

PROPOSED CLINICAL WASTE CONTROL SCHEME

CONSULTATION DOCUMENT

1. BACKGROUND

- 1.1 Clinical waste, arising principally from hospitals and clinics, is potentially dangerous since it can spread disease because of the infectious nature of some wastes, and/or cause injury through the presence of sharps such as needles and scalpels. To safeguard the health and safety of the public against the risk posed by clinical waste, the Government consulted the medical, dental, pharmaceutical and veterinary sectors, tertiary and research institutions and other related organizations in October 1997 on a proposal to implement a Clinical Waste Control Scheme ("the control scheme"). The control scheme would be supported by legislation and a code of practice for the proper management of clinical waste.
- 1.2 In the last consultation document, we proposed to implement the control scheme in two phases. The focus of the first phase would be major producers (including hospitals, maternity homes and government clinics), collectors and disposal operators of clinical waste, while other small clinical waste producers which produced small quantities of clinical waste (such as private medical, dental and veterinary clinics) would be controlled under the second phase. It was proposed that if small clinical waste producers could demonstrate that they have established a satisfactory level of control by means of self-regulation, implementation of the second phase might be held in abeyance.
- 1.3 Over the past four years, there has been increasing public concern about the potential risk associated with improper handling of clinical waste. In view of this rising concern, the Government has revisited the issue and considers that a more definite timetable to control clinical waste disposal by small clinical waste producers should be put in place. Moreover, with the anticipated completion of registration of Chinese medicine practitioners in end-2001, the Government proposes to include Chinese medicine clinics/practitioners under the control scheme. Necessary amendments have been made to the control scheme to reflect the above changes.

2. REVISED PROPOSAL ON THE CLINICAL WASTE CONTROL SCHEME

- 2.1 The revised control scheme is essentially the same as the original one, except that it provides for a definite timetable for extending legal requirements to small clinical waste producers, instead of relying on a self-regulatory

approach as originally proposed in 1997.

- 2.2 Under the revised control scheme, clinical waste collectors and disposal facility operators are required to obtain a licence from the Director of Environmental Protection and comply with the licence conditions. Clinical waste producers will be legally required to arrange for the disposal of their clinical waste at a licensed clinical waste disposal facility.
- 2.3 Clinical waste producers are deemed to have discharged their duties of proper disposal of clinical waste if they have consigned their waste to a licensed clinical waste collector. Alternatively they may also dispose of the waste at a licensed on-site or in-house disposal facility. In addition, both the waste producers and licensed collectors should conduct their operations in accordance with the relevant Code of Practice.
- 2.4 As major and small clinical waste producers have different modes of operation, we will issue two Codes of Practice - "Code of Practice for the Management of Clinical Waste for Waste Collectors and Major Clinical Waste Producers" and "Code of Practice for the Management of Clinical Waste for Small Clinical Waste Producers". The codes will cover segregation, packaging, labelling, collection, handling, storage, transport and disposal of clinical waste. Compliance with the codes is not a legal requirement, but demonstration of compliance could be used as evidence of good practice in the course of defence. The list of major and small clinical waste producers is at Annex I. A draft "Code of Practice for the Management of Clinical Waste for Small Clinical Waste Producers" (the Code) is at Annex II.
- 2.5 A trip ticket system will be put in place. The trip ticket is a record for each consignment of waste and is designed to track the movement of waste from the source of waste generation to the licensed disposal facility. The licensed clinical waste collectors will be responsible for including the particulars of the wastes handed over by the clinical waste producers in the trip ticket, and shall keep a copy of the trip ticket for inspection by the Director of Environmental Protection. The collector shall also give a copy of the trip ticket to the waste producers. It would not be an offence in law if the waste producers do not keep a copy of the trip ticket. However, they are recommended to do so for record purpose so that they can produce the trip ticket for inspection by the Director of Environmental Protection and demonstrate that they have made proper disposal arrangement.

3. WASTE COLLECTION

- 3.1 At present, clinical waste collectors have to obtain a permit from the Environmental Protection Department for disposal of clinical waste at the landfills. The permit system will be replaced by licensing control when the

control scheme is implemented.

- 3.2 Initial feedback from existing waste collectors indicates that the cost of collection of clinical waste from a small private clinic by the private waste collectors would likely range from \$30 to \$300 per month, depending on the location of the clinic.
- 3.3 To facilitate small producers who prefer to carry small quantity of clinical waste to the licensed disposal facility, healthcare professionals including registered doctors, dentists, veterinary surgeons, registered and listed Chinese medicine practitioners, registered and enrolled nurses will be allowed to transport not more than 5 kg of clinical waste (except Group 4 clinical waste under Code of Practice Section 3.1) to a licensed disposal facility by themselves without the need to obtain a collection licence provided that they do not use motor cycle, public bus, public light bus, train, Mass Transit Railway, light rail vehicle, peak tram, bicycle or tram, and that they use proper containers and pack and label the clinical waste according to the requirements in the Code of Practice.
- 3.4 Small producers may also consider delivering their clinical waste to authorized collection points, if available, by healthcare professionals. Collection points could be set up by licensed clinical waste collectors or provided by other clinical waste producers e.g. private hospitals and private medical laboratories at their premises. The collection and transport of clinical waste from the premises of a small producer to an authorized collection point by healthcare professionals shall follow the conditions set out above in Section 3.3.

4. DISPOSAL FACILITY

- 4.1 At present, clinical waste is mainly disposed of at landfills. Government plans to provide a long term disposal facility for clinical waste, and is now reviewing different available technologies. Before a long term facility is available, landfills would continue to be the disposal facility for clinical waste.
- 4.2 We estimate that the disposal cost is likely to be \$3 per kg. Hence, for a doctor that produces an average of 0.4 kg of clinical waste each day, the disposal cost would be \$1-2 per day.

5. LEGISLATIVE MEASURES

- 5.1 At present, there is no comprehensive legislative control system for the management and disposal of clinical waste in Hong Kong. To give legal

standing to the control scheme and to enable its implementation, amendments will be made to the Waste Disposal Ordinance to define clinical waste, to introduce licensing control on clinical waste collectors and disposal site operators, to enable new regulations setting out the legal requirements to be followed by the clinical waste producers, collectors, and disposal site operators, and to provide for the charging of the disposal of clinical waste at the licensed disposal facility.

6. IMPLEMENTATION

- 6.1 The licensing control on waste collectors and disposal facility operators is proposed to be implemented in early 2004. Legislative control will be extended to all clinical waste producers, major or small, in mid 2004.

7. CONSULTATION

- 7.1 Government welcomes your comments on the proposed Clinical Waste Control Scheme. We will consider all responses to the proposal before deciding on the way forward.
- 7.2 Comments and enquiries on this Consultation Document may be sent in writing to the following by post, fax or e-mail before 31 December 2001:

Waste Policy and Services Group
Environmental Protection Department
28/F, Southorn Centre
130 Hennessy Road
Wan Chai
Hong Kong
Fax: 2318 1877
Email: cwcs@epd.gov.hk

- 7.3 Please note that the Government would wish, either in discussion with others or in any subsequent report, whether privately or publicly, to be able to refer to and attribute comments submitted in response to this Consultation Document. Any request to treat all or part of a response in confidence will be respected, but if no such request is made, it will be assumed that the response is not intended to be confidential.

*Environment and Food Bureau and
Environmental Protection Department
Hong Kong Special Administrative Region Government
November 2001*

LIST OF CLINICAL WASTE PRODUCERS

Small clinical waste producers:

- Private medical clinics/practices;
- Private dental clinics/practices;
- Private medical laboratories;
- Private Chinese medical/medicine clinics/practices;
- Residential care homes for the elderly;
- Universities with medical teaching or research (including Chinese medicine);
- Pharmaceutical companies with medical research;
- Private veterinary clinics/practices; and
- Other relevant organisations.

Major clinical waste producers:

- Public hospitals, clinics and institutions managed by the Hospital Authority;
- Private hospitals, nursing homes and maternity homes defined under the Hospitals, Nursing Homes and Maternity Homes Registration Ordinance;
- The Prince Philip Dental Hospital; and
- Government clinics and medical laboratories (whether they are managed by the Department of Health or other Government departments).

Note: Major clinical waste producers should follow the Code of Practice for the Management of Clinical Waste for Waste Collectors and Major Clinical Waste Producers.

**DRAFT CODE OF PRACTICE FOR THE
MANAGEMENT OF CLINICAL WASTE
FOR SMALL CLINICAL WASTE PRODUCERS**

**Environmental Protection Department
The Hong Kong Special Administrative Region Government
Nov 2001**

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1. INTRODUCTION

- 1.1** Clinical waste is potentially dangerous because it can spread diseases due to the infectious nature of some waste, or because it can cause injury through the presence of sharps such as needles. In addition, clinical waste may be offensive in nature. It is therefore important to pay special care in the handling, packaging, storage, and transportation of clinical waste in order to minimise any potential danger to health or pollution to the environment and to ensure that clinical waste is properly disposed of at a licensed disposal facility.
- 1.2** Clinical waste arises from a number of sources, including hospitals and clinics, medical and dental surgeries, veterinary practices, medical teaching establishments, medical and research laboratories. All clinical waste producers have the responsibility to ensure proper handling and disposal of clinical wastes to protect themselves and others from injuries and disease transmission.
- 1.3** This Code of Practice is designed to provide guidance to the small clinical waste producers and to assist them to comply with the legal requirements of the Waste Disposal Ordinance (Cap. 354) and the Waste Disposal (Clinical Waste)(General) Regulation (the "Regulation"). This Code is a statutory document published under Section 35 of the Waste Disposal Ordinance by the Secretary for the Environment and Food in consultation with the Advisory Council on the Environment. Compliance with this Code of Practice is not a legal requirement, but demonstration of compliance could be used as evidence of good practice in the course of defence.
- 1.4** In addition to this Code, the booklet - *A Guide to the Clinical Waste Control Scheme* published by the Environmental Protection Department (EPD) explains the relevant legislative provisions.

2. THE DUTY OF CARE OF CLINICAL WASTE PRODUCERS

- 2.1** Clinical waste producers have a duty of care to take the following measures in managing clinical waste within the premises where the waste is generated:
- to segregate clinical waste from other waste types and to prevent clinical

waste from entering the disposal chain of general refuse;

- to properly package and label the clinical waste enabling easy identification, including information on the source of generation;
- to provide safe and secure temporary storage facility for clinical waste;
- to ensure the staff to take all necessary safety measures in handling clinical waste and to provide sufficient training to them; and
- to keep records of the quantities of clinical waste collected by waste collectors or delivered to an authorised collection point or a licensed disposal facility, and to produce such records for inspection upon request by the Director of Environmental Protection.

2.2 In addition to the duty of care responsibility, the Regulation requires all clinical waste producers to arrange their clinical waste to be delivered to a licensed facility for disposal. Waste producers are deemed to have discharged their duties of proper disposal of clinical waste if they consign the waste to a licensed clinical waste collector. Waste producers who fail to arrange their clinical waste to be delivered to a licensed disposal facility for disposal would commit an offence under the Regulation.

3. DEFINITION OF CLINICAL WASTE

3.1 Types of Clinical Waste

Clinical waste is defined as any waste arising from:

- any dental, medical, nursing or veterinary practice, or any other practice or establishment providing medical care and services for the sick, injured, infirm or those who require medical treatment;
- any dental, medical, nursing, veterinary, pathological or pharmaceutical research; or
- any dental, medical, veterinary or pathological laboratory practice

and which consists wholly or partly of any of the materials specified in one or more of the Groups listed below:

Group 1 - Used or Contaminated Sharps

Syringes, needles, cartridges, ampoules and other sharp instruments

which have been used or which have become contaminated with any other group of clinical waste.

Group 2 - Laboratory Waste

Unsterilised laboratory stocks, cultures of infectious agents and potentially infectious waste with significant health risk from dental, medical, veterinary or pathology laboratories.

Group 3 - Human and Animal Tissues

All human tissues and animal tissues, organs and body parts as well as dead animals, but excluding dead animals, animal tissues, organs and body parts arising from veterinary sources or practices.

Note: Group 3 clinical waste is not intended to cover small quantities of human and animal tissues which cannot be completely segregated from items such as dressings.

Group 4 - Infectious Materials

Infectious materials from patients with the following pathogens: Crimean/Congo haemorrhagic fever, Ebola, Guanarito, Hendra, Herpesvirus simiae (B virus), Junin, Kyasanur forest disease, Lassa fever, Machupo, Marburg, Omsk, Russian spring-summer encephalitis, Sabia and Variola viruses. Materials contaminated by this group of waste are also classified as Group 4 waste.

Note: The Director of Environmental Protection may by notice published in the Gazette amend the list of pathogens under this Group.

Group 5 - Dressings

Surgical dressings, swabs and all other waste dribbling with blood, caked with blood or containing free-flowing blood.

Group 6 - Other Wastes

Other wastes which are likely to be contaminated with:

- ◆ infectious materials (other than infectious materials referred to in Group 4); or
- ◆ any clinical waste being substance, matter or thing belonging to Group 1, 2, 3 or 5,

and which may pose a significant health risk.

Note: Apart from the Director of Environmental Protection, healthcare professionals may also assess whether Groups 2 and 6 clinical waste is posing a significant health risk.

3.2 What Are Not Clinical Waste

For the avoidance of doubt, the following wastes are not classified as clinical waste and are not subject to the requirements of the Regulation:

- clinical-type waste arising from domestic premises;
- radioactive waste, whether arising from medical sources or not, as defined under the Radiation (Control of Radioactive Substances) Regulations (Cap. 303 - sub. leg.);
- chemical waste as defined under the Waste Disposal Ordinance (Cap. 354) including cytotoxic drugs;

Note: "Cytotoxic drug" means a drug which has the capability of selectively killing cells while they are dividing. Cytotoxic drugs in bulk or significant residual volume in container (e.g. unused or partially used drugs in ampoules or syringes) are regarded as chemical waste and should be disposed according to the Waste Disposal (Chemical Waste)(General) Regulation. Significant residual volume means more than 3% volume of the container holding the cytotoxic drugs. Ampoules or syringes holding less than 3% volume of cytotoxic drugs in containers can be placed in sharps boxes and disposed as Group 1 clinical waste. Such sharps boxes (i.e. with sharps contaminated with residual amount of cytotoxic drugs) must be incinerated and must not be disposed of by other methods.

- dead animals, animal tissues, organs and body parts arising from veterinary sources/practices, abattoirs, pet shops, farms, wholesale and retail markets, or domestic sources;
- dead human bodies.

4. SEGREGATION, PACKAGING AND LABELLING OF CLINICAL WASTE

4.1 Segregation

Clinical wastes should be segregated from municipal waste or other waste types at the point of arising and packaged properly for on-site temporary storage in a safe and secure manner pending transportation to final disposal.

4.2 Packaging

Packaging must be leak resistant to ensure that wastes handlers and the public will be protected from exposure to the wastes.

Group 1 Waste - Sharps

All sharps must be put into sharps boxes. The specifications of a typical sharps box are shown in Annex A. Small clinical waste producers may use other containers provided that the containers are rigid, non-fragile, puncture resistant, waterproof and leak proof. The containers should also be sealed off during transportation. Glass bottles are not acceptable for use as sharps containers since they can be broken easily during transportation. Sharps boxes should not be filled to over 75% of their capacity and should be sealed to prevent spillage of the contents.

Group 3 Waste - Human and Animal Tissues

Human and animal tissues and organs should be disposed of in Yellow Bags labelled with the biohazard sign. Small quantities of this group of waste may be placed in Red Bags labelled with the biohazard sign provided that they would not generate nuisance such as noxious odour. Specifications of Yellow Bag and Red Bag are listed in Annex A.

Other Groups of Clinical Waste

Other groups of clinical wastes should be disposed of in Red Bags labelled with the biohazard sign. Properly sealed sharps box may also be disposed of in Red Bags.

4.3 Sealing of packaging

All bags should be sealed by tying the neck securely to prevent leakage of clinical waste. If the clinical waste is of high fluid content, thermal sealing of the bag is recommended to prevent spillage. No bags should be filled to over 75% of their capacity before sealing. No clinical waste should adhere to the external surface of the containers. Staples must not be used as they may cause injury to the handler and damage to the adjacent bags.

4.4 Labelling of wastes

Clinical waste containers (sharps boxes or bags) should be labelled with the universal biohazard sign (Annex A). Each container should be marked or a label should be attached or tagged to the container showing the origin of the waste. Labelling of wastes can be done by either the clinical waste producer or licensed clinical waste collector when providing service at the producer's premises.

5. STORAGE OF CLINICAL WASTE

5.1 Storage area should be designed to prevent unauthorized access and to maintain proper sanitary conditions free of pests and vermin. Prolonged storage of clinical waste within the premises is not recommended and storage should be no longer than 3 months. Clinical waste which may be infectious is recommended to be refrigerated and should be collected more frequently.

5.2 Human and animal tissue wastes should be kept frozen to prevent nuisance such as noxious odour. Clinical waste producers should assess the quantity and nature of waste generated and ensure that large quantity of tissue waste is collected more frequently. Storage of such waste in a preservative agent may also be used. However, disposal of the preservative agent should follow the Waste Disposal (Chemical Waste) (General) Regulation.

6. COLLECTION AND TRANSPORTATION OF CLINICAL WASTE

- 6.1 Clinical waste must not be collected and disposed of with the municipal waste.
- 6.2 Clinical waste should be transported to licensed clinical waste disposal facilities by licensed collectors with adequate knowledge and training on the management of clinical waste. A clinical waste collector has to comply with the regulatory requirements and licence conditions.
- 6.3 Clinical waste collectors may provide services to clinical waste producers, including the provision of containers (sharps boxes or bags) and packaging, and labelling of clinical waste at the producer's premises. The containers provided by the collectors have to show the identity of the collectors. The clinical waste must be properly packaged and labelled in accordance with conditions set out in Section 4 before the waste leaves the producer's premises.
- 6.4 Healthcare professionals (including registered medical practitioners, dentists, veterinary surgeons, registered or listed Chinese medicine practitioners, and registered or enrolled nurses) may transport their clinical waste to an authorized collection point or a licensed disposal facility themselves. Under these circumstances, they are not required to comply with the licensing and the trip ticket requirements for clinical waste collection under the Waste Disposal Ordinance. However, they are subject to the following conditions:
- Carry not more than 5 kg of clinical waste at any one time;
 - Do not use any public bus, public light bus, Mass Transit Railway, train, light rail vehicle, Peak Tram, tram, motor cycle, bicycle; and
 - Do not carry any Group 4 waste.
- 6.5 If healthcare professionals choose to transport their own waste to a licensed disposal facility, they should properly pack and label the clinical waste before leaving their premises. The containers must meet the specifications and bear the biohazard sign in Annex A. They should also carry appropriate first-aid and spillage kits (e.g. spare red bags and sharps box) for handling spillage. They should also observe the requirements in section 7.1 and 8.3 below.

7. AUTHORIZED COLLECTION POINT

- 7.1** Individual clinical waste collectors and producers (e.g. private hospitals, private clinics, private medical laboratories) may provide temporary storage facilities as “collection points” for small clinical waste producers. They have to issue a receipt to those small waste producers who deliver clinical waste to their collection points.
- 7.2** The setting up of collection points must be authorized by the Director of Environmental Protection and be subject to such conditions that the Director may stipulate. The objective is to minimize risks to the environment and to public health.
- 7.3** The collection and transport of clinical waste from the premises of a small producer to an authorized collection point by healthcare professionals shall follow the conditions set out in Section 6.

8. RECORD KEEPING

- 8.1** The collection licence will require licensed clinical waste collectors to fill in a trip ticket showing the name, location and other details of the clinical waste producers for each consignment of clinical waste from the producers. Waste collectors have to provide a copy of the trip ticket to the waste producers for record.
- 8.2** All clinical waste producers have to produce documents for inspection by the Director of Environmental Protection to demonstrate that they have consigned their clinical waste to the licensed collectors and the trip ticket for tracking the waste movement could serve as documentary evidence. All clinical waste producers are recommended to retain a copy of the trip ticket for 12 months after the date of collection.
- 8.3** Healthcare professionals who are not required to comply with the licensing and trip ticket requirements for clinical waste collection (Section 6.4 and 7.3) should keep records of their clinical waste disposal and retain the receipt from authorized collection points or the licenced disposal facility for a period of 12

months for inspection upon request by the Director of Environmental Protection.

9. TRAINING AND SAFETY PRECAUTIONS

- 9.1** Small waste producers should ensure that their staff receive adequate training in the safe handling of clinical waste. They should also be provided with suitable protective equipment (e.g. disposable gloves) to handle clinical waste if necessary.

10 ENQUIRIES

- 10.1** Any enquiries concerning this Code of Practice or the Regulation may be addressed to: Waste Policy & Services Group, Environmental Protection Department, 28th Floor, Southorn Centre, 130 Hennessy Road, Wan Chai, Hong Kong. (Fax: 2318 1877)

Specifications for Different Types of Containers and Label for Clinical Waste

(1) Sharps box

- conforms with British Standard BS 7320 (1990) or similar specification for sharps containers intended to hold potentially infectious clinical waste;
- capable of being sealed;
- provided with a handle that is not part of the closure device;
- proof against spillage of its contents;
- proof against puncture by clinical waste materials, such as broken glass or syringes;
- capable of withstanding one-metre vertical drop to a concrete floor without fracture, puncture or loss of contents;
- legibly marked with a horizontal line to indicate when the sharps box is filled to between 70% to 80% of its maximum volume;
- coloured in yellow or combination of white and yellow; and
- capable of being marked by indelible ink and securely attached by labels.

(2) Plastic bag (Red Bags and Yellow Bags)

- with a maximum nominal capacity of 0.1 m³;
- of minimum gauge of 150 microns if low density polyethylene, or 75 microns if high density polyethylene or polypropylene;
- of suitable size and shape to fit the carrier which will support the bag in use;
- coloured in red (clinical waste other than Group 3) or yellow (for Group 3 waste); and
- capable of being marked by indelible ink and securely attached by labels.

(3) Label for clinical waste (Biohazard Sign)



- Colours: Border - Black
Background - White or primary colour (red/yellow) of the container
Character and Letters - Black
- Size (for plastic bag): Biohazard sign - Height (minimum) 6 cm
Chinese characters - Height (minimum) 1.5 cm
English Letters - Height (minimum) 1 cm
Label - 12 cm x 12 cm (minimum)
- Size (for sharps box): Biohazard sign - Height (minimum) 3 cm
Chinese characters - Height (minimum) 0.7 cm
English Letters - Height (minimum) 0.5 cm
Label - 6 cm x 6 cm (minimum)