

VICTORIAN POISONS INFORMATION CENTRE



# **ANNUAL REPORT 2014**

# Victorian Poisons Information Centre

# 13 11 26

Emergency Department Austin Hospital Heidelberg 3084

www.austin.org.au/poisons

# Victorian Poisons Information Centre Annual Report 2014

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#### Introduction

The Victorian Poisons Information Centre (VPIC) commenced operation in 1962. It was located at the Royal Children's Hospital, Melbourne from 1976 to 2008. In August 2008, the centre relocated to the Austin Hospital, to integrate with the Austin Hospital Clinical Toxicology Service (AHCTS). VPIC is located in the Austin Hospital Emergency Department, and is directed administratively as part of the Austin Hospital Pharmacy Department.

VPIC provides members of the Victorian public with:

- risk assessment, first aid, and management advice in the event of poisoning or suspected poisoning involving: accidental/unintentional exposures that include therapeutic errors and occupational exposures; deliberate self poisonings; envenomations; toxic hazard situations
- advice regarding the need for medical assessment
- prevention of poisoning information and advice
- referral to other information sources if appropriate
- selected drug information.

VPIC provides health professionals with:

- a risk assessment in the event of poisoning or suspected poisoning involving: accidental/unintentional exposures that include therapeutic errors and occupational exposures; deliberate self poisonings; envenomations; toxic hazard situations
- information about the potential toxic effects from an exposure
- initial and ongoing management advice
- information on formulation of products
- referral to other information resources if appropriate
- referral to a member of the supporting medical toxicology team (registrar, fellow or consultant) for complicated and/or severe cases, following agreed escalation protocols
- information and data about trends in poisonings.

VPIC aims to prevent unnecessary visits to general practitioners and hospitals, and to ensure patients who are poisoned or envenomed receive the most appropriate treatment promptly.

The VPIC telephone number is **13 11 26**. This number can be used Australia-wide for the cost of a local call (excluding mobile phones).

#### **Hours of Operation**

VPIC operates Monday to Friday (0800 to 2130 hours), and Saturday and Sunday (0800 to 2100 hours), ie 93.5 hours per week. Outside these times, calls are diverted to the New South Wales (NSW) Poisons Information Centre. Overnight shifts (12 midnight to 0600 hours) are shared between the four Australian PICs (NSW, Queensland, Western Australia and Victoria). Only one PIC operates overnight, taking all the calls from across Australia while the other three PICs are closed. During 2014, VPIC maintained its overnight shift commitment of five to six shifts per month.

#### Personnel

**Director of Austin Health Pharmacy and the VPIC** Kent Garrett B. Pharm., Grad. Dip. Hosp. Pharm.

#### Manager, VPIC

Jeff Robinson B. Pharm., FSHP, Grad. Dip. Hosp. Pharm.

#### **Medical Director of VPIC**

Dr Shaun Greene MB ChB, MSc (Medical Toxicology), FACEM

#### **Specialists in Poisons Information (SPIs)**

Janet Browning B. Pharm., Dip. Hosp. Pharm. Mark Colbridge B. Sc (Hons) Dr Dawson MacLeod B. Pharm., Grad. Dip. Biotech., Grad. Cert. Clin. Tox., PhD Hamish McCracken B. Pharm., Grad. Dip. Psych. Christine McKenzie B. Pharm., Grad. Cert. E-Health Comm., Grad. Cert. Clin. Tox. Jeff Robinson B. Pharm., FSHP, Grad. Dip. Hosp. Pharm.

#### **Toxicology Fellow in Training**

Dr Anselm Wong MB BS, FACEM

#### **On-Call Clinical Toxicologists**

The following clinical toxicologists shared the VPIC on-call responsibilities during 2014: Professor George Braitberg MB BS, FACEM, FACMT, Dip Epi Biostats (Melbourne Health) Dr. Dino Druda B. Med. Sc (Hons), MB BS, MRCP (UK), FACEM, Grad. Cert. Clin. Tox. (Monash Health) Professor Andis Graudins MB BS, PhD, FACEM, FACMT (Monash Health) Dr Shaun Greene MB ChB, MSc (Medical Toxicology), FACEM (AHCTS)

Dr Fergus Kerr MB BS, FACEM (AHCTS)

Dr. Zeff Koutsogiannis MB BS, FACEM, Grad. Cert. Clin. Tox. (AHCTS)

AHCTS is comprised of a toxicology registrar (six month rotation) and three toxicology consultants (Dr. Fergus Kerr, Dr. Shaun Greene and Dr. Zeff Koutsogiannis). The clinical toxicology fellow, Dr. Anselm Wong, joined AHCTS in May 2013 as a two year appointment. In July 2014, a shared AHCTS/Monash Health on-call toxicology service commenced. Two clinical toxicologists from Monash Health, Professor Andis Graudins and Dr. Dino Druda, joined the AHCTS toxicologists to provide a specialised management and advice service for toxicology/toxinology admissions at Austin Health and Monash Health, and other Victorian hospitals via VPIC call escalation. Professor George Braitberg (Melbourne Health) also participates in the on-call service.

VPIC staff enjoy a close day-to-day working relationship with the AHCTS team. In complicated and/or severe poisoning cases, they have ready access to the toxicology registrar, toxicology fellow or the on-call consultant. In addition, a range of external consultants (clinical pharmacologists, mycologists and botanists) are available to VPIC staff to provide specialist advice in these areas if needed.

Additionally, Drs. Greene, Koutsogiannis, Druda and Professor Graudins continued their participation in the national toxicology roster. Dr. Anselm Wong (Austin Health) and Dr. Julia Fisher (Monash Health) also participated in the national roster as part of their Toxicology Fellowship training.

# **Clinical Governance Activities**

Clinical governance has been defined as the framework through which health care organisations are accountable for continuously improving the quality of their services and safeguarding high standards of care by creating an environment in which excellence in clinical care will flourish.

The following clinical governance activities were undertaken during 2014:

- Internal review of all VPIC calls by a second VPIC staff member.
- Review of all VPIC potentially 'critical incident' calls by the Toxicology Registrar, ie all calls received from hospitals, general practitioners and ambulances. This call review forms part of the Registrar's training.
- Reports of all shared-service cases and VPIC calls referred to the registrar, fellow or on-call toxicologist were emailed to VPIC, AHCTS and Monash Health Toxicology staff, with follow-up reports if appropriate.
- Next day follow-up of any Victorian cases that were referred to the national roster toxicologist overnight. If appropriate, follow-up reports of these cases were emailed to VPIC, AHCTS, Monash Health Toxicology staff and the national toxicology/PIC email distribution list.
- Ongoing involvement in VPIC/AHCTS educational activities, eg monthly Global Educational Toxicology Uniting Project (GETUP) videoconferencing with the PICs in Fiji and Fresno, California; two half-day Toxicology Forums; Austin Hospital Grand Rounds; case discussions including morbidity and mortality review, teaching sessions and Toxicology Journal Club held every Wednesday.
- Ongoing review of VPIC/AHCTS policies, procedures, protocols, clinical guidelines and position statements. These reviews are performed every two years or earlier if indicated.
- VPIC and AHCTS staff attended the national PIC/Toxicology Clinical Meetings held in Newcastle, Sydney and Perth.
- Austin Health Performance Review and Development (PRD) for all VPIC staff.

### **Poisoning Prevention Activities**

The following poisoning prevention activities were undertaken during 2014:

- Printed material (pamphlets, telephone stickers, posters, information sheets) was supplied to child care centres, kindergartens, local councils, Maternal and Child Health Centres, GP surgeries etc throughout the year.
- In September, VPIC fridge magnets were added to the range of resources supplied to child care centres, kindergartens, local councils, Maternal and Child Health Centres, GP surgeries etc.
- Jeff Robinson wrote an article 'Medicine mishaps. How to prevent making mistakes with your medicines and what to do if an error occurs', which was published in the newsletters produced by Parkinsons Australia, Alzheimer's Australia, Arthritis Australia, Epilepsy Australia and Diabetes Australia.
- The following resources for members of the public on the VPIC website <u>www.austin.org.au/poisons</u> were updated: bites and stings, other information sheets, links to other resources. These provide poisoning/envenomation prevention and first aid advice.

# **Toxicovigilance Activities**

Toxicovigilance is the active process of identifying and evaluating toxic risks, and evaluating the measures taken to reduce or eliminate them. It involves the analysis of PIC data to identify if there are specific circumstances or agents giving rise to poisoning, or certain populations or locations suffering a higher incidence of poisoning or the need for public education and restrictions on the availability of certain products. Toxicovigilance may lead to PIC safety alerts in cases of sentinel events. Toxicovigilance can also reveal whether there is an emerging toxicological problem resulting from, for example, the reformulation of a product or a change to its packaging or labelling or the availability of a new drug of abuse.

To support toxicovigilance activities, VPIC has developed collaborative links with: the other Australian PICs; public health agencies such as the Victorian Department of Health Environmental Health Unit; regulatory authorities such as the Therapeutics Goods Administration (TGA); medication safety bodies; child safety groups, eg Kidsafe, Royal Children's Hospital Safety Centre.

The following toxicovigilance activities were undertaken during 2014:

- VPIC call data pertaining to poisoning from apricot kernels was provided to Product Safety Standards, Food Standards Australia New Zealand.
- VPIC call data pertaining to e-cigarette exposures was provided to Carol Wylie, Manager, Queensland Poisons Information Centre, as part of national PIC toxicovigilance of these products.
- VPIC call data pertaining to marijuana and synthetic cannabinoids was provided to Professor Andis Graudins.
- VPIC call data pertaining to paediatric therapeutic errors involving oxycodone mixture was provided to Jared Brown, Deputy Manager, NSW Poisons Information Centre.
- VPIC call data pertaining to intentional opioid exposures was provided to Nicole Wright, NSW Poisons Information Centre
- VPIC call data pertaining to Miracle Mineral Solution exposures was provided to the Victorian Department of Health.
- VPIC call data pertaining to beer line cleaner exposures was provided to Dr. Carolyn Lewis, South Australian Health Department.
- VPIC call data pertaining to hydrogen peroxide exposures during 2013 was provided to Dr. Alan Gault, WA Poisons Information Centre.
- VPIC call data pertaining to methotrexate therapeutic errors was provided to Rose Cairns, NSW Poisons Information Centre.

### **Research Activities, Publications and International Conference Presentations**

The following research activities, publications and international conference presentations were undertaken during 2014:

- Stephenson M, Wong A, Rotella JA, Crump N, Kerr F, Greene SL. Deliberate fingolimod overdose and haemodynamic instability treated with atropine. J Med Toxicol 2014; 10(2): 215-8.
- Wong A, Graudins A, Kerr F, Greene SL. Paracetamol toxicity: What would be the implications of a change in Australian treatment guidelines? Emerg Med Australas 2014; 26(2):183-7.

- Wong A, Koutsogiannis Z, Greene SL. Pulmonary haemorrhage from therapeutic rivaroxaban use: Chest radiograph consolidation is not always infection! Emerg Med Australas 2014; 26(3):318-9.
- Martinez A, Dobos N, Rotella JA, Greene SL. Life-threatening cardiovascular toxicity following ingestion of Chinese herbal medicine. Emerg Med Australas Published Online First: 26 August 2014, DOI: 10.1111/1742-6723.12281.
- Leang Y, Taylor DM, Dargan PI, Wood DM, Greene SL. Reported ingested dose of paracetamol as a predictor of risk following paracetamol overdose. Eur J Clin Pharmacol Published Online First: DOI 10.1007/s00228-014-1756-0.
- Wong A, Vohra R, Koutsogiannis Z, Graeme K, Ruha M, Wood DM, Dargan PI, Greene SL. The Global Educational Toxicology Uniting Project (GETUP) Pilot Study. Clin Tox 2014; 52:295-443. (Abstract number 120).
- Vohra R, Gosselin S, Kopec K, Gunja N, Wong A. ACMT International Committee Survey 2013. ACMT AGM 2014, Phoenix USA. J Med Toxicol Feb 2014. (Abstract).
- Wong A. GETUP. ACMT International Meeting, Phoenix USA, March.
- Wong A, Vohra R, Koutsogiannis Z, Graeme K, Ruha M, Wood DM, Dargan PI, Greene SL. The Global Educational Toxicology Uniting Project (GETUP) Pilot Study (Poster). EAPCCT Conference, Brussels, May.
- At the EAPCCT Conference in Brussels in May, Andis Graudins was involved in presentations about: modified-release paracetamol poisoning in Australia; epidemiology of paracetamol poisoning in Melbourne and compliance with the national treatment guideline.
- Taylor DM, Ling S, Robinson J. The Nature and Outcomes of Workplace Chemical and Toxin Exposures Reported to the Victorian Poisons Information Centre. Poster presentation at the Australasian College for Emergency Medicine (ACEM) Annual Scientific Meeting in Melbourne in December.

### **Online publications**

- Wong A, Vohra R. GETUP. American College of Medical Toxicology Newsletter February and June 2014. http://www.acmt.net/newsletter.html
- Wong A, Koutsogiannis Z, Greene SL. GETUP. Asia Pacific Association of Medical Toxicology Newsletter February and July 2014.
- Rotella JA, Wong A. GETUP. Life in the Fast Lane interview March 2014. <u>http://lifeinthefastlane.com/getup-foamtox-across-globe</u>
- Wong A. GETUP. UK Emergency College Newsletter April 2014. www.collemergencymed.ac.uk/CEM/document?id=7724
- Wong A. GETUP. Network of African Poisons Centres and Toxicologists. <u>www.napcat.net</u>

# **Conference and Meeting Attendances**

The following conferences and meetings were attended during 2014:

- VPIC and AHCTS staff attended and presented at the half-day Toxicology Forums held at the Austin Hospital in March and October.
- VPIC and AHCTS staff attended and presented at the three national PIC/Toxicology Clinical Meetings, held in Newcastle (TAPNA), Sydney and Perth.
- As part of the Global Educational Toxicology Uniting Project (GETUP), VPIC/AHCTS staff participated in monthly videoconferencing with the PICs in Fiji, California and South Africa.
- Jeff Robinson and Shaun Greene attended the national PIC/Toxicology Business Meetings held in July (Sydney) and November (Perth).
- Jeff Robinson and Shaun Greene participated in the Poisons Information and Toxicology Network Australia (PITNA) Working Party monthly teleconferences.

• In July and December, Jeff Robinson harmonisation meetings in Sydney.

• In December, members of AHCTS held a toxicology workshop as part of the ACEM Annual Scientific Meeting in Melbourne.

# **Other Activities**

The following additional activities were undertaken during 2014:

- VPIC/AHCTS educational activities continued to be held every Wednesday, eg teaching sessions, ward round, case discussions including morbidity and mortality review, Toxicology Journal Club.
- Review of VPIC/AHCTS clinical guidelines, policies, procedures, protocols and position statements was ongoing. Abridged versions of clinical guidelines were placed on the Austin Health intranet (Hub) and full versions in the ToxLibrary.
- During 2014, Shaun Greene gave extensive advice to the Victorian Department of Health, general practitioners and members of the public living near Costerfield who were concerned about possible antimony exposure from a mine in that area.
- In January, Jeff Robinson joined the NSW Poisons Information Centre Advisory Council.
- In January, a multiagency (VPIC, Victorian Department of Health, Metropolitan Fire Brigade, Country Fire Authority, Ambulance Victoria) procedure for the management of patients contaminated with hazardous materials was introduced.
- In January, Shaun Greene and Zeff Koutsogiannis commenced a series of meetings with Ambulance Victoria to review their toxicology-related Clinical Practice Guidelines.
- In February, Jeff Robinson reviewed the 'Fungi Poisoning' monograph produced by the Better Health Channel, Victorian Department of Health.
- At their February meeting, the PITNA Working Party accepted the revised Practice Standards for Australian Poisons Information Centres 2014. These had been prepared by the four Australian PIC Managers and replaced the previous version written in 1999.
- In February, Shaun Greene gave a television interview about potential risks with over-thecounter medicines, eg excessive dosing, drug interactions.
- In February, Shaun Greene was interviewed by a journalist from The Heidelberg Leader newspaper for an article about scombroid fish poisoning.
- In February, Jeff Robinson was interviewed by Radio 3AW about bites and stings in Australia.
- In February, Jeff Robinson was interviewed by journalists from The Age and Herald-Sun newspapers for articles about the misuse of clenbuterol as a slimming/bodybuilding agent.
- In March, Shaun Greene was interviewed by Al Jazeera Television about the use of methamphetamine ('ice') in Victoria.
- In April, a monthly Toxicology Newsletter was introduced at the Austin Hospital.
- In April, Jeff Robinson was interviewed by a journalist from the Herald-Sun newspaper for an article about the risks of eating wild mushrooms.
- In May, Jeff Robinson reviewed the 'Child Poisoning in The Home' monograph produced by the Better Health Channel, Victorian Department of Health.
- In June, the host server for the VPIC call database was upgraded. Additional fields in the call database were also introduced (caller email address, exposure postcode and suburb, free text multiline toxicologist report, link to the last 20 calls).
- In June, August and September, Jeff Robinson was interviewed by journalists from The Age newspaper, ABC News Sydney and The Australian newspaper for articles about e-cigarette poisoning.

- In June, Jeff Robinson participated in the KPMG/Victorian Department of Health project 'Best Practice in Responding to People with Alcohol and Other Drug Related Issues Presenting to Hospital Emergency Departments.'
- In June, Jeff Robinson reviewed the 'Child Safety Reducing Injuries' monograph produced by the Better Health Channel, Victorian Department of Health.
- In July, Jeff Robinson reviewed the following monographs produced by the Raising Children Network: 'Preventing Poisoning', 'Dangerous Plants', 'Household Poisons' and 'Medicines That Can Poison'.
- In July, Shaun Greene, Jeff Robinson and Anselm Wong joined the Royal Children's Hospital Toxicology Committee, to assist in the review of the RCH toxicology clinical practice guidelines.
- In July, a draft document 'VPIC/AHCTS Ideas for Future Development', prepared by Jeff Robinson and Shaun Greene, was circulated to all staff for comment.
- In August, expanded options were added to the following VPIC call database fields: caller background, exposure type, referral agencies. This followed discussions and agreement between the four Australian PIC Managers to gradually adopt agreed definitions and a harmonised dataset across the four PICS.
- In August, Shaun Greene was interviewed on the ABC 7.30 about antimony exposure.
- In August, Jeff Robinson reviewed the Victorian Department of Health Emergency Department Fact Sheet 'Accidental Poisoning in Children'.
- In October, Christine McKenzie and Janet Browning undertook the annual review of the Victorian Therapeutics Advisory Group's Register of Emergency and Life Savings Drugs. This included refinement of the list of infrequently-used, non-time-critical antidotes to be kept at the Austin Hospital.
- In October, Dawson MacLeod was interviewed by a journalist from the Herald Sun newspaper for an article about Miracle Mineral Solution.
- In the latter part of the year, VPIC staff provided input into the proposed national SPI training curriculum.
- VPIC operations were shown to many visitors, including Austin Hospital pharmacy interns, staff from other Australian Poisons Information Centres and Pharm. D. graduates from the USA.

# **Key Performance Indicators**

#### **Outreach Education**

A total of 40 outreach education hours were delivered during 2014, see Figure 1 below. This was an increase compared to 2013. Highlights included:

- Half-day Toxicology Forums held at the Austin Hospital in March and October.
- Presentations at two of the national PIC/Toxicology Clinical Meetings, held in Newcastle in May (TAPNA) and Perth in November.
- Chemical Agents lecture (Dr. Greene) as part of the Victorian Department of Health's Chemical, Biological and Radiological Courses held at Bendigo and Hobart in May.
- Presentation on 'Party Drugs' at the National ICU Conference, Melbourne, in October.
- Presentation on 'Amphetamine and Cannabis Presentations' at the Pennington Institute Medical Drug Forum in October.
- A Toxicology Workshop and presentations on cardiovascular drug toxicity and synthetic cannabinoids (Professor Graudins and Dr. Greene) as part of the ACEM Annual Scientific Meeting in Melbourne in December.

• Presentations to Emergency Department and Maroondah Hospitals.

• Presentations to undergraduate medical and pharmacy students, trainee paramedics, emergency nurse practitioners and rural general practitioners.

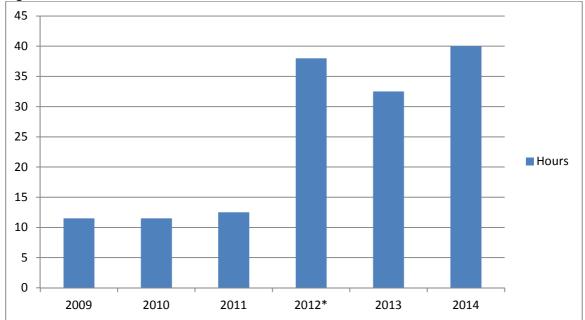


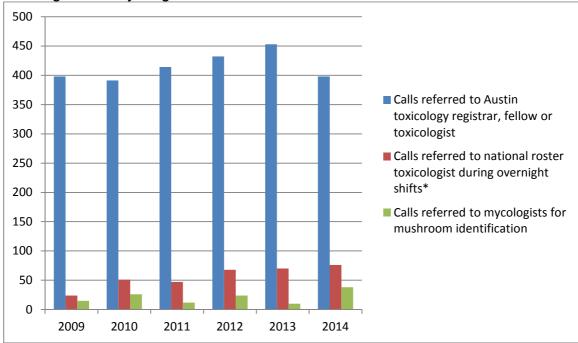
Figure 1: Outreach education hours

\* From 2012, ongoing additional Victorian Department of Health funding to support Outreach Education saw a significant increase over previous years.

# Calls referred to the Austin toxicology registrar, fellow, toxicologists, national roster toxicologists and mycologists

VPIC staff follow escalation protocols to refer complicated and/or severe poisoning cases to the toxicology registrar, fellow or on-call toxicologist for management advice. On-call staff must be readily contactable and must respond promptly, within 10 to 15 minutes, to the health professional who contacted VPIC. When working an overnight shift, such calls are referred to the national roster clinical toxicologist. During 2014, 398 calls were referred to the Austin Hospital toxicology registrar, fellow or on-call toxicologist, and 76 overnight shift calls were referred to the national roster clinical toxicologist, see Figure 2.

VPIC and the senior mycologists at the Royal Botanic Gardens, Melbourne, have an ongoing service agreement whereby calls to VPIC that involve ingestion of a potentially toxic mushroom are referred to the on-call mycologist for identification of the mushroom/s involved (38 such cases in 2014, a significant increase over previous years). Mushroom identification may involve emailed photos or couriering specimens to the mycologists.



\* VPIC worked 25 overnight shifts in 2009. This increased to 52 shifts in 2010, 54 shifts in 2011, 56 shifts in 2012, 66 shifts in 2013 and 67 shifts in 2014.

#### Calls by hour of the day

As in previous years, most calls were received between 1600 and 2100 hours, with the period between 1800 and 2000 hours being the busiest, see Figure 3 below.

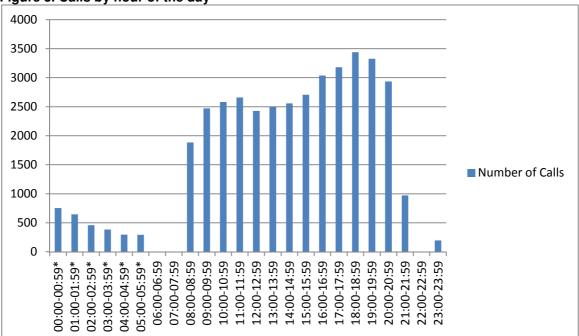


Figure 3. Calls by hour of the day

\* As VPIC works just five to six national overnight shifts per month, the overnight call numbers (12 midnight to 0600 hours) are much lower than daytime numbers.

#### Calls by month of the year

VPIC call numbers always taper off over the winter months, see Figure 4 below. This is most likely due to more limited outdoor work and play during these months. Calls numbers relating to outdoor activities, eg bites, stings and envenomations, increase during the warmer months.

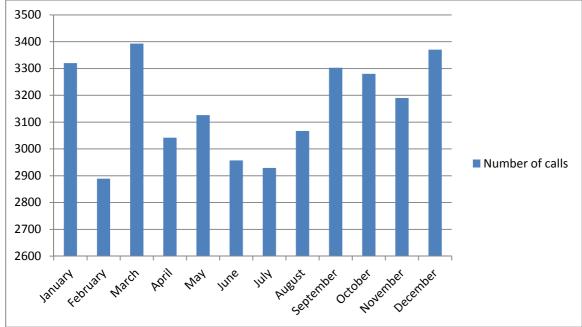


Figure 4. Calls by Month of the Year

#### **Complaints received**

Just two complaints about the VPIC service were received during 2014. Both complaints were handled according to the VPIC complaints investigation procedure.

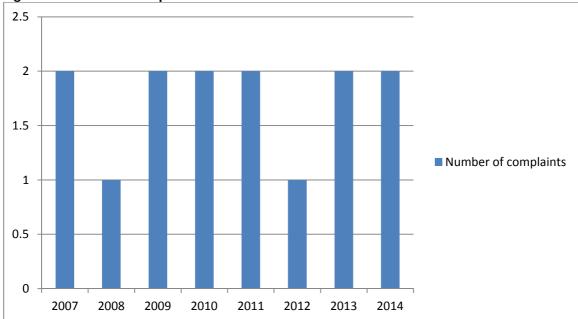
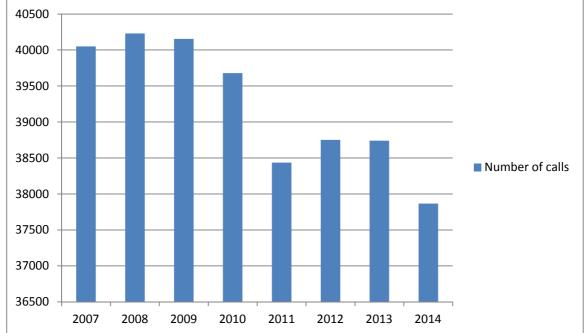


Figure 5. Number of complaints received

# Calls to VPIC

The centre received a total of 37,866 calls in 2014, an average of 104 calls per day. This was slightly below 2013 (38,740 calls, average 106 calls per day) and 2012 (38,751 calls, average 106 calls per day). The 2014 total includes 2,607 calls answered by VPIC during 67 overnight shifts (New South Wales 784, Victoria 629, Western Australia 394, Queensland 497, South Australia 189, Tasmania 51, Australian Capital Territory 40, Northern Territory 23). Seventy six of these overnight calls were referred to the national roster toxicologist.





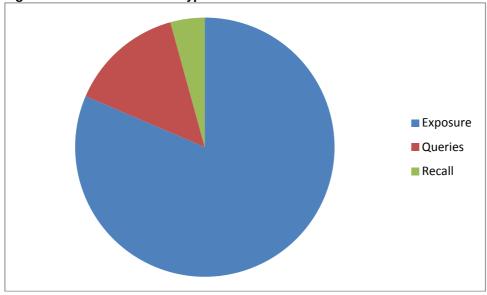
#### Call types (Figure 7)

Most calls involved an exposure. Approximately one-seventh of calls were queries.

| Call type            | Number of calls | %   |
|----------------------|-----------------|-----|
| Exposure to a poison | 30,835          | 81  |
| Queries              | 5,407           | 14  |
| Recall*              | 1,624           | 5   |
| Total                | 37,866          | 100 |

\* A recall is a second or subsequent call about a particular exposure.

Figure 7: Breakdown of call types 2014



\* A recall is a second or subsequent call about a particular exposure.

#### Query types

| The types | of  | queries | received | are | shown     | helow  |
|-----------|-----|---------|----------|-----|-----------|--------|
| The types | UI. | queries | receiveu | are | 3110 1011 | Delow. |

| Query type                     | Number of calls | %   |
|--------------------------------|-----------------|-----|
| Drug information               | 2,356           | 44  |
| Poisons information            | 1,993           | 36  |
| Prevention of poisoning/safety | 265             | 5   |
| Medicines and breastfeeding    | 255             | 5   |
| Medicines and pregnancy        | 236             | 4   |
| Medical                        | 200             | 4   |
| Environmental                  | 99              | 2   |
| Occupational                   | 3               | <1  |
| Total                          | 5,407           | 100 |

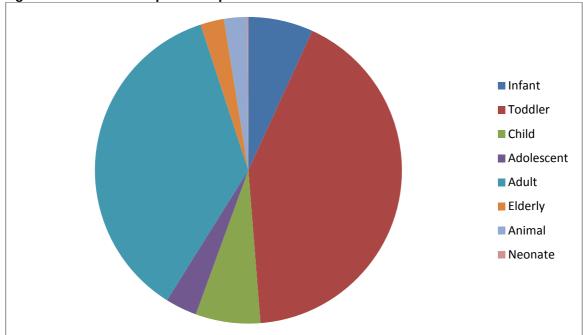
#### Person exposed (Figure 8)

The majority of calls about exposure to a poison involved toddlers.

| Person exposed              | Number of calls | %   |
|-----------------------------|-----------------|-----|
| Neonate (0 to 4 weeks)      | 39              | <1  |
| Infant (4 weeks to 1 year)  | 2,103           | 7   |
| Toddler (1 to 4 years)      | 12,980          | 43  |
| Child (5 to 14 years)       | 2,098           | 7   |
| Adolescent (15 to 19 years) | 1,025           | 3   |
| Adult (20 to 74 years)      | 11,079          | 36  |
| Elderly (>75 years)         | 764             | 2   |
| Animal*                     | 747             | 2   |
| Total                       | 30,835          | 100 |

 $\ast$  Callers phoning about an exposure involving an animal were referred to their vet

Figure 8: Breakdown of person exposed 2014



# Person-calling (animal exposures excluded)

The majority of calls about exposure to a poison were received from members of the public.

| Person-calling                  | Number of calls | %   |
|---------------------------------|-----------------|-----|
| Family member                   | 14,420          | 49  |
| Self                            | 6,817           | 23  |
| Doctor                          | 4,024           | 13  |
| Nurse                           | 1,585           | 5   |
| Carer                           | 1,495           | 5   |
| Friend                          | 676             | 2   |
| Ambulance                       | 606             | 2   |
| Pharmacist                      | 226             | <1  |
| Other, eg police, fire brigade, | 140             | <1  |
| teachers, vet, media            |                 |     |
| Counselling service             | 68              | <1  |
| Other medical professional, eg  | 31              | <1  |
| dentist, psychologist, social   |                 |     |
| worker, optometrist             |                 |     |
| Total                           | 30,088          | 100 |

#### Types of exposure (animal exposures excluded)

The majority of calls about exposure to a poison involved accidental exposures.

| Types of exposure | Number of calls | %  |  |
|-------------------|-----------------|----|--|
| Accidental        | 20,481          | 69 |  |
| Therapeutic error | 4,879           | 16 |  |
| Intentional       | 4,006           | 13 |  |

| Workplace acute     | 653    | 2   |
|---------------------|--------|-----|
| Workplace chronic   | 16     | <1  |
| Environmental/other | 53     | <1  |
| Total               | 30,088 | 100 |

#### Routes of exposure (animal exposures excluded)

The majority of calls about exposure to a poison involved ingestion.

| Route of exposure | Number of calls | %   |
|-------------------|-----------------|-----|
| Ingestion         | 30,928          | 82  |
| Ocular            | 1,901           | 5   |
| Inhalation/nasal  | 1,763           | 5   |
| Dermal            | 1,692           | 5   |
| Bite/sting        | 952             | 2   |
| Parenteral        | 357             | 1   |
| Aural             | 18              | <1  |
| Vaginal           | 8               | <1  |
| Rectal            | 10              | <1  |
| Total             | 37,629*         | 100 |

\* The number of routes of exposures is greater than the person exposed, person-calling and types of exposure numbers because a call sometimes has more than one exposure route, eg household items sprayed into the mouth, face and eyes.

#### Handling calls – neonates (0 to 4 weeks)

The majority of neonates exposed to a poison could be managed at home.

| Handling calls - neonates | Number of calls | %   |
|---------------------------|-----------------|-----|
| Stay at home              | 31              | 80  |
| Hospital refer            | 0               | 0   |
| In hospital               | 7               | 18  |
| GP refer                  | 0               | 0   |
| At GP surgery             | 1               | 2   |
| Other                     | 0               | 0   |
| Total                     | 39              | 100 |

#### Handling calls - infants (4 weeks to 1 year)

The majority of infants exposed to a poison could be managed at home.

| Handling calls – infants | Number of calls | %   |
|--------------------------|-----------------|-----|
| Stay at home             | 1,935           | 93  |
| Hospital refer           | 36              | 2   |
| In hospital              | 73              | 3   |
| GP refer                 | 9               | <1  |
| At GP surgery            | 22              | 1   |
| Other                    | 28              | 1   |
| Total                    | 2,103           | 100 |

#### Handling calls – toddlers (1 to 4 years)

| Handling calls – toddlers | Number of calls | %   |
|---------------------------|-----------------|-----|
| Stay at home              | 11,592          | 90  |
| Hospital refer            | 322             | 2   |
| In hospital               | 684             | 5   |
| GP refer                  | 66              | 1   |
| At GP surgery             | 161             | 1   |
| Other                     | 155             | 1   |
| Total                     | 12,980          | 100 |

The majority of infants exposed to a poison could be managed at home.

#### Handling calls – children (5 to 14 years)

| The | majorit | y of | children | expose | d to a | a po | oison | could | be managed at hon | ne. |
|-----|---------|------|----------|--------|--------|------|-------|-------|-------------------|-----|
|     |         |      |          |        |        |      | -     |       |                   |     |

| Handling calls - children | Number of calls | %   |
|---------------------------|-----------------|-----|
| Stay at home              | 1,572           | 75  |
| Hospital refer            | 110             | 5   |
| In hospital               | 269             | 13  |
| GP refer                  | 35              | 2   |
| At GP surgery             | 47              | 2   |
| Other                     | 65              | 3   |
| Total                     | 2,098           | 100 |

#### Handling calls – adolescents (15 to 19 years)

The majority of adolescents exposed to a poison were already in hospital.

| Handling calls – adolescents | Number of calls | %   |
|------------------------------|-----------------|-----|
| Stay at home                 | 290             | 28  |
| Hospital refer               | 187             | 19  |
| In hospital                  | 445             | 43  |
| GP refer                     | 38              | 4   |
| At GP surgery                | 20              | 2   |
| Other                        | 45              | 4   |
| Total                        | 1,025           | 100 |

#### Handling calls – adults (20 to 74 years)

The majority of adults exposed to a poison could be managed at home.

| Handling calls – adults | Number of calls | %   |
|-------------------------|-----------------|-----|
| Stay at home            | 5,525           | 50  |
| Hospital refer          | 1,297           | 12  |
| In hospital             | 2,865           | 25  |
| GP refer                | 508             | 5   |
| At GP surgery           | 357             | 3   |
| Other                   | 527             | 5   |
| Total                   | 11,079          | 100 |

#### Handling calls – elderly (>75 years)

| Handling calls - elderly | Number of calls | %   |
|--------------------------|-----------------|-----|
| Stay at home             | 523             | 69  |
| Hospital refer           | 62              | 8   |
| In hospital              | 105             | 14  |
| GP refer                 | 37              | 5   |
| At GP surgery            | 11              | 1   |
| Other                    | 26              | 3   |
| Total                    | 764             | 100 |

The majority of elderly people exposed to a poison could be managed at home.

#### Symptom severity at the time of the call (animal exposures excluded)

The majority of human exposures were asymptomatic at the time of the call to VPIC.

| Poisoning severity score* | Number of calls | %   |
|---------------------------|-----------------|-----|
| None                      | 22,466          | 75  |
| Minor                     | 7,228           | 24  |
| Moderate                  | 303             | 1   |
| Severe                    | 91              | <1  |
| Fatal                     | 0               | 0   |
| Total                     | 30,088          | 100 |

\* Symptom severity scoring is based on the Poisoning Severity Score. Persson HE, Sjoberg GK, Haines JA, Pronczuk de Garbino J. Poisoning severity score. Clin Tox 1998; 36(3): 205–13.

#### Top ten exposure substances

VPIC's top ten exposure substances during 2014 are shown below.\*

| Substance   | Number of calls |
|---|-----------------|
| Paracetamol   | 2,009           |
| Benzodiazepines   | 1,059           |
| Ibuprofen   | 946             |
| Selective serotonin re-uptake inhibitor antidepressants | 742             |
| Topical antiseptics, handsanitisers                     | 684             |
| Bleach (hypochlorite based)                             | 631             |
| Quetiapine  | 552             |
| Silica gel  | 514             |
| Toilet bowl cleaner/deodoriser: cage/disc type          | 514             |
| Paracetamol/narcotic combination analgesic              | 494             |

\*These are not necessarily the most toxic, but rather may be the most accessible.

# Exposures to non-medicine, non-drug products

| Substance/product                           | Number of calls |  |  |  |  |
|---|-----------------|--|--|--|--|
| HOME PRODUCTS                               |                 |  |  |  |  |
| Adhesives, glues, cements, pastes           |                 |  |  |  |  |
| Cyanoacrylates                              | 162             |  |  |  |  |
| Epoxy resins                                | 23              |  |  |  |  |
| Model glues, cements                        | 16              |  |  |  |  |
| Non-toxic glues, pastes                     | 64              |  |  |  |  |
| Adhesive, glue, cement, paste:              | 43              |  |  |  |  |
| other/unknown                               |                 |  |  |  |  |
| Art, craft, hobby, writing products         |                 |  |  |  |  |
| Chalk                                       | 36              |  |  |  |  |
| Correction fluid                            | 14              |  |  |  |  |
| Crayon                                      | 30              |  |  |  |  |
| Paint: artists' paints, non-water colour    | 14              |  |  |  |  |
| Paints: artists' paints, water colours      | 33              |  |  |  |  |
| Paper/cardboard                             | 20              |  |  |  |  |
| Pencil                                      | 16              |  |  |  |  |
| Pens/ink (including stamp pad ink, textas)  | 208             |  |  |  |  |
| Printer ink/cartridge                       | 27              |  |  |  |  |
| Art, craft, writing products: other/unknown | 32              |  |  |  |  |
|   |                 |  |  |  |  |
| Batteries                                   | -               |  |  |  |  |
| Automotive                                  | 15              |  |  |  |  |
| Disc/button                                 | 66              |  |  |  |  |
| Penlight/dry cell                           | 119             |  |  |  |  |
| Cleaners, bleaches, detergents etc          |                 |  |  |  |  |
| Bleach (hypochlorite based)                 | 631             |  |  |  |  |
| Bleach: other/unknown                       | 6               |  |  |  |  |
| CD/DVD cleaner                              | 6               |  |  |  |  |
| Cleaner: all purpose/hard surface           | 363             |  |  |  |  |
| Cleaner: ammonia based                      | 12              |  |  |  |  |
| Cleaner: baby bottle                        | 7               |  |  |  |  |
| Cleaner: bathroom/shower/tile               | 109             |  |  |  |  |
| Cleaner: carpet                             | 50              |  |  |  |  |
| Cleaner: drain                              | 74              |  |  |  |  |
| Cleaner: floor                              | 89              |  |  |  |  |
| Cleaner: glass/window                       | 105             |  |  |  |  |
| Cleaner: industrial                         | 106             |  |  |  |  |
| Cleaner: leather/vinyl/upholstery           | 6               |  |  |  |  |
| Cleaner: nappy                              | 14              |  |  |  |  |
| Cleaner: oven                               | 187             |  |  |  |  |
| Cleaner: other/unknown                      | 206             |  |  |  |  |
| Detergent: anionic/non-ionic (not hand dish | 23              |  |  |  |  |
| type)                                       |                 |  |  |  |  |

| Detergent: automatic dishwasher liquids   | 30  |
|---|-----|
| Detergent: automatic dishwasher           | 335 |
| powders/tablets                           |     |
| Detergent: automatic dishwasher rinse     | 71  |
| agents                                    |     |
| Detergent: cationic (not disinfectants)   | 5   |
| Detergent: hand dish                      | 449 |
| Detergent: laundry                        | 338 |
| Disinfectant                              | 319 |
| Dry cleaning agent                        | 3   |
| Fabric softener                           | 23  |
| Ironing aid/starch                        | 7   |
| Laundry additive                          | 67  |
| Pre-wash stain remover                    | 104 |
| Rust remover: other/unknown               | 9   |
| Sugar soap (sodium carbonate)             | 26  |
| Toilet bowl cleaner/deodoriser: cage/disc | 514 |
| type                                      |     |
| Toilet bowl cleaner: powder/liquid        | 66  |
| Vaporiser cleaning tablet                 | 11  |
|   |     |
| Fire extinguishers                        |     |
| Dry powder                                | 28  |
| Foam                                      | 1   |
| Food products, food poisoning             |     |
| Artificial sweeteners                     | 2   |
| Ciguatera                                 | 2   |
| Dietary/nutritional/energy/workout        | 121 |
| supplements                               |     |
| Food additives                            | 124 |
| Food allergy                              | 15  |
| Food poisoning                            | 42  |
| Food recall/scare                         | 2   |
| Food spoilage                             | 259 |
| · · · · · · · · · · · · · · · · · · ·     |     |
| Garden products                           |     |
| Fertiliser: household plant food          | 25  |
| Fertiliser: outdoor                       | 60  |
| Soil/potting mix                          | 48  |
| Miscellaneous home products               |     |
| Air fresheners                            | 189 |
| Blu-tac                                   | 17  |
| Bubble blowing solution                   | 168 |
| Charcoal                                  | 15  |
| Christmas decorations                     | 3   |
| Cigarettes and tobacco products           | 83  |

| Coins   | 25                           |
|---|------------------------------|
| Cyalume light sticks/glow necklaces   | 243                          |
| Desiccants: other/unknown (not silica gel)  | 75                           |
| Dyes: fabric  | 5                            |
| Dyes: food  | 8                            |
| Dyes: other/unknown   | 21                           |
| Fire starters   | 76                           |
| Foreign body  | 164                          |
| Fragrant oil/pot pourri oil   | 87                           |
| Freezer/cold packs  | 107                          |
| Glass   | 4                            |
| Incense   | 2                            |
| Massage oil   | 15                           |
| Matches   | 8                            |
| Pet food  | 36                           |
| Plastic/polystyrene   | 91                           |
| Pot pourri  | 1                            |
| Room deodoriser   | 77                           |
| Silica gel  | 514                          |
| Thermometer: mercury  | 66                           |
| Thermometer: non-mercury  | 19                           |
| Toys  | 131                          |
| Household products: other/unknown   | 551                          |
| Photographic products   |                              |
| Photographic chemicals  | 4                            |
| Polishes and waxes  |                              |
| Polish/wax: car   | 7                            |
| Polish/wax: floor (including sealers)   | 1                            |
| Polish/wax: furniture   | 25                           |
| Polish/wax: metal   | 2                            |
| Polish/wax: shoe/boot   | 7                            |
| Polish/wax: other/unknown   | 2                            |
|   |                              |
|   |                              |
| Swimming pool and aquarium products   | 28                           |
| Swimming pool and aquarium products         Aquarium products   | 28                           |
| Swimming pool and aquarium products         Aquarium products         Pool chlorine   | 80                           |
| Swimming pool and aquarium productsAquarium productsPool chlorinePool test kits/solutions   | 80<br>2                      |
| Swimming pool and aquarium products         Aquarium products         Pool chlorine   | 80                           |
| Swimming pool and aquarium products         Aquarium products         Pool chlorine         Pool test kits/solutions         Pool products: other/unknown         BUILDING/HANDYMAN PRODUCTS  | 80<br>2                      |
| Swimming pool and aquarium products         Aquarium products         Aquarium products         Pool chlorine         Pool test kits/solutions         Pool products: other/unknown         BUILDING/HANDYMAN PRODUCTS         Building products                  | 80<br>2<br>22                |
| Swimming pool and aquarium products         Aquarium products         Aquarium products         Pool chlorine         Pool test kits/solutions         Pool products: other/unknown         BUILDING/HANDYMAN PRODUCTS         Building products         Asbestos | 80<br>2<br>22                |
| Swimming pool and aquarium productsAquarium productsPool chlorinePool test kits/solutionsPool products: other/unknownBUILDING/HANDYMAN PRODUCTSBuilding productsAsbestosAsphalt/bitumen   | 80<br>2<br>22<br>8<br>8<br>3 |
| Swimming pool and aquarium productsAquarium productsAquarium productsPool chlorinePool test kits/solutionsPool products: other/unknownBUILDING/HANDYMAN PRODUCTSBuilding productsAsbestosAsphalt/bitumenCaulking compounds and construction                       | 80<br>2<br>22                |
| Swimming pool and aquarium products         Aquarium products         Pool chlorine         Pool test kits/solutions         Pool products: other/unknown         BUILDING/HANDYMAN PRODUCTS         Building products         Asbestos         Asphalt/bitumen   | 80<br>2<br>22<br>8<br>8<br>3 |

| Fibreglass                                    | 7   |
|---|-----|
| Insulation                                    | 4   |
| Methyl ethyl ketone peroxide                  | 5   |
| Soldering flux                                | 2   |
| Building/handyman products:                   | 75  |
| other/unknown                                 | 75  |
|   |     |
| Paints and paint strippers                    |     |
| Copper chrome arsenate (wood preservative)    | 14  |
| Creosote (wood preservative)                  | 5   |
| Paints: anticorrosive                         | 4   |
| Paints: oil-based                             | 45  |
| Paints: water-based house type                | 52  |
| Paint strippers: methylene chloride based     | 9   |
| Paint strippers: other/unknown                | 7   |
| Paint thinner                                 | 27  |
| Paints: other/unknown                         | 92  |
| Varnishes and lacquers                        | 15  |
| Wood stains                                   | 20  |
|   |     |
| CAR/BOAT PRODUCTS                             |     |
| Car products: antifreeze                      | 28  |
| Car products: brake fluid, transmission fluid | 34  |
| etc   |     |
| Car products: other/unknown                   | 91  |
| CHEMICALS                                     |     |
| Alcohols                                      |     |
| Alcohol ethanol (beverage)                    | 295 |
| Alcohol ethanol (non-beverage)                | 99  |
| Alcohol: higher (butanol, propanol etc)       | 4   |
| Isopropanol                                   | 14  |
| Methanol                                      | 5   |
| Alcohol: other/unknown                        | 1   |
|   |     |
| Essential oils                                |     |
| Camphor                                       | 15  |
| Clove oil                                     | 25  |
| Eucalyptus oil                                | 239 |
| Tea tree oil                                  | 71  |
| Essential oil: other/unknown                  | 123 |
| Fumes, gases, vapours                         |     |
| Carbon dioxide                                | 4   |
| Carbon monoxide                               | 55  |
| Chlorine                                      | 9   |
| Chlorine/chloramine gas (mixing household     | 47  |
| cleaning agents)                              |     |
| Helium  | 2   |

| Hydrogon cylphido                          | 2   |
|--|-----|
| Hydrogen sulphide                          | 3   |
| Lacrimators (Mace spray, tear gas etc)     | 1   |
| Methane and natural gas                    | 104 |
| Propane and other simple asphyxiants       | 9   |
| Smoke/toxic products of combustion         | 66  |
| Fume/gas/vapour: other/unknown             | 35  |
| General chemicals                          |     |
| Acetone (not nail polish removers)         | 15  |
| Acids: other/unknown                       | 51  |
| Alkalis (not cleaners)                     | 39  |
| Ammonia (not cleaners)                     | 10  |
| Benzene                                    | 2   |
| Borates (not insecticides)                 | 14  |
| Copper sulphate                            | 14  |
| Corrosives: other/unknown                  | 6   |
| Cyanide                                    | 2   |
| Ethylene glycol and other glycols          | 31  |
| Formaldehyde/formalin                      | 33  |
| Hydrochloric acid                          | 50  |
| Hydrofluoric acid                          | 23  |
| Hydrogen peroxide (non-medical)            | 53  |
| lodine (non-medical)                       | 10  |
| Isothiazolones (acticide, biocide, kathon, | 3   |
| octhilinone etc)                           |     |
| Methylene chloride (not paint strippers)   | 3   |
| Phenol and other phenolics                 | 7   |
| Polychlorinated/polybrominated biphenyls   | 1   |
| Potassium permanganate                     | 8   |
| Strychnine                                 | 4   |
| Sulphur                                    | 1   |
| Toluene diisocyanate                       | 2   |
| Chemicals: other/unknown                   | 167 |
| Heavy metals                               |     |
| Aluminium                                  | 18  |
| Cadmium                                    | 2   |
| Copper                                     | 10  |
| Lead                                       | 51  |
| Mercury (not thermometers)                 | 26  |
| Metal fume fever                           | 8   |
| Heavy metals: other/unknown                | 13  |
|  |     |
| Hydrocarbons                               |     |
| Hydrocarbons: aliphatic                    | 23  |
| Hydrocarbons: aromatic                     | 5   |
| Hydrocarbons: halogenated                  | 17  |
| Hydrocarbons: other/unknown                | 11  |

| Kerosene                                       | 20  |
|--|-----|
| Lamp oil                                       | 18  |
| Lighter fluid                                  | 3   |
| Oils: lubricating/engine/machine               | 89  |
| Petrol   | 198 |
| Shellite                                       | 1   |
| Toluene/xylene                                 | 13  |
| Turpentine, mineral                            | 140 |
|  | 110 |
| BITES AND STINGS                               |     |
| Insects  |     |
| Ant  | 27  |
| Вее  | 43  |
| Caterpillar                                    | 3   |
| Centipede/millipede                            | 23  |
| Mosquito                                       |     |
| Scorpion                                       | 40  |
| Tick   | 10  |
| Wasp/hornet                                    | 39  |
| Insect bites: other/unknown                    | 103 |
|  |     |
| Mammals  |     |
| Animal bite: dog/cat                           | 3   |
| Animal bite: other/unknown                     | 13  |
| Marine   |     |
| Blue-ringed octopus                            | 2   |
| Fish stings: other/unknown                     | 25  |
| Jellyfish and other <i>Coelenterate</i> stings | 11  |
| Stingray                                       | 4   |
| Marine bites/stings: other/unknown             | 9   |
|  |     |
| Reptiles and amphibians                        |     |
| Lizard   | 1   |
| Snake  | 141 |
| Spiders  |     |
| Redback spider                                 | 128 |
| White-tailed spider                            | 71  |
| Spider bite: other/unknown                     | 311 |
|  | 511 |
| COSMETICS AND PERSONAL CARE PRODUCTS           |     |
| Cosmetics                                      |     |
| Antiperspirants                                | 42  |
| Baby oil                                       | 41  |
| Baby wipes                                     | 9   |
| Bath oil/bubble bath/bath preparations         | 126 |
| Cleanser: skin                                 | 1   |
| Creams/lotions/make-up                         | 161 |

| Deodorants                                       | 67  |
|--|-----|
| Depilatories                                     | 38  |
|  | 35  |
| Lipstick/lip balms<br>Perfume/cologne/aftershave | 188 |
|  | 237 |
| Soap   |     |
| Sunscreen/suntan products                        | 75  |
| Talc and other external powders                  | 58  |
| Cosmetics: other/unknown                         | 24  |
| Dental/oral care products                        |     |
| Denture cleaning agents                          | 33  |
| Mouthwash: ethanol containing                    | 64  |
| Mouthwash: non-ethanol containing                | 29  |
| Mouthwash: other/unknown                         | 5   |
| Teething gels                                    | 84  |
| Toothache drops                                  | 8   |
| Toothpaste with fluoride                         | 77  |
| Toothpaste without fluoride                      | 4   |
| Dental care products: other/unknown              | 8   |
|  |     |
| Hair care products                               |     |
| Hair colours (not peroxide)                      | 66  |
| Hair colours (peroxide)                          | 36  |
| Hair conditioner                                 | 28  |
| Hair gel/mousse                                  | 20  |
| Hair rinses, perms                               | 2   |
| Hair spray                                       | 13  |
| Shampoo antidandruff: selenium based             | 1   |
| Shampoo antidandruff: zinc pyrithione            | 11  |
| Shampoo antidandruff: other                      | 4   |
| Shampoo non-medicated                            | 88  |
| Hair care: other                                 | 43  |
|  |     |
| Nail products                                    |     |
| Nail polish                                      | 97  |
| Nail polish remover                              | 239 |
| Nail primer                                      | 2   |
| Nail products: other/unknown                     | 23  |
| PESTICIDES/HERBICIDES/FUNGICIDES                 |     |
| Baits  |     |
| 1080/monofluoroacetate                           | 2   |
| Rodenticides: anticoagulant (warfarin type)      | 33  |
| Rodenticides: anticoagulant (long-acting)        | 265 |
| Rodenticides: other/unknown                      | 80  |
| Baits: other/unknown                             | 30  |
|  |     |
| Carbamates                                       |     |
| Carbamates                                       | 8   |

| Carbamates in combination with other              | 6              |
|---|----------------|
| pesticides  | 0              |
| pesticides  |                |
| Chlorinated hydrocarbons                          |                |
| Chlorinated hydrocarbons (endrin, dieldrin,       | 4              |
| heptachlor etc)                                   |                |
| Chlorinated hydrocarbons in combination           | 1              |
| other pesticides                                  |                |
|   |                |
| Fumigants   |                |
| Bromides  | 4              |
| Phosphine   | 14             |
| Fumigants: other                                  | 1              |
| Fungicides  |                |
| Carbamate type                                    | 3              |
| Copper type                                       | 4              |
| Fungicides: other/unknown (non-medical)           | 6              |
|   |                |
| Herbicides  | 259            |
| Glyphosate  | _              |
| Herbicides: carbamate type                        | <u>ا</u><br>دد |
| Herbicides: chlorphenoxy type (2, 4 D; MCPA etc.) | 38             |
| Herbicides: protox inhibitor type (acifluorfen,   | 2              |
| oxyfluorfen etc)                                  | 2              |
| Herbicides: pyridine type (clopyralid,            | 45             |
| triclopyr etc.)                                   | 75             |
| Herbicides: triazine type (atrazine, simazine     | 15             |
| etc.)   |                |
| Paraquat/diquat                                   | 29             |
| Herbicides: other/unknown                         | 78             |
|   |                |
| Insecticides/pesticides                           |                |
| Borates/boric acid pesticides                     | 83             |
| Insect coils                                      | 6              |
| Insect repellants containing DEET                 | 42             |
| Insect repellants not containing DEET             | 38             |
| Pyrethrins/pyrethroids                            | 388            |
| Rotenone  | 4              |
| Snail/slug bait: iron edetate                     | 5              |
| Snail/slug bait: metaldehyde                      | <u>40</u>      |
| Snail/slug bait: methiocarb                       | 5              |
| Pesticides: other/unknown                         | 77             |
| Moth repellents                                   |                |
| Naphthalene moth repellants                       | 32             |
| Naphthalene moth repenants                        |                |

| Organophosphates                             |             |
|--|-------------|
| Organophosphates                             | 28          |
|  |             |
| PLANTS AND MUSHROOMS                         | 1           |
| Mushrooms                                    | 303         |
| Plants: amaryllidaceae                       | 35          |
| Plants: amygdalin/cyanogenic glycosides      | 50          |
| Plants: anticholinergic                      | 10          |
| Plants: cactus                               | 2           |
| Plants: capsaicin                            | 10          |
| Plants: cardiac glycosides                   | 21          |
| Plants: daphne                               | 1           |
| Plants: dermatitis                           | 37          |
| Plants: euphorbiaceae                        | 18          |
| Plants: gastrointestinal irritants           | 45          |
| Plants: grayanotoxins                        | 1           |
| Plants: hallucinogenic                       | 1           |
| Plants: holly                                | 1           |
| Plants: non-toxic                            | 45          |
| Plants: oxalate                              | 146         |
| Plants: philodendron                         | 5           |
| Plants: solanine                             | 49          |
| Plants: stimulants                           | 4           |
| Plants: toxalbumins                          | 2           |
| Plants: other/unknown                        | 158         |
| VETERINARY PRODUCTS                          |             |
| Veterinary: animal vaccines                  | 87          |
| Veterinary: external medicines               | 103         |
| Veterinary: flea collars/insecticidal washes | 9           |
| Veterinary: heart worm preparations          | 9           |
| Veterinary: internal medicines               | 194         |
|  | •           |
| MISCELLANEOUS NON-MEDICINE, NON-DRU          | G EXPOSURES |
| Blue-green algae                             | 4           |
| Faeces/urine                                 | 53          |
| Radioactive materials                        | 2           |
| Snail/slug                                   | 21          |

# Exposures to medicines and drugs

| Medicine/drug                               | Number of calls |
|---|-----------------|
| ANAESTHETICS                                |                 |
| Anaesthetics: inhalation                    | 2               |
| Anaesthetics: topical/local                 | 28              |
| Anaesthetics: other/unknown                 | 1               |
| Nitrous oxide                               | 1               |
| ANALGESICS                                  |                 |
| Aspirin/narcotic combination analgesic      | 5               |
| Aspirin/salicylates                         | 164             |
| Codeine                                     | 30              |
| Fentanyl                                    | 7               |
| Morphine                                    | 27              |
| Oxycodone                                   | 320             |
| Paracetamol                                 | 2009            |
| Paracetamol/narcotic combination            | 494             |
| Tramadol                                    | 152             |
| Analgesics: narcotic other/unknown          | 19              |
| Analgesics: non-narcotic other/unknown      | 3               |
| ANTICHOLINERGICS                            |                 |
| Atropine                                    | 5               |
| Benztropine                                 | 23              |
| Orphenadrine                                | 3               |
| Anticholinergic drugs: other/unknown        | 31              |
| ANTICOAGULANTS and BLOOD PRODUCTS           |                 |
| Warfarin                                    | 62              |
| Anticoagulants: other/unknown               | 50              |
| ANTIHISTAMINES                              |                 |
| Cetirizine                                  | 83              |
| Dexchlorpheniramine                         | 30              |
| Fexofenadine                                | 65              |
| Loratadine                                  | 87              |
| Pheniramine                                 | 9               |
| Promethazine                                | 139             |
| Antihistamines: other/unknown               | 31              |
| ANTIMICROBIALS<br>Antibiotics               |                 |
| Aminoglycosides                             | 2               |
| Antibiotic combinations (Augmentin, Bactrim | 52              |
| etc.)                                       | 52              |
| Cephalosporins                              | 87              |
| Macrolides                                  | 79              |
| Penicillins                                 | 206             |

| Quinolones                                  | 8   |
|---|-----|
| Sulphonamides                               | 4   |
| Tetracyclines                               | 46  |
| Antibiotics: other/unknown                  | 33  |
|   |     |
| Antifungals                                 |     |
| Antifungal drugs (ketoconazole, fluconazole | 17  |
| etc)  |     |
| Antiparasitics/Anthelmintics                |     |
| Anthelmintics                               | 79  |
| Antianaerobes (metronidazole, tinidazole    | 27  |
| etc)  | 27  |
| Antimalarials (not quinine, chloroquine)    | 2   |
|   |     |
| Antituberculars                             | 2   |
| Antitubercular drugs                        | 2   |
| Antivirals                                  |     |
| Antiviral drugs                             | 28  |
|   |     |
| ANTIMIGRAINE DRUGS                          |     |
| Triptans (naratriptan, sumatriptan etc)     | 11  |
| Migraine preparations: other/unknown        | 27  |
| ASTHMA/RESPIRATORY DRUGS                    |     |
| Anticholinergics (ipratropium,              | 42  |
| glycopyrronium, tiotropium, aclidinium etc) |     |
| Bronchodilators (salbutamol, terbutaline,   | 31  |
| eformoterol, salmeterol, indacaterol etc)   |     |
| Leukotriene receptor antagonists            | 28  |
| (montelukast, zafirlukast etc)              |     |
| Preventors                                  | 31  |
| Theophylline and other xanthines            | 3   |
|   |     |
| CARDIOVASCULAR DRUGS                        |     |
| ACE inhibitor/diuretic combinations         | 35  |
| ACE inhibitors                              | 147 |
| Adrenaline Alaka alaan                      | 38  |
| Alpha blockers                              | 33  |
| Angina preparations                         | 11  |
| Angiotensin II antagonist/diuretic          | 78  |
| combinations                                |     |
| Angiotensin II antagonists                  | 157 |
| Antiarrhythmic agents                       | 27  |
| Antihypertensives: other (not diuretics)    | 26  |
| Antiplatelet agents: other (clopidogrel,    | 31  |
| dipyridamole, ticagrelor etc)               |     |
| Beta blockers                               | 308 |

| Coloises automonist (ACE in hibitan                           | 22              |
|---|-----------------|
| Calcium antagonist/ACE inhibitor                              | 22              |
| combinations  | 20              |
| Calcium antagonist/angiotensin II antagonist                  | 20              |
| combinations  | 1               |
| Calcium antagonist/angiotensin II                             | 1               |
| antagonist/diuretic combinations                              | 7               |
| Calcium antagonist/statin combinations<br>Calcium antagonists | 147             |
| Cardiac glycosides  | 77              |
| Diuretics: other  | 84              |
| Diuretics: potassium sparing                                  | 32              |
| HMG CoA reductase inhibitors (statins)                        | 140             |
| Lipid lowering agents: fibrates (gemfibrozil,                 | 5               |
| fenofibrate etc)  | J               |
| Lipid lowering agents: other                                  | 5               |
| Nitrates  | 19              |
| Vasodilators  | 9               |
| Vasounators   |                 |
| CENTRAL NERVOUS SYSTEM DRUGS                                  |                 |
| Antidepressants   |                 |
| Agomelatine   | 15              |
| Duloxetine  | 97              |
| Mianserin   | 6               |
| Mirtazapine   | 179             |
| Monoamine oxidase inhibitors                                  | 22              |
| Selective serotonin reuptake inhibitors                       | 742             |
| (citalopram, escitalopram, fluoxetine etc.)                   |                 |
| Tricyclic antidepressants                                     | 172             |
| Venlafaxine/desvenlafaxine                                    | 263             |
| Antidepressants: other/unknown                                | 11              |
| Antiepileptics  |                 |
| Carbamazepine   | 108             |
| Gabapentin  | 19              |
| Lamotrigine   | 88              |
| Levetiracetam   | 47              |
| Phenytoin   | 21              |
| Pregabalin  | 107             |
| Topiramate  | 30              |
| Valproic acid   | 241             |
| Antiepileptics: other/unknown                                 | 26              |
| Antipsychotics  |                 |
| Amisulpride   | 19              |
|   |                 |
|   | 31              |
| Aripiprazole  | 31              |
|   | 31<br>31<br>183 |

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| EAR PREPARATIONS                                    |            |
|---|------------|
| Ear drops   | 35         |
| Ear ointments                                       | 3          |
| Ear products: other/unknown                         | 1          |
|   |            |
| EYE PREPARATIONS                                    |            |
| Contact lens preparations                           | 13         |
| Eye drops: imidazoline-based                        | 9          |
| Eye drops: other/unknown                            | 54         |
| Eye ointment  | 2          |
| GASTROINTESTINAL PREPARATIONS                       |            |
| Antacids  | 58         |
| Antidiarrhoeals: diphenoxylate/atropine             | 3          |
| Antidiarrhoeals: loperamide                         | 22         |
| Antidiarrhoeals: other/unknown                      | 1          |
| Antiemetics   | 97         |
| Antispasmodics (hyoscine butylbromide etc)          | 23         |
| Histamine H <sub>2</sub> - antagonists (cimetidine, | 33         |
| ranitidine etc.)                                    |            |
| Laxatives   | 139        |
| Proton pump inhibitors (omeprazole,                 | 188        |
| pantoprazole, esomeprazole etc.)                    |            |
| Gastrointestinal preparations:                      | 61         |
| other/unknown                                       |            |
|   |            |
| METABOLISM  |            |
| Electrolytes/minerals                               | <b>C</b> 2 |
| Calcium salts                                       | 62         |
| Fluoride  | 3          |
| Iron (not multivitamins)                            | 102        |
| Potassium salts                                     | 18         |
| Electrolytes: other/unknown                         | 5          |
| Vitamins  |            |
| Folic acid  | 31         |
| Vitamin A   | 3          |
| Vitamin B group                                     | 28         |
| Vitamin C   | 44         |
| Vitamin D   | 199        |
| Vitamins compound with iron                         | 168        |
| Vitamins compound without iron                      | 154        |
| Vitamins: other                                     | 52         |
|   |            |
| Other metabolic                                     |            |
| Androgenic and anabolic agents                      | 4          |
| Antihormones (tamoxifen, cyproterone,               | 15         |
| flutamide etc.)                                     |            |
| Antithyroid preparations                            | 10         |

| Bisphosphonates  | 8   |
|--|-----|
| Corticosteroids  | 237 |
| Diet aids/anorectics - over-the-counter                      | 10  |
| Diet aids/anorectics - prescription                          | 28  |
| Hypoglycaemics, oral: alpha glucosidase                      | 1   |
| inhibitors (acarbose etc)                                    |     |
| Hypoglycaemics, oral: biguanides                             | 98  |
| (metformin)  | 50  |
| Hypoglycaemics, oral: combination products                   | 14  |
| (metformin/glibenclamide,                                    | 17  |
| metformin/rosiglitazone,                                     |     |
| metformin/sitagliptin etc)                                   |     |
| Hypoglycaemics, oral: DPP-4 inhibitors                       | 4   |
| (sitagliptin, vildagliptin etc)                              | т   |
| Hypoglycaemics, oral: glitazones                             | 2   |
| Hypoglycaemics, oral: sodium-glucose co-                     | 2   |
| transporter (SGLT) inhibitors (canagliflozin,                | 1   |
| dapagliflozin etc)   |     |
| Hypoglycaemics, oral: sulphonylureas                         | 41  |
| (glibenclamide, gliclazide, glipizide etc)                   | 41  |
| Insulin  | 70  |
|  |     |
| Oestrogens/progestogens (not oral                            | 18  |
| contraceptives)  | 200 |
| Oral contraceptives: oestrogen and                           | 268 |
| progestogen  | 42  |
| Oral contraceptives: progestogen only                        | 42  |
| Thyroxine  | 94  |
| Thyroid preparations: other/unknown                          | 3   |
| Hormones: other/unknown                                      | 21  |
| NONSTEROIDAL ANTI-INFLAMMATORY<br>DRUGS AND GOUT MEDICATIONS |     |
| Allopurinol  | 24  |
| Celecoxib  | 34  |
| Colchicine   | 12  |
| Diclofenac   | 166 |
| Ibuprofen  | 946 |
| Ibuprofen plus codeine                                       | 70  |
| Indomethacin   | 19  |
| Mefenamic acid   | 19  |
| Naproxen   | 67  |
| NSAIDs: other/unknown  | 56  |
|  |     |
| NOSE PREPARATIONS  |     |
| Nose drops/sprays: imidazoline-based                         | 25  |
| Nose drops/sprays: other/unknown                             | 19  |
| Nasal preparations: other/unknown                            | 11  |
|  |     |
| STREET DRUGS   |     |

| Amphetamine and related drugs               | 117 |
|---|-----|
| Amyl nitrite and other volatile nitrites    | 8   |
| Cannabinoids, synthetic (Spice, Kronic, K2, | 16  |
| Jungle Fever, Northern Lights, Marley etc)  | 10  |
| Cathinones (mephedrone, methylone etc)      | 1   |
| Cocaine                                     | 16  |
| Ecstasy and other hallucinogenic            | 23  |
| amphetamines                                |     |
| Gamma hydroxybutyrate                       | 12  |
| Hallucinogenics: other/unknown              | 2   |
| Heroin                                      | 16  |
| Inhalant abuse (chroming)                   | 6   |
| Ketamine/methoxetamine                      | 2   |
| LSD   | 3   |
| Marijuana                                   | 41  |
| Phencyclidine (PCP)                         |     |
| Street drugs: other/unknown                 | 27  |
|   |     |
| TOPICAL PREPARATIONS                        |     |
| Acne preparations                           | 26  |
| Antipruritics (calamine lotion etc)         | 32  |
| Capsaicin                                   | 7   |
| Chest rubs                                  | 132 |
| Hydrogen peroxide                           | 13  |
| Lice/scabies preparations                   | 78  |
| Liniments                                   | 137 |
| Nappy rash products                         | 357 |
| Topical antibiotics                         | 29  |
| Topical antifungals                         | 119 |
| Topical antiseptics (handsanitisers etc)    | 684 |
| Topical antivirals                          | 3   |
| Topical corticosteroids                     | 188 |
| Wart/corn preparations                      | 20  |
| Topical preparations: other/unknown         | 88  |
|   |     |
| MISCELLANEOUS MEDICINE/DRUG CALLS           |     |
| Antineoplastics                             | 16  |
| Chloroquine/hydroxychloroquine              | 14  |
| Herbal preparations                         | 143 |
| Homeopathic preparations                    | 53  |
| Immunosuppressants                          | 26  |
| Methotrexate                                | 28  |
| Muscle relaxants: other                     | 8   |
| Quinine                                     | 2   |
| 'Smart drugs' (choline, ephedra,            | 1   |
| phenylalanine, piracetam etc)               |     |
| Unknown tablets/capsules                    | 49  |
| Urinary alkalinisers/antiseptics            | 4   |

| Vaccines/toxoids/antivenoms      | 45  |
|----------------------------------|-----|
| Vaporiser fluids and inhalants   | 234 |
| Other over-the-counter-medicines | 34  |
| Other prescription medicines     | 65  |