

NATIONAL POISONS INFORMATION SERVICE

Combined annual report

2004-5

Poisons enquiries 0870 600 6266

NPIS Centres in:

Belfast

Birmingham

Cardiff

Edinburgh

London

Newcastle upon Tyne

Associated Centre:

National Teratology Information Service, Newcastle upon Tyne

A service commissioned by the



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1. Introduction

The National Poisons Information Service (NPIS) has provided information and advice to medical professionals since 1963 by telephone, and on-line from its database, TOXBASE, since 1983. There are currently six Centres (three in England and one each in Northern Ireland, Scotland and Wales). Initial enquiries are managed by information scientists, pharmacists or nurses, with consultants on-call for further advice if required. In 1999 TOXBASE was transferred to the Internet and adopted as the first-line information source for health professionals. In addition, a single telephone number for the UK (0870 600 6266) was introduced in 2000 to distribute telephone enquiries more evenly across the UK and to make it easier for users to contact their local NPIS Centre for advice. During 2004-5 this number routed callers automatically to the appropriate centre based on the NHS postgraduate deaneries in England and by country in Northern Ireland, Scotland and Wales. With continuing fall in the numbers of telephone enquiries it has been agreed that from 1 May 2005 there will be gradual changes to provide a national out of hours rota for telephone enquiry rota and a national out of hours on-call consultant rota.

The National Teratology Information Service (NTIS) was established in the Northern and Yorkshire Regional Drug and Therapeutics Centre in Newcastle upon Tyne in 1995. During 2004-5 NTIS provided a national, 24 hour service on all aspects of the toxicity of drugs and chemicals in pregnancy. In 2005 the NTIS out of hours service will be combined with the NPIS.

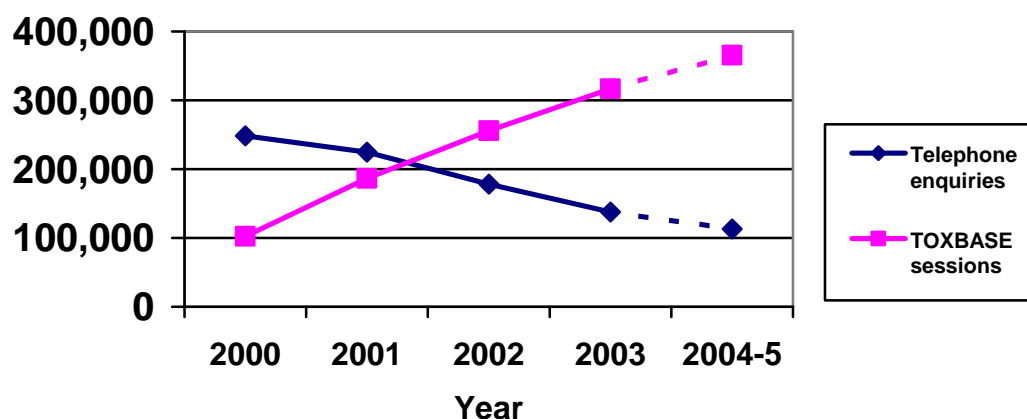
Information on telephone and TOXBASE enquiries is given below. Data from individual Centres have been combined to produce a list of the most frequent enquiries about pharmaceuticals and additional information on enquiries regarding selected pesticides and carbon monoxide is also provided.

Previous reports have been for the calendar year but the current version is for 1 April 2004-31 March 2005, with an annex to cover enquiries for the period 1 Jan 2004-31 March 2004.

2. Telephone and TOXBASE enquiries

The total number of telephone enquiries received by the six NPIS Centres in 2004-5 was 113,125 - a 17.7% decrease on 2003 figures (Figure 1). This continues the decreases seen since 2001 and reflects the policy of encouraging wider use of TOXBASE as the first point of contact, leaving the telephone service for more serious and complicated cases. User sessions (defined as logons to the TOXBASE site) totalled 382,160. This includes 107 sessions for educational purposes and 16,573 made by poisons centres themselves (which might be to answer telephone enquiries, or for educational or monograph writing purposes). These are excluded from the rest of this report leaving a total of 365,480 (15% increase on 2003). During these sessions there were 786,341 product accesses.

Figure 1: Telephone enquiries and TOXBASE sessions 2000-5



In Table 1 telephone enquiries for the UK have been classified according to their origin, by postgraduate deanery (England) or country (Wales, Scotland, Northern Ireland) and then grouped according to the poisons centre responsible for that area under the 0870 telephone number. Figures are derived from data provided by NPIS Centres, and calls from outwith the UK are excluded. When telephone enquiries and TOXBASE logons are combined and adjusted for population the data can be used to compare access to the NPIS by region (Table 1). The total for Scotland is lower, in part because the Royal Infirmary of Edinburgh uses TOXBASE on a local network for which no usage figures are available, and also because public access information via NHS 24 in Scotland is as yet not so widespread as that via NHS Direct in England and Wales. Table 2 shows the number of logons by strategic health authority or health board for England, Scotland and Wales. Some areas e.g. Iechyd Morgannwg, appear to have very high usage but this is because the Welsh NHS Direct centre is in that area.

Table 1: Regional distribution of poisons enquiries

NPIS region	Telephone enquiries	TOXBASE logons*	Total	Population (1999 figures)	Poisons enquiries/100,000 population
Belfast	580	12,224	12,804	1,691,800	757
Birmingham	20,464	79,542	100,006	13,220,800	756
Cardiff	22,021	55,128	77,149	9,653,600	799
Edinburgh	2,706	34,652 [§]	37,358	5,119,200	730
London	44,517	85,611	130,128	16,884,200	770
Newcastle	9,975	89,990	99,965	12,931,100	773

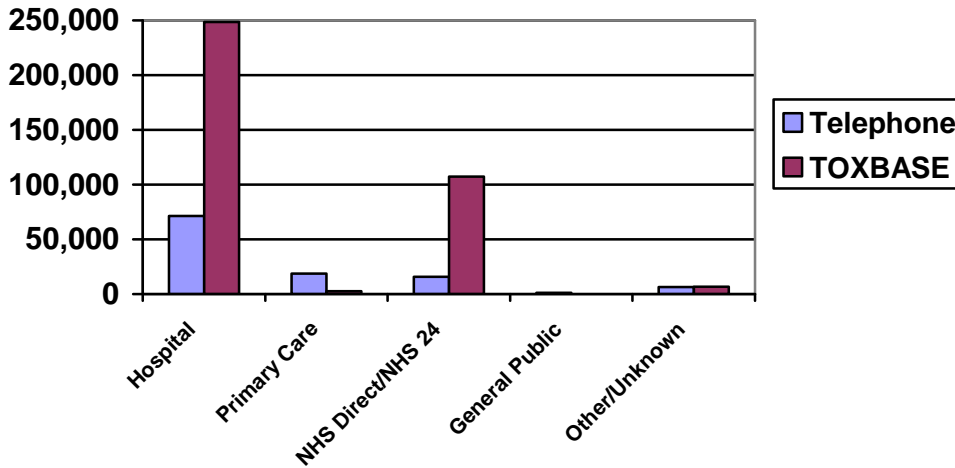
* excludes NPIS and educational TOXBASE usage

§ excludes TOXBASE enquires from Royal Infirmary of Edinburgh for which access to a local intranet version of TOXBASE is available

Table 2: TOXBASE logons by Strategic Health Authority or Health Board (where known)

Country	Strategic Health Authorities and Boards	TOXBASE logons	Logons/100,000 population	
England	Avon, Gloucestershire and Wiltshire	13,202	615	
	Bedfordshire and Hertfordshire	6939	434	
	Birmingham and the Black Country	13,981	621	
	Cheshire and Merseyside	17,467	745	
	County Durham and Tees Valley	5680	433	
	Coventry, Warwickshire, Hereford and Worcestershire	6865	451	
	Cumbria and Lancashire	10,374	546	
	Dorset and Somerset	4887	413	
	Essex	8939	555	
	Greater Manchester	19,987	805	
	Hampshire and Isle of Wight	11,881	679	
	Kent and Medway	9828	624	
	Leicestershire, Northamptonshire and Rutland	7214	465	
	Norfolk, Suffolk and Cambridgeshire	15,214	712	
	North and East Yorkshire and Northern Lincolnshire	10,601	660	
	North Central London	3222	273	
	North East London	7344	490	
	North West London	8532	493	
	Northumberland, Tyne and Wear	10,049	727	
	Shropshire and Staffordshire	10,521	710	
	South East London	8028	538	
	South West London	8421	658	
	South West Peninsula	9563	612	
	South Yorkshire	13,417	1061	
	Surrey and Sussex	8949	351	
	Thames Valley	13,269	639	
	Trent	14,288	547	
	West Yorkshire	15,819	761	
	Wales	Bro Taf	3043	888
		Dyfed Powys	935	394
Gwent		2780	1038	
Iechyd Morgannwg		6395	2714	
North Wales		2443	762	
Scotland	Argyll and Clyde	2230	536	
	Ayrshire and Arran	3164	861	
	Borders	678	620	
	Dumfries and Galloway	966	653	
	Fife	1910	539	
	Forth Valley	1614	573	
	Grampian	2392	456	
	Greater Glasgow	10,873	1254	
	Highland	1514	716	
	Lanarkshire	2905	522	
	Lothian	3603	458	
	Orkney	103	528	
	Shetland	155	706	
	Tayside	2416	623	
Western Isles	129	491		

Figure 2: Sources of telephone enquiries and TOXBASE enquiries



68.0% of 365,480 TOXBASE enquiries and 62.8% of 113,125 telephone enquiries came from hospitals (Figure 2). 29.4% of TOXBASE enquiries and 13.9% of telephone enquiries came from NHS Direct centres in England and Wales, and NHS 24 centres in Scotland. In England and Wales, where NHS Direct is well-established, NPIS Centres received between 11.4% and 23.3% of their telephone enquiries from this source, which is similar to last year. In Scotland, NPIS (Edinburgh Centre) received 8.5% of their telephone enquiries from NHS 24, an increase on 2003 but coverage is now complete so it may not be expected to rise further. There is no public access service in Northern Ireland.

3. Further information on telephone enquiries

32.5% of telephone enquiries were made by doctors and 53.9% by nurses. This is partially explained by the fact the NHS Direct and NHS 24 are staffed by nurses, and that the first point of contact in Accident and Emergency departments is often a triage nurse.

82.8% of incidents were reported to have happened in the home, 2.5% in agricultural or other workplaces and 1.8% in medical facilities. 47.7% involved accidental poisoning, 39.0% deliberate poisoning, 4.7% therapeutic error (by patients, carers or medical professionals) and 3.5% substance abuse. All centres except London reported more accidental than deliberate poisonings and London also had the lowest percentage of enquiries about children < 10 years (but the highest percentage with unknown age – 29%). The age of patients who were the subject of enquiries is shown in Figure 3. 34.2% of enquiries for which age was known involved children under 10 years. 49.7% of patients were male and 46.7% female.

Figure 3: Poisoned patients by age

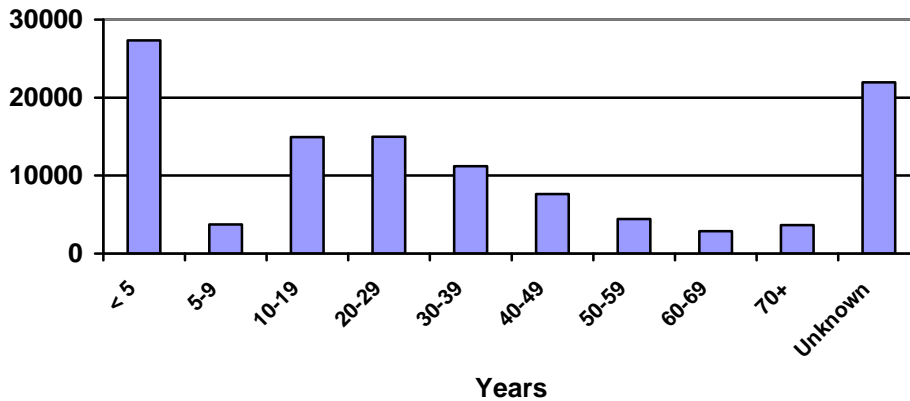


Figure 4 shows the types of products that were the subject of enquiries, with pharmaceuticals accounting for two thirds.

Figure 4: Types of products

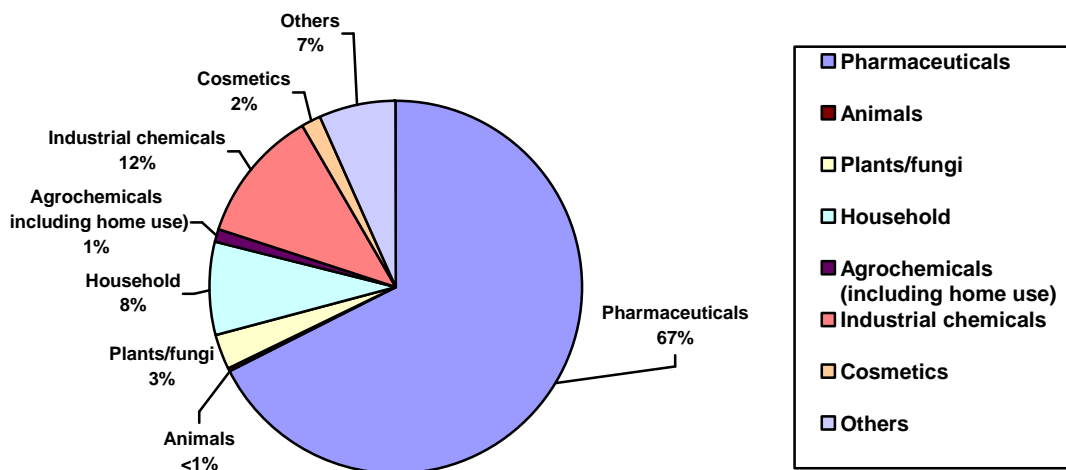


Table 3 shows the top 10 pharmaceutical agents that were the subject of enquiries. Note that co-codamol is a compound analgesic containing paracetamol and codeine and co-proxamol contains paracetamol and dextropropoxyphene. The number of enquiries for paracetamol does not include those for co-codamol and other compound analgesics. The pattern of enquiries is similar for both TOXBASE and telephone enquiries with analgesics and drugs affecting the central nervous system predominating.

Table 3: Top pharmaceutical agents – telephone enquiries and TOXBASE accesses

Telephone	Number of enquiries	TOXBASE	Number of accesses
Paracetamol	15,729	Paracetamol	57,228
Ibuprofen	7,529	Ibuprofen	30,563
Diazepam	4,019	Aspirin	20,908
Aspirin	3,639	Diazepam	15,276
Zopiclone	3,539	Zopiclone	13,354
Fluoxetine	2,312	Co-codamol	13,703
Venlafaxine	2,160	Fluoxetine	11,806
Citalopram	2,128	Venlafaxine	10,323
Co-codamol	1,920	Citalopram	10,051
Co-proxamol	1,765	Amitriptyline	8,278

4. Non-UK enquiries

NPIS (Cardiff Centre) provides an out of hours service for Republic of Ireland telephone enquiries and received 4,313 telephone enquiries from Ireland (a decrease of 18.6% over 2003). NPIS (Edinburgh Centre) has a separate contract to provide TOXBASE to the Republic of Ireland medical professionals (initially restricted to A&E departments), which started on 1 February 2001. By the end of 2004 there were 51 registered users who had 7,380 sessions on TOXBASE (7% increase). NPIS Centres continue to receive a small number of enquiries from the Channel Islands, Isle of Man and other countries.

5. National Teratology Information Service

NTIS received 5,234 enquiries during 2004-5 about drug and chemical exposures in pregnancy, a decrease of 6.8% compared to 2003. For further details of NTIS enquiries see the NTIS annual report.

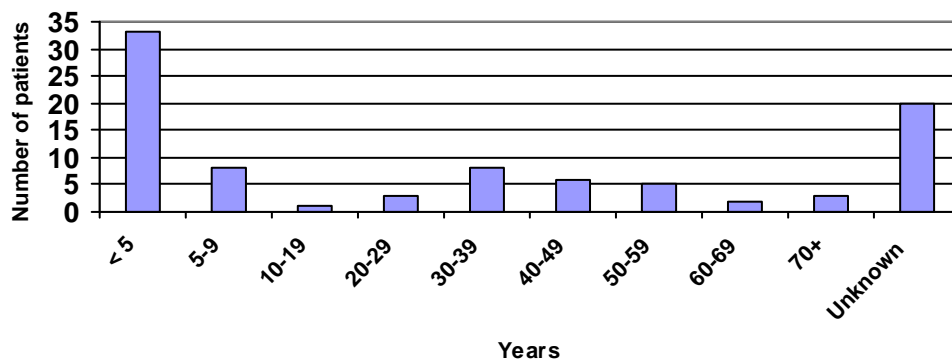
6. Reports on poisoning with selected agents

This year we are reporting data on seven specific poisons, five pesticides: carbamate insecticides, glyphosate, organophosphorus insecticides, paraquat and pyrethroids and one chemical: carbon monoxide. These are provided to illustrate data that the NPIS is able to collect from telephone enquiries.

6.1 Carbamate insecticides

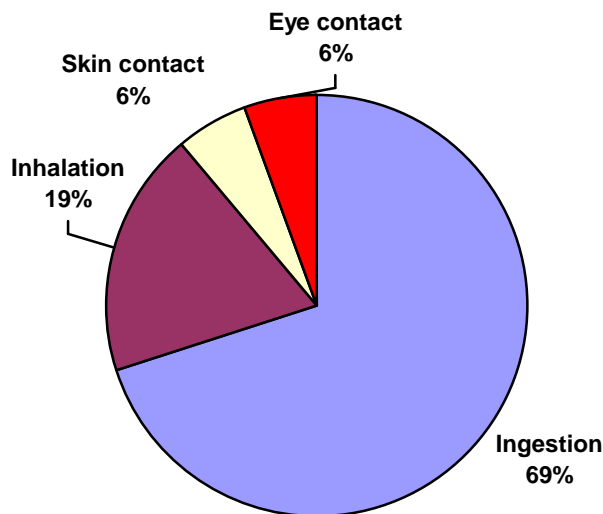
Out of the total of 113,125 telephone enquiries received by NPIS Centres 89 (< 0.1%) concerned suspected exposure to carbamate insecticides. The enquiries concerned 43 males, 43 females, and in 3 cases the gender was unknown. Ages are shown below.

Figure 6.1.1: Age range of patients



91.0% of incidents occurred at home and only one in an agricultural workplace. 6.7% were deliberate exposures. Two were chronic exposures.

Figure 6.1.2: Routes of exposure for carbamate insecticides (no injections or other routes)



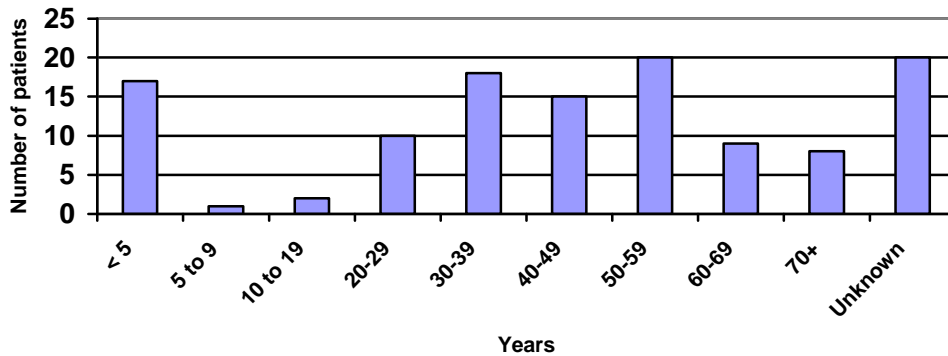
Not all centres record the Poisoning Severity Score (PSS)¹ at the time of the enquiry but, for those that did (n=55), 61.8% of patients had no symptoms at the time of the enquiry, 38.2% had minor symptoms. There were no moderate or severe exposures and no deaths were reported to the NPIS.

6.2 Glyphosate

Out of the total of 113,125 telephone enquiries received by NPIS Centres, 120 (0.1%) concerned suspected exposure to glyphosate. The enquiries concerned 65 males, 47 females, and in 8 cases the gender was unknown. Ages are shown below.

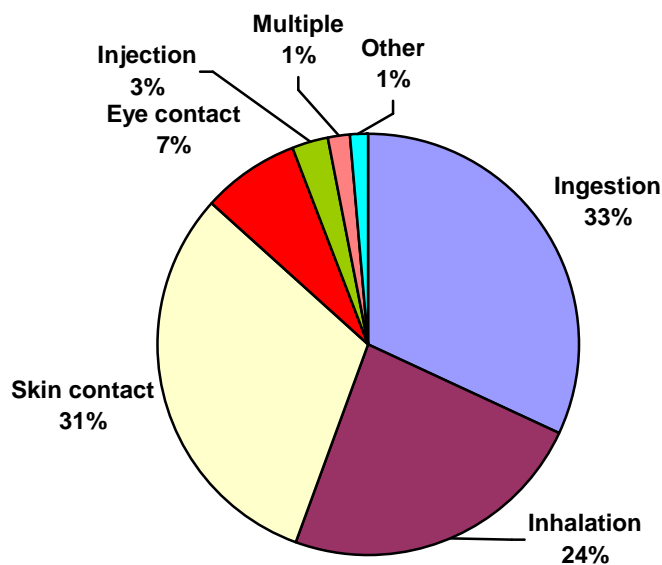
Figure 6.2.1: Age of patients

Figure 6.1.1: Age range of patients



81.7% of incidents occurred at home and <1 % in agricultural workplaces; 13.3% were deliberate exposures.

Figure 6.2.2: Routes of exposure for glyphosate

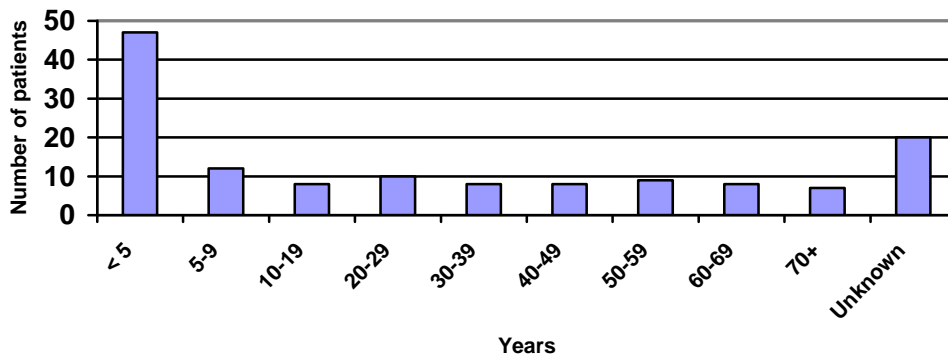


Not all centres record the Poisoning Severity Score (PSS)¹ at the time of the enquiry but, for those that did (n=56), 26.7% of patients had no symptoms at the time of the enquiry, 60.7% had minor symptoms, 12.5% moderate and none severe. None of the patients was reported to have long-term sequelae. There was one death acutely, but no long-term effects were reported to the NPIS.

6.3 Organophosphorus insecticides

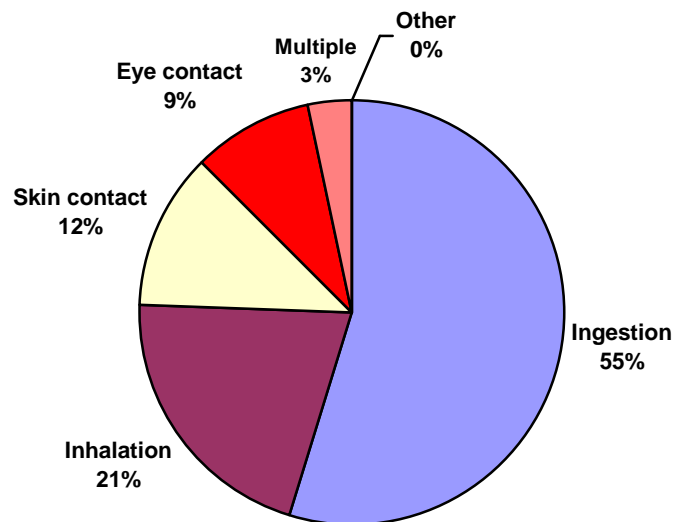
Out of the total of 113,125 telephone enquiries received by NPIS Centres 137 (0.1%) concerned suspected exposure to organophosphorus (OP) insecticides. The enquiries were about 66 males, 65 females and in 6 cases the gender was unknown. Ages are shown below.

Figure 6.3.1: Age range of patients



Three of 137 incidents occurred at an agricultural workplace, 78.8% in the home and 7.3% were deliberate. Nine enquiries were said to involve chronic exposure.

Figure 6.3.2: Routes of exposure for organophosphorus insecticides

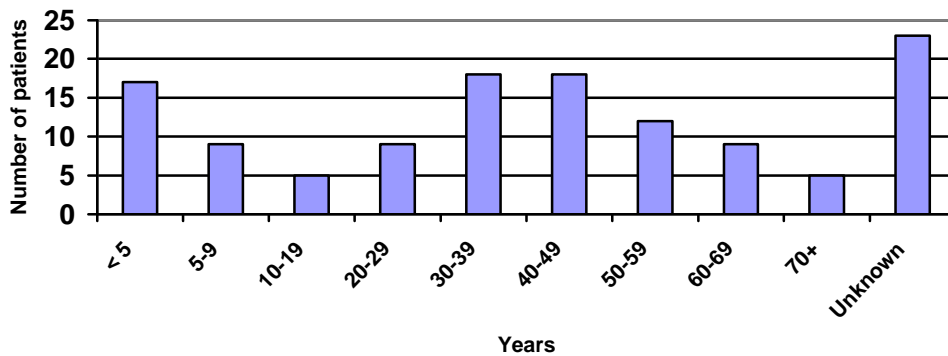


Not all Centres record the Poisoning Severity Score (PSS)¹ at the time of the enquiry but, for those that did (n=72), 54.2% of patients had no symptoms at the time of the enquiry, 44.4% had minor symptoms, 0 moderate and 1 severe. No deaths or long-term sequelae were reported to the NPIS.

6.4 Paraquat

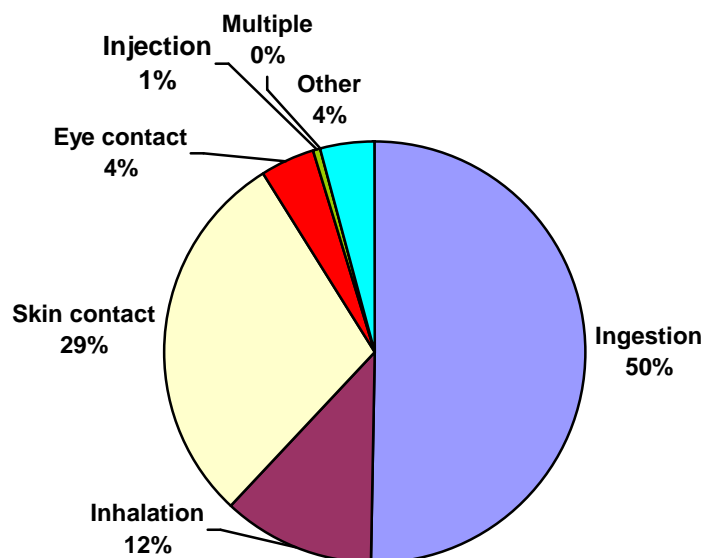
Out of a total of 113,125 telephone enquiries received by NPIS Centres 125 (0.1%) concerned suspected exposure to paraquat. The enquiries concerned 94 males, 26 females and in five cases the gender was unknown. Ages are shown below.

Figure 6.4.1: Age range of patients



16% of incidents were said to occur at an agricultural workplace and 61.6% at home; 20% were deliberate exposures.

Figure 6.4.2: Routes of exposure for paraquat

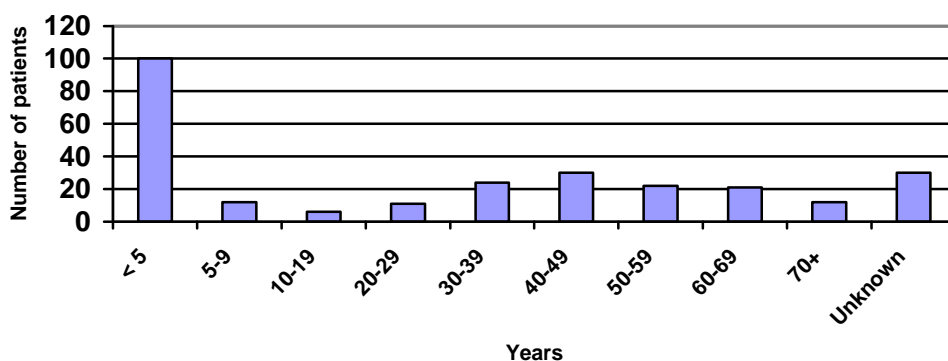


Not all Centres record the Poisoning Severity Score (PSS)¹ at the time of the enquiry but, for those that did (n=67), 38.8% of patients had no symptoms at the time of the enquiry, 47.8% had minor symptoms, 11.9% moderate and 1.5% severe; two deaths were reported to the NPIS.

6.5 Pyrethroids

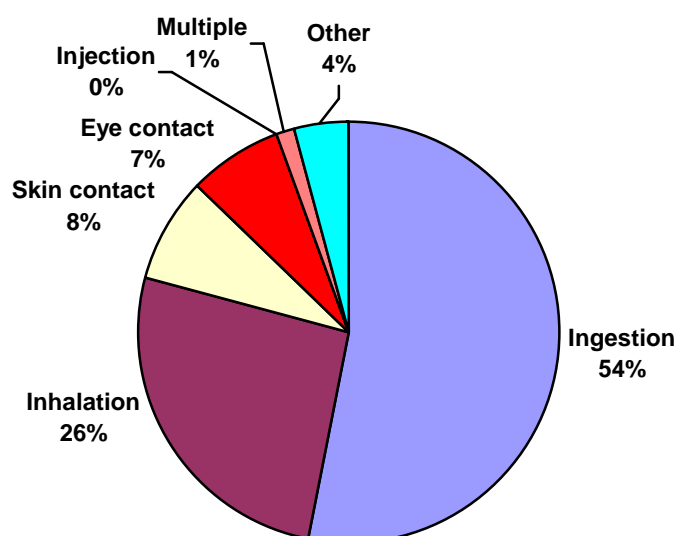
Out of the total of 113,125 telephone enquiries received by NPIS Centres 268 (0.2%) concerned suspected exposure to pyrethroids. The enquiries concerned 131 males, 132 females, and in five cases the gender was unknown. Ages are shown below.

Figure 6.5.1: Age range of patients



90.0% of incidents occurred at home and 4.1 % in agricultural workplaces. 4.5% were deliberate exposures. Five were chronic exposures.

Figure 6.5.2: Routes of exposure for pyrethroids

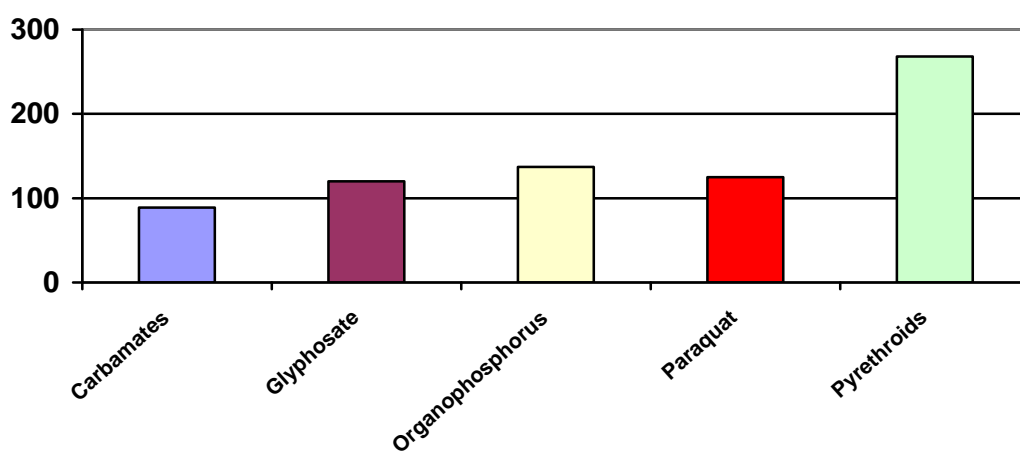


Not all centres record the Poisoning Severity Score (PSS)¹ at the time of the enquiry but, for those that did (n=138), 38.4% of patients had no symptoms at the time of the enquiry, 59.4% had minor symptoms, 0.7% moderate and 1.4% severe. Both severe exposures related to eye contact. No deaths were reported to the NPIS.

6.6 Comparison of pesticide enquiries

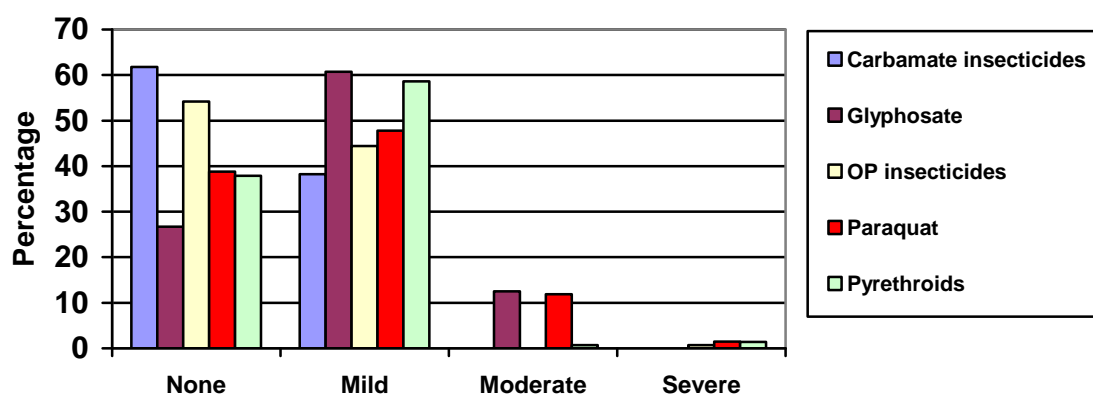
The total number of exposures reported to NPIS centres for each pesticide are shown in Figure 6.6.1 with pyrethroids being most common.

Figure 6.6.1: Exposures for each pesticide group



The Poisoning Severity Score¹, where reported, is compared as percentages in Figure 6.6.2 with most incidents resulting in no symptoms or mild symptoms. There was no deaths reported from carbamate insecticide exposures; glyphosate (1); organophosphorus insecticides (0); paraquat (2); and pyrethroids (0).

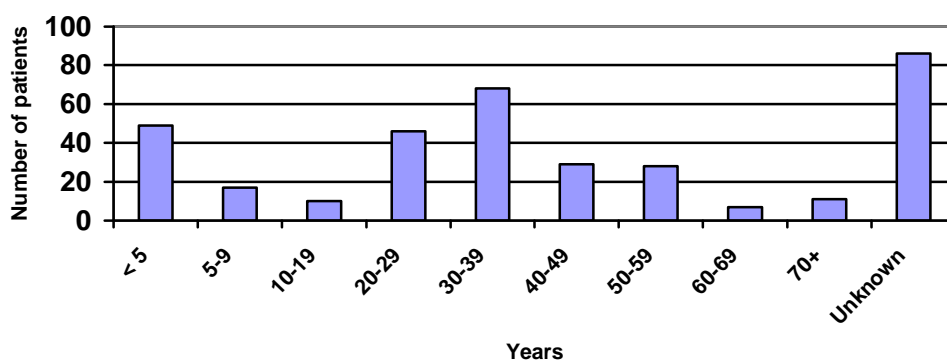
Figure 6.6.2: PSS¹ and pesticides



6.7 Carbon monoxide

Out of the total of 113,125 telephone enquiries received by NPIS Centres, 351 (0.3%) concerned suspected exposure to carbon monoxide, a 59.4% reduction on the 2003 report. The enquiries concerned 143 males, 142 females and in 66 cases the gender was not known. Ages are shown below.

Figure 6.7.1: Age range of patients



87.2% occurred in the home, and 15.4% were deliberate exposures (decrease from 28% in 2003). 17.9% of incidents involved chronic exposure.

Not all Centres record the Poisoning Severity Score (PSS)¹ at the time of the enquiry but, for those that did (n=171), 22.8% of patients had no symptoms at the time of the enquiry, 63.7% had minor symptoms, 11.1% moderate and 2.3% severe. No deaths were reported to the NPIS.

7. Summary

- In line with agreed strategy, the number of telephone enquiries received by NPIS centers continues to decrease and the number of TOXBASE accesses increase. This has led to changes in the telephone enquiry system with the introduction of national rotas.
- Comparison of statistics across the UK indicates a similar level of NPIS enquiries, but some difference in the method used (TOXBASE or telephone) with approximately 770 TOXBASE logons and telephone enquiries per 100,000 population in this year.
- Enquiries from NHS Direct Centres contribute significantly to the call load of England and Wales.
- The agents/co-drugs about which the most enquiries were received were similar for telephone enquiries and TOXBASE accesses. The top agents were paracetamol and ibuprofen, as in previous years.
- Exposure to pesticides such as glyphosate, organophosphorus insecticides, pyrethroids, carbamates and paraquat represent a small percentage of telephone enquiries but there is the potential to collect data of this type for public health surveillance purposes.

Reference

1. Persson HE, Sjoberg GK, Haines JA, Pronczuk de Garbino J. Poisoning severity score. Grading of acute poisoning. *Clin. Toxicol.* 1998;**36**:205-13.

Table A: Telephone enquiries for the first quarter on 2004

Item	Totals
Total number of telephone enquiries	29,694
Number involving patients	23,942
Patient age	
< 5 years	5037
5-9	506
10-19	2042
20-29	1861
30-39	1696
40-49	1942
50-59	733
60-69	529
70+	1311
Unknown	4138
Gender	42
Male	12,915
Female	15,256
Unknown	769
Country of origin of enquiry	
England	20,849
Northern Ireland	29
Scotland	653
Wales	2510
Ireland	1016
Other	261
Unknown	699
Type of caller	49
Doctor	10,749
Nurse	17,239
Other	1807
Unknown	143

Table A: Telephone enquiries for the first quarter on 2004 (continued)

Item	Totals
Source of enquiry	47
Hospital	16,275
Primary Care	40,46
NHS Direct/NHS 24	39,56
Member of public	330
Other	1610
Unknown	10
Type of poisoning	
Accidental	13,491
Deliberate	12,106
Abuse	42
Therapeutic error	1877
Other	466
Unknown	1173
Category of poison	
Pharmaceutical	34,605
Animal	84
Plant/fungi	704
Household	1673
Agrochemical (including home use)	592
Industrial chemicals	2173
Cosmetics	767
Others	651
Routes of exposure	
Ingestion	37,264
Inhalation	1060
Injection	458
Eye contact	1141
Skin contact	694
Multiple	50
Other	894

There were 88,717 TOXBASE logons in the first quarter of 2004 and 197,969 product accesses, excluding educational and NPIS use.