Title: Engaging youth in reducing everyday exposures to endocrine-disrupting chemicals


Keywords: Environmental health literacy, high school curriculum, exposure reduction

Study Purpose: The evidence that widespread hormonally-active pollutants pose particular risk during critical windows of rapid breast development means that interventions to reduce risk should actively engage youth. In response, the Massachusetts Breast Cancer Coalition and Silent Spring Institute partnered to develop a high school curriculum to improve health literacy and reduce students’ exposures. 

Methods: We engage high school students in 3 primary activities: 

I) Students conduct 2-day projects to assess common chemical exposures in their homes and strategize ways to reduce exposures. We have pilot tested two projects, one focused on take-home surveys that help students graph exposure trends for chemicals in personal care products and one in which students test their household tap water for lead and chlorine. 

II) This upcoming year, students will learn how to reduce their exposures using Silent Spring Institute’s free smartphone app Detox Me that guides users through 270 research-based recommendations and, with participant assent, tracks shifts in health-related behaviors. Detox Me is available in English and Spanish on Android and iOS phones. 

III) A peer-to-peer mentoring program will be established that connects Massachusetts high school students to youth who have participated in human biomonitoring research, including UC-Berkeley’s HERMOSA and COSECHA studies. Youth mentors will use online apps to share their study results, highlight steps that they have taken to help reduce exposures in their community, and answer questions from high school students. 

Results: We successfully pilot tested the hands-on projects with 2 Boston high schools and Science Club for Girls. This upcoming year, team members will implement the program at 6 high schools across Massachusetts, reaching at least 275 students. To reach students’ families and non-English speaking populations, we will also distribute NIEHS materials including BCERP brochures for students to take home. 

Conclusions: To communicate research-based exposure reduction strategies to the public, we developed a program that enhances instruction in science classrooms, helps youth adopt precautionary actions, and has components that are available digitally and can be used by other BCERP sites for youth outreach.