ANNUAL REPORT 2015
MEDICAL BUREAU OF ROAD SAFETY

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Director's Introduction

I am pleased to write this introduction to the Medical Bureau of Road Safety's Annual Report for 2015 highlighting some of the developments for the year. This report sets out a summary of the activities and performance of the Bureau and its essential role in the Government's Road Safety Strategy 2013 – 2020.

In 2015 the total number of specimens received and analysed for alcohol in blood, urine and breath and for drugs in blood and urine totaled 9,126. The predominant demographic pattern of driver specimens submitted continued to be from the younger male driver. The mean blood alcohol concentration was 119.6mg/100ml of blood, 147mg/100ml of urine and 48.6µg/100ml of breath. The two most prevalent intoxicant drug classes confirmed on testing were cannabis and benzodiazepine classes.

The Road Traffic Act 2014 allowed for the taking of blood specimens from incapacitated drivers and in 2015 in its first full year of implementation 12 such specimens were received.

The Bureau continued the approval, supply and testing of instruments and devices for Garda use and also supplied 5,000 blood and urine specimen kits for the Gardaí throughout the country.

The Bureau maintained its ISO 17025 accreditation in 2015 for its four main programmes of intoxicant testing. Several drugs in oral fluid test methods were added to the flexible scope list in 2015 for review and approval by the Irish National Accreditation Board. In 2015 the Bureau continued to provide Operator and Supervisor courses for the 86 Evidenzer IRL instruments in Garda stations and 7 such courses for 137 operators and 67 supervisors were held during 2015.

The procurement process for the replacement of the existing roadside preliminary breath screening devices was significantly progressed during 2015 and continues into 2016.

The tender for roadside chemical drug testing devices was completed in 2015 and a framework agreement was entered into by the Bureau which will allow for the approval, supply and testing of preliminary drug testing devices which will then be issued to An Garda Síochána for the use at roadside and in Garda stations. The implementation of this programme will follow the anticipated passing of the new Road Traffic legislation in 2016.

A new preliminary drug testing method replaced the immunoassay test in 2015 with the consequent broadening of the type and number of impairing drugs for which the Bureau will be able to test in 2016. In 2015 the Bureau also commenced development of liquid chromatography with tandem mass spectrometry confirmatory tests with the intention of bringing all confirmatory testing in-house to the Bureau in 2016. New Road Traffic legislation introduced in the Road Traffic Bill 2015 provides for *per se* levels in whole blood for particular drugs for the first time in this jurisdiction and enactment of the legislation is anticipated in 2016. The Bureau gave a presentation to the Joint Oireachtas Committee on Transport in April 2015 on this proposed legislation.

The Bureau is committed to continuing its work together with Government departments and public authorities and also with the road using public to fulfill its responsibilities under the Road Traffic legislation and also to continue its role as a lead or support agency in the Government's Road Safety Strategy.

Professor Denis A. Cusack,
Director.

Mission

The Mission of the Medical Bureau of Road Safety is to provide a high quality national forensic service in alcohol/drug (intoxicant) detection in support of the effective operation of the road traffic legislation.

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 agegs of the Minister for Transport under the Transfer of Departmental Administration and Ministerial Functions Order 2002. Since 2011 the Medical Bureau of Road Safety is currently under the Department of Transport, Tourism and Sport

The functions of the Bureau are laid down in the Road Traffic Acts 1968 – 2010 and their regulations and they include:

- The receipt and analysis for intoxicants of specimens of blood and urine forwarded to the Bureau.
- The issue of certificates of analysis.
- The provision of equipment for the taking or provision of specimens, of blood and urine.
- Approval, supply and testing of equipment or apparatus for indicating the presence of alcohol in the breath.
- Approval, supply and testing of equipment or apparatus for determining the concentration of alcohol in the breath.
- Research on drinking and drugs in relation to driving, including the methods of determining the amount of alcohol or drugs in a person's body and the epidemiology of driving under the influence of intoxicants.

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). Since then there have been several legislative changes such as the introduction of evidential breath alcohol testing, and driving under the influence of drugs (DUID), specimens provided in hospitals, specimens taken from drivers involved in collisions and mandatory alcohol testing. The Bureau has had to expand and develop all aspects of its work while focussing on its legal responsibilities as set out in the Road Traffic Acts (RTA) and in accordance with

the Government's Road Safety Strategy. Currently the Bureau has several programmes and services in operation and these are: Blood and Urine Alcohol Analysis; Breath Alcohol Analysis; Blood and Urine Drug Analysis; Oral Fluid Testing: Research – Driving under the influence of Intoxicants; Professional Expert Witness; Corporate/Financial and Quality Assurance.

The Director is responsible for the day to day running of the Bureau. The Chief Analyst, Ms. H. Kearns is responsible for the day to day running of the laboratories and their programmes and the Senior Administrator, Ms. T. Clarke is responsible for the Corporate /Financial programme and for overall administration within the Bureau. Each programme has a programme manager at Principal Analyst level. The Bureau has an appointed Quality Manager (see organisational chart).

The Bureau operates in and is dependent on a knowledge based environment and 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 at roadside.

Since the establishment of the Bureau it has built up a reputation of the highest forensic integrity. It has been established for almost five decades and has been able to impart its knowledge and experience to its staff, clients, and other relevant parties by means of education, training and advice. One of the major contributing factors to the operation of the Bureau is the skilled members of staff employed in the Bureau.

The Bureau provides a service to the Department of Transport, Tourism and Sport, the Courts, the Garda Síochána, both defense and prosecution lawyers and the public.

Significant Achievements & Developments during 2015

Quality Assurance

ISO 17025 accreditation was maintained in 2015 for the following tests:

- Blood and Urine Alcohol Analysis
- Evidential Breath Testing
- Preliminary Breath Testing
- Preliminary Drug Testing
- Cannabis in Blood and Urine
- Benzodiazepine in Blood and Urine

Road Safety Strategy 2013 - 2020

Progress in areas of responsibility within the Government's Road Safety Strategy particularly in preparation for Roadside Drug Testing implementation.

Preliminary Breath Alcohol Testing

The Bureau continued to support in excess of 1,000 Draeger 6510 devices provided to the Gardaí throughout 2015.

Evidential Breath Alcohol Testing

The Bureau continued to support the Evidential Breath Testing instruments in the Garda Stations nationwide and provide training courses for Operators and Supervisors.

Chemical Drug Testing

The Bureau published the tender for Roadside Chemical Drug Testing devices in 2014. The Implementation group continued communications throughout the year. The scientific evaluation was completed in 2015 and the tender awarded to Draeger for the provision of Drug Testing Devices.

Preliminary Drug Testing

The Bureau continued to develop a new preliminary drug testing method using LC-MS-MS for the analysis of drugs tested by the existing system as well as additional classes.

Oral Fluid

The Bureau established an oral fluid testing laboratory and developed and validated a GC-MS-MS and LC-MS-MS methods for the analysis of THC (Cannabis), Cocaine, Opiates and Benzodiazepines in oral fluid as part of the preparations for the evaluation of the Roadside Chemical Drug Testing systems.

Specimens Received for Analysis

In 2015 a total of 7,986 blood, urine and breath specimens were analysed for alcohol concentration. There was no significant change in the number of specimens tested for drugs or alcohol from 2014 to 2015.

Table 1
Total Number of Specimens Received within Programmes

Programme	2015	2014
Alcohol Blood & Urine	3,077	2,934
Toxicology Blood & Urine	1,140	1,158
Evidential Breath Testing	4,909	5,266

Blood and Urine Alcohol Programme

This section was headed by the Principal Analyst, Ms. Susan Mc Donald. The main functions of this programme are:

- The receipt and analysis of specimens of blood and urine forwarded to the Bureau
- The determination, in respect of such specimens of the concentration of alcohol in the blood and urine
- The issue of certificates of analysis
- The provision of equipment (Kits) for the taking of such specimens
- The testing of spurious specimens
- Provision of expert assistance to the Courts and the DTTAS
- Collection and analysis of data in relation to alcohol tests

Provision of Blood and Urine kits

The number of specimen kits prepared in 2015 was 5,000 (3,900 in 2014).

Kits Prepared in Medical Bureau of Road Safety

	2015	2014
	No.	No.
Blood Kits	2,100	1,700
Urine Kits	2,900	2,200
Jugs	2,800	2,700

Kits Issued to An Garda Siochana

	2015	2014
	No.	No.
Blood Kits	1,800	3,000
Urine Kits	2,000	2,500
Jugs	2,300	2,700

The Bureau retained a buffer of at least 500 of each kit type throughout the year.

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 3,077 blood and urine specimens were received for analysis during 2015. Analyses were carried out and certificates were issued in 3,000 of these cases. In 74 (2.4%) cases certificates were not issued either because of some defect in the specimen or in the documentation accompanying the specimen. This level of non-issue is similar to previous years. The number of blood and urine specimens received in 2015 shows an increase of 5% on the number received during 2014.

Number of Specimens Provided in Hospitals

In 2015 there were 481 specimens provided in hospitals, this represents 15.6% of total blood and urine specimens. Of these 27.3% had alcohol concentrations in excess of 150mg/100ml blood and 25.6% had alcohol concentrations in excess of 200mg/100ml urine. 10.2% were in excess of 200mg/100ml blood and 10.5% were in excess of 267mg/100ml urine.

Unconscious Drivers

12 specimens were forwarded after being taken from unconscious drivers.

Mean Alcohol Level in Blood and Urine

The mean alcohol level in blood was 119.6mg/100ml and in urine was 147.0mg/100ml for 2015.

Analysis of Time

Of the total number of blood and urine specimens received 66.6% were provided between the hours of 9.00 p.m. and 6.00 a.m., 17.8% between 4.00 p.m. and 9.00 p.m., and the remaining 15.6% between 6.00 a.m. and 4.00 p.m. This follows a similar pattern to 2014 and 2013.

Over Twice the Limit of 50mg/100ml (Blood) or 67mg/100ml (Urine)

During 2015 there were 1,716 specimens certified which were twice or more over these limits. This figure represents 55.8% of the total number of specimens certified.

Gender of Drivers Providing Blood and Urine Specimens

A similar pattern was seen in the male/female ratio in 2015 compared to 2014 and 2013.

Table 2

Gender Profile of Specimens – Blood and Urine

Gender	2015		2014	
	No.	(%)	No.	(%)
Male	2,497	81%	2,377	81%
Female	561	18%	521	18%
Not Stated	19	1%	36	1%

Table 3
Age Profile of Specimens – Blood and Urine

Age Profile	2015		2014	
	No.	(%)	No.	(%)
≤ 24	675	22.0%	710	24.2%
25 – 34	825	26.8%	826	28.2%
35 – 45	654	21.2%	598	20.4%
45 – 54	449	14.6%	361	12.3%
≥55	457	14.9%	412	14.0%
Not Stated	17	0.6%	27	0.9%

From Table 3 it is notable that the Age profile of driver providing blood and urine specimens that drivers in the 25 – 34 year old bracket contribute to the greatest percentage of arrested drivers. However drivers ≤24 (17-24) also comprise a significant number.

Table 4
Certified Blood Alcohol Level – Comparison with previous year

mg Alcohol/100ml Blood	2015		2014	
	No.	(%)	No.	(%)
0 – 20	471	26.9%	499	29.6%
21 – 50	66	3.8%	90	5.3%
51 – 80	104	5.9%	99	5.9%
0 – 80	641	36.6%	688	40.8%
81 – 100	81	4.6%	105	6.2%
101 – 150	285	16.3%	300	17.8%
151 – 200	370	20.9%	362	21.4%
201 & Over	379	21.6%	231	13.7%

TABLE 5

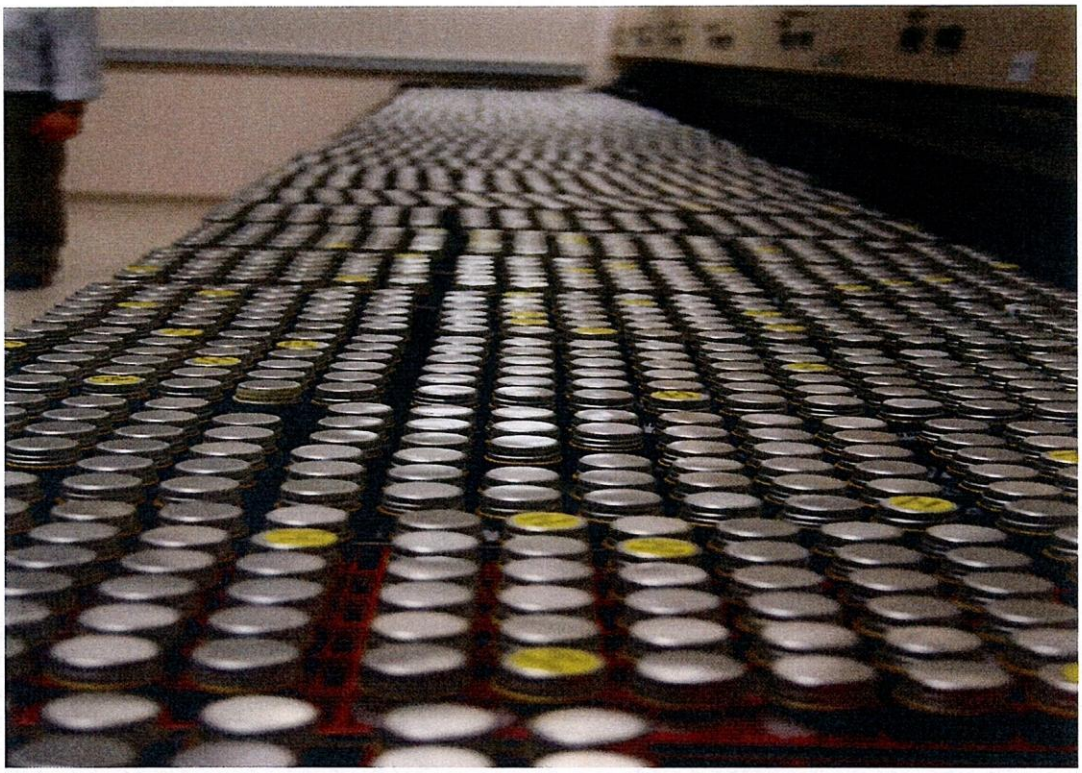
Certified Urine Alcohol Level – Comparison with previous year

mg Alcohol/100ml Urine	2015		2014	
	No.	(%)	No.	(%)
0 – 27	319	25.6%	380	30.5%
28 – 67	60	4.8%	80	6.4%
68 – 107	106	8.5%	99	7.9%
0 – 107	485	39.0%	559	44.9%
108 – 135	76	6.1%	89	7.1%
136 – 200	235	18.9%	249	20.0%
201 – 267	248	19.9%	256	20.5%
268 & Over	200	16.1%	93	7.5%

Blood and Urine and Oral Fluid Drug Programme

This programme is headed by Principal Analyst, Dr. Richard Maguire. The main functions of this programme are:

- The receipt and analysis of specimens of blood and urine forwarded to the Bureau where an EBT statement for breath alcohol content has already been issued.
- The MBRS continued to test specimens below 80mg/100ml in blood and 107mg/100ml in urine. and specimens where particular requests are made by an Garda Síochána for the presence (if any) of a drug or drugs in the blood or urine.
- The issue of certificates of analysis for the presence of a drug or drugs.
- Provision of expert assistance to the Courts and DTTAS.
- Collection and analysis of data in relation to toxicology tests.
- Preliminary Drug Testing Device procurement, validation and implementation planning.
- Development of new methods of Drug Testing.
- Research on drugs that cause impairment in drivers.



Preliminary Analysis

The Bureau analyses all blood and urine specimens, found under a defined limit for alcohol, for the presence of seven different classes of drugs. The Gardaí can also request drug analyses on specimens with alcohol levels above this limit and also for specimens where an EBT statement for breath alcohol content has already been issued. The number of 2015 specimens analysed for the presence of a drug or drugs was 1,140 with an additional 1 specimen being insufficient for preliminary drug analysis.

1,121 (98.3%) specimens fell into under the defined limit category, 16 (1.4%) specimens were above this limit and were subsequently tested following requests made by An Garda Síochána. There were 3 (0.3%) specimens that had been tested for alcohol using EBT submitted directly for drug testing in 2015. Of the 1,140 specimens tested 701 (61.5%) were found to be positive for at least one drug class on preliminary drug testing, while 439 (38.5%) were negative for drugs. 1 sample was insufficient for complete analysis.

The current preliminary test is an immunoassay test which can detect the presence of a drug in a biological fluid through the use of specific antibodies. Work was on-going throughout 2015 on a new preliminary drug testing method which will replace the immunoassay test and will broaden the type and number of impairing drugs for which

the MBRS can test. The new screening method which uses Liquid Chromatography and Tandem Mass Spectrometry is planned for introduction in 2016.

Confirmatory Analysis

The Bureau carries out confirmatory testing for the presence of Cannabinoids and Benzodiazepines in blood and urine specimens at the Bureau's premises in UCD.

The Bureau uses Gas Chromatography – Mass Spectrometry (GCMS) Gas Chromatography and Tandem Mass Spectrometry (GC-MS-MS) or Liquid Chromatography with Tandem Mass Spectrometry (LC-MS-MS) in its confirmatory analysis of drugs.

These techniques allow the unequivocal determination of drugs in biological fluids. Whilst the Bureau conducts the majority of the confirmatory analysis at the UCD campus (85%), it has also arranged that a portion of the testing is carried out by the LGC (15%) in the UK. The following table outlines the number and type of confirmatory tests conducted at the Bureau premises in UCD and the number and type of test conducted by the LGC in the UK. Several specimens had multiple drug classes conducted.

Table 6

Summary of confirmatory Testing Conducted

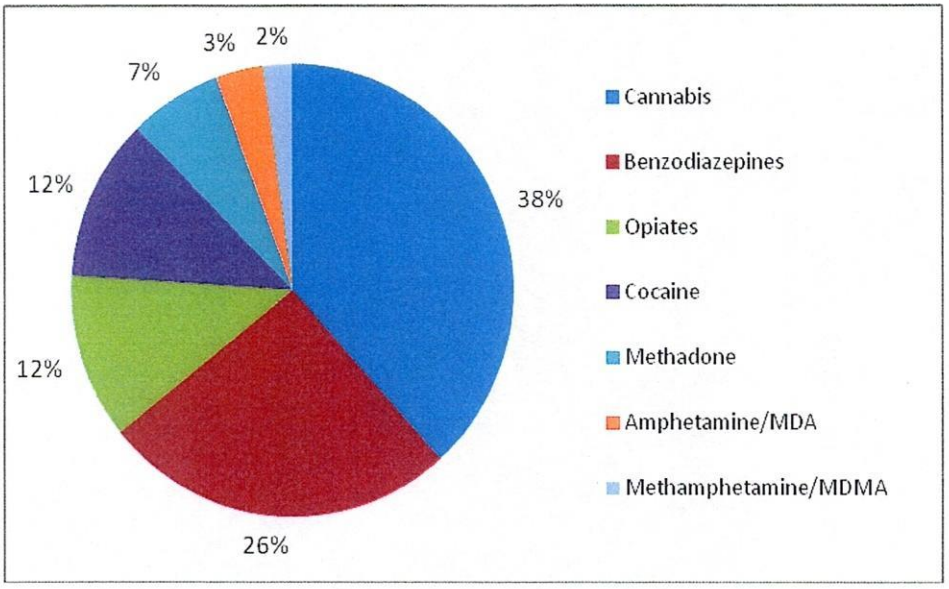
Drug Class	No. of tests	No. of Analytes	Conducted	%
Cannabis	433	2	MBRS	59.0
Benzodiazepines	192	27	MBRS	26.2
Opiates	40	4	LGC	5.4
Cocaine	31	3	LGC	4.2
Methadone	6	2	LGC	0.8
Amphetamine	16	2	LGC	2.2
Methamphetamine	16	2	LGC	2.2
Total	734	42		

While 701 specimens were found to be positive for at least one class of drug when analysed using the screening method. Many drugs were found to be positive for more than one drug class, where this occurred a priority testing scheme was employed for confirmatory testing. This resulted in some specimens being tested for more than one drug class. Table 6 summarises the confirmatory drug testing conducted by class. In 2015 the Bureau commenced development of Liquid Chromatography with Tandem Mass Spectrometry confirmatory tests to eliminate to need for outsourcing testing and which will bring all confirmatory testing in-house to the MBRS.

Drug Analysis Results

A summary of Positive results for preliminary drug testing is shown in the chart below(Chart 1). As can be seen Cannabis is the most prevalent followed by Benzodiazepines as previously reported.

Chart 1: Prevalence of Drug Classes based on preliminary Drug Testing



The age profile and gender breakdown of drivers who tested positive for drugs on preliminary drug screening has been estimated and is shown in Table 7 and 8. The mean age of a driver arrested and positive for drugs following preliminary drug screening was 30.6 years.

Table 7
Gender profile of specimens positive on preliminary drug screening

Gender	2015	
	No.	(%)
Male	607	86.6%
Female	94	13.4%

Table 8
Age profile of specimens positive on preliminary drug screening

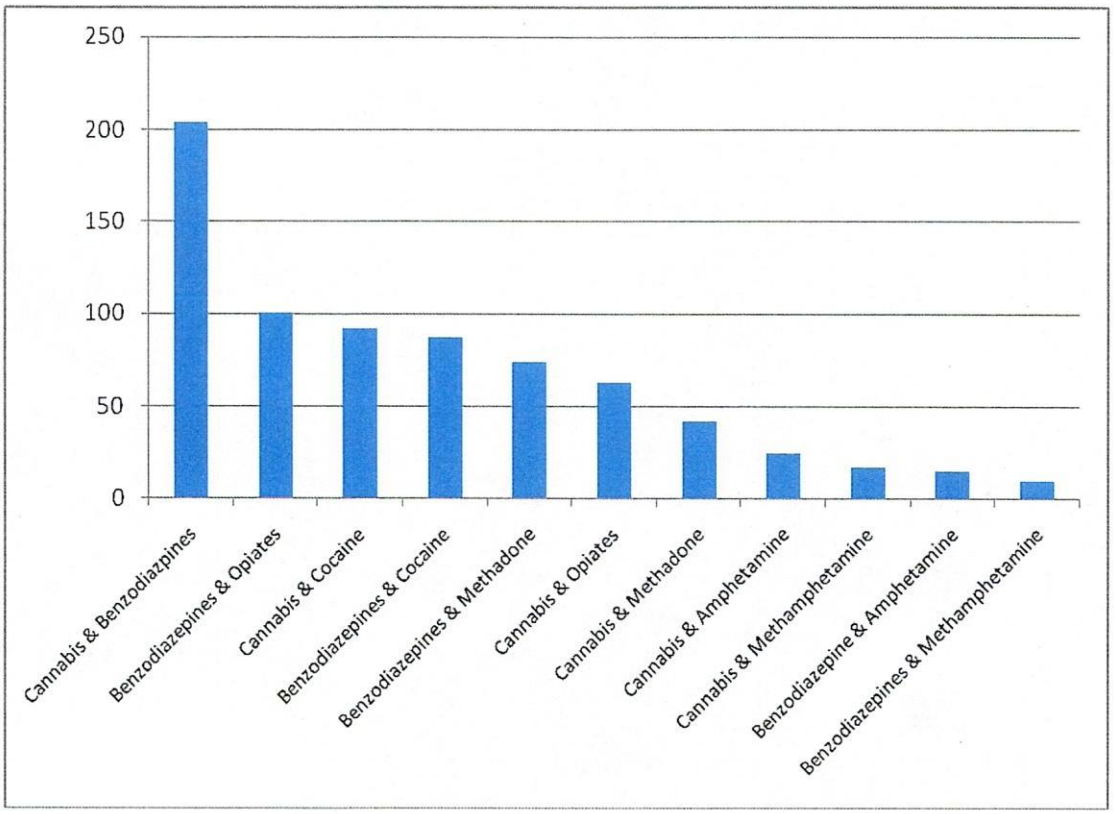
Age Profile	2015	
	No.	(%)
≤ 24	254	36.2%
25 – 34	232	33.1%
35 – 45	129	18.4%
45 – 54	50	7.1%
≥55	33	4.7%
Not Stated	3	0.4%

Detection of multiple impairing drugs in the same specimen taken from drivers, which was previously reported, was also observed based on preliminary drug analysis data. In all, 31% of specimens submitted for preliminary drug testing which were positive had 2 or more drug classes. A number of specimens were positive for 5 classes of drugs. The chart below highlights the extent of this problem (Chart 2).

Chart 2: Prevalence of Multiple Drugs use based on Preliminary Drug Testing

The most commonly encountered combinations are charted below in order (Chart 3).

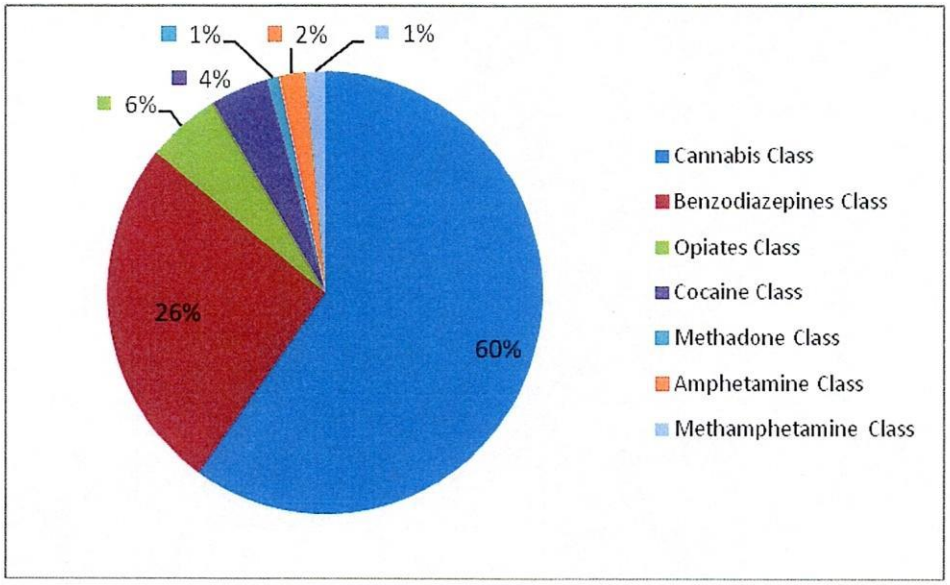
Chart 3
Prevalence of Drug Combination Encountered based on Preliminary Drug Testing



In the case of each specimen, 1 drug class was selected for confirmation and the chart (Chart 4) below shows the distribution of the drug classes for confirmatory analysis.

Chart 4

Prevalence of Drug Classes based on Confirmatory Testing



Roadside Chemical Drug Testing

In 2015 the Roadside Chemical Drug Testing Implementation group continued to meet. The group was formed in early 2013. The group is made up of representatives from An Garda Síochána, the Department of Transport Tourism and Sport (DTTAS) and Bureau Scientists with the Chief Analyst acting as Chair of the group. This group had previously devised the specifications for a tender for a suitable preliminary drug testing system using oral fluid and for use at the roadside and/or in Garda Stations. This tender was published in 2014.

The evaluation of the tender continued through 2015 and was completed. The Draeger Drugtest5000 system which has the capacity to test for Cannabis, Benzodiazepines, Cocaine and Opiates was the successful bidder and a Framework Agreement was put in place in 2015. The request to DTTAS for an extension for 1 year of an additional scientist for this project was sanctioned in 2015 to run to January 2017.

GC-MS-MS and LC-MS-MS analysis of drugs in oral fluid continued in 2015 to support the evaluation conducted during the tender and to carry out on-going quality control on material purchased over the lifetime of the contract.

Development of Quantitative Methods

The Road Traffic Bill 2015 will introduce *per se* levels in whole blood for particular drugs for the first time in the Republic of Ireland when it is enacted. The development and amendment of Test Methods to accommodate these legislative changes was initiated in 2015. The Bureau gave a presentation to the Joint Oireachtas Committee on Transport in April 2015 on this proposed legislation.

Research

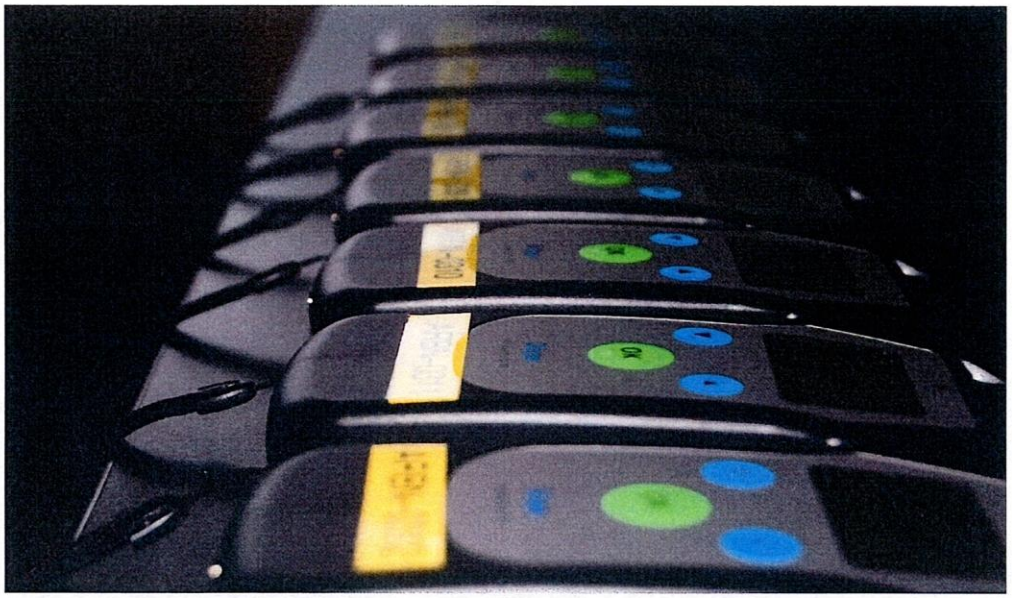
Drugs and driving (DUID) continues to be an area of concern to the Government especially with regard to enforcement. The whole area of roadside drug screening will be a challenge for the Bureau.

Due to the changing nature of drug misuse there is an on-going need to monitor the drugs being misused by drivers. The MBRS is actively developing new methods which are aimed at increasing the type and number of impairing drugs that can be detected and also improving existing methods in order to ensure that methods keep pace with advances in drug detection. In 2015 a new High Resolution LC-MS-MS instrument was purchased to improve further the Bureau's capability in drug detection in drivers.

Breath Alcohol Programme

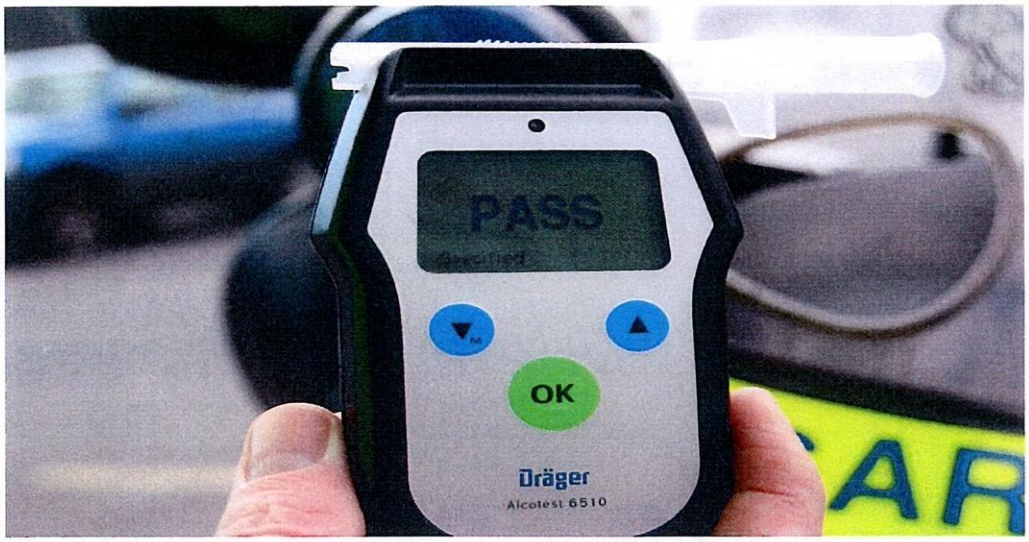
This programme is headed by Principal Analyst, Mr. D. Reynolds. The main functions associated with this programme are:

- The approval, supply and testing of apparatus for indicating the presence of alcohol in the breath (roadside breath screening 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 DTTAS.
- Provision of training courses for EvidenzerIRL Operators and Supervisors.
- Collection and analysis of data in relation to evidential breath alcohol tests.



Roadside Breath Alcohol Testing

The Bureau continued to support the Draeger 6510 electronic devices issued to An Garda Síochána in approximately 346 Garda Stations.



Evidential Breath Alcohol Testing

The Bureau continued to support the 86 EvidenzerIRL instruments in Garda Stations.

Training

The Bureau continued to provide Operator and Supervisor training courses in conjunction with An Garda Síochána. This is a one and a half day training course which was devised to train Garda Operators and Supervisors in the use of the EvidenzerIRL instrument.

The following training courses were held during 2015:

- Seven Operator/Supervisor Training Courses
  (137 Operators and 67 Supervisors)

In addition to training members of An Garda Siochana, 18 solicitors from the Office of the Chief Prosecution Solicitor attended a seminar organised by the MBRS in August 2015. This seminar covered both breath testing and developments in preliminary drug testing.

Testing & Visits to Garda Stations

Bureau Scientists visited and tested each instrument that had been previously installed in Garda stations on at least two occasions during 2015. These visits covered testing and maintenance and are an essential element in assuring the quality of breath alcohol test results for evidential purposes.

Table 7

2015 Certified Breath Alcohol Levels – Comparison with 2014

µg. of Alcohol per 100ml of Breath	2015		2014	
	No	(%)	No	(%)
0 - 9	400	9%	425	9.0%
10 – 22	532	12%	648	13.8%
23-35	617	14%	740	15.8%
36 – 44	431	10%	466	9.9%
45 – 66	1,111	25%	1,224	6.1%
67 & Over	1,258	30%	1,195	5.4%

Breath Alcohol Analysis

In 2015 a total of 5,018 drivers were brought to Garda Stations with the intention of them providing breath specimens for alcohol analysis. In 109 cases the Evidenzer flagged a reason why a section 13 certificate could not be produced, for example safeguards such as Mouth Alcohol or Breath Difference. Of the remaining 4,909, 560 drivers either failed (449) or refused (111) to provide breath specimens. A total of 4,349 section 13 statements were issued.

Mean Alcohol Level in Breath

The mean alcohol level in breath was 48.6 µg/100ml.

Analysis of Time

Of the total number of breath specimens (4,349) 69% were provided between the hours of 9.00 p.m. and 6.00 a.m., 14% between 4.00 p.m. and 9.00p.m., and the remaining 17% between 6.00 a.m. and 4.00 p.m.

Over Twice the Limit of 22 µg /100ml (Breath)

55% of breath specimens provided were over twice this limit.

Gender in Evidential Breath Testing Specimens

The number of male drivers required to provide a breath specimens far exceeds the number of female drivers, the male to female ratio being 7:1

Table 8
Gender Profile of Specimens - Breath Alcohol Analysis

Gender	2015		2014	
Male	3,840	88%	4,180	88%
Female	509	12%	580	12%

Table 9
Age Profile of Specimens - Breath Alcohol Analysis

Age Profile	2015		2014	
	No.	%	No.	%
≤ 24	780	18	828	17
25 – 34	1,364	32	1,493	32
35 – 44	1,014	23	1,127	24
45 – 54	698	16	701	15
≥55	493	11	548	12
Not stated	0		1	

Research

The Bureau commenced a clinical research project in conjunction with clinical partners to look at lung function and drivers' capability to provide evidential breath testing specimens.

Professional Witness

The area of road traffic safety enforcement and in particular driving under the influence of intoxicants (both alcohol and drugs) is the most litigated area in the criminal law sphere in Ireland. The Bureau is involved in advising on and through its scientists appearing in cases before the Courts.

In 2015 the level of court attendances by Bureau witnesses was similar to the previous year with eight attendances by Bureau staff. The EBT Principal Analyst was called to give evidence for two evidential breath (EBT) court cases. The Chief Analyst and retired Chief Analyst attended one case and Analysts attended on three other blood and urine alcohol cases. The Drug Principal Analyst attended one blood/urine drug (DUID) court case.

Quality Assurance

The Medical Bureau of Road Safety maintained its ISO 17025 Accreditation in 2015 for the four areas of: Blood and Urine alcohol analysis; Drug analysis; Evidential Breath Testing; and Preliminary Breath Testing.

The Bureau operates a Flexible Scope; this facilitates the addition of new drug tests to the Bureau's scope of accreditation as they are developed in-house. A list of additional accredited tests (LAAT) is maintained as part of the flexible scope procedure. Several Drugs in Oral fluid test methods were added to the List in 2015 for review by INAB in early 2016.

Financial Information

The Medical Bureau of Road Safety derives its finances from an Annual Grant out of the Vote for the Department of Transport, Tourism and Sport. The total grant allocation for the Bureau for 2015 was €4,267,000.

Corporate Governance

The Board of the Medical Bureau of Road Safety operates in accordance with the Code of Practice for the Governance of State Bodies. The Board is accountable to the Department of Transport, Tourism and Sport and the Department of Finance. The Board meets regularly and is responsible for the proper management of the Bureau. It makes major strategic decisions and reviews the Bureau's risk management strategy and control processes on an annual basis.

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, Tourism and Sport.

Name	Position	Attendance Record
Professor Cecily Kelleher	Chairman	4 of 4
Professor Denis Cusack	Board Member and Director	4 of 4
Ms. Nicola Hayes	Board Member	4 of 4
Mr. Philip Joyce	Board Member until 31st March 2015	0 of 0
Dr. Niall McNamara	Board Member until 31st March 2015	0 of 0
Mr. Paul Burns	Board Member from 1st April 2015	4 of 4
Dr. Declan Bedford	Board Member from 1st April 2015	4 of 4

Bureau Membership and Meetings

During 2015 the Medical Bureau of Road Safety held four meetings. These meetings were held on 21st May 2015, 23rd July 2015, 1st October 2015 and 17th December 2015.

Schedule of Fees and Aggregate Expenses Paid to Directors During 2015

During 2015 the following fees were paid:

Board Member	TYPE OF FEE	PAID
Mr. Philip Joyce, Member	Fee for Non-Executive members of Boards of State Bodies	€1,496
Dr. Niall McNamara	Fee for Non-Executive members of Boards of State Bodies	€1,496
Mr. Paul Burns	Fee for Non-Executive members of Boards of State Bodies	€4,489
Dr. Declan Bedford	Fee for Non-Executive members of Boards of State Bodies	€4,489

Compliance

The Board is pleased to report that during the year ended 31st December 2015 the Medical Bureau of Road Safety complied with the relevant provisions of the Code of Practice for the Governance of State Bodies. An internal audit was performed.

Ethics in Public Office Acts

The members of the Board who held office at the 31st December 2015 had no interests for the purposes of the Ethics in Public Office Acts 1995 and 2001.

Audit Committee

The Audit Committee reviews any aspect which relates to the financial matters of the Medical Bureau of Road Safety. The committee operates under formal terms of reference. The meetings are normally attended by the members of the Committee and it reports to the Board on a bi-annual basis.

External Financial Audit

The Comptroller and Auditor General performed the annual audit of the 2014 Financial Statements during 2015. No significant issues were raised during the course of the audit.

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 2015.

Procurement

Competitive tendering is the normal policy utilised by the Board of 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 2015.

Strategic Planning

The Bureau compiled its Annual Strategic Plan for 2016 and also its Five Year Strategic Plan 2016 -2020 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. Both strategies can be viewed on the Bureau's website.

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 very strict procedures in operation.

In the case of a small number of suppliers, when the Bureau receives an invoice it will issue a 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.

STATEMENT ON INTERNAL FINANCIAL CONTROL

Responsibility of Internal Control

On behalf of the Members of the Medical Bureau of Road Safety, I acknowledge our responsibility for ensuring that an effective system of internal financial control is maintained and operated.

The system can only provide reasonable and not absolute assurance that assets are safeguarded, transactions authorised and properly recorded, and that material errors or other irregularities are either prevented or would be detected in a timely period.

Key Control Procedures

The Bureau has set out the following key procedures designed to provide effective internal financial control within the Bureau. The Bureau has agreed that the Director and staff are responsible for operational matters. The Director reports to the Bureau at its meetings of which four were held in 2015.

The Bureau has set out its financial procedures and delegation practices to ensure a transparent control environment appropriate to a small semi-state agency. The Bureau has an Audit Committee to support quality assurance of financial procedures. The Committee held four meetings during 2015 and reported to the Bureau.

The system of internal financial control is based on a framework of regular management information, administrative procedures including segregation of duties, and a system of delegation and accountability. In particular it includes:

- Comprehensive budgeting system with an annual budget which is reviewed and agreed by the Bureau.
- Regular reviews by the Bureau of periodic and annual financial reports which indicate financial performance against forecasts.
- Setting targets to measure operational financial and other performance.
- Formal project management disciplines.

The Bureau has an internal audit function, which operates in accordance with the Code of Practice for the Governance of State Bodies. The Bureau's monitoring and review of the effectiveness of the system of internal financial control is informed by the work of the internal auditor, the audit committee and the executive of the Bureau which has responsibility for the development and maintenance of the financial controls framework, and comments made by the Comptroller and Auditor General in his report, as applicable.

Annual Review of Controls

The Bureau carried out a review of the effectiveness of its system of internal financial control in respect of 2015 in accordance with the requirements.

Professor Cecily Kelleher
Chairman

Freedom of Information

During 2015 the Bureau received one request which was dealt with by the administrative pathway outside of Freedom of Information.

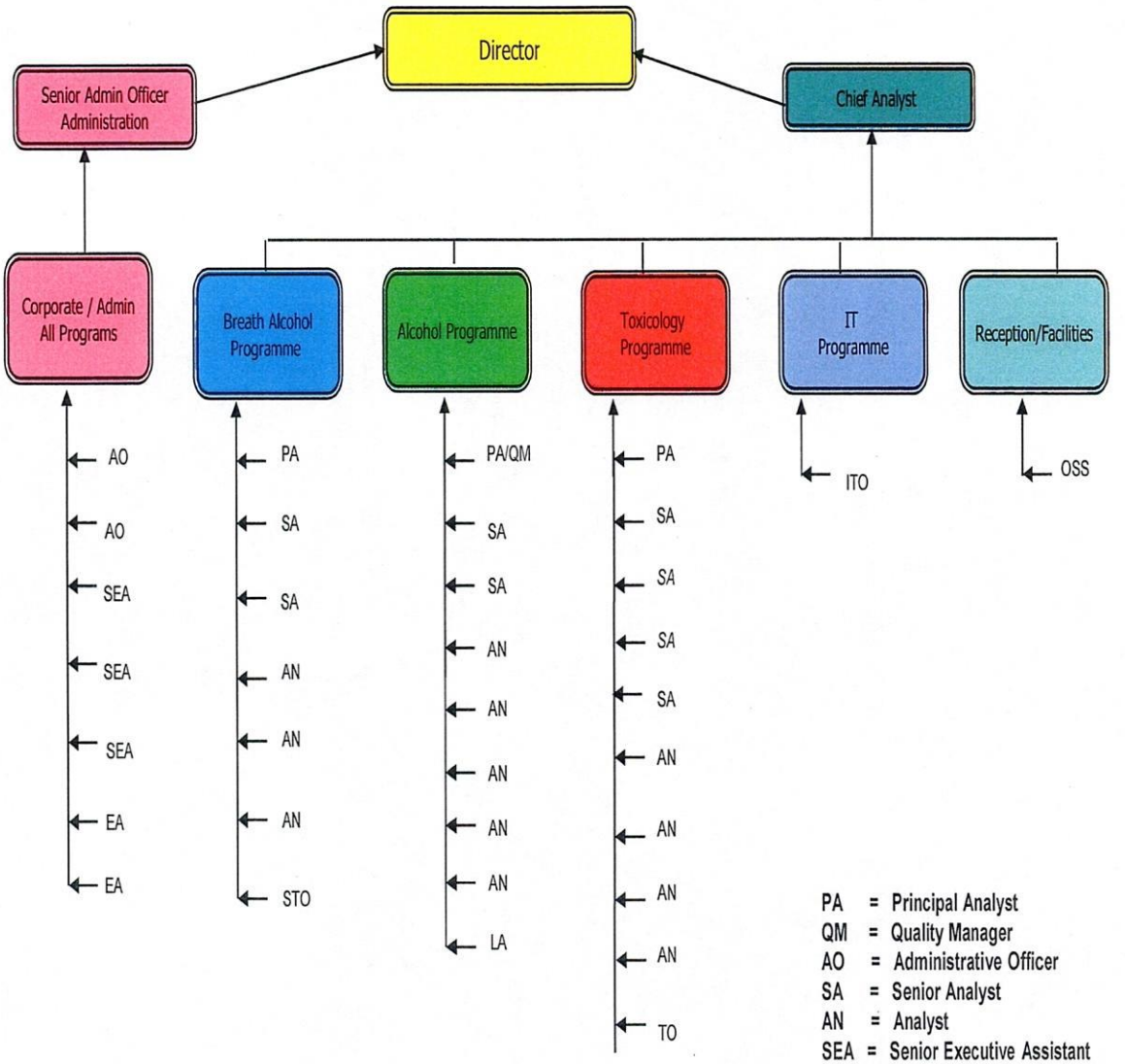
Staffing

The Bureau continued during 2015 to operate within its Employment Control Framework complement.

During the year there were changes in Bureau staffing following resignations within the administrative and scientific areas.

All staff continued to demonstrate flexibility to ensure that all programmes were maintained and that the additional projects were given the assistance required.

Organisational Chart



PA = Principal Analyst
QM = Quality Manager
AO = Administrative Officer
SA = Senior Analyst
AN = Analyst
SEA = Senior Executive Assistant
EA = Executive Assistant
STO = Senior Technical Officer
TO = Technical Officer
LA = Laboratory Attendant
ITO = IT Officer
OSS = Operational Support Specialist

Courses and Conferences attended by Staff in 2015

1.	Three Senior Analysts attended a four day course on Managing Nautilus in Blackrock, Dublin, from the 12th - 15th January 2015.
2.	An Executive Assistant attended a two hour course on eProcurement on 14th January 2015 in UCD.
3.	A Laboratory Attendant attended a one day Gas Safety Awareness Workshop in UCD on 14th January 2015.
4.	The Director attended and presented a paper at the 23rd Congress of the International Academy of Legal Medicine International Conference from the 19th to 21st January 2015 in Dubai, UAE.
5.	The Director attended a half day Sub Group: Drug and Alcohol Misuse, RCPI Working Group on Traffic Medicine in the Royal College of Physicians of Ireland, Dublin on the 26th January 2015.
6.	Four Analysts attended a two day course in GC Training on 10th and 11th of February 2015 in Cambridgeshire, England.
7.	A Principal Analyst attended the one day meeting of UK and Ireland Association of Forensic Toxicologists (UKIAFT) on 27th February 2015 at the Chamber of Shipping, London, England.
8.	Two Senior Analysts attended a two hour seminar on Achieving an Automated, Integrated Laboratory Solution in a Regulated Environment on 3rd March 2015 at the Irish Management Institute, Sandyford.
9.	The Director attended the Medical Advisory Panel on Alcohol, Drugs and Driving, Department of Transport on the 11th March and 16th Septemeber 2015 in London, England
10.	The Director gave a presentation at the Limerick ICGP Faculty Spring Medical Conference on Sláinte agus Tiomáint - 2015 update for medical doctors in Zermatt, Switzerland on the 15th March 2015.
11.	An Executive Assistant and two Analysts attended a half-day course on MS Excel Core at UCD on 26th March and 29th of April 2015 respectively.
12.	The Director gave a presentation on the Road traffic bill and driving under the influence of drugs to the Joint Oireachtas Committee on Transport and Communications, Dublin on the 16th April 2015

13.	A Senior Analyst attended a 6 day conference of the International Association of Chemical Testing (IACT) in Newport, Rhode Island, USA from the 19th-24th April 2015.
14.	The Director attended the Faculty of Forensic and Legal Medicine Conference in Bournemouth, London the 1st and 2nd May 2015.
15.	The Director attended the RCPI Working Group on Traffic Medicine Royal College of Physicians of Ireland, Dublin on the 11th May and 12th October 2015.
16.	Two Analysts attended the one day annual conference of the Irish Mass Spectrometry Society (IMSS) on 13th May at the Red Cow Hotel, Dublin.
17.	One Senior Analyst and two Analysts attended a two hour seminar on New Insights into Sample Prep, Chromatography and HPLC on 13th May in the Conway Institute, UCD.
18.	The Chief Analyst and an Analyst attended a one day conference of the UK and Ireland Association of Forensic Toxicologists (UKIAFT) on 15th May 2015 in Teddington, England.
19.	Two Analysts, a Senior Analyst, Senior Executive Assistant and a Senior Reception Attendant attended a half-day course on MS Excel Expert on 28th January, 24th November, 16th June and 30th June 2015 respectively, at UCD.
20.	The Chief Analyst and an Executive Assistant attended a meeting of the Paradigm Laboratory User Group on 16th June 2015 at the State Laboratory, Co. Kildare.
21.	The Senior Technical Officer attended a one-day Technical Officer's Development Conference on 17th June 2015 in UCD.
22.	A Principal Analyst and a Senior Analyst attended meetings of the International Organisation of Legal Metrology (OIML) on 29th and 30th June 2015 in Berlin.
23.	The IT Officer attended a five day training course on MS SQL Server from the 27th-31st July 2015.
24.	The Chief Analyst attended The 53rd Annual TIAFT meeting in Florence from 30th August to 4th September 2015.
25.	A Principal Analyst attended the two day Introduction to Project Management on 3rd and 4th September 2015 at the Institute of Public Administration, Dublin..
26.	The Director attended the Coroners Society of Ireland Annual Conference on the 11th and 12th September 2015 in Cork.

27.	A Principal Analyst and a Senior Analyst attended a two day conference of the UK and Ireland Association of Forensic Toxicologists (UKIAFT) on the 10th and 11th of September 2015 in Bournemouth, England.
28.	An Analyst attended a five day Borkenstein DUID Course from 14th-18th September 2015 in Pennsylvania, USA.
29.	A Principal Analyst and an Executive Assistant attended a 1.5 hour MS Project course on 29th September and 18th December 2015 respectively, in UCD.
30.	The Director attended and gave a presentation at the Irish External Quality Assessment Scheme Annual Conference on the 1st October 2015 in Dublin.
31.	A Principal Analyst and an Analyst attended a three hour MS Access course on 20th October 2015 in UCD.
32.	The Director attended the Medico-Legal Seminar on Expert Witness and Reforms on the 21st October 2015 in Dublin.
33.	Two Analysts and two Senior Analysts took part in a three day Mass Hunter training course from 21st-23rd October 2015. The training was provided in-house by Anthias Consulting.
34.	The Director attended the Medico-Legal Society of Ireland National meeting on the 22nd October 2015 in Dublin.
35.	A Senior Analyst attended the 6 day conference of the Society of Forensic Toxicologists (SOFT) in Atlanta, USA from the 18th - 23rd of October 2015.
36.	A Senior Analyst attended a two day Introduction to SQL on 9th and 10th of November 2015 in Sandyford, Dublin.
37.	A number of staff also attended a variety of personal development/communications related courses which are run by UCD throughout the year.

Energy Consumption

Under the Government's commitment to improve public energy efficiency by 33% in 2020 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 have been fitted throughout the building to further reduced energy consumption.

The Medical Bureau of Road Safety is currently on target to achieve the 33% improvement in energy efficiency in 2020.

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.

Professor Cecily Kelleher,
Chairman.