



POISONS[®]

INFORMATION CENTRE OF IRELAND

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Annual Report 2014



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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 health care 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 9457 enquiries in 2014; 9159 enquiries were about cases of human poisoning. The remainder were non-emergency requests for general information and enquiries about animal poisoning. The majority of our enquiries (70%) were from healthcare professionals in hospitals, community pharmacies and GP/GP Co-Ops. 28% of our calls were from members of the public with the remainder from other sources such as nursing homes, schools, and veterinary practices. Overall, 79% of human cases related to accidental poisonings and 17% related to intentional self-poisoning or recreational abuse.

We followed-up 271 serious or unusual cases to determine the outcome. Of these, 220 patients had a complete recovery with no sequelae. Follow-up is usually performed by telephone and can involve multiple calls to nursing and/or medical staff. We are very grateful to everyone who takes the time to talk to us when we call to follow-up a case.

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 ongoing 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 continue to monitor trends in poisoning and have a current focus on laundry detergent capsules, electronic cigarettes and novel drugs of abuse.

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 management 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

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, Certificate in Med Tox

Clerical Officer: Ms Annette Cooke

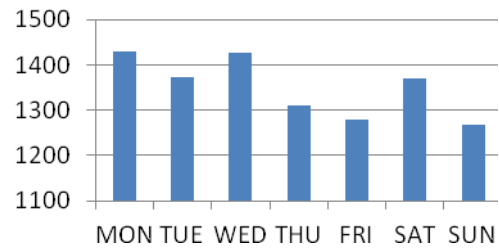
The SPI's and Manager staff the Centre's phone lines. They are all scientists with additional training and postgraduate qualifications in Medical Toxicology. Further advice and medical information is available from the Clinical Director as required. Written records of all enquiries are maintained, as 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.

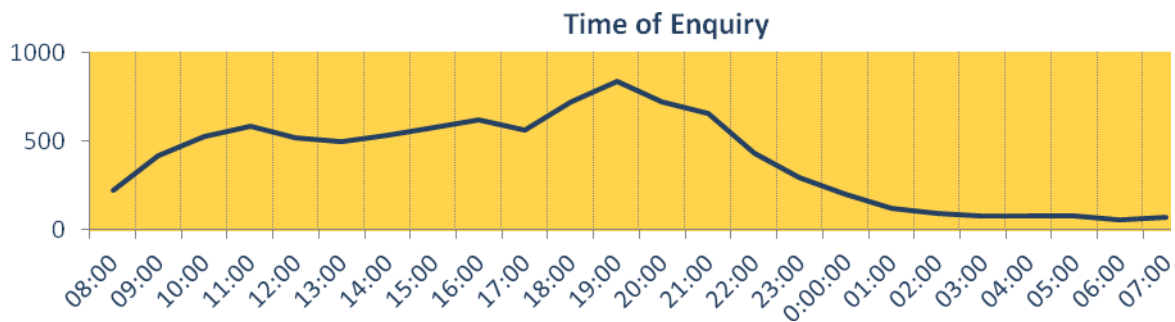
Information Sources	
<i>Computer Databases</i>	TOXBASE®
	Micromedex®; Poisindex
	In-house database
	Cosmetic Products Notification Portal
<i>Peer reviewed references</i>	Journal of Clinical Toxicology
	Current Awareness in clinical Toxicology (NPIS)
	Textbooks (e.g. Goldfranks Toxicologic Emergencies)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

NPIC Activity

The NPIC received 9457 enquiries in 2014; a fall of 3.6% compared to 2013. 9159 enquiries related to human poisoning. The remainder were non-emergency requests for information (n=231) and cases about poisoning in animals (n=67). The daily average was 26 enquiries with higher distribution early in the week.



The busiest time of the day was in the evening between 6pm - 10pm. 31% of all enquiries were received during these hours and almost half of these were from General Practice services. 30% were from members of the public.



66% of General Practice calls were from triage nursing staff in Out of Hours services. CareDoc based in the South East of the country represented 31% of calls and SouthDoc represented 16%.

Care Doc	764	NEDoc	218
Ddoc	279	NowDoc	140
DLDoc	3	ShannonDoc	245
Kdoc	85	SouthDoc	407
MidDoc	164	WestDoc	168

Type of caller

Table 2. Source of Enquiry

Source of Enquiry	Number of enquiries	%
GP/Primary Care	3718	39.3
Member of public	2658	28
Hospital	2511	26.5
Community pharmacist	233	2.4
Other	337	3.5
Total	9457	

Most of our enquiries (94%) were received from GP services, hospitals and members of the public.

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

Calls from members of the public fell by 2.5% in 2014 mainly due to a decrease in calls received from this group after 10pm.

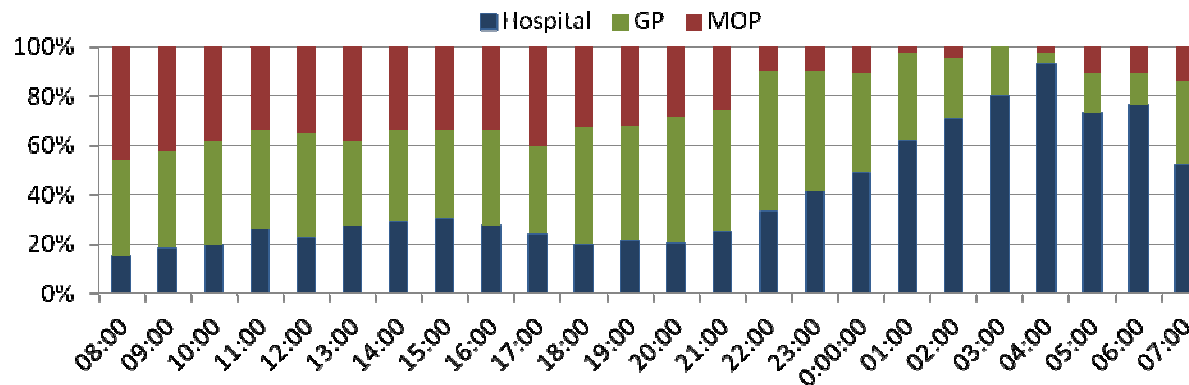


Fig 2. Breakdown of calls by enquirer

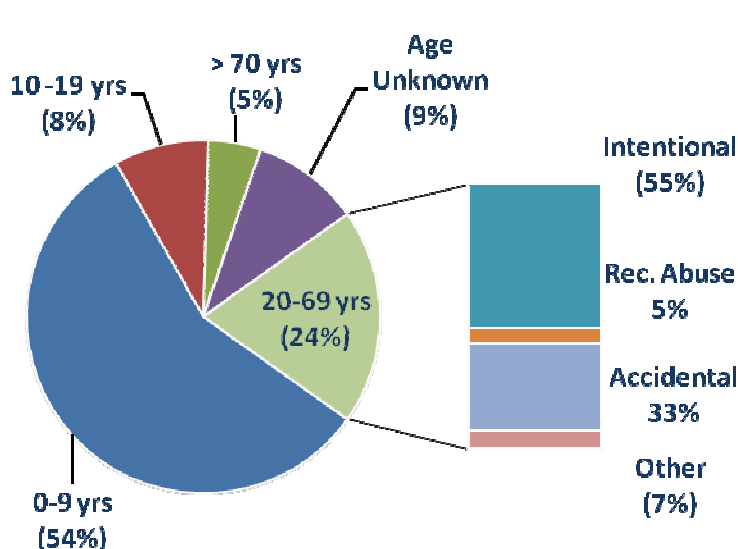
Toxbase® Enquiries

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 and is a useful additional reference source for information about poisoning. There were 10211 Toxbase user sessions in 2014, a 3.8% increase on 2013. The main users were Hospital Emergency Departments (82%).

Patient Demographics

9159 enquiries involved poisoning in humans. 79% of cases were accidental poisonings or therapeutic errors. 17% 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 (93%). A small proportion occurred in the workplace (2.5%). 2% occurred in Nursing/Care homes or hospitals. The remaining cases occurred in schools (0.5%), public places (0.6%), and other/unknown areas.



4944 enquiries related to children aged <10 years of age. 88% of cases in this age group were accidental. The remainder were therapeutic error or unknown circumstance.

2597 enquiries (28%) involved adults (>20yrs). 41% of these cases involved intentional self-poisoning or recreational abuse. 60% of cases in older patients aged >70 years were therapeutic errors. Less than 10% of cases in this age group involved intentional overdose.

Human Poisoning

More than 14000 different agents were involved in human poisoning incidents in 2014. The top 50 agents include drugs (66%), household cleaning products and chemicals. Domestic detergents are amongst the top 5 most commonly encountered poisons.

Table 2. Most common agents involved in NPIC enquiries

Agent name	Bleach Liquid	Petroleum Distillate
Paracetamol	Venlafaxine	Drug Nk
Ibuprofen	Diclofenac	Sodium Chloride
Ethanol	Escitalopram	Amitriptyline
Drug Of Abuse	Disinfectant/antiseptic/sanitiser	Lithium
Surfactant/detergent Other	Caffeine*	Lamotrigine
Codeine	Quetiapine	Oral Contraceptive
Diazepam	Multivitamins	White Spirit
Sodium Hypochlorite	Clavulanic Acid	Glyphosate
Aspirin	Tramadol	Descaler
Laundry Liquid Sachet/capsules	Fluoxetine	Dishwasher Tablet
Pregabalin	Zolpidem	Cetirizine
Mixed Essential Oil	Washing Up Liquid	Nicotine
Amoxicillin/amoxycillin	Olanzapine	Mefanamic acid
Zopiclone	Firelighter	Atorvastatin
Acetone /Nail Varnish Remover	Levothyroxine/thyroxine	Sodium Valproate
Alprazolam	Sertraline	Amlodipine

*Caffeine is a common ingredient in many analgesic products.

Household products and industrial products (ie some bleach and detergent products) were more likely to be involved in paediatric cases than in other age groups. Drugs were more likely to be involved in adult cases.

Note: Ethanol is considered to be an “industrial” agent for coding purposes. More than 50% of the industrial products involved in adult cases were ethanol (alcohol).

Table 2. Breakdown of agents by age group

	<u>0-9 years</u>	<u>10-19 years</u>	<u>>20 years</u>	<u>Unknown</u>	Total
Drugs	2962	960	3891	540	8353
Industrial*	1028	132	621	328	2109
Household	1427	94	330	298	2096
Plant/Fungi	311	38	100	70	519
Cosmetic	317	17	40	31	405
Agrochemical	109	6	74	61	250

*Includes ethanol and surfactants/detergents and some bleach products

Drugs

As in previous years, paracetamol remained the most common drug involved in poisoning incidents accounting for 16% of all products. Nonsteroidal anti-inflammatory drugs such as ibuprofen and aspirin accounted for 8% of all products. Codeine is included as a compound ingredient in a number of analgesic products.

Table 2. Most common drugs involved in cases referred to the NPIC

Paracetamol	Clavulanic acid	Sodium valproate
Ibuprofen	Tramadol	Amlodipine
“Drugs of Abuse”	Fluoxetine	Pseudoephedrine
Codeine	Zolpidem	Flurazepam
Diazepam	Olanzapine	Diphenhydramine
Aspirin	Vitamin D	Prednisolone
Multivitamins	Thyroxine	Carbamazepine
Pregabalin	Sertraline	Cocaine
Amoxicillin	Amitriptyline	Ecstasy
Zopiclone	Lithium	Heroin
Alprazolam	Lamotrigine	Domperidone
Venlafaxine	Oral contraceptive	Omeprazole
Diclofenac	Cetirizine	Ramipril
Escitalopram	Bisoprolol	Warfarin
Caffeine*	Mefenamic acid	Clonazepam
Quetiapine	Atorvastatin	Duloxetine

*Caffeine is a common ingredient in many analgesic products but does not contribute significantly to acute toxicity.

Paracetamol

1354 products involved in poisoning contained paracetamol. 64% of all patients who took paracetamol required medical assessment in hospital.

50% of cases involved children under 10 years of age; under new treatment guidelines introduced in Ireland in 2013, 47% of these patients required further investigation in hospital.

Ibuprofen

Ibuprofen was the second most common drug involved in poisoning; 448 products contained ibuprofen. 63% of cases involved children under 10 years of age and just over 50% of these patients had taken a toxic amount.

Drugs of Abuse

200 different drugs of abuse were involved in poisoning incidents; drugs included amphetamines, mephedrone, and tryptamines in addition to cocaine, ecstasy and heroin. Pregabalin, one of the top 10 most common agents, was co-ingested in a number of cases of recreational abuse.

Household Products

There were 266 different agents categorised as “household products”. As in previous years the most common household products involved in poisoning incidents were the laundry detergent. Bleach and disinfectant multipurpose cleaners were also commonly encountered.

Fabric cleaning products

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

164 cases involved exposure to concentrated single-use liquid detergent capsules. 96% of these cases involved children aged <5 years and most cases (139) involved ingestion of the liquid. Eye exposure and skin contact was also reported. 45% of patients remained asymptomatic. The most common symptoms were vomiting and coughing. 4 children developed mild CNS depression. No severe symptoms were reported.

Bleach:

159 enquiries related to bleach products. 52% of patients were asymptomatic. 121 cases involved ingestion and in most cases only small amounts were involved. 29 of these patients had minor symptoms including mild vomiting, local irritation, and nausea. 18 cases involved inhalation of chlorine gas liberated after mixing bleach with an acid cleaner. The most common features experienced were coughing and dyspnoea but no severe cases were reported.

Dishwasher tablets

80 cases involved automatic dishwasher tablets. This was a 21% increase on the previous year and the majority of patients were less than 5 years of age. Minor symptoms such as nausea and vomiting were reported but no patient developed moderate or severe symptoms.

Symptoms and Outcome

70% of patients had no symptoms at the time of the enquiry. 23% of patients had minor symptoms as drowsiness, nausea, mild vomiting, abdominal pain, and dizziness. 3% of patients had moderate symptoms including protracted vomiting, CNS depression, sinus tachycardia, hypotension and agitation. 11% of patients with moderate symptoms were less than 10 years of age. Only 1% of patients had severe symptoms.

271 cases were followed up to determine the outcome for the patient. 81% of patients recovered uneventfully. 24 patients developed sequelae and 9 patients died. Recreational drugs were implicated in 6 of the fatal cases.

Fabric Cleaning Product
Bleach liquid
Multipurpose surface cleaner
Dishwasher detergents
Washing Up Liquid
Firelighters
Descaler
Batteries
Foreign body (eg coin)
Petroleum products
Dessicant/Silica Gel
Hand Cleanser
Bottle Sterilising Liquid
Air Freshener/Reed Diffuser

Outreach and Awareness Initiatives

Good Prevention No Accident-Keeping Children Safe around Household Products

The Irish Cosmetics, Detergent & Allied Products Association (ICDA) provided funding for a household products safety awareness campaign, aimed at parents of young children. During 2013/2014 a poisons prevention leaflet was developed specific to household products and based on the existing Poisons Prevention Guidelines leaflet. Fridge magnets featuring household products and giving the Public Poisons Line number were also produced. A focus group of parents assessed the materials and provided feedback before the designs were finalised and the National Adult Literacy Agency (NALA) evaluated the leaflets using the Plain English guidelines.

50,000 leaflets and 40,000 fridge magnets were printed. 9000 leaflets were distributed to parents via EUmom (three mailings of 3000 each). The remaining leaflets and fridge magnets were offered to all HSE Directors of Public Health Nursing for their teams. The intention is that Public Health Nurses will discuss poisons prevention and give these materials to parents at the 9-month child developmental check-up. 16 of the 31 Directors ordered the materials and these were dispatched in October 2014.

HSE Special interest group on Child Injury Prevention

Patricia Casey was invited to join this group which met 4 times over the year. She also gave a presentation on the "Say NO to Poisons" campaign at the conference on "Preventing Injury to Children: Can we do better?" in January and attended the follow up networking and feedback event in June.

Carbon Monoxide Awareness Week

The NPIC supported the Carbon Monoxide awareness week 22-28 September, which was organised by Bord Gais. Activities during the week included distributing leaflets to Beaumont Hospital staff, competitions to win carbon monoxide alarms (for Beaumont staff and Facebook followers) and messages on Facebook, the NPIC website, and screensavers on Beaumont Hospital computers.

Other Outreach Activities

- HSE Injury Prevention Event: Patricia Casey gave a presentation on the "Say NO to Poisons" campaign at a conference on "Preventing Injury to Children: Can we do better?"
- Dr Edel Duggan and Patricia Casey gave a presentation to the Health and Safety Authority and Finnish Safety and Chemicals Agency on the work of the NPIC and engagement with the general public.
- Nicola Cassidy met with representatives from the Food Safety Authority and Health Promotion Unit as part of ongoing surveillance of the use of Vitamin D drops in young babies.

- Dr Edel Duggan was interviewed by Highland Radio as part of the multicentre campaign highlighting the need for safe storage and use of liquid detergent capsules.
- Patricia Casey gave a presentation to the Irish Association of Chemicals and Ingredients about the work of National Poisons Information Centre.
- Elaine Donohoe appeared on the TV3 Midday Show to highlight the need to be “Poison Aware” in the home.
- Patricia Casey gave a presentation on “Poisoning in humans and animals” at the Pet Emergency Hospital, UCD.
- Nicola Cassidy and Elaine Donohoe hosted a public information stand about mushroom poisoning stand at a Mycology Exhibition in Malahide Castle, Dublin.
- Patricia Casey gave a presentation on “The application of toxicology in clinical practice” at the Irish Society of Toxicology AGM.

Facebook: www.facebook.com/NPICDublin)

Total facebook likes increased from 1284 on the 1st Jan 2014 to 2843 on 31st Dec 2014.

The NPIC posted on Facebook 141 times during 2014 (54 links, 52 photos, 34 status updates and 1 video)

The post with the greatest reach was a post about a highly publicised sales event in Dublin promoting a product called MMS (Miracle Mineral solution). This post reached 4,228 unique users. A post about electronic cigarettes in December had the most engaged users (404). 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.

Website: www.poisons.ie



The NPIC website had 23,731 visitors during 2014, representing an increase of almost 20% of 2013.

An average of 3440 pages were viewed each month. Highlighted topics included laundry detergent capsules, carbon monoxide, seasonal hazards such as poisonous mushrooms and berries, product recalls and new packaging regulations for hazardous chemicals.

NPIC Newsletter

The 2014 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.

Staff Training and Research

Continuing Professional Development

CPD meetings help to ensure that NPIC staff members are up to date with the latest developments in clinical toxicology as well as providing a useful forum where colleagues can discuss difficult or controversial clinical issues.

Topics discussed in 2014 included: Acid/Base disturbances, Hazardous chemicals, Radiation exposure, Enhanced elimination of toxins, Detergent capsules, Drugs of abuse.

March	CPD meeting, Cardiff	Elaine Donohoe
June	CPD meeting, Birmingham	Patricia Casey, Nicola Cassidy
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). Feargal O'Connor and Patricia Casey attended the 2014 Congress in Brussels where 3 posters were presented:

The impact of changes to packaging and labelling on exposures to liquid laundry detergent gel capsules.

Casey PB, O'Connor F, Duggan E
 Clinical Toxicology 2014; 52(4): 344

Acute fatalities reported to the National Poisons Information Centre of Ireland from 2000 to 2012: A prospective observational study.

Cassidy N, Casey PB, Duggan E
 Clinical Toxicology 2014; 52(4): 308

Enquiries to the National Poisons Information Centre, Dublin concerning New Generation Anticoagulation Agents.

Donohoe E, Duggan E
 Clinical Toxicology 2014; 52(4): 309

Toxicovigilance

☑ In October 2014, the NPIC began a preliminary 6 month project with other European Poisons centres to determine the circumstances and outcomes of accidental paediatric exposures to all liquid detergent capsules. The research was commissioned by A.I.S.E (International Association for Soaps, Detergents and Maintenance Products) and it is anticipated that the results will inform future safety measures that may be indicated for packaging, storage and handling of these products.

☑ The NPIC continues to monitor exposure to nicotine liquid in electronic cigarettes. There were 34 cases involving e-cigarette liquid, representing a 4-fold increase on 2013. 27 cases involved ingestion and the remainder were about eye contact and skin contact. 50% of patients remained asymptomatic. The remainder developed minor symptoms of nicotine toxicity such as vomiting and dizziness were reported. No severe cases were reported.

Samaritans Active Listening Training

Annette Cooke, Elaine Donohoe, and Feargal O'Connor attended a training day to improve crisis awareness and communication skills.

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, the HSE Injury Prevention Forum and the EAPCCT working group on harmonisation of product data. She was also elected Treasurer of EAPCCT in May 2013.
 - Nicola Cassidy is a member of the Medication Safety Forum.
 - Elaine Donohoe sits on the UK TOXBASE editing group.
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Plans for 2015

- Compile and present initial findings from a multi-centre research study looking at exposure to liquid detergent capsules (AISE study).
- Undertake research on behalf of the European Commission to monitor exposure to single-use detergent tablets/capsules.
- Monitor the use of Pregabalin as a potential drug of abuse.