Graduated Driver Licensing

Where to Next?

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Graduated Driver Licensing: Where to Next?
Dr Teresa Senserrick

Outline

• What is Graduated Driver Licensing (GDL)?
• Why GDL?
• GDL: a success story
• Effectiveness of components
• Other considerations
• Australian GDL systems
• Conclusions and Implications
  – Current trends
  – Focus on Western Australia
What is Graduated Driver Licensing (GDL)?

- Staged approach to driver licensing
  - Must complete requirements before “graduate” to next stage
- Traditionally three stages
  - Learner, Provisional, Full licence stages
- Commence in lower risk conditions, increasing exposure to higher risk conditions as gain experience and maturity
  - Introduced as alternative to increasingly punitive measures
Why Graduated Driver Licensing?

Role of Inexperience – Australia (1)

(VicRoads, 2008)
Role of Inexperienced Drivers in Australia (2)

![Graph showing the number of drivers in casualty crashes over years after licensing.](Queensland Transport, 2009)

Role of Inexperienced Drivers in Australia (3)

![Bar chart showing the number of drivers in casualty crashes by age.](RTA, 2009)
Role of Inexperienced Drivers

Role of Inexperience – Canada

(Mayhew et al, 2003)

Role of Inexperienced Drivers: United States (1)

(McCarrt et al, 2003)
Role of Inexperience: United States (2)

(McCarrt et al, 2003)

Age vs inexperience – The Netherlands

(Twisk & Stacey, 2007)
Errors vs risk taking (US fatal crashes) 

(Ferguson, 2005)

GDL: a success story
Success of GDL

- 40+ evaluations consistently report crash reductions
  - Also injuries/hospitalisations, fatalities
- Reductions range from 20-40%
- 2009 systematic review concluded average 31%
- Higher reductions when stronger GDL systems
  - “Good” 30% better than “Poor” models
  - “Fair” 11% better than “Poor” models

(McCarrt et al, in press; Novoa et al, 2009; Shope, 2007; Williams, in press)
Known effective components

Strongest research evidence
- Zero alcohol
  - 22% crash reduction vs 17% for 0.02% BAC
- Nighttime driving restrictions
  - 18% crash reduction 9pm start, 9% 1am start
- Passenger restrictions
  - 21% crash reduction no passengers, 7% one passenger
- Higher licensing age
  - 13% crash reduction 12 months increase, 7% 6 months*

* generally 16 to 16.5 years
(McCarrt et al, in press; Williams, in press; Zwerling, 1999)

Likely effective but require further evaluation

Developing evidence
- Reduced demerit point thresholds
  - Demerit points predictive of crash risk (Australian research)
  - Demerit point systems known to be effective but reduced demerits in GDL not yet evaluated
    - 5% crash reduction EU study of demerit points for all drivers
    - Likely to be higher for young, novice drivers
- Good behaviour requirements
  - Typically 6-12 month violation-free period before graduate
  - 10% reduction in violations in one early US evaluation

(Diamantopoulou et al, 1997; McKinght et al, 1983; Zaidal, 2002)
Components with inconsistent evidence (1)

- Longer learner periods
  - 5-32% crash reduction in early study of 15 North American states
    - 0 to 6 months, 6 to 12 months
  - Recent US-wide review found no overall benefit
  - Lowering learner age to 16 retaining 18 provisional age effective in Sweden* and Victoria, but not Norway*
    - 15% minimum overall reduction in Sweden (40% compared to previous cohort)
    - No formal evaluation in Victoria yet
    - In Norway, learners did not opt to start early
  - Impact on remote program delivery models

Components with inconsistent evidence (2)

- High supervised driving hours/kilometres
  - Increases driving variety by times of day (esp dark), road types, speed zones, weather, trip duration
  - 2,000-3,000km/h in parts of Europe
    - 50% crash reduction Austria (optional, only 8% selected)
    - No reduction France (“Driving with two heads”)
  - 100-120 hours in Australia
    - Preliminary research in VIC suggests complex driving practice only increases from ~90 hours
  - Notable hardship for many young drivers
    - Those without (suitable) vehicle, supervisor
    - Families with multiple learners
  - Learner mentor programs lack support/sustainability

*not full GDL models

(Cavallo, 2009; Groeger & Brady, 2004; McCarrt et al, in press; McKnight & Peck, 2002; Senserrick et al, 2009; Twisk & Stacey, 2007; Youthsafe, 2009)
Components with inconsistent evidence (3)

- Mobile phone restrictions
  - Use consistently shown to impair driving performance
  - Higher use, including text messaging, among young drivers
  - Only one evaluation to date in the US (North Carolina) found restriction had no impact on use
  - Australia, with stronger enforcement system and already restricting hand-held use, more likely to be effective

(Foss et al, 2009; McEvoy et al, 2006; Patten et al, 2004; Strayer & Drews, 2004)

Components lacking evidence

- High powered vehicle
  - WA evaluation found no role of power-to-weight ratio
    - Further evaluation in progress in WA
  - Restricts young drivers from some of safest cars
  - Own car vs. shared car increases exposure, risky driving and crashes

- Maximum speed restrictions
  - Evaluation of removal of 80km/h restriction in Victoria in 1988 showed no evidence of crash increase
    - Possibly in part due to prior low compliance
  - Potential wider impact on other traffic

(Palamara & Gavin, 2005; Senserrick et al, 2007; VicRoads, 1988)
Counterproductive components

- Short learner permit tenure
  - Encourages to progress to provisional licence rather than pay for another learner permit
- Education initiatives that allow or encourage earlier licensure
  - 45% increased crash risk in UK
- Advanced driver training (versus truly defensive training)
  - 23% increase skid-related crashes on slippery roads in Norway when this component added to compulsory training (males only)
  - No change in Finland while all other crash types reduced (including national crash rates)

(Boase & Tasca, 1998; Katila et al, 2004; Mayhew, 2007; Senserrick & Haworth, 2005)

Other considerations

- Community support strengthens once introduced
  - US: 70-75% young drivers, 70-90% parents support night/passenger restrictions
  - ACT/NSW drivers (2004): 53% night, 54% passenger
  - VIC (2005): 40% night, 66% passenger, mobile, 87% 100-120hrs
- Differentials by rurality and socioeconomic status (SES)
  - Access to vehicles, supervisors
  - Older of vehicles, more severe injury outcome
  - Limited public transport in rural areas
- Potential unintended consequences
  - Increase in unlicensed driving

(AMR Interactive, 2004; Chen et al, 2010a, 2010b; RACV, 2005; Senserrick & Haworth, 2005; Williams, in press)
## Learner DRIVER Licence (1)

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>ACT</th>
<th>NSW</th>
<th>NT</th>
<th>QLD</th>
<th>SA</th>
<th>TAS L1</th>
<th>TAS L2</th>
<th>VIC</th>
<th>WA L1</th>
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<td>✓</td>
<td>1yr</td>
<td>2yr¹</td>
<td>2yr²</td>
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<td>4yr same licence</td>
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<td>100</td>
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<td>x</td>
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<td>✓</td>
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<td>x</td>
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<td>x</td>
<td>5</td>
<td>x</td>
<td>4</td>
<td>4</td>
<td>5</td>
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1: Suspension free  
2: Violation free

### Provisional DRIVER Licence (1)

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<td>x</td>
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<td>x</td>
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<td>No mobile phone use</td>
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</table>

CBT: Competency Based Training option
Provisional DRIVER Licence (2)

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<tr>
<td>Passenger limit</td>
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<td></td>
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<td>x</td>
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<tr>
<td>Demerit point limit in 12 months</td>
<td>4, 8*</td>
<td>4</td>
<td>7</td>
<td>5</td>
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</table>

* 8 if CBT option

1: 12-5am for 6 months
2: 1 passenger aged <21 between 11pm-5am
3: 1 passenger aged 16-21

Other features (1)

- “3 for 1” supervised driving hours with professional instruction: NSW, QLD
  - One hour driving lesson with professional instructor counts as three hours, up to 10 hours of lessons
  - Effectively reduces 100>80 hours, 120>100 hours
  - Not evaluated
    - Research suggests ‘best practice’ is mixture of some professional instruction with many and varied lay supervised driving hours
      - Not excessive professional lessons in absence of lay supervision
    - Potential to ‘correct’ poor habits, increase understanding of road laws, etc, suggests may be beneficial (and not harmful)

(Bingham & Shope, 2004; Ferguson et al, 2001; Groeger & Brady, 2004; Shope et al, 2001)
Other features (2)

- Nighttime/Passenger restriction after (serious) offence suspensions: eg SA, VIC
  - SA 12-5am, VIC 1 passenger 12 months
  - Not evaluated specifically for offenders
    - GDL research suggests will reduce crash risk
- Alcohol interlock: eg SA, VIC
  - VIC 1\(^{st}\) offence for BAC .07-.15\% for P1 and <26 years
  - Not evaluated specifically within GDL for young drivers
    - Very effective in reducing recidivism when fitted
    - Commonly tampered with and unknown long-term effects when removed

(Debeirness, 2001; Voas et al, 2002)

Other features (3)

- Hoon laws: NSW, QLD, SA, VIC, WA
  - NOT GDL per se but most offenders are young drivers (17-25)
  - Vehicle impounded, confiscated, sold/destroyed for “anti-social” offences (eg burnouts, “donuts”, drag racing, excessive speed)
    - WA 1\(^{st}\) offence 28 days, 2\(^{nd}\) 3 months
    - VIC 1\(^{st}\) offence 48 hours, 2\(^{nd}\) 3 months, 3\(^{rd}\) confiscation
    - NSW immediate licence suspension
      - If not owner, 1\(^{st}\) warning to owner, 2\(^{nd}\) 3 months
      - If owner, 1\(^{st}\) offence 3 months, 2\(^{nd}\) confiscation
      - Repeat offenders face 9 months jail
  - Not evaluated specifically within GDL for young drivers
    - 15-70\% reduction in repeat offences in NZ, US
    - Unknown impact on unlicensed driving, social consequences

(NRMA, 2002)
Other features (4)

- Zero tolerance on speed: NSW
  - ANY speed offence by P1 driver minimum 3-month suspension
  - High number of licence suspensions
    - Unknown impact on unlicensed driving, social consequences
  - Does not allow for novice error
- Demerits for non-driving offences: eg NSW, SA, WA
  - E.g., unpaid parking tickets, vandalism, graffiti
  - Unrelated and unlikely to be beneficial
  - Unknown impact on unlicensed driving, social consequences

(Waller, 1993)
Conclusions (1)

- GDL is a success story
  - Most effective initiative to-date, strong community support
- Certain components the most effective
  - Zero alcohol limit
  - Nighttime and passenger restrictions
  - Increasing licensing age
- Other components likely effective
  - Mobile phone restrictions
  - Lower demerit point thresholds
  - Good behaviour requirements
  - Nighttime and passenger restrictions for offenders
  - Alcohol interlocks for offenders

Conclusions (2)

- Components with inconsistent /unknown findings
  - Longer learner period
  - 100-120 supervised driving requirement
  - Hoon, vehicle confiscation, zero speed tolerance policies
- Components lacking evidence
  - High powered vehicle restrictions
  - Maximum speed restrictions
Conclusions (3)

- Counterproductive components
  - Short learner permit tenure
  - Education initiatives that allow or encourage early licensure
    - Unknown impact of increased demerits/removal of P plates
  - Advanced driver training requirements
  - Likely learner supervisors without BAC limit

Conclusions (4)

Australian GDL trends
- Each state varies, moving beyond traditional 3 stage
- Systems are strengthening but still many gaps
- Increasingly extending L, P periods, supervised hours
- Revising assessments
- Increasingly introducing punitive elements

(Senserrick, 2009)
### Focus on Western Australia

- ✓ Zero BAC
- ✓ Increased L period
- ✓ Long supervisor licence tenure
- ✓ Age 17 for Ps
- ✓ Nighttime restriction
- ? Practical test during Ls
- ? No high powered vehicle restriction
- × No BAC limit for supervisors
- × No mobile phone restriction
- × No passenger restriction
- × Demerit threshold not reduced for Ps
- × Demerits for non-driving offences
- × Low full licence age
- ? Low minimum supervision
- ? No alcohol interlock

### Implications (1)

- Strengthen GDL models with known effective components
  - Need to avoid/remove counterproductive components
- “One size fits all” approach unlikely to be optimal
  - Rural and low SES youth can need additional support
- Increased penalties for offences should target volitional violations not novice errors
- Caution extreme punitive measures
  - Against original philosophy of GDL as a reward system approach
  - Potential to increase unlicensed driving and negative social consequences
Implications (2)

- Any potential increase in unlicensed driving will undermine GDL effectiveness
  - Need to better monitor and address
- Most benefits are shown for the youngest drivers (i.e., 16 year olds in the United States)
  - New focus needed on P2
- Need Australian evaluations
  - State-based research with local statistics may best identify and address local issues but in the absence of this, known effective components likely to be universally effective