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1. Introduction

Hazardous substances disease and injuries are required to be notified to a Medical Officer of Health under section 143 2(A) of the Hazardous Substances and New Organisms (HSNO) Act 1996. The Hazardous Substances Disease and Injury Reporting Tool (HSDIRT) was implemented in 2013 to give general practitioners (GPs) an easy mechanism by which to notify cases: an electronic notification form linked to a Patient Management System. The reporting tool was developed by Bestpractice decision support (BPAC Inc) and the Environmental Health Indicators Programme (EHIP), Centre for Public Health Research, Massey University (CPHR) for the Ministry of Health.

The system allows public health units (PHUs) to electronically receive notifications from GPs. Notifications can be reviewed, further data added and the cases submitted to the nationwide Hazardous Substances Surveillance System (HSSS) with identifiable data removed. The HSSS is maintained by CPHR for the Ministry of Health.

Surveillance data from PHUs contributes to the overall objectives of the HSSS, which are:

- To describe the distribution and characteristics of exposure to hazardous substances
- To describe the morbidity and mortality experienced by workers and the general public (including children) as a result of exposure to hazardous substances
- To provide high quality information on outcomes, exposures, and hazards for monitoring, policy development, measuring compliance and control
- To identify strategies that might reduce future morbidity and mortality resulting from exposure to hazardous substances.
Figure 1: Overview of HSDIRT

Feedback to notifying doctor may be appropriate, especially where investigation performed

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**Section 1**

**Section 2**

**Section 3**

**Section 3 & 4**

**Section 5**

**Section 5**

**Section 6 and 7**

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User’s Guide for PHUs May 2017
This User’s guide explains the HSDIRT system delivered via BPAC. This guide should be used alongside a PHU’s existing processes for the investigation of hazardous substances injury or disease, lead absorption or poisoning arising from chemical contamination of the environment. Progressively throughout 2013, the HSDIRT system replaced lead absorption and chemical injury case reporting through EpiSurv.

1.1 Types of notifications included in the HSDIRT

The Ministry of Health decided that the following notifiable conditions were included in the HSDIRT.

- **Hazardous substances injury or disease**

A hazardous substance is defined in the HSNO Act 1996 as anything that can explode, catch fire, oxidise, corrode, or be toxic to humans. The act was amended in 2005 requiring all medical practitioners to notify injuries caused by hazardous substances to the Medical Officer of Health (see Appendix 1 for section 143 2(A) of the legislation).

The Ministry of Health defines 'injury' for the purposes of section 143 as **any physical harm or damage serious enough to warrant medical treatment by a health professional either at the scene or in a hospital or primary care practice** (Environmental Health Protection Manual Section 11 Hazardous Substances).

Injuries or diseases caused by hazardous substances form a vast group of diagnoses and include children swallowing cleaning products or cosmetics, intentional overdoses with agrichemicals, some carbon monoxide poisoning (related to faulty gas cylinders), illness caused by exposure to chemicals such as solvents or chlorine, contact dermatitis from chemicals, a fireworks burn or eye injury, or inhalation or ‘huffing’ of butane.

It does not include medicines in finished dose form (and therefore over-the-counter and prescription drug overdoses), alcohol when classified as a food, chemical toxins associated with food¹, nor radioactive materials as these are covered by different legislation.

- **Lead absorption**

Notification of non-occupational cases of lead absorption ≥0.48 µmol/L is required under the Health Act 1956 (also in Appendix 1) and occupational as well as non-occupational cases under the HSNO Act. Although there is no cut-off level for notification of lead absorption in the HSNO Act the Ministry of Health has adopted the same level at which public health action occurs under the Health Act. The electronic HSDIRT form is used for these notifications, from both direct laboratory notification and clinician notification.

¹ Gastroenteritis from chemical toxins associated with food (e.g. toxic shellfish poisoning, ciguatera fish poisoning) are entered into EpiSurv as “acute gastroenteritis” notifications and not into HSDIRT.
• Poisoning arising from chemical contamination of the environment

Cases of injury due to chemical contamination of the environment are also required under the Health Act 1956 and can be notified using this form. Examples include a doctor reporting health effects following an agrichemical spray drift event, a skin effect following an oil spill event, cyanotoxin-related illness, and carbon monoxide poisoning where the source is not a faulty gas cylinder (e.g. from incorrect use of a gas appliance, a vehicle left running in an attached garage, a malfunctioning gas appliance).

Only cases of CO poisoning where the exposure was unintentional should be reported as Health Act cases. If the source of CO poisoning is a faulty gas cylinder (see p4) this is a HSNO Act notification. Both Health Act and HSNO Act notifications of CO poisoning are recorded in the HSDIRT.

Other notifications: Occupational disease and injury

Section 199 of the Health and Safety at Work Act 2015 requires Medical Officers of Health to advise WorkSafe New Zealand (WorkSafe) of work-related notifiable disease or hazardous substances injury. This requirement took effect from 4 April 2016 and applies in cases of:
1. a notification under section 74 of the Health Act 1956 of a notifiable disease that he or she reasonably believes arises from work; and
2. a notification under section 143 of the HSNO Act 1996 of an injury caused by a hazardous substance that he or she reasonably believes arises from work.

Only the name of the case and the nature of the disease or injury are required. The case’s informed consent is required before any other information can be disclosed unless one of the exceptions under Rule 11 of the Health Information Privacy Code 1994 applies.

Occupational notifications (whether investigated or not) are analysed by EHIP and non-identifying aggregate data are published.

Notification on suspicion, excluding lead

GPs are expected to notify cases on suspicion of hazardous substances injury or disease, except for lead absorption where a confirmed lead level of ≥0.48 µmol/L is required.

WorkSafe requires only confirmed cases to be notified by the medical officer of health to them.

1.2 General practitioner access to HSDIRT

All GPs are able to have access to the HSDIRT as it is a nationally funded BPAC module, alongside a range of other modules such as adverse drug reaction reporting and childhood asthma management plans. However some choose not to have BPAC installed on their computer and will therefore not be able to access the notification form.

MedTech, MyPractice and Profile

The HSDIRT was initially available to GPs who use MedTech as their practice management system – this is the majority of New Zealand GPs. Those practices that didn’t use MedTech needed to log on to the bestpractice website, rather than go directly through their PMS. This was a longer route, and also meant that patient demographic information couldn’t be automatically populated into the form. Since April 2014, the HSDIRT screen became available for users of MyPractice and Profile Practice Management System.

For GP MedTech users, an icon is able to be installed which gives immediate access to the form. Instructions on how to install this icon are available to GPs by contacting BPAC or via this article http://pilot.bestpractice.org.nz/hazards_icon.html.

Where GPs do not have access to the HSDIRT, notification can be made by phoning or faxing the PHU as is done for other notifiable diseases.

Notification by a practice nurse on behalf of a GP is commonplace for many notifiable diseases and is also possible using the HSDIRT.

2. Receiving a notification

2.1 Email alert of new notification via BPAC
PHUs have an email address to which an alert of a new electronic notification from a GP will be sent. This email address should be checked regularly; as a minimum daily on weekdays. An automated email will alert your PHU that new notifications have been received.

Figure 2: Example of email to alert PHU of new notification

To access the notification, click on the link in the email. This will access the BPAC site, ask for a username and password, then directly open the notification form as completed by the GP. As the notification is to the Medical Officer of Health, the person accessing the notification and the enclosed confidential clinical information does so under the delegated authority of the Medical Officer of Health.
2.2 Notification from another source

Notifications will also be received by the PHU through other means, for example a GP phone call, emergency department notification or another hospital clinician. These notifications can be entered into the HSDIRT by PHU staff opening a new (blank) notification form. Legislation (Health Act 1956 and HSNO Act 1996) requires that notifications are made by medical practitioners. Other notifications to the PHU from affected people directly or other agencies including the Fire Service may be included if a doctor subsequently agrees to notify. This doctor may be the Medical Officer of Health.

This can be done by going to https://www.bestpractice.org.nz and logging on using a user name and password. Select the ‘HazSub and Lead Notification’ from the module list on the dashboard to open a new form. The popup blocker needs to be switched off for a form to be opened.

*Figure 3: Opening a new form - the BPAC dashboard*

Complete the fields in the tabs as described in section 3.
2.3 Direct Laboratory Notifications

Direct laboratory notifications (DLNs) are received through the EpiSurv e-notification system as the HSDIRT system does not currently have compatibility with direct laboratory notification.

Lead DLNs must therefore be transferred into the HSDIRT system. This may be done by printing the notification from EpiSurv then opening a new notification form as described above. The data from the DLN can then be transferred into the relevant fields in the HSDIRT form. Enter the data available from the DLN - this may include entering unknown into several fields and editing at a later date if more information is identified. After submitting the notification form to your PHU, the form can then be accessed via the Administration module with full PHU functions available.

2.4 Submitting a new HSDIRT form

Where PHUs are entering data, enter all information available at the time and select unknown if required (e.g. a DLN where no exposure event information was available). Further information, when obtained, can be entered later by accessing the form from the administration view (see section 4).

It is recommended that PHUs ‘submit’ notifications and then access them through the administration view for further completion so the full range of functions (e.g. printing, attach files and park) available to PHUs can be accessed. Some functions (e.g. park a case) are not available until the form is submitted to PHUs.
After submitting a case, PHU users can open the case here to get access to the full range of available functions.

PHUs won’t be able to use this function until a case has been submitted to them.

PHUs need to submit notifications to themselves so that the full range of functions (e.g. print, attach and park) available to PHUs can be accessed.
3. Notification form

The notification form is grouped into sections or ‘tabs’. Each tab can be viewed by clicking on the title: ‘Exposure Event’, ‘Assessment’, ‘Notifier/Patient details’, ‘PHU Review’ and ‘Resources’. The PHU Review Tab is visible to PHUs only. Move between the tabs by clicking on the title at the top or bottom.

Where a notification is received electronically from a GP, the first three tabs will be completed, but these may be edited by the PHU where more up to date, correct or further data are identified. PHUs are to enter as much information as is available to them to ensure useful information for surveillance purposes.

When a notification form is opened from the administration view, the PHU will notice the buttons at the bottom of the page – ‘Attach’, ‘Print’, ‘Park’, ‘Forward’, ‘Cancel’, and ‘CPHR’. ‘Attach’ allows a file to be attached to the notification (see section 3.4). ‘Print’ allows a copy of the form to be printed. ‘Park’ allows the form to be closed and re-opened at a later time (through the administration view). ‘Forward’ is to send the notification to a different PHU if required (see section 5.5). ‘Cancel’ closes a form without keeping the entered information and ‘CPHR’ sends a completed form to CPHR for analysis. The form becomes read only after it is sent to CPHR.

CPHR will not receive a notification until the PHU completes a case and submits the form to CPHR.
3.1 Notifier/Patient Details tab

PHUs can start by clicking on and reviewing the Notifier/Patient details tab. Note that the information is pre-populated from the Practice Management System and may not have been viewed by a GP or verified with the patient, so may not be up to date. Occupational data in particular may be incomplete or out of date. Enter corrected data where available.
If entering data for a notification from another source or DLN, enter the details of the medical practitioner notifying the case in the ‘Notifier Details’. This may be an after-hours GP, occupational health physician, emergency department doctor and may not be the usual GP (recorded in the right column).

The name of a parent or guardian is requested if the age indicates the patient is younger than 16 years.

**Figure 7: Notifier/Patient Details tab**

Click on titles to move between tabs. Start with Notifier/Patient details.

Name of **parent or guardian** is requested if the patient is younger than 16 years.

**Occupation** is drawn from the PMS, if not complete or current - update the field.
3.2 Exposure Event tab
Details regarding the exposure to the hazardous substance are recorded in the Exposure Event tab. Review the details entered by a GP, or enter new data here.

Additional fields drop down when specific fields are selected. If ‘Place of exposure’ is workplace, a separate occupation field appears – this acts as a reminder to enter up to date data. If the substance category is agrichemical, a spraydrift question appears. A further section appears if lead is selected: asking for the blood lead result and the setting/source(s) of exposure. The settings of lead exposure field (options from ‘Occupational’, ‘Non-occupational’ and ‘Unknown’) requires an option to be selected prior to submitting to CPHR.

In the substance name category, GPs are advised to enter a name into at least one category (chemical name, product name or common name), or unknown. PHUs are asked to enter all the information they have – where possible a chemical name and product name can be added to a common name. More than one substance name can be entered by clicking on the ‘+’ sign on the right to add a further line to enter data into.
If workplace is selected, enter occupation if known.

Lead section: drops down if substance category ‘lead’ was selected.

Where multiple substances are involved, click on the plus sign to enter further names.

For the substance name field, enter at least one of the ‘Chemical name’, ‘Product name’ and ‘Common name’. Multiple/ all names can be entered if known.
3.3 Assessment tab

*Figure 9 Assessment tab*

Review or enter data on the health effects reported. ‘Systems affected’ describes the health effects observed or described to the GP. For example, a headache categorised as central nervous system, shortness of breath as respiratory, nausea and vomiting as gastrointestinal, anxiety as psychological.

Symptoms are how a person describes their disease or injury and are subjective, e.g. itchiness of skin. Signs are findings seen by a medical practitioner examining a person and are objective, e.g. red rash on skin. Select from ‘symptoms only’, ‘symptoms and signs’ or ‘no signs or symptoms’. If the requested laboratory tests were pending at the time of notification, a PHU can seek the result from the laboratory. This information can be used later to assist in case assignment (section 5.4).

3.4 Attaching a file

Some PHUs may keep associated files with the notification form in the HSDIRT system. This can be done using the ‘Attach’ function at the bottom of the screen.

Click ‘Browse’ and select the required file. The name of the attached file is visible at the bottom of the screen. The attachment is not sent to CPHR when the form is submitted as it may include identifiable information.

After attaching a file to the HSDIRT form, make sure to click ‘Park’ to save the changes so files won’t be lost.
Figure 10: Attaching a file

1. Press 'Browse' to search your folders for the desired file and then double click on your selection.
2. Wait while the file is retrieved. If successful you will get a confirmation message under 'File Upload Status'.

Click here to open dialog box
4. Administration view
The administration view lists all cases that have been notified to the PHU. They are listed with the most recently notified case at the top. Cases can be sorted according to each column title for example, by substance category or status.

Basic information for team meetings e.g. weekly surveillance meetings can be provided by this view.

Cases can also be deleted from this view using the red box at the right of the table. This may be useful where duplicates have occurred e.g. both clinician and direct laboratory notification. Additionally, if more than one form is completed for a repeat blood lead level on the same person.

Please notify CPHR if the PHU decides to remove a notification.

Figure 11 Administration view

Search the notifications for a particular entry, e.g. NHI number or family name.

Notifications which have been submitted to CPHR remain in the administration view as ‘processed’

Sort notifications by clicking on a column heading

5. PHU review of a notification
5.1 Deciding on further action
After reviewing the notification data in each of the Notifier/Patient details, Exposure Event and Assessment tabs, a decision on further action can be made. Some cases may require more information from the general practice or individual. The following advice should be used to supplement local decision-making thresholds for investigation which may vary between PHUs.

Investigation guidelines for notifications received through HSDIRT
Not all cases will require investigation by the PHU and it is expected that the majority of HSNO Act cases will not be investigated. It is expected that PHUs will continue to use their own localised processes and priorities when acting on notifications received via the HSDIRT, and the following guidance is to supplement local decision making.

In the decision to investigate, there are three main responses:

1. No investigation take no further action,
2. Refer to another agency (such as WorkSafe, a territorial authority or regional council), or
3. Begin an investigation.
Investigation may occur with or without referral to another agency; or in conjunction with another agency.

As with any environmental health activity the response that is appropriate will depend on a variety of factors. The Environmental Health Priority framework from the Ministry of Health’s Hazardous Substances Action Plan may help guide decision making, in particular:

- Significance: does the notification have a significant impact on the health status of the total population or vulnerable groups such as children or pregnant women?
- Effectiveness: are there effective means to address the issue?
- Timeliness: is there any reason why action must be taken urgently or within specific time-periods e.g. public outrage, statutory timeframes, sample half-lives, seasonality of issue, acute risk to health versus chronic risk
- Compliance with statutory, contractual or other requirements
- Tackling this issue will contribute to promoting health status among at-risk communities such as Māori and Pacific people

Likely to investigate

- Unusual exposure with actual or potential significant health consequences
- Exposure to substance which is subject to strict controls
- Where the PHU has identified evidence of a spatial and/or temporal trend
- Large number of people known to be affected
- Children or other vulnerable population affected
- Significant location of exposure e.g. public park, school, early childhood centre
- And, where the time interval between the event and the notification being received allows for a useful investigation.

Likely not to investigate

- Intentional injuries
  E.g. intentional adult carbon monoxide poisoning, ingestion of cyanide
  **NB:** There will be cases of intentional injury where public health action will be necessary, e.g. where access to the hazardous substance is gained because of inadequate control.

- Occupational injury and disease
  E.g. Chlorine exposure resulting in respiratory symptoms in a swimming pool attendant, spray painter with neurotoxic symptoms
  **NB:** All notifications referred to WorkSafe

- Where there is little evidence of a link between the substance and illness
  E.g. Inconsistent symptoms reported following a spray drift event, some notifications from a GP who practises complementary and alternative medicine.
  Again, there may be circumstances where public health action or investigation is appropriate e.g. where public concern is particularly high.

- **Some** unintentional child poisonings
  E.g. A child swallowing household cleaning product and preventive advice has already been given by the GP
  However, in some cases of unintentional childhood poisoning, e.g. heavy metals, public health investigation is warranted.
When a decision is made that no further investigation is necessary, the reason should be documented and the decision should be endorsed by the Medical Officer of Health or the principal/senior health protection officer.

Cases that are not investigated remain important to include in the HSDIRT system to contribute to overall surveillance. Identification of a national or regional trend from surveillance data may prompt the Ministry of Health or Environmental Protection Authority to undertake an investigation. This may include a national analytical survey of a product e.g. type of cosmetic; household product, where PHUs are involved in sampling or PHUs are requested to investigate cases which may not have previously reached a local threshold for investigation.

5.2 Case notes
The data in the HSDIRT form is intended to record notification and surveillance information. It does not replace case history or investigation notes. These will be kept by PHUs according to their own procedures. A copy of the HSDIRT notification can be printed to include in paper-based case notes by clicking the ‘Print’ button. Alternatively, electronic case notes can be attached to the notification form using the Attach function as described in section 3.4.

5.3 Entering surveillance data
Complete the PHU review tab when all relevant information has been collected. Enter all available data, including in situations where no investigation has occurred. Where further information is collected and the original GP data are found to be incorrect, update the relevant fields.

The categories for the ‘circumstances of the exposure’ are based on the life cycle of a hazardous substance and data from this field, alongside ‘non-compliance’ information will in the future provide unique, useful evidence to inform decision-making around hazardous substances.
5.4 Case assignment

PHUs are asked to assign a case status to each notification. In many cases this will be straightforward. For other notifications, a careful review of the exposure history, health effects described by the affected person and reporting practitioner, and a review of the health evidence for
the hazardous substance will be required. The process for assigning case status is based on that used by the National Institute for Occupational Safety and Health of the US Centers for Disease Control for pesticide exposure cases, and may not be suitable for some hazardous substance notifications. Feedback on the matrix is appreciated and will be incorporated into future revisions of the Guide.

Choose a category from each part and use the matrix to select a case status.

### Part 1  Exposure history

**A1Lead** Confirmed lead level of ≥0.48µmol/L with or without exposure history

- Exposure history is corroborated by
  - Environmental samples, OR
  - Observation of the environment post exposure by a trained professional (e.g. HPO, MOH) confirms exposure e.g. pesticide residue observed, OR
  - Clinical/Laboratory findings verified by a medical professional which meet the B1 criteria and are characteristic of the hazardous substance

- **A2** Evidence of exposure is based on report only
- **A3** Strong evidence that no exposure occurred
- **A4** Insufficient data on exposure available

### Part 2  Health effects

- **B1** Abnormal signs or laboratory sample reported by medical practitioner (note that symptoms alone are not enough to meet this criterion)
- **B2** Abnormal symptoms only
- **B3** No new abnormal symptoms, signs or laboratory samples
- **B4** Insufficient data on health effects available

### Part 3  Evidence supporting causal relationship between exposure and health effects

**C1Lead** Confirmed lead level of ≥0.48µmol/L

- All of the following apply
  - Health effect/s are characteristic of those known for the hazardous substance/chemical from a reputable source (e.g. TOXINZ, CHEMFIND or other database, safety data sheet, toxicology text, government publication etc.)
  - The temporal relationship between the exposure and health effect is plausible
  - The exposure dose was known/is likely to be sufficient to produce the symptoms experienced

- **C2** No evidence of relationship between exposure and health effect
  - Any of the following apply
    - Health effect/s are NOT characteristic of those known for the hazardous substance/chemical from a reputable source (e.g. TOXINZ, CHEMFIND or other database, safety data sheet, toxicology text, government publication etc.)
    - The temporal relationship between the exposure and health effect is NOT plausible
    - The exposure dose was NOT known/NOT likely to be sufficient to produce the symptoms experienced

- **C3** Definite evidence of non-hazardous substance cause
- **C4** Insufficient data are available to establish causal relationship between exposure and health effects (e.g. minimal human data available)
Part 4 Integration/Matrix

<table>
<thead>
<tr>
<th></th>
<th>Defined case</th>
<th>Probable case</th>
<th>Possible case</th>
<th>Insufficient information to assign status</th>
<th>Not a case</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Exposure</td>
<td>A1/A1Lead</td>
<td>A1</td>
<td>A2</td>
<td>A1 or A2 or A4</td>
<td>A3</td>
</tr>
<tr>
<td>B Health effects</td>
<td>B1</td>
<td>B2</td>
<td>B1</td>
<td>B1 or B2 or B4</td>
<td>Any</td>
</tr>
<tr>
<td>C Causal relationship</td>
<td>C1/C1Lead</td>
<td>C1</td>
<td>C1</td>
<td>C1 or C4</td>
<td>Any</td>
</tr>
</tbody>
</table>

Resources that may be useful for finding evidence on a causal relationship between exposure and health effects to less common hazardous substances are included in Appendix 2. Of note is the Hazardous Substances Data Bank (HSDB) providing comprehensive, peer-reviewed toxicology data for about 5,000 chemicals through the United States National Library of Medicine Toxicology Data Network, TOXNET (http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB).

These resources are also accessible via a tab in the form; click on the blue triangle to access the ‘Resources’ tab. Some are most suitable for PHUs, others are best for GPs.

Figure 9 Accessing resources through the notification form

Useful resources can be accessed here.
5.5 Forwarding a case to a different PHU

There may be cases where a GP selects the incorrect PHU to notify the case, therefore, the notification is sent to the incorrect PHU. If this occurs, change the field ‘Public Health Unit responsible’ to the correct PHU and click the ‘Forward’ button at the bottom of the page. The new PHU will receive an email notification to advise them of the notification. A phone call from the referring PHU explaining the circumstances is also recommended.

5.6 Completion of the form

When complete, consider whether your PHU will require a hard copy version of the notification if paper based files are kept. Use the ‘Print’ function via the button at the bottom of the screen.

Also consider whether feedback in the form of a letter to the notifying doctor is appropriate, particularly where an investigation has been performed, or where hazardous substance notifications can be encouraged by feedback to clinicians.

Click ‘CPHR’ to submit the form, it will then become read only. The data will be transferred to the CPHR Hazardous Substances Surveillance System, with the identifiable data removed by BPAC.

6. Regular reporting from CPHR

CPHR will provide each PHU with an annual report and their own raw data for the same time period in a Microsoft Excel spreadsheet. Raw data will be supplied to allow PHUs to carry out their own analyses if desired.

A national report is also available annually.

CPHR can perform additional analyses on request, for example, GIS coding of cases. These can be discussed by contacting Fei Xu (email address f.xu@massey.ac.nz, or 0800 588 265) or Helene Marsters (t.h.marsters@massey.ac.nz).

7. Advice from Ministry of Health to investigate

Identification of a national or regional trend from surveillance data may prompt the Ministry of Health to undertake an investigation. This may include a national analytical survey of a product e.g. type of cosmetic; household product, where PHUs are involved in sampling. PHUs may also be requested to investigate cases which may not have previously reached a local threshold for investigation.

8. Privacy and security of patient information sent via BPAC

All BPAC products need a user name and password to be able to access the programmes, BPAC run server side SSL certificates and use uuencoded documents and bit level encryption to secure the data in transmission.
BPAC meets all relevant aspects of the Health Information Privacy Code 1994 relating to the collection, management and disclosure of health information.

The security for the bestpractice servers and application meets or exceeds current New Zealand health standards and includes:

- Health provider access to bestpractice is confirmed with username, password server side digital certificate
- Servers are additionally protected from the outside world with industry grade firewalls, intrusion detection, server hardening and security vulnerability patching
- BPAC servers are housed in a secure data hosting facility that provides both electronic and physical security along with natural disaster and fire protection
- Storage of data and personal information complies with the Health Information Privacy Code 1994 and the Privacy Act
- The data base is security controlled and access is restricted. All authorised access to the data base is logged and activity recorded.
- All staff with access to any hardware or data files have signed confidentiality agreements as part of their employment contract.

9. Feedback and queries
Questions and feedback about the HSDIRT are appreciated and will contribute to the ongoing improvement of the system. Questions regarding the HSDIRT can be sent to

Fei Xu  
Analyst  
Centre for Public Health Research  
Massey University  
E: f.xu@massey.ac.nz  
T: 0800 588 265 (weekdays)

Helene Marsters  
Senior Analyst  
Centre for Public Health Research  
Massey University  
E: t.h.marsters@massey.ac.nz  
T: 04 979 3382 (weekdays)

If you have feedback or questions regarding the BPAC system this can be entered using the ‘Send Feedback’ link in the BPAC dashboard, or by calling call 0800 633 236.
Figure 13: Feedback to BPAC

Click here to open the feedback form.
Appendix 1  Legislation

Definition of hazardous substance in Hazardous Substances and New Organisms Act 1996, Part 1 section 2

**hazardous substance** means, unless expressly provided otherwise by regulations, any substance—
(a) with 1 or more of the following intrinsic properties:
   (i) explosiveness:
   (ii) flammability:
   (iii) a capacity to oxidise:
   (iv) corrosiveness:
   (v) toxicity (including chronic toxicity):
   (vi) ecotoxicity, with or without bioaccumulation; or
(b) which on contact with air or water (other than air or water where the temperature or pressure has been artificially increased or decreased) generates a substance with any 1 or more of the properties specified in paragraph (a)

Requirement to notify Medical Officer of Health, in Hazardous Substances and New Organisms Act 1996 section 143 2(A)

143  **Notification of hazardous substances injuries**
(1) In this section,—
   **hospital** means a hospital care institution within the meaning of section 58(4) of the Health and Disability Services (Safety) Act 2001
   **medical practitioner** means a health practitioner who is, or is deemed to be, registered with the Medical Council of New Zealand continued by section 114(1)(a) of the Health Practitioners Competence Assurance Act 2003 as a practitioner of the profession of medicine.
(2) If any person, upon admission to a hospital, is found to be suffering from any injury caused by a hazardous substance, the person for the time being in charge of the hospital shall give notice of the injury to the Medical Officer of Health.
(2A) If a medical practitioner finds that a person who is not admitted to a hospital is suffering from an injury caused by a hazardous substance, the medical practitioner must give notice of the injury to the Medical Officer of Health.

Health Act 1956 Schedule 2 Diseases notifiable to Medical Officer of Health (other than notifiable infectious diseases)

Schedule 2
Diseases notifiable to medical officer of health
(other than notifiable infectious diseases)

Section B—Other conditions

Cysticercosis
Decompression sickness
Lead absorption equal to or in excess of 0.48 µmol/ℓ
Poisoning arising from chemical contamination of environment
Taeniasis
Trichinosis


Requirement of Medical Officer of Health to notify regulator of work-related notifiable disease or hazardous substances injury in Health and Safety at Work Act 2015, section 199

199 Requirement of medical officer of health to notify regulator of work-related notifiable disease or hazardous substances injury

(1) This section applies if a medical officer of health receives—
(a) a notification under section 74 of the Health Act 1956 of a notifiable disease that he or she reasonably believes arises from work;
(b) a notification under section 143 of the Hazardous Substances and New Organisms Act 1996 of an injury caused by a hazardous substance that he or she reasonably believes arises from work.

(2) The medical officer of health must, as soon as practicable after receiving the notification,—
(a) advise the regulator of the notification; and
(b) provide the regulator with the following information:
   (i) the name of the person who suffers or suffered from the notifiable disease or injury caused by the hazardous substance; and
   (ii) the nature of the disease or injury.

(3) Except as required by subsection (2)(b), the medical officer of health must comply with the Privacy Act 1993 and any relevant code of practice issued under that Act.

Appendix 2 Useful Resources for PHUs

CHEMFIND
The CHEMFIND database system is owned by Responsible Care NZ (formerly the NZ Chemical Industry Council). It is a website system that contains chemical data, mainly data sheets, which is regularly updated giving users 24 hour access to up-to-date chemical information on hazards identification, composition on ingredients, first aid measures, chemical spills, etc. CHEMFIND is a valuable resource for public health units responding to chemical incidents and emergencies.

The Ministry of Health has purchased CHEMFIND licences for each public health unit’s office. Responsible Care NZ will also provide technical assistance 24-hours, seven days a week by phoning 0800 CHEMCALL [243 622] if required.

TOXINZ database
TOXINZ is an internet accessible poisons information database containing recommendations on the management of poisoning from over 190,000 listed chemical products, pharmaceuticals, plants and hazardous creatures. This resource is reviewed and added to accommodate more information. The information is referenced and updated regularly. An annual subscription is required to access the database; some PHUs have current subscriptions.

http://www.toxinz.com

National Poisons Centre: 0800 POISON (0800 764 766)
The National Poisons Centre (NPC) has a free 24-hour service providing information on the health effects of chemicals, drugs, poisonous plants, poisonous insects and marine animals. The telephone number is 0800 POISON (0800 764 766) (24 hours). TOXINZ is the NPC’s internet database.
The main role of the NPC is to provide advice to members of the public and health care professionals about acute poisoning situations. This can involve medicines, chemicals, hazardous creatures (e.g. spiders, snakes, jellyfish), or plants and fungi.
The permanent information specialist staff have expertise in toxicology, medical toxicology, chemistry and pharmacy. The NPC maintains TOXINZ, in addition to a comprehensive toxicology library and has access to a range of other databases and information sources, both nationally and internationally.

http://www.poisons.co.nz/

Environmental Protection Authority resources
Chemical Classification and Information Database
The Chemical Classification and Information Database (CCID) details the chemicals classified in accordance with the Hazardous Substance and New Organisms (HSNO) regulations.
The CCID provides chemical identification information, hazard classifications and classification data.
http://www.epa.govt.nz/search-databases/Pages/HSNO-CCID.aspx

Database of controls for approved hazardous substances
This database details the controls on approved hazardous substances. Controls for each approval can be accessed using the approval number or substance name. Changes made by reassessment or amendment processes are also included.
http://www.epa.govt.nz/search-databases/Pages/controls-search.aspx

International sources – Free access
TOXNET
Online search of multiple databases on toxicology, hazardous chemicals, environmental health, and toxic releases provided by the United States National Library of Medicine.
https://toxnet.nlm.nih.gov/

International Program on Chemical Safety
This site provides free access to internationally peer reviewed information on chemicals commonly used throughout the world, which may also occur as contaminants in the environment and food. It consolidates information from a number of intergovernmental organisations whose goal is to assist in the sound management of chemicals. It is indexed by chemical name, some synonyms and CAS numbers. International Chemical Safety Cards, Environmental Health Criteria (EHC) Monographs, UK Poisons Information and other content is available.
http://www.inchem.org/

NIOSH Pocket Guide to Chemical Hazards
The Center for Disease Control’s National Institute for Occupational Safety and Hygiene (NIOSH) Pocket Guide to Chemical Hazards is intended as a source of general industrial hygiene information on several hundred chemicals/classes for workers, employers, and occupational health professionals. The pocket guide does not contain an analysis of all pertinent data, rather it presents key information and data in abbreviated or tabular form for chemicals or substance groupings (e.g. cyanides, fluorides, manganese compounds) that are found in the work environment. The information found in the Pocket Guide should help users recognize and control occupational chemical hazards. It is searchable by chemical name, some synonyms and trade names, and CAS numbers. http://www.cdc.gov/niosh/npg/

ATSDR Toxicological profiles
Information about contaminants found at hazardous waste sites, from the Agency for Toxic Substances and Disease Registry

International sources – require subscription
Chemwatch Product names: (M)SDS Repository, ChemGoldIII, ChemWatcher
Searchable database of industry provided material safety data sheets, and some information provided by independent experts. Chemwatch maintains regulatory information regarding the HSNO Act. This database is best searched using the chemical name of the substance involved. Some PHUs are current subscribers of this database.
http://www.chemwatch.net/

TOMES
The TOMES® System provides medical and hazard data for response to exposure and accidents in chemical handling. The TOMES System provides treatment guidelines for acute chemical exposures, evacuation procedures, and chemical disposal information. http://thomsonreuters.com/products_services/healthcare/healthcare_products/a-z/tomes_system/

Commonwealth Agricultural Bureaux Abstracts (CAB Abstracts)
A comprehensive database of applied life sciences resources; it includes agriculture, environment, veterinary sciences, applied economics, food science and nutrition.
http://www.cabi.org/

Chemical Abstracts Search (CAS-ONLINE)
Access to databases covering science, engineering, technology, patents and business information. CAS products are fee-based and generally require you to set up an account.
http://www.cas.org/index

Ministry of Health Guidelines
Hazardous Substance Injuries

Lead
The Environmental Case Management of Lead-exposed Persons: Guidelines for Public Health Units: (2012)

Agrichemical Spraydrift
The Investigation and Surveillance of Agrichemical Spraydrift Incidents: Guidelines for Public Health Units (2007)

Asbestos
The Management of Asbestos in the Non-occupational Environment: Guidelines for Public Health Units (2016)

Response to Major Fires
Guidelines for Public Health Units: Response to Major Fires (2011)

Methamphetamine residues
Guidelines for the Remediation of Clandestine Methamphetamine Laboratory Sites (2010)
(includes a section on health effects)


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Dioxins

Polychlorinated Biphenyls (PCBs)
Safe Management of PCBs Code of Practice (2008)

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Patient information and resources

From Ministry of Health
Arsenic
Poisons around the home
Lead (2016)
Child Resistant Packaging (2016)
Cleaning up mercury spills in your house (Ministry of Health website, no pdf)

From Health Ed
Asbestos (2007)
https://www.healthed.govt.nz/resource/all-about-asbestos
Agrichemical Spraydrift (1999 revised 2004)
https://www.healthed.govt.nz/resource/agrichemical-spraydrift
Safer and healthier gardening (including reducing the risks from chemicals)

From National Poisons Centre website
The information sheets most relevant to hazardous substances notifications are included here. Others including poisonous plants and mushrooms and child resistant packaging are available on the NPC website (http://www.poisons.co.nz/fact.php?c=20).


From Auckland Regional Public Health Service (ARPHS)
Lead – for operators of shooting ranges
Lead – for indoor shooters

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