

MEDICAL BUREAU OF ROAD SAFETY



ANNUAL REPORT 2021

TABLE OF CONTENTS

Director’s Introduction3

Mission Statement5

Functions of the Medical Bureau of Road Safety.....6

Achievements and Developments during 2021.....9

Specimens Received in the Laboratory for Analysis11

Alcohol Programme: Blood and Urine19

Alcohol Programme: Breath.....22

Toxicology Programme.....29

Quality Assurance.....37

Proficiency Testing Programme.....38

Financial Information & Corporate Governance.....39

Statement on Internal Control.....44

Freedom of Information.....46

Staffing.....46

Bureau Organisational Chart.....47

Conferences and Courses attended by Staff in 2021.....48

Energy Consumption.....50

Legal Disclaimer.....50

DIRECTOR'S INTRODUCTION

This Annual Report for 2021 presents a comprehensive summary of the Medical Bureau of Road Safety's activity and performance for that year. It provides relevant, updated and important information, data and illustrative figures on driving under the influence of intoxicants. It is also set in the context of the Bureau's role in the new Road Safety Strategy 2021 – 2030 with particular reference to *Actions 23 and 119* on the Alcohol Interlocks Programme; *Action 24* on review and update of impairment testing used by An Garda Síochána; *Action 31* on consideration of legislation for Polydrug Traffic Offence penalties; and *Action 163* of the programme for procurement and roll out of new Preliminary Drug Testing Devices scheduled for 2022. The Bureau is also one of the partners on other Actions of the Strategy and in the overall implementation of it during its lifetime.

The Bureau provides an integrated and high quality national forensic scientific and medical service in intoxicant detection and research. This continues to play an integral and central role in reducing deaths and injuries on Ireland's roads which had a figure for road traffic deaths of 41 per million of population in 2021. In pursuing Ireland's target to achieve "Vision Zero" for road deaths and injuries the Bureau continues its work in close partnership with the Department of Transport, An Garda Síochána, the Road Safety Authority and other national and international bodies.

The continuing Covid-19 pandemic in 2021 remained a challenge for the Bureau which continued to implement strong health and safety measures to ensure that the essential functions of the Bureau were carried out in a safe manner with minimal disruption to the forensic work. The dedication of the staff of the Bureau in ensuring the continuity of service reflected their high standard of professionalism and merits enormous thanks.

As the country gradually emerged from the severe restrictions on population movement, the number of specimens received for analysis by the Bureau continued at the higher level seen in 2020 and was 21% higher than the pre-Covid 2019 figure with 5,862 specimens. A significant shift in the pattern of specimens provided was confirmed in 2021 with Evidential Breath Testing numbers reflecting a focus on suspected alcohol intoxication and blood and urine samples focusing on other suspected drug intoxicants.

The number of preliminary drug testing devices available to the Gardaí in stations and at the roadside numbered 179 by the end of 2021 with 93 of the devices specifically available for mobile use. The introduction of the new PDT devices in 2022 will increase the detection capacity of the Gardaí for drug intoxicated driving.

Alcohol remained the most frequently detected intoxicant in drivers and the median alcohol level in blood was 156mg/100ml and in urine was 197mg/100ml when specimens with no trace of alcohol were excluded. Alcohol intoxicated driving therefore remains a very significant danger on Irish roads.

Of the 4,321 specimens tested for drugs in 2021, 3,412 were found to be positive for at least one drug class on preliminary laboratory drug testing, while 909 (21%) were negative for the drugs targeted by the Bureau at the thresholds used. This drug positive figure represented 79% of toxicology specimens and 58% of all specimens received in the Bureau. For drug intoxicants other than alcohol the three most commonly detected drugs were cannabis, cocaine and benzodiazepines. The prevalence of combinations of drugs and of drugs with alcohol continued to be of concern. The mean level of Δ^9 -Tetrahydrocannabinol (Cannabis) confirmed in specimens analysed was 6.0ng/ml in 2021. The 11-nor-9-carboxy- Δ^9 -tetrahydrocannabinol (Cannabis) level was 58.8ng/ml for 2021. The legal limits for these drugs are 1ng/ml and 5ng/ml respectively.

In a new area of transport safety collaboration for the Bureau, it engaged with the Irish Aviation Authority (IAA) in a Memorandum of Understanding outlining an agreement whereby the Bureau approve, supply, and test the Dräger Alcotest 8610 device for the IAA alcohol breath testing scheme. There are four devices operating within this scheme and the Bureau calibrates and tests the devices 6-monthly.

The report sets out in detail the demographics of drivers who provided samples for analysis and includes a breakdown of specimens by county and also from drivers outside of Ireland. An analysis was also carried out to assess the number of drivers who had repeat arrest specimens sent for analysis. One driver was arrested fifteen times on suspicion of intoxicated driving in a three-month period in 2021. This concerning finding has highlighted that repeat and high-risk driving under the influence offenders requires to be addressed legislatively, in the prosecutorial process and also in medical rehabilitation and that this needs to be addressed co-operatively by the Bureau and a number of other bodies.

The Director and staff continued to attend courses and conferences in 2021 with most being by way of virtual attendance. Staff of the Bureau continued to contribute to a variety of national and international specialist bodies in forensic scientific testing for driving under the influence of intoxicants. The Bureau, through the Director, also played an increased role in the International Council on Alcohol and Drugs in road safety (ICADTS).

The Bureau also continued its active participation and collaboration with the Ministerial Committee on Road Safety; the Road Safety Authority; the National Office for Traffic Medicine and the Royal College of Physicians in Ireland on medical fitness to drive guidelines; and with the UK Department of Transport's medical advisory panel on alcohol, drugs and substances misuse and driving.

The Bureau completed and published its second study on clinical investigation into the ability of subjects with lung disease to provide evidential breath testing samples and its work will be presented at international meetings in 2022.

Thus 2021 continued to be a busy, productive and challenging year for the Bureau which again looks forward to playing its ongoing part to improve and support road safety for all road users in Ireland into 2022.

Professor Denis A. Cusack
Director

MISSION STATEMENT:

“To provide a high quality national forensic service in alcohol and drug (intoxicant) detection in support of the effective operation of the road traffic legislation and contribution to transport safety and medical fitness to drive measures.”



FUNCTIONS OF THE MEDICAL BUREAU OF ROAD SAFETY

The responsibility for chemical testing of intoxicants in driving in Ireland rests with the Medical Bureau of Road Safety which is a corporate body established in November 1968 by the Minister for Local Government under Part V of the Road Traffic Act, 1968.

The Minister’s title was altered to Minister for the Environment & Local Government on 22nd July 1997. In June 2002, the Medical Bureau of Road Safety came under the aegis of the Minister for Transport under the Transfer of Departmental Administration and Ministerial Functions Order 2002.

From 2011 to September 2020 the Medical Bureau of Road Safety was under the Department of Transport, Tourism and Sport. The Medical Bureau of Road Safety is now under the remit of the Department of Transport.

The functions of the Bureau are laid down in the Road Traffic Acts 1968 – 2016.



When the Bureau was established in 1968 it commenced operating for Roadside Alcohol Testing, Blood and Urine Alcohol Analysis, the Issue of Certificates and provision of equipment for the taking of specimens (kits).

There have been many legislative changes such as the introduction of evidential breath alcohol testing (EBT) and driving under the influence of drugs (DUID), specimens provided in hospitals, specimens taken from drivers involved in collisions and mandatory intoxicant testing to include Preliminary Breath Alcohol testing (PBT) and Preliminary Drug Testing (PDT). The Bureau issues certificates under section 17 of the Road Traffic Act 2010 (as amended 2016), certifying the concentration of alcohol in blood or urine, certifying the presence of a drug or drugs in blood or urine and certifying the concentration of a drug or drugs in blood.

The Road Traffic Act 2018 introduced a more severe penalty for drivers having alcohol levels between 50mg/100ml and 80mg/100ml blood and equivalent in urine or breath, recognizing that even at low levels of alcohol driving is impaired.

Statutory Instrument 385 of 2020 provided for the issuing of Certificates under section 17 of the Road Traffic Act 2010 for the presence of particular drugs rather than the class of drug only. Concentration of drugs for those listed with *per se* limits under the Road Traffic Act 2016 are issued on the same certificate where appropriate. This has streamlined the reporting process and offers more information to the Driver, An Garda Síochána and the Court.

Through 2021 the Bureau continued to focus on its legal responsibilities as set out in the Road Traffic Acts (RTA) and in accordance with the Government’s Road Safety Strategy.

The Bureau operates to fulfil the interconnected functions below.



The Bureau continues to keep up to date with technology and use the best methods of analysis. It has kept abreast of innovation in instrumentation in the field of alcohol and drug detection both in the laboratory and outside of the laboratory – roadside and Garda stations.

The Bureau provides a service to the Department of Transport, the Courts, An Garda Síochána, defence, prosecution and the public.

The continued successful operation of the Bureau is dependent on the investment in staff training and skill enhancement. The Director is responsible for the day to day running of the Bureau in all of its Statutory functions under the Road Traffic Acts 2010 and 2016. The Chief Analyst is responsible for the day to day running of the laboratories and their programmes. Each programme has a programme manager at Principal Analyst level. The Senior Administrator is responsible for the Corporate/Financial programme and for overall administration within the Bureau. The Bureau has a Quality Manager at Principal Analyst level.

ACHIEVEMENTS & DEVELOPMENTS DURING 2021

Preliminary Drug Testing

Preliminary Drug Testing (PDT) continued to increase at a moderate rate throughout the country. A tender to replace the current PDT testing system was prepared and published in 2021 with a planned switch over in compliance with action 163 of the Road Safety Strategy 2021-2030. The introduction of the new roadside drug testing system is on target to be operational in Q4 2022. The PDT review group chaired by the Chief Analyst and members from the Medical Bureau of Road Safety, An Garda Síochána and the Department of Transport continued to meet to review and assess use of roadside drug testing.

Laboratory Preliminary Drug Screening

The Bureau continues to carry out Preliminary Drug Screening using LC-MS-MS for the analysis of drugs. All specimens which had an alcohol level of less than 100mg/100ml blood or equivalent were screened for the presence of drugs. The LC-MS-MS screening method allows the specific drug or drugs to be identified at this preliminary stage.

Laboratory Confirmatory Drug Testing

All specimens that screened positive for a drug or drugs were forwarded for confirmatory analysis. In July 2021 the laboratory limited drug testing to confirm only one drug per specimen, full confirmatory testing will be resumed when the staff resource is optimised. In many cases polydrug use was evident from the screening test. The Bureau certifies the presence of drugs and certifies the concentration of those drugs specified in Schedule 2 of the Road Traffic Act 2016. All laboratory drug testing is carried out in the Bureau's facility in University College Dublin. The number of drugs reported was extended in 2021.

Preliminary Breath Alcohol Testing

Preliminary Breath Testing (PBT) devices are provided to An Garda Síochána for use at the roadside to test a drivers breath for the presence of alcohol. The Bureau continues to calibrate these devices biannually and there is approximately 1,400 available for use by the force.

Evidential Breath Alcohol Testing

Evidential Breath Testing (EBT) instruments are tested biannually. The Bureau continued to maintain 86 evidential breath alcohol testing instruments in Garda stations nationwide. Due to the effects of Covid-19 pandemic several station instruments were 'out of service' for longer than expected in normal operational times. In all cases EBT instruments were available within the division and stations had a ready supply of blood and urine kits to enable enforcing of Intoxicated Driving legislation.

Quality Assurance

Following an audit by INAB (Irish National Accreditation Board) in early 2021, ISO 17025 accreditation was maintained. The Bureau's flexible scope allowed additional analytes to be added to the drug testing panel with ease.

Health, Welfare and Safety

Particular Covid-19 protocols were put in place and remained in place for the most of 2021. These included personal temperature check on entry, one-way systems, social distancing, clear signage and mask wearing while moving about the building. The Bureau and the staff are committed to following government and HSE guidelines. This ensured that the Bureau remained open and fully operational throughout 2021. There was no evidence of inter staff covid-19 infection.

The Bureau is committed to providing a safe environment for all employees, visiting engineers, Gardaí and others. The Bureau Safety Statement was reviewed and throughout the year Safety Monitors continued to assess and maintain the highest safety standards. University College Dublin's parent Safety Statement is adhered to and staff in the Bureau have access to the full suite of health and wellness offerings made available by the university. There were no reportable or significant accidents or incidents in the year.

Knowledge Sharing and Development

Bureau staff and the Director continued to present at a number of meetings which were in the main held virtually. Training of Gardaí by the Bureau did not take place throughout 2021. It is not expected that this had any significant operational impact as an adequate number of Garda members were trained in previous years.

Bureau scientists sit on national and international standards and knowledge sharing committees and working groups including OIML (International Organisation of Legal Metrology), Eurachem, UKIAFT (United Kingdom and Ireland Association of Forensic Toxicologists) and EMCDDA (European Monitoring Centre for Drugs and Drug Addiction). The work of these committees continued virtually.

Consumables Supply to An Garda Síochána

The Bureau supply consumables to An Garda Síochána to facilitate enforcement of the Road Traffic legislation with regard to intoxicated driving. Provision of such consumables is demand driven and the Bureau liaises closely with the Garda National Road Policing office having oversight of all requests for stock and replacement devices.

SPECIMENS RECEIVED IN THE LABORATORY FOR ANALYSIS

In 2021, a total of 5,862 blood and urine specimens were received for alcohol and/or drug testing. This is a 1.76% decrease in specimens received when compared to 2020 but a 21% increase on the pre-covid 2019 figure of 4,854. Of all specimens received 15% were urine and 85% were blood.

Table 1
Total Number of Specimens Received within Programmes

Programme	2021	2020	2019
Alcohol Blood & Urine	5,862	5,967	4,854
Toxicology Blood & Urine	4,321	4,489	3,229
Evidential Breath Testing	3,157	3,278	5,372

Chart 1
Blood & Urine Specimens received by County of Garda Station

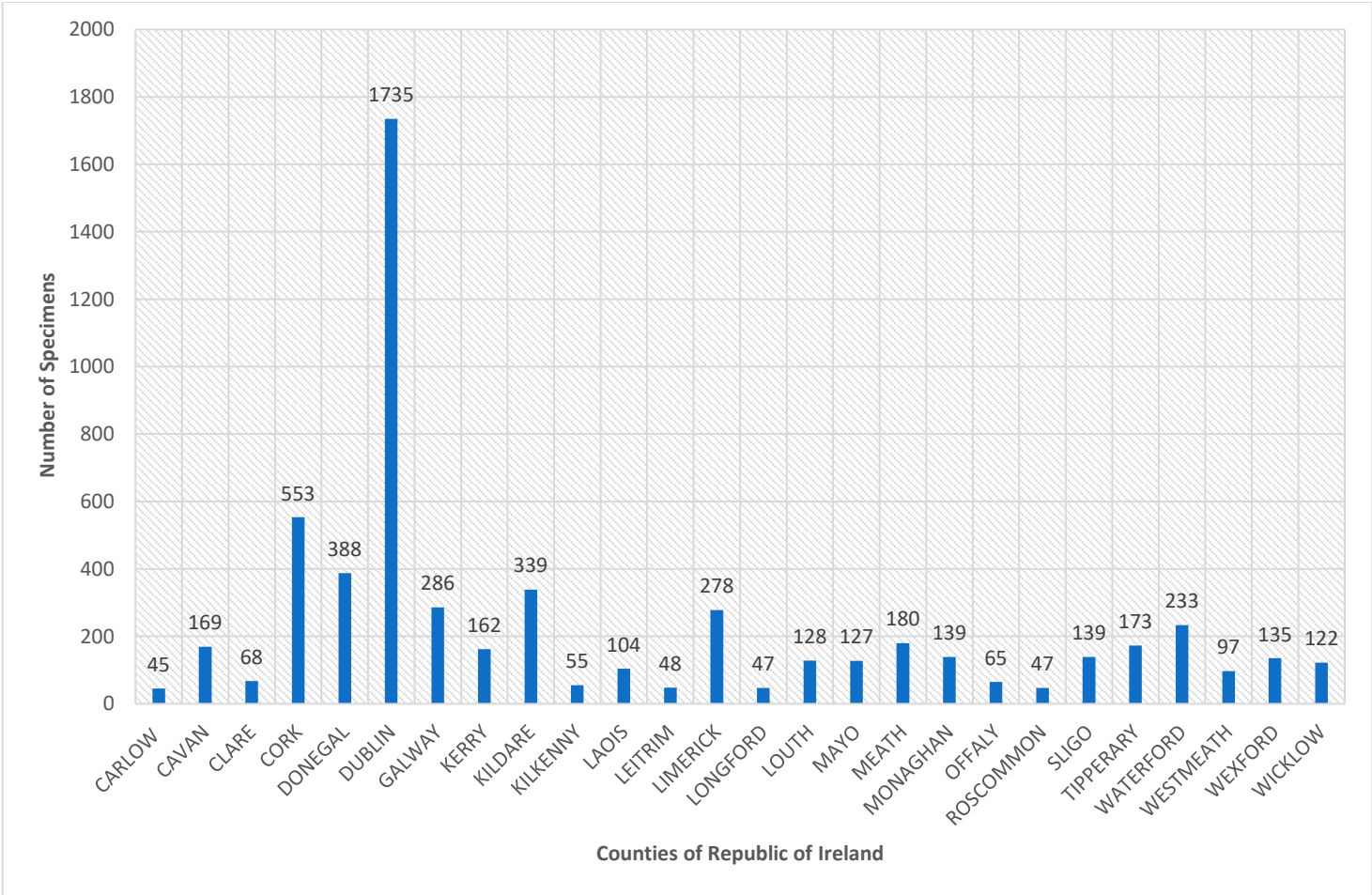
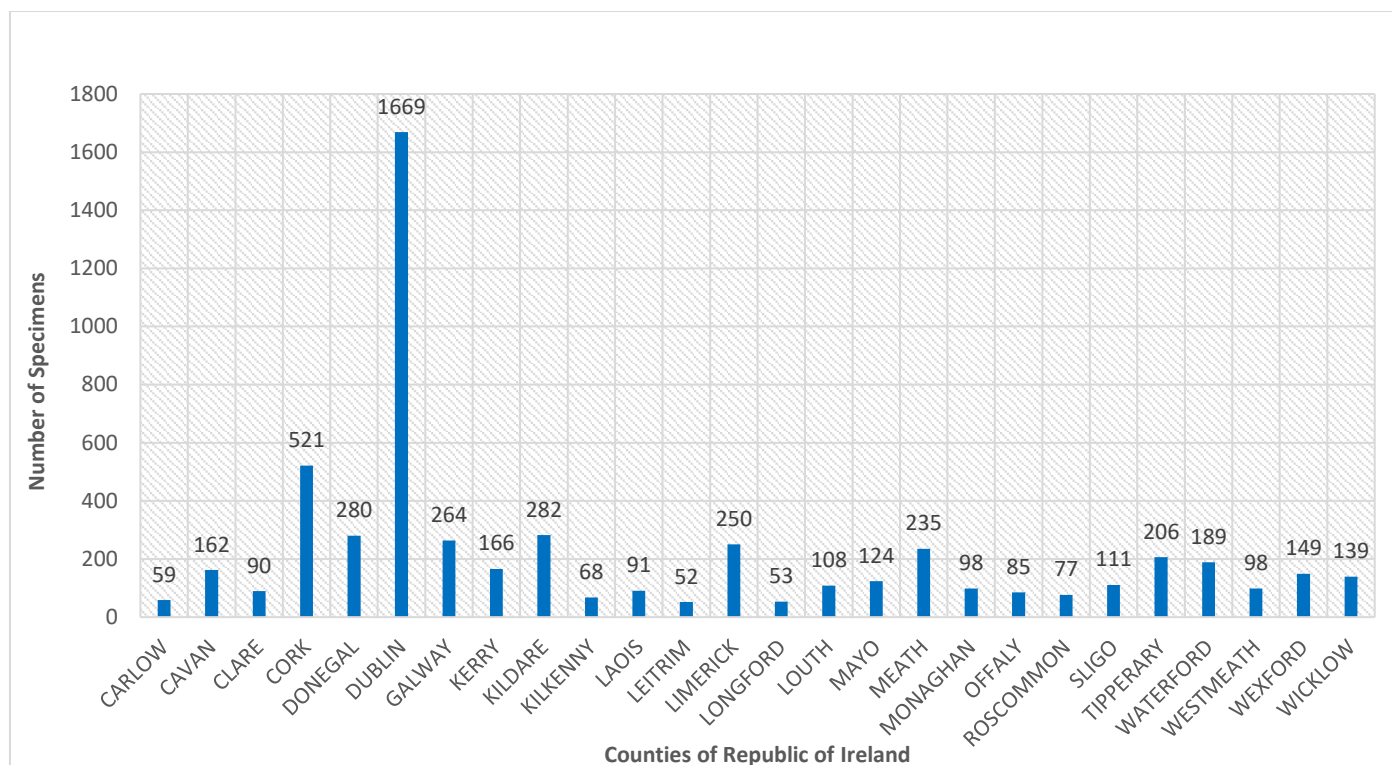


Chart 2

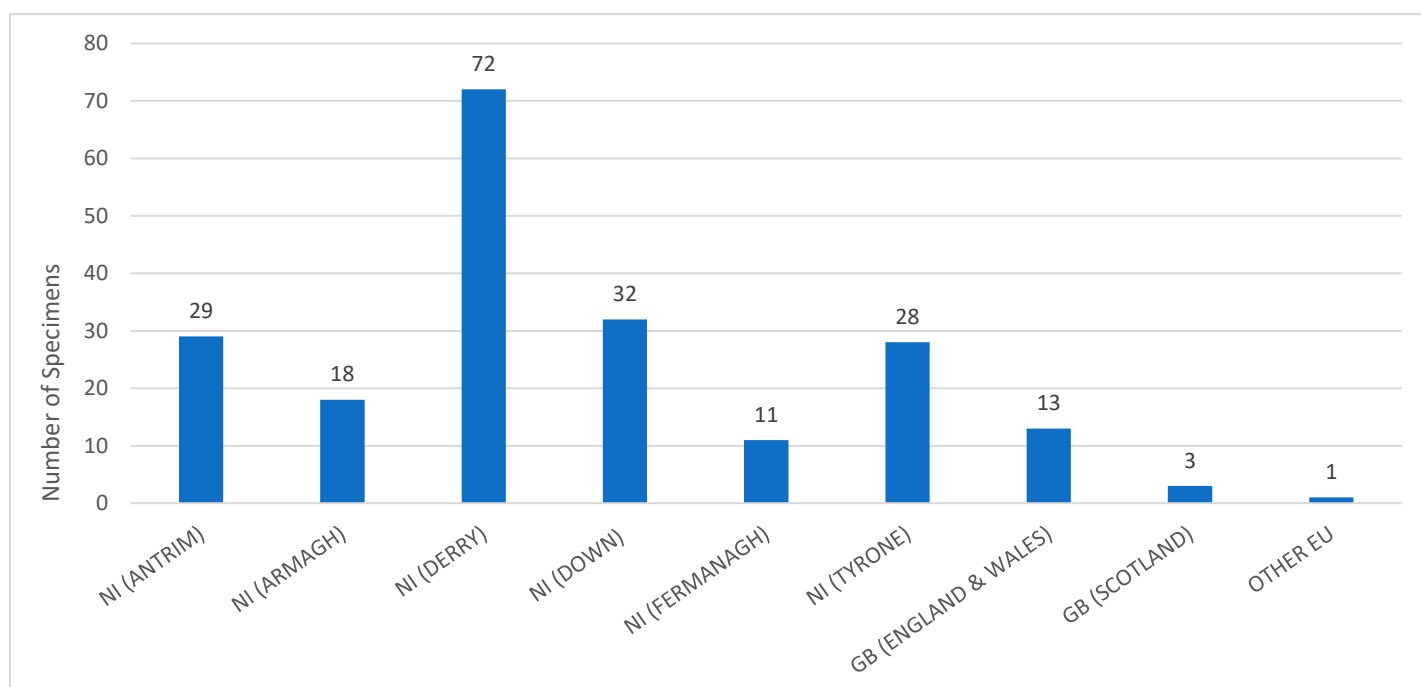
Blood & Urine Specimens - County of residence of Drivers 2021



In 2021, 4% of drivers provided their residences as being outside of the Republic of Ireland.

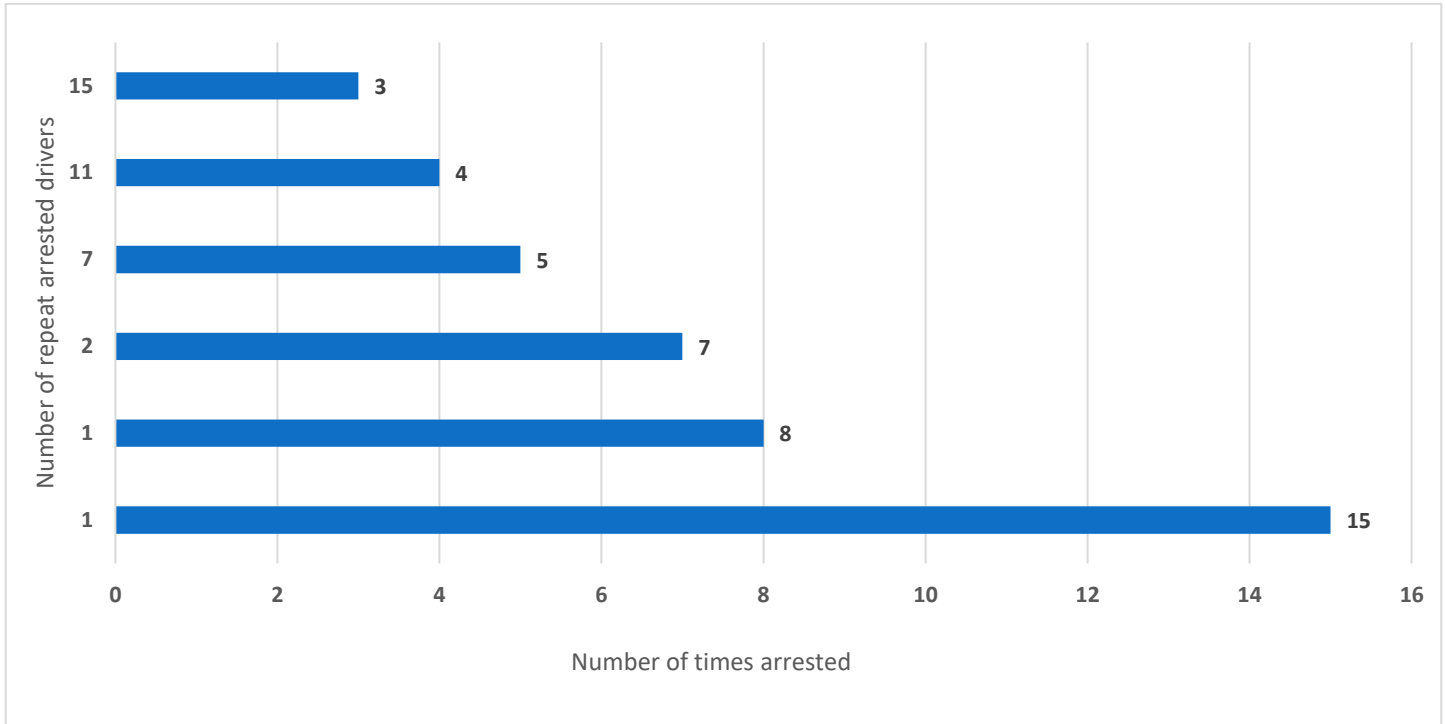
Chart 3

Blood & Urine Specimens - Drivers from outside Republic of Ireland 2021



The most prevalent county/country of residence provided by drivers outside of the Republic of Ireland was Derry, Northern Ireland with Derry residents accounting for more arrested drivers than four of the 26 counties. This may be due to the proximity to the border county of Donegal with Donegal Garda Stations having the 4th highest number of Blood and Urine Specimens received in 2021.

Chart 4
Repeat Arrested Driver Specimens 2021



One driver was arrested 15 times in a 3 month period in 2021.

Analysis of Time

The most prevalent hours for intoxicant drivers are late evening or early morning. Specimens of blood and urine are more likely to be provided between 10pm and 4am.

Chart 5
Time Specimen Taken

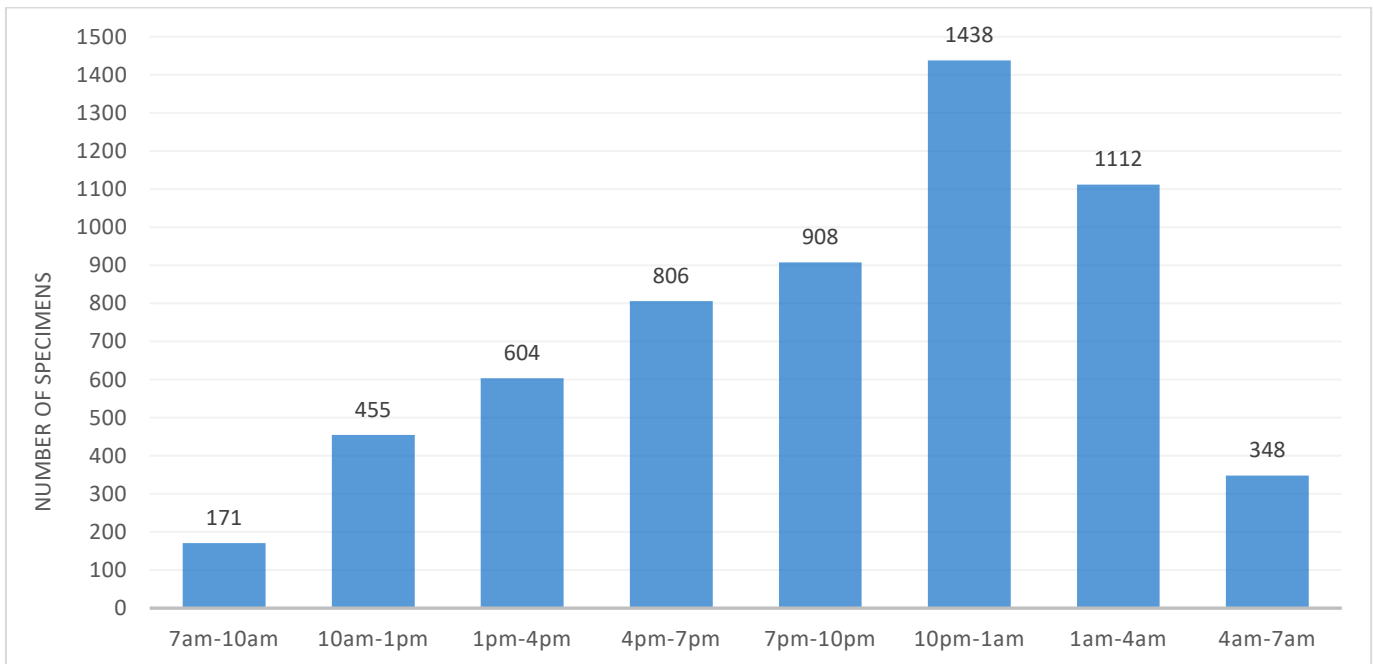
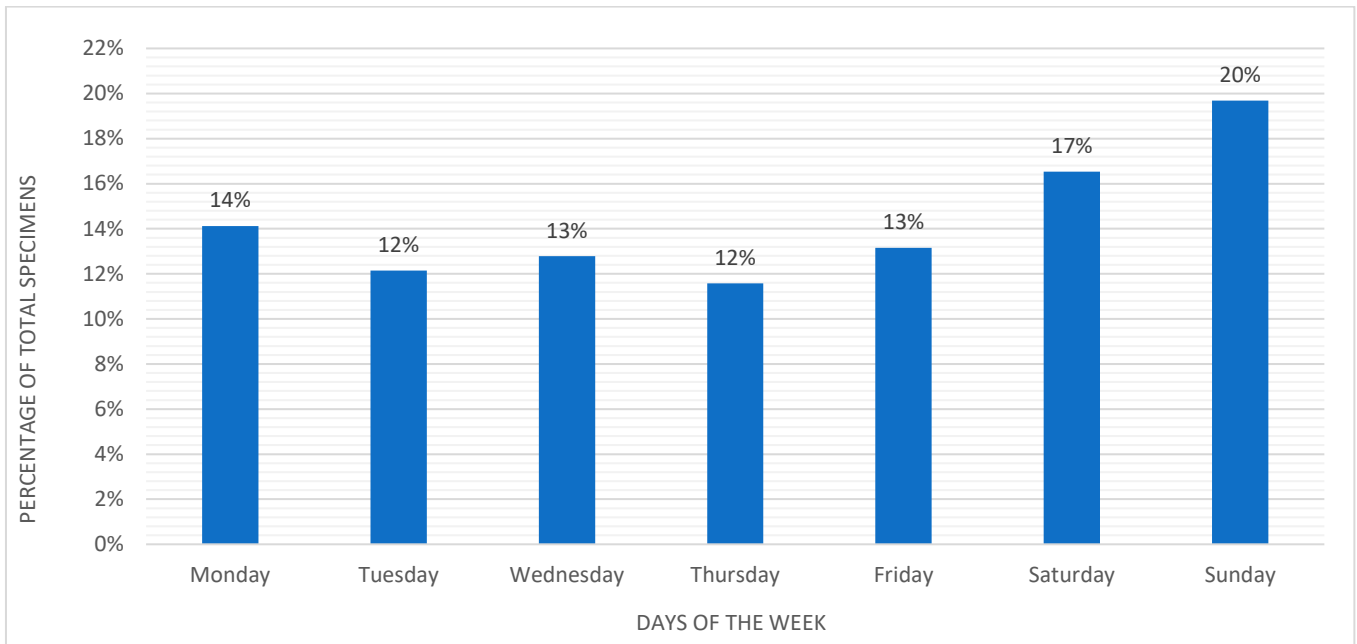


Chart 6
Day of the Week Specimen Provided



More specimens of blood and urine are provided on Saturday, Sunday and Monday than on any other day of the week. The highest numbers of specimens were taken between 10pm on Saturday evenings and 4am on Sunday mornings. The busiest hours for taking of specimens was between 1am – 2am on Sunday morning. However, intoxicated drivers are detected at all times on all days of the week.

Chart 7
Weekend Hours – Saturday

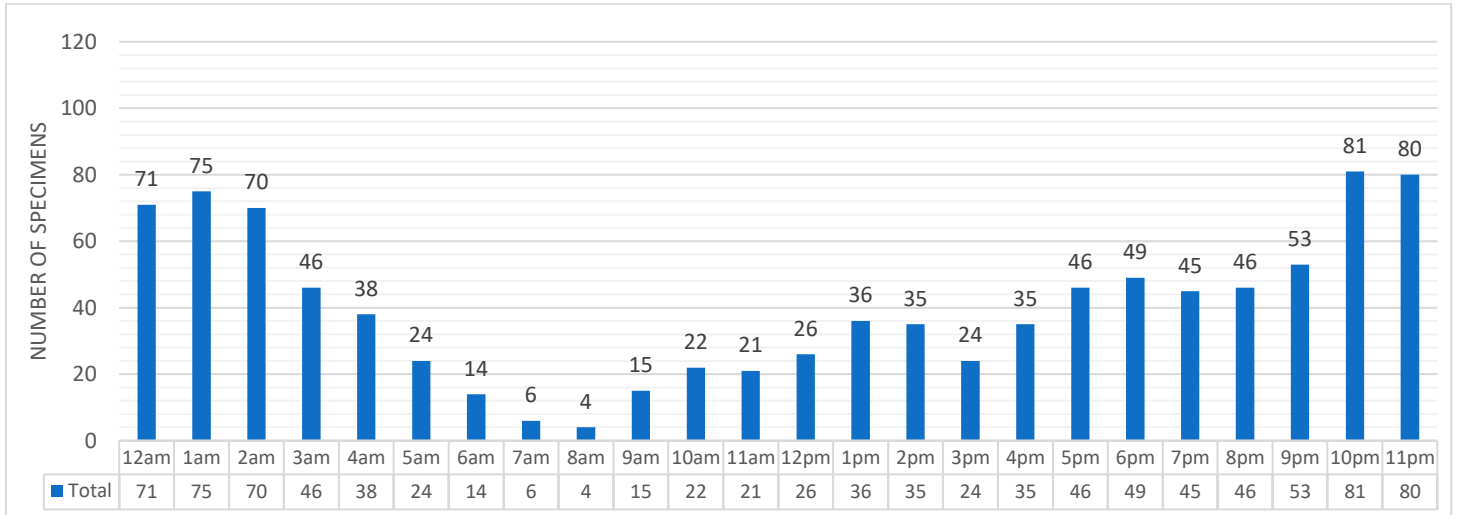


Chart 8
Weekend Hours – Sunday

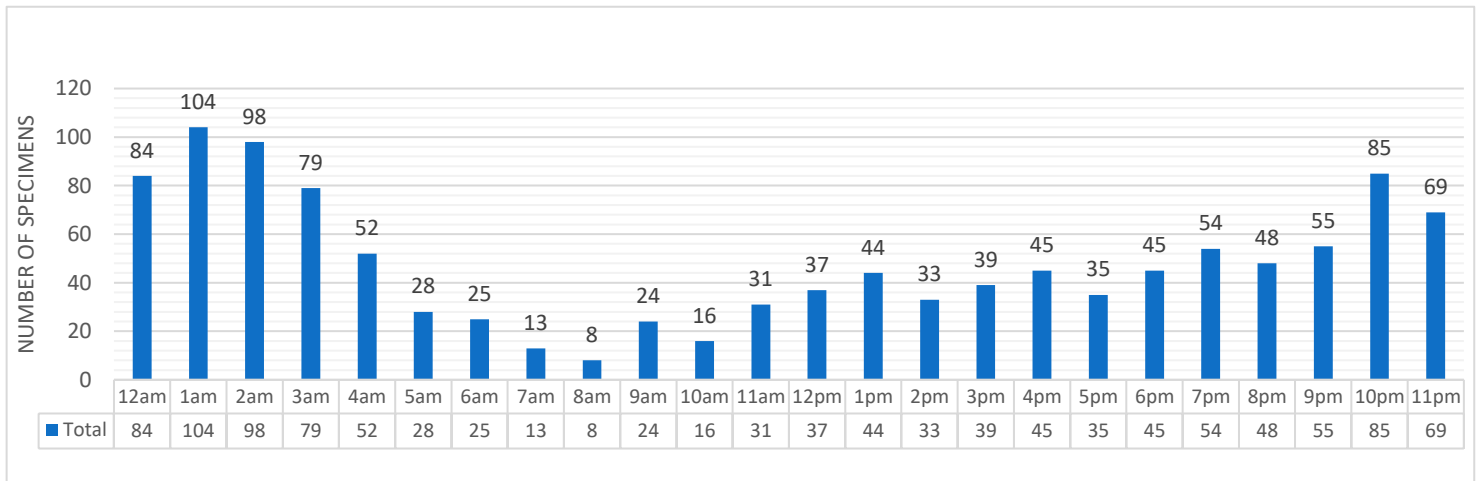
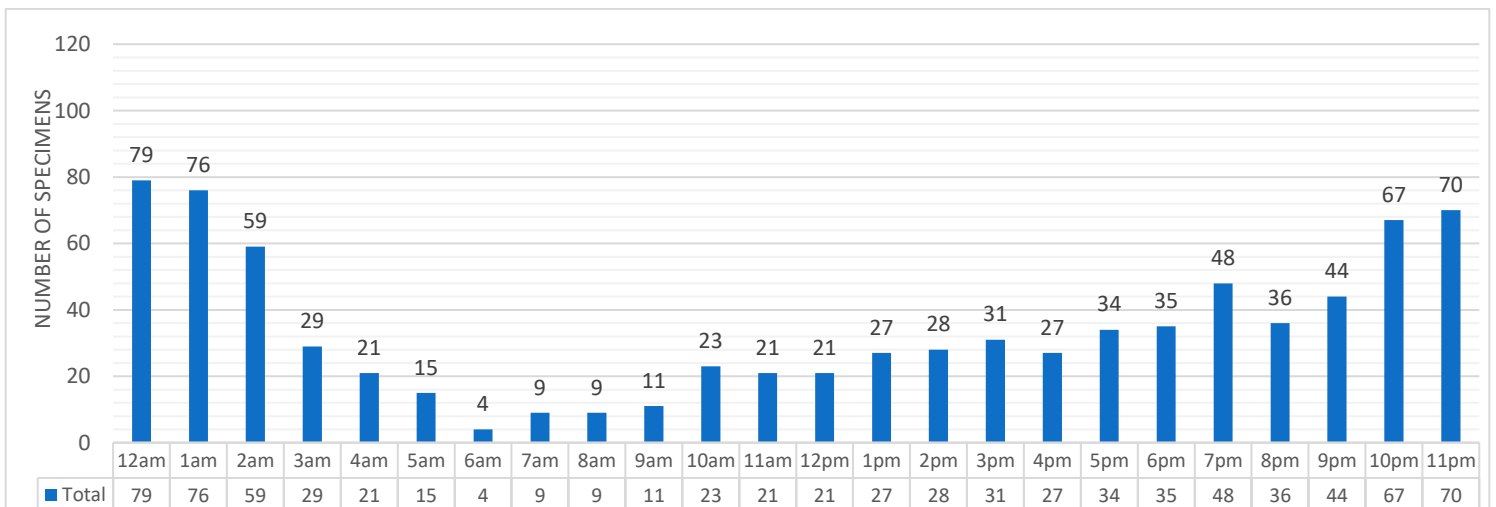


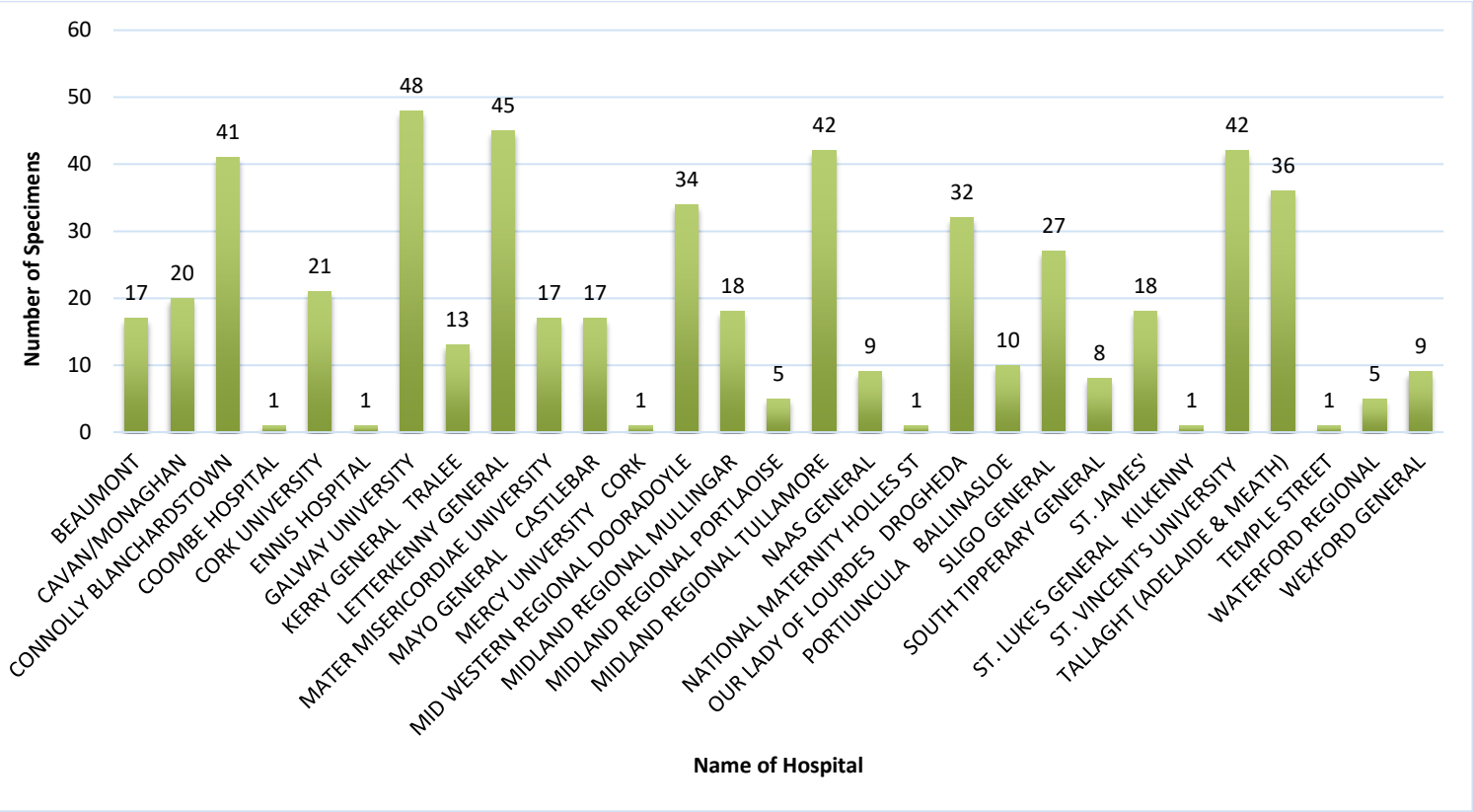
Chart 9
Weekend Hours – Monday



Number of Specimens Provided in Hospitals

In 2021 there were 540 specimens provided in hospitals, this is 9.21 % of the total blood and urine specimens received. There has been a reduction of 2.21% in specimens taken in hospitals in 2021 compared to 2020.

Chart 10
Overview of hospital cases in 2021



Unconscious Drivers

In 2021, no specimens were forwarded to the Bureau for analysis following blood taken from unconscious drivers, this compares to an average of 4 to 5 in recent years.

Gender Analysis

A similar pattern was seen in the male/female ratio in 2021 compared to previous years with 86% of drivers providing specimens being male.

Table 2
Gender Profile of Specimens received – Blood & Urine

	2021	2020
MALE	86%	87%
FEMALE	14%	13%

Age Profile

The age profile of drivers providing blood and urine specimens in the 25 – 34 year old bracket continues to contribute to the greatest percentage of arrested drivers. 82% of total arrested drivers are under 45 years of age. There is a more even spread through the age categories in the female cohort than the male. The youngest arrested driver was 13 years old and the oldest was 95 years old.

Chart 11
2021 Age Profile by Gender %

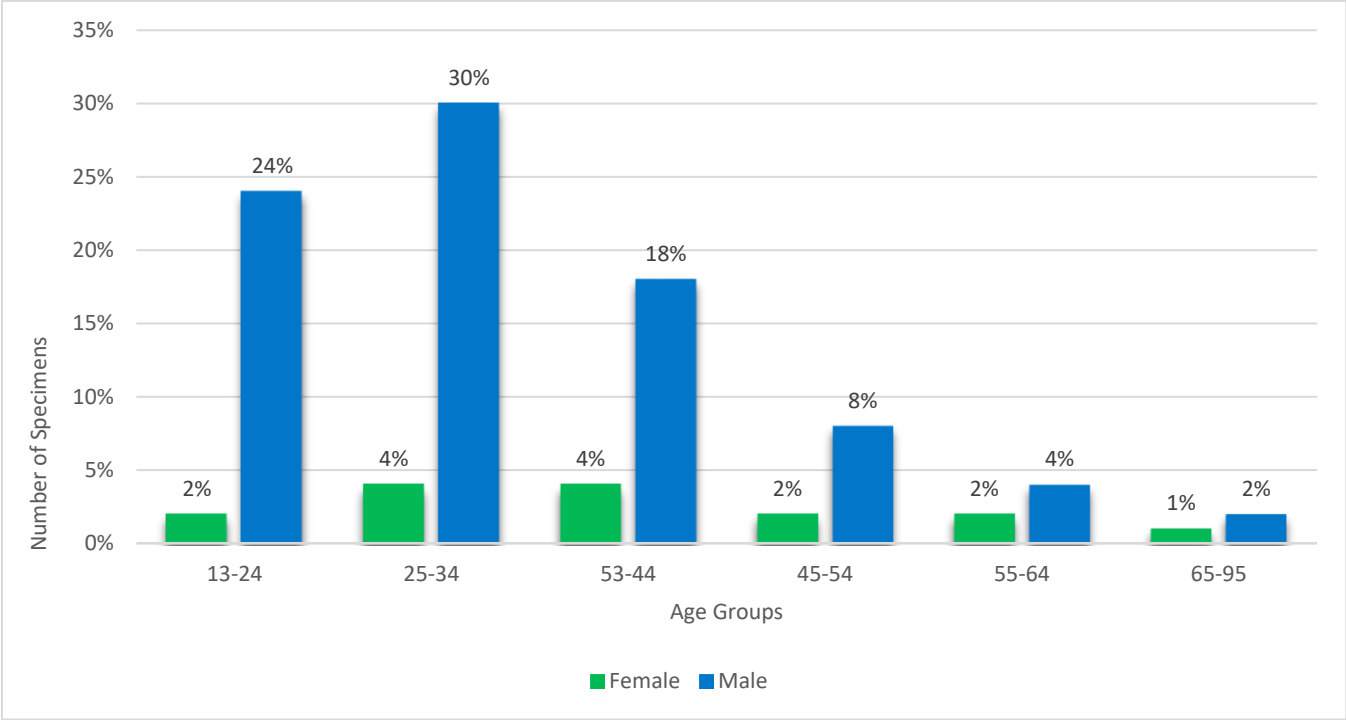
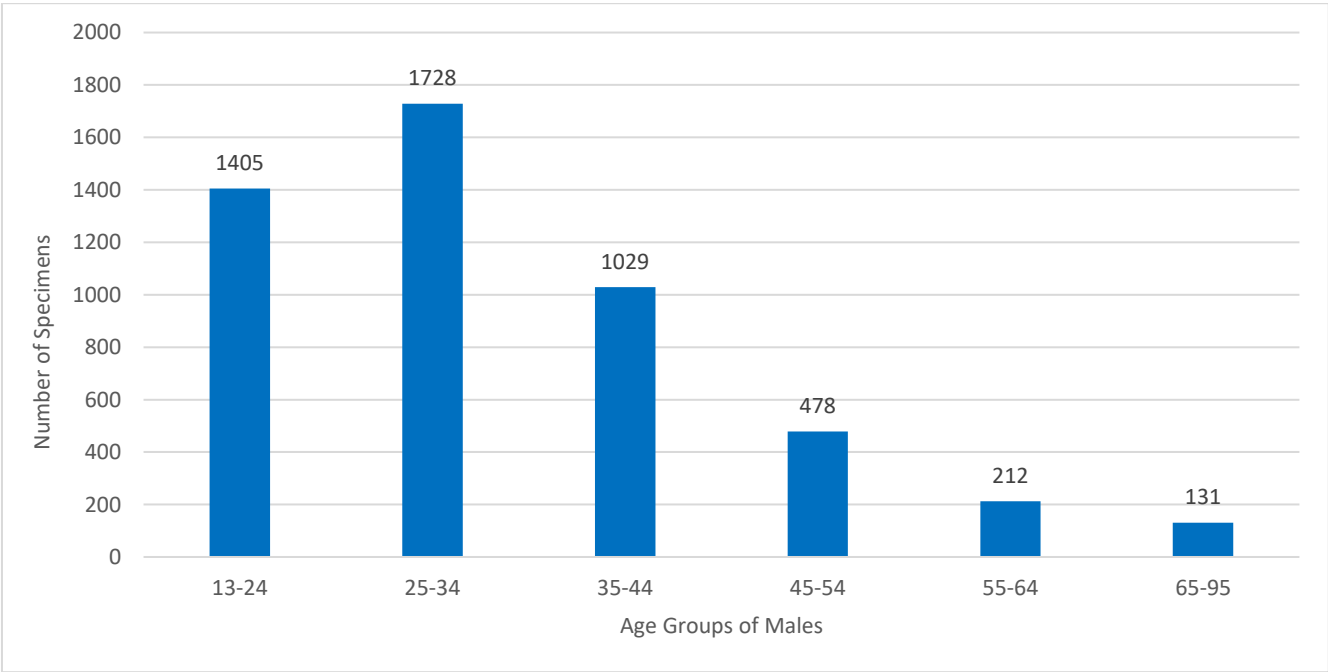
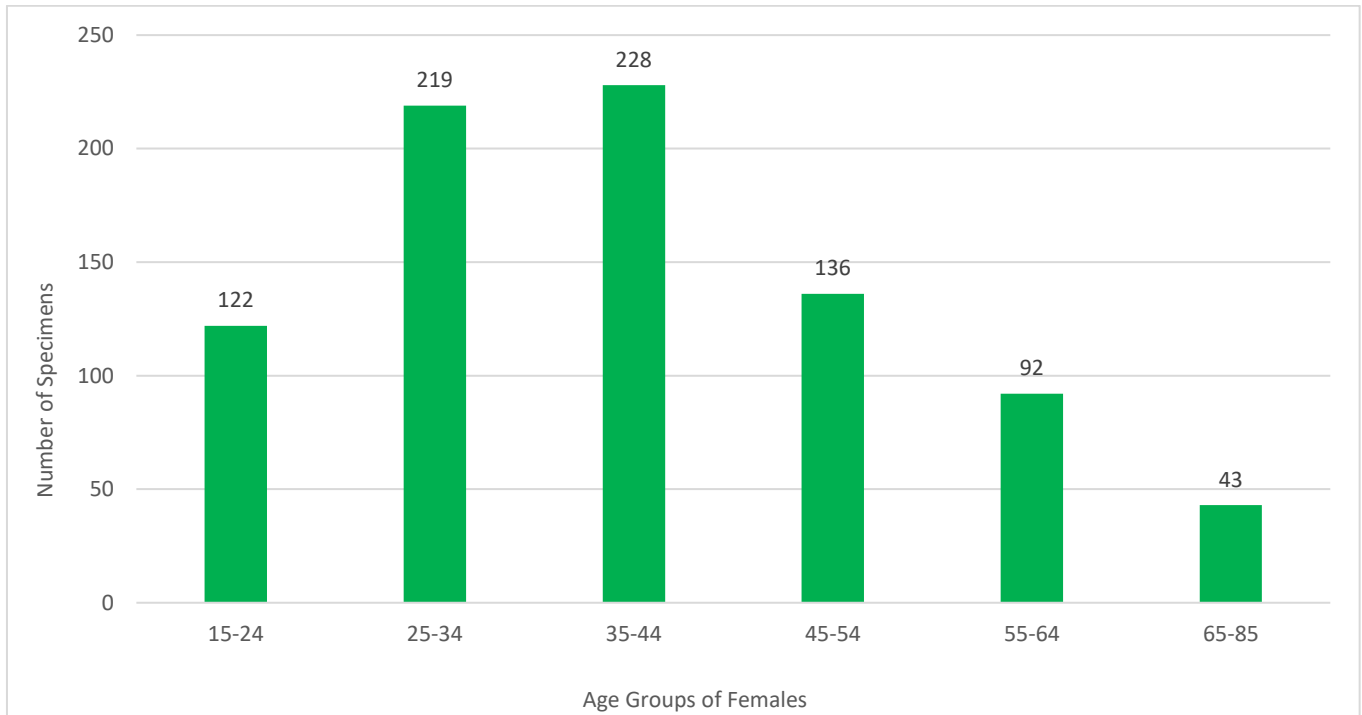


Chart 12
2021 Age Profile of Males



Of all Male arrested drivers - 84% are under 45 years of age

Chart 13
2021 Age Profile of Females



Of all Female arrested drivers - 68% are under 45 years of age.

ALCOHOL PROGRAMME: BLOOD & URINE

This programme is led by Principal Analyst, Ms Louise Lawlor.

- The main functions of the Blood and Urine programme are:
- The receipt and analysis of specimens of blood and urine forwarded to the Bureau
- The determination of the concentration of alcohol in blood and urine specimens
- The issue of Certificates of Analysis
- The testing of spurious specimens
- Provision of expert assistance to the Courts and the Department of Transport
- Collection and analysis of data in relation to alcohol tests



Provision of Blood and Urine Kits

Blood and Urine kits are assembled in-house. Blood and urine bottles for specimen collection are prepared with preservative and anticoagulant and preservative respectively in the laboratory. The kits consist of all items required for the forensic provision of blood and urine specimens under the Road Traffic Act. Each kit includes matched forms and tamper evident seals which are used to ensure proper chain of custody of the specimen from the point of provision in a Garda station or a hospital to receipt in the laboratory by the analyst.

The number and ratio of blood and urine kits issued reflects the specimens received.

Table 3
Kits Prepared & Issued by the Medical Bureau of Road Safety

	Kits Prepared and Issued	
	2021	2020
BLOOD KITS	6,400	6,400
URINE KITS	1,500	1,500
JUGS	1,700	1,700

Blood and Urine Alcohol Analysis

Blood and Urine specimens are analysed using Headspace Gas Chromatography with Flame Ionisation Detection (HSGC-FID). Each specimen is analysed at least twice by two different scientists using two different HSGC-FID systems. The results of analyses must concur before issue of a Certificate of Analysis.

A total of 5,862 blood and urine specimens were received for analysis during 2021. Eight specimens were received for drug testing only, as the drivers had been tested for alcohol using an Evidential Breath Testing instrument. In 41 cases, certificates were not issued either because of some defect in the specimen or in the documentation accompanying the specimen. The number of blood and urine specimens received in 2021 was on par with those received in 2020.

Median Alcohol reported Level in Blood and Urine

The median alcohol level in blood was 156mg/100ml and in urine was 197mg/100ml for 2021, excluding specimens which had no trace of alcohol.

Maximum Alcohol reported Level in Blood and Urine

The highest alcohol level found in blood was 406mg/100ml and in urine was 494mg/100ml.

Lower Alcohol Concentration Specimens in Blood and Urine

52% of blood and urine specimens had no trace of alcohol. 73% were under 100mg/100ml or equivalent. Specimens with an alcohol concentration of less than 100mg/100ml in blood and 135mg/100ml in urine are automatically forwarded for drug screening analysis.

Chart 14
Certified Positive Blood Alcohol Levels 2021 v 2020

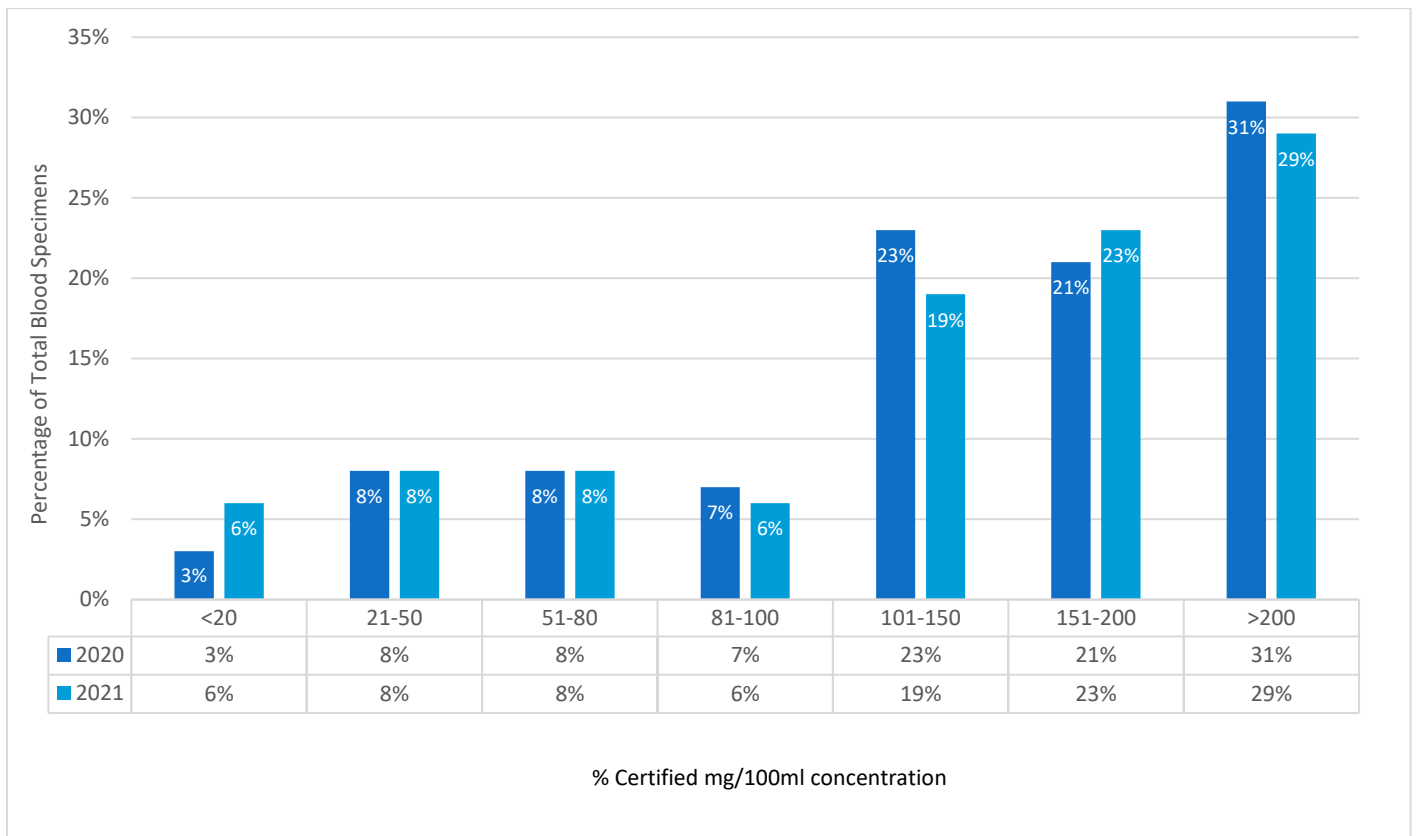
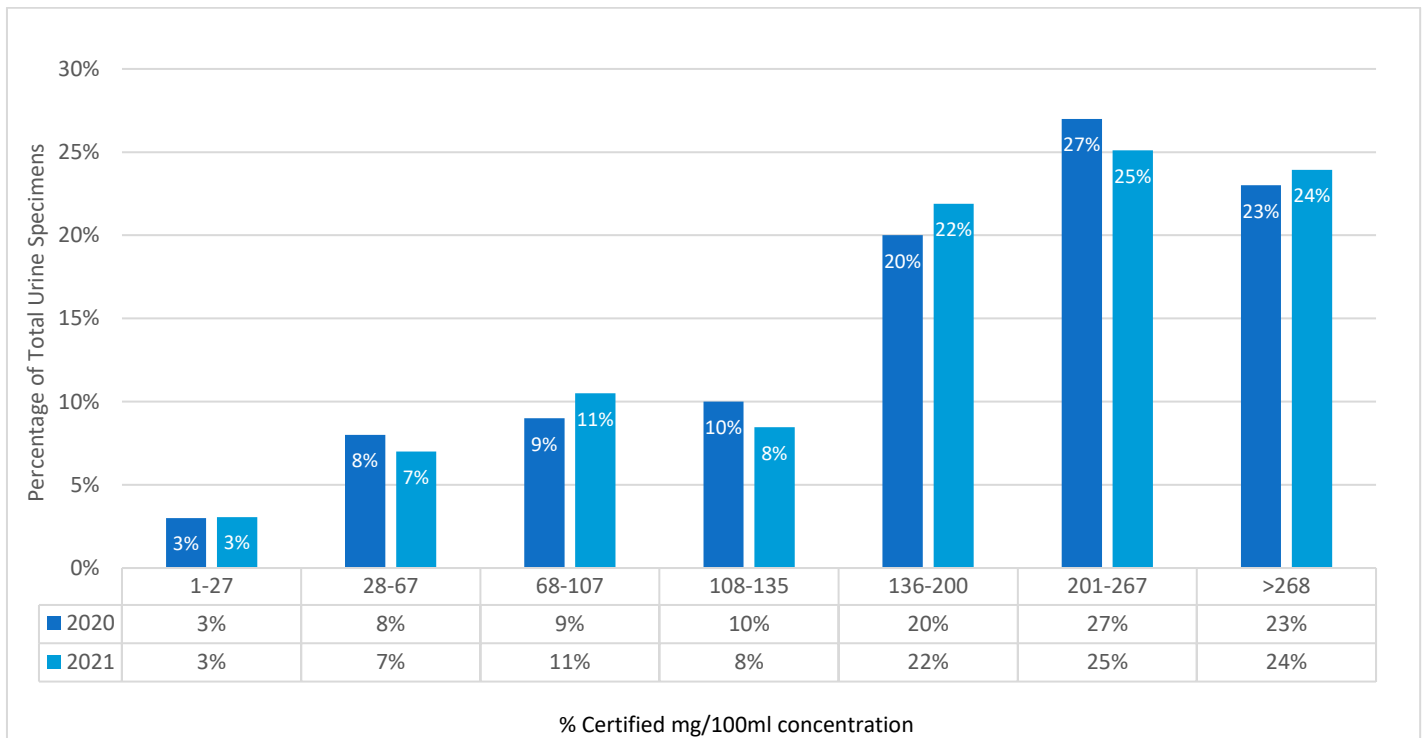


Chart 15
Certified Positive Urine Alcohol Levels 2021 v 2020



The levels stated on Charts 14 & 15 correspond to the graded penalty levels and higher concentrations.

On receipt of specimens for testing, the Bureau does not receive driver classification details, i.e., Drivers versus Specified Drivers (Professional, Learner and Novice Drivers) where the legal limits are reduced.

ALCOHOL PROGRAMME: BREATH

This programme is led by Principal Analyst, Ms Louise Lawlor.

The main functions of the Breath Alcohol programme are:

- The approval, supply and testing of apparatus for indicating the presence of alcohol in the breath (roadside preliminary breath testing devices)
- The approval, supply and testing of apparatus for determining the concentration of alcohol in the breath (evidential breath testing instruments)
- Provision of expert assistance to the Courts and to the Department of Transport.
- Provision of training courses for Evidenzer/IRL Operators and Supervisors.
- Provision of Train the Trainer courses for the Operation of the Dräger Alcotest 7510 device.
- Collection and analysis of data in relation to evidential breath alcohol tests.
- The approval, supply, and testing of apparatus for indicating the presence and concentration of alcohol in breath for use by the Irish Aviation Authority (IAA).



Dräger Alcotest 7510 device

Aviation Breath Alcohol Testing

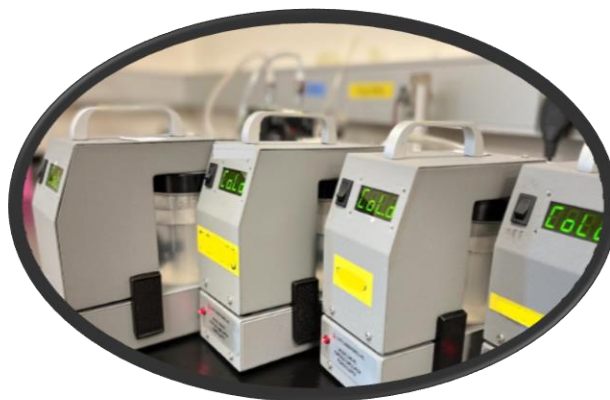
In 2021, the Bureau and the Irish Aviation Authority (IAA) engaged in a Memorandum of Understanding outlining an agreement by both parties, whereby the Bureau approve, supply, and test the Dräger Alcotest 8610 unit for the IAA breath testing scheme. Currently there are four devices operating within this scheme. The Bureau calibrates and tests these devices on a 6 monthly basis.



Roadside Breath Alcohol Testing

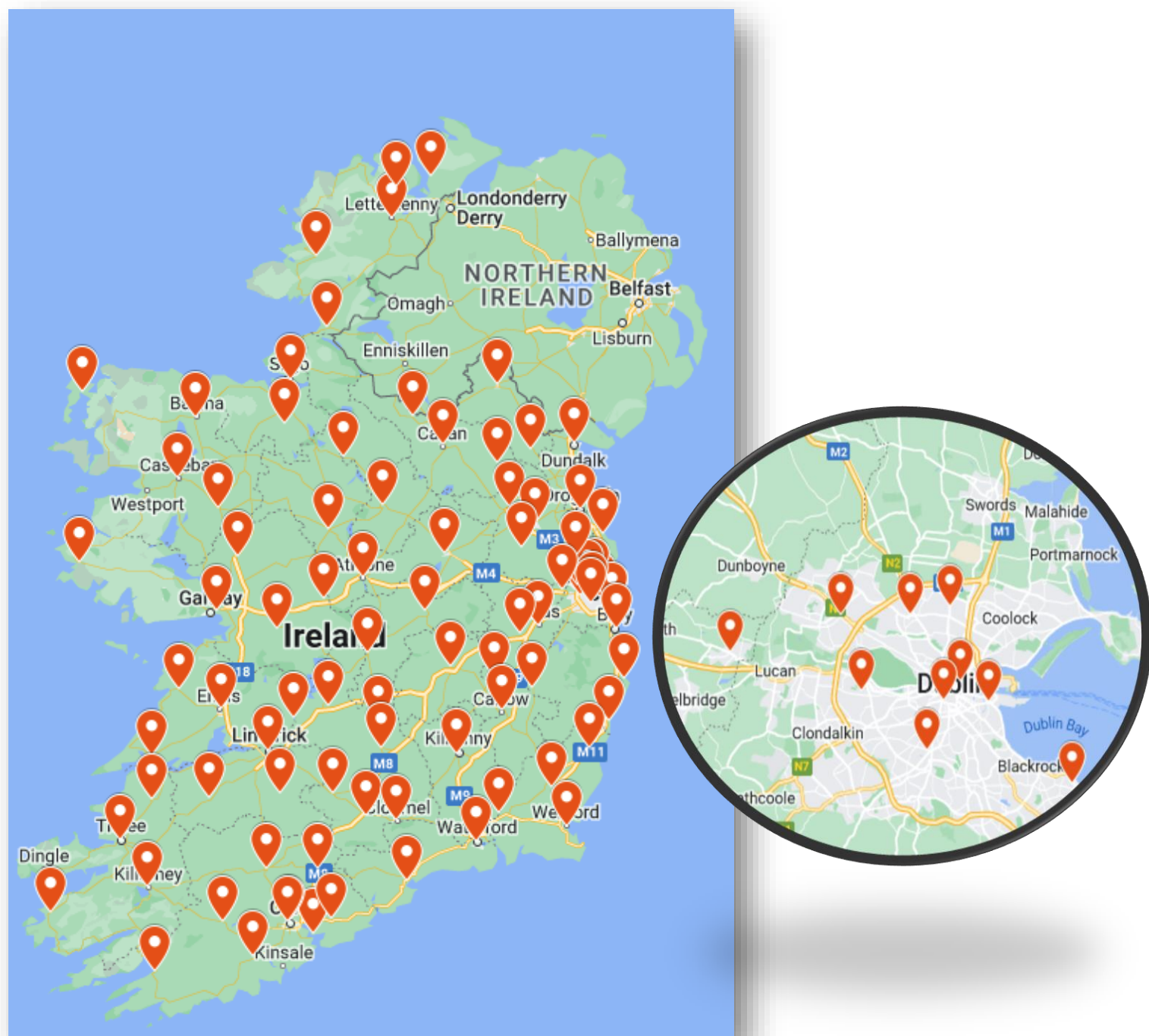
In 2021, a total of 2,397 calibrations were conducted on Dräger Alcotest 7510 breath testing devices. These devices are calibrated and tested on a 6 monthly basis. This testing ensures the accuracy and correct functioning of the devices and is accredited by the Irish National Accreditation Board (INAB) under ISO 17025 standard.

The programme runs a hot swap system, devices returned to the Bureau for testing and calibration are swapped for recently calibrated devices, thus, minimising downtime. The Bureau has a total of 1,400 devices.



Evidential Breath Alcohol Testing

The Bureau continued to support and maintain the 86 EvidenzerIRL instruments in Garda stations throughout Ireland, see the map below for approximate locations.



Testing EBT instruments in Garda Stations

On a biannual basis a Bureau scientist undertakes testing of each EvidenzerIRL instrument installed in Garda stations, this includes linearity, accuracy, and repeatability (precision) tests. This testing is accredited by the Irish National Accreditation Board (INAB) under the ISO 75025 standard, it ensures the accuracy and correct functioning of the EvidenzerIRL instrumentation. This onsite testing was carried out on 191 occasions in 2021(203 in 2020) notwithstanding the Covid-19 restrictions during lockdowns in 2021. This testing is an essential element in assuring the quality of breath alcohol test results for evidential purposes.

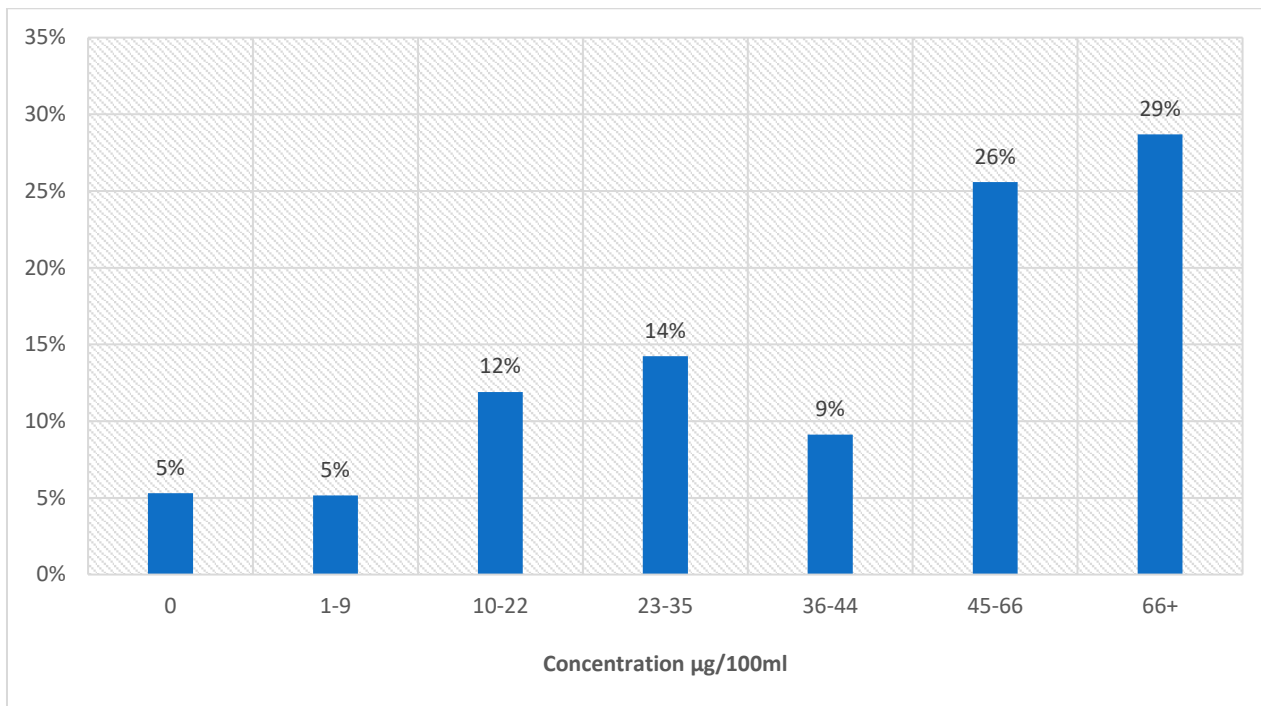


Training

One Train-the-Trainer course for the Dräger Alcotest 7510 device took place in September 2021 at the Garda Training College Templemore, a total of 21 Garda Members were trained as trainers, thus enabling them to train Garda operators. EvidenzerIRL Garda Training was suspended due to Covid restrictions in 2021. The course is usually conducted onsite at the UCD Campus in conjunction with the Garda Training College. There were two training courses for the IAA Dräger Alcotest 8610 unit conducted in May 2021, these were held at the IAA Headquarters Dublin, a total of 10 IAA employees were trained.



Chart 16
Certified Alcohol Levels 2021 – Breath



Breath Alcohol Analysis

In 2021, approximately 3,157 drivers were brought to Garda Stations and provided breath specimens for alcohol analysis. There continued to be a decrease of drivers brought to provide breath specimens to an EBT instrument, a decrease of 3.7% from 2020 (39% decrease in 2020 compared to 2019). In approximately 3% of cases the Evidenzer IRL flagged a reason why the Section 13 certificate could not be produced, for example safeguards such as Mouth Alcohol or Breath Difference. Approximately 13% of drivers either failed or refused to provide breath specimens. The majority of breath specimens undertaken successfully completed (84%) and a Section 13 certificate issued.

Of all the drivers who successfully provided breath specimens 95% of them registered an alcohol result above zero.

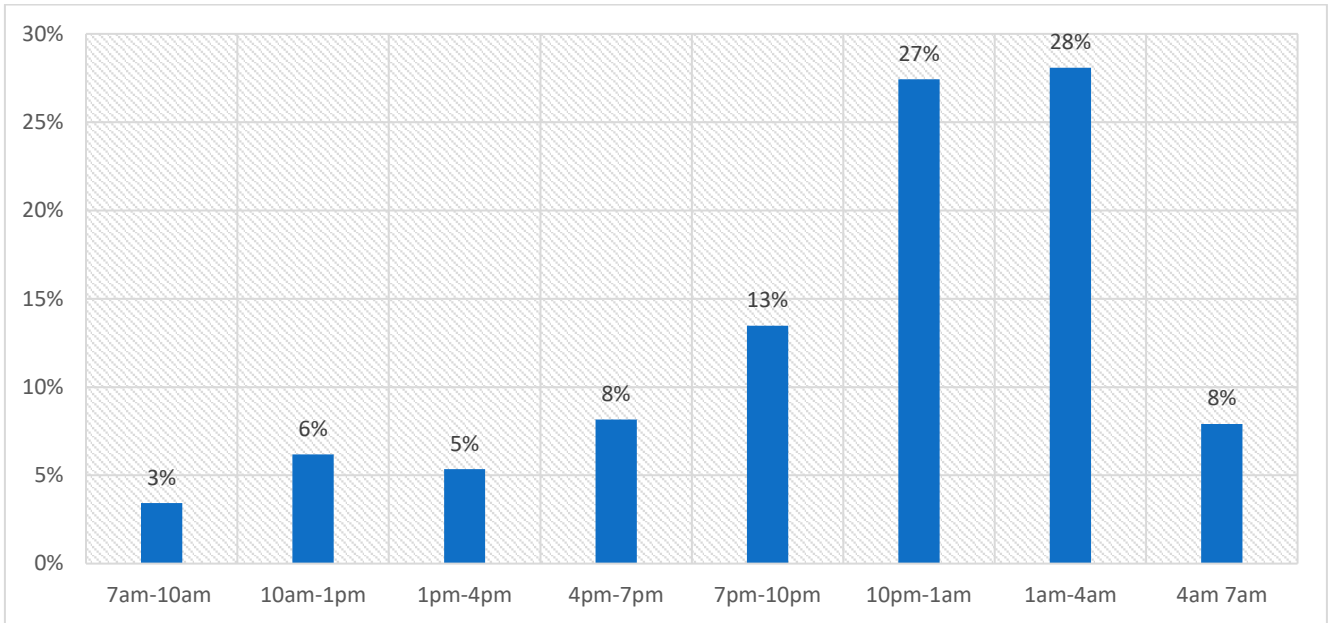
Median and Maximum Alcohol Level in Breath

Excluding breath specimens which returned a zero alcohol result the median certified alcohol level in breath was $51\mu\text{g}/100\text{ml}$ in 2021. The maximum alcohol level in breath was $149\mu\text{g}/100\text{ml}$.

Analysis of Time

The greatest number of breath specimens in 2021 took place between 10pm and 4am (55%) with a similar pattern to blood and urine specimens.

Chart 17
2021 Time Breath Specimen Provided



Gender in Evidential Breath Testing Specimens

The number of male drivers required to provide a breath specimen far exceeds the number of female drivers, the male to female ratio being approximately 6:1, the gender profile remained the same from previous years.

Table 4
Gender Profile of Breath Specimens provided

	2021	2020	2019
MALE	85%	85%	86%
FEMALE	15%	15%	14%

Chart 18
2021 Age Profile of Drivers – Breath - % of total Male v's % of total Female

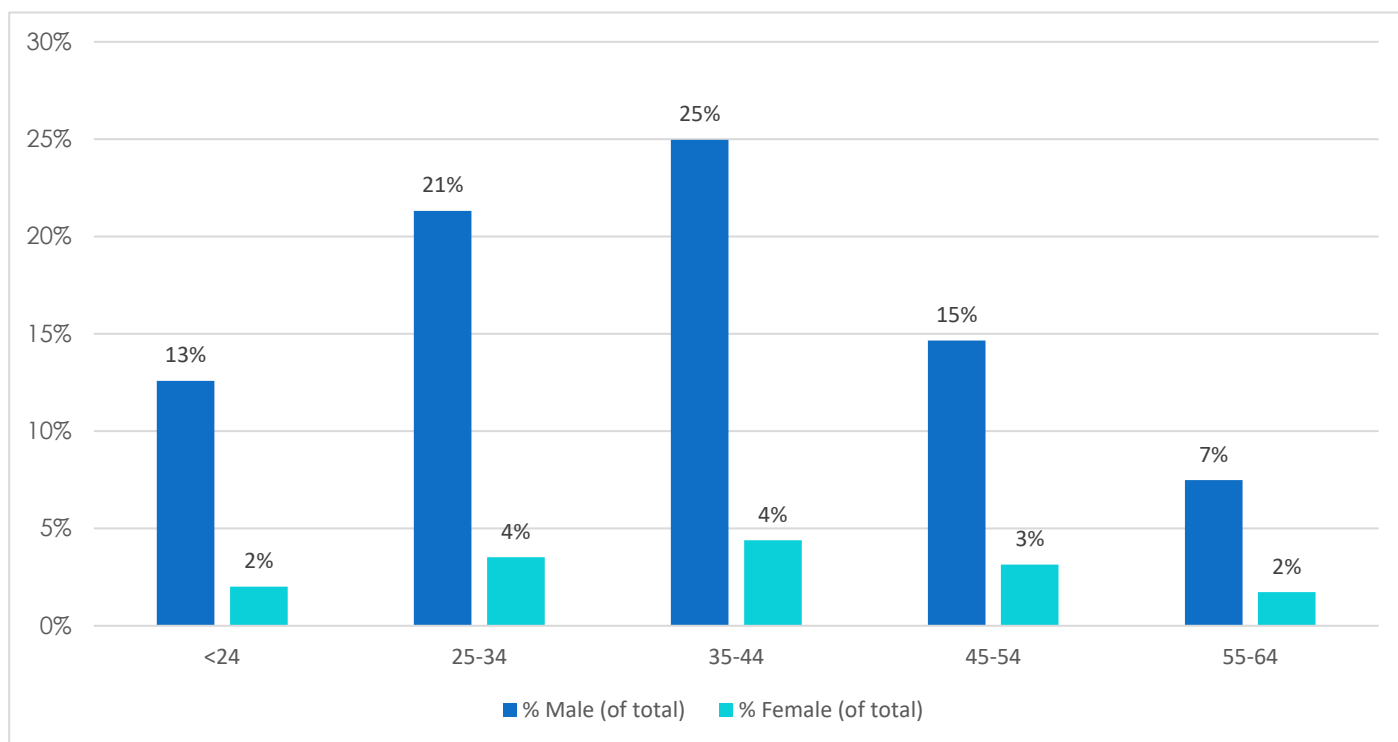
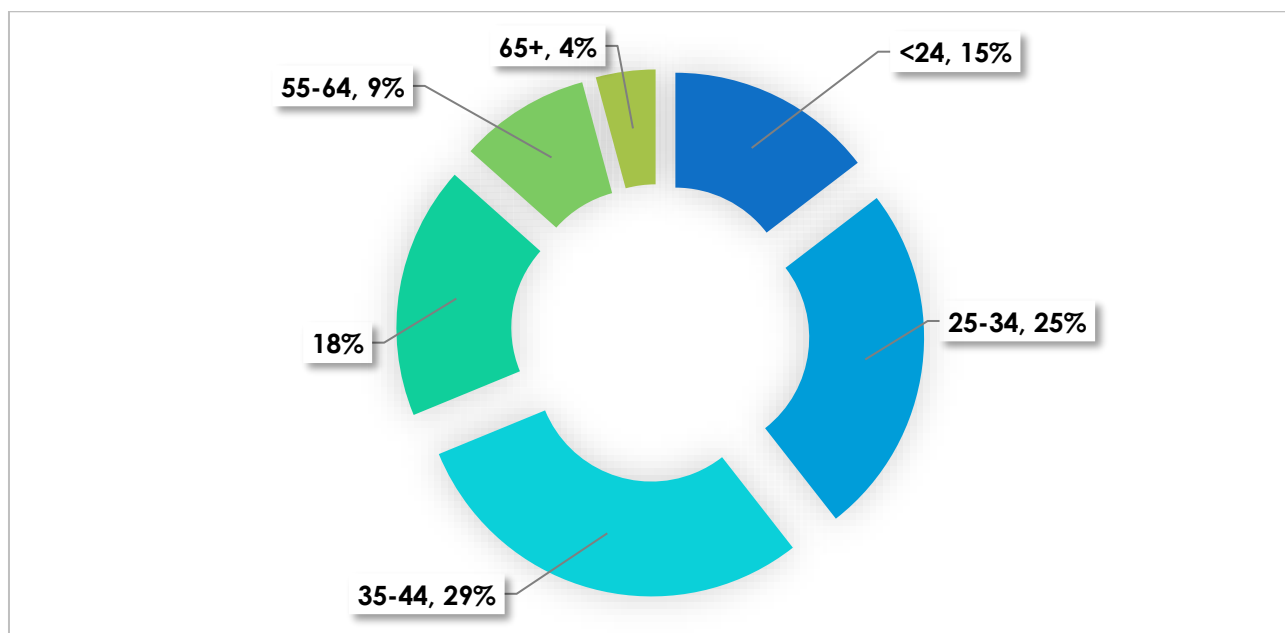


Chart 19
2021 Age Profile of Drivers – Breath



The greatest contribution to the arrested driver numbers providing breath specimen is in the 35–44 years old category. This is different to those providing blood and urine specimen, where the younger age group of 25-34 is the greatest contributor.

This is likely to be reflective of the fact that Gardaí preferentially bring drivers suspected of alcohol intoxication to Evidential Breath Testing instruments. The slightly older cohort is more likely to be driving under the influence of alcohol while those in the younger age cohort are more likely to be consuming drugs while driving.

The youngest driver who provided a breath specimen was 14 years old and the oldest was 84 years old.

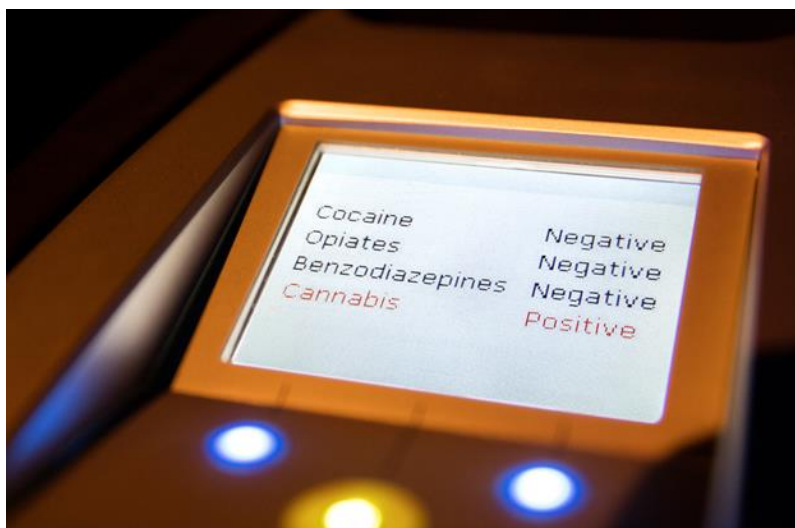
TOXICOLOGY PROGRAMME

This programme is led by Principal Analyst, Dr Richard Maguire. The main functions of this programme in 2021 were:

- The analysis of blood and urine specimens for the presence and/or concentration of a drug or drugs.
- The issue of Certificates of Analysis for the presence and/or concentration of a drug or drugs.
- Provision/maintenance of Preliminary Drug Testing Devices (oral fluid) and quality control of consumables.
- Analysis of oral fluid for quality control purposes.
- Development of new methods of drug testing and improvement of existing methods.
- Provision of expert assistance to the Courts, the Department of Transport and An Garda Síochána.
- Collection and analysis of data in relation to toxicology tests.
- Research on drugs that cause impairment in drivers.

Roadside/Station Based Preliminary Drug Testing (PDT)

The Preliminary Drug Testing programme was introduced in 2017 and was effective from 13th April 2017. Initially this provided 86 stationary DT5000 analysers and 47 mobile analysers. The analyser can detect Cannabis, Cocaine, Opiates and Benzodiazepines in oral fluid. By the end of 2018 there were 86 stationary analysers and 60 mobile units. There was a further increase in mobile devices to 75 during 2019 bringing the total mobile devices issued to 161 by the end of the year. By the end of 2020, 87 station-based systems were available and 45 of these were also available for use outside the stations as well. In 2021 there were 86 station-based systems and 44 of these were available for use outside the stations as required. In 2021 there were an additional 93 specifically deployed for mobile use. Five analysers were also made available to the Garda Training college in Templemore.



The Bureau purchased 12,300 consumable cassettes, which are called STKs, for use with the devices in 2021. The Bureau also managed the quality control testing of the STKs part of this systems to ensure that the STKs meet the scientific requirements. With respect to the analysers the Bureau conducted performance testing approximately every 6 months on each one to ensure reliable operation. 30% of DT5000 devices have been damaged beyond economic repair during their operational use. There were 129 faults logged in 2021 (118 in 2020).

When tests are conducted on the analysers the information can be downloaded for statistical purpose before being erased from the analysers. The number of tests on the analysers available to An Garda Síochána were collated for 2021. This is not a measure of enforcement activity as the current system does not distinguish between tests conducted for training, demonstration, quality control or enforcement purposes.

Table 5
DT5000 Analysers – Mobile and Station

ANALYSER USE TYPE	NUMBER OF TESTS
Mobile	8,897 (10,069 in 2020, 12% decrease)
Station Based	1,916 (1,820 in 2020, 5% increase)
Total	10,813 (11,889 in 2020, 9% decrease)

These figures represent an increase in the use of station-based analysers (5%) and a decrease in mobile analysers (12%). Use of station-based analysers has been low since the introduction of the systems in 2017. The release of a number of these station-based analysers for mobile use from August 2020 onwards has increased their use for testing. This Bureau policy change had a positive impact on drug detection in drivers.

When an oral fluid sample is collected from a driver for testing, and is positive for a drug or drugs, the Bureau requests that An Garda Síochána submit an “Information Form” indicating the results of the roadside test. This is to enable a comparison of the performance of the DT5000 and subsequent laboratory testing. In 2021, 1,837 specimens were returned with an “Information Form” indicating that an oral fluid PDT test had been carried out (15% decrease on 2020). Of these, 1,832 (2,151 in 2020) indicated a positive drug result for at least one of the four drugs that the DT5000 can detect.

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 Evidential Breath Testing carried out? **YES / NO**

(3) Was Preliminary Drug Testing carried out? **YES / NO**

Cannabis ☐ Benzodiazepine ☐ Cocaine ☐ Opiate ☐

Please indicate positive results by ticking the relevant boxes.

Of the 1,832 positive cases in 2021 the prevalence of drugs detected by the DT5000 was as follows:

Table 6
Prevalence of drugs detected by the DT5000

Drug Class	2019	2020	2021
Cannabis	66%	67%	69%
Cocaine	43%	46%	45%
Opiates	8%	8%	6%
Benzodiazepines	4%	5%	5%

Preliminary Drug Testing New System Tender

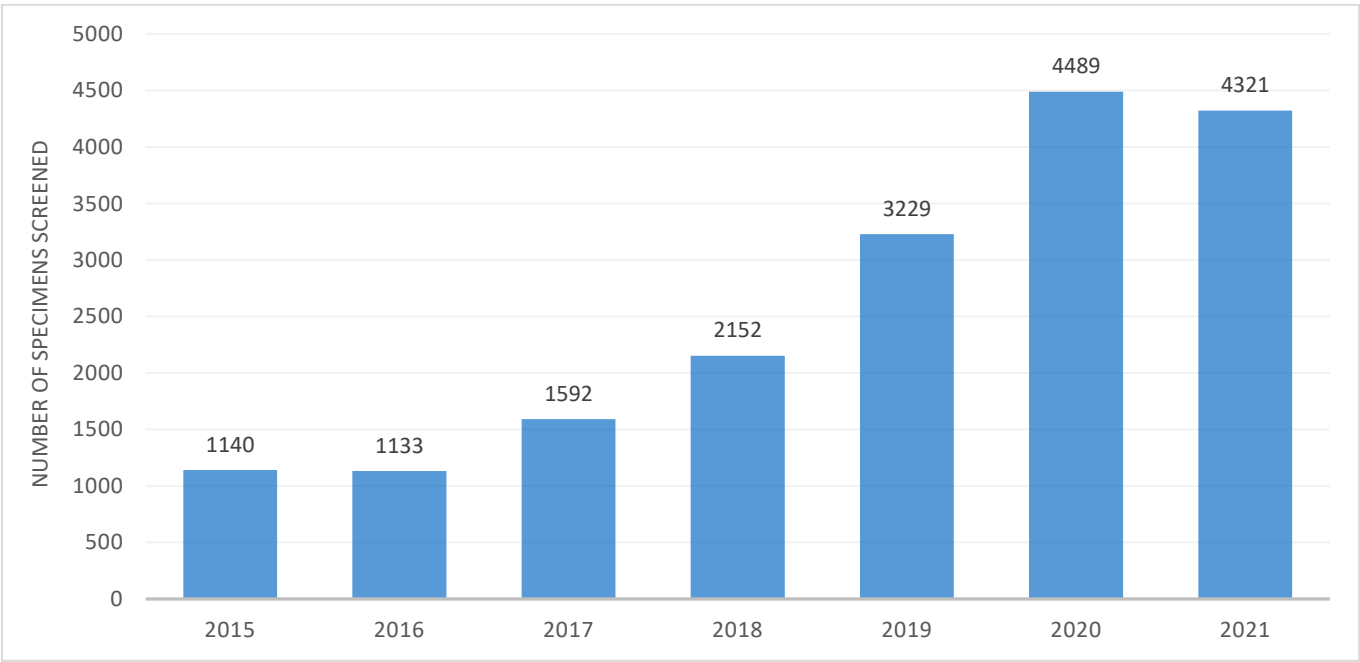
Work commenced in 2020 on the process to return to tender for new drug testing system in oral fluid and a tender was published in August 2021.

Laboratory Testing

Blood and Urine Specimen Overview

There were 4,321 specimens analysed for the presence of a drug or drugs which is a 4% decrease on the number of specimens analysed in 2020. Since 2015 the workload in toxicology has almost quadrupled and while we see a small decrease between 2020 and 2021 the level remains high relative to previous years.

Chart 20
Number of Toxicology Specimens Screened (2015 – 2021)



Toxicological analysis was required for 74% of all specimens received which is on a par with 2020 when 72% of all specimens required analysis. The policy since the beginning of 2020 has been to test all specimens for drugs where the alcohol result is under 100mg/100ml in blood or the equivalent 135mg/100ml in urine.

There were 40 specimens (54% increase on the 26 in 2020) over these alcohol concentrations which were specifically requested for drug testing by An Garda Síochána and 11 (21% decrease on the 14 in 2020) Evidential Breath Testing negative specimens sent to the Bureau for drug testing.

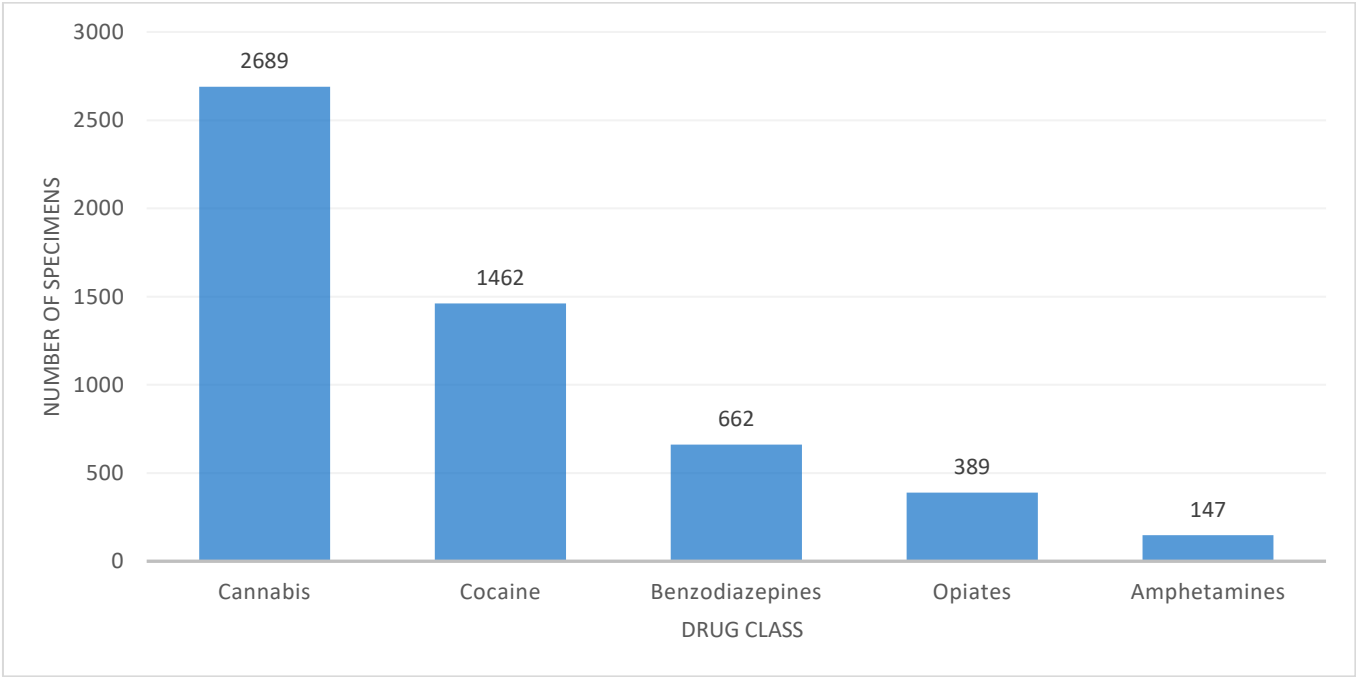
The measures introduced in the 2016 Road Traffic Act empowered the Gardaí to take blood where drugs were indicated by a preliminary oral fluid or impairment test. This resulted in a change in the ratio of specimen type towards blood rather than urine with 91% (90.1% 2020) of specimens analysed for toxicology being blood and 9% being urine (9.9% urine in 2020).

Initial screening testing was conducted for cannabis, cocaine, opiates (e.g. morphine, codeine), benzodiazepines, amphetamines (e.g. amphetamine, methamphetamine, MDA, MDMA) using Liquid Chromatography with Mass Spectrometry (LC-MS-MS).

Of the 4,321 specimens tested in 2021, 3,412 were found to be positive for at least one drug class on preliminary laboratory drug testing, while 909 (21%) were negative for the drugs targeted by the Bureau at the thresholds used by the Bureau. This drug positive figure represented 79% of Toxicology specimens and 58% of all specimens received in the Bureau. The same statistic for 2020 of the 4,489 specimens tested in 2020, 3,636 were drug positive which was , 81% of Toxicology specimens tested and 61% of all specimens.

Chart 21 shows the prevalence of the drugs detected in all specimens of blood and urine. As in previous years cannabis remains the most prevalent drug. Cocaine remains the second most prevalent.

Chart 21
Drug Prevalence Screening 2021



Charts 28 - 31 show the detection of multiple drug classes in specimens and again polydrug use was commonly detected in 2021, where 1,230 of positive cases (36% of positive cases) of cases had 2 or more drugs detected.

Chart 22
Drug Screening - No. of classes detected per specimen 2021

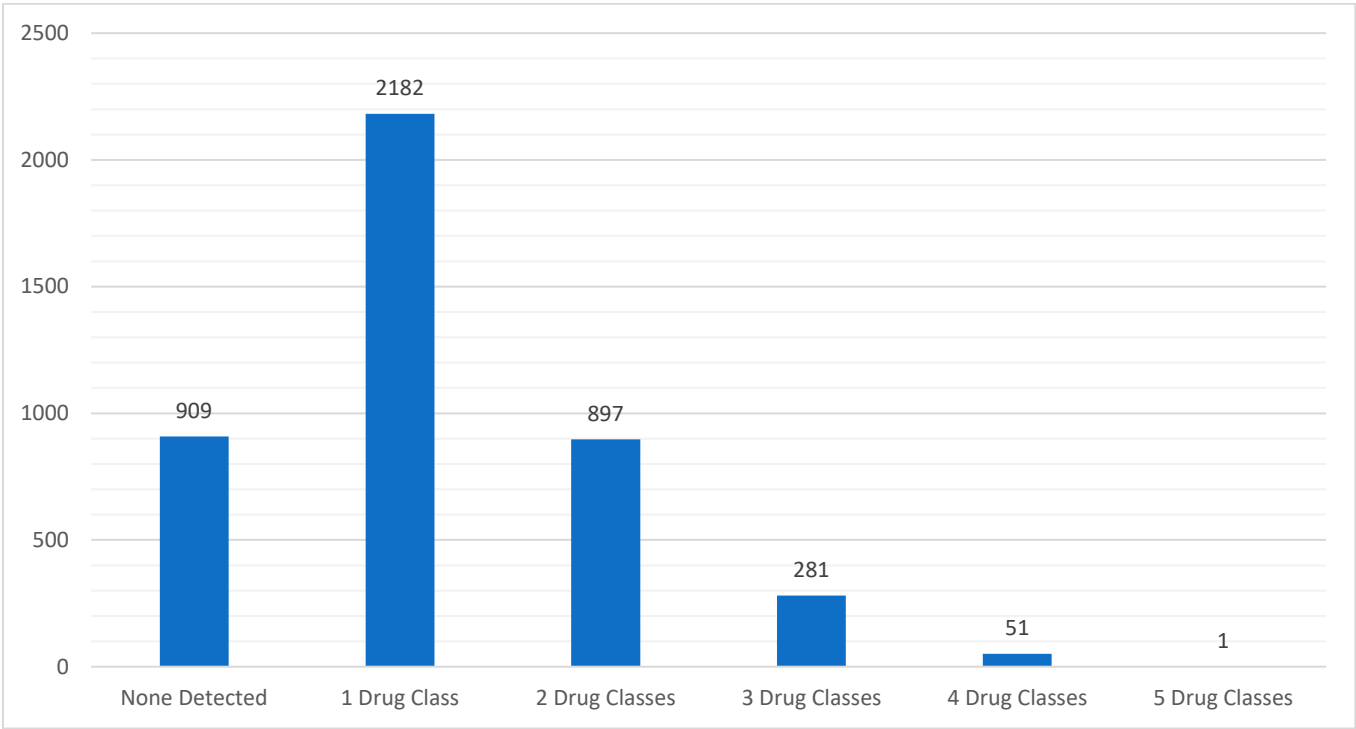
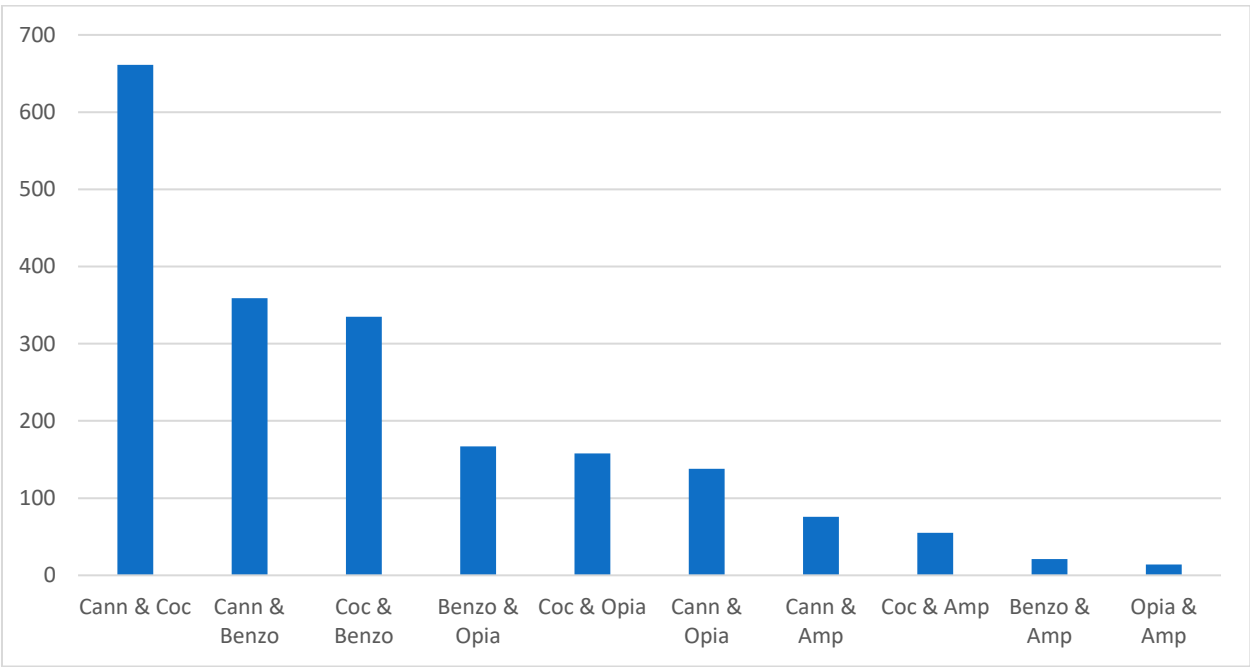
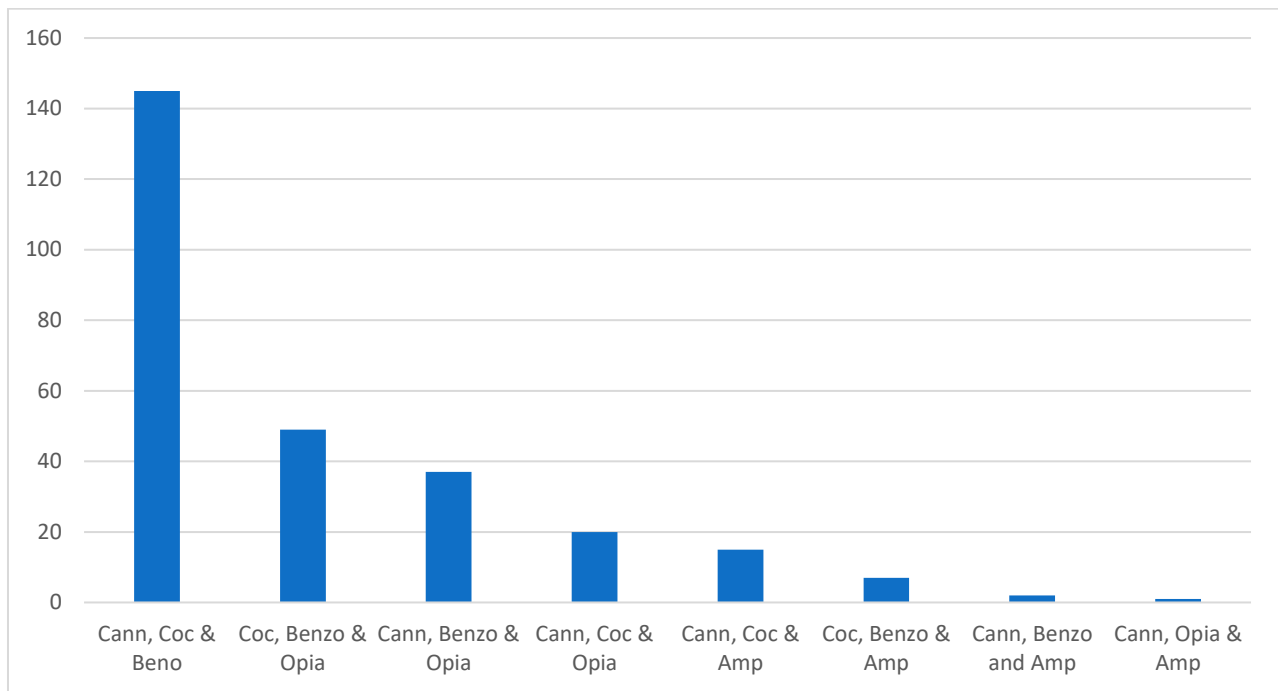


Chart 23
Drug Screening – Prevalence of Combinations where two drugs were detected per specimen 2021



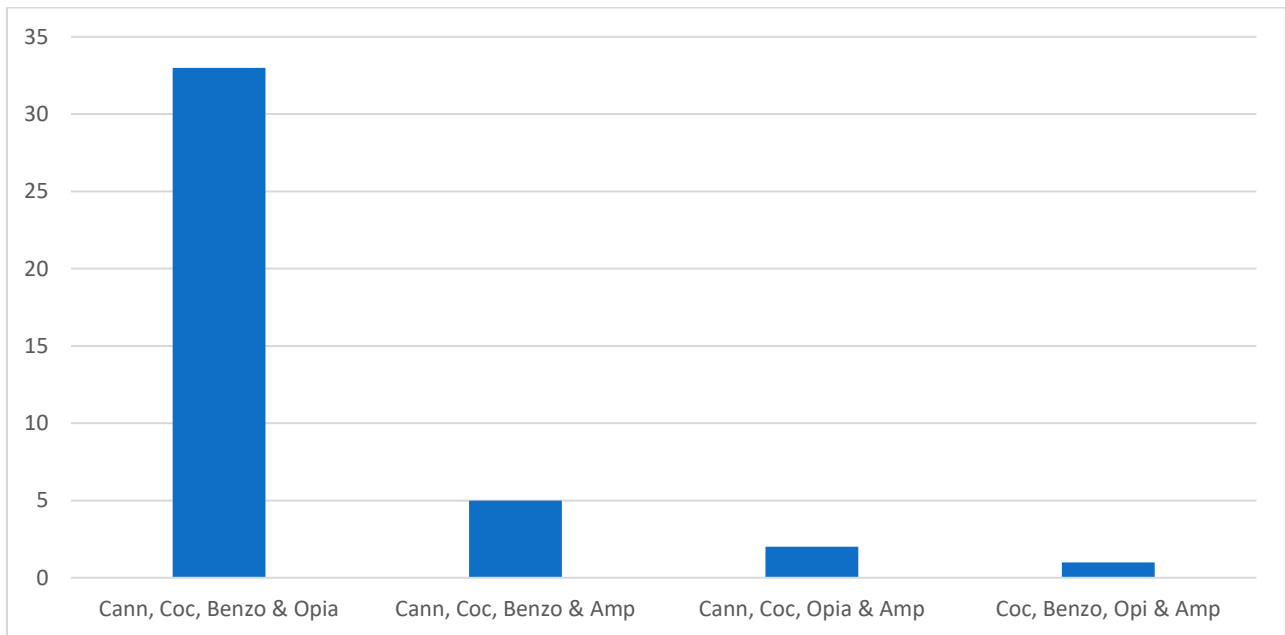
Cann (Cannabis), Coc (Cocaine), Benzo (Benzodiazepine), Opia (Opiate), Amp (Amphetamine)

Chart 24
Drug Screening – Prevalence of Combinations where three drugs were detected per specimen 2021



Cann (Cannabis), Coc (Cocaine), Benzo (Benzodiazepine), Opia (Opiate), Amp (Amphetamine)

Chart 25
Drug Screening – Prevalence of Combinations where four drugs were detected per specimen 2021

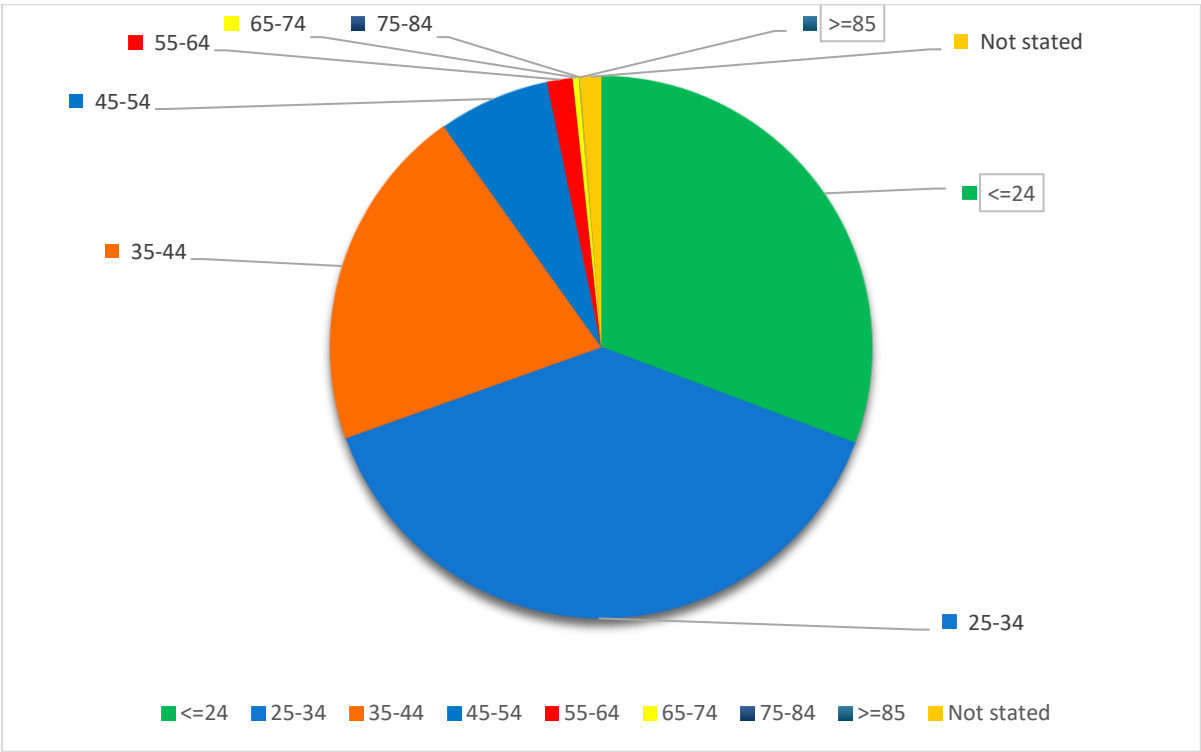


Cann (Cannabis), Coc (Cocaine), Benzo (Benzodiazepine), Opia (Opiate), Amp (Amphetamine)

The gender profile was 90.3% male and 9.1% female (0.6% gender not stated) based on screening positive data which is similar to the breakdown in 2020 (88% Male, 12% female).

The age profile of positive specimens is shown below with 91% being age 44 and under and 70% under 34.

Chart 26
Total Screening Positive by Age 2021



Confirmatory Analysis

Once a positive specimen is detected at the initial screening test, confirmation is carried out using Gas Chromatography with tandem Mass Spectrometry for Cannabis and Liquid Chromatography with tandem Mass Spectrometry for all other drugs. All specimens positive on lab screening in 2021 were forwarded for confirmation of all drugs detected at the screening stage, as far as specimen volume permitted.

In 2021 the number of specimens was comparable to the previous year. This was the first sign of a plateau in specimen numbers following significant year on year increases since 2016. In each case a small number of specimens could not be confirmed due to specimen volume limitations and small number were found to be negative on confirmation.

Due to the significant increase in the number of specimens received for drug testing the policy of confirming all drugs detected at screening subject to specimen volume was reviewed. This led to a change in policy whereby the specimen was forwarded to only one confirmatory test method. This was implemented for specimens received on after the 1st of July 2021. It is planned to revert to confirming all drugs detected at screening following further review.

Table 7
Confirmatory testing for the various drugs/classes

DRUG CLASS	2019	2020	2021
Cannabis	1,747	2,606	2,353
Benzodiazepines	475	535	369
Cocaine	852	1,494	1,239
Opiate/Methadone	308	453	313
Amphetamine/Methamphetamine	157	193	107
Total	3,539	5,281	4,318

Legal Limits

The 2016 Road Traffic Act (enacted April 2017) introduced *per se* legal limits for Cannabis, Cocaine and Heroin in whole blood.

Table 8
Per se levels

Drug	Legal Limit
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

Mean Cannabis Levels

The mean level of Δ^9 -Tetrahydrocannabinol (Cannabis) was 5.7ng/ml in 2020 and 6.0ng/ml in 2021.

The 11-nor-9-carboxy- Δ^9 -tetrahydrocannabinol (Cannabis) level was 55.6ng/ml for 2020 and 58.8ng/ml for 2021.

Quality Assurance

The Bureau has an established Quality Management System which is integral to the work of the Bureau and is accredited to ISO/IEC 17025 (2017) standard (General requirements for the competence of testing and calibration laboratories). Compliance with this standard was assessed by INAB (Irish National Accreditation Body), remotely, in April 2021. There were no classic 'extensions to the Bureaus' Scope' of Accreditation, however utilising the Flexible scope which the Bureau operates in the Toxicology Programme allowed the introduction of a further Drug Confirmation Test Method to include Tramadol and Diphenhydramine, this method uses a High Resolution Liquid Chromatography instrument. The introduction of this Test Method has extended the number of analytes in blood and urine specimens, which the Bureau can confirm the presence of and report, to 25 and paves the way for further analytes to be added in a cost effective and timely manner. ISO 17025 accreditation was maintained for the following tests:

- Blood and Urine Alcohol Analysis
- Evidential Breath Testing
- Preliminary Breath Testing
- Preliminary Drug Testing
- Drug testing in Oral Fluid
- Laboratory Preliminary Drug Screening
- Cannabis confirmation in Blood and Urine
- Benzodiazepine confirmation in Blood and Urine
- Multidrug confirmation in Blood and Urine

Full details of the Bureaus' Scope of Accreditation is available at:

<https://www.inab.ie/inab-directory/laboratory-accreditation/testing-laboratories/>.

Proficiency Testing

Over the course of 2021 the Bureau continued its involvement in all Proficiency testing schemes (see Table 9) in which it participates with very little disruption.

Scheme providers continued to lengthen deadlines, when necessary, to allow for extended delivery times caused by the Pandemic and Brexit.

Performance across all schemes was acceptable.

Table 9
Proficiency Testing Programmes

Programme	Provider	Scheme	No. Specimens	Analytes
Toxicology	CAP	Drugs of Abuse in Whole Blood and Urine	8 specimens per annum	Amphetamines & Stimulants Cannabinoids Cocaine & Metabolites Minor Tranquilisers Non - Opiate Narcotics Opiates
	Labquality	Drugs of Abuse in Urine	6 specimens per annum	Amphetamines & Stimulants Cannabinoids Cocaine & Metabolites Minor Tranquilisers Non - Opiate Narcotics Opiates
	LGC Standards Proficiency Testing	Drugs of Abuse in Urine	12 specimens per annum	Over 210 analytes are available including Amphetamines & Stimulants. Cannabinoids Cocaine & Metabolites Minor Tranquilisers Non - Opiate Narcotics Opiates, Creatinine, pH, Specific Gravity
	LGC Standards Proficiency Testing	Toxicology	8 specimens per annum	Amphetamines & Stimulants Cannabinoids Cocaine & Metabolites Minor Tranquilisers Non - Opiate Narcotics Opiates
	LGC Standards Proficiency Testing	Drugs in Oral Fluid	12 specimens per annum	Amphetamines & Stimulants Cannabinoids Cocaine & Metabolites Minor Tranquilisers Non - Opiate Narcotics Opiates
	LGC Standards Proficiency Testing	Toxicology – Benzodiazepines	8 specimens per annum	Diazepam, Nordiazepam, Temazepam, Oxazepam, Nitrazepam
	LGC Standards Proficiency Testing	Toxicology - Z – Drugs	8 specimens per annum	Zopiclone, Zaleplon, Zolpidem
Alcohol in Blood and Urine	Labquality	Blood	8 specimens per annum	Alcohol
	Labquality	Urine Quantitative	4 specimens per annum	pH, Creatinine & Urea
	LGC Standards Proficiency Testing	Tox - Blood & Tox - Urine	24 specimens per annum	Alcohol
Evidential Breath Testing	CTS, Inc.	568 Breath Alcohol Simulator Solution Analysis	2 solutions per annum	Alcohol

FINANCIAL INFORMATION

The Medical Bureau of Road Safety derives its finances from an Annual Grant from the Department of Transport. The total grant allocation for the Bureau for 2021 was €5,939,000.

CORPORATE GOVERNANCE

The Board of the Medical Bureau of Road Safety was established under the Medical Bureau of Road Safety (establishment) Order, 1968. The functions of the Board are laid down in the Road Traffic Acts 1968 – 2016 and their regulations. The Board is accountable to the Minister for Transport and is responsible for ensuring good governance and performs this task by setting strategic objectives and targets and taking strategic decisions on all key business issues. The regular day-to-day management, control and direction of the Medical Bureau of Road Safety are the responsibility of the Director and the senior management team. The Director and the senior management team must follow the broad strategic direction set by the Board and must ensure that all Board members have a clear understanding of the key activities and decisions related to the entity, and of any significant risks likely to arise. The Director acts as a direct liaison between the Board and management of the Medical Bureau of Road Safety.

Board Members

The Board of the Medical Bureau of Road Safety comprises of five members (including the Director) and is appointed by the Minister for Transport.

BOARD MEMBERS		
Name	Position	Attendance Record (Virtual)
Dr. Declan Bedford	Chairman	4 of 4
Professor Denis Cusack	Board Member and Director	4 of 4
Professor Patricia Fitzpatrick	Board Member	4 of 4
Mr. Sean Quigley	Board Member	4 of 4
Ms. Joan O’Brien	Board Member	4 of 4

Bureau Membership and Meetings

During 2021 the Medical Bureau of Road Safety held four meetings. All four meetings were Zoom-facilitated meetings due to covid restrictions. These meetings were held on 11th March, 30th June, 6th October and 9th December 2021.

Schedule of Fees and Aggregate Expenses paid to Directors during 2021

During 2021 the following fees were paid:

BOARD FEES PAID			
Board Member	Type of Fee	Paid 2021	Paid 2020
Dr. Declan Bedford	Fee for Chairperson of Board of State Body	€8,978	€8,978
	Fee for Non-Executive members of Boards of State Bodies	-	-
Mr. Paul Burns (resigned 24/3/20)	Fee for Non-Executive members of Boards of State Bodies	-	€1,496
Ms. Joan O'Brien	Fee for Non-Executive members of Boards of State Bodies	€5,988	€1,368
Mr. Sean Quigley	Fee for Non-Executive members of Boards of State Bodies	€5,987	€676
Professor Patricia Fitzpatrick	No Fee for Non-Executive members of Boards of State Bodies	-	-

The Board has established one committee.

Audit and Risk Committee

The Audit and Risk Committee comprises of three Board members. The role of the Audit and Risk Committee (ARC) is to support the Board in relation to its responsibilities for issues of risk, control and governance and associated assurance. The ARC is independent from the financial management of the organisation. In particular, the Committee ensures that the internal control systems including audit activities are monitored actively and independently. The ARC reports to the Board after each meeting, and formally in writing annually. The members of the Audit and Risk Committee are: Mr. Sean Quigley, Chairperson, Dr. Declan Bedford, Professor Patricia Fitzpatrick until 10th March 2021 and was then replaced by Ms. Joan O'Brien. There were 4 meetings of the ARC held during 2021.

Governance Oversight Committee

The role of the Governance Oversight Committee is to support the Board in meeting legal and statutory requirements, as well as adopting good practice. The members of this committee are Representatives from the Department of Transport, the Director with the Senior Administration team comprising the Senior Administrative Officer and Administrative Officer from the Medical Bureau of Road Safety. There were 4 meetings of the Governance Oversight Committee held in 2021.

Compliance

The Board has adopted the Code of Practice for the Governance of State Bodies (2016) and has put procedures in place to ensure compliance with the Code. An Oversight Agreement has been made with the Department of Transport and the Medical Bureau of Road Safety was in full compliance with the Code of Practice for the Governance of State Bodies for 2021.

Disclosure

Section 22 of the Protected Disclosures Act 2014 requires the Publication of an Annual Report each year relating to the number of protected disclosures made in the preceding year and any actions taken in response to such disclosures. Pursuant to this requirement, the Medical Bureau of Road Safety confirms that no protected disclosures were received in accordance with the provisions of the Protected Disclosures Act, 2014 for the period from 1st January 2021 – 31st December 2021.

Statutory Requirements

The Medical Bureau of Road Safety confirms that it complied with its statutory requirements during 2021.

Ethics in Public Office

The members of the Board who held office at the 31st December 2021 had no interests for the purposes of the Ethics in Public Office Acts 1995 and 2001.

External Financial Audit

The Comptroller and Auditor General performed the annual audit of the 2020 Financial Statements during 2021. No issues were raised during the audit. The annual audit of the 2021 Financial Statements takes place in 2022.

Internal Audit

The Internal Audit function is a key element in informing the Board on the effectiveness of the system of internal financial control. The internal auditor operates in accordance with the Code of Practice for the Governance of State Bodies. An Internal Audit report was prepared in relation to 2021.

Procurement

Competitive tendering is the normal policy utilized by the Medical Bureau of Road Safety in the procurement process. It affirms that it complied with procurement procedures and relevant EU Directives as set out in the Code of Practice for the Governance of State Bodies during 2021.

Strategic Planning

The Bureau compiled its Annual Strategic Plan for 2022 and its Five-Year Strategic Plan 2022 – 2026 and both strategies were forwarded to the Minister. The Plans set out the Bureau's key objectives over the coming year and years in conjunction with its key actions to achieve these objectives.

Prompt Payment of Account

The Board acknowledges their responsibility for ensuring compliance in relation to the Prompt Payment of Accounts Act. Under an agreement with University College Dublin, suppliers are paid in the first instance by the College which is then reimbursed by the Bureau.

It is the policy of the Medical Bureau of Road Safety to ensure that all invoices are paid promptly. University College Dublin, as a public-sector body, is required to comply with the requirements of the Act in relation to payments to suppliers for the supply of goods or services and therefore has strict procedures in place.

In the case of a small number of suppliers, the Bureau will issue payment by cheque directly to the supplier. The controls in relation to processing of invoices, credit notes and dealing with supplier disputes can only provide reasonable and not absolute assurance against material non-compliance with the Act.

Public Spending Code

The Public Spending Code commenced in September 2013 and updated previous guidelines, circulars and directions in relation to capital appraisal and value for money.

The public spending code is designed to ensure that the State gets the best possible value for the resources at its disposal. The code applies to both capital and current expenditure and outlines what is required of public service managers at different points of the expenditure lifecycle such as appraising, planning, approving, implementing and reviewing.

The Board acknowledges their responsibility to the Public Spending Code and can confirm compliance in 2021.

Professional Witness

The area of road safety traffic enforcement and in particular driving under the influence of intoxicants, alcohol and drugs is one of the most litigated areas in the criminal law sphere in Ireland. The Bureau provides expert witness in cases before the Courts. In 2021 there were 6 court attendances by Bureau staff.

Reports and opinions were provided to both Defence and Prosecution parties to assist the Court in many other cases.

MEDICAL BUREAU OF ROAD SAFETY

STATEMENT OF INCOME AND EXPENDITURE AND RETAINED REVENUE RESERVES

FOR THE YEAR ENDED 31 DECEMBER 2021

	31/12/2021	31/12/2020
	€	€
<u>INCOME</u>		
Oireachtas grants	5,939,000	5,948,000
Professional fee income	5,730	400
Total Income	5,944,730	5,948,400
<u>EXPENDITURE</u>		
Salaries and pension contributions	3,215,311	3,180,157
Board members remuneration	20,953	12,518
Direct costs associated with service delivery	962,073	989,585
Office and laboratory supplies	573,642	778,576
Administration costs	743,591	731,369
Depreciation	786,521	776,797
Total Expenditure	6,302,091	6,469,002
Deficit for the period before appropriations	(357,361)	(520,602)
Transfer from/(to) capital account	594,373	686,963
Surplus for the year after appropriations	237,012	166,361
Balance brought forward at 1 January	765,431	599,070
Balance carried forward as at 31 December 2021	1,002,443	765,431

The statement of income and expenditure and retained revenue includes all gains and losses recognised in the year.

STATEMENT ON INTERNAL CONTROL

SCOPE OF RESPONSIBILITY

I, Dr. Declan Bedford, Chairman of the Medical Bureau of Road Safety, acknowledge the Board's responsibility for ensuring that an effective system of internal control is maintained and operated. This responsibility takes account of the requirements of the Code of Practice for the Governance of State Bodies (2016).

Purpose of the System of Internal Control

The system of internal control is designed to manage risk to a tolerable level rather than to eliminate it. The system can therefore only provide reasonable and not absolute assurance that assets are safeguarded, transactions authorised and properly recorded, and that material errors or irregularities are either prevented or detected in a timely way.

The system of internal control, which accords with guidance issued by the Department of Public Expenditure and Reform has been in place in Medical Bureau of Road Safety for the year ended 31 December 2021 and up to the date of approval of the financial statements.

Capacity to Handle Risk

The Medical Bureau of Road Safety has an Audit and Risk Committee (ARC) comprising of three Board members. The ARC met four times (virtual meetings) in 2021.

The Medical Bureau of Road Safety has also established an internal audit function which is adequately resourced and conducts a programme of work agreed with the ARC. The internal audit function has been outsourced to an external company.

The ARC has developed a risk management policy which sets out its risk appetite, the risk management processes in place and details the roles and responsibilities of staff in relation to risk. The policy has been issued to all staff who are expected to work within the Medical Bureau of Road Safety's risk management policies, to alert management on emerging risks and control weaknesses and assume responsibility for risks and controls within their own area of work.

Risk and Control Framework

The Medical Bureau of Road Safety has implemented a risk management system which identifies and reports key risks and the management actions being taken to address and, to the extent possible, to mitigate those risks.

A risk register is in place which identifies the key risks facing the Medical Bureau of Road Safety and these have been identified, evaluated, and graded according to their significance. The register is reviewed and updated by the ARC and Board on an annual basis. The outcome of these assessments is used to plan and allocate resources to ensure risks are managed to an acceptable level.

The risk register details the controls and actions needed to mitigate risks and responsibility for operation of controls assigned to specific staff. I confirm that a control environment containing the following elements is in place:

- procedures for all key business processes have been documented,
- financial responsibilities have been assigned at management level with corresponding accountability,
- there is an appropriate budgeting system with an annual budget which is kept under review by senior management,
- there are systems aimed at ensuring the security of the information and communication technology systems,
- there are systems in place to safeguard the assets, and
- control procedures over grant funding to outside agencies ensure adequate control over approval of grants and monitoring and review of grantees to ensure grant funding has been applied for the purpose intended.

STATEMENT ON INTERNAL CONTROL (continued)

Ongoing Monitoring and Review

Formal procedures have been established for monitoring control processes and control deficiencies are communicated to those responsible for taking corrective action and to management and the Board, where relevant, in a timely way. I confirm that the following ongoing monitoring systems are in place:

- key risks and related controls have been identified and processes have been put in place to monitor the operation of those key controls and report any identified deficiencies,
- reporting arrangements have been established at all levels where responsibility for financial management has been assigned, and
- there are regular reviews by senior management of periodic and annual performance and financial reports which indicate performance against budgets/forecasts.

Procurement

I confirm that the Medical Bureau of Road Safety has procedures in place to ensure compliance with current procurement rules and guidelines and that during 2021 the Medical Bureau of Road Safety complied with those procedures.

Review of Effectiveness

I confirm that the Medical Bureau of Road Safety has procedures to monitor the effectiveness of its risk management and control procedures. Medical Bureau of Road Safety's monitoring and review of the effectiveness of the system of internal control is informed by the work of the internal and external auditors, the Audit and Risk Committee which oversees their work, and the senior management within the Medical Bureau of Road Safety responsible for the development and maintenance of the internal financial control framework.

I confirm that the Board conducted an annual review of the effectiveness of the internal controls for 2021 on the 11th March 2022.

Internal Control Issues

No weaknesses in internal control were identified in relation to 2021 that require disclosure in the financial statements.

Tax Compliance

The Medical Bureau of Road Safety is committed to compliance with taxation laws and was compliant during 2021.

Breaches in Control

No breaches in control were identified in relation to 2021 that require disclosure in the financial statements.

Material Losses or Frauds

There were no material losses or frauds identified in relation to 2021 that require disclosure in the financial statements.

On behalf of the Board of the Medical Bureau of Road Safety:

Dr. Declan Bedford

Chairman

Freedom of Information

During 2021 the Bureau received two requests which were dealt with as follows:

Decision	Number of Requests
Part-Granted	1
Administrative Pathway	1
Total	2

Category of Requester	Number Received
Journalist	0
Solicitor	0
Other	2
Total	2

Equality and Diversity

The Medical Bureau of Road Safety is committed to respecting gender equality, diversity and inclusion for the benefit of its employees, stakeholders, outside agencies and the public and has adopted the UCD Policies and Procedures in this regard.

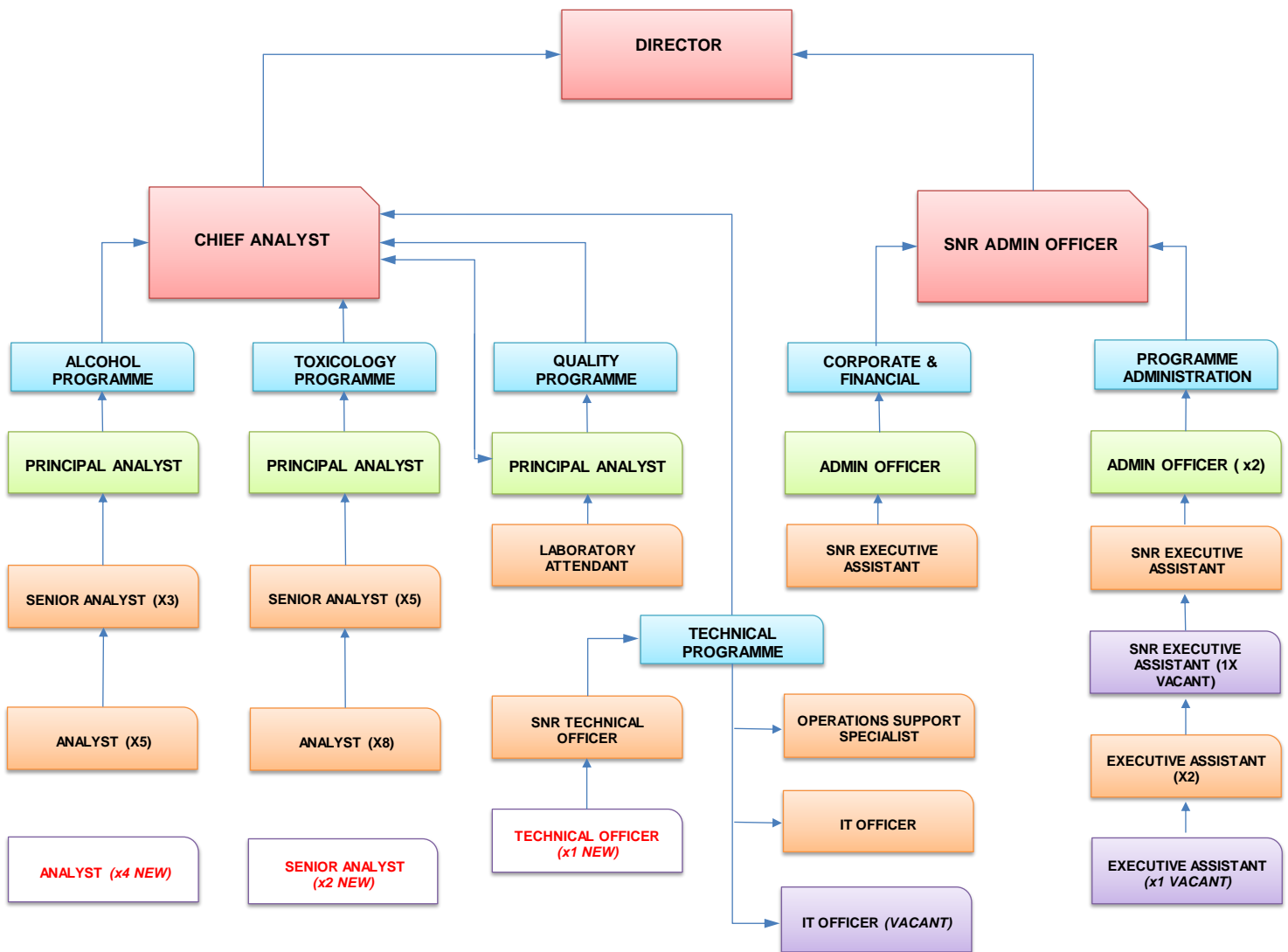
Staffing

The Bureau continued during 2021 to operate within its delegated sanctioned staff number under the Employment Control Framework.

Due to the increase in the volume of work the Bureau was informed in December 2021 by the Department of Transport that its sanctioned number of employees was to be increased by seven. This brings the total complement of sanctioned staff to 49. Recruitment of the additional sanctioned staff will commence in 2022.

Medical Bureau of Road Safety

Organisational Chart



Courses and Conferences attended by staff in 2021

1.	The Director attended the Forensic Educational Day of the Coroners Society of Ireland, (Virtual), on 20th January 2021.
2.	The Director attended the NOTM Working Group on Traffic Medicine in the Royal College of Physicians of Ireland, Dublin on 8th February 2021.
3.	A Principal Analyst and Senior Analyst attended an Expert Witness conference over two days on 25 th and 26 th February 2021.
4.	The Director attended various Road Safety Strategy Meetings (Virtual and In-Person) on 11th February, 18th March and 23rd March 2021.
5.	The Director attended and presented at the Faculty of Forensic and Legal Medicine Webinar on Clinical Forensic Medical Services Provided Outside of England and Wales on 22nd March 2021.
6.	The Director attended the Royal College of Physicians of Ireland Covid-19 Vaccine Webinar on 23rd March 2021.
7.	The Director attended a Virtual Meeting of the Medical Advisory Panel on Alcohol, Drugs and Driving, UK Department of Transport, London on 24 th March 2021.
8.	The Director attended the NOTM Seminar on Traffic Medicine in the Royal College of Physicians of Ireland, Dublin on 24th March 2021.
9.	The Director attended the Medico-Legal Society meeting on Covid-19 Ethics (Virtual) on 25th March 2021.
10.	The Director attended the La Touche Expert Witness Conference (Virtual) on 26th March 2021.
11.	A Senior Analyst attended the International Association of Chemical Testing conference over two days on 15 th and 16 th April 2021.
12.	The Director attended and presented at the EU Road Safety Results Conference (Virtual) on 20th April 2021.
13.	An Analyst attended a seminar hosted by the Center for Forensic Science Research & Education on 21 st April 2021.
14.	The Chief Analyst completed a course in Introductory Data Analytics from May to July 2021.
15.	Two Analysts attended the Borkenstein Alcohol Course from 18 th to 27 th May 2021.
16.	A Principal Analyst attended a meeting of the Chemistry Network Group on 20 th May 2021
17.	The Director attended at the 25th Congress of the International Academy of Legal Medicine in Geneva (Virtual) on 1st to 4th June 2021.

18.	The Director Chaired, attended and presented at the European Council of Legal Medicine Educational Meeting on Harmonisation of Forensic Medicine and Pathology Standards (Virtual) on 2nd June 2021.
19.	An Analyst attended a Gas Safety Awareness Workshop on 3 rd June 2021.
20.	The Director was Examiner at the Faculty of Forensic and Legal Medicine Courtroom Skills Course (Virtual) on 15th June 2021.
21.	A Senior Analyst attended the EMCDDA Annual Reitox Early Warning Meeting on 22 nd and 23 rd June 2021.
22.	A Principal Analyst attended the Drinkaware Research Briefing - Summer 2021 on 14 th July 2021.
23.	The Director attended and presented at the European Union Road Safety Exchange, EURSE, Portugal & Ireland Webinar on Intoxicated Alcohol and Other Drug Driving Epidemiology in Ireland during the Covid-19 Pandemic 2020 – 2021 on 15th July 2021.
24.	Two analysts attended the five-day Borkenstein Drug Course from 30 th August to 3 rd September 2021.
25.	The Chief Analyst and a Principal Analyst attended a Drinkaware Event on 16 th September 2021.
26.	One Senior Analyst and four Analysts attended training in Agilent 6470 LCMSMS Troubleshooting on 30 th September 2021 at the Bureau in UCD.
27.	The Director attended the NOTM Working Group on Traffic Medicine in the Royal College of Physicians of Ireland, Dublin on 11th October 2021.
28.	Three Analysts attended a Perkin Elmer GC User Group Meeting on the 14 th October 2021.
29.	The Director attended and addressed the 2 nd International & 18 th Forensic Sciences Congress, Turkey, on Forensic Standards (Virtual) on 15th October 2021.
30.	A Principal Analyst, a Senior Analyst and an Analyst attended a Perkin Elmer GC User Group Meeting on 20 th October 2021.
31.	A Senior Analyst attended the Thermofisher Launch 2021 Virtual on 9 th November 2021.
32.	The Director attended the Drinkaware Autumn 2020 Research Briefing (Virtual) on 18 th November 2021.
33.	The Director attended the Road Safety Strategy Launch, in Dublin, on 14th December 2021.
34.	Throughout 2021, Bureau staff members also attended courses and training offered by UCD People Learning and Development and UCD SIRC Office including Project Management, Leadership, IT and Fire Safety. Staff members also had access to LinkedIn Learning for training courses.

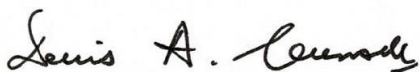
ENERGY CONSUMPTION

Under the Government's commitment to improve public energy efficiency by 33% in 2021 the Medical Bureau of Road Safety has registered for and is reporting through the SEAI online system. The Bureau's main energy usage is gas and electricity which is necessary for operating a forensic laboratory and ancillary facilities, e.g. heating and lighting, laboratory equipment, air handling, computers and servers.

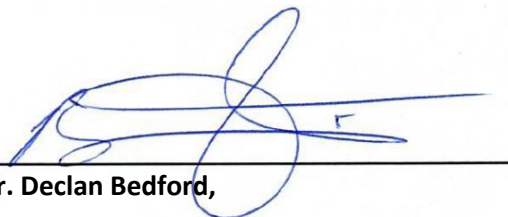
The Bureau utilizes initiatives to improve energy efficiency. A Building Management System (BMS) is used to monitor and control heating, air handling units, water boiler (direct hot water supply) and extractor fans. Each of the four floors of the Bureau's premises is managed individually and automatic controls are scheduled accordingly. Energy efficient light bulbs, movement sensors and timer switches are fitted throughout the building to minimise energy consumption.

LEGAL DISCLAIMER

The descriptions and statistics contained within this report are of a condensed and general informative nature only. They should not, by themselves, be relied upon in determining legal rights or other decisions under the Road Traffic Acts. Readers and users are advised to verify with their legal advisors any information on which they may wish to rely.



Professor Denis A. Cusack,
Director.



Dr. Declan Bedford,
Chairman.

