

REGIONAL HEALTH ISSUES RELATED TO HAZARDOUS WASTES

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INTRODUCTION

Waste management has undergone a revolution in public perception and acceptability in the past 30 years. North America and Western Europe have experienced a lengthy period of deteriorating public confidence and decreasing acceptability of waste management. This revolution only began to gather momentum since the beginning of the present decade in Eastern Europe and beyond.

In the last century household wastes management (often termed "public cleansing" at the time) became a public health priority in the Industrial Revolution countries. Increased urbanization, as a result of the industrial expansion across Europe and North America, meant that improved removal of wastes from residential areas became an imperative. Similar recognition of hazardous wastes as a public health priority did not become a genuine widespread concern until the late 1960s. Even then, concern first arose over chemical safety and chemical misuse, rather than chemical wastes. Public concern was extended, quite rightly, to hazardous wastes by analogy with the effects of chemicals mismanagement in the workplace and on the environment.

The health issues (actual or potential) arising from wastes are common to every country. The potentially health threatening components in each type of waste are similar, whether it is produced in Belgium, Poland, the Russian Federation or elsewhere. However, the actual risks posed vary very widely from place to place, being influenced by operational practices, storage methods, personal hygiene, enforcement of regulations and so forth. This paper will review the main types of potential health risks from wastes, comment on the epidemiological evidence of risks from wastes, and summarize some of the recent and current work of the World Health Organization (WHO) in the European Region.

THE GENERAL SITUATION IN EUROPE

The title of this section is somewhat misleading. Europe should not be viewed as a single entity, but instead as a diverse mixture of societies. Europe (as defined by WHO) has 50 sovereign states, stretching from Greenland in the west to the Pacific coast of the Russian Federation in the east, from Siberia in the north to Malta in the south. Within this huge geographic area almost every type of non-tropical climatic zone, geological lithology and cultural and social lifestyles, can be found. The total population is estimated as 852 million, of which 700 million are west of the Ural Mountains and 152 million are to the east. West of the Urals the urban population is estimated as 314 million, with a child population of 170 million and around 31 million of whom are regularly attending school (1).

Individual countries are at different states of economic development and their general public tolerates, for various political and social reasons, different public health standards. The potential risks arising from hazardous wastes being only one amongst many public health issues. Sustainable public health improvements appear to be inextricably linked with economic conditions and mobilization of public health opi-

nion. Therefore, it is perhaps convenient to view the countries of Europe in three general categories, based upon their present economic status:

1. High income countries, as typified by western European states.
2. Medium income countries, as typified by those countries in central and eastern Europe.
3. Lower income countries, whose economies are just beginning to enter a period of transition.

The deteriorating environmental and public health conditions in several parts of Europe have become widely known only in the last few years. Perhaps they were suspected in the past, but never openly acknowledged. The revelations of imprudent and uncontrolled hazardous waste management have generated tensions between governments and the public. The usual government response is to set up a national system of controls over industrial wastes. However, they often have only a limited national experience of managing hazardous wastes to the new standards being sought. Consequently, there is a very real possibility in some places that their hazardous waste control systems will be less effective than initially expected (2).

Whilst there is considerable public concern about the impact of hazardous wastes on health and the environment, there are surprisingly few studies proving demonstrable effects on the health of the general public, waste management workers or nearby residents. Most studies in the literature originate outside the region and even these give little clear indication of elevated "waste-related" disease. The principal tangible (demonstrable) problem is "nuisance" from odour, noise and traffic associated with waste management operations (3). There is a genuine school of thought which argues that the improvements in waste treatment, handling and disposal now available from modern practices (such as those in western Europe) cause negligible population exposure and environmental health impact (1). Therefore, it is where modern practices are not employed that potential health risks may be higher. The usual situations where these occurs are:

1. Where there is insufficient finance and/or institutional commitment to operate modern hazardous waste facilities.
2. Past poorly operated disposal sites contaminating land or water sources.
3. An absence of institutional or public pressure to elevate hazardous waste management to become a higher social priority.

All of these situations can be found in the European region and it is these places that the World Health Organization has concentrated its work.

EXAMPLES OF WASTE PROBLEMS

The recent WHO report "Concern for Europe Tomorrow" (2) included a review of typical waste management problems and their potential impact upon public health and the environment. To demonstrate the variety of concerns encountered