Practice Standards for Australian Poisons Information Centres

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1. INTRODUCTION

Poisons information centres (PICs) have operated in Australia for over 50 years. Four PICs (New South Wales, Victoria, Queensland and Western Australia) currently service the Australian community. The PICs provide a 24 hour telephone emergency advisory service for members of the public and health professionals, and are contactable via a national telephone number (13 11 26). They provide information, risk assessment and management advice about exposures involving medicines, drugs of abuse, products used in the house and garden, agricultural and industrial chemicals, plants, fungi, land and marine animals.

Core international PIC practice standards have been published. The European Association of Poison Centres and Clinical Toxicologists (EAPCCT) has minimum and optimum PIC standards covering:
- Operations
- Direction and management
- Staff, their educational background and training
- Location
- Sources of information
- Documentation
- Funding
- Publications and reports
- Quality control.

The World Health Organization (WHO) Guidelines for Poison Control provides policy overview and technical guidance covering PIC:
- Role in the prevention and management of poisoning
- Information services
- Clinical services
- Analytical toxicology and other laboratory services
- Toxicovigilance and prevention of poisoning
- Response to major emergencies involving chemicals
- Antidotes and their availability
- Model formats for collecting, storing and reporting data
- Resource requirements

These international standards have been used for guidance in the development of the Australian practice standards (see References page 11). The Australian practice standards have no regulatory or legislative status. They have not been prepared or endorsed by Standards Australia. They are a consensus statement, written by those working in the field and other stakeholders, of how Australian PICs should operate. The standards have been developed in recognition of the importance of having a professional, high quality, integrated poisons information service in Australia. They are applicable to each individual PIC, and to the evolving Poisons Information and Toxicology Network Australia (PITNA) comprised of the four individual PICs and the National Poisons Register (NPR).

2. ROLES AND OBJECTIVES

The primary role of the PICs and PITNA is to improve patient outcome by providing prompt, consistent, individualised, contemporary information, advice and risk assessment in situations of poisoning, suspected poisoning, deliberate self poisoning, mistakes with medicines, envenomations or toxic hazard exposures. In fulfilling this role, PICs:

- help ensure that the optimum treatment is provided to patients by providing evidence-based advice and risk assessment to carers and health professionals;
- prevent unnecessary assessment and treatment at hospitals or medical centres by identifying those exposures that can be managed at home, thereby reducing the health care cost of the management of poisoning and envenomation. This includes decreasing the costs associated with the unnecessary use of ambulance or other services;
- recommend current best-practice first aid that can be carried out at home;

- improve patient care by educating health professionals about management of poisoning, envenomation and clinical toxicology;
- undertake research and toxicovigilance roles;
- reduce the incidence of poisoning by assisting with poisoning prevention messaging, identifying the need for public education or alerts and assisting with regulatory responses to poisoning risks.

PICs provide members of the 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;
- referral to seek medical assessment if appropriate;
- referral to other information sources if appropriate;
- information about prevention of poisoning;
- selected drug information.

PICs provide 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 on formulation of products;
- information about the potential toxic effects from an exposure;
- initial and on-going management advice;
- referral to other information resources if appropriate;
- referral to a member of the supporting clinical toxicology team (registrar, fellow or consultant) for complicated and/or severe cases, following agreed escalation protocols;
- information and data about any trends in poisonings.

3. SERVICES AND OPERATION

PITNA Arrangements, PIC Clients and Service Co-location

An overarching formal agreement or Memorandum of Understanding (MOU) between all Australian jurisdictions should detail shared arrangements in the provision of a PITNA 24/7 service. The MOU should recognise commitment to work collaboratively to develop the best possible integrated PITNA.

There should be a separate MOU between the NPR and the four PICs. This MOU should include some of the practicalities of service provision.

A PIC may serve a single state/territory or several jurisdictions. A PIC should be capable of providing a continuous service, either individually or by arrangements with the other PICs, eg shared overnight shifts.

Purchaser-provider Service Level Agreements (SLAs) between each state/territory and the PICs and NPR that provide services to that jurisdiction should be in place, The SLAs should cover details such as: PIC hours of operation; after-hours arrangements; call charges, including mechanism for review; charges for calls referred to the on-call toxicologist; services provided by the NPR.

When calls are diverted to another PIC there should be functional continuity of care involving cases for which there are likely to be follow-up calls. This can be done by telephone handover, email, documentation in the national toxicologist referral spreadsheet or similar arrangement. PIC staff taking calls from other jurisdictions should be trained and informed about all relevant health care, emergency medical and retrieval services, and state/territory toxicology variations, so they are able to provide location-specific information, risk assessment and advice.

As part of the evolving PITNA, PICs and the NPR should work co-operatively and interact effectively to ensure uniformity of practice through: the development of national clinical guidelines; the use of the same reference sources; implementation of a national minimum call dataset using agreed definitions of dataset terms (see Call Documentation page 10); regular national PIC/toxicologist meetings and videoconferences; day-to-day exchange of information about emerging poisoning issues.

If possible, PICs should be co-located and integrated with a local clinical toxicology service. Co-location of information and clinical services is the accepted international PIC model, and will allow ready direct PIC access to the supporting clinical toxicology team (registrar, fellow or consultant) for complicated and/or severe cases, following agreed escalation protocols. PICs play an important role in the training of toxicology registrars and fellows, and provides an appropriate environment to train clinical toxicologists in telephone consultation skills, multidisciplinary care and public health components of toxicology.

Services

Services provided by PICs include:

- Emergency telephone treatment information, advice and risk assessment to members of the public and health professionals for all types of poisoning, suspected poisoning, mistakes with medicines, overdoses, envenomations; toxic hazard situations.
- Telephone follow-up for selected hospitalised and non-hospitalised patients to assess progress and outcomes, recommend additional treatment and provide additional advice.
- Provision of information and advice to the community on poisoning prevention and first aid in poisoning and envenomation, eg maintaining a website containing this information, PIC contact details and links to other agencies; media alerts to members of the public about potentially toxic substances or exposures such as wild mushrooms.
- Enhancing awareness of PIC services through: listing PIC contact details in internet and telephone directories; contact with the media and public health authorities; education of undergraduate and postgraduate health professionals about the management of poisoning and envenomations; distribution of printed promotional material to kindergartens, child care centres, maternal and child health services, parent groups etc.
- Toxicovigilance, ie the active process of identifying and evaluating toxic risks and trends in poisoning, and evaluating the measures taken to reduce or eliminate them. This 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 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 availability of a new drug of abuse. To support toxicovigilance activities, the PICs should have sound collaborative links with: public health agencies; medication safety bodies; child safety groups such as Kidsafe; regulatory authorities such as the Therapeutic Goods Administration (TGA). PIC data can help inform regulatory authority decisions about product scheduling, packaging, labelling, warning statements etc.
- Contingency planning/emergency preparedness for chemical incidents or mass poisoning.
- Liaison with local toxicologists to facilitate toxicology Outpatient Clinic referrals if available.
- Advising appropriate antidote stocking at individual hospital, regional and state/territory level.
- Research, which may include evaluation of:
  1) prevalence and trends in poisonings;
  2) measures for the prevention of poisoning;
  3) first aid and/or treatment of poisoning and envenomation;
  4) morbidity or mortality caused by specific agents.

PICs should be able to respond to enquiries in languages other than English using the telephone interpreter service and/or bilingual staff. Enquiries from people with hearing impairment can be accommodated using the National Relay Service teletypewriter (TTY) facility.

Future Services and Operations

Comparing the Australian PIC practice standards with core international standards reveals the following service and operational gaps that could be developed in the future:
- Nationally collated PIC data
- Analytical toxicology laboratory support
- National antidote co-ordination
- Chemical emergency preparedness
- National PIC accreditation
- Veterinary toxicology support (already provided by some PICs).

Interaction with Other Health Service Providers

Individual PICs and PITNA must interact effectively and co-operatively with other health service providers, eg ambulance services, the National Health Call Centre Network (Health Direct, Nurse-On-Call, 13 Health etc), medical retrieval services, public health units.

4. STAFFING AND RESOURCES

Staffing

PICs should have an Operations Manager who is responsible for high quality service delivery and operational matters, and a Medical/Clinical Director who oversees clinical management issues including clinical governance. The Operations Manager should be an experienced pharmacist, science graduate majoring in pharmacology, or another health professional with a health-related degree, with experience in clinical toxicology, training, leadership and peer support. Call centre experience and postgraduate qualifications in clinical toxicology or public health are desirable. The Medical/Clinical Director should have a specialist qualification in emergency medicine or internal medicine, a postgraduate qualification in clinical toxicology, and experience in training, leadership and peer support.

All PIC staff should have position descriptions that are reviewed annually. In terms of administrative lines of responsibility, one suitable model is for the PIC to be responsible to the medical or emergency medicine division of the host hospital. There may also be reporting requirements to the state Health Department/Ministry that funds the PIC, as specified in the SLA.

PICs should have adequate staff to fulfil their role:

- Staffing establishment should allow for coverage of staff absences due to illness, leave, professional training etc;
- Staff answering calls should have some time away from the telephone to enable them to: make follow-up calls; assist in the development of clinical guidelines; undertake literature reviews; participate in research, continuing education and quality assurance activities;
- The number of calls answered per hour should not exceed an average of eight per staff member. This includes technical, drug information and exposure calls. Staffing should be such that this call load is not exceeded;
- Shift overlap should occur if possible; verbal shift handover is highly desirable;
- A mechanism for administrative support to prepare rosters, raise invoices etc should be available.

PICs must have access to paid specialist clinical toxicology backup on-call on a 24/7 basis. The on-call clinical toxicologist may be locally-based or accessible via the national on-call roster. PICs should also have access to an appropriate range of consultants in specialist areas, eg clinical

pharmacologists, mycologists and botanists. These may be external consultants who have honorary or paid appointments to the PIC.

PIC staff may be pharmacists, science graduates majoring in pharmacology, or other health professionals with health-related degrees. Postgraduate qualifications in clinical toxicology or public health are desirable.

Staff answering calls should have an appropriate level of training and expertise. For a staff member to be designated a specialist in poisons information (SPI), he/she should meet the following criteria:

- must be able to understand and interpret standard poison information resources, make appropriate risk assessments, and convey this and appropriate management advice to members of the public and health professionals;
- must complete a training program and performance criteria evaluation approved by the Operations Manager and Medical/Clinical Director (see Appendix 2, page 18);
- must spend an average of no less than 8 hours per fortnight answering calls, on a regular basis.

During operating hours, there must be at least one SPI in the PIC at all times.

Resources

PICs should be adequately resourced to perform all their functions. Resources should include:
- high speed, unrestricted Internet access;
- a call-centre telephone system with sufficient lines, adequate transfer functions, priority line capability and call queuing with a recorded message telling waiting callers that they have called the PIC and are in the queue to be answered;
- voice recording (if possible) with easy accessibility for playback;
- computers, printers, fax, internet fax etc;
- information resources. Appendix 1 lists the information sources that should be considered for use.

PICs should have an adequate and clearly defined budget funding stream from their state Health Department/Ministry, which guarantees PIC independence from any host hospital funding pressures. The funding stream may include a facility fee to cover the hospital's costs of hosting the PIC. PICs should have the capacity to establish business models that allows them to generate and reinvest externally-derived income, eg charging for veterinary toxicology support; selling data requested by companies, industry bodies and regulatory agencies. Standardised charging for such data requests should be developed across PITNA.

5. STAFF TRAINING AND EDUCATION

SPIs must have appropriate initial and ongoing training. In addition to technical proficiency, they must have sound telephone communication skills. Motivated, adequately trained staff with excellent communication skills are an essential component of a high quality service.

SPIs should possess the following background and skills:

- A strong background in pharmacology and practical experience in clinical pharmacy or clinical pharmacology, eg pharmacists, science or nursing graduates, other professionals with a health-related degree;
- Ability to confidently and empathetically communicate with all users of the PIC service;
- Ability to make balanced judgements and proper risk assessments from available information;
- Proficiency in written and verbal communication skills, particularly telephone answering skills;
- Ability to know when to ask for advice and assistance;

- An understanding of internal and external organisational structures including: host hospital lines of authority; relevant emergency, intensive care and laboratory services; specialised state and territory departments; ambulance and retrieval services;
- An understanding of appropriate legal requirements and their implications, and the significance of privacy/confidentiality;
- Computer and database skills.

All new staff require a formal training period, during which time they should answer calls under direct supervision. Training should include lectures from senior SPIs and clinical toxicologists, and could be fashioned around a probationary period, eg three months, during which a mentor checks all calls and provides feedback. Substandard performance and/or failing an exam at the end of the probationary period would result in contract review or termination.

All aspects of training should be thoroughly documented. Appendix 2 is an example of a SPI training program, detailing the scope of training and specific competencies that should be demonstrated prior to handling calls unsupervised. PICs should collaborate via PITNA arrangements to develop a uniform national training curriculum and program.

Training and educational needs of all staff should be assessed periodically and appropriate measures taken to meet them. Participation in appropriate continuing education is necessary to maintain and expand relevant knowledge (see Clinical Governance page 8 and Service Quality page 10).

6. POLICIES AND PROCEDURES

Documentation

PICs should maintain documentation, eg a Policy and Procedure Manual or similar that outlines protocols for the appropriate handling of calls. The documents may also contain other important information such as the staff training and education programs. Protocols for the appropriate handling of calls should provide a consistent approach to evaluation and management advice. Specific information should be included about extracting the correct information from callers and the use of information resources to make accurate risk assessments.

Protocols for management of calls should include:

- low toxicity exposures;
- exposures that can be managed at home;
- exposures that need referral to a medical facility;
- initial management advice;
- guidelines for referral of calls to a clinical toxicology consultant;
- guidelines indicating where follow-up calls are required;
- the procedure for handling complaints;
- how to handle different types of calls, eg deliberate self-poisoning, substance abuse, chemical spills, workplace/occupational exposures, therapeutic errors, hoax calls, calls from the media, calls from legal representatives;
- procedure for tracing calls;
- procedure for case information transfer between PICs and across shift changes;
- the importance of confidentiality/privacy in relation to product, patient and caller information.

Clinical Governance

Clinical governance is 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. Whenever possible, the following PIC activities should be part of their clinical governance framework:

- Internal review of all calls by a second SPI (see Call Review section below)

- If the PIC has access to a Toxicology Registrar, he/she should review all potentially 'critical incident' calls and provide feedback to PIC staff if appropriate. 'Critical incident' calls may include those received from hospitals, general practitioners and ambulances. This call review should be part of the Toxicology Registrar's training and forms part of the PIC quality assurance program.
- Any written documentation regarding calls referred to the supporting clinical toxicology team (registrar, fellow or consultant), both locally and nationally, should be made available electronically to all PIC/Toxicology service staff, and where possible added to the PIC call record.
- Involvement in continuing education activities, eg national PIC/toxicologist clinical meetings; toxicology forums; hospital Grand Rounds; case discussions; teaching sessions; journal club; morbidity and mortality reviews.
- Ongoing review of PIC policies, procedures, protocols, guidelines and position statements.
- Participation in the host hospital's annual Performance Review and Development (PRD) or similar program.

Clinical Guidelines for the Assessment and Management of Poisoning and Envenomation

Evidence-based guidelines for the assessment and management of poisoning and envenomation should be developed to ensure the provision of best-practice information, risk assessment and advice. Priority should be given to developing guidelines for the most serious and the most common poisonings and envenomations. Guideline scope, format, information sources and review process should be established and documented.

In special circumstances especially where many calls may be anticipated in a short space of time, eg after chemical spills or product recalls, the PIC Operations Manager and Medical/Clinical Director, in consultation with other appropriate individuals, should prepare a basic guideline to minimise staff time in handling calls and to standardise the information and advice provided.

All PIC policies, procedures, protocols, guidelines and position statements should be approved by the Operations Manager and Medical/Clinical Director. Procedures for guideline review should be documented. PICs should provide evidence of action taken to remedy problems with guideline content or non-adherence through quality assurance programs and staff education – see Service Quality page 10. PICs should collaborate via PITNA arrangements to develop uniform clinical guidelines, protocols etc, thereby ensuring nationally consistent advice.

Follow-up Calls

Follow-up calls are valuable as a means of: providing additional treatment information and advice; correcting errors in management; collecting patient outcome data, especially for newer medicines or substances that lack toxicology information; providing information and advice about poisoning prevention; education and training. Follow-up calls can be made by SPIs or the toxicology registrar or fellow (if available). Local case follow-up can be facilitated by telephone handover, documentation on the national toxicologist referral spreadsheet, prompt emailed reports or similar arrangements. Documentation of follow-up calls, both locally and nationally, should be made available electronically to all PIC/Toxicology service staff, and where possible added to the PIC call record.

Call Review

Peer review of calls is a valuable way to monitor the quality and consistency of information, risk assessment and advice provided by SPIs.

All calls should be reviewed. An individual SPI should not review his/her own call records. Call records are rarely complete enough to determine everything that has been relayed verbally to the caller. Referral to the call voice recording, if available, may sometimes be necessary if uncertainty exists as to what precise information or advice was given.

Call review should be done at every change of shift. Timely review is essential since errors in the information, risk assessment or advice provided should be detected as early as possible to allow prompt corrective action. Ideally the PIC call database should have a separate field for any reviewer

comments, thereby providing an audit trail for any changes to the call record. If PITNA evolves such that all PICs are using a single, real-time call database, call review by SPIs from another PIC would provide a form of external PIC peer audit.

Follow-up subsequent to the call review process is required if inaccurate information, risk assessment or advice was provided. If appropriate, a follow-up call should be made to the caller. The Operations Manager and the Medical/Clinical Director should be notified of these cases, with follow-up discussion with the SPI involved.

Trends in poisoning, significant cases and inadequacies in risk assessment or management advice identified through call review should be circulated and discussed with all PIC staff, eg morbidity and mortality reviews.

Business continuity/disaster plan

Each PIC and PITNA should have written business continuity/disaster plans with procedures to cope with increased call load, physical site damage, power failure, telephone system failure, computer system malfunction etc. The plans should also include 'troubleshooting' strategies to deal with minor disruption to these service components.

7. SERVICE QUALITY

PICs should operate an effective quality monitoring and improvement program. Aspects of the quality program may include:

- documentation of all policies, procedures, protocols, guidelines and position statements;
- regular review of the above;
- annual staff Performance Review and Development (PRD) or similar;
- clinical governance activities – see above;
- follow-up calls – see above;
- call review – see above;
- staff training and continuing education – see above;
- business continuity/disaster/troubleshooting plans – see above;
- client surveys performed by the PIC or the host hospital to determine if clients' expectations of the service are being met.

Key Performance Indicators

Key Performance Indicators (KPI) can be used to monitor any trends in service quality and to make benchmark comparisons. If KPI reveal any decline in service quality, corrective action should be taken and documented to complete the quality improvement cycle. KPI may include:

- annual number of compliments and complaints received about the service;
- percentage of annual calls where inappropriate or incomplete advice was given;
- percentage of calls with data coding errors or incomplete data fields;
- time spent on staff continuing education;
- time spent on outreach education;
- abandoned call rates;
- duration of calls;
- call response times;
- client survey findings.

8. CALL DOCUMENTATION

All PIC calls should be recorded in a robust database that has adequate safeguards to ensure database integrity and confidentiality. Call data should be tabulated and published in a PIC Annual Report. Although PICs may currently capture and record their call data in different ways, they should

work collaboratively via PITNA arrangements towards adopting agreed definitions of dataset terms, uniform agent coding, developing a harmonised national PIC dataset, a single real-time call database, and a uniform format for annual reports. To assist uniform call coding across the PICs, the NPR could be modified to include a PIC exposure agent code.

Documentation must be adequate to meet all toxicovigilance, research and reporting requirements. Data should be easily searchable, retrievable and migratable to public health agencies, regulatory authorities, medication safety bodies, child safety groups etc as required. PICs and PITNA should strive for continuing improvement in accuracy and completeness of call data.

Call dataset

The minimum dataset required for a call about a human exposure or envenomation (in no particular order) is:

- unique, sequential identification number for each call (exposure or query);
- date and time of the call and identification of the SPI who answered the call;
- identification of the SPI who reviewed the call;
- caller details such as: telephone number; state; caller background (self, family member, doctor, nurse, carer, pharmacist etc); caller name (if applicable, eg treating hospital doctor);
- postcode of the location of the exposure;
- hospital name (if applicable);
- patient details such as: age; gender; pregnancy and body weight (if applicable); medical/unit record number and name if hospitalised (to assist follow-up);
- exposure agent/s details such as: product name and ingredient/s; time since exposure; extent of exposure, ie dose /amount (quantitative whenever possible); route/s of exposure; duration of exposure (if applicable); acuity eg acute, chronic, acute-on-chronic;
- circumstance of exposure (unintentional, intentional, therapeutic error etc);
- symptoms and condition of the patient (asymptomatic, related symptoms, unrelated symptoms, symptoms unknown etc);
- poisoning severity score (none, minor, moderate, severe, fatal);
- relevant medical history;
- treatment or intervention already performed;
- risk assessment of the exposure (none, minimal, moderate, potentially lethal etc);
- information and advice given, including reference sources if relevant;
- patient disposition: stay home; referral to medical practitioner; referral to hospital etc;
- identification of the supporting clinical toxicology team member (registrar, fellow or consultant) or mycologist etc if the call was escalated to them.

If possible, the following data should also be captured as part of the call record:

- referral agency (if applicable), eg ambulance, Health Direct, Nurse-On-Call, 13 Health, Lifeline;
- site of the exposure (home, workplace, school, beach etc);
- advice given by the supporting clinical toxicology team member (registrar, fellow or consultant) or mycologist etc if the call was escalated to them.

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3. WHO International Programme on Chemical Safety. Guidelines for Poison Control. Available at: http://whqlibdoc.who.int/publications/1997/9241544872_eng.pdf

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5. European Association of Poison Centres and Clinical Toxicologists (EAPCCT) Working Group on Quality and Accreditation of Poisons Centres. Self-assessment checklist for minimum and optimum standards. 2001. Member-only login available at:
http://www.eapcct.org/internal/internal_page.php?page=internaldocuments

Appendix 1. PIC Information Sources

These information sources are listed in no particular order. They may be available in electronic or hard copy format, and some will be accessible via the various state-based health information portals used in the PIC's host hospital. Each PIC should decide which resources to use, based on their operational needs and discussions with the other PICs to facilitate the use of common references and consistency of advice across PITNA. PICs should collaborate to develop a list of agreed core information resources. The current editions of all information resources should be used.

General

National Poisons Register. Sydney: Royal Prince Alfred Hospital Toxicology Unit. http://www.npr.org.au

Chemwatch Chemical Database Management System. Melbourne: Chemwatch Pty Ltd.

Chemalert Chemical Database System, Queensland Health Department,

Therapeutic Guidelines (eTG) Toxicology and Wilderness http://online.tg.org.au/ip/desktop/index.htm

MIMS Online or eMIMS. Sydney: MIMS Australia.

AusDI. Canberra: Pharmaceutical Care Information Sources.

MICROMEDEX(R) POISINDEX. Truven Health Analytics Inc.

TOXINZ. http://www.toxinz.com/

TOXBASE. http://www.toxbase.org/

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Therapeutic Goods Administration. Consumer Medicines Information (CMI). http://www.tga.gov.au/consumer-medicines-information-cmi

Therapeutic Goods Administration. Product Information (PI). http://www.tga.gov.au/product-information-pi

Poisons and controlled substances acts, or equivalents, for the state/territory in which the PIC is based.

Commonwealth of Australia. Standard for the uniform scheduling of medicines and poisons. Canberra: Australian Government Publishing Service.

Clinical Toxicology (Informa Healthcare) and/or Journal of Medical Toxicology (University of Pennsylvania Press).

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Motherisk Breastfeeding and Drugs Database. The Hospital for Sick Children, Toronto, Canada. http://www.motherisk.org/women/breastfeeding.jsp

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National Center for Complementary and Alternative Medicine (NCCAM) http://nccam.nih.gov/

Natural Medicines Comprehensive Database http://naturaldatabase.therapeuticresearch.com/home.aspx?cs=&s=ND

Natural Standard http://www.naturalstandard.com/

Memorial Sloan-Kettering Cancer Center http://www.mskcc.org/cancer-care/integrative-medicine/about-herbs-botanicals-other-products

Envenomation

Therapeutic Guidelines (eTG) Toxicology and Wilderness http://online.tg.org.au/ip/desktop/index.htm

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Hall I, Buchanan PK, Yun W, Cole ALJ. Edible and poisonous mushrooms: an introduction. Christchurch: New Zealand Institute for Crop & Food Research Limited; 1998.

Veterinary

.   Wroth O, editor. MIMS IVS. Sydney: MIMS Australia.

Osweiler GD, Hovda LR, Brutlag AG, Lee JA, editors. Small Animal Toxicology. Blackwell's Five Minute Veterinary Consult Clinical Companion. Iowa: Wiley-Blackwell Press; 2011.

Agricultural

Australian Pesticides and Veterinary Medicines Authority (APVMA) http://www.apvma.gov.au/
and APVMA Public Chemical Registration Information System Search (PUBCRIS)
 https://portal.apvma.gov.au/pubcris

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Farnham: Crop Protection Publications; 1997.

Environmental

Sullivan JB, Kreiger GR, editors. Clinical Environmental Health and Toxic Exposures.
Philadelphia: Lippincott Williams & Wilkins; 2001.

Local Resources

State-based clinical management guidelines, eg for envenomation, may be available via the
various health information portals used in the PIC's host hospital.

PICs should have the contact details of the following local resources and refer callers to the
appropriate service as indicated.

Assays and substance analysis
1. Hospital laboratory.
2. Government analyst.
3. Forensic toxicologist.
4. Private analytical laboratories.
5. Specialised assays, eg toxic alcohol screens, paraquat concentrations.

Chemical spills
1. Fire Brigade, Country Fire Authority or similar.
2. Environmental Protection Agency

Counselling
1. 24 hour counselling services, eg Lifeline, Suicide Help Line.
2. Drug and alcohol services.
3. Interpreter services (13 14 50).
4. TTY services for the hearing impaired.

Disposal of chemicals
1. Waste Management Commission or similar; Environment Protection Authority.
2. Local councils.

Drug information
1. State/territory drug information services.
2. Specialised drug information services, eg medicine and chemical safety in
   pregnancy/breastfeeding; paediatric drug information.

Food poisoning
1. Appropriate body for notification in the state/territory, eg environmental health officer
   at the local council or health authority.

Medical advice
1. Health Direct, Nurse-On-Call, 13 Health etc.
2. Maternal and Child Health Services or similar.
3. Communicable Diseases Unit, Public Health Unit or similar.

Plants and fungi
1.   Mycologist for fungus/mushroom identification.
2.   Horticulturalist or botanist for plant identification.

Product Recalls, Safety Alerts
1.   Product Safety Recalls Australia
       http://www.recalls.gov.au/content/index.phtml/itemId/952401
2.   Therapeutic Goods Administration alerts http://www.tga.gov.au/safety/alerts.htm

Safety and handling of chemicals in the work place
1.   Occupational and Environmental Health or similar.
2.   Worksafe Australia.
3.   Farmsafe.

Water quality, contamination
1.   Local water authority
2.   State/territory Environmental Health Unit, public health unit or similar.

Appendix 2. Training Program for Specialists in Poisons Information

The training program should consist of modules that together cover all aspects of the PIC service (see an example training module below), task practice activities and evaluation of performance criteria. Over time, PICs should collaborate via PITNA arrangements to develop a uniform national training curriculum and program.

1. Objectives

The training program should provide the participant with a complete understanding of:
- the SPI's role;
- taking a history;
- retrieving relevant information;
- assessing and interpreting information to make a proper risk assessment;
- communicating clear and concise information, advice and risk assessment to clients;
- enquiries that require referral to a consultant or specialist information service;
- confidentiality/privacy;
- how to use the call database;
- interrelationships between PICs, the local and national supporting toxicology teams, ambulance services, the NPR and other information services such as the National Health Call Centre Network (NHCCN).

2. Example training module

Title	The SPI's role in providing poisons information and advice:
	- epidemiology of poisoning and envenomation;
	- the objectives of the PIC and PITNA;
	- handling poisons calls;
	- information sources;
	- relationships with other PICs, the local and national toxicology services, ambulance services, the NPR and other information services such as the NHCCN
Format	One-on-one tutorials
Mentors	Senior SPI and clinical toxicologist
Duration	Dependant on previous experience.
Aim	To present, detail and review the SPI's role in providing poisons information and advice, contributing to an improved outcome for poisoned and envenomed patients and preventing unnecessary presentations for the treatment of poisoning and envenomation, with specific emphasis on points detailed in the performance objectives.
Tools	- the PIC's annual report
	- annual reports from other PICs
	- section on handling calls from the PIC's Policy and Procedure Manual or similar documentation
	- clinical guidelines, protocols and position statements
	- the PIC's information sources, see Appendix 1
	- call database
	- prescribed reading
	- host hospital library.
Outcome	The SPI will be aware of: the epidemiology of poisoning and envenomation; the range of calls received; the type of information, advice and risk assessment provided to different types of callers; the range of information sources available within the PIC, hospital, and state/territory; the relationships with other PICs, the local and national toxicology services, ambulance

	services, the NPR and other information services such as the NHCCN.	

3. Task practice activities

• Complete training exercises on the use of the NPR, Poisindex/TOXINZ/TOXBASE, Medline and any other information sources used in the PIC.

• Complete self-test and e-learning modules, eg WikiTox, TOXBASE.

• Appropriately answer sample questions covering the range of calls received by the PIC.

• Satisfactorily enter a range of sample calls into the call database.

4. Performance criteria evaluation

Competency	Element	Performance cues
To understand the SPI's role in providing information, advice and making risk assessments, contributing to an improved outcome for the poisoned or envenomed patient and preventing unnecessary presentations to hospitals and medical centres	Understand the steps involved in providing poisons information, advice and risk assessment	SPI able to demonstrate verbally the element of competency identified
	Understand which enquiries would be more appropriately handled by another specialist information service	Demonstrate an understanding of which enquiries should be referred to another specialist information service
	Understand the need to take an accurate history	Identify the relevant information missing from case histories in the sample questions
	Understand the basis for choosing the most appropriate reference sources	Demonstrate an ability to choose the most appropriate reference sources to answer the sample questions
	Understand the limitations of available information sources	Demonstrate an understanding of the limitations of the information retrieved
	Awareness of the limitations of extrapolating from animal data	Demonstrate an awareness of the need for caution in extrapolating from animal data
	Collate and assess information retrieved	Demonstrate an ability to collate and interpret information from a range of information sources and make a proper risk assessment
	Understand how to determine a toxic dose for a particular patient	Demonstrate an ability to calculate toxic doses
	Awareness of the type of care able to be provided in different health care facilities	Demonstrate an awareness of the level of care provided in different health care facilities and the need for patient

		transfer or retrieval
	Provide information, advice and risk assessment of a level and content appropriate for different types of enquirers	Demonstrate an ability to clearly communicate information, advice and risk assessment that is appropriate for the needs of the enquirer and modify this as required
	Ensure appropriate liaison with medical and other services who will be involved in the treatment of a poisoned/envenomed patient	Demonstrate appropriate liaison with these individuals or services eg the supporting clinical toxicology team, mycologist, ambulance, retrieval services
	Understand the need for confidentiality/privacy	Demonstrate an awareness of the need for maintaining confidentiality/privacy in relation to product, patient and caller information
	Understand when follow-up calls are required	Identify situations where follow-up calls are indicated
	Awareness of calls that should be referred to the on-call clinical toxicologist	Fully understand the PIC call escalation guidelines
	Understand the need for continuity of care when calls are handled by other PICs	Identify instances where information should be provided to another PIC to enable appropriate continuity of care, eg telephone handover, email, national toxicologist spreadsheet (or similar) documentation
	Correct use of the PIC call database	Accurately enter, search and retrieve call data