



POISONS

INFORMATION CENTRE OF IRELAND

Annual Report 2016

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National Poisons Information Centre; 1966 - 2016

The National Poisons Information Centre (NPIC) was established in June 1966 at the Charitable Infirmary in Jervis Street. Jervis Street Hospital had the first Renal-Dialysis Unit in the country and had developed a reputation for looking after poisoned patients. Dr Woodcock was the head of the Anaesthetics Department and was also actively involved with the Dialysis Unit. He became the first Medical Director of the Poisons Centre alongside a Poisons Information Officer, Ms Eileen Mackey.



Dr Woodcock and Ms Mackey developed a library of reference material using data from the National Clearing House for Poisons Centres in Washington DC. They also received assistance from Dr. Roy Goulding, Director of the poisons centre at Guy's Hospital, London and were given complete access to data developed by the UK National Poisons Information Service (NPIS). Dr Woodcock established a strong working relationship with the Poisons Service at Guy's Hospital, London and close links with the UK NPIS continue 50 years later.

The early mandate of the Poisons Centre was "to provide information to medical practitioners on the composition, fatal dose, symptoms and known treatment of poisonous substances and materials that might cause concern". During the first 6 months, there were a total of 209 enquiries to the fledgling service (July to December). In 2016, the total number of enquiries exceeded 10,000.

In 1985 Dr Woodcock retired and Dr. Joseph A Tracey, Consultant Anaesthetist, took over as Medical Director of the Centre. He remained in the position for 25 years and oversaw the expansion of the service and movement of the Poisons Centre to its current home in Beaumont Hospital. In the early days, staff in the Poisons Centre answered calls during office hours and night-time calls were answered by nursing staff in the adjoining ward. In the 1990's Poisons Centre staff began to operate the phone lines between 8am and 10pm 7 days a week and this continues today. Night-time calls are answered by the UK National Poisons Information Service. There are now 8 staff members in the Poisons Centre and the Medical Director is Dr Edel Duggan, Consultant Anaesthetist in Beaumont Hospital.

As part of our 50th anniversary celebrations we hosted a toxicology symposium at the annual meeting of the Intensive Care Society of Ireland in June 2016. We were honoured to have a number of international speakers at the toxicology symposium including Prof Bruno Megerbane, President of the European Association of Poisons Centres (EAPCCT), Prof Donna Seger, Vanderbilt University Medical Center, Prof Phil Routledge, Cardiff School of Medicine, and guest speakers from the 2016 SMACC Conference held in Dublin.

Other highlights over the past 50 years have included the opportunity to host the XIX International Congress of EAPCCT in Trinity College, Dublin in 1999, a mini-symposium in Beaumont Hospital opened by Mary Harney TD Minister for Health to celebrate our 40th anniversary, and the launch of an annual Poisons Awareness Day in 2012 attended by Frances Fitzgerald TD Minister for Children & Youth Affairs.

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 10356 enquiries in 2016; 10069 enquiries were about cases of human poisoning. The remainder were non-emergency requests for information (n=221) and cases about poisoning in animals (n=66). Enquiries from members of the public rose for the second year running. However the majority of our enquiries were from healthcare professionals (59%) in primary care, hospitals, and community pharmacies. The remainder of enquiries were from a variety of places including nursing homes, schools, and veterinary practices.

83% of cases were accidental poisonings and 13% were intentional overdoses or recreational abuse. We followed 176 serious or unusual cases to determine the outcome. Of these, 128 patients had a complete recovery. 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

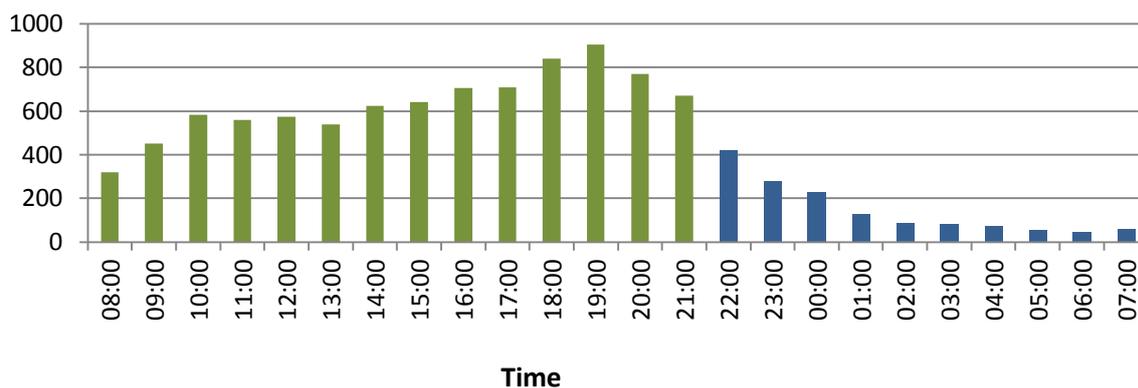
The Centre's phone lines are manned by the SPIs who are all scientists with additional training and postgraduate qualifications in Medical Toxicology. Further advice and medical information is available from the Clinical Director as required. Written records of all enquiries are maintained, and electronic 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 NPIC received 10356 enquiries in 2016; an increase of 7% compared to 2015. 10069 enquiries related to human poisoning. There were also non-emergency requests for information (n=221) and cases about poisoning in animals (n=66). 1463 (14%) enquiries 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 - 10pm.



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. In 2016 there were 11504 Toxbase user sessions by 41 different registered users. The majority of the users were in hospital Emergency Departments (78%) and 10 Emergency Departments accounted for over 50% of user sessions.

Type of caller

72% of our enquirers were members of the public and GP staff.

Enquiries from members of the public rose for the second year running with a 22% increase over 2015. The peak time for enquiries from members of the public was between 4pm and 8pm. 68% of GP enquiries were from GP out-of-hours services after 5pm.

Table 1. Type of caller

Source of Enquiry	Number of enquiries	%
Member of public	3895	37.6
GP/Primary Care	3531	34
Hospital	2275	22
Community pharmacist	270	2.6
Other	385	3.7
Total	10356	

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

CareDoc	824	ShannonDoc	208	MidDoc	165
SouthDoc	372	WestDoc	202	NowDoc	152
DDoc	212	NEDoc	179	KDoc	65

HUMAN POISONING

Nearly 15,000 agents were involved in human poisoning incidents. 60% of agents were drugs. 15% were household products such as fabric cleaning products and multipurpose cleaners. 18% of agents were categorised as industrial agents; this category includes bleach, ethanol products, essential oils, and corrosive substances.

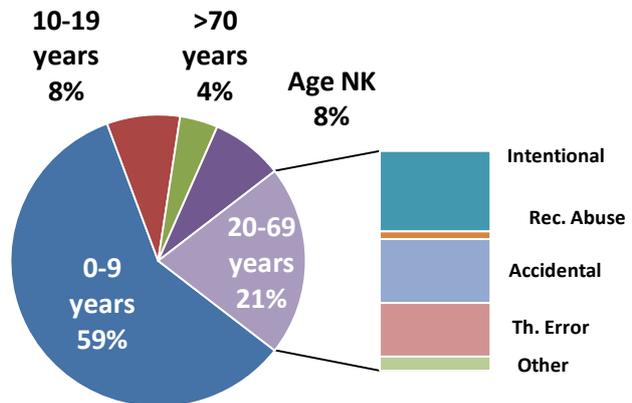
Patient Demographics

10069 enquiries related to poisoning in humans. 83% of cases were 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%). The others occurred in nursing homes/hospitals/GPs (2.6%), the workplace (2.4%), schools (0.6%), and other public places (1.8%).

2113 enquiries involved adults aged between 20-69 years. 40% of these cases were intentional self-poisoning or recreational abuse. 29% were accidental and 24% were therapeutic error.

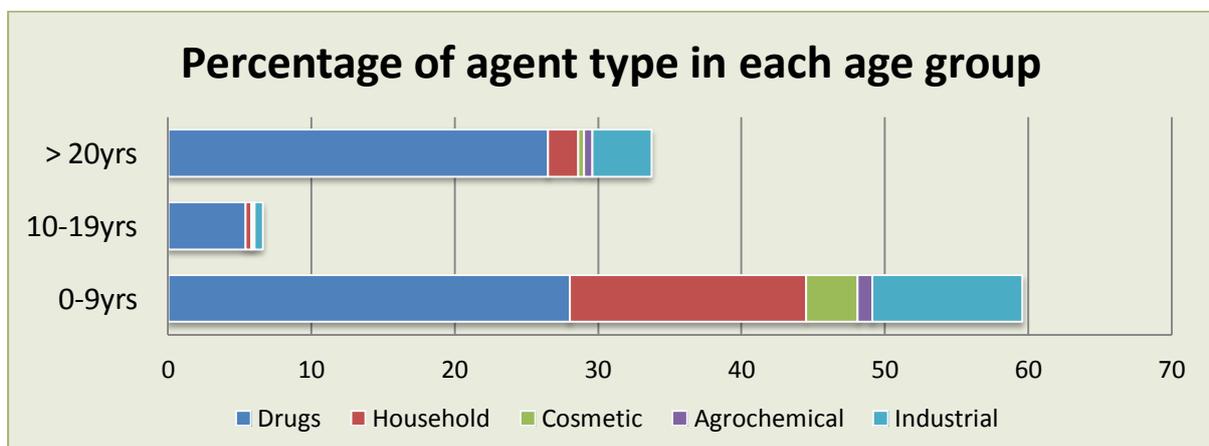
62% of cases in the >70yrs group were due to therapeutic error. 7% were intentional overdoses. The remainder were accidental overdoses or adverse reactions.



Poisoning in Children

5926 enquiries related to children aged <10 years of age; 5284 (89%) were under 5 years. Drugs were the most common agent involved in poisoning in children but there was also significant exposure to household products.

84% of children were asymptomatic. 14% developed minor symptoms such as mild gastrointestinal upset, drowsiness or mild local skin reaction.



Type of Agent

The top 50 most common agents are listed below

Agent Name	Washing up liquid	Fluoxetine
Paracetamol	Inhalant preparation	Clavulanic acid
Ibuprofen	Vitamin D	Petroleum distillates
Liquid detergent capsule	Sertraline	Prednisolone
Codeine	Escitalopram	Multipurpose cleaner
Multivitamin	Bleach liquid	Cetirizine
Sodium hypochlorite	Dishwasher tablet	Olanzapine
Diazepam	Fabric detergent liquid	Nail Varnish Remover
Essential oil	Glyphosate	Nappy rash Cream
Amoxicillin	Nicotine	Hand Cleanser
Alprazolam	Zopiclone	Mefenamic acid
Pregabalin	Venlafaxine	Menthol
Aspirin	Thyroxine	Dishwasher Rinse Aid
Firelighter	Foreign body ingestion	Zolpidem
Quetiapine	Tramadol	Descaler
Disinfectant	Fabric detergent powder	Silica Gel
Diclofenac	Reed Diffuser air freshener	Pseudoephedrine

➤ Drugs

Drugs were involved in almost 5000 cases of poisoning. Paracetamol was the most common drug involved in poisoning followed by ibuprofen. NSAIDs and benzodiazepines were the most common classes of drugs seen. Codeine is often involved in poisoning because it is included as a compound ingredient in a number of analgesic products but the doses involved are usually small.

Paracetamol	Iron salts	Sodium valproate
Ibuprofen	Levothyroxine/thyroxine	Cocaine
Codeine	Venlafaxine	Amitriptyline
Multivitamin preparations	Tramadol	Oral contraceptive
Diazepam	Drug NK	Amlodipine
Amoxicillin	Cetirizine	Atorvastatin
Vitamin D	Fluoxetine	Chlorpromazine
Alprazolam	Clavulanic acid	Levetiracetam
Pregabalin	Prednisolone	Bisoprolol
Aspirin	Olanzapine	Lithium
Quetiapine	Mirtazapine	Metformin
Diclofenac	Esomeprazole	Omeprazole
Inhalant product (menthol)	Mefenamic acid	Duloxetine
Sertraline	Zolpidem	Naproxen
Escitalopram	Pseudoephedrine	Citalopram
Zopiclone	Flurazepam	Lamotrigine

Paracetamol

1234 cases involved paracetamol. 57% of cases involved children under 10 years of age; 47% of these children required medical assessment.

Ibuprofen

Ibuprofen was the second most common drug involved in poisoning; 444 cases involved ibuprofen products. 66% of cases involved children under 10 years of age.

Benzodiazepines

463 cases involved benzodiazepines; diazepam and alprazolam were the most common. 66% of the cases were intentional or involved recreational abuse.

Vitamin D

120 cases involved single ingredient vitamin D preparations. 54% of the cases were due to therapeutic error and most of them involved vitamin D liquid/drops.

➤ HOUSEHOLD AGENTS

2608 household products were involved in 2318 cases of poisoning. The most common products involved were fabric cleaning products. Other common products included disinfectant cleaners, bleach products, dishwasher tablets and air fresheners.

Laundry products

487 enquiries involved laundry products such as washing powders, liquid detergent products and fabric softeners. The most common adverse effects were vomiting. 239 of these cases involved concentrated single-use liquid detergent capsules. This is a 34% rise from 2015. 89% of cases involved children <5 years.

48% of patients remained asymptomatic. 47% had minor symptoms such as mild vomiting and coughing. 8 patients developed moderate symptoms such as repeated episodes of vomiting. 1 patient developed transient corneal abrasion following eye contact with the liquid.

Fabric Cleaning Product
Bleach
Petroleum distillates
Disinfectants/sanitizers
Washing up liquid
Dishwasher Tablets
Air Freshener Products
Multipurpose cleaners
Descalers
Hand Cleanser
Dishwasher Rinse Aid
Dessicant
Bottle steriliser liquid
Toilet Rim block

Bleach

137 enquiries related to bleach products. Most cases involved accidental ingestion of bleach liquid. 67% of patients remained asymptomatic. Symptoms following ingestion included mild vomiting, local irritation in the mouth or throat, and nausea. There were no severe cases reported.

29 cases involved inhalation of the bleach fumes or of chlorine gas liberated after mixing bleach with an acid cleaner; 89% of patients in these cases were symptomatic. The most common features were coughing and shortness of breath. Headache, nausea and sore throat were also reported.

Petroleum distillates

There were 147 enquiries about petroleum distillate products such as kerosene, white spirits and firelighters. 119 cases involved children under the age of 5 years. 77% of patients were asymptomatic. 20% of patients had minor symptoms including nausea, coughing, and vomiting. Headache, fatigue and nausea were reported after inhalation. There were no severe symptoms reported following ingestion or inhalation.

Symptoms and Outcome

72% of patients were asymptomatic when the Poisons Centre was contacted.

22% of patients had minor features which included mild vomiting, nausea, drowsiness and mild local irritation of the skin or mucous membranes.

Less than 3% of patients had moderate features including repeated episodes of vomiting, CNS depression, and cardiac features. 18% of these patients were under 10 years of age.

Only 1% of patients had severe symptoms; these included coma, respiratory depression, severe cardiac effects, and metabolic abnormalities.

176 cases were followed up to determine the outcome for the patient. 73% of patients recovered uneventfully. 10 patients developed long-term sequelae and 15 patients died.

Staff Research and Outreach Activities

➤ **Continuing Professional Development**

CPD meetings help to ensure that NPIC staff members are up to date with the latest developments in clinical toxicology. Topics discussed in 2016 included: Chemical incidents, drugs of abuse, Metformin toxicity, cardiac glycosides, and hypoglycemia.

March	CPD meeting, Cardiff
June	CPD meeting, Dublin
September	CPD meeting, Birmingham

Attended by:

Feargal O'Connor

Hosted by NPIC staff.

Niamh English, Edel Duggan

NPIC staff members are also encouraged to submit abstracts to the annual congress of the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT). Niamh English and Patricia Casey attended the 2016 Congress in Madrid and presented 2 posters.

➤ **Abstracts**

Pregabalin overdose: A review of cases reported to a poisons centre.

Casey PB, Al-Ansari R, Williams D, Duggan E

Clinical Toxicology 2016; 54 (4)

Carbamazepine enquiries to the National Poisons Information Centre of Ireland: A prospective 7 year study.

English N, Cooke A, Duggan E

Clinical Toxicology 2016; 54 (4)

➤ Toxicovigilance

A new European regulation on increased safety measures (EU No 1297/2014) for liquid detergent capsules came into force in June 2015. The NPIC was one of 7 Poisons Centres participating in a study sponsored by the European Commission to monitor the impact of this new legislation. The study ran from August/September 2015 to May 2016 and results will be presented at the Annual Meeting of European Association of Poisons Centres and Clinical Toxicology in 2018.

➤ Outreach Activities

In December we held a Poisons Awareness Day launched by Minister of State for Disabilities Finian McGrath TD at a lunchtime presentation event in Beaumont Hospital.



Over 80 colleagues and guests attended the event and topics included Poisoning in Children, Medicine Safety in the Elderly, and poisons awareness projects in the community. Poisons awareness guidelines and activity packs for children were distributed to hospitals, crèches and playschools around the country. In addition, new Poisons Information Centre key-fobs were launched to highlight the phone number for our Public Poisons Information Line.

Pictured with Minister Mc Grath TD (from left):

Prof David Williams, Consultant in Stroke Medicine, Beaumont Hospital; Dr Phil Jennings, Director of Public Health/Child Health Lead in the HSE, Dr Edel Duggan, Clinical Director of the NPIC, Prof. Alf Nicholson, Clinical Lead in Paediatrics, Temple St Hospital.

- Nicola Cassidy attended the Institute of Community Health Nurses annual conference in Dublin where she distributed poisons awareness information and presented a poster about unintentional medication errors in children.
- Elaine Donohoe contributed as guest lecturer on “Clinical Toxicology in Practice” for an MSc course in Toxicology & Regulatory Affairs, UCD.
- Staff also contributed to The Pat Kenny Show on Newstalk, RTE Six One News, Journal.ie, and local radio stations over the course of the year to highlight Poisons Awareness.

➤ Website: www.poisons.ie

Our website is a primary resource to highlight our public phone number and to enable easy to access to our contact information in an emergency. We had an average of 1900 visitors every month and the most popular pages were the homepage and “Public” pages.

We have also included a new “Industry” section specifically for companies who are registering their products with the Poisons Centre as required under EU CLP Regulations.



➤ **Facebook: www.facebook.com/NPICDublin**



We continue to maintain a Facebook page to enhance communication with members of the public and to increase awareness of our Poisons Service. Our target audience is parents and carers of young children. Our total Facebook likes rose to 19,580 during 2016.

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.

➤ **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.
- Patricia Casey is a member of the UKPID working group, and the EAPCCT working group on harmonisation of product data. She also held the position of Treasurer of EAPCCT during 2016.
- Nicola Cassidy is a member of the Medication Safety Forum.
- Elaine Donohoe sits on the UK TOXBASE editing group.