OBAMA-BIDEN TRANSITION PROJECT

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From: Janet Nudelman, Director of Program and Policy, Breast Cancer Fund
Update: FDA should support ways to reduce BPA exposures

Problem Statement

Bisphenol A (BPA) is one of the most pervasive chemicals in modern life. More than 2 million pounds of BPA are produced in the United States each year. As the building block of polycarbonate plastic and a component of epoxy resins, BPA is used in thousands of consumer products, including food packaging. Breast cancer strikes more women in the world than any other type of cancer except skin cancer. In the United States, a woman's lifetime risk of breast cancer is 1 in 8.[i] Research suggests that BPA exposure may contribute to the epidemic of breast cancer now and in the future. Furthermore, BPA exposure has been shown to interfere with chemotherapy treatment for breast cancer.[ii]

BPA: a synthetic estrogen

BPA was developed in the 1930s as a synthetic estrogen (also called xenoestrogen) so it is not surprising that it acts like an estrogen in humans, increasing the risk of breast cancer.[iii] Decades of research have shown that extensive exposure to estrogens, both natural and synthetic, increases breast cancer risk.[iv] Reducing exposure to estrogens appears to reduce the risk of breast cancer. For example, experts attribute the recent decline in breast cancer incidence to decreased use of postmenopausal hormone replacement therapy (HRT), following the major study that implicated HRT in increased risk of breast cancer.[v] Studies of human breast cancer cells in culture show that BPA acts through the same response pathways as natural estrogen (estradiol),[vi] and induces cell growth and proliferation.[vii] In addition, BPA has been shown to mimic natural estrogen (estradiol) in causing direct damage to the DNA of cultured human breast cancer cells.[viii]

Principal route of exposure to BPA: food packaging

BPA is found in the lining of metal food cans and in some plastic food containers, including some baby bottles, water bottles, microwave ovenware and eating utensils. Because BPA is an unstable polymer and is also lipophilic (fat-seeking), it can leach into infant formula and other food products, especially when heated.[ix] Once in food, BPA can move quickly into people—a real concern for women of childbearing age and for young children.

Exposure to BPA begins in the womb

Exposure to BPA is ubiquitous in the United States[x] and other developed countries, and the exposure begins before birth, when the risk of harm is greatest. BPA has been found in blood samples from developing fetuses as well as in placental tissue and the surrounding amniotic fluid, [xi] in umbilical cord blood of newborn infants[xii] and in human breast milk.[xiii] Finding BPA in breast milk confirms the presence of this environmental estrogen in the target organ for breast cancer. A number of animal studies show that prenatal and early life exposure to extremely low levels of BPA alters development of the mammary gland in ways that predispose the animals to cancer in adult life. Exposure also increases sensitivity to estrogen at puberty.[xiv xv xvi xviixviii]

Early exposure to BPA also leads to abnormalities in mammary tissue that can be seen during gestation.[xix]

Concerns about the effects of BPA on human health are mounting:

- In 2008, a dozen U.S. states introduced BPA ban bills. Even more states are expected in introduce similar legislation over the next year.
- In 2008, major retailers including WalMart, Safeway and Whole Foods announced they will stop stocking baby bottles and other products made with BPA.
- In 2007 Norway banned the import of consumer products containing BPA. In 2008 Canada declared BPA a toxic chemical and is moving to ban it in baby bottles, the lining of infant formula containers and children's tableware. Even Taiwan has proposed listing BPA as a potentially toxic substance.

Solution: The FDA should support federal legislation that would eliminate exposures to BPA that are regulated by the FDA, beginning with food and beverage containers.

In the 110th Congress, there were two pieces of federal legislation introduced to more strictly regulate BPA – one by Senator Chuck Schumer (D-NY) and the other by Rep. Ed Markey (D-MA). The Schumer bill addresses BPA exposures regulated by the Consumer Product Safety Commission. The Ban Poisonous Additives Act (BPA Act – HR 6228) introduced by Rep. Edward Markey (D-MA) on June 10, 2008 implements a 100% ban on BPA in all food and beverage containers regulated by the FDA including baby bottles, and infant formula and canned food linings. Rep. Markey intends to reintroduce his bill in the 111th Congress and Senator Feinstein will introduce a Senate companion bill.

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