



REPORT OF THE
MEDICAL BUREAU OF ROAD SAFETY

FOR THE YEAR ENDED 31ST DECEMBER 2001

**MEDICAL BUREAU OF ROAD SAFETY
DEPARTMENT OF FORENSIC MEDICINE
UNIVERSITY COLLEGE DUBLIN
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TABLE OF CONTENTS

Page No.

ESTABLISHMENT AND FUNCTIONS OF THE BUREAU	1
ACTIVITIES OF THE MEDICAL BUREAU OF ROAD SAFETY	3
1. Blood and Urine Alcohol Analysis	3
1.1 Number of Specimens Provided in Hospitals	4
1.2 Analysis of Time	4
1.3 Alcohol Levels in Blood & Urine Specimens	4
2. Breath Alcohol Analysis	11
2.1 Installation of Instruments	11
2.2 Testing & Visits to Garda Stations	12
2.3 Evidential Breath Testing Training	12
2.4 Analysis of Breath Specimens	12
3. Blood and Urine Drug Analysis	15
3.1 Confirmation from the State Laboratory	15
4. Research – Driving Under the Influence of a Drug (DUID) Survey	17
MEMBERSHIP OF COMMITTEES RELATING TO ROAD SAFETY	17
CONFERENCES, COURSES AND MEETINGS ATTENDED BY STAFF	17
COURT ATTENDANCES & PROFESSIONAL EXPERT SERVICES	20
STAFF APPOINTMENTS IN 2001	20
BUREAU MEMBERSHIP AND MEETINGS	20
PROMPT PAYMENT OF ACCOUNTS ACT, 1997	21

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UNIVERSITY COLLEGE DUBLIN
ANNUAL REPORT
2001**

ESTABLISHMENT AND FUNCTIONS OF THE BUREAU

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. (Minister's title altered to Minister for the Environment & Local Government 22nd July 1997.)

The functions of the Bureau are laid down in the Road Traffic Acts 1968 – 1994 and their regulations and they include:

- ◆ The receipt and analysis 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 the Environment and Local Government. The Board which comprises of five members (including the Director) are appointed by the Minister for the Environment and Local Government. The current Board members are Professor Bernadette Herity (Chairman), Professor Denis A. Cusack (Director), Ms. Hilary Dalton, Mr. Brendan Gogarty and Dr. Fenton Howell.

The Medical Bureau of Road Safety utilises the premises and staff provided under an agreement with University College Dublin, Department of Forensic Medicine, Earlsfort Terrace, Dublin 2. The Bureau currently employs one Chief Analyst, seven Analysts, one Senior Technician, one Laboratory Attendant, one Administrative Officer and three Administrative staff on a permanent basis. 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 2001 a total of 12,503 blood, urine and breath specimens were analysed for alcohol concentration. This represents an overall increase of 18.94% on the total number of specimens analysed during 2000. (Chart 1 shows the breakdown of all blood, urine and breath specimens analysed during 2001). 131 were analysed for the presence of drugs and this represents an increase of 68% on 2000.

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

- 1. Blood and Urine Alcohol Analysis**
- 2. Breath Alcohol Analysis**
- 3. Blood and Urine Drug Analysis**
- 4. Research**

The breakdown is as follows:

1. Blood and Urine Alcohol Analysis

A total of 4,880 blood and urine specimens were received for analysis during 2001. Analyses was carried out and certificates were issued in 4,835 of these cases. In 45 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 for 2001 shows a decrease of 1,687 on the number received for 2000, this is due to the implementation and extension of the Evidential Breath Testing programme. This represents a decrease of 25.7% on 2000 and 42.4% decrease on 1999.

1.1 Number of Specimens Provided in Hospitals

In 2001 there were 200 specimens provided in hospitals, this represents a decrease of 21.6% on 2000. 37.5% of these had alcohol concentrations in excess of 150mg/100ml blood or 200mg/100ml urine while 26.5% were in excess of 200 mg/100ml blood or 267mg/100 ml urine.

1.2 Analysis of Time

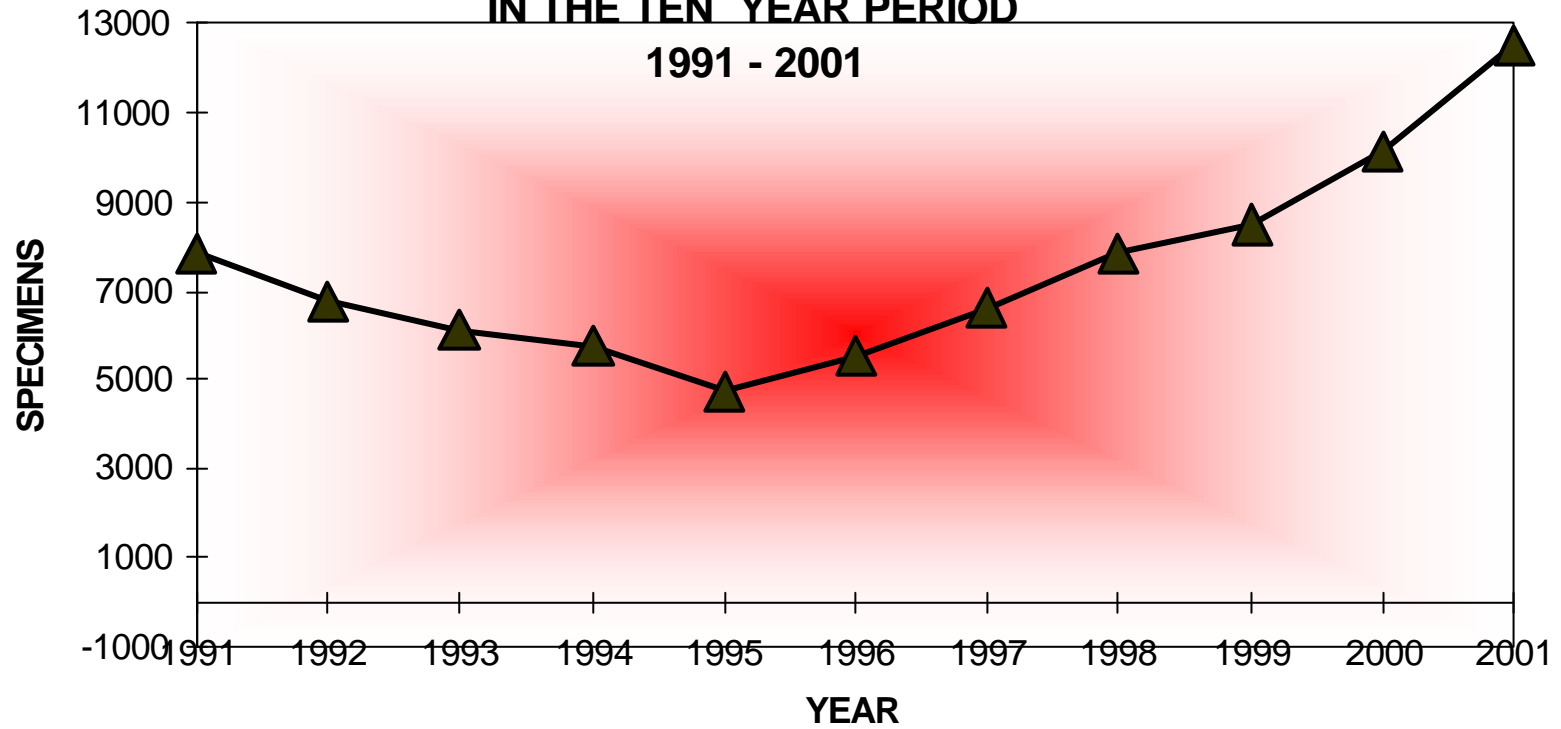
Of the total number of blood and urine specimens received 82% were provided between the hours of 9.00 p.m. and 6.00 a.m., 12% between 4.00 p.m. and 9.00 p.m., and the remaining 6% between 6.00 a.m. and 4.00 p.m. This follows the same pattern as 2000 and 1999.

1.3 Alcohol Levels in Blood & Urine Specimens

Table I and II to this report give a breakdown of alcohol levels encountered in blood and urine specimens received during 2001. 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.

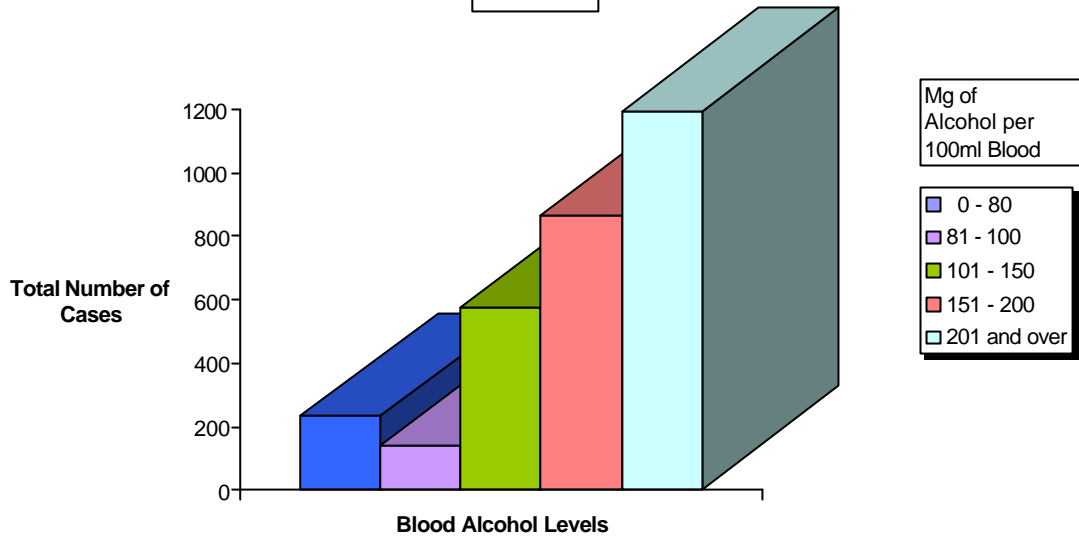
Chart 1

**TOTAL SPECIMENS ANALYSED BY M.B.R.S.
IN THE TEN YEAR PERIOD
1991 - 2001**



**CERTIFIED ALCOHOL CONTENT OF BLOOD SPECIMENS
RECEIVED IN 2001**

Chart 2



**CERTIFIED ALCOHOL CONTENT OF URINE SPECIMENS
RECEIVED IN 2001**

Chart 3

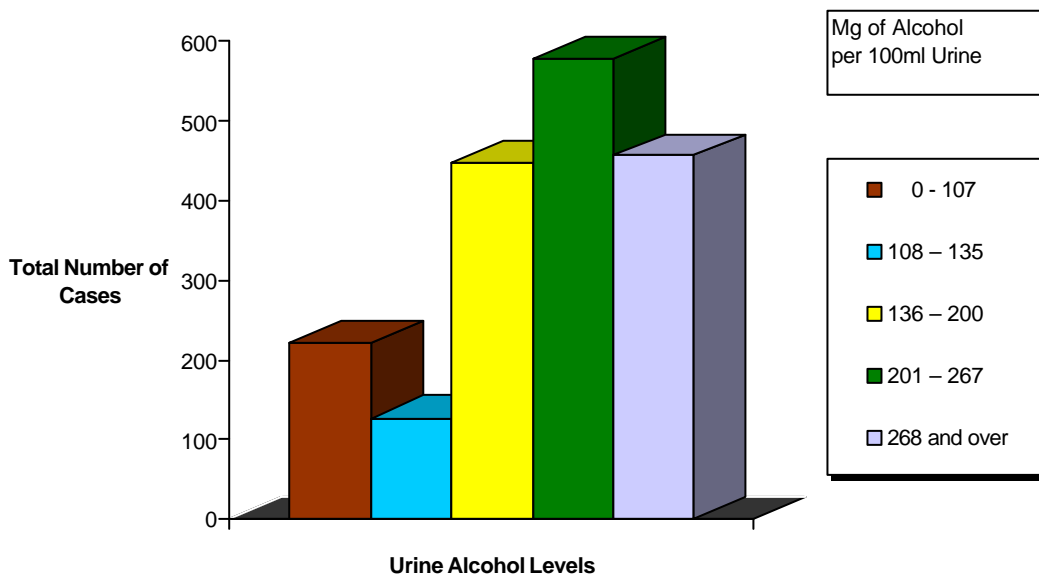


TABLE I**CERTIFIED ALCOHOL CONTENT OF BLOOD SPECIMENS RECEIVED IN 2001**

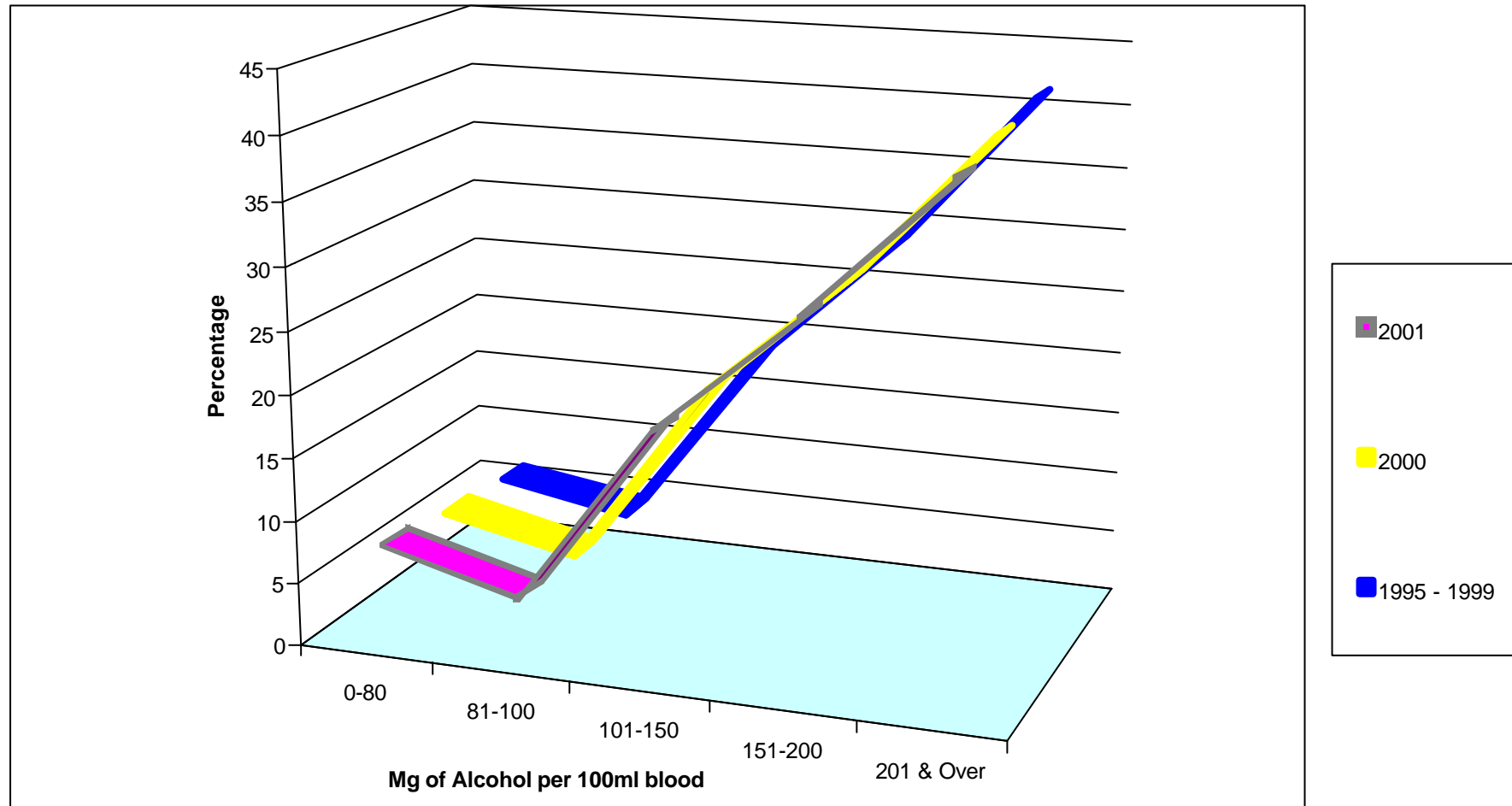
Mg. of alcohol per 100ml of blood	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	TOTAL
0 – 80	52	69	52	59	232
LEGAL LIMIT					
81 – 100	31	50	32	29	142
101 – 150	147	168	133	125	573
151 – 200	212	231	207	214	864
201 & Over	305	336	297	255	1193
	747	854	721	682	3004

TABLE II**CERTIFIED ALCOHOL CONTENT OF URINE SPECIMENS RECEIVED IN 2001**

Mg. of alcohol per 100ml of urine	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	TOTAL
0 – 107	41	62	60	58	221
LEGAL LIMIT					
108 – 135	29	38	36	24	127
136 – 200	115	135	111	87	448
201 – 267	147	174	131	127	579
268 & Over	122	118	96	120	456
	454	527	434	416	1831

BLOOD ALCOHOL LEVELS WITH PREVIOUS YEARS

CHART 4



URINE ALCOHOL LEVELS WITH PREVIOUS YEARS

CHART 5

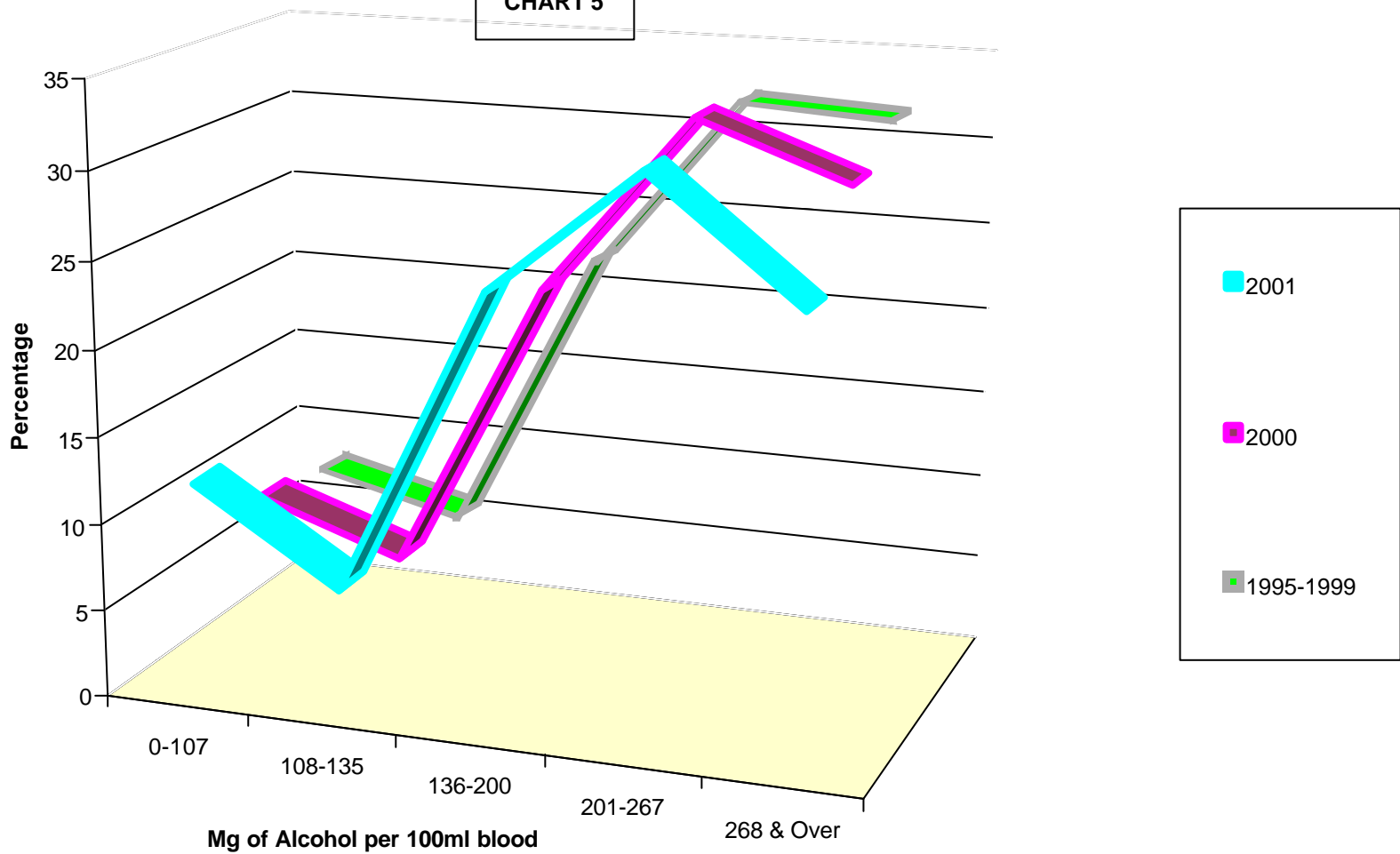


TABLE III**BLOOD ALCOHOL LEVEL – COMPARISON WITH PREVIOUS YEARS**

Mg. of alcohol per 100ml of blood	2001		2000		5 Year Period 1995 – 1999	
	No.	%	No.	%	No.	%
0 – 80	232	7.7	269	6.8	1,251	6.2
LEGAL LIMIT						
81 – 100	142	4.7	173	4.4	873	4.4
101 – 150	573	19.1	757	19.2	3,769	18.8
151 – 200	864	28.8	1,143	28.9	5,852	29.1
201 & Over	1193	39.7	1,610	40.7	8,334	41.5

TABLE IV**URINE ALCOHOL LEVEL – COMPARISON WITH PREVIOUS YEARS**

Mg. of alcohol per 100ml of urine	2001		2000		5 Year Period 1995 – 1999	
	No.	%	No.	%	No.	%
0 – 107	221	12.1	226	8.8	1,021	8.0
LEGAL LIMIT						
108 – 135	127	6.9	154	6.0	740	5.8
136 – 200	448	24.5	578	22.6	2,854	22.3
201 – 267	579	31.6	838	32.8	4,131	32.2
268 & Over	456	24.9	763	29.8	4,067	31.7

2. Breath Alcohol Analysis

In 2001 a total of 7,623 breath specimens were taken in Garda Stations, there is an increase of 114% on 2000. 6,527 of the specimens were certified; 82% were over the legal limit while 32% were over twice the legal limit. Of the total number of breath tests registered, 1,096 tests did not result in a statement under Section 17 of the Road Traffic Act being provided.

2.1 *Installation of Instruments*

During 2001 the Medical Bureau of Road Safety installed a further fifteen evidential breath testing instruments into Garda stations nationwide. This was in accordance with the implementation of the Government's Strategy for Road Safety of forty instruments in operation by the end of 2001. The fifteen instruments were installed in three stages:

STAGE 1: The first eight instruments received were installed in August 2001 and were located into the following stations; Ballina, Cavan, Donegal town, Ennistymon, Kells, Thurles, Tuam and Waterford.

STAGE 2: In October 2001, four instruments were installed in Garda stations in Carlow, Mallow, Wicklow and Carrick on Shannon.

STAGE 3: In December 2001 a further three instruments were installed and the selected Garda stations were Athlone, Tullamore and Killarney.

During 2001 all instruments installed and commissioned in Garda stations were Intoxilyzer's 6000IRL instruments. The Garda authorities advised the Medical Bureau of Road Safety of the proposed location of the instruments, and Bureau scientific personnel reviewed the stations selected to confirm their suitability.

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 2001. Bureau Scientists have made in excess of two hundred visits to Evidential Breath Testing instrument locations throughout Ireland in the year. These visits covered the room inspection, installation, testing, demonstrations and training by Bureau scientists.

2.3 Evidential Breath Testing Training

The two-day EBT training course devised to train Garda Operators and Supervisors, continued throughout 2001. As agreed the training course was conducted by a Bureau scientist and a member of the Garda Síochána in-service training school at Harcourt Square. During 2001, 304 operators and 47 supervisors were trained for the Intoxilyzer 6000IRL. Separate training courses were provided for 26 operators and 5 supervisors who trained for the INTOXIMETER EC/IR at relevant Garda stations.

2.4 Analysis of Breath Specimens

Chart 6 and table V provides a breakdown of alcohol levels measured in breath during 2001. Table VI compares the levels of alcohol in breath specimens found in 2001 with levels found in 2000.

TABLE V

CERTIFIED ALCOHOL CONTENT OF BREATH SPECIMENS RECEIVED IN 2001

μg of alcohol per 100ml of breath	First Quarter	Second Quarter	Third Quarter	Fourth Quarter	TOTAL
0 – 35	231	283	302	369	1,185
LEGAL LIMIT					
36 – 44	111	139	154	176	580
45 – 66	456	548	596	663	2,263
67 – 88	383	416	470	512	1,781
88 & Over	162	178	187	191	718
	1343	1564	1,709	1,911	6,527

Chart 6

Certified Alcohol Content of Breath Specimens during 2001

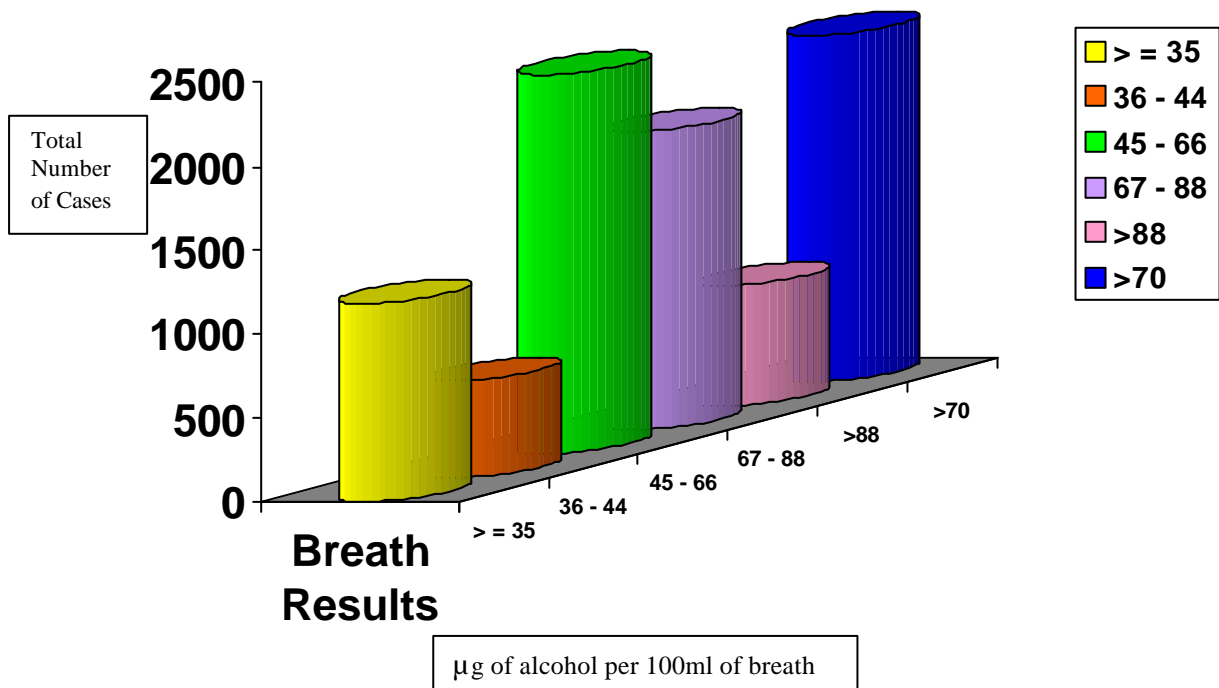


TABLE VI
ALCOHOL BREATH LEVEL – COMPARISON WITH PREVIOUS YEARS

µg of alcohol per 100ml of breath	2001		2000	
	No.	%	No.	%
0 - 35	1,185	18.1	548	17.8
36 – 44	580	8.9	278	9.1
45 – 66	2,263	34.7	1,022	33.2
67 – 88	1,781	27.3	861	28.0
>88	718	11.0	366	11.9
Total Certified	6,527		3,075	
Failures/Refusals	1,096	14.4	492	13.8
Overall Total	7,623		3,567	

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

Alcohol Content			2001		2000		5 year period 1995 - 1999*	
BLOOD mg/100ml	URINE mg/100ml	BREATH µg/100ml	No.	%	No.	%	No.	%
0 – 80	0 – 107	0 – 35	1,638	14.4	1,043	10.9	2,272	6.9
LEGAL LIMIT								
81-100	108 – 135	36 - 44	849	7.5	605	6.3	1,613	4.9
101 – 150	136 – 200	45 – 66	3,284	28.9	2,357	24.6	6,623	20.1
151 – 200	201 – 267	67 - 88	3,224	28.4	2,842	29.6	9,983	30.4
201 and upwards	268 and upwards	88 and upwards	2,367	20.8	2,739	28.6	12,401	38.0

*Blood and Urine specimens only are included here as the year 2000 was the first operational year for Evidential Breath Testing, since its introduction in the last quarter of 1999.

Table VII shows the comparison between 2000 and 2001 for blood, urine and breath specimens received for analysis. This is the first 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).

There were one hundred and thirty one requests by Gardai for drug analysis in blood and urine specimens received in the Medical Bureau of Road Safety in 2001.

One hundred and fifteen specimens tested positive and sixteen specimens were found to be negative for the presence of a drug or drugs. Twenty-six were positive for one drug class and eighty nine were positive for more than one drug class.

3.1 Confirmation from the State Laboratory

Specimens testing positive were forwarded to the State Laboratory for confirmatory analysis using Gas Chromatography /Mass Spectrometry or Liquid Chromatography / Mass Spectrometry.

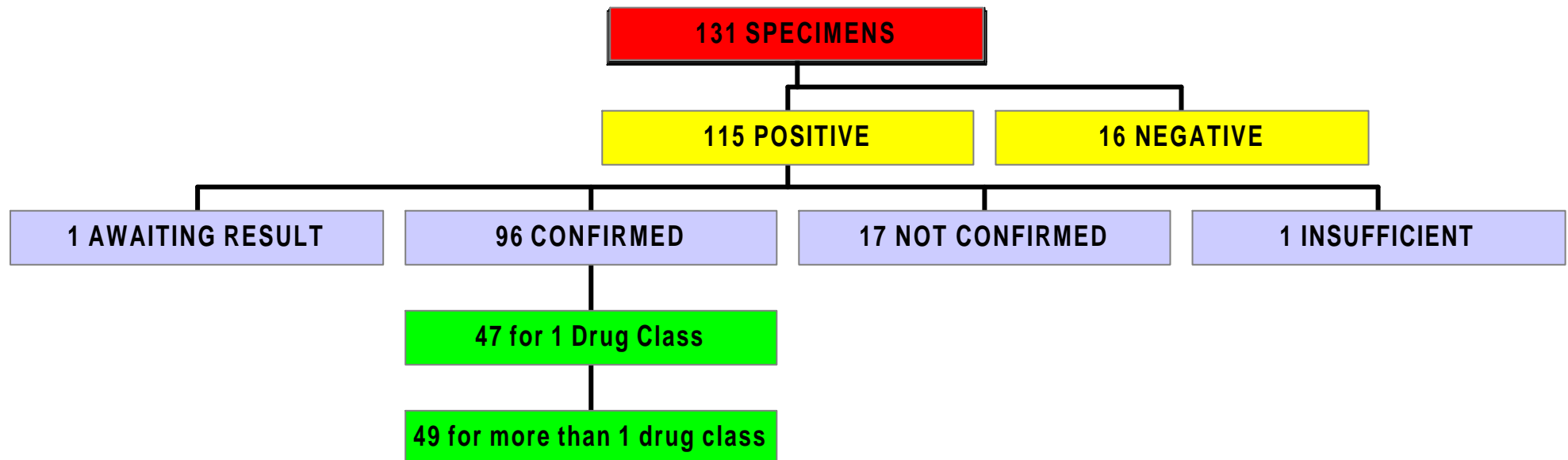
Ninety-six were confirmed positive, seventeen were not confirmed, one sample was insufficient for complete analysis and one result is still awaited.

73% of drug request specimens were found to contain a drug or drugs in 2001. This is comparative with the 72% of drug requests specimens, which were found to contain a drug or drugs in 2000.

Chart 7 provides a breakdown of the analysis of drug specimens requested by Gardaí.

Chart 7

**DRUG ANALYSIS 2001
Road Traffic Act Specimens**



4. Research - Driving under the Influence of a Drug (DUID) Survey

The analysis of 2000 specimens for a national DUID survey which commenced in late 1999 was completed in 2001 in the Medical Bureau of Road Safety. The confirmation analysis of specimens will continue into 2002 and the data collection and report is scheduled for publication towards the end of 2002.

MEMBERSHIP OF COMMITTEES RELATING TO ROAD SAFETY

The Bureau continued during 2001 to be one of the active participating agencies in the workings of the High Level Group on Road Safety. The Director and Chief Analyst are both members of the group and were in attendance at the six meetings held during 2001. The dates of these meetings were the 6th March, 27th March, 12th June, 10th July, 9th October and 10th December 2001.

CONFERENCES, COURSES AND MEETINGS ATTENDED BY STAFF

During 2001:

1. The Laboratory Attendant attended the Medical Physics and Physiology Measurement Course at DIT, Kevin Street from January to December 2001.
2. The Administrative Officer attended Women in Management Course at UCD Blackrock on the 14th and 15th February 2001.
3. The Administrative Officer attended Probationary Periods for Managers at UCD Earlsfort Terrace on 15th March 2001.

4. The Chief Analyst, six Analysts, a Senior Technician, a Laboratory Attendant, Administrative Officer and three Executive Assistants attended the Courtroom Skills Training Course in UCD, Earlsfort Tce on 5th April 2001.
5. The Chief Analyst presented a paper at the IACT Meeting in Williamsburg Virginia, USA, the meeting was held from 22nd April to 26 April 2001.
6. The Administrative Officer attended the Procurement Workshop at UCD Belfield on 26th April 2001.
7. The Administrative Officer attended a Euro Training in Use of Opera at UCD Earlsfort Tce on 27 July 2001.
8. One Analyst attended a Gas Safety Course in UCD Belfield on 18th August 2001.
9. One Analyst attended the TIAFT (International Association of Forensic Toxicologists) in Prague, Czech Republic on 26 to 30 August 2001.
10. The Director, Chief Analyst and three Analysts presented a poster and attended the 2001 “A Trace Odyssey” (Joint Forensic Science NI and Forensic Science Society Conference) in the Queens University, Belfast on 14th September 2001.

11. The Director presented a paper at the Medical Practitioners Study Seminar: “Role of the Medical Practitioner in Intoxicated Driving Cases” on 19th September in Wicklow.
12. One Analyst attended the Society of Forensic Toxicologists (Soft) Conference in New Orleans, USA on the 28th September to 3rd October 2001.
13. The Administrative Officer attended Freedom of Information Training for Decision Makers and Internal Reviewers at UCD Belfield on 8th October 2001.
14. The Chief Analyst attended the Tispol Conference and a Road Safety Briefing Seminar at the Europa Hotel, Belfast on 11th and 12th October 2001.
15. Two Analysts attended the Lion Intoxilyzor 6000 Users Meeting at West Mercia, Police Headquarters, Birmingham UK, on 18th and 19th October 2001.
16. The Chief Analyst and Principal Analyst attended the AGM & Autumn Meeting of the Forensic Science Society at the Park Hall Hotel, Chorley, UK on 2nd November to 4th November 2001.
17. The Administrative Officer attended End of Year Seminar for Quickpay in the Stillorgan Park Hotel on 4th December 2001.
18. The Administrative Officer attended a Procurement Meeting at UCD Belfield on the 20th December 2001.

COURT ATTENDANCES & PROFESSIONAL EXPERT SERVICES

The total number of occasions that different members of Bureau staff had to attend court cases during the year was twenty-three, of which thirteen cases related to blood and urine alcohol analysis, seven cases were legal challenges in relation to Evidential Breath Testing and three cases related to drug analysis. Five cases were adjourned in court and another seven cases were adjourned shortly before the court hearing date.

The Bureau continues to provide a significant and independent professional expert support by way of information and preparation of evidence for both Defense and Prosecution parties and thereby to assist the courts in the administration of justice.

The number of queries and requests for information from parties in criminal proceedings increased significantly in 2001.

STAFF APPOINTMENTS IN 2001

The Bureau appointed three permanent Analysts during October 2001. The positions were due to the expansion of the Evidential Breath Testing programme and drugs analysis programmes which are permanent programmes. In the administrative area an Executive Assistant left in October 2001, and the vacant position was filled in November.

BUREAU MEMBERSHIP AND MEETINGS

During 2001 the Medical Bureau of Road Safety held three meetings. These meetings were held on the 27th June, 25th September and 13th December 2001.

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 of 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.

Chairman

Director

Date: