

Foreword

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The improper management of wastes generated in health care facilities can severely affect the health of caregivers, patients and individual members of the community. It also has an adverse impact on the environment. In addition, pollution from inadequate treatment of waste can indirectly affect the health of the community. Throughout the world, an estimated 16 billion injections are administered annually, according to WHO Report 2002. Needles and syringes that are not disposed of properly, pose a grave hazard to public health due to the risk of injury and infection and due to the opportunities for re-use.

Sharps waste, although produced in small quantities, is highly infectious. Poorly managed, discarded syringes expose health care workers, waste handlers and the community to infections. Contaminated needles and syringes represent a particular threat as they may be scavenged from waste areas and dump sites and be reused. Based on a global review carried out in 2000, WHO estimated that injections with contaminated syringes caused:

- ♦ 21 million hepatitis B virus (HBV) infections (32% of all new infections);
- ♦ two million hepatitis C virus (HCV) infections (40% of all new infections); and
- ♦ 260 000 HIV infections (5% of all new infections).

(Source: Yvan J F Hutin, Anja M Hauri, and Gregory L Armstrong

Use of injections in health care settings worldwide, 2000: literature review and regional estimates, BMJ 2003; 327: 1075)

Additional health hazards occur from scavenging on waste disposal sites and from manual sorting of the waste at health care facilities. These practices are common in many regions of the world. The waste handlers are at immediate risk of needle-stick injuries and other exposures to toxic or infectious materials. The safe disposal of used needles and syringes and other infectious sharps should, therefore, be seen as a critical component of any health care waste management programme, if infection is to be prevented.

Wherever possible, the management of health care wastes from immunization activities should be integrated into existing health care waste management systems. Furthermore, it is essential that health care waste management is accepted as an integral part of health care by all those concerned. Auto-disable syringes virtually eliminate the risk of patient-to-patient transmission of infectious diseases with blood-borne pathogens (such as hepatitis B, C and HIV) because they cannot be re-used. Their increasing use in immunization services worldwide is, therefore, extremely encouraging.

Biomedical waste, whether generated at small primary health centres, rural clinics or in larger facilities, can be managed where adequate well-operated infrastructures exist. However, where resources are

limited, small-scale incinerators are being used as an interim solution in less developed and transitional countries. These incinerators often operate at low temperatures, and this may lead to the emission of highly toxic and persistent pollutants such as dioxins and furans. In 2002, the results of a WHO assessment conducted in 22 developing countries showed that the proportion of health care facilities that do not use proper waste disposal methods ranges from 18% to 64%.

Obsolete, unwanted and banned pesticides and persistent organic pollutants (POPs) are serious environmental hazards. Leaking and corroding metal drums filled with obsolete and dangerous pesticides dot urban and rural landscapes of developing countries around the world. These chemical leftovers have become villains in the agricultural world they were designed to help, affecting not only a nation's agriculture and its environment, but also fundamentally, the health of its people and consequently, development in general, be it in rural areas or in urban settings.

This global environmental tragedy is a direct result of several decades of mishandling and misuse, but is most dramatic in the developing world where there is no awareness of the inherent danger of pesticides. The unaware, therefore, draw water from contaminated sites for their own survival and that of their animals.

Poor nations have been led to believe that the only alternative to combat pests agricultural or otherwise effectively, is solely by using pesticides.

Recipient countries, anxious to limit damages from pests to the minimum or, being less aware of the negative consequences, usually receive pesticides from several sources. This leads to an uncoordinated influx of pesticide donations and trading, subsequently leading to excessive supply. While some of the donors are genuine, others take the opportunity to dump unwanted and illegal pesticides on the poor and unsuspecting countries. Pesticides reach individual farmers or households that value them dearly. Often, they keep pesticides at home, together with food and animals. The poor or the unaware, often know that pesticides are poisonous but they rarely realize how dangerous they are to life. Most people believe that pesticides are like medicines. Pesticide vendors seize this opportunity to promote pesticides aggressively.

It is not uncommon to find pesticides being stored in the open or in heavily populated zones and usually in substandard stores, and sold along with food and drinks, etc. Children are used in advertising sales of pesticides and often get easy access to pesticides. They play with empty pesticide cans or use them to store drinking water or milk. Most pesticide cans litter high or are simply dumped in open municipality dumps for subsequent open burning leading to serious emissions of dioxins.

Mistakes have been made in the past and recognized, but urgent measures need to be taken to prevent repetition because large quantities of obsolete pesticides remain as a heritage of more than 30 years of misuse.

In the South-East Asia region, India, Nepal and Sri Lanka have already conducted their first national inventories to identify and quantify obsolete pesticides stocks. INFOCAP—the Information Exchange

Network on Capacity Building for the Sound Management of Chemicals—reported that in May 2004, Bhutan had disposed of 32 tons of obsolete pesticides.

The challenge to ensure proper management of wastes increased dramatically in the aftermath of the 2004 earthquakes and tsunami that severely affected some countries in WHO South East Asia Region. Beyond the difficulties in restoring the local capacities to better manage hazardous wastes such as asbestos-containing construction rubble, the post-tsunami period also saw large volumes of hazardous wastes in the shape of obsolete pharmaceuticals. In January 2006, these stocks were estimated by WHO and Pharmaciens Sans Frontieres to be anywhere between several hundreds to 6,000 tonnes. These were mainly products damaged by the tsunami, products provided as aid which were obsolete and products which became obsolete after their delivery.

Obsolete pharmaceuticals pose grave environmental and occupational health risks, especially since they may be introduced into the market and distributed as legitimate drugs. Fortunately, national authorities reacted promptly and used some of the available resources from the UN Flash Appeal to support national and regional authorities in rebuilding their waste management systems. This was particularly the case in the Maldives and in Indonesia. The challenges, however, still persist.

By ensuring the commitment of health and agriculture policy makers in the Member States in the South-East Asia Region, and the active participation of experts from key related agencies and institutions as well as the technical support of WHO and FAO. The current bottlenecks can be overcome and sustainable strategies for the management of hazardous wastes developed, so as to reach the 2020 goal: produce and use chemicals with no adverse effects on global health.