

Diploma in Forensic Medical Sciences

The impact of the change in drug driving
legislation in 2014 on the investigation of road
traffic offences.

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Abstract

Following a review into drink and drug driving in the United Kingdom in 2009 and consultations discussing proposed legislation, a new offence was introduced in 2014 as Section 5A in the Road Traffic Act 1988 making it illegal to drive with blood concentrations of specified drugs above specified limits. The Section 5A offence introduced did not require impairment to be proved, as needed for a Section 4 offence. The legislation relates to seventeen controlled drugs which can be subject to misuse; eight are illicit drugs of abuse and nine are prescription medications. A medical defence was created alongside this new offence to protect those taking medications as prescribed. The new legislation impacted police processes when portable drug analysers were approved, allowing testing for cocaine and cannabis in oral fluid at the roadside. Forensic toxicology laboratories worked to achieve accreditation to process these Section 5A samples necessitating a comprehensive drug panel. 96% of positive samples contained cocaine, cannabis or benzoylecgonine (a cocaine metabolite). Initial data showed an increase in drug driving convictions as a tentative preliminary impact of the new offence with 90% of drug driving suspects convicted in 2015, compared to 80% of drug driving suspects convicted the year before. The number of drug driving convictions increased year on year from 2009 to 2019. The impact on road safety is difficult to quantify, however advertising and information campaigns through pharmacies appeared to increase public awareness of the new offence. Early data from the self-reported Crime Survey for England and Wales indicated there was a reduction in drug driving after the legislation change. Limitations to fully assessing the impact of the legislation include the lack of directly comparable data collected before and after enforcement of the new law, lack of a cost-benefit analysis and the occurrence of the COVID-19 pandemic which will likely affect future analytic reports. In conclusion, there has been a significant improvement in drug driving prosecutions, for the most part removing this dangerous cohort of drivers from the roads. Further consideration of specified levels when both drugs and alcohol are involved, the inclusion of other controlled drugs on the specified drugs list and review of cannabis-related legislation if cannabis decriminalisation occurs are projects of interest for future investigation.

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List of abbreviations

PACTS – Parliamentary Advisory Council for Transport Safety

DVLA – Driver and Vehicle Licensing Agency

MDMA - 3,4-Methylenedioxymethamphetamine

HMICFRS – Her Majesty's Inspectorate of Constabulary and Fire & Rescue Services

ESRA – E-survey of Road users' Attitudes

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1 Introduction

- 1.1 The Road Traffic Act 1988 prior to 2014¹ contained legislation in Section 4 making it illegal to drive a vehicle when suffering from any mental or physical impairment caused by drug use. Sir Peter North's review² into drink and drug driving in the United Kingdom in 2009 highlighted the discrepancy between alcohol and drug prosecution processes and recommended twenty-three actions to be undertaken by the government to aid in clamping down on the "*significant drug driving problem*"^{2(p10)} identified. New legislation introduced in 2014³ in response to this report does not detract from the previously relied-upon Section 4 of the Road Traffic Act 1988¹, but rather added Section 5A as an amendment prohibiting the use of specified controlled drugs measured at specified levels when operating or attempting to operate a vehicle. This legislation change pertaining to drug driving was introduced with the aim of increasing safety on Great British roads and to improve prosecution success in cases against drug drivers.
- 1.2 Terminology used throughout the legislation requires clarification as strict definitions in medical literature are not consistently those used by the law. Drugs are defined by pharmacologists Rang and Dale⁴ as chemical substances producing biological effects when given to subjects. Although the word *drug* is often associated with illegal drugs, its pharmacological definition does not include this and as referred to in the new legislation, drugs can be used for therapeutic or recreational purposes, or both of these. While technically alcohol is a drug, it is dealt with separately from other drugs in the law; with a significantly lengthier history of use⁵ and knowledge of its effects on the body including risky driver behaviour⁶, inclusion in driving legislation was enacted decades ago⁷. Section 11 of the Road Traffic Act 1988⁸ throughout its existence defines a drug as "*any intoxicant other than alcohol*" without separating prescribed medicines from illegal drugs. A medicine is described by Rang and Dale⁴ as a chemical substance, possibly containing drugs, administered with remedial intent. Those with mind-altering properties can become addictive⁹. Some medicinal drugs, such as opioids, have strict controls in Great Britain, as the risks of taking these substances incorrectly can be disastrous for individuals and society, with opiates responsible for nearly fifty percent of drug-related deaths¹⁰.

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1.3 The new legislation impacted various aspects of policing, toxicological analysis and court proceedings for drug driving. Two comprehensive reviews were undertaken with funding from the Department for Transport which summarised much of the information available following the introduction of the legislation changes. In 2017, Risk Solutions was commissioned to evaluate the influence the law changes had on multiple facets of drug driving including roadside testing, arrests, laboratory analysis and prosecutions¹¹. A further report funded by the Department for Transport and undertaken by the Parliamentary Advisory Council for Transport Safety (PACTS) addressed the following 5 years and was published in 2021¹². For these reports, multiple stakeholders were contacted including but not limited to police constabularies, the Department for Transport, coroners, the Crown Prosecution Service, specialist expert panels, local authorities and the Driver and Vehicle Licensing Agency (DVLA).

2 Drug driving legislation prior to 2014

2.1 Legislation relating to drug driving has undergone a series of changes in wording since its original introduction in the Road Traffic Act 1930¹³. The wording was transformed from relating to being unable to properly control a vehicle due to drug use to being unfit to drive due to drugs in the Road Traffic Act 1960¹⁴. The Road Traffic Act 1962¹⁵ describes the lack of fitness to drive due to drugs as *impairment* and introduced paragraphs relating to the procedure for testing the blood for drugs and alcohol and specifies that a certificate be provided by a suitably qualified analyst for court proceedings. Whilst the Road Safety Act 1967 introduced a legal limit for drink driving, no such limits were created for drug driving¹⁶. In the following year, the home office type approved the first breathalyser The Alcotest 80 for use by the police¹⁷. The Road Traffic Act 1988 set out the legal framework for the subsequent years extending to the present day^{18,8}.

2.2 Changes made to the Road Traffic Act following 1988 were undertaken as amendments rather than as the replacement acts seen in the previous century. The act related to many elements of road use in Great Britain, including road safety (with the use of drugs and alcohol), vehicle construction, licensing including driving tests, insurance requirements, police powers and requirements in accidents. Examples of the multiple amendments to the act since its initial commencement include changes to the laws on seat belt usage in 1993¹⁹ and to laws on driving licences in 2014²⁰. Amendments have been made on behalf of other pieces of legislation, for example the Road Safety Act 2006 introduced a new schedule to the Road Traffic Act 1988 concerning vehicle immobilisation and removal and disposal in defined circumstances²¹.

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- 2.3 With regards to the drug driving law prior to 2014, Section 4 of the Road Traffic Act 1988¹ as it stood in 2013 made it illegal to operate a vehicle while experiencing impairment in driving ability due to the influence of drugs, with the phraseology of “*unfit to drive through drink or drugs*” used frequently. No specified limits were in place for blood levels of drugs as there were for alcohol and roadside breath testing to confirm drug use by a suspect was not available. Thus, proving that a suspect was unfit to drive and that their inability to drive safely was as a result of drug use was not simple. The existing legislation allowed for defence arguments in court to habitually cast doubt on the evidential value of a given driver’s impairment due to drug use. The preliminary impairment testing available to officers through section 6B of the Road Traffic Act 1988¹ comprised field impairment testing and pupillary examination.
- 2.4 Field impairment testing of those suspected of using drugs consists of a series of short tests directed by a police officer. The Code of Practice²² for this impairment assessment suggests that officers carrying out these tests must be appropriately trained and approved. The suspect is asked to execute tasks testing cognitive and cerebellar functions such as coordination, balance and the internal clock. The tests include the modified Romberg balance test, the walk and turn test and the finger to nose test. Field impairment testing is notoriously subjective and its evidence-base, or lack thereof, for using these techniques at the roadside to indicate impairment due to drugs has been criticised in the United Kingdom and the United States of America prior to^{23,24,25} and since²⁶ the legislation changes, despite a few generally small studies supporting its use^{27,28}. The controversy surrounds the lack of specified definitions for passing or failing each test and with real-life tests taken at uncontrolled locations whereby confounding variables could impact on the perceived test result. Each of these tests might demonstrate impairment in acting out the specific action required for the test, but were difficult to prove in court to directly correspond to an impaired ability to drive. Additionally, further than proving impairment of a driver’s ability to drive, the impairment had to be proven to be as a result of drug use. Contributory to this, many drug users develop tolerance to a drug’s effects over time, whereby they require higher doses to achieve the same effect. A dose that would significantly impair a first-time user’s driving abilities might have minimal or no effect on a habitual user. Thus, establishing that any impairment was significant, or indeed due to the effects of a drug, entailed a portion of subjectivity.

3 Necessity for changes to the Road Traffic Act 1988

- 3.1 The North Review into drink and drug driving² was an independent review authorised by the then Secretary of State for Transport in 2009 which laid out a proposed road map to be followed to bring investigation and prosecution of drug driving offences into line with those of drink driving with regards to an evidence base, testing practicalities and offence criteria. Considerations of various aspects of drug driving were investigated through literature reviews with attention given to the effects of individual substances and drug groups, the law as it stood at the time and consideration of how other countries were already addressing this problem. Issues raised in the report received succinct summaries of the relevant points, often presenting multiple sides of an argument alongside data sources where necessary. The review made fifty-one recommendations to the government on these topics; twenty-eight in relation to drink driving and twenty-three in relation to drug driving. Of significance and related to drink driving, the report recommended a reduction in the legal blood alcohol concentration from 80mg/dL to 50 mg/dL. Pertaining to drug driving, the recommendations included the following topics; seeking relevant data from coroners (England and Wales) and procurators fiscal (Scotland) on road fatalities where drug use featured; gathering information about the current system where there is a dearth of knowledge; investing in police, nurse and medical training to assess impairment; the creation of a new offence regarding driving with specified blood levels of a list of controlled drugs, including zero tolerance for drug driving where illicit drugs are identified; the provision of a medical defence for prescribed medications and the development of fit-for-purpose laboratory and roadside testing devices.
- 3.2 As with many changes in law, a single pertinent case had some effect on the drug driving law amendments. Lilian Groves was a fourteen-year-old female who was hit and killed by a speeding driver, John Page, in June 2010²⁹. Mr Page had been smoking cannabis that day, cannabis was found in his car and a blood test taken nine hours following the incident revealed traces of the drug. He was charged with death by dangerous driving and death while driving without insurance. His sentence was to spend eight months in prison; he was released after eight weeks. Charges of driving under the influence of drugs would have carried a longer sentence but these charges could not be brought against Mr Page as the level of cannabis in his blood was not perceived to be high enough to cause impairment. Following this tragic case, Lilian Groves' parents petitioned members of parliament and met with the Prime Minister at the time to gain support to push through the proposed changes in the law regarding drug driving offences. Some news outlets and the family's website have dubbed the changes in legislations "Lilian's law" in homage to Lilian Groves^{30,31}.

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- 3.3 In response to the North review, the government commissioned a public consultation seeking expert medical panel advice in 2012. The report chaired by Professor Kim Wolff and published in March 2013³² aimed to decide the list of drugs which would be included on the list of specified drugs which would be covered by the new offence. Further than this, the panel was to determine proposals for the blood levels of these drugs that would have an equivalent impairing effect on driving to the legal limit for blood alcohol level at the time. Consideration was given to whether prescribed medications would be above these levels when taken as prescribed.
- 3.4 Changes in the law were proposed primarily as a deterrent against drug driving for people misusing prescribed medications and for those using illegal drugs. One aim was to reduce road casualties due to drug driving, which was estimated to have caused at least 687 accidents, including 56 fatal accidents in 2008^{33(p44)}. This statistic is likely to be a gross underestimate, with estimates for the early 2000s of 200 to 250 drug driving-related deaths per year based on coroners' data³⁴. The method to achieve this plan was by reducing the prevalence of drug driving. The police were spending significant time and monetary resources on prosecuting offenders of drug driving; however, the conviction outcome statistics were adversely affected by the complexity of proving that a driver's abilities were impaired by a specific drug at that time, with approximately 30% of prosecutions resulting in acquittal^{2(p151)}. A further aim was to streamline the process for drug driver prosecution.

4 New drug driving legislation

- 4.1 The Drug Driving (Specified Limits) (England and Wales) Regulations 2014³⁵ were brought into force on 2nd March 2015 applying to drivers in England and Wales. The equivalent legislation in Scotland (The Drug Driving (Specified Limits) (Scotland) Regulations 2019³⁶) was created on 5th March 2019 and came into force from 21st October 2019. Concurrently to the introduction of these 2014 regulations (England and Wales) and 2019 regulations (Scotland), alterations were made to Section 5A of the Road Traffic Act 1988³ making it a strict liability offence to drive with specified controlled drugs in the blood or urine above a specified limit, regardless of any impairment to driving ability. Section 5A of the Road Traffic Act 1988 was inserted by Section 56 of the Crimes and Courts Act 2013³⁷.

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- 4.2 The Drug Driving (Specified Limits) (England and Wales) Regulations 2014³⁵ and The Drug Driving (Specified Limits) (Scotland) Regulations 2019³⁶ introduce the list of specified blood levels of the controlled drugs. These specified controlled drugs comprise nine medications which are prescribed medicinally but are also considered drugs of abuse and eight illegal controlled drugs for which there are very few or no medicinal prescription purposes in the United Kingdom. The changes moved towards a zero-tolerance approach to drug driving under the influence of the eight illegal drugs. For the medicinal drugs, an approach based on the road safety risk was taken to determine the legal levels. Alterations to Section 6 of the Road Traffic Act 1988³ gave the police powers to stop drivers and investigate for drug driving by conducting a maximum of three preliminary saliva or sweat tests for drugs using type-approved analysers. Thus, the new specified limits regulations, when combined with the inserted sections in the Road Traffic Act 1988³, bring drug driving legislation closer in line with that of drink driving legislation.
- 4.3 A defence to the Section 5A offence was created in subsection 3 of the Road Traffic Act 1988³ on the introduction of the Specified Limits legislation for those patients taking specified drugs as prescribed legitimately for medicinal reasons. This medical defence is provided by a prescription if the medications have been taken as advised by the prescriber and only if the patient's ability to drive is not impaired. If the person's driving ability is impaired by their prescription medication, the medical defence is no longer valid and they can be prosecuted as per Section 4 of the Road Traffic Act 1988³. There is no medical defence for the presence of any the eight illicit drugs in the blood above the specified levels.
- 4.4 Whilst not necessary for the new Section 5A drug driving offence, field impairment testing is still advised to be undertaken by an adequately trained police officer. The reason this assessment is required despite the new offence providing a quantitative measure for drug use is that suspects with impairment can be charged with both Section 4 and Section 5A offences. Also, if the suspect refuses to provide a blood sample, Section 4 charges might viably be pursued instead of the Section 5A offences, alongside any charges related to failing to provide the required blood sample as described in Section 7 of the Road Traffic Act 1988³. Further, if the Section 5A blood toxicological analysis returns a level of drugs present below the specified levels, a Section 4 offence can still be pursued if impairment was demonstrated at the time of preliminary impairment testing.

5 Controlled drugs

- 5.1 The controlled drugs referred to in the Road Traffic Act 1988³ are the groups of drugs and substances defined and listed in Schedule 2 of the Misuse of Drugs Act 1971³⁸. These drugs are entered in Part I, Part II and Part III for class A drugs, class B drugs and class C drugs, respectively. Examples of class A drugs include cocaine and strong opioids including diamorphine, oxycodone, fentanyl and their derivatives. Class B drugs include amphetamine, cannabis, methylphenidate and weaker opioids than those listed as class A drugs, including codeine and dihydrocodeine. Included in class C are tramadol, sleeping medication such as zopiclone, anabolic-androgenic steroids such as nandrolone, and benzodiazepines such as clonazepam, oxazepam and diazepam.
- 5.2 Drugs are given classes based on the severity of their dangerous effects at both an individual level and for society. The sentences given for offences involving controlled drugs are more severe for class A drugs compared to class C drugs, with class B drug offences given intermediate sentences³⁹. This variability relates to the length of any prison sentence or the size of a monetary fine used as punishment, or both.
- 5.3 The seventeen controlled drugs specified by The Drug Driving (Specified Limits) (England and Wales) Regulations 2014³⁵ and The Drug Driving (Specified Limits) (Scotland) Regulations 2019³⁶ are contained in Table 1, along with the specified blood concentration limits above which it is an offence to drive with and the limits proposed by Wolff et al³² (in brackets) in their report. Of note, amphetamine falls into the prescription drug category, due to its uses in attention deficit hyperactivity disorder and Parkinson's disease. It was inserted after the other sixteen drugs into the 2014 regulations as a statutory instrument; The Drug Driving (Specified Limits) (England and Wales) (Amendment) Regulations 2015⁴⁰. Amphetamine was given a specified level from the introduction of the legislation in Scotland³⁶.

6 Physiological effects of drug levels

- 6.1 Although the government laid out the illegal blood levels for driving with each medication or drug, no indication of the dose that this equates to was given in the guidance. It is noted that the method of administration of medications is also not referred to. Merely the presence of these substances in the blood at a level above that specified as the limit is deemed significant.

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- 6.2 According to Rang et al⁴, medications affect different people in a variety of ways due to variable physiology between individuals. A person's genome can affect how they both respond to a drug and how quickly they metabolise or eliminate a drug (pharmacokinetics). Distribution of a drug in the body can be affected by body habitus, for example if a drug diffuses into adipose tissue preferentially, the elimination of the drug from the body by metabolic processes removing it from the blood may be retarded by the drug remaining and sometimes accumulating in the adipose tissue. Conversely someone with a cachectic body habitus may find such a drug remains in the bloodstream, causing increased effects. Kidney function can alter the rate of excretion of a substance. Benzodiazepine and opioid excretion are reduced in the context of chronic or acute kidney disease, especially where active metabolites are produced, leading to prolonged effects of the drug. The drug preparation and how it is administered may affect the speed of absorption into the bloodstream and modified release preparations of analgesics are an example of this. Individual factors affecting absorption can further influence the peak blood serum concentration including gut motility and blood flow to the gastrointestinal tract for medicines taken orally.
- 6.3 The administration of a combination of drugs, an increasing phenomenon in the United Kingdom's ageing population termed *polypharmacy*, further complicates the predicted effects and also the predicted dosages as drug interactions play out in the body with antagonistic or additive (or multiplied) agonistic effects⁴¹. The interplay between the plethora of variables discussed above is complex and thus it is unsurprising that suggested dosage levels were not provided in the legislation pertaining to the prescription drugs with specified levels.

7 The specified levels of the drugs

- 7.1 Paracelsus, a Renaissance scientist from Switzerland in the 1500s and christened the *father of toxicology* by historical and scientific sources^{42,43} wrote of the importance of the dosage of a substance, labelling all substances poisons if taken in excess⁴⁴.

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- 7.2 The specified limits set for the drugs by the new legislation were divided into the two groups used above; illegal drugs and prescription drugs. The *Driving under the influence of drugs* document by Wolff et al³² attempted to advise lawmakers on the appropriate levels to be used in the new law. The document laid out various options with regards to setting the threshold levels of drugs and provided an expert panel opinion on the way forward; eventually suggesting the blood concentration of a drug that would give a similar amount of impairment as would be seen in the blood alcohol limit in an average non-drug dependent adult. This process involved taking into account the metabolism of different drugs and the speed at which they are broken down and their half-lives. Similar legislation had already been introduced in other countries and these existing policies were also considered, for example Norway's legislation introduced in 2012 giving blood concentration limits for twenty drugs⁴⁵. Different drugs and even different preparations of medical and recreational drugs have different properties affecting absorption, metabolism, half-life and elimination of the drugs. For example, benzoylecgonine is the main metabolite of cocaine. Cocaine has a shorter half-life than benzoylecgonine, therefore a low level of cocaine with a higher level of benzoylecgonine would be expected in someone who has taken cocaine. For the purposes of whether one drug or multiple drugs were present, cocaine and benzoylecgonine were treated as one drug due to them originating as the same drug^{32(p77)}.
- 7.3 A Department for Transport summary document was produced in March 2014 to combine the recommendations set out in the North review² and by Wolff et al³² and decided the specified limits that would be included in legislation going forwards⁴⁶. The prescription drugs (with the exception of amphetamine) were given the specified levels suggested by Wolff et al, allowing patients taking the medication as prescribed, without developing impairment in driving ability, to likely not present as over the limit for a given prescription drug. For the recreational illegal drugs, the limits were set lower than for those for the prescription drugs, not following the levels recommended by Wolff et al. This was a result of enacting the proposed zero-tolerance policy stated in recommendation 15 from the North Review². Thus, the specified levels for the eight illegal drugs were set significantly lower than those levels likely to cause impairment of driving ability. The levels were not set at zero to allow for minor accidental exposure such as passive smoking of cannabis. Unique difficulties were encountered when deciding the specified limit for the stimulant drug amphetamine due to its effective use in attention deficit hyperactivity disorder whereby the dose is titrated to achieve symptom control without excess side effects^{47,48}. This drug had a unique approach in defining its specified level with the aim to balance risk and benefit for illicit use and licit medicinal use, respectively, with extensive consultation with multiple interested parties about the proposed specified limit⁴⁶.

Table 1: A table to show the proposed (in brackets) and final specified limits of drugs covered by Section 5A of the Road Traffic Act 1988. Adapted from Wolff et al³² and the Specified Limits Amendments for England and Wales^{35,40} and Scotland³⁶.

Controlled drug; illegal drugs; zero tolerance approach	
Drug	Limit; concentration in blood in micrograms per litre. (In brackets; concentration proposed by Wolff et al; same units)
Benzoyllecgonine (a cocaine metabolite)	50 (500)
Cocaine	10 (80; 40 if alcohol is concomitantly present above 20mg/dL)
Delta-9-tetrahydrocannabinol (a molecule in cannabis)	2 (5; 3 if alcohol is concomitantly present above 20mg/dL)
Ketamine	20 (200; 100 if alcohol is concomitantly present above 20mg/dL)
Lysergic Acid Diethylamide (LSD)	1 (no proposed limit)
Methylamphetamine (crystal meth)	10 (200; 100; if alcohol is concomitantly present above 20mg/dL)
Methylenedioxymethamphetamine (MDMA, ecstasy)	10 (300; 150; if alcohol is concomitantly present above 20mg/dL)
6-monoacetylmorphine (a heroin metabolite)	5
Controlled drug; prescription drugs; limit of impairment approach	
Drug	Limit; concentration in blood in micrograms per litre. (Concentration proposed by Wolff et al; same units)
Clonazepam	50 (50)
Diazepam	550 (550; 275 if alcohol is concomitantly present above 20mg/dL)
Flunitrazepam	300 (300; 150 if alcohol is concomitantly present above 20mg/dL)
Lorazepam	100 (100; 50 if alcohol is concomitantly present above 20mg/dL)
Methadone	500 (500; 250 if alcohol is concomitantly present above 20mg/dL)
Morphine	80 (80; 40 if alcohol is concomitantly present above 20mg/dL)
Oxazepam	300 (300; 150 if alcohol is concomitantly present above 20mg/dL)
Temazepam	1000 (1000; 500 if alcohol is concomitantly present above 20mg/dL)
Controlled drug; prescription drug; unique approach	
Drug	Limit; concentration in blood in micrograms per litre. (Concentration proposed by Wolff et al; same units)
Amphetamine	250 (600; 300 if alcohol is concomitantly present above 20mg/dL)

8 Changes to drug driving investigations

8.1 Following the introduction of the new legislation concerning drug driving, alterations have been made to how these cases are handled. These include changes in how and when drug tests are attempted and how the cases are dealt with in court. In 2017 a report¹¹ commissioned by the Department for Transport and undertaken by Risk Solutions was published which evaluated the impact of the changes to legislation on drug driving. This report analysed data regarding convictions for and prevalence of drug driving together with public attitudes towards the new legislation and drug driving. In 2021 a report¹² by the Parliamentary Advisory Council for Transport Safety (PACTS) funded by but not commissioned by the Department for Transport further investigated the effects of the legislation changes using data from a plethora of sources. The multiple consequences of the changes in drug driving legislation are considered in the following sections, alongside the impact these changes have had on drug driving investigations and convictions in Great Britain.

9 Roadside testing and confirmatory sample acquisition

9.1 Even before the new legislation, preliminary tests were authorised for police officers to obtain as preliminary drug tests in certain circumstances, with power granted by Section 6 of the existing Road Traffic Act 1988¹. Changes to Section 6C³ dictate that saliva or sweat may be collected by a police officer at the roadside and tested for specified controlled drugs up to three times using an approved device. It is an offence to resist or refuse to comply with such a preliminary test in most circumstances and such a failure could result in arrest. Arrests can be made on the basis of these preliminary tests and confirmatory blood samples acquired at a police station.

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- 9.2 The presence of these powers for a preliminary drug test in legislation prior to the 2014 changes were a moot point because an approved device had not yet been developed. Approval is granted by the Home Office Centre for Applied Science and Technology for devices meeting the required specifications and adhering to the standards as laid out in the guidance document for manufacturers⁴⁹. Type approval for the first point of care system was granted in 2012 with the Draeger Drug Test 5000 approved for cannabis testing in police stations⁵⁰. In March 2015, the same saliva test device was approved for roadside testing of cannabis and cocaine⁵¹, just a month after the Securetec Drugwipe 3S was approved in February 2015 for roadside testing⁵². These portable devices allowed the police to take advantage of this technology sampling the easily available saliva from a cheek swab before relocating to a police station for further testing if indicated. The portmanteau “*drugalyser*” has been used colloquially for the drug analyser kits given to the police for these tests^{53,54}. The saliva tests do not provide the concentration of the controlled drug present, but rather give a binary indicator of the presence or absence of the drugs it tests for. Thus, drivers testing positive on the portable drug analysis kits are required to attend a police station to provide a blood sample for analysis by a laboratory. Wolff et al advised promptness in venepuncture and use of the correct preservative blood bottles to ensure optimal conditions for reliable analytic results³².
- 9.3 Further changes to Section 7 of the Road Traffic Act 1988⁵⁵ made by Schedule 11 of the Deregulation Act 2015⁵⁶ address the taking of blood samples at a police station. Previously a medically trained practitioner was required to decide if a person may have been using drugs; the new legislation allows other healthcare professionals such as appropriately trained paramedics and nurses to make this judgement call, reducing the time to blood samples being drawn in locations without onsite medical cover. Beyond this, if the roadside drug analyser result is positive, no opinion regarding whether a suspect has used drugs is needed prior to blood sampling.
- 9.4 The 2017 Risk Solutions report¹¹ confirmed that roadside testing was being carried out as detailed by the legislation enabling its use, with cannabis and or cocaine positively identified in 54% of roadside tests. One concern by the panel report by Wolff et al regarded the prospect of delays in confirmatory laboratory blood sampling following preliminary portable drug analyser results due to the potential for drug levels to decrease over time in vivo depending on the time of ingestion³². The Risk Solutions report reassuringly showed that 81% of drivers had their blood sample taken within 2 hours of their saliva test¹¹. Given that these drug analysers only test for cocaine and cannabis, there may be a skew of arrests towards people taking these drugs and driving.

10 Forensic toxicology laboratory analysis

- 10.1 The introduction of more frequent use of blood testing for drug use may have been expected to overwhelm forensic toxicology laboratories, however at a similar time to the commencement of the new legislation, a different piece of legislation in Section 8 of the Road Traffic Act 1988¹ relating to drink driving was removed by the Deregulation Act 2015⁵⁶; the statutory option. This piece of legislation gave drink drivers with elevated breath alcohol levels just above the prescribed limit (i.e., between 35µg/dL and 50µg/dL) the opportunity to request a blood sample to be used as evidence instead of the breathalyser test. With the removal of this option, fewer blood samples related to drink driving were being processed in these specialised laboratories, increasing capacity for drug driving samples. However, given that a specific panel of tests was being used to test for drugs with specified limits in Section 5A offences, some laboratories were not fully accredited to the necessary ISO/IEC 17025 standards for all aspects of sample analysis at the time the new legislation came into effect¹¹. This required forensic laboratories to commence swift development of analytic methods, prove validation of these methods and provide the necessary data to the United Kingdom Accreditation Service prior to accepting samples for the new legislation^{11(p94)}.
- 10.2 Samples of blood obtained for laboratory analysis are halved, with a primary sample tested by the prosecution at a United Kingdom Accreditation Service-approved laboratory with accreditation for processing Section 5A samples. The second sample, also called the *B sample*, may be stored and tested by the defence if there are unexpected results in the first sample or if there are concerns over the integrity or accreditation of the laboratory used for the first test, as was highlighted by the inquiry into Radox Testing Services' forensic laboratory in 2017^{57,58}. Whether these samples are stored correctly by the suspect or a defence laboratory cannot be determined and the sample storage may detrimentally affect the sample, causing discrepancies between the prosecution and defence results.

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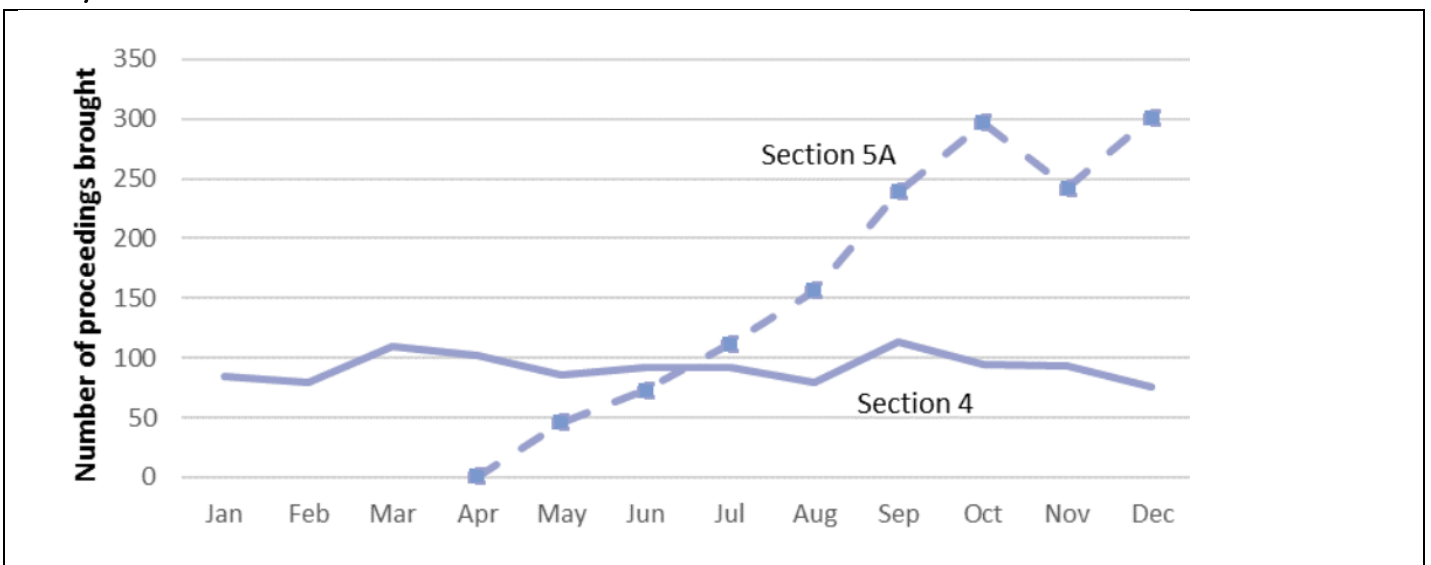
- 10.3 In 2015, the Forensic Science regulator first published the guidance document Section 5A Road Traffic Act 1988 Use of Limits FSR-G-221⁵⁹ to aid toxicology laboratories and scientists navigate the laboratory side of the newly implemented Section 5A legislation. The latest updated guidance published in 2020 suggested that intrinsic measures of uncertainty must be accounted for when reporting results for Section 5A offences by reporting them as “*not less than a given figure*”^{60(p5)}. The use of statistical methods called deductions (also called multipliers or guard banding) allow for increased confidence that the value given in a report with a drug above the specified limit is correct, by erring on the side of caution and giving the results as if it lay at the lower end of the confidence interval (the two levels between which the actual result is statistically likely to fall). This analytical technique makes the likelihood of a false positive result extremely low, with 99.7% confidence that the actual result lies above that given. Forensic laboratories processing Section 5A samples use the same deductions for each drug, ensuring consistency across forensic laboratories⁶¹. The report cautions against comparing post mortem blood concentrations of drugs against legal limits, likely due to the potential for post-mortem redistribution confounding this measurement⁶². Further sections of this guidance⁵⁹ give clear instructions to forensic laboratory staff to avoid over interpretation of results in the light of these limits, for example commenting on any degree of impairment or using these limits in expert witness testimony for any offence besides a Section 5A prosecution.
- 10.4 Of the samples included in the Risk Solutions report¹¹, those containing drugs above the specified levels showed the vast majority (96%) contained one of or a combination of the following drugs: cocaine, benzoylecgonine and cannabis. The remaining samples positive for specified drugs contributed only small amounts with MDMA (ecstasy) as the most common of these.
- 10.5 A new set of forms for presenting toxicology evidence was developed in line with the spirit of the new legislative changes and the 2013 Streamlined Forensic Reporting system aiming to simplify and expedite the legal process where possible⁶³. The Streamlined Forensic Toxicology Report 1 is a short summary report which, if disagreed with by defence counsel, can be “upgraded” to a Streamlined Forensic Toxicology Report 2. These reports are scrutinised by defence legal team and either accepted or rejected, which may require a toxicologist to appear in court. Details up for discussion, among others, include the sample analysis, the deduction used, whether the analysis was undertaken in the required time frame and the provision of further evidence such as all of the data and technical analysis methodology if requested. Currently the cost of upgrading the report falls on the prosecution, but there have been calls for this to be funded by the defence to avoid the significant inconvenience and burden of work caused by last minute requests for the more detailed form^{12(p62)}. Criticism surrounding the utility, accuracy and appropriate interpretation of these reports has been voiced^{64,65}.

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11 Impact on charges, prosecutions and convictions

- 11.1 Data regarding the number of drivers stopped by the police or arrested for possible drug driving offences prior to the 2014 change in legislation is lacking, preventing meaningful analysis and assessment of the impact of the new legislation on arrest numbers¹¹.
- 11.2 Data provided in the Risk Solutions report showed that the preliminary testing of saliva specimens resulted in Section 5A charges in 61% of positive cases^{11(p32)}. 9% of cases with positive point-of-care saliva testing resulted in other charges including a Section 4 charge or a *failure to provide a sample* charge. The remainder of cases with positive saliva tests for cannabis or cocaine resulted in no further action; this group includes cases where blood could not be taken or where blood analysis did not reveal drug levels above the specified limits^{11(p32)}. Section 4 of the Road Traffic Act 1988³ continued to be used for a comparable number of prosecutions whereby impairment of ability to drive due to drugs could be proved. In addition to this was a rising number of proceedings brought for offences relating to Section 5A, bringing the total number of drug driving prosecutions significantly above those reported prior to the legislative changes. See Figure 1 for a visual representation of this data relating to the year the specified limits legislation was introduced.

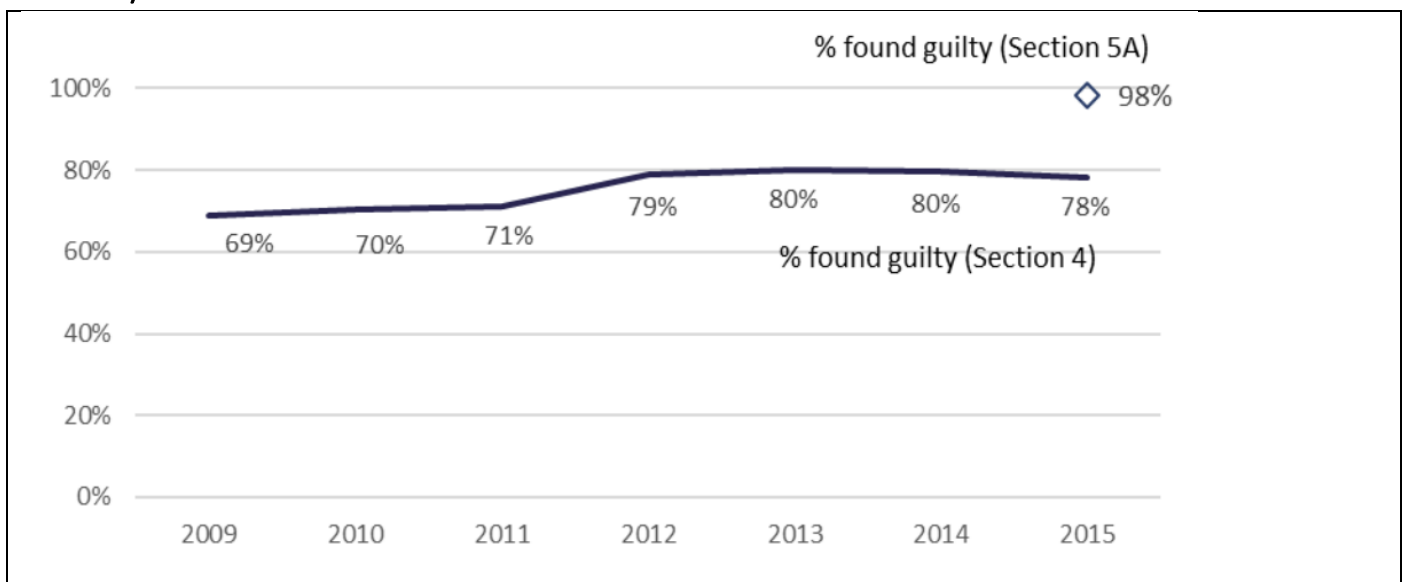
Figure 1: A graph to show the change in drug driving offence proceedings brought month-by-month in England and Wales in 2015, following the introduction of the Section 5A offence in March 2015, from the Risk Solutions Report^{11(p34)}. Based on data from Ministry of Justice analysis of Libra and CREST and Risk Solutions.



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11.3 Convictions for drug driving offences rose from approximately 70-80% in 2009-2014 to an average of 90% in 2015^{11(p40,42)}. Data in the 2017 Risk Solutions report indicated that following the change in legislation, the conviction rate for Section 4 offences had remained similar to its previous conviction rate of 80%; in contrast, the prosecutions brought under Section 5A had a 98% conviction rate (see Figure 2)¹¹. This gives a combined conviction rate of 90% in 2015 for Section 4 and Section 5A offences. A caveat in the report advises caution in quoting this statistic due to the differing timescales known to affect cases with different pleas. Court cases relating to “guilty” pleas make their way through the system in a timelier manner compared to those with “not guilty” pleas. Thus, this seemingly excellent prosecution rate should be treated with appropriate care until further analysis is undertaken to adjust for the likely delay in some cases. Monitoring the defence arguments used in the “not guilty” cases was a recommendation from the report. Data from the PACTS report¹² unfortunately did not provide recent comparable statistics to address these concerns; however, the report showed a year-on-year increase in drug driving convictions since 2015 (see figure 3) with a ten-fold increase since 2014. Individual police forces have starkly contrasting drug driving offence conviction data, implying different approaches to enforcement of these offences^{11(p25)}.

Figure 2: A graph to show the percentage of prosecutions resulting in convictions in England and Wales due to drug driving under Section 4 offences (from 2009 to 2015) and Section 5 offences (2015 data only) taken from the Risk Solutions report in 2017^{11(p40)}. Source data according to Risk Solutions: Court Proceedings Database, Justice Statistics Analytical Services, Ministry of Justice.

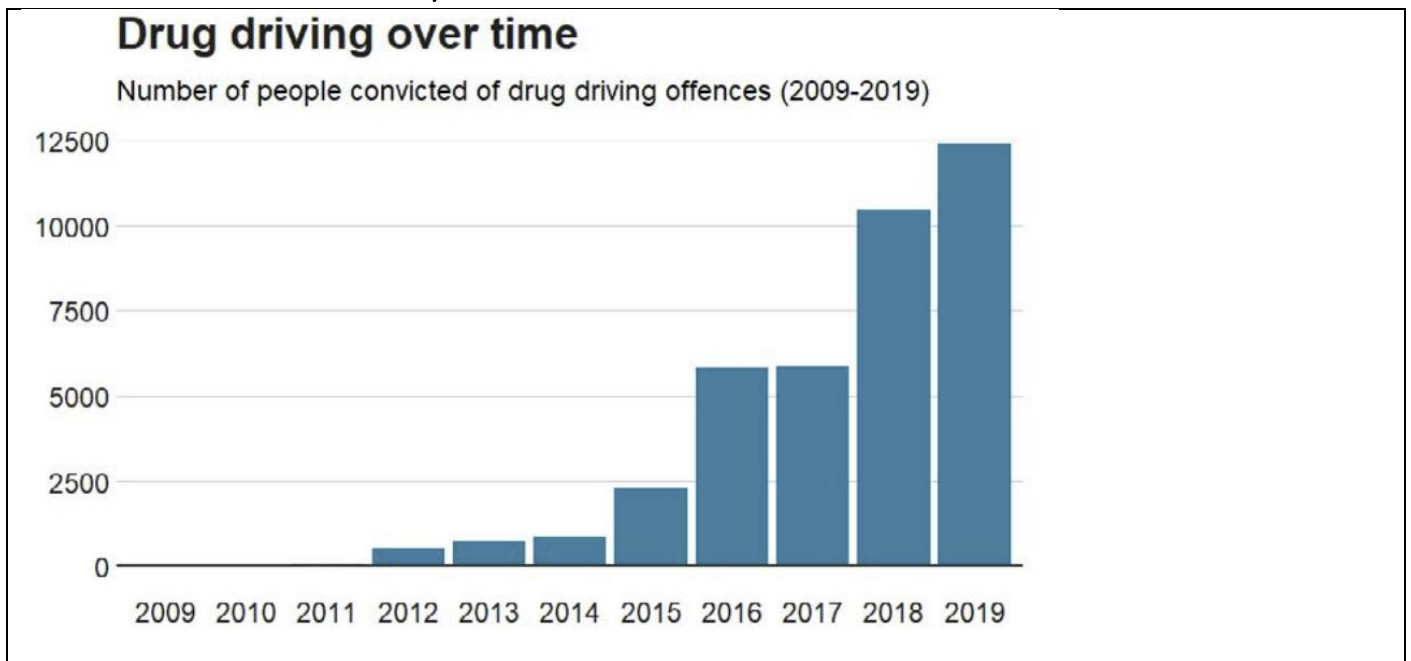


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12 Impact on sentencing

12.1 Sentences assigned for Section 5A charges in the first year following legislative changes included driving disqualifications of variable lengths; the majority were sentenced to a twelve-month disqualification from driving^{11(p42)}. Other penalties included monetary fines with an average fine of £182 and the maximum fine of £1000^{11(p43)}. Some convicted drug drivers were also handed community orders, curfew orders or suspended sentences. For other drug driving offences including “causing death by dangerous driving with a drug level in the blood above the specified limit”^{11(p43)}, the court proceedings take longer and at the time of the Risk solutions report, data was not ready for presentation, however sentences including prison time were reported in the press⁶⁶.

Figure 3: A graph to show the number of convictions related to drug driving between 2009 and 2019, taken from the Parliamentary Advisory Council for Transport Safety report^{12(p24)} using data from Criminal Justice System Statistics.



12.2 Of interest, even when adjusted for age and income, monetary fines handed out for drink driving were consistently higher than those handed out for drug driving from 2009-2015, with no significant change following the legislative amendments^{11(p44)}. The reason for this is not known but could represent sentencers' reluctance in using the new legislation, especially since a sentencing guideline was not produced concurrently with the creation of the drug driving offence. The Sentencing Council produced a guidance article in November 2016 for sentencers to follow in the early years of the offence's commencement^{67,68}.

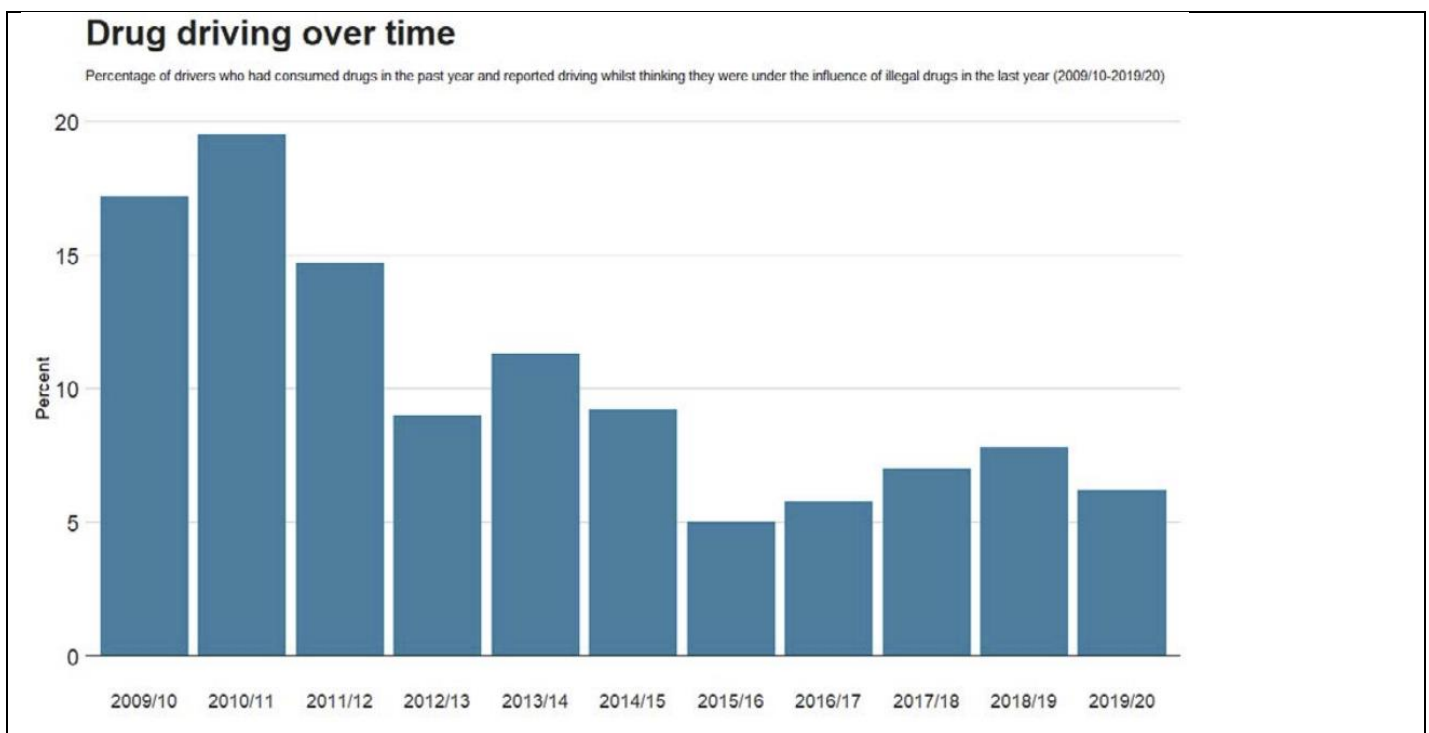
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12.3 Sentences not including prison time may not necessarily have the desired effect of taking drug drivers off of the roads, given the number of people found guilty for driving during such a disqualification; 8445 people in 2019^{12(p27)}. This figure is from DVLA data given to PACTS for their 2021 review. It is unknown how many of these drivers were disqualified for drug driving offences. This, along with a plethora of other statistics is perceived by many stakeholders to be a gross underestimate as the data is taken from arrest and conviction data and is likely to be missing an unknown number of cases of illegal behaviour which were not caught. This is part of the “tip of the iceberg” effect that forms the basis of the PACTS report’s title¹².

13 Impact on road safety, crime and the police

13.1 Drug driving forms part of general road safety’s “fatal five” most common causes of traumatic road events⁶⁹. The topic of the dangers of drug driving and the change in drug driving law was broached by the THINK! campaign launched in 2015, around the same time as the new legislation was introduced, which attempted to raise awareness with an ultimate goal of improving road safety. The adverts aimed to act as drug driving deterrents by informing the public of the new practice of roadside drug analysers similar to alcohol breathalysers⁷⁰ and a warning of arrests for those caught drug driving⁷¹.

Figure 4: A graph to show the percentage of drivers interviewed for the Crime Survey for England and Wales who reported that they had driven whilst under the influence of illicit drugs. Taken from PACTS’ report^{12(p22)}; source data from the **Crime Survey for England and Wales**.



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- 13.2 Data from the confidential self-reported Crime Survey for England and Wales, presented by PACTS¹², showed an overall downward trend in drug driving behaviour since 2009 (see Figure 4), however the increase from the 2015/16 dataset to 2019/20 shows that these statistics may require attention in future years. The majority of people admitting to drug driving in the latest set of data were aged 16-19 years. Another confidential self-reported survey, by E-Survey of Road users' Attitudes (ESRA)⁷² published in 2019 gathers data including road user behaviour and attitudes from drivers in thirty-two countries over four continents. Amongst the European countries included, in 2018 the United Kingdom had the highest percentage (7.5%) of car drivers driving within an hour of using non-prescribed drugs within the 30 days prior to the survey. Although no trend data is available here and the sample size in the ESRA is smaller than the Crime Survey for England and Wales, this statistic does not instil pride in the United Kingdom's state of drug driving. Caution should be exercised when quoting self-reported data as these reports may be markedly inaccurate, with a tendency to underestimate the scale of drug driving in the United Kingdom.
- 13.3 Between a suspect's arrest for drug driving offences and their conviction, weeks and months may pass, during which the drug driver is free to continue driving until such a time as they are acquitted or convicted and handed a driving ban. This period of time may be lengthened by delays in the processing of blood tests due to samples in excess of laboratory capacity^{73(p33)}. A police campaign *Operation Revoke* is trying to reduce the risk of harm to the public by taking away a suspect's driving licence until they can be independently assessed by a DVLA medical practitioner. Licences can remain revoked for drivers at risk due to medical problems, including mental health issues and chronic substance abuse or addiction. Currently *Operation Revoke* is only run by a portion of police forces, including the West Midlands^{74(p16)} and Derbyshire^{75(p10)}, however the PACTS^{12(p52)} report calls for United Kingdom-wide uptake of this programme.
- 13.4 Data on fatalities and serious injuries due to drug driving has not been published since the new legislation was brought into force. Previous data collected referred to drink driving fatalities only; if prospectively data is collected to review the current state of drug driving mortality and morbidity, there is no comparable data from before the legislation to reliably analyse, besides retrospective coronial causes of death, if such a cause was entered on the death certificate. The recent COVID-19 pandemic saw a vast reduction in road users for much of 2020⁷⁶. The incidence of drug use and drug driving during this time is yet to be investigated but it will likely leave an anomalous year for any statistics collected and analysed spanning the national lockdowns. Thus, future reports recommended by both the Risk Solutions¹¹ and PACTS¹² reports into drug driving will encounter difficulties when assessing the impact of the new laws.

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- 13.5 Although impacting general crime statistics was not one of the stated aims of the changes to drug driving legislation, there is anecdotal evidence from Merseyside Police that crime may have been disrupted by the penalties given for Section 5A offences such as driving bans and imprisonment^{11(p73)}. The report used police data to show that of those arrested for Section 5A offences, the charges eventually brought included drug possession charges for drugs in classes A and B, as well as other charges such as robbery and financial crimes. These serendipitous consequences may have overreaching and unpredicted sequelae of hindering criminals in their current methods, particularly if part of organised crime groups. However, the creativity of such groups to adapt their systems to continue criminal behaviour undetected by law enforcement and in new circumstances is well known⁷⁷ and these possible disruptions in local crime require vigilance to detect new methods of illegality that will inevitably emerge.
- 13.6 The PACTS report^{12(p48)} highlights the costs to police forces of introducing the use of drug analyser kits. The financial cost of roadside drug analysers is around £16 per test, and the subsequent laboratory analysis for the panel of specified drugs costs approximately £280^{73(p33)}. These monetary costs fall on local police forces and there are concerns regarding police limiting the panel requested due to financial pressures^{12(p48)}. The HMICFRS report⁷³ details the inadequacy of sufficient personnel to police the roads effectively and calls for road policing to be considered in future Home Office plans and documents. Further development of drug analysers is required to reduce the cost per use to bring it in line with that of alcohol breathalysers costing a few pence per use.

14 Impact on prescribers, patients and illicit drug users

- 14.1 Healthcare professionals who prescribe include doctors, dentists, advanced nurse practitioners, some pharmacists and other appropriately trained allied healthcare practitioners. These prescribers were informed about the change in the law to enable them to give their patients the correct advice and information⁷⁸. Pharmacies were requested to help with disseminating information to patients by the government at the time⁷⁹, with the aim of giving people taking the specified prescription medicines the information required to stay within the law and reassure them of the medical defence option.

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- 14.2 The Risk Solutions report^{11(p55)} showed that drivers had an increased awareness of the new law after its implementation, however this was an increase from 16% to 48%, meaning half of drivers surveyed did not know about the new offence in 2017. Patients taking prescribed drugs may choose to carry evidence of their prescription to show police in the event they are stopped. The non-governmental organisation and charity, Release, published a statement⁸⁰ in response to the proposed new legislation detailing its concerns for the general population taking prescription medications. The creation of the medical defence was introduced to avoid unnecessary adverse consequences for law abiding citizens taking medications as prescribed. The Risk Solutions report^{11(p77)} found no evidence to suggest that this cohort had been implicated by the recent legislation change.
- 14.3 The new legislation creates an offence of having illegal drugs in one's body, within the context of driving. Previously, it was the possession and sale of these substances which constituted a strict liability offence if driving was not impaired by them. There is an impact on those who choose to misuse medications or take drugs recreationally, amounting to restriction of a driver's freedom imposed by this law. This step of increased criminalisation of drug use is perceived by recreational drug users and those in support of decriminalisation as an unfair impingement on their choices, especially for those drugs for which a low specified level has been set which is under that shown to cause impairment, as described in *Release's* response to the new legislation⁸⁰. Having a criminal record, as would be given for a Section 5A offence, in the United Kingdom can detrimentally effect career opportunities if a Disclosure and Barring Service check is required. An example of where the new legislation impacts on a driver's choice to take drugs without receiving a criminal is that of a driver who has consumed drugs recently but whose ability to drive is not impaired by them and whose blood level of the drug is above the specified limit. Such a driver, if caught, would be penalised for their previous drug use, despite the lack of impact on road safety. Furthermore, the zero-tolerance approach has been introduced despite a lack of evidence that these drugs cause driving, dose-related impairment (as has been shown for alcohol⁸¹), especially when taken independently of other substances. Cannabis is a prime example of this, with one study suggesting the relative risk of a crash while driving under the influence of cannabis is akin to using a hands-free mobile device while driving⁸².

15 Limitations

- 15.1 The main limitation to assessing the impact of the legislation changes is the lack of comparable data from before the changes. Any comparison statistics are derived from comparing datasets compiled in different ways and for different reasons. While trends can be inferred from these statistics, it is important to critically appraise the source data and attempt a like for like comparison where this can be achieved without compromising the data interpretation. One compounding element is the secretive nature of substance use for many individuals and perceived risks of legal repercussions if admitting to drug driving in self-reported surveys.
- 15.2 Much of the information available derives from Risk Solutions' report¹¹ and the PACTS report¹². Unfortunately, some of the questions and gaps in knowledge posed by Risk Solutions¹¹ were not addressed by PACTS' report¹² a few years later. As an example, a cost-benefit analysis was not undertaken by Risk Solutions¹¹ in 2017 because it was thought to be too early to report any significant changes with any meaning. Despite concerns from police forces regarding the upfront costs of laboratory drug testing, PACTS' report¹² did not attempt a cost-benefit analysis, rather focussing on the similar concerns in police forces about the costs of drug testing. Cost savings for local authorities would be expected due to reductions in lengthy court proceedings and reduction in payment for expert witnesses for Section 5A offences. Presumably the cost savings would benefit a different budget to the increased costs incurred by the police, necessitating a full evaluation and enabling budget alterations to best support public services. Another area of uncertainty raised by Risk Solutions¹¹ was regarding Section 5A prosecution statistics; the report was completed before many of those cases with "not guilty" pleas had worked their way through the court system to completion. Unfortunately, the PACTS report¹², whilst providing conviction data showing increasing convictions over time (See Figure 3), did not differentiate between Section 4 and Section 5A convictions as given in Risk Solutions' report¹¹, preventing direct comparison or attribution of the increase in convictions to the change in legislation.
- 15.3 The effects of the COVID-19 pandemic with its ensuing national and international lockdowns will likely skew statistics involving 2020 and beyond. The public were subjected to a 'stay at home' order, transport between areas of the country was restricted intermittently and many court cases were delayed significantly while courts were closed. Thus, caution should be exercised when comparing perceived successes, failures or delays in outcomes related to drug driving since the pandemic started, as outliers may alter statistics in error. For this reason, any meaningful comparison data should not include the time period from March/April 2020 to the end of the final lockdowns for countries in Great Britain.

16 Conclusions, recommendations and the future

- 16.1 The introduction of new drug driving legislation has required a number of changes to policing, forensic laboratory testing services and legal proceedings. These changes have been implemented with varying degrees of success. The effects of the changes on capacity in each system have not yet been studied beyond the initial few years, during which enthusiasm for the new Section 5A offence may have peaked and pending legal investigations may have extended beyond the time included in the data collected. However, there has been an increase in prosecutions of drug driving offences overall, removing drug drivers from the roads, increasing safety for other road users.
- 16.2 The legislation for drug driving in the United Kingdom will continue to evolve as it consistently has since its debut in *The Road Traffic Act 1930*¹³. These changes are expected to reflect the changing attitudes towards road safety and also drug use. There is room for improvement in areas of research as well as the potential for further amendments of the law. Many of the following suggested changes would not be possible without a significant monetary contribution to fund research and implementation.
- 16.3 In the present day, a number of the topics considered in the North Review² and given in the report's recommendations are yet to be investigated or actioned in legislation. Such topics include the potential for reliance on laboratory saliva testing in police stations, removing the necessity for a healthcare professional to obtain a blood test. Another unanswered recommendation featured in both the North Review² and raised heavily in Wolff et al's *Driving under the influence of drugs* report³² is that of different acceptable drug or alcohol levels for a driver who has consumed a combination of substances, with these substances producing an additive effect even at low levels of each substance. This issue was also addressed by the PACTS report¹² which called for a lower limit for the illegal blood alcohol concentration in these cases. It is time these decade-old evidence-based recommendations are heeded for the safety of road users.
- 16.4 Other possibilities for future research and implementation include adding specified limits for other controlled drugs onto the list of specified drugs, for example the sleep-inducing 'Z-drugs' such as zopiclone, which have been shown to adversely affect driving⁸³. Another group of drugs requiring valuable research are novel psychoactive substances. Novel psychoactive substances are a group of synthetic or herbal based drugs with diverse chemical and psychoactive properties. These drugs are in fairly uncharted territory with regards to knowledge of their effects on driving and blood concentrations of these substances; if there is an evidence base for providing specified levels for these drugs, this should be looked into. A further suggestion is for United Kingdom-wide monitoring of these cases on a national database to allow for trends to be analysed, interpreted and action taken. An example of the value of such a system would be if there are increases of Section 5A drug driving offences in areas of the country with previous low baseline drug use, police or government resources can be directed to those areas to investigate and clamp down on drug

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driving. The final recommendation by Wolff et al³² was for forensic laboratories to screen widely for illicit drugs with the aim of increasing knowledge of community drug use and inform future policymaking, however this would require increased laboratory capacity and adequate funding.

- 16.5 Type-approved roadside drug analysers currently detect only cannabis and cocaine. The potential for type approval of other roadside testing devices to identify other substances on the list of specified drugs could further enable the police in their crackdown on drug driving. The government's guide to type approval⁸⁴ includes information on the requirements for oral fluid detection of groups of drugs for which preliminary drug detection devices could be designed and tested, for example amphetamine and benzodiazepines.
- 16.6 As suggested by North², and due to an eighth of Section 5A arrests having failed attempts at venepuncture^{11(p27)} either due to collapsed veins, phobia of needles or refusal, it is time to consider the specified limit levels that could be set for other biological samples such as urine and saliva. This would require a vast amount of literature review and research, however, given the number of blood tests being undertaken, with adequate funding, consent, ethical approval and laboratory resources, these necessary blood samples could be tested alongside urine and saliva specimens to create a database of results for deciding the specified limits. The advantages of having approved tests for urine or saliva are numerous, including no longer requiring relocation to a police station for sample collection and no longer necessitating a healthcare professional for venepuncture; both of which would reduce the delay in sample collection for laboratory analysis, thus providing optimum evidence for court. This optimistic suggestion has numerous complex layers to it and would be years in the development, but starting promptly would usher its use and thus its advantages into play.
- 16.7 Experimental approaches have not been used so far in evaluating the changes to the law. If there is scope to ethically and safely undertake experimental research into drug driving practices and the effects of drug use at different levels with controlling for confounding variables, this research could be valuable to not only support or change legislation but also with the overarching aim of reducing the mortality and morbidity from drug driving on the roads of the United Kingdom. With appropriate research and verified methods, there is scope for further streamlining of drug testing and court processes, for example developing roadside quantification of drugs in oral fluid giving a binary result of a suspect being either over or under the specified limit for a drug.

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- 16.8 Predicted future issues include the possible decriminalisation of cannabis which has been enacted in some countries already, as well as the legalisation of medicinal cannabis. The widespread inevitable legislation changes that would be required to ensure public safety in the context of legal cannabis use, include road safety and the specified limits legislation may require editing if deemed appropriate. This would require further research into the effects of cannabis on driving impairment as currently the evidence is not as definitive as for other drugs⁸².

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