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Timeline: BPA from Invention to Phase-Out

APRIL 22, 2008

Bisphenol A (BPA) is a plastics chemical invented nearly 120 years ago and currently used in enormous amounts to manufacture hard plastic water

infant formula. Although its long-time use in consumer products has come with assurances of its safety from industry, studies conducted over the past 20 years now show it to be not only a ubiquitous pollutant in the human body - it contaminates nearly 93% of the population - but also a potent developmental toxin at very low doses.

In September 2008 the National Toxicology Program of NIH determined that BPA may pose risks to human development, raising concerns for early puberty, prostate effects, breast cancer, and behavioral impacts from early-life exposures. Pregnant women, infants and young children are most vulnerable to the harmful effects of BPA, although a recent study linked BPA exposures to risk of heart disease, diabetes, and liver toxicity.

Although FDA has yet to act to tighten safety standards, 2 Congressional investigations have been launched to shed light on industry influence of government science evaluations, and Wal-Mart and other retailers are pulling BPA-containing products off of store shelves. The major events that have transformed our understanding of this chemical, shown its potential role in human health problems, and revealed industry's inside fight to keep it on the market despite the health risks are described below.

The first 100 years - widespread exposures, unknown risks

1891: BPA is invented. Chemists synthesize the chemical bisphenol A (BPA) in the laboratory.

1930's: First evidence of BPA toxicity. Scientists discover that BPA is an artificial estrogen. Its use as a pharmaceutical hormone is precluded by the invention of another synthetic chemical, DES, with even more potent

to reproductive cancers in girls born to mothers taking DES during pregnancy, in retrospect an early warning signal for the similar toxic properties confirmed for BPA many years later). [Dodds and Lawson 1930 publicaton - http://www.jstor.org/pss/82191]

1940's and 1950's: New use of BPA in plastic. The chemical industry begins to use BPA to manufacture a hard plastic called polycarbonate, and to make epoxy resins used as linings for metal food cans and a variety of other products. Although BPA leaches out of plastic long after its manufacture, the material is used in consumer products with no requirement that companies prove it is safe. The 70 years that follow BPA's introduction in these industries see the explosion of BPA-based plastics to encompass products as wide-ranging as bicycle helmets, water coolers, and baby bottles.

1976: First law to regulate industrial chemicals, fails to establish safety of BPA. Congress passes the Toxic Substances Control Act, the first law in the U.S. to regulate industrial chemicals. BPA is one of 62,000 chemicals "grandfathered" in, presumed safe by the Environmental Protection Agency with no evaluation of the evidence.

1982: Government assessment of BPA toxicity holds no regulatory weight. The National Toxicology Program determines that the lowest adverse effect level (LOAEL) for BPA in laboratory animals is 1,000 parts per million (ppm), equivalent to 50 milligrams of BPA per kilogram of body weight per day (50 mg/kg/d) (NTP 1982). This study becomes the basis for EPA's 1988 safety standard which has remained in place for decades, sorely out of step with scores of low-dose BPA toxicity studies published in the interim. [1982 NTP study of BPA toxicity (pdf) - http://ntp.niehs.nih.gov/ntp/htdocs/LT_rpts/tr215.pdf].

Late 1980s through 1990's - First BPA safety standard at odds with first low-dose BPA studies

1988: EPA's safety standard for BPA is up to 25 times higher than harmful levels. US EPA sets a safety standard (reference dose) for BPA, based on crude, high-dose BPA studies showing reduced body weight of exposed animals, establishing the standard in 1988 and reaffirming it in 1993. The "safe" exposure level established by EPA, at 50 micrograms of BPA per kilogram of body weight per day (50 ug/kg/d), is 1,000 times lower than amounts found to affect the growth of animals in high-dose industry studies. But when a series of studies over the next 20 years show BPA to be toxic at doses far below EPA's safety standard (as low as 2 ug/kd/d), the Agency fails to update the standard to reflect the new information. [EPA's summary of its 1993 (current) BPA safety standard] (http://cfpub.epa.gov/ncea/iris/index.cfm?fuseaction=iris.showQuickView&substance_nmbr=9356).

March 13, 1996: First FDA assessment of Americans' exposures to BPA. A memorandum from FDA technical staff estimate that through contaminated canned food, adults are exposed to 11 micrograms of BPA daily, while infants are exposed to 7 micrograms per day. This assessment will stand as FDA's official position for many years even as the science on BPA toxicity expands exponentially, demonstrating risks at levels deemed safe in this FDA assessment.

March 1997: Studies show BPA to be toxic at levels that are in people. Just four years after EPA reaffirms its BPA safety standard, Fred vom Saal at the University of Missouri-Columbia finds that **low level exposure to bisphenol A harms the prostate.** This is the first of many studies from academic labs that will find harmful effects of BPA at levels of exposure far below the

grow to include more than 100 publications linking BPA to breast and prostate damage, early puberty, behavioral problems, and other effects at levels up to 25 times lower than EPA's "safe" dose. [vom Saal's landmark 1997 prostate study - http://www.pubmedcentral.nih.gov/articlerender.fcgi?tool=pubmed&pubmedid=9050904]

November 1997: Government tests reveal BPA contamination in infant formula. FDA finds BPA contamination in 12 of 14 samples of canned infant formula, from BPA leaching out of the metal can linings. At the levels found, between 1 and 13 parts per billion (ppb), many formula-fed infants will be exposed to BPA in excess of amounts found to harm development (prostate, breast, early puberty, behavior), but FDA fails to assess the risks or tighten standards. [**FDA 1997 study of BPA in canned foods**] (http://pubs.acs.org/doi/abs/10.1021/jf970518v).

May 1999: BPA found to leach from baby bottles. Consumer Reports finds BPA leaching from baby bottles when heated, prompting renewed debate over the safety of babies' exposures. [**Consumer Reports on BPA in bottles**] (http://www.greenerchoices.org/pdf/Baby%20alert%20-%20New%20findings%20about%20plastics%20May%2099.pdf)

May 1999: FDA publicly asserts the safety of BPA for bottle-fed infants, ignoring emerging evidence of low-dose BPA toxicity. FDA Product Policy Director George Pauli states, "Our conclusion is we should go with the track record. We have evaluated in a thorough manner, and concluded its use is safe. We haven't seen anything that would persuade us to change that". FDA releases no information on any additional analyses they may have conducted besides the assessments of infant exposures based on 14 tests of infant formula. [**FDA 1999 memo**] (http://www.fda.gov/ohrms/dockets/ac/08/briefing/2008-0038b1_01_19_FDA%20Reference%20Material-FDA%20Memo%20Cumulative.pdf).

October 1999: Scientist from the University of Missouri report in the

authors conclude that exposing female mouse fetuses to endocrine disruptors that are "within the range typical of the environmental exposure of humans alters the postnatal growth rate and brings on early puberty in these mice". The study raises significant concerns about the possible links between early puberty and BPA exposures in girls. [Nature study of early puberty] (http://www.nature.com/nature/journal/v401/n6755/abs/401763a0.html)

2002: Study finds brain and behavioral effects from BPA exposure. Italian scientists expose mice to BPA during pregnancy and lactation. The offspring, once adults, exhibit fewer maternal behaviors. The authors attribute brain and behavioral changes to BPA exposure. The harmful dose, at 200 ug/kg/d, is 40 times lower than the study EPA used to set its 1993 safety standard. [Palanza study - BPA harms brain and behavior] (http://www.ehponline.org/docs/2002/suppl-3/415-422palanza/abstract.html)

2003-2006: First serious government evaluation of BPA low-dose toxicity, led by industry consultant

2003: BPA to be evaluated for risks to people. The National Institute of Health (NIH) nominates BPA for evaluation by the Center for the Evaluation of Risk to Human Reproduction (CERHR) at the National Toxicology Program (NTP) as a reproductive and developmental toxin. **NIH hires an industry contractor to lead the assessment, Sciences International (SI).**

2003-2006: Industry consultant conducts initial BPA assessment, hand picks gov't advisory panel. Sciences International performs the literature review for BPA toxicity, choosing and summarizing studies and providing an assessment of each study's relevance. SI and CERHR staff hand pick 15 scientists to serve on the expert government advisory panel charged with reviewing SI's assessments and making recommendations on BPA toxicity,

significant expertise in BPA, because of concerns that expertise may inject bias into the evaluation process. **December 2006: Report by industry consultant and advisory panel toes industry line** - **"BPA is safe."** CERHR publishes its advisory panel report on BPA, largely written by Sciences International. Public comments on the report from Dr. vom Saal and others outline errors in interpretation of studies and also list studies that show low dose toxicity of BPA which were excluded by Sciences International from the draft. [Dec 2006 Advisory panel report - http://cerhr.niehs.nih.gov/chemicals/bisphenol/bisphenol-eval.html] [Dr. vom Saal's critique - http://cerhr.niehs.nih.gov/chemicals/bisphenol/pubcomm/vomsaal_response_BPA_re] [All public comments - http://cerhr.niehs.nih.gov/chemicals/bisphenol/pubcomm-bisphenol.html]

First half of 2007: Industry influence on BPA science is revealed, Agency fires contractor

February 28, 2007: EWG discovers that the government's BPA consultant works for BPA manufacturers. EWG learns that Sciences International, the firm reviewing BPA toxicity for the government, has corporate clients like Dow Chemical and BASF that are major manufacturers of BPA. [SI ties to BPA industry](/news-insights/news-release/chemical-industry-consultant-runs-federal-reproductive-health-agency)

February 28, 2007: Congress launches investigation of gov't conflict of interest policies on BPA. The powerful House Oversight and Government Reform Committee launches an investigation of conflict of interest policies of NIEHS, the NIH agency responsible for hiring the industry contractor SI to conduct the BPA review. Congressman Waxman and Senator Boxer request that the Director of NIEHS, Dr. David Schwartz, provide information

[Congressional committee request for information on BPA assessment - http://oversight.house.gov/story.asp?ID=1191]

March 4, 2007: LA Times reports on conflicts of interest in government's choice of BPA contractors. LA Times' Marla Cone reports that Sciences International's clients include chemical companies that manufacture BPA, noting concerns that these ties may compromise its ability to conduct an unbiased assessment of BPA toxicity for the government. [LA Times story on SI's conflicts] (https://www.latimes.com/archives/la-xpm-2007-mar-04-na-chemicals4-story.html)

March 5-7, 2007: Government suspends contract of industry consultant, but fails to throw out its work. At the first public meeting of the CERHR advisory panel, CERHR announces that it has suspended Sciences International because of concerns over its potential conflicts of interest. CERHR fails to throw out SI's work; instead, the advisory panel edits the BPA assessment originally prepared by SI.

March 5, 2007: First broad study of canned food shows widespread BPA contamination. An EWG study of 97 canned foods demonstrates widespread, high exposures to BPA when the chemical leaches from metal food can linings. EWG's study presents data showing the highest concentrations in canned soup, pastas, and infant formula, with information on potential health risks for vulnerable populations. Results show that many Americans are exposed to BPA above levels shown to be harmful in laboratory studies. [EWG canned food investigation] (/research/bisphenol-toxic-plastics-chemical-canned-food)

April 13, 2007: Government fires industry contractor. NIEHS fires the industry contractor, Sciences International, due to concerns over conflicts of interest. However, the BPA advisory panel continues building upon draft expert panel report that was prepared by SI, despite concerns raised by

inaccurate. [Government news release on contractor firing - http://cerhr.niehs.nih.gov/news/press/SI_Stop_Stmt200704.pdf]

April 20 - June 20, 2007: Government assessment contains nearly 300 errors. CERHR publishes another draft of the advisory panel's BPA assessment and requests public comments. EWG finds in the report many examples of arbitrary and inconsistent application of scientific criteria to BPA studies in the report. In comments, EWG notes that the expert panel found 70% of industry-funded and only 30% of non-industry funded studies to be adequate for purposes of assessing BPA toxicity; the panel rejects independent studies at 3 times the rate of industry funded studies. Six independent scientists submit comments to CERHR to correct the interpretation of their studies by the panel. In particular, Dr. Ana Soto's lab at Tufts University submits a comprehensive report outlining errors in the draft, page by page. Altogether, BPA experts find 297 errors of fact and interpretation in the government's draft BPA assessment, according to an EWG analysis of the comments. [June 2007 advisory (expert) panel report on BPA - http://cerhr.niehs.nih.gov/chemicals/bisphenol/bisphenol-eval.html] [EWG comments on BPA assessment draft (pdf) - http://cerhr.niehs.nih.gov/chemicals/bisphenol/pubcomm/EWG_Comments_BPA_Int [all public comments - http://cerhr.niehs.nih.gov/chemicals/bisphenol/pubcomm-bisphenol.html] [**EWG assessment of 297 errors in the document**](/news-insights/official-correspondence/ewg-comments-bpa-advisory-panel)

Second half of 2007: Government panel ignores low-dose BPA toxicity in favor of industry studies, BPA experts warn of health risks

July 24, 2007: NTP exonerates the work of its contractor, but fails to

involving the contractor they hired, Sciences International; they conclude that there was no impropriety in SI's work on BPA. The audit does not include an evaluation of the verity and completeness of the analysis of BPA literature that was provided by Sciences International. Many BPA experts have maintained that the audit should have evaluated whether Sciences International injected bias into its analysis of BPA studies from the peer-reviewed literature; experts' analyses of SI's work suggests that it did. [results of NTP's self-audit (pdf)] (http://cerhr.niehs.nih.gov/chemicals/bisphenol/SIauditreviewreportv12072407.pdf)

August 2, 2007: Independent BPA experts complete an assessment raising concerns of BPA risks for people. An NIH-funded panel of 38 independent scientists who conduct BPA research conclude a comprehensive review of current knowledge of BPA health risks and human exposures. This group of scientists, known as the Chapel Hill panel, conclude that BPA exposure at current levels presents a clear risk to human health. They publish a consensus statement on BPA risk to human health and reproduction and five articles outlining their findings in the peer-reviewed journal Reproductive Toxicology. [summary of Chapel Hill panel findings] (http://www.environmentalhealthnews.org/newscience/2007/2007-0803chapelhillconsensus.html)

August 6-8, 2007: 2nd advisory panel meeting focuses on errors in the assessment. EWG releases an analysis of critiques of the advisory panel assessment of BPA from independent scientists that were submitted to CERHR in June of 2006, and presents findings showing that the interim draft expert panel report contains hundreds of potential errors and inconsistencies. [EWG assessment of 297 errors in the document] (/news/testimony-official-correspondence/ewg-comments-bpa-advisory-panel)

August 8, 2007: EWG study shows many infants exposed to BPA

are exposed to levels of BPA that have been shown to be toxic in animal studies. EWG's study shows that FDA's 1997 assessment (Biles 1997) significantly underestimated infant exposures to BPA. [**infant exposures to BPA in contaminated formula**](/research/toxic-plastics-chemical-infant-formula)

November 26, 2007: BPA advisory panel issues its final report, minimizing BPA risks, ignoring many risks of concern to Chapel Hill panel. In its final report, the advisory panel expresses "some concern" about the neural and behavioral impacts of fetal exposure to low doses of BPA, but rejects the independent studies linking BPA exposure to breast and prostate cancer, obesity, and reproductive problems. The findings are out of step with conclusions of the Chapel Hill panel of BPA experts. The report does not correct many of the 297 errors of fact and interpretation reported by BPA experts earlier in the year. [November 2007 advisory (expert) panel report on BPA - http://cerhr.niehs.nih.gov/chemicals/bisphenol/bisphenol-eval.html]

Late 2007, Early 2008 - FDA and infant formula manufacturers' positions on safety of BPA for babies come under fire, Congress investigates

December 5, 2007: BPA used by every infant formula manufacturer. EWG reports that **every major U.S. infant formula maker uses BPA to line the metal portions of its formula cans.** In light of multiple studies now showing that infants are exposed to BPA at levels of concern, EWG conducts a survey of formula makers' use of BPA, and releases a guide to infant formula, providing information for parents on how to minimize BPA exposure from canned infant formula. EWG's survey of manufacturers reveals that every major formula maker uses a BPA-based can lining that can leach BPA into the formula. [**EWG's infant formula guide for parents**](https://www.ewg.org/babysafe)

January 17 - February 5, 2008: Major Congressional investigation of FDA, infant formula manufacturers, and industry consultants. In light of growing concerns over children's exposures to BPA, the US House of Representatives Committee on Energy and Commerce launches an investigation into the use of BPA in the lining of metal cans that contain infant formula. Representatives John D. Dingell and Bart Stupak request that makers of infant formulas provide information on their use of BPA in their products and whether they conduct BPA testing on their formula. They also demand that FDA clarify its position on the safety of BPA and provide evidence to support its assertion that there is "no safety concern at the current exposure level." Lastly, the committee asks a private consulting firm, the Weinbert Group, to document its work for BPA manufacturers, asking them to clarify "whether science is for sale." [Congressional inquiries to formula manufacturers - http://archives.energycommerce.house.gov/Investigations/Bisphenol.shtml] [Congress demands FDA provide rationale for BPA safety assertions - http://archives.energycommerce.house.gov/Investigations/Bisphenol.011708.FDA.ltr.p [Congress action regarding the Weinberg Group - http://archives.energycommerce.house.gov/Investigations/Bisphenol.030608.Weinbe [all records of Congressional BPA inquiry - http://archives.energycommerce.house.gov/Investigations/Bisphenol.shtml]

January 29 to February 8, 2008: Infant formula companies reveal that they do not know how much BPA is in their formula. Infant formula manufacturers respond to the request for information from Congress. Most reveal that they have not tested their products for BPA. Two, Hain-Celestial and Abbott, have tested but used assays with limits of detection that were so high that they would not detect levels of BPA that studies show may be toxic and that were found by both EWG and FDA tests. [formula makers'

responses to Congress - http://energycommerce.house.gov/Investigations/Bisphenol.shtml].

February 7, 2008: BPA leaches from baby bottles. A coalition of environmental and public health groups in the U.S. and Canada release a study showing that BPA leaches out of baby bottles into heated liquids, raising renewed concerns about the safety of plastic bottles. [BPA in baby bottles] (http://www.chej.org/BPA_Website.htm).

February 25, 2008: FDA responds to Congressional investigation, reveals that two industry studies are the basis of its safety evaluation. FDA's response to a congressional inquiry on its BPA evaluations reveals that the agency's assertion that current levels of BPA exposure do not pose a health concern are based on two studies that were sponsored by the American Plastics Council. Of note, one of these studies was widely criticized by BPA experts for its fatal design flaws. The other study has not been made available to the public and has not been published in a peer-reviewed journal to date. Dozens of studies published in the peer reviewed literature link BPA exposure at extremely low levels to a number of adverse health effects, including breast and prostate cancer, early puberty, infertility, obesity, and behavioral problems. FDA has used none of these studies in its evaluations of BPA safety. [FDA's response - http://energycommerce.house.gov/Investigations/Bisphenol.022508.resptoo11708.HH

April 4, 2008: Congress again demands that FDA reveal the basis of its assertions that BPA is safe. Following FDA admission that its BPA safety assessment is based on 2 industry studies, one of them unpublished, The Committee on Energy and Commerce demands that FDA provide previously requested details about its safety assessment for infant formula or face a

ltr.040408.FDA.ltrvonEschenbach.BPA.pdf] [Complete record of Congressional BPA inquiry - http://energycommerce.house.gov/Investigations/Bisphenol.shtml]

Spring 2008 - Government finds BPA poses risks to humans, Wal-Mart and other retailers pull BPA products from shelves

April 16, 2008: NTP releases its own determination of BPA toxicity, for the first time raising substantial concerns about BPA risk to human development. NTP releases its own evaluation of BPA's risks to human reproduction and development, based on its review of the advisory panel report, the Chapel Hill panel findings, and other recent scientific publications. The draft is a dramatic departure from the advisory panel's findings, raising concerns for BPA's links to early puberty, breast cancer, prostate effects, and behavioral problems. NTP highlights that pregnancy and early life are especially sensitive periods given higher exposure and limited ability to metabolize the chemical. [NTP draft assessment of BPA - http://cerhr.niehs.nih.gov/chemicals/bisphenol/BPADraftBriefVF_04_14_08.pdf]

April 16, 2008: Congress calls on FDA to reassess its safety standards for BPA based on new concerns over health risks. Following NTP's dramatic findings on BPA concerns, Representatives John Dingell and Bart Stupack Chairs of the Committee on Energy and Commerce and the Oversight and Investigations Committees (respectively) calls on FDA to promptly reconsider the safety of BPA in products for infants and children. [Congress calls on FDA to reassess BPA risks - http://energycommerce.house.gov/Press_110/110nr249.shtml]

April 18, 2008: Health Canada announces that BPA will be deemed a

comprehensive human exposures assessment for BPA and take actions to reduce exposures nationally. Based on the findings of their assessment, Canadian officials announce that "to be prudent, the Government of Canada is proposing to reduce bisphenol A exposure in infants and newborns by proposing a number of actions: to ban polycarbonate baby bottles; to develop stringent migration targets for bisphenol A in infant formula cans; to work with industry to develop alternative food packaging and develop a code of practice; and to list bisphenol A under Schedule 1 of the Canadian Environmental Protection Act." [Canadian actions to reduce BPA exposures - http://www.ec.gc.ca/substances/ese/eng/challenge/batch2/batch2_80-05-7_rm.cfm]

April 18-21, 2008: Major manufacturers and retailers abandon BPA in plastics. Within days of the NTP and Canadian judgements major BPA manufacturers including Playtex (which makes bottles and cups) and Nalgene announce a shift to BPA-free products. Major retailers including Wal-Mart and Toys R Us announce they will quickly phase-out BPA-containing baby bottles. [Wal-Mart to phase out BPA] (http://www.washingtonpost.com/wp-dyn/content/article/2008/04/17/AR2008041704205.html) [Toys-R-Us - BPA phase-out] (http://blog.washingtonpost.com/thecheckout/2008/04/update_toys_r_us_to_pull_bottl.html) [Nalgene goes BPA free] (http://www.nytimes.com/2008/04/18/business/18plastic.html)

May 6, 2008: The House Energy and Commerce Committee writes infant formula makers to request that they remove BPA from formula packaging. Chairmen Dingell and Stupack write to major formula companies stating: "We believe that the health risks from BPA in developing infants and children are serious enough to warrant immediate action, and we are concerned that BPA remains in the packaging of your infant formula products." [Congress calls on Formula Manufacturers to replace BPA lining in canned products -

Four formula companies respond to the Committee's request. Abbott (Similac), Nestlé, Mead-Johnson (Enfamil) and PBM (maker of store brands) indicate that they are currently exploring alternative packaging for their products. In particular, PBM, maker of store-brand formula, replies: "[T]he possibility that Bisphenol A may pose adverse health risks to the infants and children who are fed our formula was more than sufficient for us to begin the process of eliminating Bisphenol A from our infant formula packaging." [PBM response to Congress about replacing BPA in formula packaging - http://energycommerce.house.gov/investigations/Bisphenol.050708.respt0050608.PB

Summer and Fall 2008 - Industry fights CA effort to ban BPA from kids products and FDA poised to ignore dozens of laboratory studies and declare BPA exposures to baby "safe"

June - September 2008: California SB 1713 proposes to ban BPA in children's products. State Sen. Carole Migden introduces a bill to ban BPA in bottles, sippy cups and formula cans. BPA makers pull out all the stops to protect a profitable chemical, with deceptive ads claiming incorrectly that the measure would affect all canned foods, actually only canned infant formula would have been included. The bill fails by 10 votes in the final days of the California legislative session. [Enviroblog on industry's effort to kill the CA bill] (http://www.enviroblog.org/2008/09/shady-industry-campaign-kills.htm)

August 18, 2008: FDA posts its draft risk assessment for BPA exposure in food packaging FDA's assessment concludes that BPA exposures for adults and children are well below toxic doses. FDA's assessment ignores NTP's conclusions and findings from dozens of academic studies finding low dose toxicity at levels similar to those for babies fed liquid formula from metal

September 3, 2008: Final NTP report. The National Toxicology Program issues a final report expressing "some concern" about BPA's "effects on development of the prostate gland and brain and for behavioral effects in fetuses, infants and children."

September 16, 2008: FDA Science Board Subcommittee reviews FDA's draft document A public meeting is held to review FDA's draft document. EWG comments to FDA about shortcomings in its risk assessment and serves on an advisory panel to the Science Subcommittee. [**EWG's comments on FDA's flawed assessment**](/news-insights/official-correspondence/ewg-comments-fdas-draft-assessment-bisphenol-bpa)

The same day, the American Medical Association (JAMA) publishes a study linking everyday exposures in adults to heart disease, diabetes and markers of liver toxicity. The study calls into question FDA's claim that adult exposures are 27,000 times lower than those found toxic to animals.

October 11, 2008: Major conflict of interest revealed The Milwaukee Journal Sentinel reports that FDA Science Board member Martin Philbert, received a $5 million donation from a medical device manufacturer the same month he was appointed to head the BPA subcommittee. Philbert did not disclose this donation to FDA. [**Journal Sentinel Article**](http://www.jsonline.com/story/index.aspx?id=805074)

Representatives DeLauro, Dingell, Stupak and Markey raise objections to Philbert's participation in the subcommittee. EWG calls for the upcoming Science Board meeting to be delayed. [**EWG press release**](/news-insights/news-release/conflict-interest-cloud-hangs-over-fda)

October 15 2008: 3 States demand BPA phase-out Attorneys General from

makers to stop using BPA. The chemical has been shown to leach from bottles and formula cans into baby's food subjecting them to at least 12 times more BPA than adults at a period of the greatest vulnerability to BPA's harmful effects. [AG press release] (http://www.ct.gov/ag/cwp/view.asp?A=2795&Q=424832)

October 18, 2008: Canada restricts BPA in bottles and formula. Health Canada determines that infant exposures to BPA are potential unsafe in light of laboratory studies that find permanent changes to brain and behavior at very low doses. The government mandates immediate steps to reduce exposures via bottles and canned infant formula. They also instruct parents in ways to prepare formula bottles that minimize the amount of BPA leaching. [Canada's announcement - http://www.hc-sc.gc.ca/ahc-asc/media/nr-cp/_2008/2008_167-eng.php]

October 28, 2008: FDA's BPA subcommittee sends FDA back to the drawingboard. The subcommittee determines that FDA's risk assessment is severely flawed and raises "significant concerns" with the draft document. They echo EWG's calls for FDA to improve their exposure assessment for infants, include recent publications as well as dozens of studies indicating low dose toxicity. They conclude that FDA has not proven an 'adequate' margin of safety for current exposures. [FDA BPA subcommittee recommendations] (http://www.fda.gov/oc/advisory/scienceboard/2008-0038b1-05.pdf)

October 31, 2008: FDA's Science Board unanimously approves its subcommittee recommendations. FDA's Science Board voted to accept the BPA Subcommittee's scathing review of FDA's flawed safety assessment. The Science Board sends FDA back to the drawing-board to craft a new risk assessment that fully accounts for infant exposures and low dose toxicity studies. EWG as well as one FDA's Science Board member highlighted a need

meeting page] (http://www.fda.gov/oc/advisory/accalendar/2008/acmtgscibrdfda_103108.html) and [EWG's comments to Science Board] (/news-insights/testimony/ewg-testimony-fdas-science-board)

2009 – Over 20 states introduce bills to reduce children's exposure to BPA

March 2, 2009: California bill introduced State senator Fran Pavley (D-Agoura Hills) introduces a bill prohibiting the manufacture and sale of any bottle, cup, liquid, food or beverage that contains BPA above 0.1 parts per billion. [CA SB797 as introduced] (http://www.leginfo.ca.gov/pub/09-10/bill/sen/sb_0751-0800/sb_797_bill_20090227_introduced.html)

March 4, 2009: Suffolk County, NY votes to ban BPA-based plastic bottles and cups. March 5, 2009: Connecticut AG announces companies will stop making BPA bottles Attorney General Richard Blumenthal is joined by 6 companies -- Avent, Disney First Years, Gerber, Dr. Brown, Playtex and Evenflow – who will stop using BPA-based plastic in baby bottles made for the U.S. market.

Blumenthal, who, with his counterparts in Delaware and New Jersey, had negotiated the deal with the bottle makers, said he would follow up by pressing for state legislation to ban BPA in infant formula cans, baby food containers and other food packaging and products marketed for infants and toddlers.

April 23, 2009: Suffolk County NY bans BPA The action bans the sale of polycarbonate drink containers for kids age 3 and younger. [Suffolk announcement] (http://legis.suffolkcountyny.gov/clerk/legal_notices/2009/ln051409.pdf)

May 8, 2009: Minnesota BPA bill passes Minnesota's bill bans the chemical

May 12, 2009: BPA bottles increase adult exposures by 70% Harvard University scientists published research showing that college students who drank water from polycarbonate sports bottles had 70% more of the chemical in their bodies when they drank all beverages out of BPA-drink containers than when they used stainless steel drink bottles. The study raises concerns for the intensity of exposure for bottlefed babies who could ingest all of their food from BPA-containing polycarbonate bottles. [Harvard BPA study - http://ehp.niehs.nih.gov/docs/2009/0900604/abstract.html]

May 14, 2009: Chicago City Council passes BPA ban: Chicago's action bans BPA-containing food or drink containers intended for children under 3.

May 29, 2009: BPA producers desperate attempt to reverse public opinion on their product unveiled The Milwaukee Journal-Sentinel reports on a meeting of top BPA producers and food manufacturers -- Coca-Cola, Del Monte -- and trade organizations strategizing to upend state efforts to ban the chemical. The groups honed in on Hispanics and African-Americans as groups who should be persuaded that BPA regulations would place them at harm. According to the Journal-Sentinel "attendees suggested fear tactics be used, such as asking consumers, 'Do you want to have access to baby food anymore?'" [MJS story about industry antics] (http://www.jsonline.com/watchdog/watchdogreports/46510647.html)

June 3, 2009: Connecticut bans BPA The BPA bill, signed by Governor Jodi Rell, addresses contamination of infant formula and baby food cans and jars, as well as the full range of reusable food and beverage containers. The action will take effect in 2011. [Norwalk News on the CT bill] (http://www.thehour.com/story/470418)

June 2009: Endocrine Society issues warning statement on hormone disruptors including BPA The Endocrine Society statement calls for

disrupting agents" and specifically cited BPA as one of the chemicals of concern. [Endocrine Society statement] (http://www.endo-society.org/journals/ScientificStatements/upload/EDC_Scientific_Statement.pdf)

June 2009: Congress sets timeline for FDA action Representative Edward Markey (D-MA) adds language to the final version of the Food Safety and Enhancement Act requiring FDA to take action on BPA by December 31, 2009. [EWG statement on Markey action] (/news-insights/news-release/house-committee-sets-deadline-bpa-decision)

July 9, 2009: Major formula-maker goes BPA free Abbott announces that their Similac brand formula is 91% BPA-free, meaning that all Similac powder and ready-to-eat formula is repackaged with no BPA. The concentrated formulas are still sold in BPA-lined metal cans. [Abbott's Similac announcement] (http://abbottnutrition.com/News/pressreleasedetail.aspx?ContentTitle=Abbott-Leads-by-Achieving-BPA-Free-Status-for-its-Infant-Formulas&year=2009)

August 3, 2009: State of Massachusetts warns parents to avoid BPA in bottles and formula The State Bureau of Environmental Health factsheet includes commonsense ways to avoid BPA. They include replacing liquid formula with powdered where possible, and replacing polycarbonate baby bottles. [Mass factsheet for parents] (http://www.mass.gov/Eeohhs2/docs/dph/environmental/exposure/bisphenol_a_brochure.pdf)

September 2009: Sigg admits to a 2+ year lie In 2007 EWG had warned consumers about the potential for BPA leaching from Sigg's epoxy-lined waterbottles. Sigg vigorously denied EWG's claims--threatening to sue EWG for "damaging its brand reputation." A full 2.5 years later Sigg announces that they had quietly switched to a BPA-free lining (almost a year prior), and offered to exchange old bottles. EWG responds: [Elaine Shannon's HuffPost

on Sigg (http://www.huffingtonpost.com/elaine-shannon/can-sigg-salvage-its-bran_b_270935.html) and [EWG's letter to Sigg] (http://www.huffingtonpost.com/don-carr/sigg-should-apologize-off_b_276835.html)

November 24, 2009: Consumer Reports reports BPA in canned foods The Consumer watch-dog detects BPA in almost every product, including organic brands and market leaders--Campbell's, Chef Boyardee, Del Monte, Nestlé, and Progresso. These findings mirror EWG's 2007 tests, and indicate that canned food and baby formula may not be safe for populations at risk. [Consumer Reports canned food tests] (http://www.consumerreports.org/cro/magazine-archive/december-2009/food/bpa/overview/bisphenol-a-ov.htm?loginMethod=auto) and [EWG's 2007 canned food tests] (https://www.ewg.org/research/bisphenol)

December 2, 2009: EWG detects BPA in 9 of 10 newborns The first ever tests from American babies EWG detects BPA in 90% of the 10 samples of umbilical cord blood collected from newborns. [EWG's study—Pollution in Minority Newborns] (https://www.ewg.org/minoritycordblood/home)

2010--More progress on BPA at the Federal and State levels

January 14, 2010: FDA joins other health agencies to express "some concern" over BPA safety In a joint press conference FDA announces steps parents can take to minimize their children's exposure to BPA, and mention BPA-free powdered formula or bottles as available options. [New government warning for parents] (https://www.hhs.gov/safety/bpa/)

FDA reports it is supporting industry's actions to remove BPA from baby bottles, feeding cups, the lining of formula cans and other food cans, but does not provide any details or a timeframe for these voluntary actions. [FDA's Update on BPA in Food] (https://www.hhs.gov/safety/bpa/)

Late January, 2010: Washington and Wisconsin State Senates Passes BPA ban in Children's Products In Wisconsin the Senate bill would ban BPA in baby bottles and sippy cups. In Washington the State and House have now both passed bills that would disallow the sale of baby bottles and sippy cups and other food containers *except metal cans* with BPA. The State Senate passes the bill on to Gov. Christine Gregoire for her signature. [story about WA state bill] (http://www.examiner.com/x-30270-Seattle-Pharmaceuticals-Examiner-y2010m2d3-Washington-State-likely-to-ban-BPA-following-FDA-acknowledgement-of-its-risks) and [WI Senate bill] (http://www.businessweek.com/ap/financialnews/D9DFK7IO4.htm)

February 11, 2010: California initiates listing BPA as a reproductive toxicant. California's Office of Environmental Health Hazard Assessment (OEHHA) determines that the National Toxicology Program (NTP's) previous ruling is sufficient for listing the chemical. OEHHA opens a public comment period until mid-April. [OEHHA announcement to list BPA under Prop 65] (http://www.oehha.ca.gov/prop65/CRNR_notices/admin_listing/requests_info/callinBPA021210.html)

Spring 2010: BPA bills in play in 10 U.S. states and the District of Columbia States include California, Maryland, Missouri, New Jersey, New Mexico, New York, Pennsylvania, Vermont, Washington State, and Wisconsin.

March 11, 2010: Canada BPA ban takes effect Canada concludes the action will have a minimal cost and impact on industry and a significant benefit to children. [Canada's announcement - http://canadagazette.gc.ca/rp-pr/p2/2010/2010-03-31/html/sor-dors53-eng.html]

March 29, 2010: U.S. EPA issues plan to reduce environmental risks EPA releases their Action Plan which requires manufacturers to report environmental releases and study ecological risks. EPA will evaluate substitutes to BPA in thermal paper, a major source of environmental contamination, and assess risks to children from non-food sources of BPA.

[EPA's Action Plan for BPA]
(http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/78110048d7f696d18525765f00542241a!OpenDocument)

April 2010: General Mills plans BPA-free cans for Muir Glen Tomatoes. General Mills Corporate Social Report announces its Muir Glen label organic tomatoes will be sold in BPA-free cans beginning with the next harvest. [General Mills 2010 Corporate Sustainability report] (http://www.generalmills.com/)

April 13, 2010: Maryland Bans BPA The state becomes the nation's fifth to bar BPA in baby bottles [EWG on Maryland Ban] (http://www.enviroblog.org/2010/04/maryland-bans-bpa-in-some-childrens-products.html)

May 12, 2010 Vermont enacts BPA ban for baby food, formula and drink bottles The Vermont restrictions will extends to metal food cans starting July 1, 2014. [VT law] (http://www.leg.state.vt.us/docs/2010/Acts/ACT112.pdf)

May 19, 2010: Sen. Feinstein aims to include BPA in the Food Safety Modernization Act Diane Feinstein (D-Calif.) proposes BPA restrictions to ensure the Food Safety Modernization Act, now before Congress, protects children and other vulnerable groups. [Feinstein on BPA]
(http://feinstein.senate.gov/public/index.cfm?FuseAction=NewsRoom.OpEds&ContentRecord_id=FA30F523-5056-8059-7662-DBE55E89AA13)

June 9 2010: German government recommends BPA restrictions Germany announces it will recommend specific risk reduction measures to the EU. [Link to German BPA report] (http://www.umweltbundesamt.de/uba-info-presse-e/2010/pe10-033_bisphenol_a_a_chemical_with_adverse_effects_produced_in_large_quantities.htm)

July 1, 2010: Denmark temporarily restricts BPA The Danes ban baby bottles, sippy cups and packaging for baby food and "breast milk substitutes". The measure, labeled "temporary," is in effect until evidence

September 2010 [Article on Danish Action] (http://www.foodproductiondaily.com/Quality-Safety/Denmark-bans-bisphenol-A-in-food-packaging-for-young-children) and [EU review of BPA safety] (http://www.foodproductiondaily.com/Quality-Safety/EFSA-delays-bisphenol-A-verdict-until-September-maintains-TDI)

July 8, 2010: Heinz foods removes BPA from cans sold in Australia, the UK and Ireland. Food Production Daily quotes a Heinz Australia spokesperson as saying BPA-free cans for baby food will be available within 12 months, with metal closures on glass and jars later. [Story about Heinz action] (http://www.ap-foodtechnology.com/Packaging/Heinz-Australia-vows-bisphenol-A-phase-out-in-baby-food-packaging)

July 27-28 2010: Two reports document high levels of BPA in thermal receipts Environmental Working Group and the John Warner Institute for Green Chemistry find high concentrations of BPA on thermal paper receipts collected from major retailers. EWG's tests reveal that 60 percent of store samples do not contain high levels of BPA, indicating that non-BPA cash register paper is available. [EWG report] (https://www.ewg.org/bpa-in-store-receipts) and [Institute for Green Chemistry publication] (http://www.informaworld.com/smpp/section?content=a924832861&fulltext=713240928)

July 30 2010: NY Gov. David A. Paterson signs bill banning BPA in bottles, sippy cups, pacifiers and drinking straws as of December 2010. The bill had unanimous support in the legislature. The state government joins Albany, Schenectady, Suffolk and Rockland counties, which have previously banned the chemical in sippy cups and baby bottles. [New York State Action] (http://wnyt.com/article/stories/S1677869.shtml?cat=300)

December 15, 2010: Massachusetts bans BPA in baby bottles The state Department of Public Health action addresses all bottles manufactured after January 1, 2011 and sold after July 1, 2011, making it the 8th US state to take action on baby bottles. [Mass. BPA regulations]

Spring 2011--International movement on BPA in baby bottles

January 28, 2011: European Union bans BPA in baby bottles. EU states will outlaw the manufacture of polycarbonate feeding bottles containing the compound from March 2011, and ban their import and sale from June 2011. [Text of the EU directive] (http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:026:0011:0014:EN:PDF)

March 5, 2011: China proposes BPA ban. China's Ministry of Health publishes a draft regulation that would ban BPA in anything used to contain food or drink for children, according to the Chinese press. [Shanghai Daily on China's BPA ban]

(http://www.shanghaidaily.com/nsp/National/2011/03/05/China%2Bto%2Bban%2Bplastic%2Bbottles%2Bto%2Bfeed%2Bbabies/)

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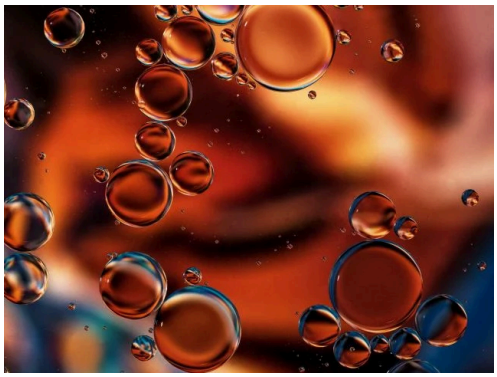

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