



Knowledge Exchange Seminar Series (KESS)

...is a forum that encourages debate on a wide range of research findings, with the overall aim of promoting evidence-based policy and law-making within Northern Ireland

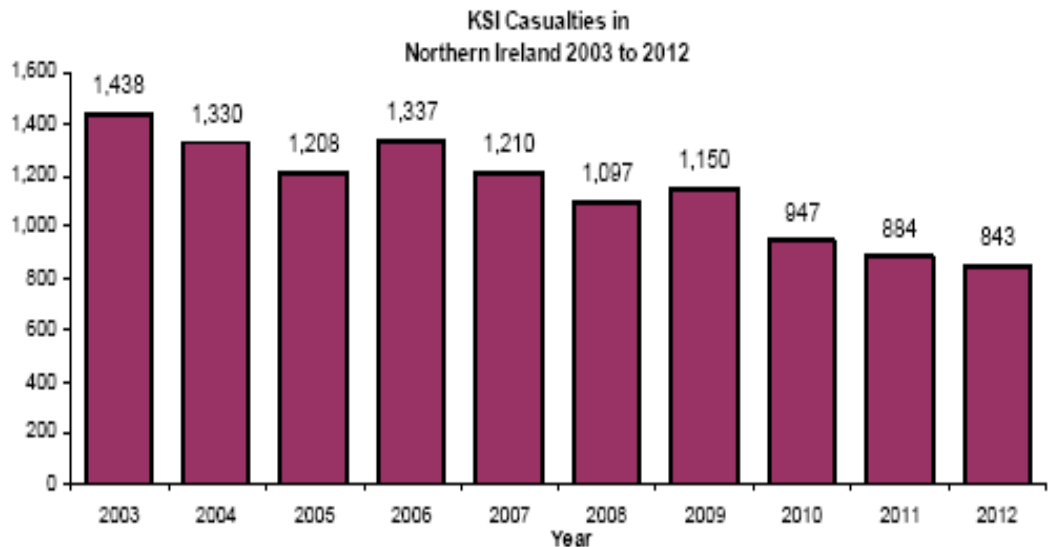
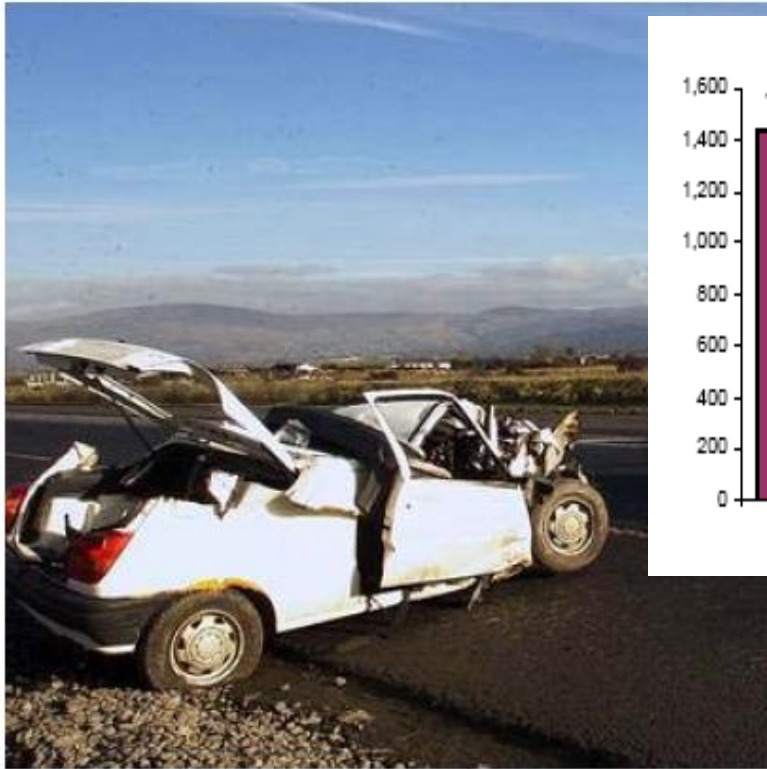


Driving as a Public Health Problem

Introducing Graduated Driving Licenses in NI

Dr Nicola Christie (UCL), Dr Philip Edwards (LSHTM), Professor Judith Green (LSHTM), Dr Sarah Jones (Cardiff University), and Professor Lindsay Prior (QUB)

Road deaths up with 189 killed



Car crash deaths rose for the first time in eight years, provisional figures showing 189 deaths on the roads this year

Belfast Telegraph. December 31st, 2013

School in shock after teenagers' car crash deaths

A SCHOOL was in mourning yesterday after three teenagers were killed when their car left a road and smashed into a wall.



Josh Stewart was one of the victims of the tragic car crash [FACEBOOK]

Two boys aged 15 and 16 and an 18-year-old woman died in the crash on a quiet country road

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Page last updated at 11:52 GMT, Tuesday, 17 November 2009

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Two teenagers killed in car crash

Two 17-year-old boys have been killed and a third boy was injured in a crash during the night on a road in the Vale of Glamorgan.

South Wales Police said the injured boy, also 17, is being treated in the Princess of Wales Hospital at Bridgend.

The crash, involving a black Suzuki Swift car, happened at 2300 GMT on Monday on Ogmore Road, Ogmore by

Officers are appealing for anyone who saw the car driven before it, to contact them.

Anyone who has information should call South 101.

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An injured boy w
Bridgend

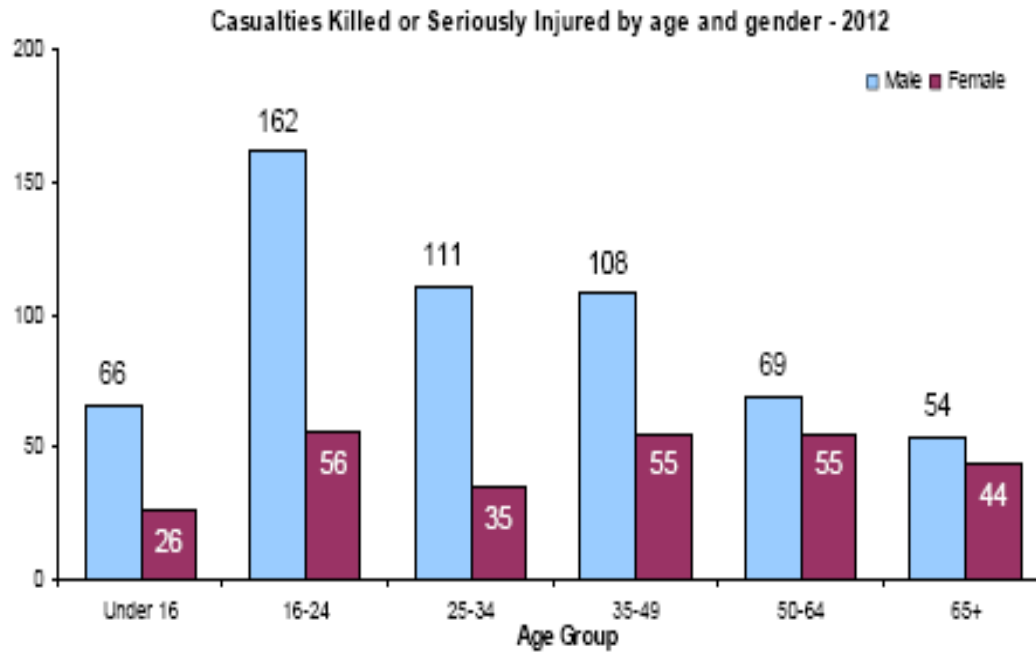
Sister weeps during crash trial - BelfastTelegraph.co.uk

Sister weeps during crash trial



Rosie-Ann Stone is accused of causing the death of her sister Jennie by careless driving

15 January 2014



Source: PSNI (2013)

All young drivers are at high risk of crashing

2004, OECD Countries

15 to 24 year olds constitute 27% of driver fatalities, but 10% of population. “They pose a greater risk than other drivers to themselves, their passengers and other road users” (OECD, 2006)

UK :

1 in 5 crash within 6 months of licence.

4 people killed or seriously injured each day in crashes involving young drivers.

2008-10		YD	All	%
Northern Ireland	Crashes	2707	15433	17.5%
	Casualties	4782	23493	20.4%
	Fatalities	51	226	22.6%
England	Crashes	41400	391427	10.6%
	Casualties	67302	519004	13.0%
	Fatalities	543	5013	10.8%
Scotland	Crashes	3482	30491	11.4%
	Casualties	5084	38815	13.1%
	Fatalities	88	608	14.5%
Wales	Crashes	2996	18763	16.0%
	Casualties	5084	26410	19.3%
	Fatalities	47	311	15.1%

Many fatalities & injuries but no so many licenses

	% of licenses held by 17-19 year olds	% of 17-19 year olds with license
Scotland	1.7%	25.6
Wales	2.1%	30.9
England	1.7%	26.1
UK	1.7%	26.3

What accounts for the pattern?

Age

Exuberance, risk taking,
peer pressure,
sensation and thrill
seeking

Joy riders

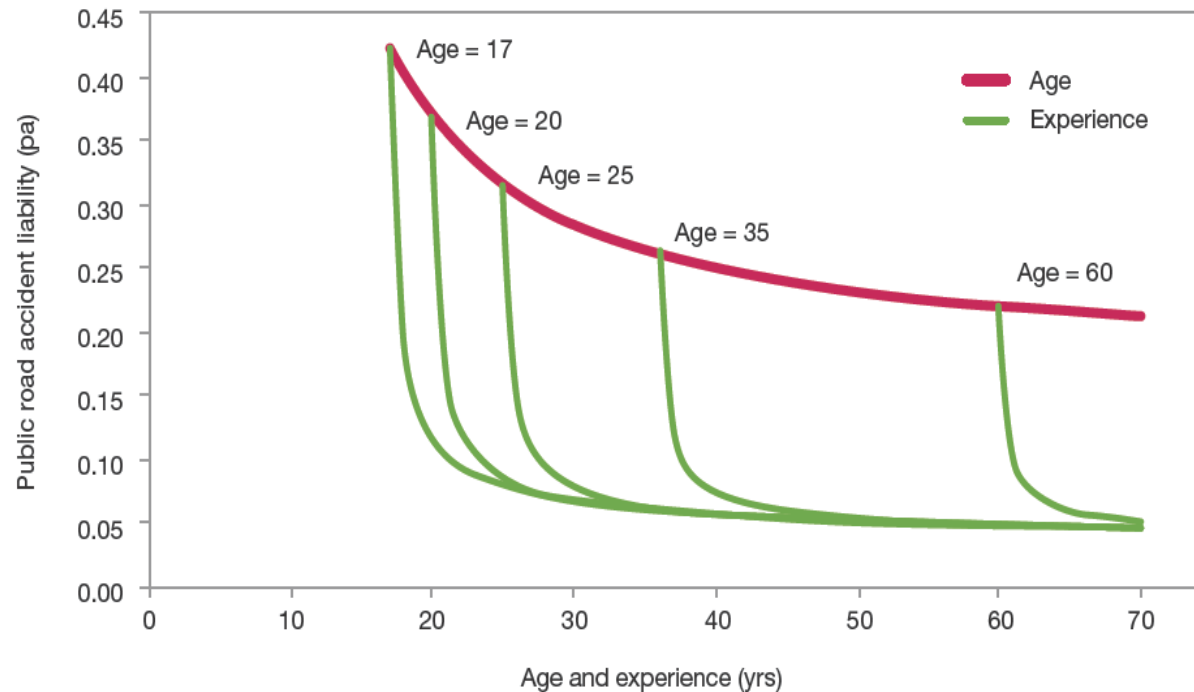
"the irresponsible minority"

Inexperience

Psychomotor skills,
hazard perception,
judgment, decision
making

Crash risk

- Drops dramatically in the first year
- Initial crash risk is higher with earlier driving age



- Most teens involved in fatal crashes do not have prior violations or crashes on their records.
- Many “model” teens are killed in car crashes.
- Disproportionately high crash rate amongst young drivers from all backgrounds... Though there is a ‘social deprivation effect’
- (In)experience, age and gender are key factors in understanding the casualty pattern.

Table 1. Fatality numbers and rates per distance travelled, by travel mode, age, and type of incident, Males, England 2007–2009.

Mode	Summary description	Age-group								
		<17	17–20	21–29	30–39	40–49	50–59	60–69	70+	ALL
Drive	3 yr distance (Mn km)	14	11,354	59,462	100,915	128,207	102,998	67,160	34,383	504,493
	Driver Collision Fatality	3	114	164	108	91	71	66	122	739
	Driver Single vehicle fatality	6	158	221	122	76	51	28	35	697
	Unspecified occupant unspecified accident ^a	36	101	122	65	51	47	24	48	494
	On-highway fatality rate (per Bn km)^{bc}	3,214^d	33	8.5	29	1.7	1.6	1.8	6.0	3.8
	95% CIs	2,345–4,301	30–36	7.8–9.3	26–3.3	1.5–9	1.4–1.9	1.5–2.1	5.2–6.8	3.7–4.0

Source: Mindell et al (2012)

Table 2. Fatality numbers and rates per distance travelled, by travel mode, age, and type of incident, Females, England 2007–2009.

Mode	Summary description	Age-group								
		<17	17–20	21–29	30–39	40–49	50–59	60–69	70+	ALL
Drive	3 yr distance (Mn km)	8	9,816	44,170	61,447	74,397	48,749	24,998	11,466	275,051
	Driver Collision Fatality	0	28	57	20	37	21	21	57	241
	Driver Single vehicle fatality	0	30	36	20	16	16	11	17	146
	Unspecified occupant unspecified accident ^a	27	47	35	24	29	25	25	40	252
	On-highway fatality rate (per 8n km)^{b,c}	3,375^d	11	2.9	1.0	1.1	1.3	2.3	9.9	2.3
	95% CIs	2,224–4,910	9–13	2.4–3.4	0.8–1.3	0.9–1.4	1.0–1.6	1.7–3.0	8.2–12	2.1–2.5

Source: Mindell et al (2012)

What is to be done?

Education & Training:

Pre-driver school based education

Driver training

Post-licence driver training

Legislation & Enforcement of existing legislation

Graduated Driving Licenses

Graduated Driving Licenses.

Opportunity to gain experience under conditions of reduced risk

Initial Phase. Driving only under supervision.

Intermediate phase: learner to full licence ...

‘Permission’ granted to drive unsupervised, but

Permission not given for such things as night time driving, carrying passengers, drinking any alcohol.



Any Evidence?

- Systematic Reviews suggest between 4% - 60% decrease in casualties among newly qualified drivers.
- Foss (North Carolina, 2001), 47% reduction in night-time crashes for 16 year old drivers. Shope (Michigan, 2001) 46% reduction.
- Hallmark (Iowa, 2008) 30% overall reduction in crashes.
- Langley (NZ,1996); Males (California, 2007) 44% & 37% reduction in hospitalizations.
- Teens feel less 'pressured' into driving in situations that they are not comfortable with
- Cochrane review – only positive effects. GDL systems differ, but all seemingly produce reduction in fatalities and injuries.

Now



Learner period; un-restricted duration



Un-restricted full licence



- 1 in 5 newly qualified drivers crash within 6 months of obtaining their licence.
- Most newly qualified drivers are aged under 25.
- 4 people per day are killed or seriously injured in crashes involving young drivers in the UK



Minimum length learner period



Fixed term, restricted intermediate period – no night time driving, no teen passengers, no alcohol



Graduated driver licensing could save 55 lives a year in Great Britain, prevent 5,000 casualties and save the GB economy £250M per year

With Graduated Driver Licensing

Proposed GDL in NI

- Lower provisional licence age of 16½;
- Mandatory minimum learning period of 12 months for provisional licence holders;
- Post test period will be two not one year;
- Removal of the 45 mph speed restriction currently applied to learner and restricted drivers;
- Learner drivers - e lessons on motorways accompanied by a fully qualified driver in a dual-controlled car;
- N plates (for 'New' drivers) will replace R plates, displayed for two years;
- Compulsory logbooks ;
- First six months post-test new drivers up to age 24 will not be allowed to carry young passengers (aged 14 to 20), except immediate family members), unless there is a supervising driver over 21, with three years full licence in the passenger seat.
- No night time curfew.

So why not do it?

Various kinds of objection

- E.g. civil liberties
- Difficulties for YDs in rural areas
- Young people often take jobs at unsocial hours
- Affect educational opportunities
- Affect employment opportunities
- Affect opportunities for social life
- EtcEtc ...

Proposed Research (NIPHR)

Evaluation

Method:

- Interrupted time series analysis which can detect whether there are significant changes in temporally ordered outcomes, taking into account the secular trends and random fluctuations.

Outcome measures

Primary

- For the intervention groups the primary outcome will be casualty rates per number of licensed young drivers based on routinely police reported casualty data collected three before and three years after the intervention.

Secondary impacts

- GDL may have a larger influence on the population of young people because it captures the changes in exposure to risk especially for passengers. Therefore secondary outcomes will be:
 - Changes in casualty rates per head population for the relevant age group.
 - Changes in exposure using routinely collected national travel survey data three years before and three years after the intervention.
- The comparator will be the same data in England.

Understanding the impact of GDL on young people's wellbeing

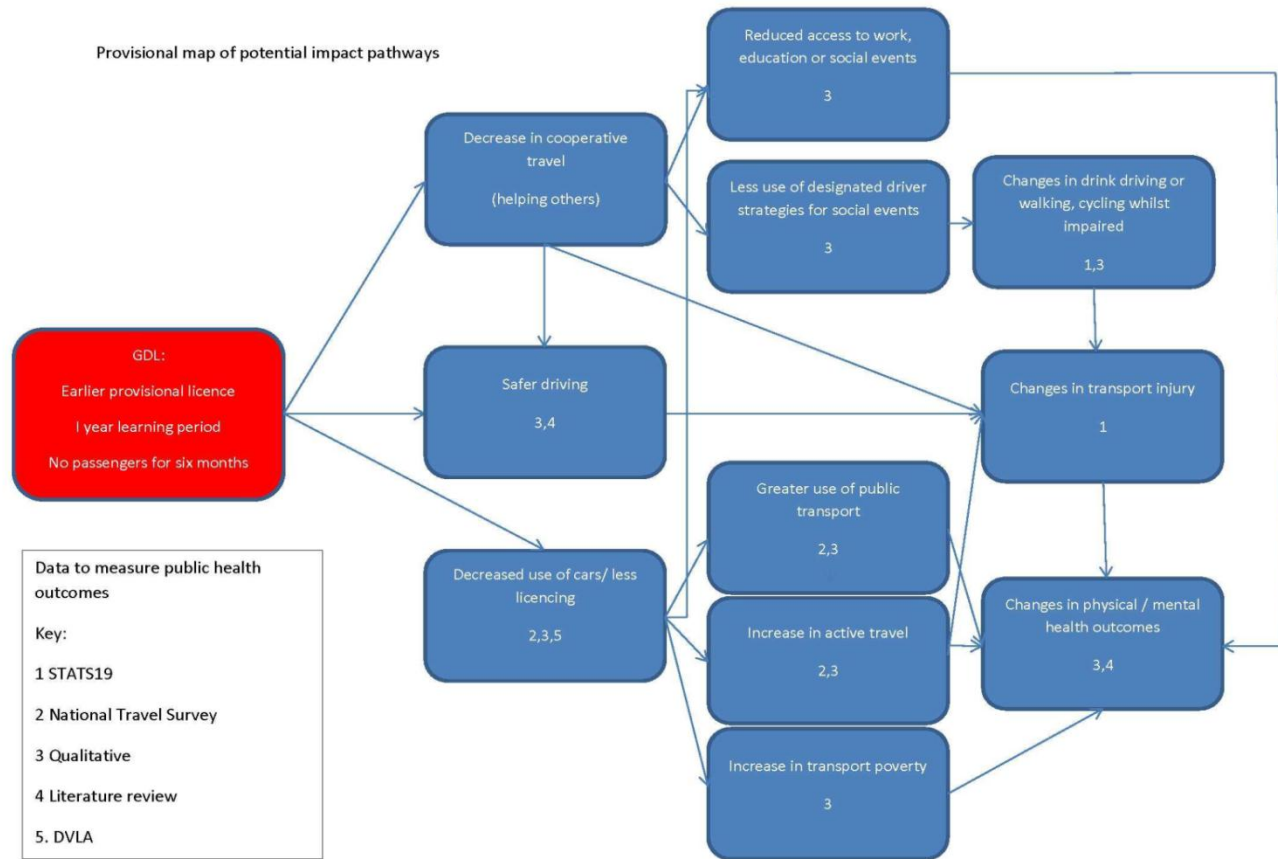
Social and economic impacts

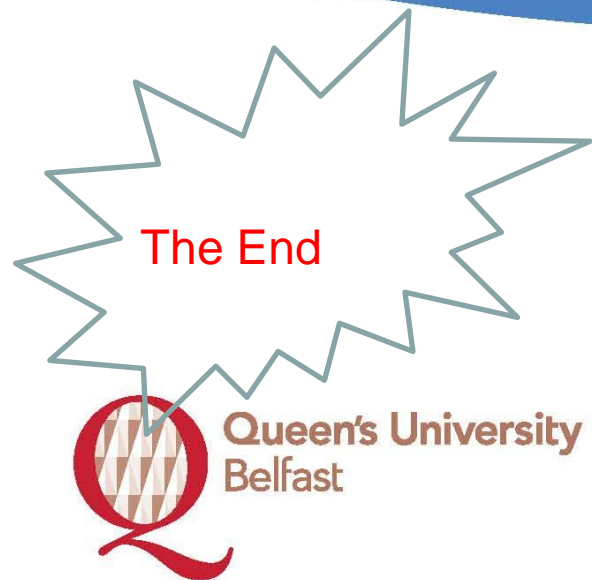
- Pre intervention qualitative research to understanding driving culture among people in NI compared to England
- Post intervention, qualitative research among young drivers to explore the impact of GDL e.g. does not being able to carry passengers may influence their opportunities to be sociable or helping others make journeys to work or college.

Distributional effects

- Data on casualties and licensed drivers will be linked to the indices of multiple deprivation to explore distributional effects.

Provisional map of potential impact pathways





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