



Toxic Combination

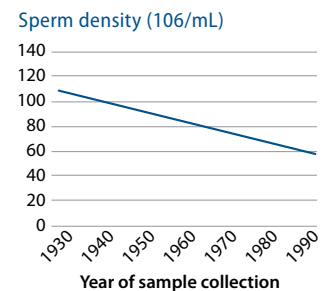
Fact Sheet on Toxic Chemicals and Reproductive Health

Reproductive health has declined precipitously in the United States as chemical production has increased dramatically. Here are the facts:

Declining reproductive health

- Average sperm count appears to have steadily declined since the 1930s.
- Women report an increasing number of fertility problems, including women under 25 and women between 25 and 34. Female fertility problems increased almost 4 percent from 1982.
- The annual number of miscarriages and stillbirths jumped above 16 per 1,000 pregnancies in the 1990s and 2000s, compared to 14 per 1,000 during the 1980s.
- Premature births have increased significantly, from 11 percent of live births in 1994 to 12.8 percent in 2006.
- The number of infants born with low birth weight increased almost 1 percent in just 10 years from 1996 to 2006. Low and very low birth weights are rising among all racial and ethnic groups, but are rising faster and remain significantly higher among African Americans.
- Birth defects, such as hypospadias, are on the rise. Cases of hypospadias, a condition in which the male urethra does not develop properly, have doubled since the 1970s.
- The percentage of U.S. students treated for a learning disability has increased from 8.3 percent in 1976 to 13.8 percent in 2005.
- Reported cases of autism have increased 10-fold since the early 1990s.

Average sperm count, 1930–1990



Source: Shanna H. Swan, et al., "The Question of Declining Sperm Density Revisited: An Analysis of 101 Studies Published 1939–1996," *Environmental Health Perspectives* 108 (10) (Oct. 10, 2000); E. Carlsen et al., "Evidence for Decreasing Quality of Semen During Past 50 Years," *British Medical Journal* 305 (Sept. 12, 1992).

Dangerous chemical exposures

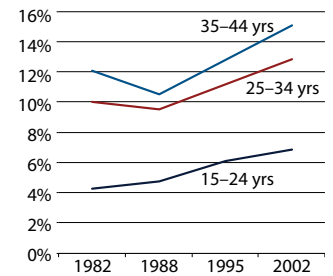
- The number of chemicals registered for commercial use now stands at 80,000—a 30 percent increase since 1979.
- Most Americans' bodies contain a “chemical soup” according to testing by the Centers for Disease Control and Prevention.
- Exposure to chemicals occurs in utero. Testing of 10 newborn umbilical cords detected a total of 287 industrial chemicals.
- Poor and minority children are exposed to lead and other dangerous chemicals at the highest levels. About 310,000 U.S. children between ages 1 and 5 have blood lead levels above CDC's “safe level.”
- Polluters released a reported 3.9 billion pounds in toxic chemicals to the air, water, and soil in 2008 alone.
- Chemicals contaminate the environment and the food chain. In 2008, there were a total of 4,249 state advisories against eating fish because of chemical contamination.
- Consumer products are a major source of exposure. Adolescents are widely exposed to hormone-disrupting chemicals found in cosmetics as their reproductive systems mature.
- Workers are often exposed to elevated levels of dangerous chemicals. One study found that women plastics workers more frequently sought treatment for infertility than the general population.

A new way forward

Americans are not adequately protected from dangerous chemicals, which may explain the decline in reproductive health. The following actions should be taken to address this problem:

- Stronger standards should be adopted to reduce human exposure to chemicals. Testing in Sweden found a 30 percent drop in PBDE levels in women's breast milk after stronger standards were adopted.
- High levels of occupational exposure to chemicals should not be tolerated. Most workplace exposure standards are currently far weaker than standards for the general population.

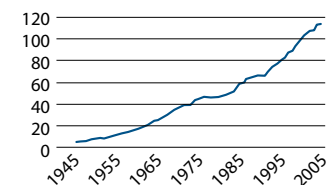
Trends in the percentage of women (15–44 years) with impaired fecundity by age group, 1982–2002



Source: Anjali Chandra and Elizabeth Hervey Stephen, “Impaired Fecundity in the United States: 1982–1995,” *Family Planning Perspectives*, 30 (1) (1998): 34–42; Chandra, et al., “Fertility, Family planning, and Reproductive Health of U.S. women: Data from the 2002 National Survey of Family Growth,” National Center for Health Statistics, *Vital Health Stat* 23(25) (2005).

U.S. chemical production, 1947–2007

Production index (100 = year 2002)



Source: UCSF Program on Reproductive Health and the Environment, “[Shaping Our Legacy: Reproductive Health and the Environment](#)” (September 2008).

- Safer alternatives to PBDEs, BPA, and other dangerous chemicals are available and should be required. Congress should pass recently introduced legislation that would ban BPA in all food and beverage containers.
- More research is needed to find safer alternatives. Green chemistry now constitutes a miniscule portion of the federal budget. Chemical companies should be required to provide the necessary data to ensure their products are safe. More than 85 percent of chemicals have not been tested for their effects on human health, including more than 50 percent of high-volume chemicals.
- The EPA's chemical assessment process, conducted through the Integrated Risk Information System, must be improved. The EPA is now completing fewer than five assessments per year and more than half of current assessments may be outdated.
- Public disclosure of chemical safety information should be expanded. Disclosure under the Toxics Release Inventory contributed to a 65 percent reduction in releases of “core” toxic chemicals.
- Pre-market safety testing should be required. No such testing is currently required for chemicals found in consumer products and cosmetics or industrial chemicals used in occupational settings and released into the environment
- Research is needed to examine possible environmental triggers of reproductive health problems. The landmark National Children’s Study, in particular, deserves full support.
- Congress should pass the Kids Safe Chemical Act to reform the Toxic Substances Control Act, or TSCA, which does not require pre-market testing and places the burden of proof on the EPA to demonstrate a chemical is unsafe before undertaking regulation. Only five substances have been banned under TSCA since its enactment in 1976 (see chart).
- Congress should give the Food and Drug Administration and the Consumer Product Safety Commission greater authority to protect Americans from dangerous chemicals used in cosmetics and consumer products—deference is now given to voluntary industry actions.
- Congress should provide government agencies responsible for chemical safety with the resources necessary to assess chemicals and act quickly where dangers are found. Budgets and staffing levels have been mostly down or flat over the last three decades despite the dramatic rise in commercial chemicals.

Substances banned under TSCA since 1976	Year banned
Hexavalent chromium used in water treatment in comfort cooling towers	1990
Asbestos	1989
Dioxin in certain wastes	1980
Polychlorinated biphenyls (PCBs) in response to congressional mandate	1979
Halogenated chlorofluoroalkanes used as aerosol propellants	1978

Source: Richard A. Denison, “Ten Essential Elements in TSCA Reform,” Environmental Law Reporter (January 2009); Government Accountability Office, “Chemical Regulation: Options Exist to Improve EPA’s Ability to Assess Health Risks and Manage its Chemical Review Program,” GAO-05-458 (2005).

Report: [Reproductive Roulette: Declining Reproductive Health, Dangerous Chemicals, and a New Way Forward](#)