BPA Production and Associated Health Risks

Bisphenol A (BPA) is a chemical agent found in many everyday products, including canned goods and plastic food containers. BPA exposure is linked to a variety of adverse health effects, such as obesity and diabetes. To protect the public’s health — especially the health of vulnerable fetuses, infants, children, and pregnant women — BPA regulations should encompass products intended specifically for these populations. Even with tremendous public outcry against the use of BPA, current federal restrictions do not reach far enough. The U.S. Food and Drug Administration (FDA) recently banned the use of BPA in children’s sippy cups and baby bottles, but failed to address its inclusion in canned infant formula or plastic tableware.

BPA production began in the 1950s to make epoxy resins and was later employed to create polycarbonate plastic products.\(^1\) BPA is commonly used in the production of food and beverage containers, canned food linings, impact-resistant safety equipment, thermal paper used in cash register receipts, toys, compact discs, medical devices, and dental sealants.\(^2\) As a result, the population is constantly exposed to the chemical. BPA has been detected in urine samples of over 90% of the general population over the age of six.\(^3\) Consumption of just one BPA-lined can of soup per day, for five days, may lead to more than a 1000% increase in urinary BPA levels.\(^4\)

As an endocrine disruptor, a chemical that interferes with normal hormonal functions, BPA poses a threat to the health of adults, children, and infants.\(^5\) It is unclear whether a safe level of BPA exposure exists.\(^6\) High exposure to BPA is associated with heart disease and obesity in adults.\(^7\) Animal studies have linked exposure to asthma, diabetes, reproductive disorders, behavioral changes, and the development of prostate, breast, and uterine cancers.\(^8\) Concerns regarding the effects of BPA are greatest for young children, infants, and fetuses because they lack mature systems of bodily detoxification.\(^9\) When exposed to the same weight-normalized dose, plasma levels of BPA in newborns were found to be eleven times greater than in adults.\(^10\) Prenatal exposure to BPA has been associated with the development of metabolic syndrome and reproductive disorders in rats.\(^11\) In response to strong public outcry, six major companies voluntarily removed BPA from bottles in 2009. Additionally, Babies “R” Us and other retailers stopped carrying baby bottles containing BPA that same year.\(^12\)

Legal Responses to BPA

In 2008, consumers filed multiple class action lawsuits against baby bottle and baby formula manufacturers, alleging that they manufactured, sold, or distributed products containing BPA without disclosing the potential negative health effects.\(^13\) While the cases against the formula manufacturer defendants have been dismissed as expressly preempted by federal law, the consolidated case against the bottle manufacturers is still pending. Separately, in 2011 the Natural Resources Defense Council (NRDC) filed suit against FDA for failure to respond to their petition requesting FDA ban BPA in food packaging and food containers.\(^14\) Pursuant to a consent decree, FDA was required to respond to NRDC’s petition by March 31, 2012. FDA ultimately rejected NRDC’s petition.

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Federal, state, and local governments have taken action to regulate the sale and manufacture of BPA. In 2008, Senator Charles Schumer (Democrat, New York) introduced the BPA-Free Kids Act, which treated any detectable amount of BPA in children's products as a hazardous substance. A narrowed version of the Act was introduced in 2009 in the U.S. House of Representatives and the U.S. Senate. Neither bill, however, passed. The BPA-Free Kids Act of 2009 would have banned any children's food or beverage container composed in whole or in part of BPA, including baby bottles, cups, bowls, plates, straws, utensils, or other non-metal containers intended primarily for children ages three or younger.\(^{15}\)

In 2012, legislation regulating the use of BPA was introduced in at least 20 states, but none of the measures were successful, for various reasons. In Arizona, the proposed bill would have restricted the manufacture or sale of a container comprised of BPA, including infant formula or baby food containers. In Colorado, the measure would have banned the sale of children's products containing BPA, including containers for food or liquids intended to be consumed by children.\(^{21}\)

The Environmental Protection Agency (EPA) developed an action plan in 2010 to address BPA, which included an intention to initiate collaborative assessment activities to encourage reductions in BPA manufacturing and use. However, the plan stated that EPA did not intend to initiate regulatory action under the Toxic Substances Control Act based on the risks to human health.\(^{22}\)

As recently as March 2012, FDA stated that low levels of BPA in food are considered safe. In July 2012, however, the agency banned the use of BPA-based polycarbonate resins in baby bottles and sippy cups. The ban was in response to a petition from the American Chemistry Council, alleging that U.S. manufacturers of baby bottles and sippy cups had abandoned the use of polycarbonates in the production of these products. FDA may amend or revoke a food additive regulation if the use of the food additive has been “permanently and completely abandoned.” A petition based on abandonment is not based on safety. FDA did not comment in its rule on the safety of polycarbonate resins in baby bottles, but it did note that the regulatory agency is “actively assessing the safety of BPA.” FDA’s current ban does not address the use of polycarbonates in other infant products, such as pacifiers, teethers, or plastic tableware.\(^{23}\)

Although individual companies have committed to a “phase-out” of BPA in canned goods, suitable alternative products are not yet readily available. If the U.S. Congress and state legislatures continue to fail to adequately regulate BPA, then FDA and EPA must take more aggressive action. An effective model for future legislation and regulation could be the Connecticut law, which included not only reusable food and beverage containers, but also extended to thermal receipt paper. This should be further expanded to include disposable food and beverage containers, tableware, pacifiers, teethers, food container lids, canned foods and beverages, toys, and medical devices.

Minnesota was the first state to legally ban the sale of children’s drinking products containing BPA in 2009.\(^{16}\) Later that year, Connecticut passed a more aggressive law, banning the manufacture, sale, offer for sale, or distribution of any reusable food or beverage container containing BPA.\(^{17}\) Connecticut also prohibits the same for any infant formula or baby food stored in a receptacle containing BPA. Connecticut recently added to this regulation to restrict the manufacture and sale of thermal receipt paper containing BPA.\(^{18}\) Ten other states and the District of Columbia have also passed legislation or regulations restricting the use of BPA, including: California, Delaware, Maine, Maryland, Massachusetts, Minnesota, New York, Vermont, Washington, and Wisconsin.\(^{19}\) Most of these restrictions apply only to baby bottles; however, some extend to include other beverage containers or infant formula cans. In addition, some municipalities have taken action against BPA. In 2009, the City of Chicago passed an ordinance banning the sale of BPA products, including baby bottles, sippy cups, or containers to be filled with food or liquid and intended for children under age three.\(^{20}\)
Alternatives and Proposals for Comprehensive BPA Regulation

Alternatives for BPA linings in canned goods are already being employed by various food companies nationally. A handful of other food companies have announced they will examine alternatives to BPA linings for cans or phase BPA out of their products. Creation of BPA-free alternatives may be cost prohibitive for the average consumer and could potentially pose more of a toxic health hazard than BPA. As such, diligent efforts must be taken to develop and utilize safe alternatives to BPA, while taking into consideration the cost of such products to the consumer.

Although individual companies have committed to a “phase-out” of BPA in canned goods, suitable alternative products are not yet readily available. If the U.S. Congress and state legislatures continue to fail to adequately regulate BPA, then FDA and EPA must take more aggressive action. An effective model for future legislation and regulation could be the Connecticut law, which included not only reusable food and beverage containers, but also extended to thermal receipt paper. This should be further expanded to include disposable food and beverage containers, tableware, pacifiers, teethers, food container lids, canned foods and beverages, toys, and medical devices. A product meant to be consumed or used by a young child, infant, or pregnant woman should not contain BPA, and products often used by the general public should also be carefully considered.

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References

5. See Vogel, supra note 1.


23. Federal Register 77 (July 17, 2012): 41899, 41899-41902; see Food and Drug Administration, supra note 6.
