



# POISONS

INFORMATION CENTRE OF IRELAND

## Annual Report 2015



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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 9691 enquiries in 2015; 9356 enquiries were about cases of human poisoning. The remainder were non-emergency requests for general information and enquiries about animal poisoning. The proportion of calls from members of the public rose from 28% in 2014 to 33% in 2015. However as in previous years, the majority of our enquiries were from healthcare professionals (64%). The remainder of enquiries were from other sources such as nursing homes, schools, and veterinary practices.

82% of human cases related to accidental poisonings and 15% related to intentional self-poisoning or recreational abuse. We “followed-up” 196 serious or unusual cases to determine the outcome. Of these, 135 patients had a complete recovery with no sequelae. 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 in-coming and out-going 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).

### Surveillance & Research

We collaborated with other European Poisons Centres and AISE (International Association for Soaps, Detergents and Maintenance Products) to conduct a prospective research study looking at the incidence of poisoning with laundry detergent capsules. A final report on the findings was compiled by and released by AISE in November 2015.

## INTRODUCTION

The National Poisons Information Centre (NPIC) in Ireland provides information and advice to doctors, other healthcare professionals, and members of the public about the features and treatment of poisoning. 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 and 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 SPI's and Manager staff the Centre's phone lines. They 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, as well as electronic copies 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.

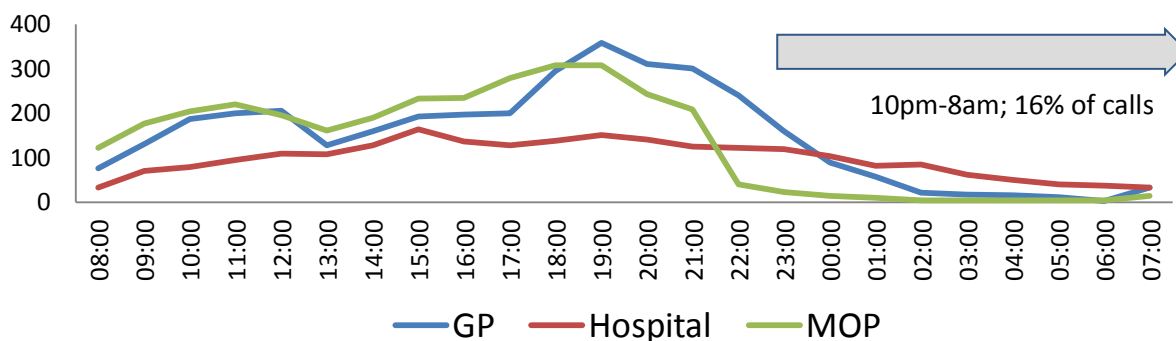
Information Sources	
<i>Computer Databases</i>	TOXBASE®
	Micromedex®; Poisindex
	In-house database
	Cosmetic Products Notification Portal
<i>Peer reviewed references</i>	Journal of Clinical Toxicology
	Current Awareness in clinical Toxicology (NPIS)
	Textbooks (e.g. Goldfranks Toxicologic Emergencies)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

## NPIC Activity

### Enquiries

The NPIC received 9691 enquiries in 2015; an increase of 2.4% compared to 2014. 9356 enquiries related to human poisoning. The remainder were non-emergency requests for information (n=276) and cases about poisoning in animals (n=59).

The busiest time of the day was in the evening between 6pm - 10pm; 31% of all enquiries were received during these hours. 44% of these calls were from General Practice services and 37% were from members of the public.



### Type of caller

70% of our enquiries were received from GP services and members of the public. Enquiries from members of the public rose by 20% in 2015 largely due to an increase in calls received from this group between 3pm and 7pm.

Approximately a quarter of enquiries were from nursing staff or doctors in hospitals.

Table 1. Type of caller

Source of Enquiry	Number of enquiries	%
GP/Primary Care	3579	37
Member of public	3193	33
Hospital	2331	24
Community pharmacist	238	2.4
Other	350	3.6
Total	9691	

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

Care Doc	807	NEDoc	196
Ddoc	255	NowDoc	131
DLDoc	7	ShannonDoc	203
Kdoc	69	SouthDoc	370
MidDoc	162	WestDoc	174

66% of General Practice calls were from triage staff in GP Out of Hours services.

Other callers included community pharmacists, nursing/care homes, ambulance and emergency services, veterinary practices, and schools.

### 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 2015 there were 10923 Toxbase user sessions by 47 different registered users. This is an increase of 7% compared to 2014. The main users were Hospital Emergency Departments and 9 Emergency Departments accounted for 50% of user sessions.

## HUMAN POISONING

### Most Common Agents

The top 50 agents involved in human poisoning included drugs (59%), household cleaning products, and chemicals. Ethanol appears frequently as a coingestant in drug overdoses.

**Table 3. Most common agents involved in NPIC enquiries**

<b>Agent name</b>	Diclofenac	Nicotine
Paracetamol	Washing-up liquid	Zolpidem
Ibuprofen	Nail Varnish Remover	Sodium valproate
Ethanol	Inhalant preparation	Acetone
Laundry Liquid capsule	Clavulanic acid	Descaler
Codeine	Firelighter	Bisoprolol
Bleach	Dishwasher tablet	Fabric cleaning liquid
Amoxicillin	Venlafaxine	Sodium chloride
Aspirin	Cetirizine	Sodium hydroxide
Multivitamins	Levothyroxine/thyroxine	Nappy Rash cream
Diazepam	Gluphosate	Toy Novelty
Pregabalin	Oral contraceptive	Esomeprazole
Zopiclone	Mirtazapine	Atorvastatin
Alprazolam	Fluoxetine	Sertraline
Caffeine*	Escitalopram	Lamotrigine
Essential oils	Vitamin D	Petroleum distillate
Quetiapine	Tramadol	Flurazepam

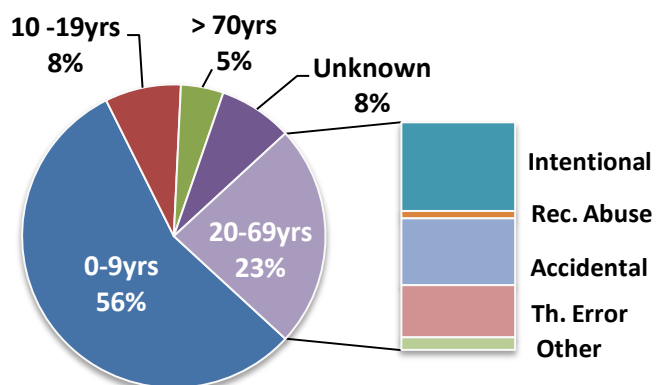
\*Caffeine is a common ingredient in many analgesic products.

### Patient Demographics

9356 enquiries involved poisoning in humans. 82% of cases were accidental poisonings or therapeutic errors. 15% were intentional overdoses or recreational abuse. The remaining cases involved adverse reactions or cases of unknown intent.

Most poisonings occurred in the home or domestic setting (92%). The remaining cases occurred in the workplace (2.7%), nursing homes/hospitals/GPs (2.7%), schools (0.7%), and other public places (1.9%).

5221 enquiries related to children aged <10 years of age. 86% of cases in this age group were accidental. The remainder involved therapeutic errors or unknown circumstances.



2640 enquiries (28%) involved adults (>20yrs). 36% of these cases involved intentional self-poisoning or recreational abuse.

Only 5% of cases in the >70yrs group were intentional overdose. 58% of cases in this age group involved therapeutic errors. The remainder were accidental overdoses of adverse reactions.



## Symptoms and Outcome

70% of patients were asymptomatic at the time of the enquiry. 24% of patients had minor symptoms such as mild vomiting, nausea, drowsiness and mild local irritation. 3% of patients had moderate symptoms including repeated episodes of vomiting, CNS depression, and cardiac features. 12% of patients with moderate symptoms were less than 10 years of age. Only 1% of patients had severe symptoms.

196 cases were followed up to determine the outcome for the patient. In 9 cases, symptoms were due to other medical causes. 73% of patients recovered uneventfully. 34 patients developed sequelae and 8 patients died.

## Type of Agent

**Table 4. Breakdown of agents by age**

	<u>0-9 years</u>	<u>10-19 years</u>	<u>&gt;20 years</u>	<u>Unknown</u>	<b>Total</b>
Drugs	3285	804	3926	448	<b>8453</b>
Industrial*	1072	86	672	235	<b>2065</b>
Household	1780	74	327	184	<b>2365</b>
Plant/Fungi	324	58	130	42	<b>554</b>
Cosmetic	405	18	75	17	<b>515</b>
Agrochemical	105	8	86	75	<b>274</b>

\*Includes ethanol and surfactants/detergents and some bleach products.

## ➤ Drugs

As in previous years, paracetamol was the most common drug involved in poisoning. 17% of products contained paracetamol. 9% of products contained NSAID drugs ie ibuprofen, aspirin, and diclofenac. Codeine was one of the more common drugs involved in poisoning mainly because it is included as a compound ingredient in a number of analgesic products.

**Table 5. Most common drugs involved in NPIC cases**

Paracetamol	Cetirizine	Flurazepam
Ibuprofen	Levothyroxine/thyroxine	Olanzapine
"Drugs of Abuse"	Fluoxetine	Amitriptyline
Codeine	Oral Contraceptive	Clonazepam
Amoxicillin	Mirtazepine	Carbocisteine
Aspirin	Escitalopram	Levetiracetam
Multivitamins	Fluoxetine	Prednisolone
Diazepam	Vitamin D	Cocaine
Pregabalin	Tramadol	Montelukast
Zopiclone	Sodium valproate	Mefenamic acid
Alprazolam	Zolpidem	Amlodipine
Caffeine*	Bisoprolol	Citalopram
Diclofenac	Atorvastatin	Pseudoephedrine
Quetiapine	Esomeprazole	Risperidone
Inhalant product (menthol)	Lamotrigine	Heroin
Venlafaxine	Sertraline	Lansoprazole

\*Caffeine is a common ingredient in many analgesic products .

### **Paracetamol**

1354 products involved in poisoning contained paracetamol. 56% of cases involved children under 10 years of age; 48% of these children required medical assessment in hospital.

### **Ibuprofen**

Ibuprofen was the second most common drug involved in poisoning; 449 products contained ibuprofen. 63% of cases involved children under 10 years of age.

### **Drugs of Abuse**

139 cases involved agents classified as drugs of abuse. The most common of these were cocaine, heroin, MDMA and amphetamines. 49% of cases involved 2 or more drugs and benzodiazepines were involved in over half of these cases.

## **➤ Household Products**

Over 2300 household products were involved in poisoning incidents. As in 2014, the most common products involved were fabric cleaning products. Other common products included as bleach products, petroleum distillates and general cleaning products.

### **Laundry products**

344 enquiries involved laundry products such as washing powders, liquid detergent products and fabric softeners. 53% of patients remained asymptomatic.

178 cases involved exposure to concentrated single-use liquid detergent capsules. This is an increase of 8% compared to 2014. 39% of patients remained asymptomatic. 55% developed minor symptoms including vomiting and coughing. 92% of these cases involved children aged <5 years. 1 child developed severe features and required treatment in hospital.

Fabric Cleaning Product  
Bleach liquid  
Toy/Foreign Body  
Washing up liquid  
Firelighters  
Dishwasher Tablets  
Disinfectants/sanitisers  
Air Freshener Products  
Multipurpose cleaners  
Descaler  
Toy/Foreign body  
Hand Cleanser  
Dishwasher Rinse Aid  
Dessicant

### **Bleach**

190 enquiries related to bleach products. 46% of patients remained asymptomatic. 141 cases involved accidental ingestion of small amounts of bleach liquid. A third of these patients developed minor symptoms such as mild vomiting, local irritation in the mouth or throat, and nausea.

34 cases involved inhalation of the bleach fumes or of chlorine gas liberated after mixing bleach with an acid cleaner; most patients had only mild symptoms such as coughing and sore throat. Some patients developed chest pain or shortness of breath.

### **Petroleum distillates**

There were 176 enquiries about petroleum distillate products such as firelighters, kerosene and white spirits. 130 cases involved children under the age of 5 years. 75% of patients were asymptomatic. 22% 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.



## 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 2015 included: Toxic alcohols, ECMO, corrosive ingestions, nicotine poisoning, chemical incidents, and paediatric poisoning.

March	CPD meeting, Cardiff	Niamh English, Edel Duggan
July	CPD meeting, Birmingham	Nicola Cassidy
September	CPD meeting, Edinburgh	Feargal O'Connor
November	CPD Day Newcastle	Elaine Donohoe

NPIC staff members are also encouraged to submit abstracts to the annual congress of the European Association of Poisons Centres and Clinical Toxicologists (EAPCCT). Dr Duggan, Elaine Donohoe and Patricia Casey attended the 2015 Congress in Malta and presented 3 posters.

### ➤ Publications

Potential pitfalls with the treatment of acquired methaemoglobinemia.

Cassidy N, Duggan E.

Ir Med J. 2015 Jan; 108(1):27-8

### Abstracts

Unintentional medication errors in children under the age of 1 year reported to the National Poisons Information Centre of Ireland.

Cassidy N, Herbert JX, Casey PB, Duggan E

Clinical Toxicology 2015; 53 (4): 284

Dishwasher tablets: Corrosive or irritant following accidental exposure?

O'Connor F, Casey PB, Duggan E

Clinical Toxicology 2015; 53(4): 326

The impact of new paracetamol treatment guidelines on children who take accidental acute paracetamol overdose.

Timony-Nolan E, Donohoe E, Duggan E, O'Sullivan R

Clinical Toxicology 2015; 53(4): 252

### 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 is one of 7 Poisons Centres participating in a study sponsored by the European Commission to monitor the impact of this new legislation. The study will run from August/September 2015 to May 2016.

## Outreach Activities

- Dr Edel Duggan gave a presentation on “Poisoning in the Emergency Department” to a meeting of Emergency Department Trainees at the IAEMT spring meeting.
- Nicola Cassidy gave a presentation on paediatric poisoning to Early Years (Pre-school) Inspectors in collaboration with Tusla and Child Safety Awareness Programme.
- Elaine Donohoe gave a presentation on “Household Hazards” to industry staff as part of a Genzyme Staff Education Day.
- Nicola Cassidy attended the Plain Conference in Dublin Castle and was on the judging panel for the National Adult literacy Agency’s Plain English Healthcare Awards 2015.
- Dr Edel Duggan participated in a European Chemical Emergency Network (ECHEMNET) exercise in October 2015. She was a member of the expert group that provided advice on simulated emerging chemical health threats during the exercise.
- Dr Edel Duggan appeared on the Ray Darcy show on RTE Radio 1 to highlight the hazards of detergent liquid capsules and discuss poisons awareness in the home.

### ➤ Website: [www.poisons.ie](http://www.poisons.ie)



The NPIC website was upgraded and relaunched in July 2015. We had an average of 1900 visitors every month and the most popular pages were the homepage and “Public” pages.

One of the main aims of the new website was to highlight our public phone number and to enable easy to access to it in an emergency situation. We have also included a new “Industry” section specifically for companies who are registering their products as required under CLP Regulations.

### ➤ Facebook: [www.facebook.com/NPICDublin](http://www.facebook.com/NPICDublin)

Total facebook likes in 2015 increased from **2859** on Jan 1st to **17749** on 31st Dec. A large proportion of our new traffic was from paramedics and first responders.

In March we collaborated with the HSE and EU consumer affairs in posting and sharing twitter posts regarding the Global awareness campaign on laundry detergent capsules.

We explicitly state and repost a reminder that we do not monitor our Facebook page continuously and that it should not be used in case of emergency. The message function is turned off to prevent seeing advice via this route.



### ➤ **NPIC Newsletter**

The 2015 NPIC newsletter was circulated to all general hospital Emergency Departments and focused on topics including liquid detergent capsules, lithium toxicity, Novel oral anticoagulants, synthetic cannabinoids, and a review of ECMO in the setting of poisoning.

## **Committees**

- Dr Edel Duggan sits on the UK National Poisons Information Service Clinical Standards Group.
- 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 continued in her position of Treasurer of EAPCCT.
- Nicola Cassidy is a member of the Medication Safety Forum.
- Elaine Donohoe sits on the UK TOXBASE editing group.