



Medical Bureau of Road Safety

ANNUAL REPORT 2007

School of Medicine & Medical Science
University College Dublin



**Report for the
year ended
31st December 2007**

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ESTABLISHMENT AND 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 22nd July 1997. In June 2002 the Medical Bureau of Road Safety came under the aegis of the Minister for Transport following the transfer of Departmental Administration and Ministerial Functions Order 2002.

The functions of the Bureau are laid down in the Road Traffic Acts 1968 –2007 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.

The Bureau derives its finances from an Annual Grant out of the Vote for the Department of Transport. The Board which comprises of five members (including the Director) is appointed by the Minister for Transport. The current Board members are Professor Cecily Kelleher (Chairperson), Professor Denis A. Cusack (Director), Mr. Declan Hayes, Mr. Philip Joyce and Dr. Niall McNamara.

The Medical Bureau of Road Safety utilises the premises and staff provided under an agreement with University College Dublin, School of Medicine and Medical Science, Earlsfort Terrace, Dublin 2. The Bureau currently employs one Chief Analyst, three Principal Analysts, one Senior Analyst, eight Analysts, one Senior Technician, one Laboratory Attendant, one Senior Administrative Officer and four Administrative staff. The Analysts have primary degrees and most have post graduate qualifications. The Director is responsible for the day to day management of the Medical Bureau of Road Safety.

ACTIVITIES OF THE MEDICAL BUREAU OF ROAD SAFETY

In 2007 a total of 20,204 blood, urine and breath specimens were analysed for alcohol concentration. This represents an overall increase of 7.5% on the total number of specimens analysed during 2006. Chart 1 shows the breakdown of all blood, urine and breath specimens analysed during 2007 and in the previous ten year period. 1,155 were analysed for the presence of drugs and this represents an increase of 31.7% on 2006.

The activities of the Medical Bureau of Road Safety for this report have been classified into the following five main programmes:

- 1. Blood and Urine Alcohol Analysis**
- 2. Breath Alcohol Analysis**
- 3. Blood and Urine Drug Analysis**
- 4. Research – Driving under the Influence of Intoxicants**
- 5. Professional Expert Services and Court Attendance**

The breakdown is as follows:

1. Blood and Urine Alcohol Analysis

A total of 5,862 blood and urine specimens were received for analysis during 2007. Analyses were carried out and certificates were issued in 5,711 of these cases. In 151 (2.6%) cases certificates were not issued either because of some defect in the specimen or in the documentation accompanying it. The number of blood and urine specimens received in 2007 shows an increase of 16.4% on the number received during 2006.

1.1 Number of Specimens Provided in Hospitals

In 2007 there were 292 specimens provided in hospitals, this represents an increase of 10.6% on 2006. 25% of these had alcohol concentrations in excess of 150mg/100ml blood or 200mg/100ml urine while 19% were in excess of 200mg/100ml blood or 267mg/100ml urine.

1.2 Analysis of Time

Of the total number of blood and urine specimens received 75% were provided between the hours of 9.00 p.m. and 6.00 a.m., 12% between 4.00 p.m. and 9.00 p.m., and the remaining 13% between 6.00 a.m. and 4.00 p.m. This follows a similar pattern to 2006 and 2005.

1.3 Mean Alcohol Levels in Blood & Urine Specimens

The mean alcohol level in blood was 137mg/100ml.
The mean alcohol level in urine was 155mg/100ml.

1.4 Twice Over the Legal Limit

During 2007 there were 2,176 specimens certified which were twice or more over the legal limit. This figure represents 38% of the total number of specimens certified.

1.5 Alcohol Levels in Blood & Urine Specimens

Tables I and II to this report give a breakdown of alcohol concentrations in blood and urine specimens received during 2007. Tables III and IV compare the levels of blood and urine with previous years. Charts 2 and 3 correspond to Tables I and II and Charts 4 and 5 correspond to Tables III and IV respectively. Mandatory Alcohol testing was introduced in July 2007.

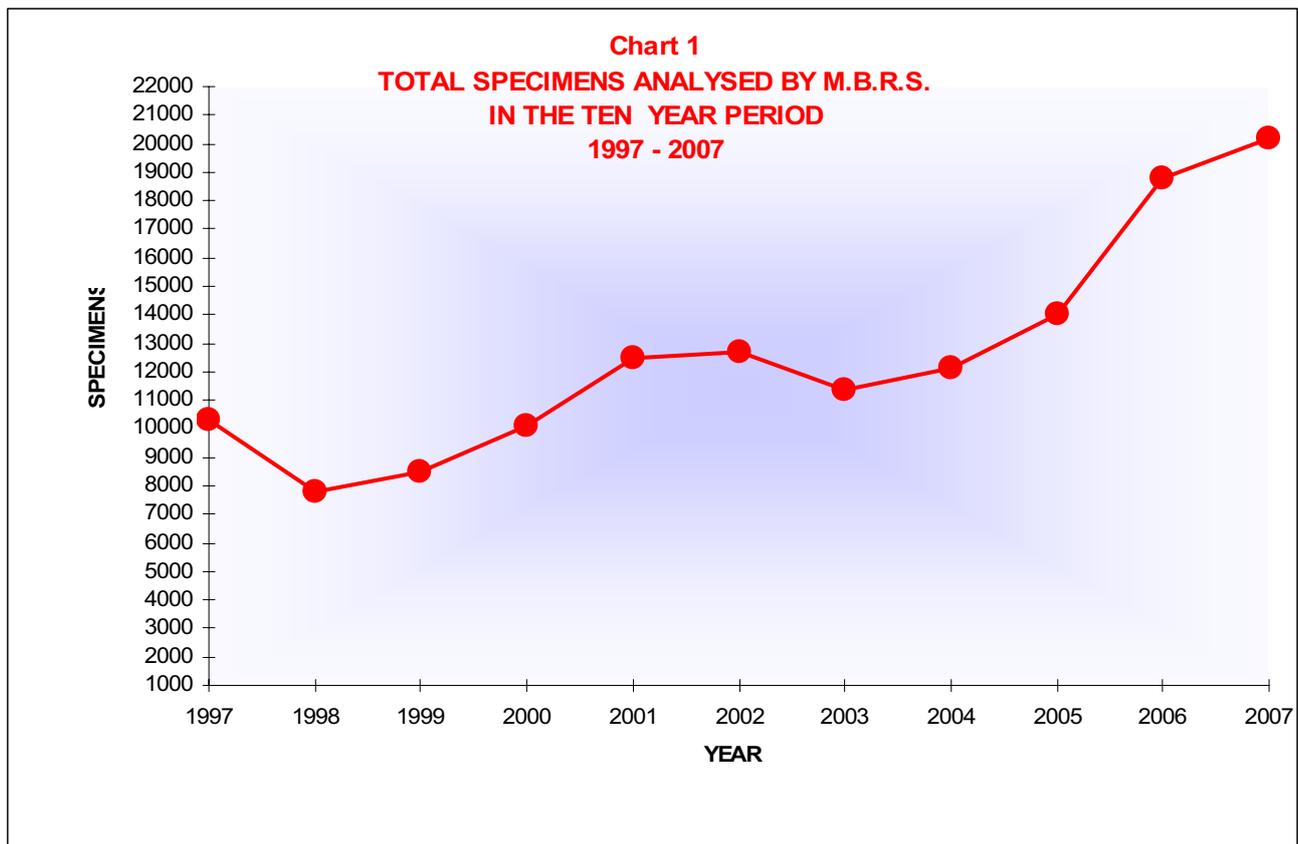


CHART 2
CERTIFIED ALCOHOL CONTENT OF BLOOD SPECIMENS
RECEIVED IN 2007

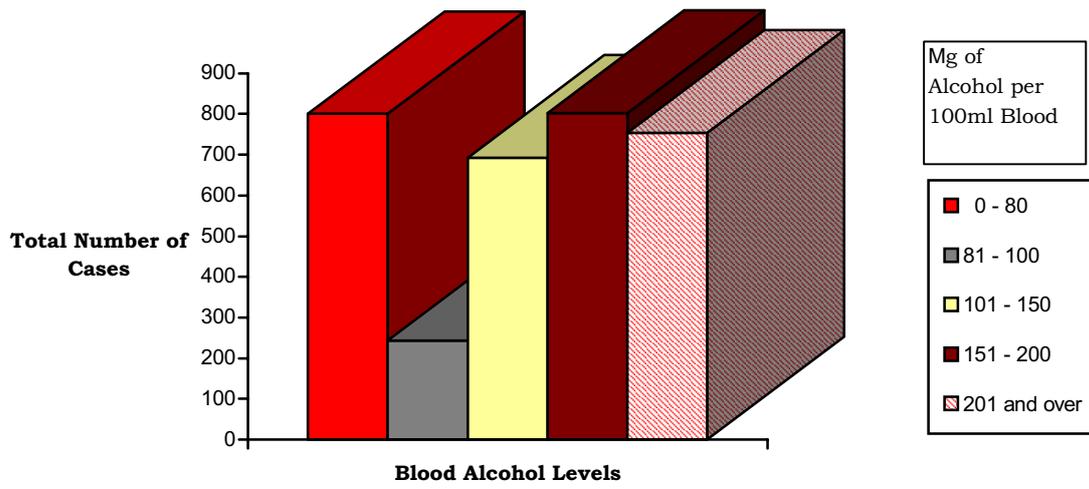


CHART 3
CERTIFIED ALCOHOL CONTENT OF URINE SPECIMENS
RECEIVED IN 2007

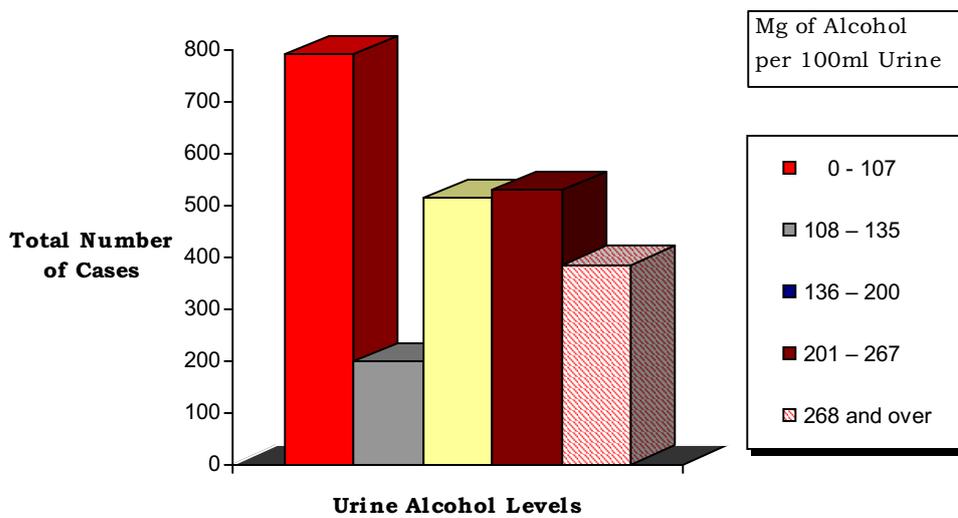


TABLE I
CERTIFIED ALCOHOL CONTENT OF BLOOD SPECIMENS
RECEIVED IN 2007

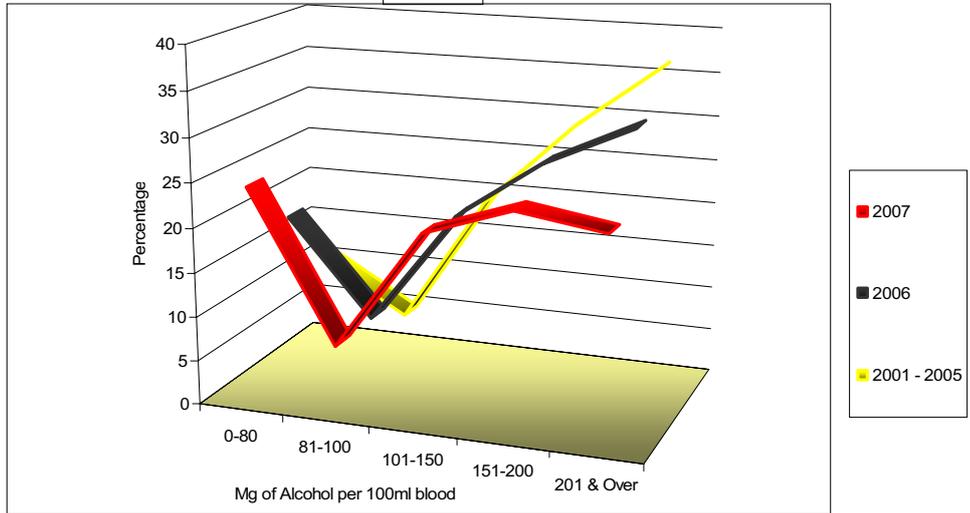
Mg. of Alcohol per 100ml of Blood	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	TOTAL
0 - 80	149	196	238	217	800
LEGAL LIMIT					
81 - 100	48	48	78	70	244
101 - 150	162	171	197	163	693
151 - 200	172	190	229	212	803
201 & Over	155	182	202	215	754

TABLE II
CERTIFIED ALCOHOL CONTENT OF URINE SPECIMENS
RECEIVED IN 2007

Mg. of Alcohol per 100ml of Urine	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	TOTAL
0 - 107	158	204	211	218	791
LEGAL LIMIT					
108 - 135	37	42	67	53	199
136 - 200	103	114	159	138	514
201 - 267	81	144	164	140	529
268 & Over	80	106	104	94	384

BLOOD ALCOHOL LEVELS WITH PREVIOUS YEARS

CHART 4



URINE ALCOHOL LEVELS IN PREVIOUS YEARS

Chart 5

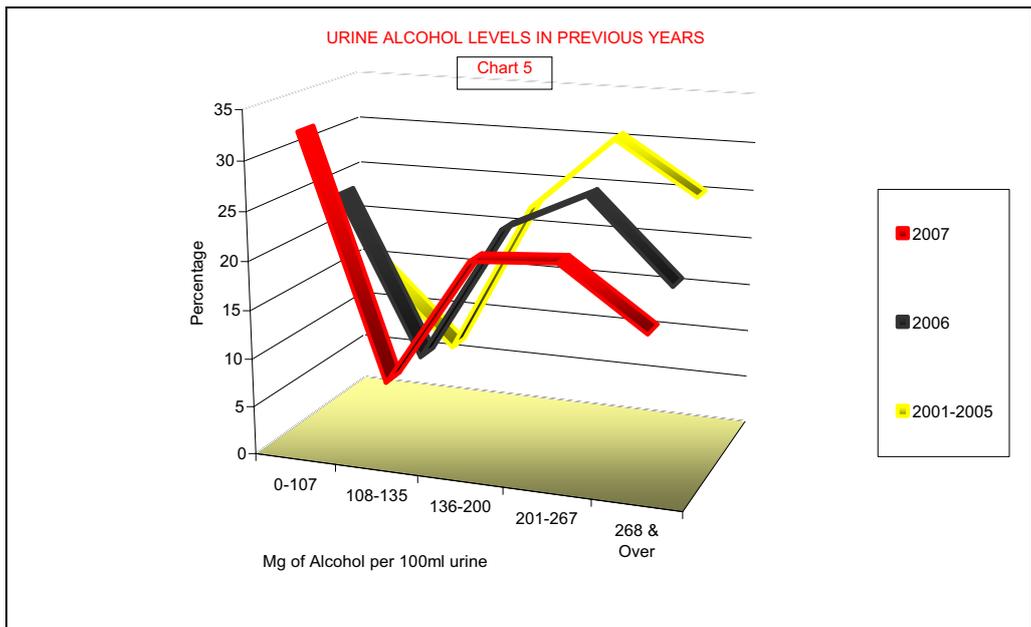


TABLE III
BLOOD ALCOHOL LEVEL – COMPARISON WITH PREVIOUS YEARS

Mg. of Alcohol Per 100ml of Blood	2007		2006		5 Year Period 2001-2005	
	No.	%	No.	%	No.	%
0 - 80	800	24.3	532	18.4	1,261	10.4
Legal Limit						
81 - 100	244	7.4	216	7.5	587	4.8
101 - 150	693	21.0	586	20.3	2,393	19.6
151 - 200	803	24.4	784	27.1	3,515	28.9
201 & Over	754	22.9	773	26.7	4,428	36.3

TABLE IV
URINE ALCOHOL LEVEL – COMPARISON WITH PREVIOUS YEARS

Mg. of Alcohol Per 100ml of Urine	2007		2006		5 Year Period 2001-2005	
	No.	%	No.	%	No.	%
0 - 107	791	32.7	498	24.7	1,195	14.7
Legal Limit						
108 - 135	199	8.2	166	8.2	545	6.7
136 - 200	514	21.3	452	22.4	1,862	22.8
201 - 267	529	21.9	533	26.5	2,493	30.6
268 & Over	384	15.9	366	18.2	2,050	25.2

2. Breath Alcohol Analysis

In 2007 a total of 14,342 breath specimens were taken in Garda Stations, this is an increase of 4.25% on 2006. 13,081 of the specimens were certified; 76.2% were over the legal limit. Of the total number of breath tests registered, 1,261 tests did not result in a statement under Section 17 of the Road Traffic Act being provided.

2.1 Installation of Instruments

The total number of Instruments installed in Garda Stations Nationwide remains at sixty-four.

2.2 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 2007. Bureau scientists have made in excess of one hundred and ninety visits to EBT instrument locations throughout Ireland in the year. These visits covered testing, maintenance, and court ordered inspections.

2.3 Evidential Breath Testing Training

The two-day EBT training course devised to train Garda Operators and Supervisors continued throughout 2007. The training courses were conducted by a Bureau scientist and a member of the Garda Síochána in-service training school at Harcourt Square.

The following training courses were held during 2007:

- 23 Training Course for Operators
- 7 Supervisor Training Courses

2.4 Mean Alcohol Level in Breath

The mean alcohol level in breath was 53µg/100ml.

2.5 Twice over the Legal Limit

23.9% of the number of breath specimens provided were over twice the legal limit.

2.6 Roadside Breath Alcohol Screening

The Bureau made available to the Gardai, a further 215 Draeger 6510 electronic roadside devices during 2007 and continued to support 412 of these devices issued in 2005 and 2006.

The Bureau also continued to issue Draeger Alcotest 80A blow in the bag devices.

2.7 Analysis of Breath Specimens

Chart 6 and Table V provided a breakdown of alcohol levels measured in breath during 2007. Table VI compares the levels of alcohol in breath specimens found in 2007 with levels found in 2006.

TABLE V
CERTIFIED ALCOHOL CONTENT OF BREATH SPECIMENS
PROVIDED IN 2007

Mg. of Alcohol per 100ml of Breath	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	TOTAL
0 - 35	737	847	745	784	3,113
LEGAL LIMIT					
36 - 44	452	421	414	443	1,730
45 - 66	1,201	1,117	971	1,122	4,411
67 - 88	760	648	662	696	2,766
88 & Over	249	281	283	248	1,061

Chart 6
CERTIFIED ALCOHOL CONTENT OF BREATH SPECIMENS ANALYSED IN 2007

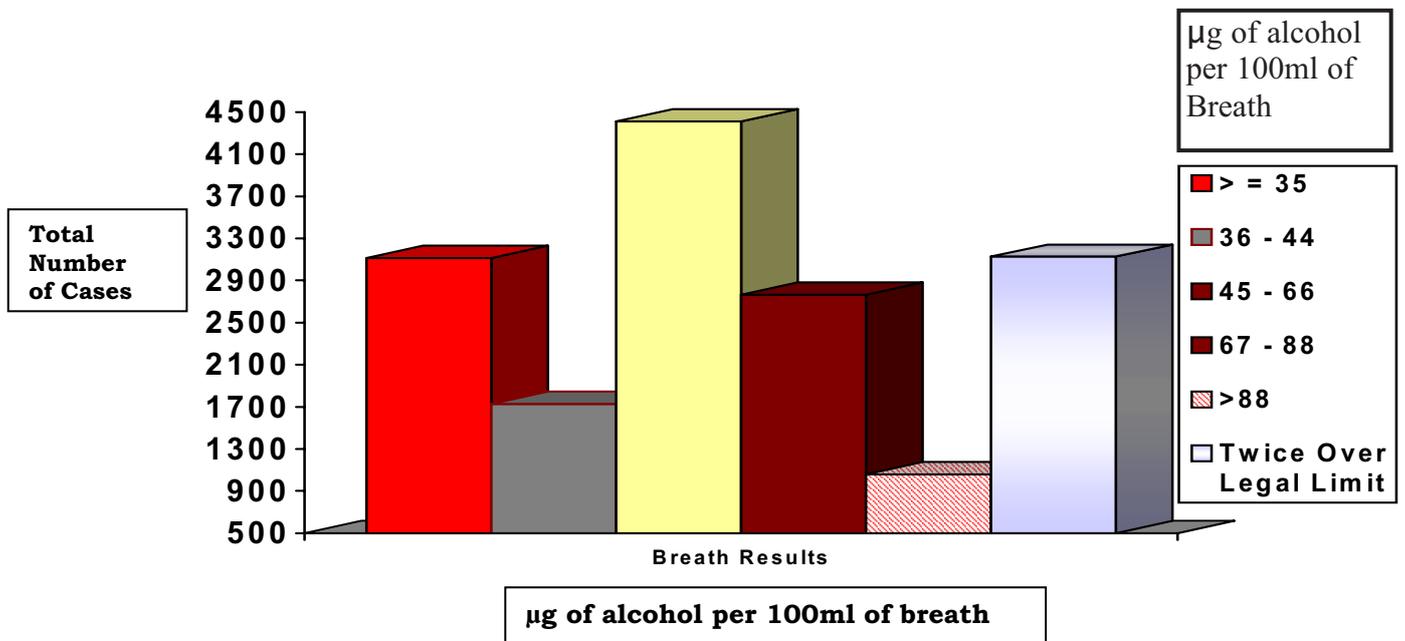


TABLE VI
ALCOHOL BREATH LEVEL COMPARISON
WITH PREVIOUS YEARS

µg of alcohol per 100ml of Breath	2007		2006		5 Year Period 2001- 2005	
	No.	%	No.	%	No.	%
0 - 35	3,113	23.8	2,900	23.3	6,941	19.1
LEGAL LIMIT						
36 - 44	1,730	13.2	1,582	12.7	3,458	9.5
45 - 66	4,411	33.7	4,187	33.7	12,540	34.5
67 - 88	2,766	21.2	2,774	22.3	9,696	26.6
88 & Over	1,061	8.1	994	8.0	3,753	10.3

TABLE VII
ALCOHOL LEVELS BLOOD, URINE & BREATH SPECIMENS COMPARISON WITH PREVIOUS YEARS

Alcohol Content			2007		2006		5 year period 2001- 2005	
BLOOD mg/100ml	URINE mg/100ml	BREATH µg/100ml	No.	%	No.	%	No.	%
0 - 80	0 - 107	0 - 35	4,704	25.0	3,930	22.7	9,397	16.6
LEGAL LIMIT								
81-100	108 - 135	36 - 44	2,173	11.6	1,964	11.3	4,590	8.1
101 - 150	136 - 200	45 - 66	5,618	29.9	5,225	30.1	16,796	29.6
151 - 200	201 - 267	67 - 88	4,098	21.8	4,091	23.6	15,703	27.7
201 and upwards	268 and upwards	88 and upwards	2,199	11.7	2,133	12.3	10,231	18.0

Table VII shows the comparison between 2007 and 2006 for certified results of blood, urine and breath specimens received for analysis. This is the seventh year that a comparison can be made in the area of Evidential Breath Testing since its introduction in late 1999.

3. Blood and Urine Drug Analysis

The Medical Bureau of Road Safety continued analysis of specimens for the presence of seven different drugs or drug classes using an immunoassay technique (ELISA):

In 2007, 1,155 specimens were received for drug analysis. There were 1,106 specimens tested for the presence of a drug or drugs including 226 specimens received in late 2006. This is an increase of 25.8% on the number of specimens for DUID tested in 2006. This included all the specimens received which were under the legal limit for alcohol and 107 specimens where the alcohol level was over the legal limit and drug analysis was requested by Gardaí.

There also were 14 specimens where alcohol analysis had been carried out by an evidential breath alcohol test and drug analysis was requested by Gardaí.

3.1 Results of Drug Analyses

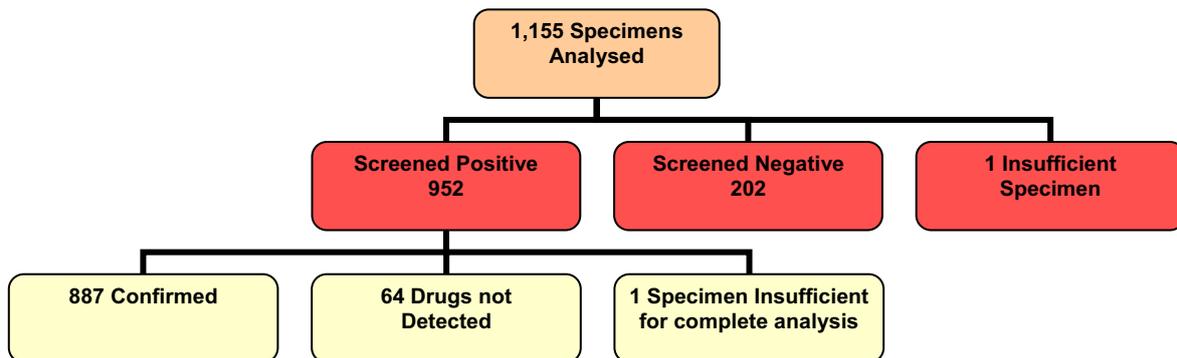
952 specimens tested positive (82.4% of specimens analysed) and 202 specimens were found to be negative for the presence of a drug or drugs (17.5%). One specimen was insufficient for analysis.

Specimens testing positive were forwarded to the Laboratory of the Government Chemist (LGC) for confirmatory analysis.

887 specimens were confirmed positive (93% of specimens sent to the laboratory). 77% of total specimens analysed for the presence of drugs), 64 were not confirmed (6.7% of specimens sent to LGC) and one was insufficient for complete analysis.

Chart 7 provides a summary of drug analysis for 2007.

Chart 7
SUMMARY OF DRUGS ANALYSIS 2007



4. Professional Expert Services and Court Attendance

The total number of occasions that different members of Bureau staff had to provide expert professional expert evidence in court cases during the year was twenty nine, of which four related to blood and urine alcohol analysis. Twenty two were legal challenges in relation to Evidential Breath Testing and three related to drug analysis. Staff members on several occasions were on stand-by to attend court but were not required.

The Bureau continues to provide independent professional expert support to assist the courts in the administration of justice. The number of queries and requests for information from parties in criminal proceedings continued in similar numbers as for 2006.

MEMBERSHIP OF COMMITTEES RELATING TO ROAD SAFETY

The Director is a member of the Road Safety Authority Advisory Panel and attended the three meetings held during 2007 on 19th June, 10th September and 4th December.

CONFERENCES, COURSES AND MEETING ATTENDED BY STAFF DURING 2007:

1. The Chief Analyst attended a half day Court Service Customer Forum meeting on 5th March 2007 in the Park-Inn Hotel, Smithfield, Dublin.
2. A Principal Analyst attended a two day Draeger Instructor Training course on 14th and 15th March 2007 in the Abbey Court Hotel, Nenagh, Co. Tipperary.
3. A Principal Analyst attended a three day CEN BT/TF 150 meeting on Breath Screening devices from 23rd to 25th April 2007 in AFNOR, 11 Rue France De Pressense, Saint-Denis, Paris, France.
4. An Analyst attended an International Association of Chemical Testing conference in Wilmington, NC, USA for five days from 6th to 10th May 2007.
5. An Analyst attended the Robert F. Borkenstein course on Alcohol, Drugs and Highway Safety: Testing, Research and Litigation for six days from 6th to 11th May 2007 in Indiana University, Bloomington, Indiana, USA.
6. An Analyst attended a three day Evidential Breath Alcohol Testing training course in Harcourt Square, Dublin from 23rd to 25th May 2007.
7. An analyst attended an ISO 9001:2000 Internal Auditor training course for two days on 29th and 30th May 2007 in NSAI, Glasnevin, Dublin.
8. The Director attended a one day Royal Society of Medicine Forensic and Legal Medicine conference on 16th June 2007 in London, England.
9. The Chief Analyst, a Principal Analyst and an Analyst attended a Forensic Evidence in the Criminal Process meeting in Trinity College, Dublin for one evening on 20th June 2007.
10. The Director attended a three day International Academy of Legal Medicine/Forensic Science conference in Oporto, Portugal from 20th to 23rd June 2007.

11. An Analyst attended a two day NSAI ISO 9001:2000 Internal Auditor Training Course on 3rd and 4th July 2007 in NSAI Glasnevin, Dublin.
12. The Senior Administrative Officer attended a half day course on Business Objects held in UCD on 13th August 2007.
13. The Director and the Chief Analyst attended a five day T2007/TIAFT conference from 26th to 30th August 2007 in Seattle, Washington, USA.
14. An Analyst started an ongoing MSC Forensic Science course in September 2007 in Distance Learning, Staffordshire University.
15. An Analyst started a part time graduate diploma in Forensic Medicine for one year on 7th September 2007 in University College Dublin, Belfield, Dublin.
16. A Principal Analyst attended a one day INAB workshop on 11th September 2007 in Wilton Place, Dublin.
17. A Principal Analyst and an Analyst visited LGC Runcorn, Toxicology Laboratory for one day on 18th September 2007 in LGC, The Heath, Runcorn, Cheshire, England.
18. An Analyst attended a GDIP/MSc in Instrumental Analysis course for twelve weeks from 26th September to 13th December 2007 in Dublin City University, Dublin.
19. An Analyst attended a one day Chemistry Network meeting on 27th September 2007 in the State Laboratory, Backweston, Co. Kildare.
20. A Principal Analyst attended a five day Society of Forensic Toxicologist Annual meeting course from 15th to 19th October 2007 in Raleigh/Durham, North Carolina, USA.
21. A Principal Analyst attended a two day Lion Users Group meeting on 18th and 19th October 2007 in Imperial Hotel, Blackpool, England.
22. The Director attended a one day Royal Society of Medicine Traffic Medicine conference on 20th October 2007 in London, England.
23. A Principal Analyst attended a two day ISO 9001 Internal Auditor Training course on 6th and 7th November 2007 in NSAI, Glasnevin, Dublin.
24. Four Analysts and three Executive Assistants attended a one day Courtroom Skills course on 12th November 2007 in University College Dublin, Earlsfort Terrace, Dublin.

25. A Principal Analyst visited the Department of Genetics and Forensic Toxicology Laboratory for one day on 13th December 2007 in the National Board of Forensic Medicine, Artillergatan 12, Unkoping, Sweden.
26. A Principal Analyst visited the Irish State Laboratory, Toxicology Laboratory for half a day on 18th December 2007 in Youngs Cross, Celbridge, Co. Kildare.

STAFF APPOINTMENTS IN 2007

Within the administrative area three permanent Executive Assistants were appointed during 2007. The purpose of these administrative posts is to assist with the functions of Bureau's Programmes.

Within the scientific area One Principal Analyst and three permanent Analysts were employed in 2007. The Principal Analyst was employed to head the Medical Bureau of Road Safety's Toxicology Programme.

CORPORATE GOVERNANCE

The Board of the Medical Bureau of Road Safety is committed to maintaining the highest standards of Corporate Governance. The Code of Practice for the Governance of State Bodies published by the Department of Finance is the foundation used by the Board for corporate governance. The Board is accountable to the Department of Transport 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.

1. Compliance

The Board are pleased to report that during the year ended 31st December 2007 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 during 2007 in the Bureau.

2. Bureau Membership and Meetings

During 2007 the Medical Bureau of Road Safety held four meetings. These meetings were held on 5th April 2007, 19th July 2007, 11th October 2007 and 13th December 2007.

3. Interests of Board

The Board who held office at the 31st December 2007 had no interests for the purposes of the Ethics in Public Office Acts 1995 and 2001.

4. 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 and met on two occasions during 2007. The meetings are normally attended by the members of the Committee and it reports to the Board on a bi-annual basis.

5. Procurement

The Board of the Medical Bureau of Road Safety 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 2007.

PROMPT PAYMENT OF ACCOUNTS ACT, 1997

The Prompt Payment of Accounts Act came into operation on the 2nd January 1998, the Medical Bureau of Road Safety has come under the remit of the Act and since that time has complied with the terms under the 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. These controls in relation to processing of invoices and disputes can only provide reasonable and not absolute assurance against material non-compliance with the Act.

FREEDOM OF INFORMATION

The Bureau continues to make FOI information available as readily as possible. The Bureau's Section 15 and 16 Reference Book is available on request.

The FOI Unit can also be contacted by telephone or email forensic.medicine@ucd.ie. This email address can be used for general queries on FOI but cannot be used to submit a request where an application fee is required.

During 2007 the Bureau a total of one request was received and was dealt with outside of FOI.

**RELOCATION OF THE
MEDICAL BUREAU OF ROAD SAFETY**

During 2007 the Medical Bureau of Road Safety relocated to new premises in the Health Sciences Centre in the University College Dublin Belfield Campus.



Chairman



Director

Date: 4th December 2008.