

Acknowledgments

This report is the result of a collaborative effort of the Safer Chemicals, Healthy Families coalition, a campaign dedicated to protecting American families from toxic chemicals. The report incorporates a significant body of peer-reviewed science on chemicals and health. In addition, this report builds upon a previous report titled *The Health Case for Reforming the Toxic Substances Control Act* published in 2009.

For more information on our campaign, please visit our website at www.saferchemicals.org.

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Executive Summary

Agreement is growing across the political spectrum and among scientists, health professionals, and concerned parents that federal law does not adequately protect Americans from toxic chemicals. The primary law responsible for ensuring chemicals are safe—the Toxic Substances Control Act (TSCA)—was passed in 1976 and has never been updated. The law is so weak that the U.S. Environmental Protection Agency (EPA) has only been able to require testing on less than two percent of the more than 80,000 chemicals that have been on the market at some point since TSCA was adopted.¹

Much has changed since TSCA became law decades ago. Scientists have developed a more refined understanding of how some chemicals can cause and contribute to serious illness, including cancer, reproductive and developmental disorders, neurologic diseases, and asthma.

By reforming TSCA, we can reduce our exposure to toxic chemicals, improve our nation's health, and lower the cost of health care. This report documents some of the scientific findings and economic analysis in support of meaningful TSCA reform.

Chronic disease: many trends are on the rise

More than 30 years of environmental health studies have led to a growing consensus that chemicals are playing a role in the incidence and prevalence of many diseases and disorders in the United States, including:

- **Leukemia, brain cancer, and other childhood cancers**, which have increased by more than 20% since 1975.²

- **Breast cancer**, the incidence of which went up by 40% between 1973 and 1998.³ While breast cancer rates have declined in recent years in post-menopausal white women, rates of breast cancer in pre-menopausal white women and post-menopausal black women remain unchanged.^{4,5} A woman's lifetime risk of breast cancer is now one in eight, up from one in ten in 1973.⁶
- **Asthma**, which approximately doubled in prevalence between 1980 and 1995 and has continued to rise. In 2009, nearly 1 in 12 Americans had asthma.^{7,8}
- **Difficulty in conceiving and maintaining a pregnancy** affected 40% more women in 2002 than in 1982. From 1982 to 1995, the incidence of reported difficulty almost doubled in younger women, ages 18–25.^{9,10}
- **The birth defect resulting in undescended testicles** (cryptorchidism) increased sharply between 1970 and 1993, with uncertain trends since then.¹¹
- **Learning and developmental disabilities**, including autism and attention deficit hyperactivity disorder, affect nearly one in six U.S. children, as of 2008.¹² Between 1997 and 2008, the prevalence of autism increased nearly 300% nationally.¹³

According to the U.S. Centers for Disease Control and Prevention (CDC), 133 million people in the U.S.—almost half of all Americans—are now living with these and other chronic diseases, which account for 70% of deaths and 75% of U.S. health care costs.¹⁴

In general, these and other common diseases or disorders are the result of many factors, but many

chemicals, by themselves or in combination with other chemical and non-chemical factors, can be harmful to multiple systems in the body, increasing the risk of adverse health outcomes.

The health and economic benefits of reforming chemical policy

Estimates of the proportion of the disease burden that can be attributed to chemicals vary. A recent World Health Organization review conservatively estimates that the global disease burden related to chemicals is more than 8%.¹⁵ Here in the United States, researchers estimate that 5% of childhood cancer and 30% of childhood asthma are attributable to chemical exposures.^{16,17}

Whatever the actual contribution of chemicals to the overall disease burden or specific diseases, effective chemical policy reform will incorporate the last 30+ years of science to reduce those exposures that contribute to chronic disease and provide incentives to move to safer alternatives. Any decline in the incidence of chronic diseases also can be expected to lower health care costs.

The U.S. now spends over \$7,000 per person per year directly on health care.¹⁸ This sum does not include the cost of additional impacts, such as the costs of educating children with learning disabilities or emotional costs to a family coping with a mother's breast cancer diagnosis. Chemical policy reform holds the promise of reducing the economic, social, and personal costs of chronic disease by creating a healthier future for all Americans.

Introduction

Consensus is growing among scientists, health care providers, health and environmental advocates, consumer product manufacturers, and even some in the chemical industry, that when it comes to protecting Americans from toxic chemicals, current law has not kept up with the times.

The primary chemical safety law, the Toxic Substances Control Act of 1976 (TSCA), “grandfathered” in all chemicals that were in existence prior to 1976, not requiring any safety testing in order for them to remain on the market. Because of weaknesses in the law, in the thirty-six years since TSCA was enacted, the U.S. Environmental Protection Agency (EPA) has been able to require testing on less than two percent of the more than 80,000 chemicals that have been on the market at some point since TSCA was adopted.

Much has changed since 1976: chemical production volumes have increased rapidly, chemicals have become more pervasive in daily life, and scientists have developed

a more thorough understanding of how people are exposed to chemicals and how exposures can contribute to serious illness, including cancer, learning and developmental disabilities, neurological diseases, reproductive disorders, and asthma.



Many health professional organizations from across the country are expressing concern with the inadequate health protections afforded by current law. The American Medical Association, National Medical Association, American Academy of Pediatrics, American Nurses Association, and American Public Health Association have called on the U.S. Congress to fundamentally restructure TSCA such that it better protects public health and the environment.

Making the health care case for reform

We know that many chronic diseases are the result of multiple, interacting risk factors. Exposures to chemicals are among them—along with inadequate nutrition, lack of exercise, infection, challenging social and economic condi-

tions, age, tobacco use, and genes that can increase susceptibility to disease. The interplay of variables begins before conception and continues for an entire lifetime.¹⁹ The good news is that chemical exposures are among the risk factors that we can do something about.

By reforming TSCA, we can reduce exposure to toxic chemicals, improve our nation’s health, and lower health care costs.

This report summarizes some of the peer-reviewed, scientific studies showing that chemical exposures contribute to the growing burden of chronic disease in our country and offers an analysis of the economic benefits of reform.

Specifically, we summarize the growing scientific literature linking chemical exposures to five categories of chronic conditions that impact the daily lives of millions of Americans:

- Certain types of cancer
- Learning and developmental disabilities
- Alzheimer’s and Parkinson’s diseases
- Reproductive health and fertility problems, and
- Asthma.

This report also incorporates the results of published studies that estimate the proportion of our disease burden that is attributable to chemical exposures and the potential health cost savings from improved protection from toxic chemicals.