Public Health Research Programme – Rapid Review Report

Project title	Pre-intervention qualitative component of proposed evaluation of public health impacts of Graduated Driver Licensing in Northern Ireland
NETSCC ID number	14/232/01
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This report should be referenced as follows:	Steinbach R, Christie N, Prior L, Garnett E, Mullan P, and Green J. (2016) *Pre-intervention qualitative component of proposed evaluation of public health impacts of Graduated Driver Licensing in Northern Ireland.* Final Report to NIHR. London: LSHTM
Disclaimer:	This report presents independent research funded by the National Institute for Health Research (NIHR). The views and opinions expressed by authors in this publication are those of the authors and do not necessarily reflect those of the NHS, the NIHR, NETSCC, the PHR programme or the Department of Health. If there are verbatim quotations included in this publication the views and opinions expressed by the interviewees are those of the interviewees and do not necessarily reflect those of the authors, those of the NHS, the NIHR, NETSCC, the PHR programme or the Department of Health. This report has not been subject to peer review or any formal editorial process.
Acknowledgements	The research was funded by the NIHR Public Health Research Programme; grant number 14/232/01. We thank Avril Porter, for Project Administration; Fay Denis for assistance in preparing the data for archiving, Dr Sarah Jones (Cardiff University), for analysis of crash data and advice throughout; Dr Phil Edwards for advice; Dr David Dallimore (Bangor University/Prifysgol Bangor) and Dr Dan Lewis, Dr Melissa Palmer and Prof Paul Crawshaw (University of Teeside) for help with recruitment. We are grateful to all of those who gave their time so generously to participate in group discussions.
Background	Young adults are at disproportionate risk of injury as drivers and passengers (Jones et al 2015). Graduated Driver Licensing (GDL) schemes aim to reduce exposure to high risk conditions such as carrying teenage passengers (Ouimet et al., 2015), drinking alcohol and driving late at night (Russell et al., 2011, Clarke et al., 2006) for a set period of time (e.g. six months) post-test. A systematic review identified that GDL schemes have the potential to reduce injury risks for novice drivers, but noted considerable heterogeneity across schemes, and concluded that there was insufficient robust evidence to demonstrate whether effects were due to reducing risk for licensed drivers or to reducing the number of licensed young adult

	drivers (Russell et al., 2011). There are also policy concerns around potential negative impacts of GDL schemes on the public health, including: changes travel modes which might increase use of riskier modes, such as motorcycles; increases in transport-related social exclusion; implications for equity if the impact of transport exclusion disproportionately affect those in rural or more deprived areas (Kinnear et al 2013, DfT 2008). The broader context is the evidence of declining car ownership and modal share in high income settings (the 'peak car' thesis) (Metz 2013): the meaning of car travel is changing. A proposed implementation GDL in Northern Ireland (NI) provided an opportunity to map the public health impacts of introducing a GDL scheme in a UK setting and to generate baseline data that could be used in a future evaluation.
Plain English Summary	**Why was the research needed?** Young adults are at higher risk of serious injury and death as car occupants than older adults. To address this problem, Northern Ireland is planning to introduce a Graduated Driver Licensing (GDL) scheme, which will change how training and testing of new drivers happens. Changes proposed include a minimum of six month's mandatory learning period; supervised training; and restrictions on young passengers aged 14 to 20 at night during the first six months of driving. In other countries, similar schemes have reduced casualty rates for young drivers. However, we don't yet know whether this is because these schemes put some young adults off learning to drive until they are older. In many areas, cars are essential for getting to education, work, training and social opportunities. Restrictions on passengers might, for instance, increase the number of people who drive, because their friends cannot give them a lift, or increase the number choosing to use a motorcycle. These might increase the risk of road injuries. Restrictions might also affect how easily young adults can get to work, education or apprenticeships. These changes might affect some social groups or places more than others. Once the scheme is introduced, and has been running for a few years, we can study what overall effects it has had on health. To do this, we need to know more about how driving currently affects the health and wellbeing of young adults. We need to have a record of how young adults and their parents use cars now, so we can compare this to what they do in future, after the scheme has been introduced. **What did we do?** In total, 84 people took part in the study. They were asked to take part in a group discussion. We included 17 groups of young adults aged 16-21, and four groups of parents with children aged 16-21. Half the groups were in Northern Ireland and half in areas of England and Wales. We analysed what people said in the discussions to identify the role of car driving and being a passenger in everyday life in a range of contexts, and to identify all the possible effects that restrictions on licensing might have. We then anonymised the data from the group interviews for researchers in the future to use. **What were the main findings?** Access to a car was seen as essential in rural areas, and for those in work or apprenticeships. In rural areas, access to a car was also important for getting to social activities, and to provide a much-needed place for socialising. Some young people reported risky driving, and sometimes being uncomfortable taking lifts with those who took risks. These were hard to avoid, as there were strong

	social obligations to accept lifts. Alternatives to cars, such as bus travel or cycling, remain less popular, even when available. Parents were more strongly in favour of learning to drive as soon as possible than their children. There was little attachment to cars as consumer status symbols. Owning a car was seen as bringing responsibilities as well as costs. Informal car sharing was particularly common in Northern Ireland, but many young people in England and Wales were also reliant on cars owned by others for transport needs. Technologies used to monitor driving behaviour ('the black box in the car') were popular for saving on insurance premiums, but some expressed worries about these technologies. Few people mentioned environmental concerns as a reason not to drive. **What will we do with the findings?** The findings were discussed with the Department of the Environment in Northern Ireland to help ensure that any future evaluation of the scheme will include all the health outcomes that are important to those likely to be affected. We are writing up the findings to share with other researchers. We have securely archived the data for use in a future study of the effects of the GDL scheme.
Scientific Summary	***Background****:* Young adults are at disproportionate risk of injury as drivers and passengers. A systematic review identified that Graduated Driver Licensing (GDL) schemes have the potential to reduce injury risks for novice drivers, but concluded that there was insufficient robust evidence to demonstrate whether this was due to reducing the number of drivers. There are potentially negative impacts on the public health, if changes to licensing change travel modes, or reduce access to transport, and implications for equity if these disproportionately affect those in rural or more deprived areas. A proposed implementation GDL in Northern Ireland (NI) required these public health implications to be mapped in full in order to inform future evaluations of the GDL scheme, and for baseline data on young adults' use of cars to be generated for comparison with future post-intervention data. As there is some evidence of declining car ownership and modal share in high income settings (the 'peak car' thesis), it was also important to understand current orientations to cars and driving in order to understand the context of this (and other) interventions on road safety. ***Aims****:* This project aimed to: 1) conduct a pre-intervention qualitative case study of young adults and parents in NI and comparator settings in England and Wales (E&W) to map the pathways through which changes to licensing are theoretically related to public health and health equality outcomes; 2) generate a base line data set for a future evaluation; and 3) understand the role of cars and driving in a range of settings in Northern Ireland, England and Wales. ***Methods****:* We conducted 17 group interviews with drivers and non-drivers aged 16-21; and 4 group interviews with parents of children aged 16-21 (N=84 participants in total). Groups were purposively selected to generate a maximum variation sample in NI, and a sample of areas of E&W with comparably high young adult casualty rates; and to include a range of factors known to be associated with driving behaviour (including area deprivation, gender and rurality). Deductive analysis focused on identifying potential public health impacts of GDL; exploring the current role of private car transport across a range of settings; and describing the context in which GDL will be implemented. A more inductive analysis explored the role of cars and driving. Data have been deposited for future comparison three year post-GDL implementation. Meetings with stakeholders in

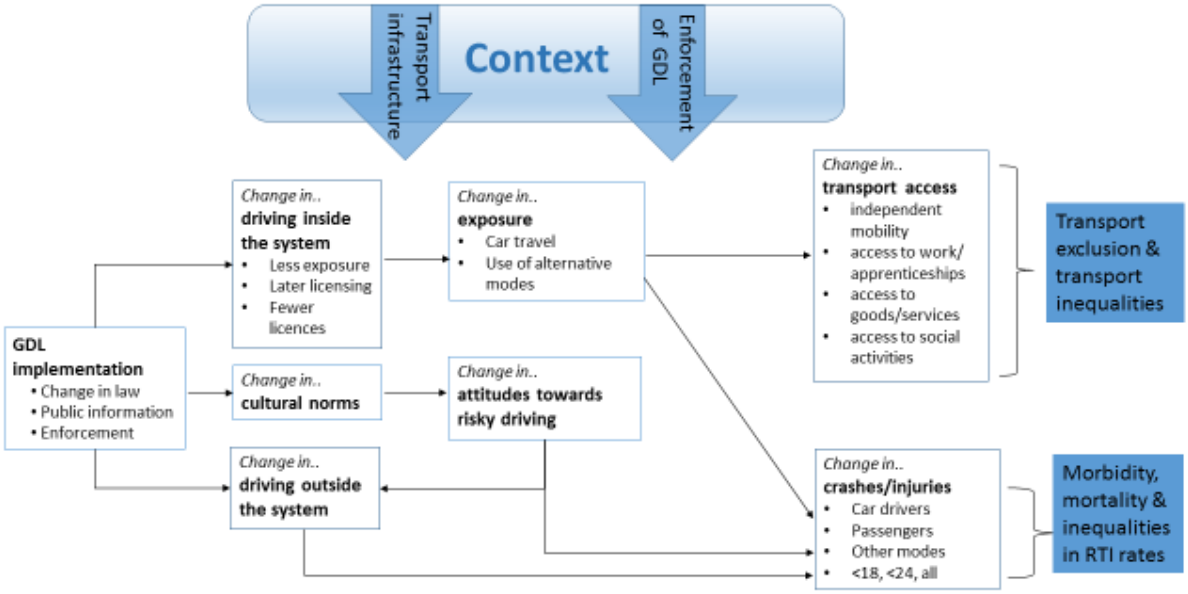
	NI agreed a logic model to inform future evaluation. ***Findings:*** Parents were often more strongly in favour of early licensing than young adults. In rural areas in particular, access to a car was essential for securing work, apprenticeships and involvement in social activities. Further, the car was an important site of socialising in itself. For a minority of young adults, this included enjoyment of risk taking activities, but more reported discomfort with risky driving. There was considerable 'driving outside the system' in rural areas, particularly likely to be reported in NI. Negative attitudes to drink driving suggest norms about driving are malleable: in NI, films on road safety were reported as effective for changing attitudes. Less attachment to personal car ownership was reported compared with other studies, with participants in NI in particular reporting complex informal car sharing arrangements. In-car technologies to monitor driving behaviour were popular when perceived as 'rewarding good behaviour' through lower insurance premiums, but with some reticence (particularly in NI) on the surveillance implications. In the context of the 'peak car' thesis, there was evidence that cars remain the most valued element of most local transport economies. Unlike evidence from London and other cities, there was little sense of the rise of alternative modes, such as cycling. However, neither were cars desired iconic consumer items. Orientations towards car transport could be characterised as instrumental rather than affective, and ironic rather than aspirational, with private cars seen as a pragmatic part of a mixed transport mode economy. ***Implications:*** The key pathways through which GDL schemes are likely to impact on health are through reducing risky activities (e.g. carrying young passengers; driving late at night) and through changing social norms around, for instance, the car being a source of entertainment for young adults. Schemes introduced with due regard to the practicalities of life in rural settings (in which car sharing is the norm, for instance, and enforcement may be challenging) have potential to reduce the high rate of road injury for young adult drivers.
Study aims, objectives and research question	**Aims** 1. To inform a future full evaluation of the public health impacts of introducing Graduated Driver Licensing, we aimed to: a) inform the design of this evaluation; and b) collect essential pre-intervention qualitative data from Northern Ireland, England and Wales. 2. To provide evidence on the role of driving for young adults, we aimed to analyse transcripts to assess the relevance of the 'peak car' thesis. **Objectives** 1) To map pathways linking driving or being a passenger to public health for young adults across a range of settings. 2) To describe the context of pre-GDL implementation in NI, and how components of the proposed GDL might hypothetically change pathways identified in (1). 3) To refine the logic model and outcomes for the full evaluation using outputs of (1) and (2), in the light of existing literature and discussions with policy partners. 4) To ensure a rigorous future evaluation is possible by: archiving a qualitative baseline dataset; securing data access to individual level data; identifying partners for PPI involvement.

Methods	A total of 84 participants were interviewed in 'natural groups' of peer groups of young adults aged 16-21 (N=9 in NI and N=8 in E& W); or parents of young adults (N=4). The topic guides aimed to elucidate stories on: travel to education, work, training and social activities; experiences of driving and being a car passenger; decisions around driving licencing; driving outside the system; and telematics. Fieldwork took place between June 2015 and October 2015. Areas and groups were purposively selected to generate a maximum variation sample in terms of individual and area level variables likely to shape experiences of car travel, and those in E&W selected from areas with comparably high casualty rates to rates in NI. Analysis of transcribed discussions used thematic content analysis (Aim 1) and a more inductive analysis (Aim 2). Given the challenges of evaluating complex interventions, future evaluations will need high quality qualitative data to enhance ability to make causal inferences
Results	Our data suggested evidence of various accepted situations in which one might 'drive outside the system', particularly in Northern Ireland, including explicitly risky practices. Public transport was largely seen as poor quality, and inconvenient, and could on occasion also be viewed as unsafe leaving users open to possible threats of violence and intimidation. However, there was little to suggest that public transport was of inherently lower status, and most young adults used a mix of transport modes chosen largely for their instrumental, rather than affective, benefits. In rural areas, access to private cars may be essential, and there was considerable pressure to learn to drive as a marker of independence, but there was also a widespread normative expectation that transport requirements were a communal responsibility, and, particularly in NI, one that was met primarily within households. In all countries, as young adults learnt to drive, they would be expected to contribute to a wider transport economy, including peers as well as family members, but this was particularly evident in NI. Across all settings, car ownership per se was not particularly prized, and there were few indicators that cars were widely seen by young adults as 'consumer status symbols'. Indeed, many young adults in E&W considered that they could 'manage without' a car, despite widespread reliance on others for meeting many transport needs. It seems, therefore, that although access to car transport is still widely considered essential, and ability to drive still considered a marker of adulthood, that ownership is less vital. In contrast to the accounts of the seductions of cycling in some English cities, young adults in NI, in particular, were scathing about the possibilities of cycling as an attractive option. Cycle commuting was something that happened elsewhere, and associated with a very foreign aesthetic. In England, doing without a car was considered a possibility if one lived in London, or other major cities, but not for people in less well-resourced settings. The use of telematics to monitor driving behaviour was welcomed not only by parents, but by many young adults who had used in car devices to reduce insurance premiums, although there were some negative associations of the surveillance involved. Discussions of sustainability were notably absent in discussions. Environmental concerns were not offered as reasons to drive less, and few commented on the wider arguments about the sustainability or potential public health implications of transport system.
Conclusions and Recommendations	**Implementation** Telematics are likely to be far more acceptable if presented as a way of insurance companies rewarding good driving rather than an essential component of any GDL scheme. More generally, GDL schemes may be more readily supported if presented as initiatives to improve or increase the safety of young adults rather

	than as something that monitors or restricts them. There is already considerable driving outside the system, where restrictions on driving were seen as unrealistic. Some of this, in rural areas, is widely tolerated as part of the necessary compromises that need to be made in order to manage, such as allowing children to drive tractors short distances. If GDL schemes were overly restrictive, there may be perverse incentives to exacerbate this. However, norms about what is reasonable are clearly malleable, given the widespread reporting of changing views on drink driving, which was now reported as unacceptable. In this setting, there were also suggestions that public information films on the dangers of driving were both credible, and effective, suggesting that good quality publicity on proposed GDL schemes could help change social views on the role of cars as sources of entertainment. **Evaluation** In order to unpack the mechanisms through which GDL packages work, it will be important to assess both changes in road injury overall, and the reductions in number of licenced drivers, to assess whether the impact is mainly through reducing or delaying licencing in young adults. In the US, where schemes apply only to young (rather than novice) drivers, there has been a noted lack of impact for those over 18, suggesting delays in licensing may mitigate benefits (Masten et al., 2011). A key component of the proposed scheme is that of restrictions on young passengers at night time, so time of day is an important variable to consider. Injury rates for all transport modes also have to be considered, to assess whether restrictions may have simply shifted travel to other, potentially more risky, modes such as motorbikes. An important pathway through which GDL schemes are likely to impact on road injury is through changing social norms about car transport, particularly around greater recognition of the risks to young drivers. If restrictions include those on taking passengers, this will undermine the use of cars as a site of socialising for young people, potentially changing the ways in which cars are used by young adults in rural areas in particular. Evaluations could usefully focus on changing norms about car use as well as injury rates. Participants in meetings with DOENI noted that impacts on social exclusion are likely to be short term, during the period of restrictions, whereas impacts from potential injury reductions will be longer term. The latter should therefore be the major focus of evaluation. However, it is important that any evaluation of GDL does not simply look at road injury rates. There are a number of other likely implications for the health and wellbeing of young adults which need to be taken into account to assess whether scheme introduced here (and other elsewhere) are likely to be beneficial overall for public health. Cars are of most interest to young adults for instrumental reasons: to access work, training and social life, and a key motivation to learn to drive is to provide reciprocal lifts within informal economies. Given reliance in rural areas on private car use, and the extensive social economy of lift giving, to which young adults were expected to contribute as soon as they were able, a broader potential impact on social exclusion has to be considered. Restrictions on taking passengers may, therefore, impact on both licensing decisions and post-implementation behaviour. Key pathways to include in a logic model are summarised in Figure 1 (appendix).
Appendices	1)Figure 1: Logic model for future evaluation 2) References

Appendix 1

Figure 1: Main pathways through which GDL might impact on the public health



Appendix 2

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