

GUIDELINES FOR INVESTIGATION AND CONTROL OF HUMAN CHEMICAL POISONING CASES

A Guide for Environmental Health Practitioners

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Department:
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ABBREVIATIONS

NRCS – National Regulator for Compulsory Specifications

DAFF – Department of Agriculture Forestry and Fisheries

DEA – Department of Environmental Affairs

HFC- Health Care Facility

MSDS- Material Safety Data Sheet

EHP- Environmental Health Practitioner

PPE -Personal protective equipment

FOREWORD

Chemical poisoning is a public health concern globally. People are exposed to chemicals intentionally or accidentally due to poor handling and abuse from inappropriate use. Some of the chemical poisoning cases in the country are related to homicide and suicide cases. Exposure to chemicals can occur through contamination of food, air, soil and water. All populations groups are at risk of exposure, however, children, pregnant women, industrial and pesticide chemical workers, and agricultural workers are most vulnerable. There are various routes of human exposure to chemicals, which include ingestion, inhalation and skin contact.

Chemicals poisoning cases are still thrive in the country, however the reporting and investigation thereof is still a major challenge, and this further contributes to challenges in intervention strategies.

In South Africa, lead mercury and poisoning from agricultural remedies are declared as notifiable medical conditions in terms of Regulations relating to Surveillance and Control of Notifiable Medical Conditions, R 1434 of 15 December 2017. These conditions are by law expected to be reported and investigated to ensure intervention measures are implemented to curb future cases. The good practice in the country is that chemical poisoning cases that are not even notifiable are reported and investigated, for example paraffin, pharmaceuticals, disinfectants poisoning. This is a good practice that should continue because it enables, municipalities, districts, provinces and the country in general to identify other hazardous chemicals that are responsible for poisoning outbreaks as a result of poor management. Therefore, this will enable such chemicals to be identified as chemicals of public health concern, and which can be proposed to the Minister to be officially notified.

The Department of Health has developed these guidelines primarily to improve, promote and protect public health. The guidelines provide a systematic framework for the investigation and surveillance of chemical-exposure incidents or chemical poisoning cases by Environmental Health Practitioners. In addition, they provide a recommended framework for chemical risk assessment, management and communication.

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1. INTRODUCTION

Chemicals are part of our daily lives. They are used in households, agriculture, metal industry, water treatment industry, mining, food industry, jewellery industry, automobile industry, medicine industry, machinery and other chemical use industries.

Although useful in human life, some chemicals can be hazardous and negatively affect the environment and human health if not managed in a safe and sound manner. Children are most vulnerable and are at risk of high exposures.

When dealing with complaints or notifications of chemical poisoning cases, it is important for investigation to occur without delay, to remain impartial and to show consideration to all parties. The issue of chemical exposure and its possible effects can be very contentious, and it is important to ensure that all those involved have equal opportunity to be heard and to have their concerns documented and considered. The key to finding the cause of poisoning, source of the chemical and active ingredient of the chemical involved is the key to successful investigation that will even guide on relevant intervention measures.

2. LEGISLATIVE CONTEXT

There are various legislative measures internationally and nationally, that provides for the notification, surveillance and investigation of chemical poisoning cases. The legislative measures referred to are outlined as follows:

International

Rotterdam Convention on Prior Informed Consent for certain Hazardous Chemicals and Pesticides in International Trade.

Article 6 of the Convention makes provision for parties to identify problematic hazardous pesticide formulations used in the country, through surveillance and investigation of cases and for parties to propose to the Secretariat to list such chemicals in the Annex III.

The Convention has adopted a chemical/pesticide incident form to be used for investigation purposes and for reporting to the Secretariat of the Convention.

International Code of conduct in Pesticides Management

Article 5 of the International Code of conduct in Pesticides Management, requires health surveillance and keeping data on occupational exposure pesticides poisoning cases and supports Article 6 of the Rotterdam Convention.

National

National Health Act, 2003 (Act No. 61 of 2003)

This is the primary Act of the Department of Health, of which its section 90(1)(j) makes provision for the Minister to make Regulations relating to Notifiable Medical Conditions.

Hazardous Substances Act, 1993 (Act No. 15 of 1973)

Section 29 (1)(m) provides for the notification of cases or suspected cases of poisoning, intoxication, illness or death of persons who have been exposed to grouped hazardous substances. In this grouped hazardous substances lead, mercury and pesticides are included.

Regulations relating to Surveillance and Control of Notifiable Medical Conditions, R 1434 of 15 December 2017

In this Regulations, lead mercury and poisoning from agricultural remedies are listed as Category B notifiable medical conditions. It is compelled of these conditions to be reported in writing or electronically to the Department of Health within seven (7) days of clinical or laboratory diagnosis by health care providers, private health laboratories or public health laboratories.

Regulation 16 relate to control of notifiable medical conditions, of which an Environmental Health Practitioner (EHP) has a role to play in terms of receiving notifications as prescribed in the Regulation in order to conduct investigation and ensuring control measures are exercised. In terms of Regulation 16 the district health manager must ensure that health care providers ensure specified disease prevention, management and control measures stipulated. Where environmental control is required, the district health manager must again ensure that the necessary stakeholders, an EHP included, are informed and involved in the prevention and control of such a notifiable medical condition.

This Regulation further requires heads of institutions, including but not limited to a training or education institution, a care or residential institution, a correctional services institution, who is aware or reasonably suspects that an institution has a case of lead, mercury or pesticide poisoning notifiable medical condition to immediately report to the health care provider within the institution or to the nearest health establishment. Furthermore, any member of the community, including community health workers, local leaders, traditional or religious leaders, who is aware or reasonably suspects

that a person in the community is a case of lead, mercury or pesticide poisoning notifiable medical condition to immediately report this to the nearest health establishment.

Health care providers and health establishments are to report cases to sub-districts for management and control.

National Environmental Health Norms and Standards for Premises and Acceptable Monitoring Standards for Environmental Health Practitioners, GGN 39561 of 24 December 2015.

This document prescribes the investigation of chemical poisoning cases using the chemical/pesticide incident report form as a service standard expected of EHPs.

The Scope of Profession for Environmental Health Profession, GNR 698 of 26 June 2009.

In the Scope of Profession, chemical safety and hazardous substances control functions are included in the list of environmental health functional areas. Monitoring the manufacture, transport, storage and application of chemicals and hazardous chemicals are included as activities for EHPs to conduct under chemical safety function and hazardous substances control function. Conduction of chemical safety public education activity is also a chemical safety functional area of EHPs.

3. PURPOSE OF GUIDELINE

The purpose of this guideline include:

To provide practical systematic procedure for investigation of complaints and notifications on chemical poisoning cases.

To provide a framework on assessment and management of chemical exposure risks to human health.

To improve investigation and intervention strategies relating to chemical poisoning cases.

Although the guideline is meant for purposes outlined, implementation thereof by EHPS, can provide the opportunity for a good surveillance system, research, identification of problematic chemicals and policy gaps that should be closed.

4. SCOPE OF APPLICATION

This guideline applies to all human chemical poisoning cases reported, notified or not that are to be investigated by EHPs but excludes radioactive substances and infectious substances.

5. THE KEY ROLE OF EHPS

The key to control of chemical poisoning cases, is surveillance of cases, effective investigation, chemical risk assessment, public education and implementation of other appropriate intervention measures such as law enforcement where relevant. An EHP has the following key role to play in the notification, surveillance and investigation of chemical poisoning cases:

Initial response and preliminary assessment

- Receive record and interpret queries and concerns.
- Identify the cause of concern or complaint, the location and associated parties.
- Provide initial response and support to concerned persons.

Inspection, hazard evaluation and risk assessment

- Identify individuals or groups at risk.
- Identify compounding risks (eg, occupational exposure to chemicals).
- Identify sources and types of chemicals implicated and pathways of exposure.
- Collect samples if appropriate.
- Interpret laboratory results if appropriate.
- Assess the likely health risk from the information collected.

Information and risk communication

- Chemical risk awareness raising to affected population group/ property or household or business owners/occupiers.
 - Consult other relevant stakeholders/sectors/NGOs, where appropriate.

Management plans

- Determine appropriate chemical exposure control strategies for implementation to protect public health.
- Maintain communication and cooperation with other stakeholders/sectors/NGOs.
- Monitor the implementation of the public health aspects of the plan.
- Evaluate the effectiveness of the management and control outcomes to identify further prevention measures and weaknesses for improvement.

6. NOTIFICATION AND REPORTING PROCEDURES

Who is to Notify

Regulations relating to Surveillance and Control of Notifiable Medical Conditions, R 1434 of 15 December 2017, stipulates that the following people or institutions are to notify/report:

- Heads of institutions
- Any member of the community
- A pathologist and laboratory personnel
- Health care providers
- Health establishments
- District health manager
- Medical Schemes

Notification Procedure and Timeframe

The Regulations further outlines the notification procedure and timeframe as follows:

- Heads of institutions, including but not limited to a training or education institution, a care or residential institution, a correctional services institution are to report to the health care provider within the institution or to the nearest health establishment.
- Any member of the community, including community health workers, local leaders, traditional or religious leaders are to report to the nearest health establishment.
- A pathologist and laboratory personnel must notify the focal person at the health sub - district level of any diagnosed poisoning case to ensure implementation of public health measures.
- Health care providers and health establishments to report to the National Department of Health.

- District health manager to ensure control and intervention measures are exercised and to report to necessary stakeholders where environmental control measures are required, an Environmental Health Programme included.

The following timeframes applies in terms reporting:

- A health care provider who diagnoses a patient with a chemical poisoning case must notify the focal person at the health sub -district level of the case within seven (7) days of diagnosis, through a written or electronic notification.

- A health care provider who diagnoses a patient with a chemical poisoning case and who subsequently dies must notify the focal person at the health sub -district level by the most rapid means available.

- A pathologist and laboratory personnel who diagnosis chemical poisoning case must notify the focal person at the health sub -district level upon diagnoses and within seven (7) days of diagnosis, through a written or electronic notification.

- Medical Scheme must report a chemical poisoning condition for which it has received a claim from a health care provider, a pathologist or laboratory personnel, to the national department on a monthly basis.

The notification and intervention follows a process flow as per the following diagram.