

Insurance Association of Malta,

Xara Lodge, Sqaq tac-Cawla, Triq it-Tigrija, Rabat, Malta.

Tuesday 12th November 2025

***Addressing drugs driving in road safety through
roadside and confirmatory forensic testing and medical
programmes: Ireland 2017-2025.***

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&

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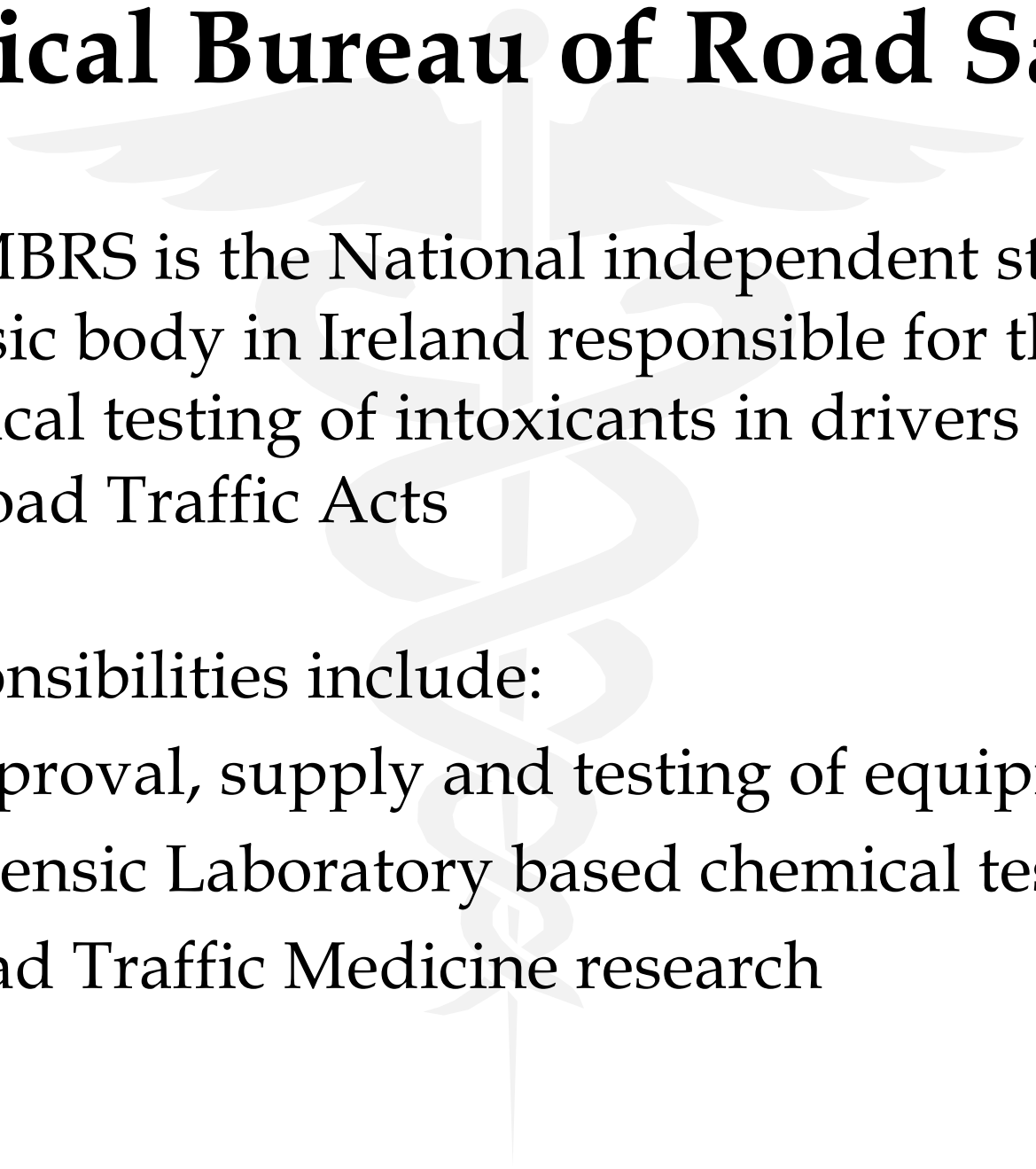


Medical Bureau of Road Safety ***An Lia-Bhiúró um Shábháilteacht ar*** ***Bhóithre***

57 Years: 1968 – 2025

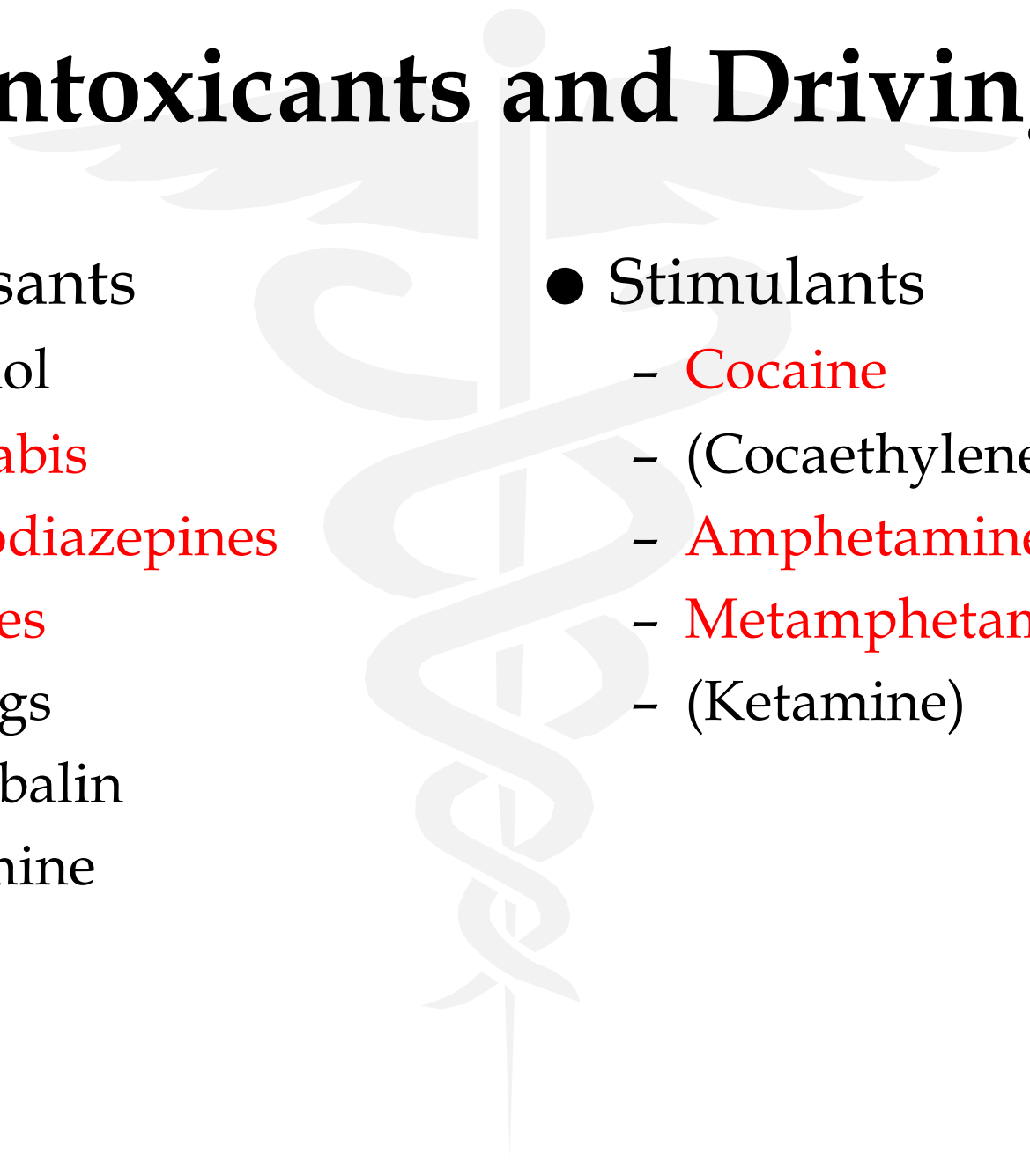


Medical Bureau of Road Safety



- The MBRS is the National independent statutory forensic body in Ireland responsible for the chemical testing of intoxicants in drivers under the Road Traffic Acts
- Responsibilities include:
 - Approval, supply and testing of equipment
 - Forensic Laboratory based chemical testing
 - Road Traffic Medicine research

Intoxicants and Driving



● Depressants

- Alcohol
- Cannabis
- Benzodiazepines
- Opiates
- Z drugs
- Pregabalin
- Ketamine

● Stimulants

- Cocaine
- (Cocaethylene)
- Amphetamines
- Metamphetamine
- (Ketamine)

Drug Use and Driving Impairment and Offences

- Physiology, metabolism and the pharmacology of drug use
- Road safety and DUID
- Criminal misuse of illicit drugs and prescribable medicines
- Synthetic cannabinoids
- Safe and healthy driving
- Healthcare considerations
- Social and recreational uses and decriminlisation or legalisation of cannabis (e.g. Malta, Chap. 628, 2021)

International debate on PDT, *per se* levels and driving impairment

- Risk threshold limits – *e.g. England & Wales*
- Lower impairment effect limits – *e.g. Norway*
- Zero tolerance levels / *per se* levels – *e.g. Ireland*
- Scientific analytical limit of detection – *e.g. Sweden*
- Presence plus impairment if prescribed medication including some *per se* drugs – *Most jurisdictions*
- In reality combinations of above – *Most jurisdictions*
- Separate issues of criminal enforcement, public and individual health and impaired driving

Summary of Integrated Drug Driver Testing Ireland 2025

- **Preliminary Drug Testing** – roadside (mandatory testing and for cause testing), *circa* 40,000 Securetec Drugwipe6S devices issued nationwide to Gardaí (*estimated 2025*)
- **Intoxicant Impairment Testing** – trained Gardaí in 2011: programme under review 2025
- **Forensic Laboratory Alcohol and Drug Testing & Developments**: screening and confirmatory

Significant Legislation Since 1968

- 1994: Limits for breath, taking of specimens in hospitals
- 1995: Graded penalties for alcohol
- 1999: Evidential breath testing
- 2001: Provision of certificates for the presence of drugs
- 2002: Alcohol testing at road traffic collisions
- 2006: Mandatory Alcohol Testing Garda road checkpoints
- 2010: Roadside Traffic Impairment Testing (RTIT)
- 2014: Specimens from unconscious drivers and RTIT
- 2016: *per se* levels for drugs, oral fluid testing and Medicinal Cannabis exemption
- 2024: Mandatory roadside drug testing for certain RTCs

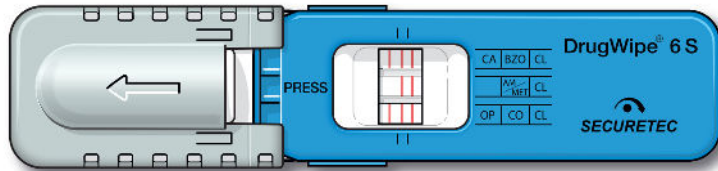
Changes in Legislation

- Road Traffic Act 2016 and 2024:
 - Preliminary drug testing (oral fluid) including Mandatory Intoxicant Testing checkpoints and testing for certain road traffic crashes
 - *per se* drug levels for cannabis, cocaine and heroin
 - Medical exemption for Δ^9 Tetrahydrocannabinol (but still an offence if impairment evidence)

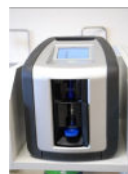
Malta and Ireland

- Population > 550,000
 - RTC fatalities 2.5-3/100K population
 - Legislation
 - Amending Bill 146 2025
 - Mandatory testing
 - BAC 0.5, 0.2 and 0.0 g/l
 - 2025 Bill for Roadside drug testing & Confirmatory Oral Fluid analysis
 - Zero tolerance
- Population c. 5.5 million
 - RTC fatalities 3/100K
 - Legislation 2006-2024
 - Mandatory testing
 - Serious RTCs
 - BAC 0.5 and 0.2 g/l
 - Roadside drug testing
 - Confirmatory drug levels Blood/Urine (*Per se / zero tolerance*)
 - Presence + impairment

The DW 6 S in Ireland



(replaced the Dräger DT5000
in Ireland in December 2022)



- Can detect these classes of drugs:
 - ✓ Cannabis (THC) – 10ng/ml
 - ✓ Cocaine – 10ng/ml
 - ✓ Benzodiazepines (Diazepam) – 5ng/ml
 - ✓ Opiates (Morphine) – 10ng/ml
 - ✓ D-Amphetamine – 50ng/ml
 - ✓ D-Methamphetamine – 25ng/ml
- **Lateral flow immunoassay** uses antibodies specific for certain drugs to bind any drug in the oral fluid and give an indication of whether the drug is present or not, which can be read visually
- **Population familiarity** with Covid-19 antigen testing

Preliminary Roadside Drug Testing

Non-Evidential



Photo in Times of Malta: Matthew Mirabelli

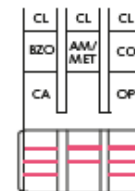
**Oral Fluid sample provision
using Securetec DW6S**

Interpreting the results



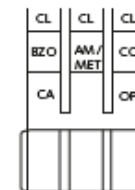
Negative result = no drugs consumed

All control lines must turn red in order for the test to be valid. The test is negative for those drugs where none of the test lines turn red.



Positive result = drugs consumed

All control lines must turn red in order for the test to be valid. The test is positive for the drugs for which the test line turns red.



Invalid result

The test is invalid if one or more control lines do not turn red. Repeat the analysis with a new DrugWipe 6 S test.

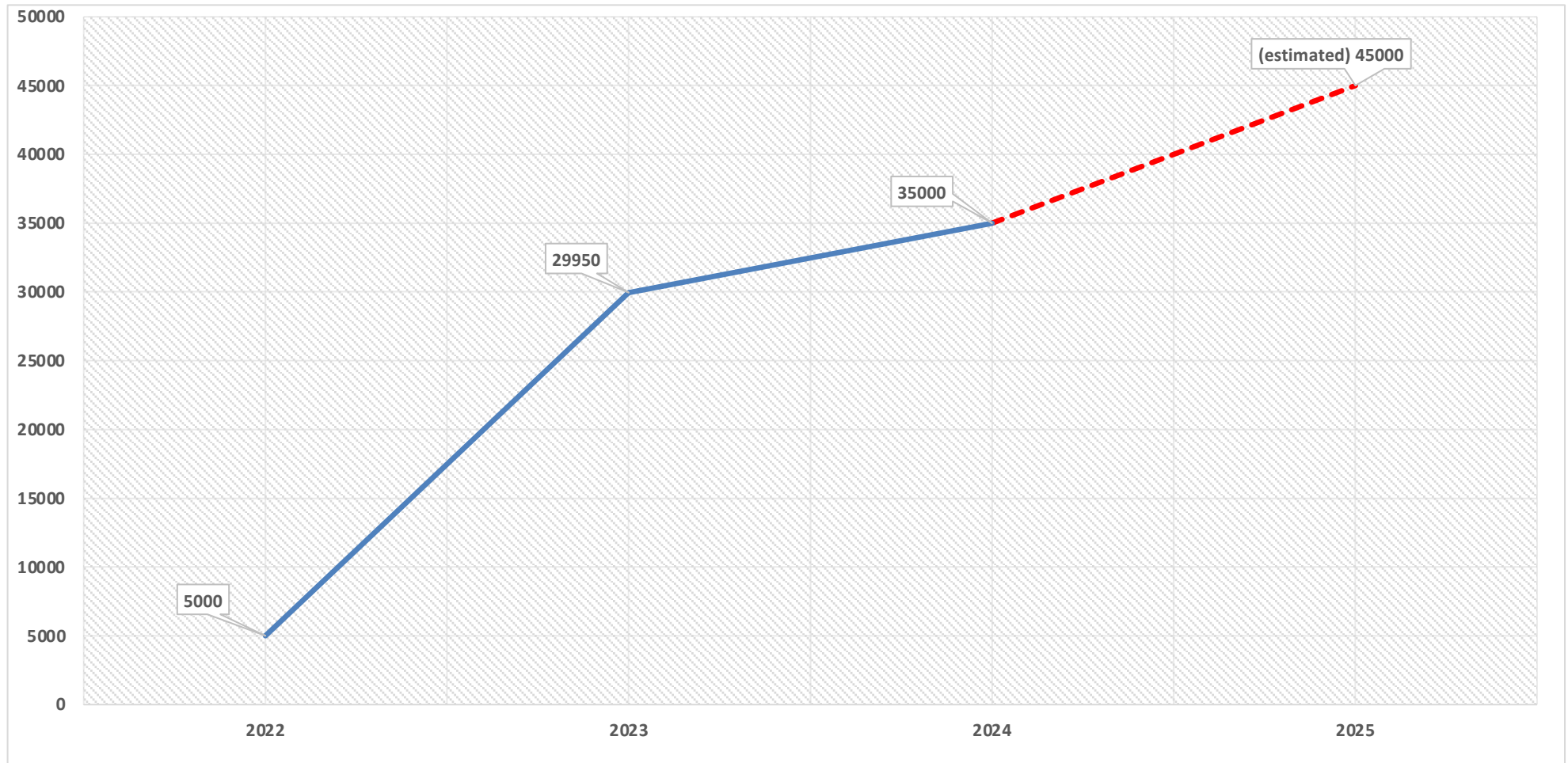
Evaluation and Validation

- Specimen collection time
- Sensitivity
- Specificity
- Accuracy
- Interferences
- Analyser performance
- End user experience
- Cost



Preliminary Drug Testing Ireland

Supply of Drugwipe 6S Cassettes to an Garda Síochána*



*Note: In January-November 2022 8,682 Dräger5000 preliminary drug tests were performed.

DRUG INFORMATION FORM

To be returned to Medical Bureau of Road Safety with specimen taken under the Road Traffic Act.

(1) Driver's Name: _____

(2) Was Preliminary Drug Testing carried out? YES ☐ NO ☐

Please indicate positive results by ticking the relevant boxes below. Do not tick drugs if negative / not tested.

Cannabis ☐

Cocaine ☐

Benzodiazepine ☐

Opiate ☐

Amphetamines / Methamphetamines ☐

If Alcohol Evidential Breath Testing was carried out in the Garda Station include a copy of the Section 13 printout

Prevalence of drugs detected by the Securetec DrugWipe 6S (DW6S) in Roadside Testing Ireland

Drug Class	2024	2023	2022	2021	2020	2019
Cannabis	54%	53%	66%	69%	67%	66%
Cocaine	59%	58%	48%	45%	46%	43%
Opiates	8%	7%	6%	6%	8%	8%
Benzodiazepines	11%	9%	5%	5%	5%	4%
Amphetamines / Methamphetamines	6%	7%	3%	n/a	n/a	n/a

Prevalence of drugs positives reported on information forms received for the DW6S 2024.
(Amphetamine/Metamphetamine testing was introduced in 2022)

Note: Malta proposes roadside testing for cannabis, cocaine, opioids, amphetamines/methamphetamines and ketamine

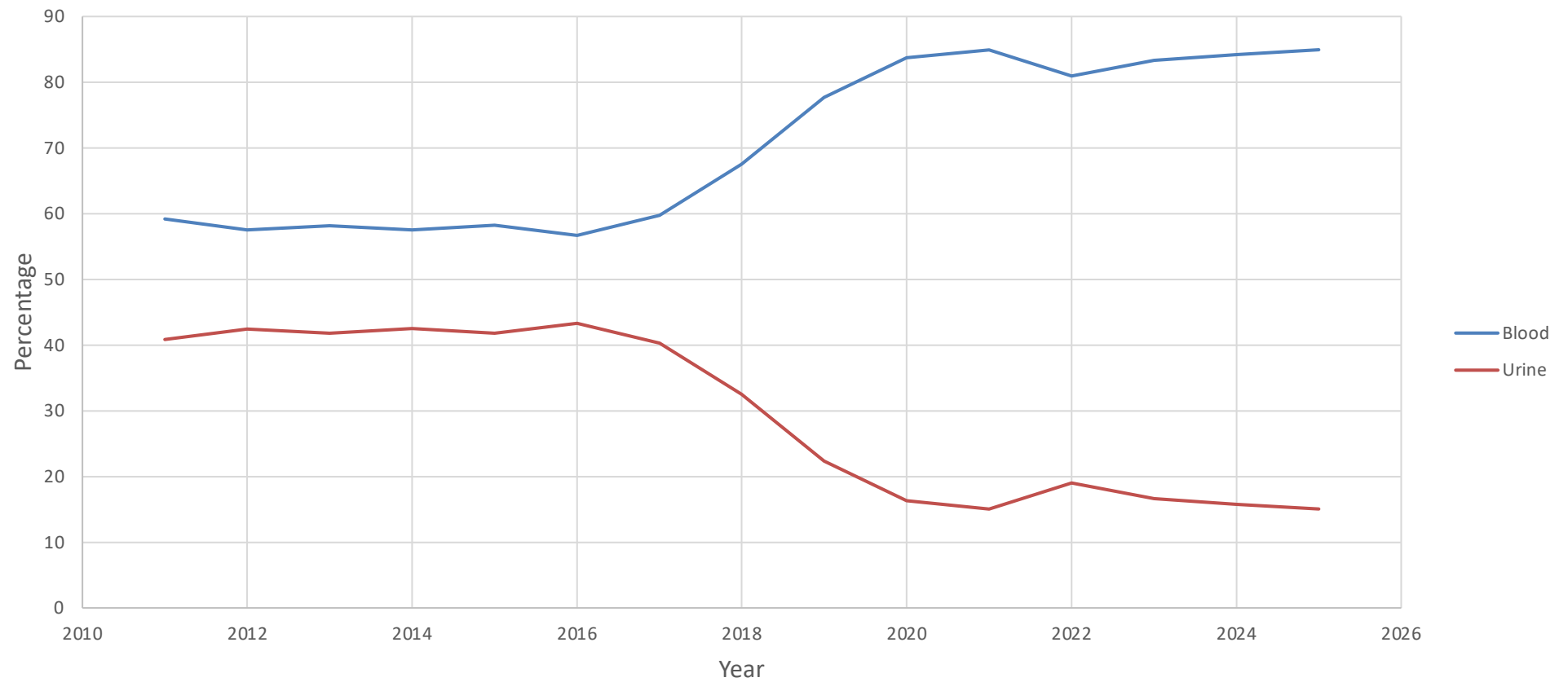
Blood and Urine Samples Received for **Confirmatory Evidential Testing** for Alcohol and Drugs in 2024

Total Number of Specimens Received within Programmes

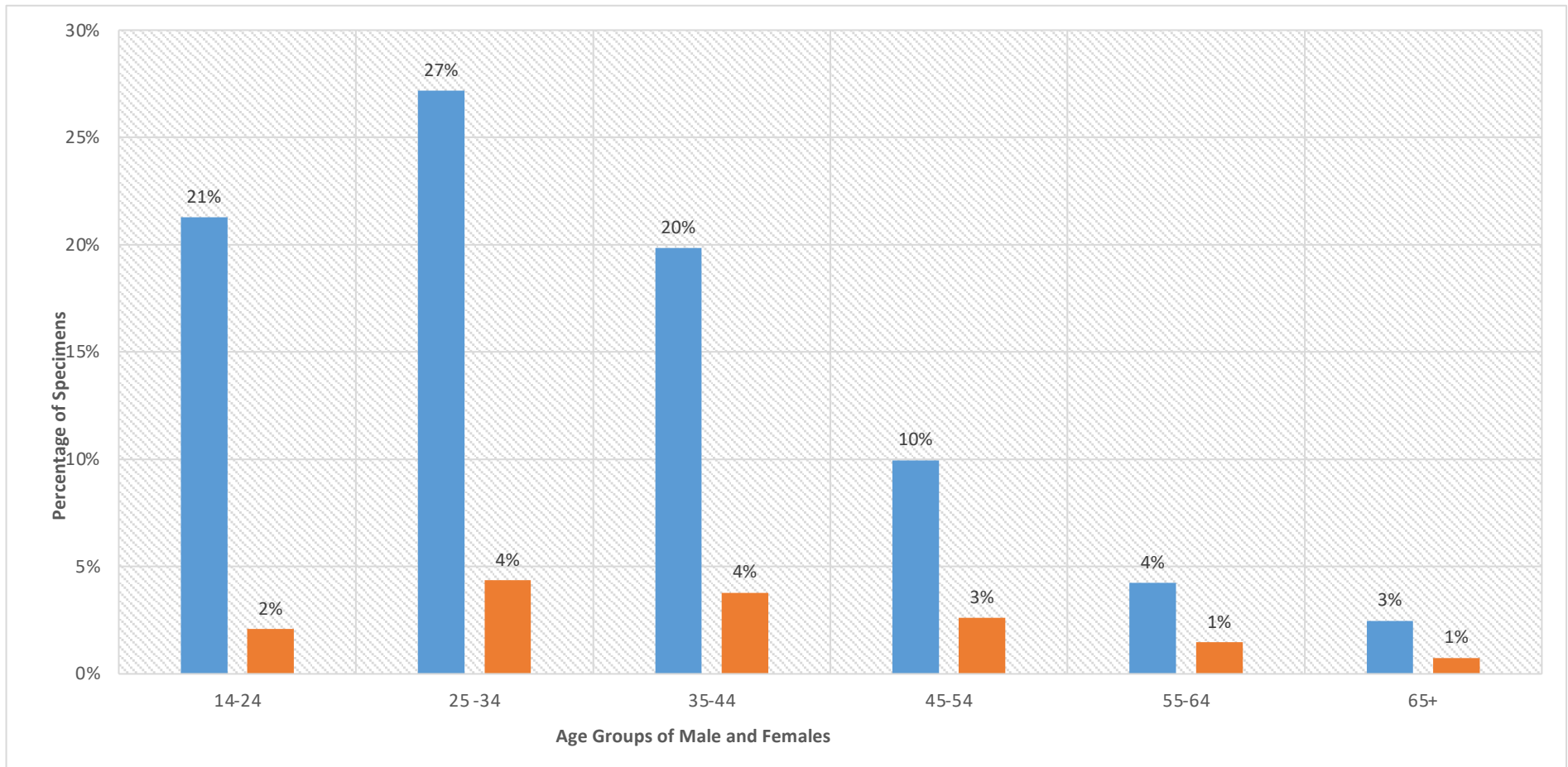
Programme	2024	2023	2022	2021	2020
Alcohol Blood & Urine	5,900	5,464	5,622	5,862	5,967
Toxicology Blood & Urine	4,348	3,873	3,793	4,321	4,489
Evidential Breath Testing	3,580	3,734	3,821	3,157	3,278

Note: Malta proposes confirmatory oral fluid testing – this presents more challenges as a matrix for confirmatory testing than blood

Blood and Urine Percentages by Year
2011-2025



Age and Gender Intoxicated Driver Samples 2024



per se Levels Ireland

Drug/Metabolite	Level in Whole Blood
Δ 9 -Tetrahydrocannabinol (Cannabis)	1ng/ml
11-nor-9-carboxy- Δ 9 -tetrahydrocannabinol (Cannabis)	5ng/ml
Cocaine	10ng/ml
Benzoylcegonine (Cocaine)	50ng/ml
6-Acetylmorphine (Heroin)	5ng/ml

1. Level must be greater than or equal to levels specified above
2. Uncertainty of measurement will be deducted **(-30%)**
3. Maximum permitted time for collection is 3 hours
4. Strict liability 1 year disqualification
5. No requirement for impairment to be proven- Government Road Safety Strategy Policy of Zero Tolerance



Cut-off concentrations for blood levels of THC in Europe (EMCDDA & CCSUA May 2018)

THC (ng/ml)	Country
1	Belgium Denmark Ireland Luxembourg Netherlands (if other drugs are present)
1.3	Norway (*)
2	Czech Republic United Kingdom
3	Netherlands (if THC only is detected) Norway (*)
9	Norway (*)

Legal cut-off concentrations for blood levels of THC in some European countries

(*) In Norway, the severity of the penalty is increased according to the level of THC detected.

Source: Hughes, 2017



Confirmatory testing for the various drugs/classes (Tramadol and Diphenhydramine testing commenced in 2023)

Drug Class	2024	2023	2022	2021	2020	2019
Cannabis	2,050	1,539	1,949	2,353	2,606	1,747
Benzodiazepines	467	102	101	369	535	475
Cocaine	1,062	895	889	1,239	1,494	852
Opiates/Opioids	243	177	214	313	453	308
Amphetamine/Methamphetamine	140	97	54	107	193	157
Tramadol	n/a*	18	n/a	n/a	n/a	n/a
Diphenhydramine	5	3	n/a	n/a	n/a	n/a
Total	3,967	2,831	3,213	4,388	5,281	3,539

* Tramadol included in the Opiates/Opioids Drug Class

The mean level of Δ^9 -Tetrahydrocannabinol (**Cannabis**) was 6.2ng/ml in 2024 (6.3ng/ml in 2023). [x 6 per se level]
11-nor-9-carboxy- Δ^9 -tetrahydrocannabinol (**Cannabis**) mean level was 49.4ng/ml in 2024 (58.2ng/ml in 2023). [x 10]

The mean level of **Cocaine** was 120.3ng/ml in 2024 (60.5ng/ml in 2023). [x 6]

The **Benzoyllecgonine (Cocaine metabolite)** mean level was 749.7 g/ml in 2024 (1032.9 ng/ml in 2023). [x 20]

The MBRS tests for a total of **81 substances** as of 2025: <https://www.ucd.ie/mbrs/publications/annualreports/>

Road Traffic Act 2010 (Ireland)

Medical Exemption Certificate

Medical Exemption Certificate under sections 4(1B) and 5(1B) of the Road Traffic Act 2010

I, the undersigned, being a person registered in the Register of Medical Practitioners established under section 43(1) of the Medical Practitioners Act 2007, hereby certify that the individual named below was prescribed a lawfully prescribed medicinal cannabinoid containing 9-Tetrahydrocannabinol on the [insert date], for a period of [insert duration of prescription].

Details of Person to whom drug prescribed

Person's name.....

Person's date of birth.....

Person's address.....

.....
.....
.....

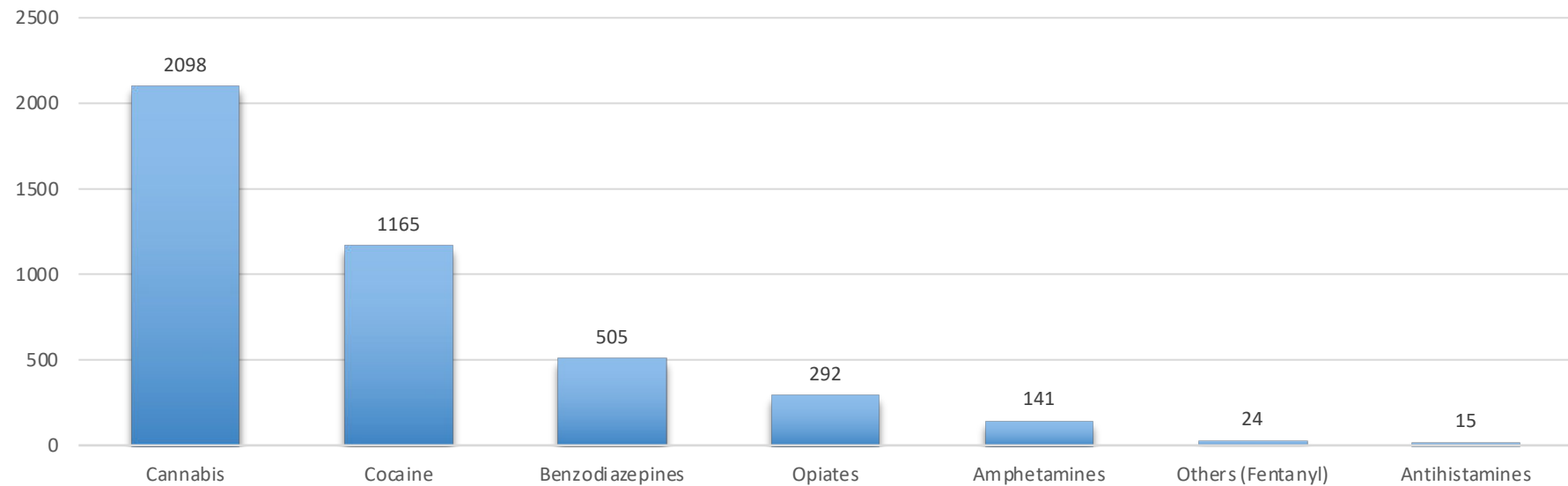
Person's driving licence number (where available).....

Drugs other than *per se* and Medicinal Cannabis

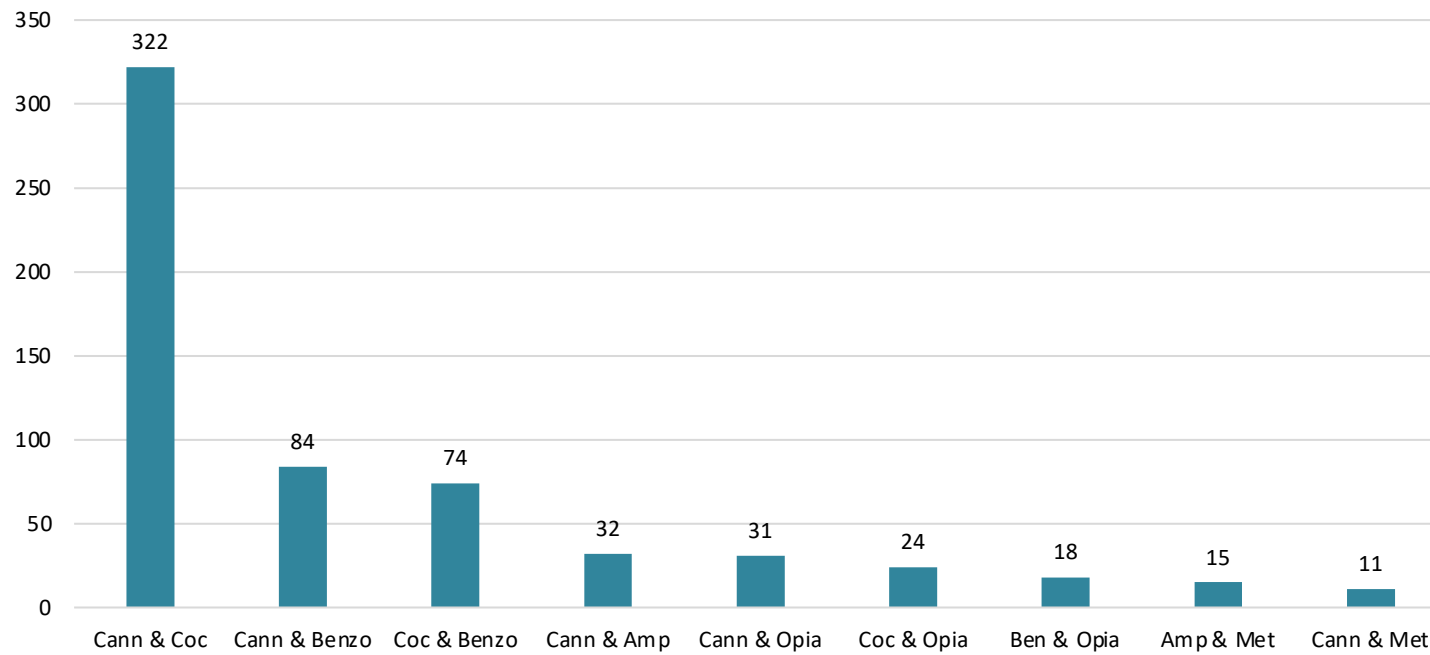
Evidence of:

- Confirmed presence (not concentration) of the drug
 - MBRS statutory certificate
- and
- Impaired driving
 - An Garda Síochána Roadside Impairment Testing remains a necessary part of enforcement

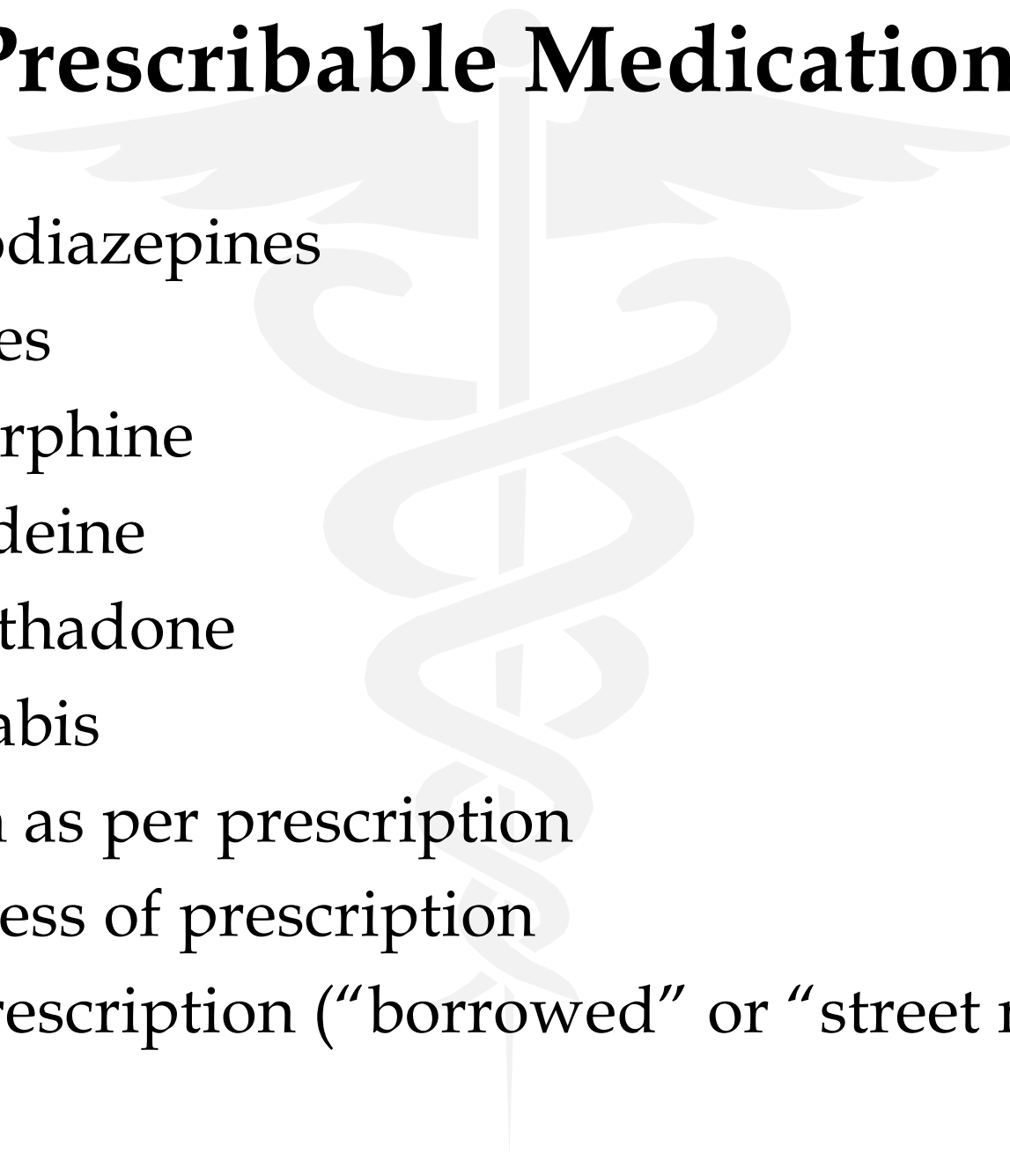
Drugs Prevalence Screening 2024



Drug Screening Combinations where two drugs (other than alcohol) were detected per specimen 2023



Prescribable Medications



- Benzodiazepines
- Opiates
 - Morphine
 - Codeine
 - Methadone
- Cannabis
- Taken as per prescription
- In excess of prescription
- Off prescription (“borrowed” or “street market”)

Over the Counter Medications

- Medications containing **codeine** (and paracetamol*), most frequently purchased-
 - Solpadeine * / Solpadol *
 - Migraleve *
 - Feminex *
 - Uniflu Plus *
 - Nurofen Plus
 - Night Nurse



What is the law?

It is an offence to drive or attempt to drive a vehicle while under the influence of an 'intoxicant' to the point that you cannot keep proper control over the vehicle. An 'intoxicant' includes alcohol, illegal drugs, and medicine, and any combination of drugs or combination of drugs and alcohol.

Drug driving and the law

In Ireland, we have a twin-track approach to drug driving:

It is against the law to:

- 1) drive under the influence of drugs (including prescribed drugs) where your driving is impaired to such an extent that you don't have proper control of the vehicle;
- 2) drive under the influence of certain drugs (regardless of driving performance) above specified levels. There are currently three drugs specified – cannabis, cocaine and heroin.

If you are found to have any of these drugs above the specified limits, you can be prosecuted for drug driving with no proof of impairment necessary. This is the same as the law where a driver exceeds specified alcohol levels.

New 'preliminary' drug test

In April 2017, Gardaí were given new powers to conduct 'Preliminary Drug Testing' at the roadside or in Garda stations. This allows the Gardaí to establish checkpoints for testing drivers for drugs with similar powers to existing alcohol testing checkpoints. This system will allow Gardaí to test a driver's saliva for cannabis, cocaine, opiates (for example, heroin, morphine) and benzodiazepines (for example, Valium).

Drivers with medical conditions should continue to take their prescribed medications in accordance with healthcare advice and medical fitness-to-drive guidelines, which can be viewed at <http://www.rsa.ie/RSA/Licensed-Drivers/Safe-driving/Medical-Issues/>

But be aware of how the drugs you are taking might affect your ability to drive.

So, if you are taking prescription or over-the-counter medicines under the advice of your doctor or pharmacist, **and so long as those medicines don't impair your driving**, you have nothing to be concerned about.

If you are in any doubt, speak to your doctor or pharmacist about your concerns.

A statutory medical exemption certificate is provided for in the law for people who have been prescribed medicinal cannabinoids (medicinal marijuana) in Ireland. If this applies to you, you should carry the medical certificate with you while driving.



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Údarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority

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email: info@rsa.ie website: www.rsa.ie

RSA

Medicines and driving

Údarás Um Shábháilteacht Ar Bhóithre
Road Safety Authority

April 2017

These tests can be used as evidence of driver impairment in a prosecution for drug driving. Where a person is arrested on suspicion of drug driving the Gardai have the power to require the person to provide a blood specimen.

Penalties

If you are convicted of drug driving, you will get:

- a minimum 1-year driving disqualification if you are found to be above the legal threshold for cocaine, cannabis or heroin (since April 2017);
- a minimum of 4 years driving disqualification if you are found to have drugs in your body and are impaired to such an extent that you do not have proper control of a vehicle;
- up to €5,000 fine;
- up to 6 months in prison;
- a criminal record.

Medicines and driving

If you are taking prescription or over-the-counter medicines under the advice of your doctor or pharmacist, and so long as those medicines don't impair your driving, you have nothing to be concerned about. If you are in any doubt, you should speak to your doctor or pharmacist about your concerns.

A statutory medical exemption certificate is provided for in the law for people who have been prescribed medicinal cannabinoids in Ireland (medicinal marijuana). If this applies to you, you should carry the medical certificate with you while driving.



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Driving Under the
Influence of Illicit
Drugs and/or
the Abuse of
Prescription Drugs

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Road Safety Authority

April 2017

Medical Cannabis Use in Ireland

- Misuse of Drugs (Prescription and Control of Supply of Cannabis for Medical Use) Regulations 2019 (June) referring to THC
- Limited to -
 - spasticity associated with multiple sclerosis
 - intractable nausea and vomiting associated with chemotherapy
 - severe, refractory (treatment-resistant) epilepsy
- Strict conditions under the regulations
- Licensed drugs containing THC and CBD, and CBD containing preparations, are different considerations

Brief References

ICADTS Group:

Factsheets on Cannabis and Driving - Report of the ICADTS Working Group. Rotterdam, The Netherlands: International Council on Alcohol, Drugs and Traffic Safety (2022). [*Factsheet 4: Cannabis-Impaired Driving Detection & Toxicology*]

RCSI and MBRS:

Drug and polydrug detection in drivers suspected of driving under the influence of an intoxicant in Ireland 2012–2018: a national repeated cross-sectional study.

Durand, L., O’Kane, A., Maguire, R., Ryan, A., Cusack, D., Keenan, E., & Cousins, G. (2025). *Traffic Injury Prevention*, 1–9.

<https://doi.org/10.1080/15389588.2025.2544346>

Brief References

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Report on Roadside Drug Testing and Equipment and Related Matters.

Cusack D., Leavy P., Maguire R., Medical Bureau of Road Safety, June 2012

<https://www.ucd.ie/mbrs/t4media/MBRS%20Roadside%20Drug%20Testing%20Report.pdf>

Alcohol remains the single largest DUI Problem

- Median Alcohol reported Level in Blood by MBRS 2024:

The median alcohol level in blood was **1.42g/L** for 2024, excluding specimens which had no trace of alcohol.

- Maximum Alcohol reported Level in Blood 2024:

The highest alcohol level found in blood was **4.28g/L ml.**

- Note: These averages indicate a very high degree of intoxication with alcohol far in excess of the legal *per se* limits for the non-specified driver (0.5g/L blood) and for the specified driver (0.2g/L).

Alcohol and Drugs Combinations in positive blood samples screened in MBRS in 2024*

● Alcohol plus one or more drugs detected	644
● Alcohol and Cannabis	433
● Alcohol and Cocaine	279
● Alcohol and Benzodiazepines	112
● Alcohol and Opiates	62
● Alcohol and Amphetamines/Metamphetamines	28

* Preliminary study for BAC samples >0.1g/L

Roadside Impairment Testing Training in Ireland

- Simple instructions provided in a 15 minute video via An Garda Síochána's portal.
- Officers can click in and complete the training at a convenient time.
- The MBRS assisted with development of the video.
- An Garda Síochána have responsibility for the training.
- Keep it simple
- Programme under review 2025

Behaviour

Accident Analysis and Prevention 192 (2023) 107234



Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Accident Analysis and Prevention

journal homepage: www.elsevier.com/locate/aap



Subsequent risky driving behaviors, recidivism and crashes among drivers with a traffic violation: A scoping review

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ABSTRACT

Purpose: Drivers who have committed a traffic violation are a particularly high-risk group, yet studies conducted among this group are scarce. We analyzed and synthesized the current literature concerning subsequent risky driving behaviors, recidivism, and crashes among drivers with a traffic violation.

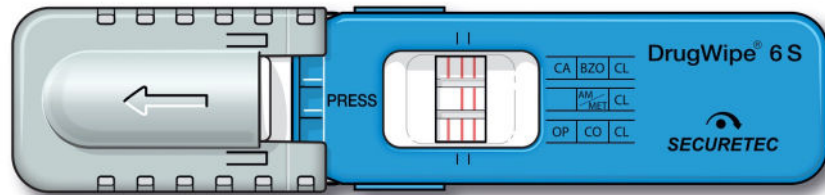
Methods: We searched PubMed, Education Resources Information Center (ERIC), Academic Search Complete, Web of Science, and Scopus for articles published in English between January 1, 1999, and May 31, 2023. A total of 25 articles met the selection criteria and were included in the final analysis. Two coders independently extracted and analyzed the selected articles to identify common categories across the articles, including study design, study population, type of traffic violation, and study outcomes including subsequent driving behaviors, recidivism, and crash risks.

Results: Of the 25 selected articles, 19 (76%) involved both male and female participants. Fourteen (56%) studies were interventions/evaluation studies, with the other 11 (44%) being observational. Nineteen (76%) studies included alcohol-impaired driving violations, and 23 (92%) studies examined recidivism as an outcome measure. Over half of the observational studies demonstrated that traffic offenders were more likely to commit a subsequent traffic violation or had elevated risk of crashes. Most of the intervention/evaluation studies demonstrated a significant reduction in driving under the influence (DUI) of alcohol among the study participants. However, such positive effects observed during the active intervention period were not always sustained.

Conclusions: Traffic offenders are a high-risk group for subsequent violations and crashes. Evidence from this review calls for more effective interventions implemented following a traffic violation to prevent recidivism, crashes, and crash-related injuries and deaths.

Technology: Preliminary Drug Testing

- Since December 2022 in Ireland:
Securetec Drugwipe 6S

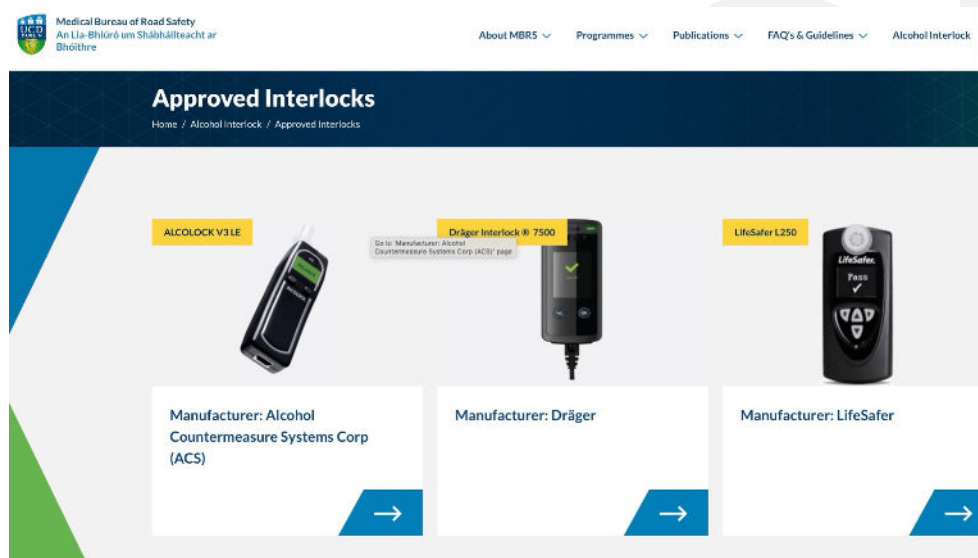


<https://www.ucd.ie/mbrs/manuals/>

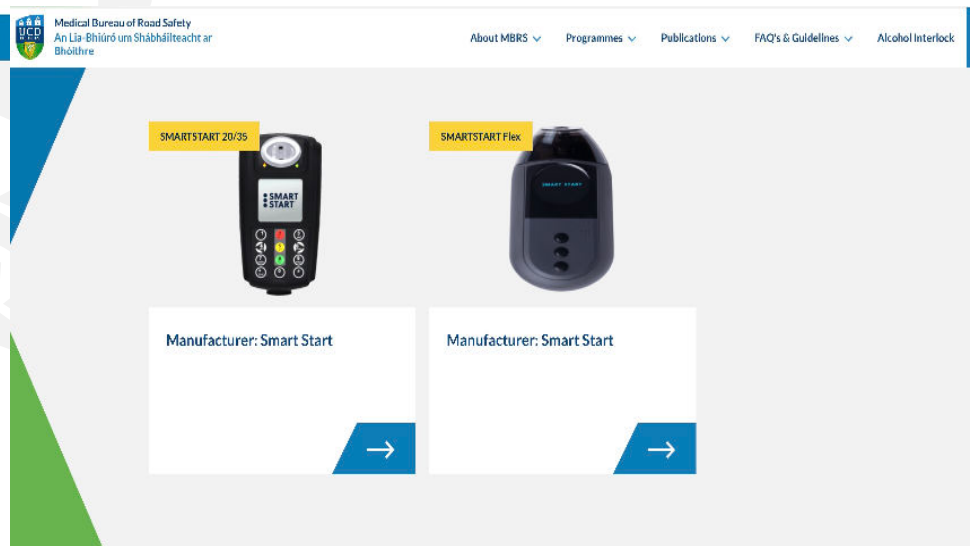
Other DUI Technology: The Alcohol Interlock Device

- Breath Alcohol Sensor Device: records breath alcohol concentration and prevents the vehicle from starting if the alcohol level is over a certain threshold.
- Rolling retest system – test at start up and interval periods.
- Anti-tamper/circumvention proof system for mounting to the engine.
- Data recording system: breath test results, test compliance and engine operation. Create data record to ensure that the driver is using the vehicle as expected. Real time v Data Download.

MBRS Approved Interlocks to October 2025



The MBRS and the NSAI hosted the CEN standard development CLC/BTTF 116-2 group at UCD on the 23 and 24th September which is reviewing and developing the Alcohol Interlock standard EN 50436.



Core Messages on DUI Behaviour

Road Safety Strategies Europe Wide

- **Average intoxication levels** in blood are **very high across range of age groups and genders**
 - role of doctors and licensing and diagnosis and treatments in alcohol and drug use disorder
- **Intoxication** with alcohol and drugs leads to *inter alia*:
 - Dangerous driving
 - Speeding
 - Recklessness, bravado and poor driving decisions
 - Not using safety belts
 - Lack of attention and distraction with 'phone use etc.

Core Messages on Forensic Technology in Road Safety Strategies

- **Roadside drug testing** as expanding part of RSS
- **Alcohol interlock device** as innovative part of RSS
EU Commission Delegated Regulation: (EU) 2021/1243 of 19 April 2021 supplementing Regulation (EU) 2019/2144 of the European Parliament and of the Council
- **Intelligent Speed Adaptation** for future vehicles
EU Commission Delegated Regulation
- Truly **transformative actions** to tackle road traffic deaths and serious injuries
- **Broader integrated strategies** across Ministries of Home Affairs, Transport and Health and Semi-State and Private Organisations

Core Messages on Road Safety Strategies

- Top priority is Road Safety to save lives and reduce life-shattering injuries
- Balanced with individual citizen's freedoms
- Measures must be scientifically evidenced and accurate
- Legally clear provisions
- Effective Police enforcement
- Judicial consistency
- Use of emerging technology to counter recidivist behaviour: roadside drug testing, alcohol interlock devices, speed limiters
- Medical supports and rehabilitation for drivers with drug and alcohol addictions



Malta and Ireland

Working Together and with
Colleagues throughout Europe to
Tackle Driving under the Influence of
Alcohol and Drugs –

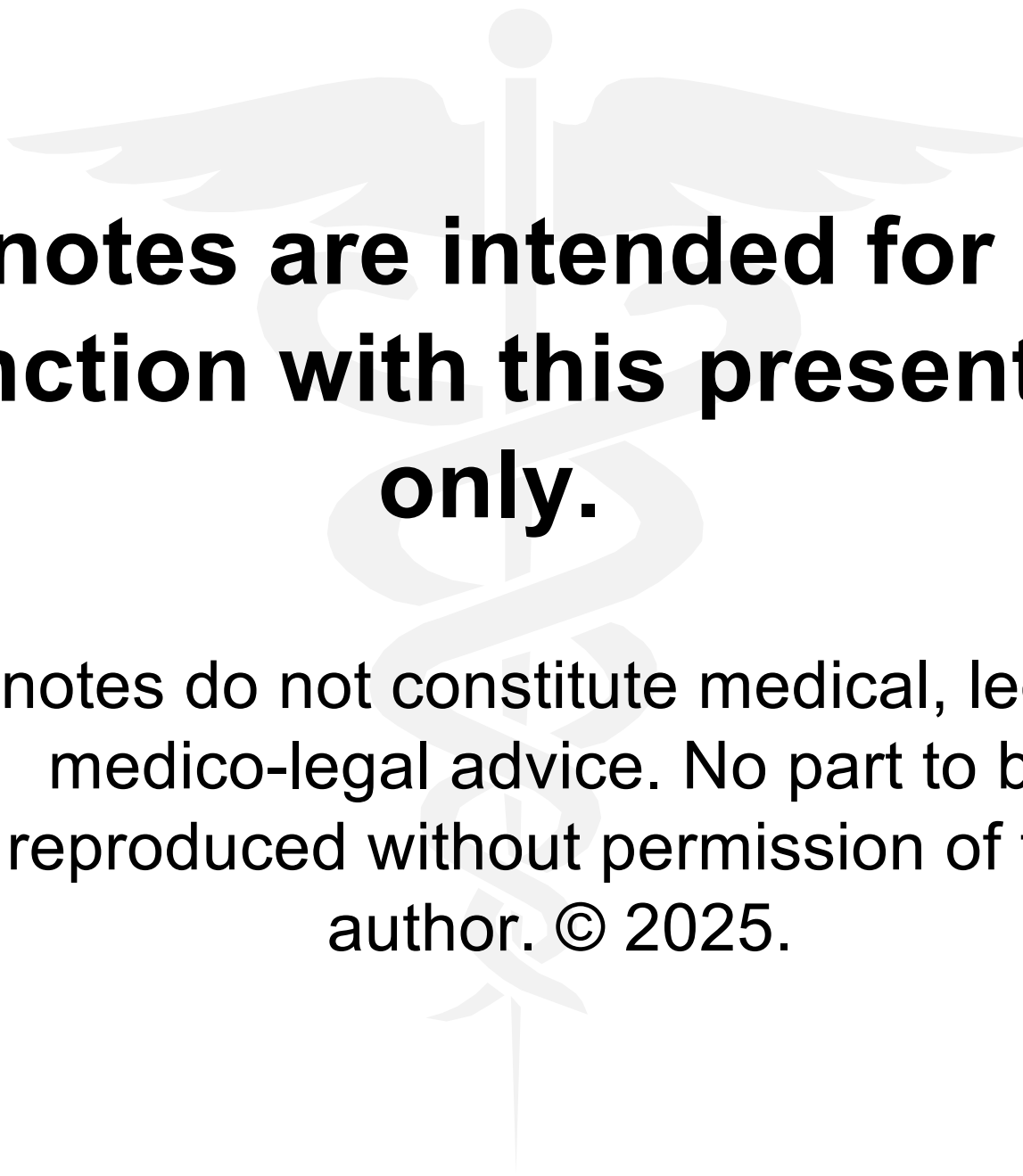
Saving Lives and Reducing Injuries

Acknowledgements

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- All the Scientists, Technical & Administrative Staff of MBRS

<https://www.ucd.ie/mbrs/publications/annualreports/>





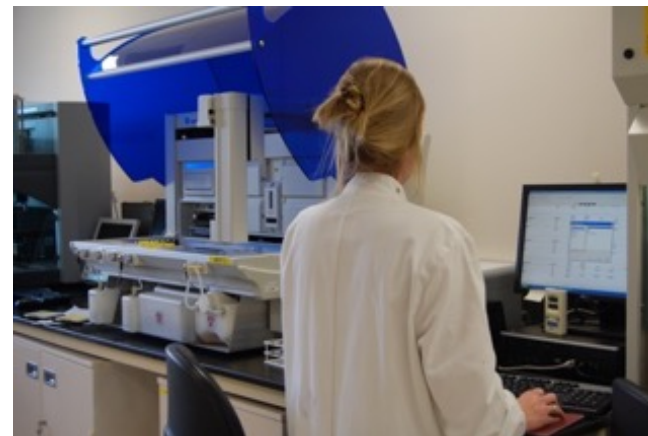
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Medical Bureau of Road Safety

57 Years: 1968 – 2025

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Grazzi
Go raibh maith agaibh
Thank you

Panel Discussions