

SECTION II

NEED FOR EPIDEMIOLOGICAL MONITORING OF INDUSTRIAL MORTALITY

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Epidemiological Perspective

This paper will discuss "risk assessment" from an epidemiological perspective, making reference to reviews published elsewhere to support its main arguments. This paper should be considered an introduction to the topic; for much more detailed information, the reader is referred to Doll & Peto (1), a review published after this paper was presented.

Information is still lacking on what proportion of human cancer in developed countries is due to occupational, environmental or consumer exposure to the type of chemicals to which "risk assessment" is usually applied. A large percentage (variously estimated as 70%, 80% or 90%) of cancer is avoidable, based chiefly on evidence that every cancer which is common in one country is rare in some other country. For example, lung cancer is common in the United Kingdom but much rarer (about 3% of the British rate) in Nigeria because the Nigerians have not smoked cigarettes for as long as have the British. Stomach cancer is common in Japan but much rarer (about 4% of the Japanese rate) in Uganda. Further evidence that these cancers are really preventable is provided by the changes with time in some of them. Stomach cancer is decreasing by about 50% every 20 years in most countries in the world, even though it is still almost incurable, while lung cancer is increasing rapidly in all countries where cigarette smoking increased substantially between 1920 and 1960.

Apart from the cancers associated with smoking, most of the cancers which are common today in North America, the United Kingdom and the rest of Europe have been common for at least half a century; the avoidable causes, therefore, must be sought in various aspects of our lifestyle and environment which were already present more than half a century ago. The most plausible factors appear to be dietary habits, including not only carcinogenic contaminants of diet but also trace elements, vitamins and other micro-nutrients and gross aspects of diet such as