number one killer of young people aged 10-24 worldwide, with more than 1.2 million people killed and 50 million others injured each year.

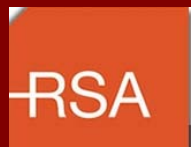
Contributory Factors, 2006

Simple Truths



Simple truths

- Speed for situation
- Driver impairment
- Seat belt use
- Aggressive driving



Nobody believes the simple truths



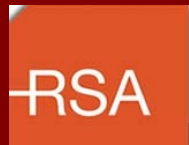
THE FASTER THE SPEED



THE BIGGER THE MESS

RSA **SPEEDSHAME** HIBERNIAN

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Nobody believes simple truths

WHY JUST ONE DRINK IMPAIRS YOUR DRIVING



Every Drink of Alcohol Impairs Driving

Legal limit

2/4 Legal limit

1/2 Legal limit

1/3 Legal limit

1/4 Legal limit

1/5 Legal limit

1/6 Legal limit

At the legal limit
You are 25 times more likely to have a fatal collision.

At 3/4 the legal limit
Your tracking skills are impaired. You are less able to clear within your lane and to observe all the moving traffic hazards on the road.

At 1/2 the legal limit
You are less vigilant and less aware of the dangers on the road as you drive.

At 1/3 the legal limit
Your ability to make decisions and react quickly starts to be impaired. The relaxing effect of alcohol has impaired your judgement about your own fitness to drive.

At 1/4 the legal limit
Your alertness will be impaired. The danger of sleepiness INCREASES - even a split second's delay of the wheel can kill. If you are a young driver under 24, your risk of a fatal crash has just doubled.

At 1/5 the legal limit
When you have a drink the alcohol into your brain within minutes. It starts to slow down and slow down your brain's activity. So your driving skills are quickly impaired, how fast to brake when an emergency, you miss out on other dangers on the road - like the child about to cross the road.



Any alcohol impairs driving and increases the risk of collision. With every drink you are risking the lives of others, if you drive.

RSA Road Safety Authority

AVA INSURANCE

Scientific conclusion: "THE MIX IDENTIFIED NO THRESHOLD BLOOD ALCOHOL CONCENTRATION BELOW WHICH IMPAIRMENT DOES NOT OCCUR"
Based on review of 20 studies on the effects of low doses of alcohol on driving, published since 1970. Published in: Accident Analysis and Prevention, 2002, volume 35, number 4, pages 441-447.
 The experiment is described in: International Journal of Psychology, 1998, volume 13, number 1.

To read the scientific evidence go to
http://www.rsa.ie/NEWS/News/Why_Just_One_Drink_Impairs_your_Driving.html

NEVER EVER DRINK & DRIVE

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The Lethal Equation



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WHO 2004

Editorials

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Road traffic injury prevention

WHO report advocates input from public health and a systems approach

"A 65-year-old woman was in critical condition last night after being struck by a car ... as she crossed Sherbrooke St E shortly after 4 pm ... It appears the pedestrian and motorist both had a green light, said Constable Lapointe. The driver was turning left when she struck the pedestrian. Police did not believe alcohol or excessive speed were factors in the accident."

Take this all too common news item and multiply by some large number and you have the daily world total of pedestrian injuries or deaths. Add to this car occupants and bicycles and you reach the grand total of road traffic deaths, which accounts for 20% of all injury deaths.

Now, after years of preoccupation with other issues, the World Health Organization (with the World Bank) has turned its attention to what is arguably the largest and most preventable of all modern epidemics—road crashes. It matters greatly that the WHO has produced a report on road traffic injury prevention, particularly applicable to those in low income countries. However hamstrung the WHO may be by its need to be politically sensitive, it has enormous influence and can legitimise the issue of injury from road crashes as few other bodies can.

Some may ask, Why the WHO? Isn't road safety the responsibility of transport—or justice, public security, police enforcement, engineering, licensing? Indeed, in many countries, this is precisely how it is regarded—as a problem for a mélange of bodies. (Even in the WHO report "health" is one among many "intersectoral" players.) Yet road safety is above all a health issue because crash victims are killed and maimed. Nothing could be simpler: if road safety is left only to other agencies, and public health agencies refuse (or are forbidden) to speak out, thousands of preventable deaths will follow.

The WHO report issues a powerful challenge that no country can afford to ignore. A death is a death is a death, whether caused by an organism or two tonnes of metal and steel. Health departments everywhere, especially in low income countries, must accept the challenge. There is no reason for perplexity and no lack of specifics about what must be done. The WHO report is exemplary: comprehensive, lucid, detailed, and even passionate.

As too often, however, what happens now may hinge on political considerations which, in turn, depend on who accepts responsibility. The choice isn't between a health agency and any other body. Agencies must work together, but as the report concludes, there must be a "lead agency" and logic demands that it should be public health. Health spokespersons might bring the moral force needed to persuade governments intent on satisfying the motoring lobby that damaged skulls also need to be taken into consideration.

But give credit where it is due. The decline in road deaths in most Western countries over the past 50 years is striking (albeit uneven). For this, transport deserves the kudos, and health can accept little credit, except perhaps, trauma specialists. But it is also evident how much more could—and should—have been done: controls on speed and alcohol, red light cameras, road

design and construction, and vehicle design—the list is long and, sadly, far less applicable to low income countries. One common explanation for failure to fully implement such measures is competing responsibilities.

How far have we come? The human interest story in my morning paper says much about why the WHO has declared road safety its focus for 2004. Ten years ago the paper would probably have ignored this incident, or if it were published it would not have mentioned speed or alcohol as possible causes. The fact that such events are still regarded as "accidents"—that is, not preventable—is disappointing. Yet most drivers in Montreal would be surprised to learn that pedestrians always have the right of way on a green light and shocked if police actually penalised them for infringing on a pedestrian crossing. Thus, legislation and its enforcement receive an appropriately prominent place in the WHO document.

Experts continue to disagree over the relative importance of the three Es of prevention: education, engineering, and enforcement. For example, Evans is highly critical of litigation and vehicle design improvements and favours changing the behaviour of drivers as the strategy to reverse America's sinking ranking in traffic fatalities. In contrast, Vernick and Teret attribute the reduction in road fatalities to "a combination of improving vehicle, roadway, and driver safety." McKay wants priority to be given to tightening restraints and stopping drink-driving. My conclusion, supported by much of the data in the WHO report, is that the balance tilts toward the Vernick-Teret argument for making cars and the environment safer, and oneway to do so (as well as to change driver behaviour) is through legislation and litigation.

The most radical aspect of the WHO report is its emphasis on a systems approach "to identify and rectify the major sources of error or design weakness that contribute to fatal and severe crashes." This places less responsibility on the victim and more on the architects of the transportation system. We know road deaths can be greatly reduced through improving vehicle and road design, although the car industry may resist this in favour of style and speed. But if the WHO report is read as carefully as it deserves to be the much needed steps are certain to be taken more swiftly and effectively.

Barry Pleiss, editor, *Injury Prevention*

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(barrypleiss@montreal.ca)

Competing interests: EP is editor of *Injury Prevention* and the WHO report may brighten interest in this topic. Otherwise, none declared.

- 1 WHO and World Bank. World report on road traffic injury prevention. Geneva: WHO, 2004.
- 2 Davis RM, Fleiss B. Road traffic "accidents". *BMJ* 2001;322:1320.
- 3 Evans L. A new traffic safety vision for the United States. *Am J Public Health* 2002;92:1284-6.
- 4 Vernick JS, Teret SP. Making vehicles safer. *Am J Public Health* 2004;94:1710.
- 5 McKay MP. Traffic safety in the United States. *Am J Public Health* 2004;94:1710.
- 6 Vernick JS, Mar JK, Teret SP, Sapping RW. Role of litigation in preventing product-related injuries. *Epidemiol Rev* 2006;28:50-8.

Next p 854

- Public Health input
- Systematic approach
- Identify
 - source of errors
 - design out weakness
 - design in safety
- Education
- Engineering
- Enforcement

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Break the equation

- Must mitigate personal risk behaviours
 - Personal responsibility
 - Parental oversight
 - Positive example
 - Buddy support
 - Zero Tolerance
 - Deterrents
- Engineering
- Enforcement

Road Safety Week welcome



County Donegal
Road Safety Plan
2007 - 2009



RSA



Road Safety Strategy
2007 — 2012

Údarás Um Shábháilteacht Ar Bhóithre
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Questions?

Nobody believes the simple truths

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Predictable and preventable Not accidents

January

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Alain Keenan (18), Leirr Mór, Co Galway
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Road Safety Week welcome



County Donegal
Road Safety Plan
2007 - 2009



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Road Safety Strategy
2007 — 2012

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