



POISONS

INFORMATION CENTRE OF IRELAND

Annual Report 2018



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EXECUTIVE SUMMARY

Functions

The National Poisons Information Centre (NPIC) provides telephone information and advice to assist in the treatment of poisoning. The centre operates 365 days a year and provides a 24-hour service to medical staff and other healthcare professionals. We also have a Public Poisons Information Line operating between 8am and 10pm seven days a week to provide triage advice to members of the public.

We continue to contract the UK National Poisons Information Service to answer our enquiries between 10pm and 8am every day. This is a cost effective way to provide a 24-hour service and requires good, on-going communication with the UK centres. As part of this cooperation, NPIC staff members have the opportunity to participate in ongoing CPD activities with our UK colleagues on several occasions during the year.

The secondary role of the NPIC is to collect and interpret epidemiological data on acute poisoning. This information is used to monitor trends in poisoning and to help to establish and update appropriate treatment protocols as required.

Activity

We received a total of 10709 enquiries in 2018; 10461 (97.6%) enquiries were about human poisoning. The remainder were non-emergency requests for information (n=199) and cases about poisoning in animals (n=49). Just over half of our enquiries (54%) were from healthcare professionals in primary care, hospitals, and community pharmacies. 45% of our enquiries were from members of the public and the remainder were from a variety of places including nursing homes, schools, and veterinary practices.

84% of human poisoning cases were accidental and 13% were intentional overdoses or recreational abuse. We followed up 157 serious or unusual cases to determine the outcome. 97 of these patients had a complete recovery. 12 patients died and 32 patients required an extended stay in hospital. We are very grateful for the assistance of hospital nursing and medical staff for follow-up information.

Quality & Training

All enquiry records are peer-reviewed and stored as hardcopy and electronic records. In addition, all incoming and outgoing calls are recorded to allow periodic audits by the Clinical Director, and to assist in training for staff. We continue to have close links with the UK National Poisons Information Service and we regularly contribute to and organise CPD activities with our colleagues in the UK. Our staff members also submit research work to the annual congress of the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT).

INTRODUCTION

Our service is provided mainly by telephone and operates 24 hours a day, every day of the year. NPIC staff members answer enquiries between 8am and 10pm. Outside of these hours our calls are automatically diverted to the UK National Poisons Information Service. The extra call charges are borne by Beaumont Hospital so there are no additional costs to callers. A separate Public Poisons Information Line is also available specifically for members of the public and is operated between 8am and 10pm every day. NPIC staff members give advice to members of the public about whether they need to seek medical attention following an accidental poisoning incident. It is our policy to refer all cases of intentional self-poisoning for medical assessment.

Staff

NPIC staff comprises a Clinical Director, 6 Specialists in Poisons Information (SPI's), and a Clerical Officer:

Clinical Director: Dr Edel Duggan MB, BCh, BAO, MD, FFARCSI, Dip Med Tox

Specialists in Poisons Information:

Manager Ms Patricia Casey BSc, DipMedTox
 Ms Nicola Cassidy BSc, MMedSc, DipMedTox
 Ms Elaine Donohoe MSc, DipMedTox
 Ms Niamh English MSc, DipMed Tox
 Mr John Herbert BSc, DipMedTox
 Mr Feargal O'Connor BSc, Cert Med Tox

Clerical Officer: Ms Annette Cooke

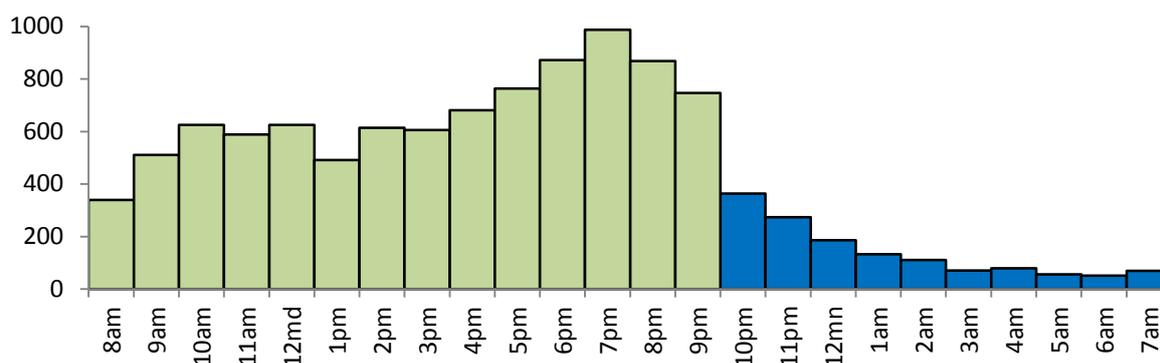
The Centre's phone lines are manned by the SPIs who are all scientists with additional training and postgraduate qualifications in Medical Toxicology. Further advice and medical information is available from the Clinical Director as required. Written records of all enquiries are maintained, and electronic copies are kept on a Poisons Information Database (UKPID).

One of the main reference sources for answering enquiries is TOXBASE®, the clinical toxicology database of the UK NPIS. In addition, a variety of other information sources are frequently used to provide the most up to date and relevant advice to callers.

Information Sources	
<i>Computer Databases</i>	TOXBASE®
	Micromedex®; Poisindex
	Cosmetic Products Notification Portal
<i>Peer reviewed references</i>	Journal of Clinical Toxicology
	Current Awareness in clinical Toxicology (NPIS)
	Textbooks (e.g. Goldfranks Toxicologic Emergencies)
<i>Other</i>	Material Safety Data Sheets

NPIC Activity

The National Poisons Information Centre received 10,709 enquiries in 2018. 10,461 enquiries related to human poisoning. There were also non-emergency requests for information (n=198) and cases about poisoning in animals (n=49). 1391 enquiries (13%) were received between 10pm and 8am and were answered by the UK Poisons Information Service. The busiest time of the day was between the hours of 4pm - 9pm.



Toxbase® Enquiries

TOXBASE is the on-line clinical toxicology database of the UK National Poisons Information Service. It is available in Irish Emergency Departments and Intensive Care Units. There were 12651 Toxbase user sessions by 40 different registered users in 2018.

➤ Type of caller

49% of our calls were from healthcare professionals in hospitals or general practice. 68% of GP enquiries were from GP out-of-hours services who contacted us after 5pm.

Enquiries from members of the public rose by 14% from 2017. The peak time for enquiries from members of the public was between 4pm and 8pm.

Table 1. Type of caller

	Number of enquiries	%
Member of public	4819	45
GP/Primary Care	3028	28.2
Hospital	2233	21
Community pharmacist	236	2.2
Nursing Home	141	1.3
Other	252	2.3
Total	10709	

Table 2. Breakdown of callers from Out of Hours GP Services

CareDoc	766	WestDoc	167	NEDoc	154
SouthDoc	306	DDoc	165	NowDoc	127
ShannonDoc	169	MidDoc	154	KDoc	40

Human Poisoning

Over 16,000 types of agents were involved in human poisoning. 54% of all agents were drugs. 19% of agents were household products such as fabric detergent products and multipurpose cleaners, and 16% were industrial agents including alcohols, corrosive substances, essential oils and hydrocarbons.

The top 50 most common agents are listed below:

Agent Name	Bleach	Thyroxine
Paracetamol	Diazepam	Tramadol
Ibuprofen	Toy/Novelty object	Olanzapine
Ethanol	Sertraline	Foreign body
Liquid detergent capsule	Reed Diffuser	Zolpidem
Essential oils	Firelighter	Sodium valproate
Multivitamins	Mirtazapine	Multipurpose cleaner
Vitamin D	Cocaine	Descaler
Codeine	Cetirizine	Sodium chloride
Alprazolam	Nicotine	Prednisolone
Dishwasher tablet	Diclofenac	Fabric detergent liquid
Disinfectant/antiseptic agent	Hand Cleanser	Lamotrigine
Aspirin	Petroleum distillate	Clavulanic acid
Washing Up liquid	Escitalopram	White Spirit
Amoxicillin	Inhalant preparation	Nail varnish remover
Quetiapine	Sodium hydroxide	Alkaline agent NK
Caffeine	Zopiclone	Fluoxetine
Pregabalin	Venlafaxine	Fabric detergent powder

➤ Symptoms and Outcome

71% of patients were asymptomatic when the Poisons Information Centre was contacted.

22% of patients had minor features such as mild gastrointestinal upset, drowsiness and mild local irritation of skin, eyes or mucous membranes.

3% of patients had moderate features including repeated episodes of vomiting, CNS depression, and minor cardiac features.

Only 1.2% of patients had severe symptoms; these included coma, hepatic abnormalities, severe hypotension, and metabolic changes.

157 cases were followed up because of severity of their symptoms and to determine the outcome for the patient. 62% of these patients recovered uneventfully. 32 patients developed short or long-term sequelae requiring a longer hospital stay. 12 patients died.

➤ Drugs

There were 539 different types of drugs involved in 5554 enquiries about poisoning. Paracetamol was the most common drug. Hypnotics and multivitamin/mineral supplements were also commonly taken. Codeine is often found as a compound ingredient in a number of analgesic products however the doses involved are usually small.

The most common drugs involved in poisoning incidents:

Paracetamol	Diclofenac	Cannabinoids
Ibuprofen	Escitalopram	Diphenhydramine
Multivitamin preparations	Inhalent preparation	Bisoprolol
Vitamin D	Zopiclone	Amitriptyline
Codeine	Venlafaxine	Oral Contraceptive
Alprazolam	Thyroxine	MDMA
Aspirin	Tramadol	Ramipril
Amoxicillin	Olanzapine	Esomeprazole
Quetiapine	Zolpidem	Levetiracetam
Caffeine	Sodium valproate	Naproxen
Pregabalin	Prednisolone	Montelukast
Diazepam	Lamotrigine	Promethazine
Sertraline	Clavulanic acid	Clonazepam
Mirtazapine	Fluoxetine	Flurazepam
Cocaine	Amlodipine	Metformin
Cetirizine	Mefenamic acid	Calcium

Paracetamol

1297 cases involved paracetamol products. 49% of cases were therapeutic errors. These cases often involved small doses of paracetamol. 326 cases were intentional overdoses. 766 (59%) cases involved children aged less than 10 years. 53% of children did not require any medical treatment. 235 paediatric cases were therapeutic errors and 80% of these patients did not require medical assessment

Non-steroidal anti-inflammatory drugs (NSAIDs)

711 cases involved NSAIDs. The most common drug involved was ibuprofen (62%). Other NSAIDs included aspirin (16%), diclofenac (9%), mefenamic acid (5%), and naproxen (4%). Dexketoprofen, celecoxib and etoricoxib were also involved in a small number of cases. 387 cases (54%) involved children under 10 years of age; 38% of paediatric cases were therapeutic errors.

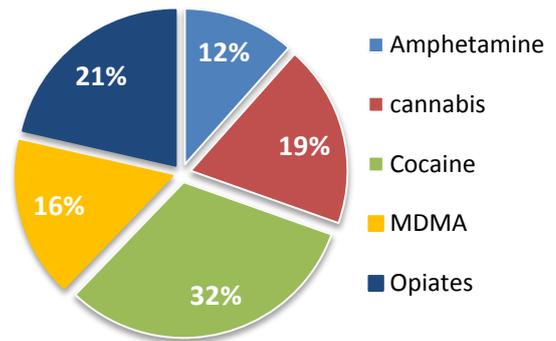
Hypnotics

444 cases involved hypnotic agents. The most common drugs involved were Alprazolam (26%), diazepam (22%), zolpidem (13%) and Zopiclone (12%). 311 (70%) cases were intentional overdoses or recreational abuse. 24% of these patients had no symptoms. 50% had only minor features of mild CNS depression. 16 (5%) patients had severe features; 14 of these cases involved co-ingestion with multiple other drugs.

37 cases involved children under 10 years. 35 children remained asymptomatic and 2 children developed minor symptoms.

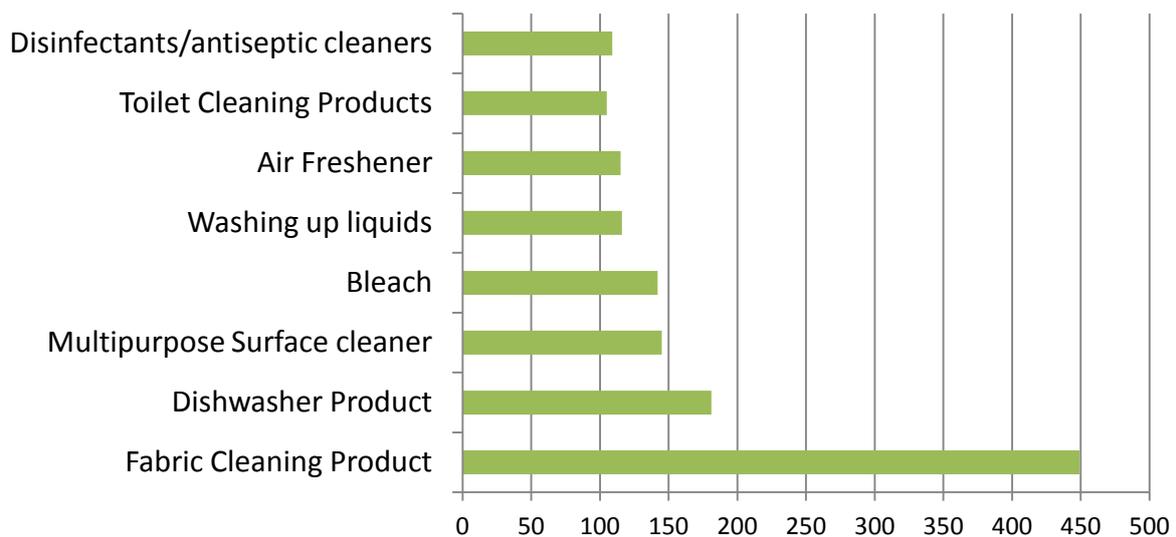
Drugs of abuse

208 cases involved drugs of abuse including cocaine, heroin, and amphetamines. 60% of cases involved more than drug. 65% of patients had mild or moderate symptoms such as drowsiness, agitation, and gastrointestinal upset. 18% of patients developed severe toxicity including CNS depression, and cardiac features.



• HOUSEHOLD PRODUCTS

More than 2700 enquiries to the Poisons Centre involved household products. The most common products were fabric cleaning products including liquid capsules, powders and solid tablets. Bleach, dishwasher products and air freshener products were also commonly involved.



Fabric cleaning products

449 cases involved fabric cleaning products including powders (13%), liquids (27%), and liquid detergent capsules (60%). 91% of patients were children aged 5 years or less. Most patients remained asymptomatic. There were no severe symptoms reported. 32% of patients had minor symptoms such as mild vomiting, nausea, coughing, and skin or eye irritation. 11 (2.5%) patients had moderate symptoms including repeated episodes of vomiting and pulmonary features. Liquid detergent capsules (LDCs) were involved in 9 of the cases with resulting in moderate symptoms.

Dishwasher products

181 cases involved exposure to dishwasher products. Ingestion was the most common route of exposure but 6 cases involved eye contact or skin contact. 130 (72%) cases involved solid dishwasher tablets. 45 (25%) cases involved liquid rinse aid. Powder

detergents, dishwasher cleaners and dishwasher salt were also involved. 89% of patients were under 10 years. 69% of patients remained asymptomatic. 54 patients had minor symptoms including one episode of vomiting or brief coughing. Two patients had more significant episodes of repeated vomiting and respiratory features.

Bleach

142 cases involved bleach products. 80% of cases involved ingestion of bleach liquid and 57% of cases involved children under 10 years. Eye contact, skin contact, and inhalation of bleach fumes was also reported.

44 patients (31%) developed symptoms including vomiting, abdominal pain, and local irritation in the mouth and throat. No severe symptoms were reported. There were 11 cases of eye contact and all of these patients experienced minor local irritation.

An additional 19 cases involved inhalation of chlorine gas that was liberated when a bleach liquid was mixed with an acid cleaning product. 17 patients experienced minor symptoms such as coughing, shortness of breath and irritation in the back of throat. There were no severe symptoms reported.

➤ **OTHER AGENTS**

Essential oils

167 cases involved exposure to concentrated essential oils or inhalant preparations. An additional 75 cases involved “Reed Diffusers”, an air freshener product that contains a high concentration of essential oils. 221 cases (91%) involved accidental ingestion. Skin contact and eye contact was also reported. 199 cases involved children aged 5 years and under. Essential oils have the potential to cause CNS toxicity. All patients require medical assessment in an ED department following ingestion of any amount.

Agrochemicals

Agrochemicals were involved in 161 cases and 53% of these involved ingestion. Skin contact (27%), inhalation (13%), and eye contact (5%) were also reported. 85% of cases were accidental and 45% of cases involved children under 10 years.

Most patients remained asymptomatic. 36% experienced adverse effects including nausea, vomiting, irritation in the mouth/throat, coughing, dizziness and general malaise. Local skin reactions including minor irritation or transient rash were reported following some dermal exposures. 2 patients developed severe toxic effects. There was 1 fatality.

Agrochemical	Number	Adults	Children	Adverse effects
Herbicides	64	48	16	31
Rodenticides	39	15	24	7
Insecticides	46	21	25	16
Molluscicides/Others	12	5	7	3

➤ Patient Demographics

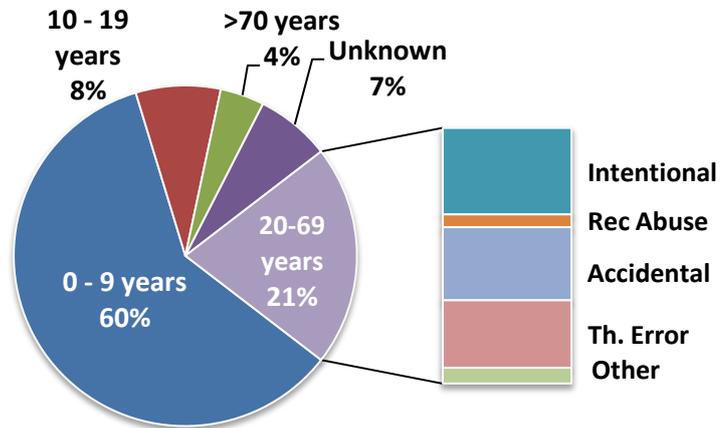
10461 enquiries related to poisoning in humans. 84% of these enquiries involved accidental poisonings or therapeutic errors. 13% were intentional overdoses or recreational abuse. The remaining cases were adverse reactions or cases of unknown intent.

Most poisonings occurred in the home or domestic setting (92%). Others were in nursing homes/hospitals (2.8%), occupational settings (2.5%), schools and other public places.

2168 enquiries involved adults aged between 20-69 years.

39% of these cases were intentional or recreational abuse. 29% were accidental and 27% were therapeutic error.

60% of cases in the >70yrs group were due to therapeutic error. 9% were intentional overdoses. The remainder were accidental overdoses or adverse reactions.

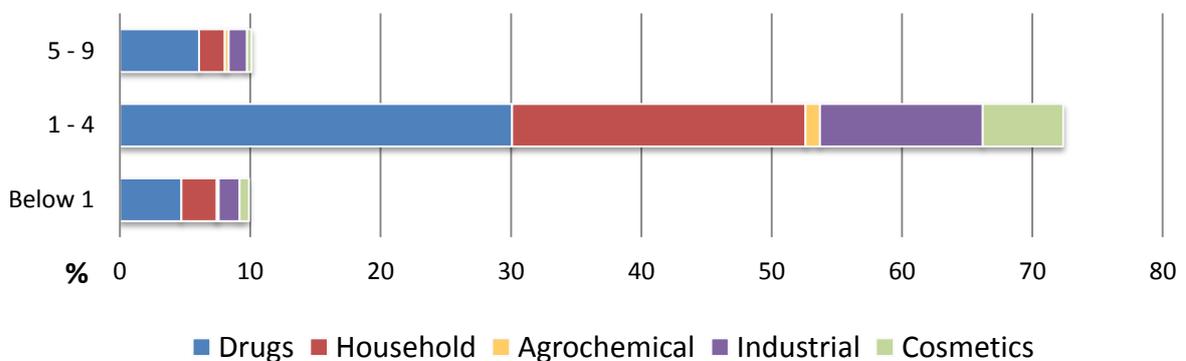


Poisoning in Children

6230 cases involved children aged 10 years or under. 4776 (77%) of these children were under 5 years. 85% of children were asymptomatic when the Poisons Centre was contacted. 14% had minor or moderate symptoms such as nausea, vomiting, drowsiness or mild local skin reaction. 2 patients had more severe symptoms and required hospital admission. There were no fatalities.

Drugs were the most common agent involved in paediatric cases and 27% of cases involved paracetamol products. Ibuprofen and multivitamin products were also commonly involved

Types of Agent in paediatric cases



Staff Research and Outreach Activities

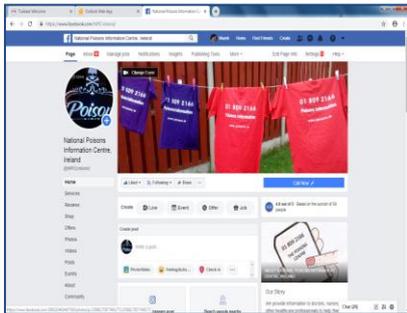
Continuing Professional Development

- Nicola Cassidy attended the 38th International Congress of the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT) held in Bucharest. Feargal O'Connor, Patricia Casey and Edel Duggan were co-authors with a multi-centre European group who presented a study about liquid detergent capsules at the meeting.
 - Results from the EU LiquiCaps study: a comparison between cases exposed to liquid laundry detergent and automatic dishwashing capsules. Settmi L, Giordano F, Cossa L. *Clinical Toxicology* 2018; 56 (60): 453
 - Results from the EU LiquiCaps study: a comparison between cases of poisoning aged <5 years and exposed to laundry detergents. Settmi L, Giordano F, Cossa L. *Clinical Toxicology* 2018; 56 (60): 487
 - EU LiquiCaps study: an evaluation of impact of Regulation (EU) No 1297/ 2014 on frequency of exposure to liquid laundry detergent capsules and poisoning severity. Settmi L, Giordano F, Cossa L. *Clinical Toxicology* 2018; 56 (60): 487
- Two CPD meetings were hosted by colleagues in the UK National Poisons Information Service at Birmingham and Edinburgh. They were attended by Patricia Casey, Niamh English and John Herbert. Dr Edel Duggan presented a review of Organophosphate Toxicity at the Edinburgh meeting. Other topics included paracetamol, plant toxicity, lead poisoning, ECMO, and pesticides.
- Niamh English attended the Public Sector Digital Marketing Summit 2018 hosted in Dublin.

➤ Outreach activities

- Staff from the centre hosted a stand at the 88th National Ploughing Championships in Tullamore and used the opportunity to distribute Poison Prevention leaflets and educational material to members of the public. It was also a useful chance to answer questions and talk about chemical storage and safety practices in both agricultural workplaces as well as in the home.
- Niamh English gave a talk to student nurses in UCD about Poisoning and the Role of the Poisons Centre
- Nicola Cassidy had a poster presentation at the first national Health and Social Care Professionals (HSCP) Day hosted in Beaumont Hospital in February.
- Elaine Donohoe contributed as guest lecturer on "Clinical Toxicology in Practice" for the MSc course in Toxicology & Regulatory Affairs, UCD.
- Nicola Cassidy gave presentations about Poison Prevention in the home to Mother and Toddlers Groups in July and December.
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- **Facebook- www.facebook.com/NPICDublin**



The NPIC Facebook page continues to be a primary source of information and awareness about poison prevention in the home. Our target audience is parents and carers of young children. Total Facebook likes rose to 24000 in 2018. We explicitly state that our Facebook page should not be used in case of emergency. The message function is turned off to prevent seeing advice via this route.

- **Website- www.poisons.ie**



Our website is a primary resource to highlight our public phone number and to enable easy access to our contact information in an emergency. In 2018 we had over 36,000 unique visits to the website with over 54,000 page views. The **Industry** page is frequently accessed and provides advice for companies that are required to register products under EU CLP Regulations.

- **Committees**

- Dr Edel Duggan sits on the Clinical Standards Group with Directors from the UK National Poisons Information Service.
- Dr Edel Duggan and John Herbert are members of the Early Warning Early Trends Sub-Committee of the National Advisory Committee on Drugs.
- Dr Edel Duggan sits on the Chemical Safety subcommittee of the FSAI.
- Patricia Casey is a member of the UKPID working group, and the EAPCCT working group on harmonisation of product data.
- Nicola Cassidy is a member of the Medication Safety Forum.
- Elaine Donohoe sits on the UK TOXBASE editing group.

- **CLP Regulation activities**



The NPIC Manager attended two CARACAL sub-group meetings in 2018, to address issues in relation to CLP Annex VIII, and provided written comments for other CARACAL meetings during the year. The Centre also completed the questionnaire on workability issues and answered follow-up questions via telephone interview in November 2018.

The NPIC Manager helped to draft the guidance on "Harmonised information relating to emergency health response – Annex VIII to CLP".