

A case for graduated driver licencing in Wales

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Background

- One in five newly qualified drivers in the UK are involved in a crash within 6 months of taking their test (DT, 2008).
- 4 people per day in the UK are killed or seriously injured in crashes involving young drivers (YD)
- YD over represented in crash statistics
- Ebbw Vale November 2006
 - 18 year old, passed his test 3 days earlier
 - 9.20pm, driving 5 other teenagers in a Vauxhall Corsa
 - 4 girls in back of car killed, front seat passenger injured
 - At his trial, defendant reported to be “showing off” and “pressured into driving passengers”

What is GDL?

- Fundamental principle
 - new drivers have the opportunity to gain experience under conditions that decrease risk
- No 'rules' on exact structure
- Adds an 'intermediate phase' between learner and full licence
 - Various 'permissions' granted in intermediate phase; permission not given for night time driving, carrying passengers, drinking any alcohol,
- Does it work?
 - 4 to 60% decrease in casualties among newly qualified drivers (different programmes in different countries)
 - Ontario – 62% decrease in midnight to 5am crashes
 - California – 40% decrease in teen passenger deaths / injuries
 - Parents feel more 'empowered'

Current UK position

- UK Government, 2008
 - Restrictions need to be relaxed at some point
 - Stair gates, fire guards....
 - Police ‘have competing priorities’
 - Difficult to enforce and oppressive
- Scotland, 2007
 - Police organised a summit to discuss ways of reducing teen road deaths, including passenger and night time restrictions
- ABI
 - A number of insurers already offer ‘voluntary GDL’ in exchange for reduced premiums
 - Indicates that GDL is ‘acceptable’ to teens

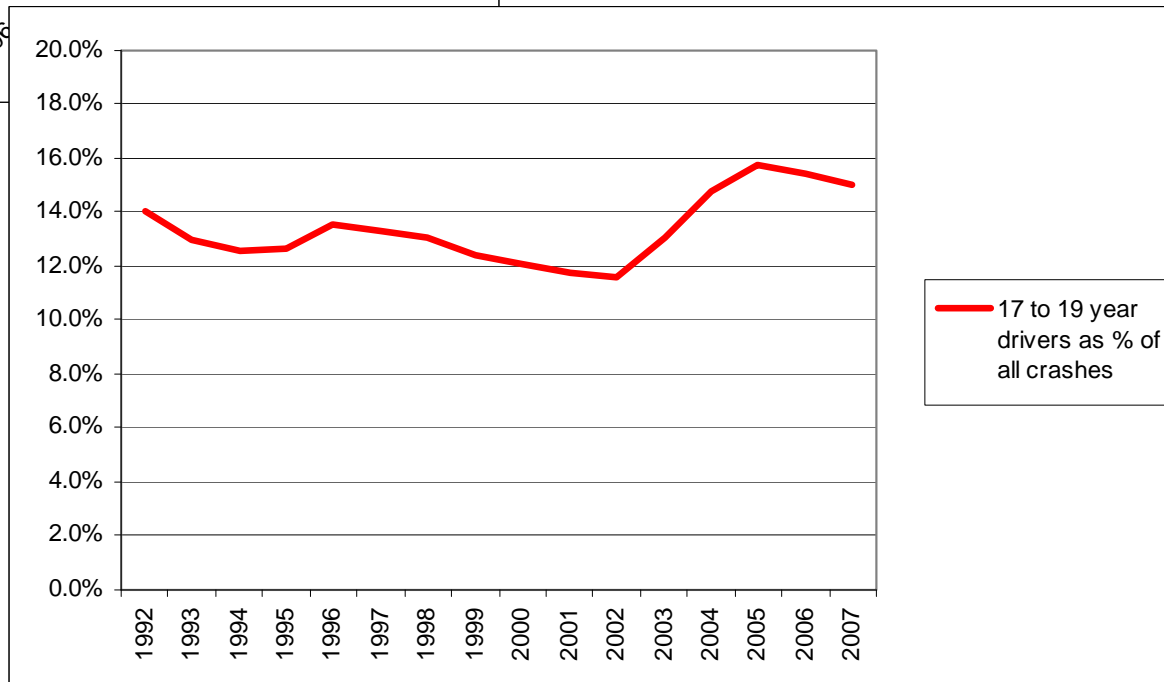
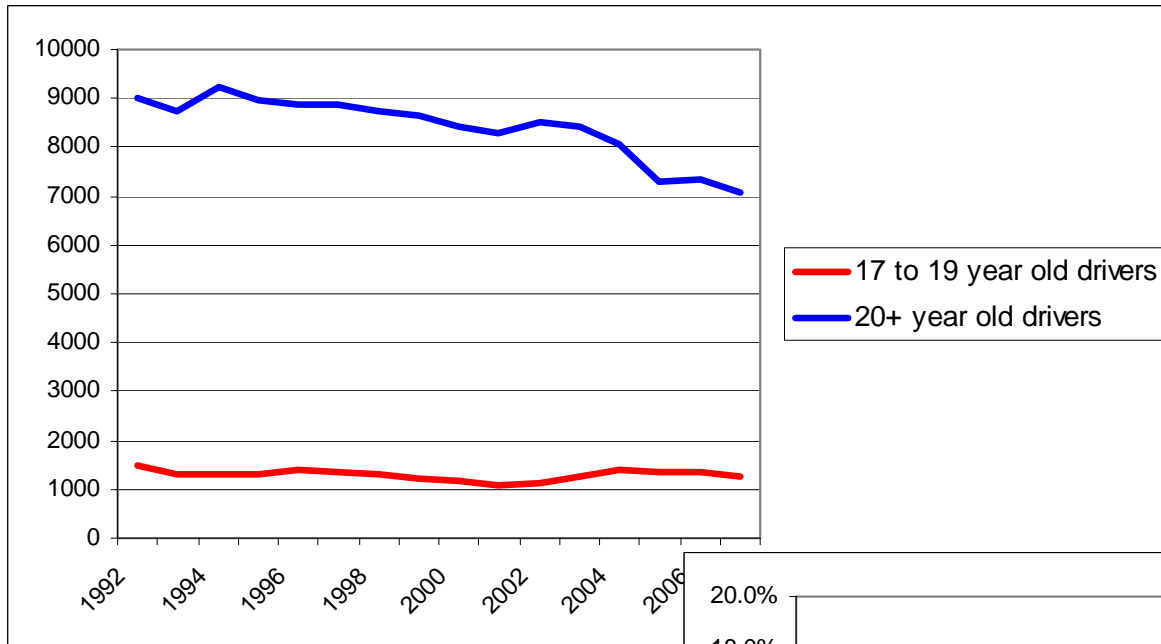
Research questions

- What factors contribute to young driver crashes in Wales?
- Could these factors be incorporated into a GDL programme?
- What would be the potential savings (crashes prevented, casualties avoided, costs saved) of such a scheme in Wales?

Methods

- STATS19 data
 - 1992 to 2007
- Descriptive analysis of trends in young driver crashes (17-18, 17-19 and 17-20) v other drivers
- Regression analysis to identify contributors to risk of young driver crashes
- Estimate numbers of crashes avoided, casualties prevented and costs saved at various levels of GDL
 - Estimated since 1999, last significant change in GDL made in NZ
 - DfT produces “Highways Economics Note” – estimates costs of different types of crashes
- Adjust estimates based on compliance with GDL (90%, 75%, 50%, 25%)
- Adjust estimates based on crash still occurring, but fewer people being injured (daytime crashes only)

Descriptive analysis



Logistic regression analysis

- 17 to 19 year data only
 - All 3 age groups produce v similar results
- Univariate analysis

	OR	LCL	UCL	Sig.
Darkness	1.86	1.80	1.92	0.00
Fine (v other)	0.96	0.90	1.02	0.22
Rain (v other)	1.20	1.12	1.29	0.00
Snow (v other)	0.82	0.66	1.03	0.09
Crash 9pm to 459am	2.28	2.20	2.36	0.00
Crash 9pm to 559am	2.21	2.13	2.29	0.00
Crash 10pm to 459am	2.19	2.11	2.28	0.00
Crash 10pm to 559am	2.11	2.03	2.19	0.00
Any 15 to 19 pass no supervisor	11.72	11.19	12.28	0.00
2+ 15 to 19 pass no supervisor	14.79	13.43	16.28	0.00
2+ 15 to 24 pass no supervisor	9.45	8.73	10.23	0.00
Any 15 to 24 pass no supervisor	7.50	7.22	7.80	0.00
20 (v 70)	0.59	0.26	1.35	0.21
30 (v 70)	1.31	1.22	1.40	0.00
40 (v 70)	1.42	1.30	1.55	0.00
50 (v 70)	1.31	1.14	1.49	0.00
60 (v 70)	1.62	1.51	1.73	0.00
Carriageway hazards present	1.02	0.93	1.11	0.71
Road sinuosity > 1.00	0.86	0.84	0.89	0.00

Multivariate analysis

	strict					relaxed			
	OR	LCL	UCL	Sig		OR	LCL	UCL	Sig
Dark	1.30	1.24	1.36	0.00	Dark	1.46	1.40	1.52	0.00
Fine (v other)	1.07	0.99	1.15	0.09	Fine (v other)	1.08	1.01	1.17	0.03
Rain (v other)	1.08	1.00	1.18	0.05	Rain (v other)	1.11	1.03	1.21	0.01
Snow (v other)	0.78	0.57	1.06	0.11	Snow (v other)	0.83	0.61	1.12	0.22
Crash 9pm to 559am	1.29	1.23	1.36	0.00	Crash 10pm to 4.59am	1.49	1.42	1.57	0.00
Any 15 to 24 pass no supervisor	6.71	6.43	7.00	0.00	2+ 15 to 19 year old pass no supervisor	12.13	10.93	13.46	0.00
20 (v 70)	0.61	0.25	1.47	0.27	20 (v 70)	0.62	0.27	1.46	0.28
30 (v 70)	1.29	1.16	1.42	0.00	30 (v 70)	1.20	1.09	1.33	0.00
40 (v 70)	1.29	1.15	1.45	0.00	40 (v 70)	1.30	1.16	1.45	0.00
50 (v 70)	1.27	1.09	1.48	0.00	50 (v 70)	1.27	1.09	1.47	0.00
60 (v 70)	1.26	1.14	1.40	0.00	60 (v 70)	1.30	1.17	1.43	0.00
Cway Hazard present	0.86	0.78	0.94	0.00	Cway Hazard present	0.89	0.81	0.98	0.02
Road sinuosity >1.00	1.03	0.99	1.06	0.12	Road sinuosity >1.00	1.05	1.02	1.09	0.00

Estimated crash savings

		9pm to 5.59am, any 15 to 24 pass	10pm to 4.59am 2+ 15 to 19 pass
90% prevented	Total prevented	3860	2066
	Average prevented pa	483	258
25% prevented	Total prevented	1072	574
	Average prevented pa	134	72
90% prevented	Total prevented	£249 M	£133 M
	Average prevented pa	£31 M	£17 M
25% prevented	Total prevented	£69 M	£37 M
	Average prevented pa	£9 M	£5 M

Estimated casualty savings

17 to 19		9pm to 5.59am, any 15 to 24 pass			
2000-2007	Casualties	Fatal	Serious	Slight	Total
90% prevented	Total prevented	118	848	7030	7996
	Average prevented pa	15	106	879	999
25% prevented	Total prevented	33	236	1953	2221
	Average prevented pa	4	29	244	278
		10pm to 4.59am, 2+ 15 to 19 pass			
		Fatal	Serious	Slight	Total
90% prevented	Total prevented	87	568	3717	4372
	Average prevented pa	11	71	465	547
25% prevented	Total prevented	24	158	1033	1215
	Average prevented pa	3	20	129	152

Estimated cost savings

17 to 19		9pm to 559am, any 15 to 24 pass			
2000-2007	Casualties	Fatal	Serious	Slight	Total
90% prevented	Total prevented	£168 M	£136 M	£87 M	£391 M
	Average prevented pa	£21 M	£17 M	£11 M	£49 M
25% prevented	Total prevented	£47 M	£38 M	£24 M	£109 M
	Average prevented pa	£6 M	£5 M	£3 M	£14 M
		10pm to 459am, 2+ 15 to 19 pass			
		Fatal	Serious	Slight	Total
90% prevented	Total prevented	£125 M	£91 M	£46 M	£262 M
	Average prevented pa	£16 M	£11 M	£6 M	£33 M
25% prevented	Total prevented	£35 M	£25 M	£13 M	£73 M
	Average prevented pa	£4 M	£3 M	£2 M	£9 M

Limitations

- STATS19 has only casualty data, not passenger data
 - Over / under estimate of potential savings
 - Supervisor not identified, other casualties identified later
- Preliminary analysis has not adjusted for crashes in which multiple YDs were involved
- Assumption made that for certain levels of compliance with GDL, all crashes would be prevented
 - Needs additional analysis of ‘savings’ based on crashes still occurring, but casualties being reduced because fewer passengers in car
- Not able to include BAC restriction in analysis
- No analysis of costs of implementation
- Not possible to identify ‘older novice’ drivers (under estimates savings)
- No exposure data / licencing data for adjusting findings

2008...

- 129 fatal crashes
- 143 deaths, another 89 injured
- 222 vehicles involved, 22 driven by 17 to 19 year olds

- 26 people killed in crashes involving 17-19 year old drivers
- 21 people killed in the vehicles driven by 17-19 year old drivers

2008 + GDL.....

- 20 lives may have been saved
 - GDL covering night time driving and passenger carriage
- Estimated value of saving these lives...
- £32.8M

Next steps

- Further analysis to address limitations
- Link STATS19 with A and E / IP data to repeat analysis and try to improve estimates of potential benefits
- Repeat for England and Scotland
- Make a case for implementation?
- Accompany this with a protocol for evaluation

Conclusions

- GDL could save the lives of young people in Wales
- GDL could reduce injury risk for all novice drivers
- These data are likely to underestimate the potential 'savings'
- Could also improve health of communities in Wales that have 'problems' with YDs

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