

Key concerns from the report

Human and wildlife health depends on the ability to reproduce and develop normally. This is not possible without a healthy endocrine system.

Three strands of evidence fuel concerns over endocrine disruptors:

- The high incidence and the increasing trends of many endocrine-related disorders in humans;
- Observations of endocrine-related effects in wildlife populations;
- The identification of chemicals with endocrine disrupting properties linked to disease outcomes in laboratory studies.

Many endocrine-related diseases and disorders are on the rise.

Close to 800 chemicals are known or suspected to be capable of interfering with hormone receptors, hormone synthesis or hormone conversion. However, only a small fraction of these chemicals have been investigated in tests capable of identifying overt endocrine effects in intact organisms

Human and wildlife populations all over the world are exposed to EDCs.

The speed with which the increases in disease incidence have occurred in recent decades rules out genetic factors as the sole plausible explanation. Environmental and other non-genetic factors, including nutrition, age of mother, viral diseases and chemical exposures, are also at play, but are difficult to identify. Despite these difficulties, some associations have become apparent

Significant knowledge gaps exist as to associations between exposures to EDCs and other endocrine diseases, as follows:

- Numerous laboratory studies support the idea that chemical exposures contribute to endocrine disorders in humans and wildlife. The most sensitive window of exposure to EDCs is during critical periods of development, such as during fetal development and puberty
- Worldwide, there has been a failure to adequately address the underlying environmental causes of trends in endocrine diseases and disorders
- Wildlife populations have been affected by endocrine disruption, with negative impacts on growth and reproduction. These effects are widespread and have been due primarily to POPs. Bans of these chemicals have reduced exposure and led to recovery of some populations

- Internationally agreed and validated test methods for the identification of endocrine disruptors capture only a limited range of the known spectrum of endocrine disrupting effects. This increases the likelihood that harmful effects in humans and wildlife are being overlooked

Disease risk due to EDCs may be significantly underestimated.

An important focus should be on reducing exposures by a variety of mechanisms. Government actions to reduce exposures, while limited, have proven to be effective in specific cases (e.g. bans and restrictions on lead, chlorpyrifos, tributyltin, PCBs and some other POPs). This has contributed to decreases in the frequency of disorders in humans and wildlife.

Despite substantial advances in our understanding of EDCs, uncertainties and knowledge gaps still exist that are too important to ignore. These knowledge gaps hamper progress towards better protection of the public and wildlife. An integrated, coordinated international effort is needed to define the role of EDCs in current declines in human and wildlife health and in wildlife populations.

“The UN study, which is the most comprehensive report on EDCs to date, highlights some associations between exposure to EDCs and health problems...“Research has made great strides in the last ten years showing endocrine disruption to be far more extensive and complicated than realized a decade ago...”