

# **Reducing Toxic Chemicals in Child Care:**

## **Successes and Lessons Learned**



**CLEAN &  
HEALTHY  
NEW YORK**

February 2015

## Acknowledgements

This report was prepared by Bobbi Chase Wilding, Deputy Director of Clean and Healthy New York, with assistance from Katie Kelly and Kate McArdle, and edited by Kathleen A. Curtis, LPN, Executive Director.

This project is made possible by a grant from the U.S. Environmental Protection Agency’s Great Lakes Restoration Initiative.

Clean and Healthy New York gratefully acknowledges Oregon Environmental Council for developing the Eco-Healthy Child Care® program, and Children’s Environmental Health Network for carrying it forward and bringing it nationwide.

We would like to thank all of the Child Care Resource and Referral agencies and their staff who helped make this program possible, most importantly the Child Care Council, Inc., whose partnership was a cornerstone of the project. We would also like to thank all of the providers who attended trainings, invited technical assistance, and most importantly, took steps to make their child care spaces as healthy as possible for the children in their care.

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## Introduction

Since World War II, synthetic chemicals have changed our world, ushering in an age of rapidly advancing technology. Today, over 80,000 chemicals are used in commerce. Unfortunately, this comes at a cost: a wide range of health problems of environmental origin that plague humans and wildlife. Incidence of childhood cancer has increased 30% since 1975. Roughly one American child in 300 will be diagnosed in 2015. Rates of autism and other learning and developmental disabilities are skyrocketing. Asthma rates are on the rise<sup>1</sup>.

Scientific research shows that certain chemicals in our environment can enter our bodies and play a role in these diseases. In addition to cancer, learning and developmental disabilities, and asthma, obesity, diabetes, and infertility, all on the rise, can be influenced by chemicals. These chemicals don't just come out of a smoke stack. They can be found in products people use every day, in our homes, schools, workplaces, and child care centers. Washington State collects data from children's product makers, requiring reporting on 66 chemicals. Thus far, manufacturers have reported over 24,000 incidences of chemicals in children's products.

Children are more vulnerable to these exposures. They experience greater contact with their environment: pound for pound, they eat, breathe, and drink more than adults; at certain stages, they put everything in their mouths, including hands that crawl on floors and touch dusty surfaces. Further, their bodies are changing rapidly, with critical windows of development in which outside chemical interference can have a disproportionate impact on health throughout life.

That's why it is so important to make sure children's environments are safe and free of health-altering chemicals. 60% of New York's children are enrolled in child care or preschool programs, spending as much as 40 hours a week – some even more – in those environments.

Chemicals in everyday products ultimately make their way into the environment – entering landfills, where chemicals contaminate soil and can leach into water, or entering the air through incineration, where those that are heavier than air, such as metals, fall out and further contaminate water and soil.

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<sup>1</sup> Trends in Asthma Prevalence, Health Care Use, and Mortality in the United States, 2001-2010. NCHS Data Brief, No. 94, May 2012. Centers for Disease Control and Prevention. <http://www.cdc.gov/nchs/data/databriefs/db94.htm>

## Project Description

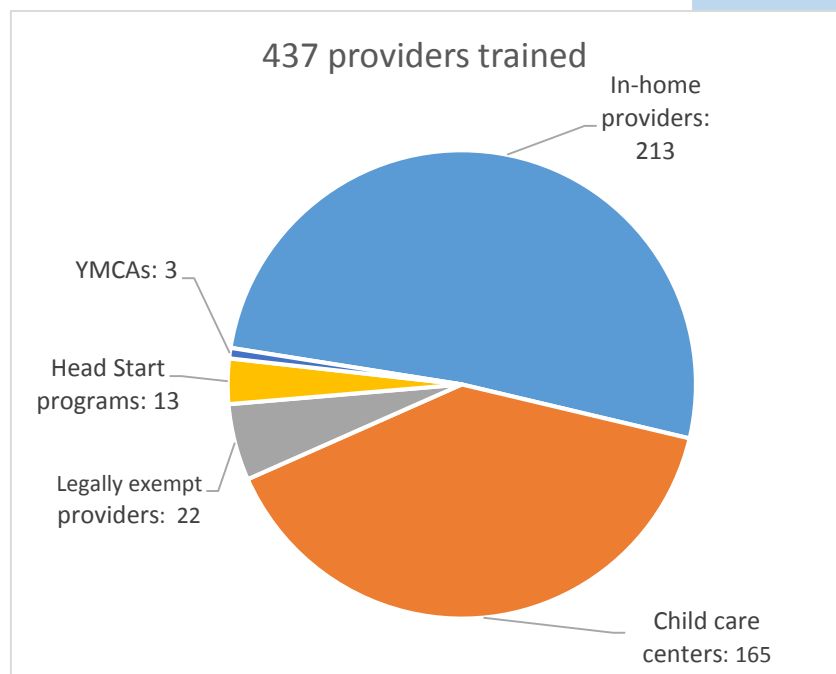
The goals of our collaborative *Toxics Reduction through Child Care Provider Engagement* project were to produce quantifiable reductions in toxic chemicals commonly used in the child care setting, making those settings healthier for children, and to protect the Great Lakes ecosystem from contamination with these chemicals. Clean and Healthy New York, Inc. worked with our partner organizations, Child Care Council, Inc. of Rochester, NY, and the Children’s Environmental Health Network to build a broad network of child care providers in the Great Lakes Basin who are committed to ongoing toxics use reduction efforts, develop program modules that can serve as models for basin-wide, statewide and national programs, and lay the foundation for significant market changes that result in selection of safer materials as a normal activity among the general public.

We focused on chemicals identified by US EPA for Chemical Action Plans: Polybrominated diphenyl ethers (PBDEs), perfluorocarbons (PFCs), nonylphenol ethoxylates (NPEs), bisphenol A (BPA), mercury, and phthalates. We also focused on driving electronic waste recycling.

We built relationships with the relevant Child Care Resource and Referral Agencies (CCRRs) throughout the Great Lakes Basin, and worked with those CCRRs to invite all child care providers within the basin to take steps to reduce toxic chemical use – via self-endorsement, participating in a training, or direct technical assistance. Then we tracked the changes they implemented via two rounds of phone surveys.

## Outcomes

We offered and advertised training programs to the 12,000 registered and legally exempt child care providers in the basin. We trained 44 Child Care Resource and Referral Agency staff to conduct our trainings, and together with many of them, we trained 437 providers from over 250 different programs at 39 events. 48 programs received on-site technical assistance.



We specifically reached out to legally exempt providers - those who receive assistance for providing care to a small number of children, usually relatives. They have traditionally not been engaged by programs such as ours.

The Train the Trainer program was a key component of creating a lasting legacy in the Great Lakes Basin. It provided staff with an added skill that is a valuable resource for CRRs, which can continue to advance sustainability within their work environments, as well as of the providers in their community, as they offer additional EHCC trainings in the years to come.

## Results of the trainings

Based on those trainings, 16 providers have become Eco-Healthy endorsed, and 35 more have indicated they plan to do so.

We have seen tremendous reductions in chemical uses:

Over the two year project, we documented a reduction of 417 kg of chemicals of concern. These include: 33 kg of polybrominated diphenyl ethers (PBDEs), 0.32 mg of perfluorocarbons (PFCs), 60 kg of bisphenol A (BPA), 116 g of mercury, and 323 kg of phthalates. Over 3,300 kg of electronic waste were transported to registered collection sites for recycling as a result of our efforts.

We also identified and removed 587 g of lead and 71 g of cadmium from the care setting during our technical assistance. Both are potent neurotoxins, and we continued to find them again and again in toys, furniture, and other items used by children. While not directly included in our initial target chemical list, we felt a responsibility to go beyond the original list of chemicals and include lead and cadmium as additional targets during our technical assistance visits.

89% of providers reported at the time of training that they would likely or definitely make changes due to information they learned in the training. Of the providers reached in phone surveys, 78% had in fact implemented one or more improvement. 99% of all trained providers rated the effectiveness of teaching environmental health concepts as a 4 or 5. Of those who responded to our survey, 99% would recommend this training to others.

We gained useful information that was unexpected, and can be applied in future training situations, such as that providers purchase and use many adult products for children, and some purchase tableware from restaurant supply stores.

## Successes

We are thrilled with the results of our program. We had significant impacts beyond the specific objectives outlined in our grant program. Here are some highlights:

1. **Creating a disinfectant sheet.** We developed a spreadsheet that tracked the EPA-approved disinfectants that meet New York requirements. We put a lot of information on a small space, including price, organisms killed, and dwell time, to allow providers to make a thorough comparison easily. This was a time-intensive project, but our having done this work made the prospect of identifying an alternative to bleach much more straightforward for providers, and therefore much more likely to happen.
2. **Customizing our materials to New York regulations and requirements.** Specifically, referencing OCFS regulations in text and in conversation let providers know our recommendations weren't going to cause problems for them. Having confidence that our recommendations would not run them afoul of their accreditors helped providers move forward with making changes.
3. **Sharing other successes.** Passing along tips from other providers about how they dealt with a certain problem gave providers that direct knowledge, and also helped them see us as reputable peers rather than people standing up and preaching to them. For example, one provider recommended a low-cost replacement for vinyl bibs: cutting an X in a dishtowel to fit over the child's head. Another provider recommended baking soda as an air freshener.
4. **Sharing the full training manual with providers.** Providers liked having the full training manual to reference. It includes some of the specific citations we use in the presentation, and we found that it helped them pay more attention knowing they could also read more at a later time.
5. **Using hands-on examples.** Like CEHN, we found having many items to pass around was helpful for providers to reinforce what they were hearing. Having stories behind the items, such as "this is a 6 year old vinyl bib from my daughter..." and "these are toys that we pulled from technical assistance visits with providers..." made things more concrete. Similarly, having actual products for **giveaways** showed providers some alternatives, and got them excited, even if they were very small, inexpensive items.
6. **Meeting providers where they were.** Providers are rarely able to make large changes all at once. Making sure the providers understand that even small steps make a difference helped empower them to make the changes they could, and stretch to do the best they can.
7. **Assigning the right fee structure.** Child care providers are not required to be trained in Eco-Healthy Child Care. We initially planned on a sliding scale, but

quickly found that charging a smaller fee for everyone attracted more participants – and it helped to sweeten the pot with giveaways.

8. **Offering direct technical assistance.** We trained CCR&R staff who make visits to facilities to offer to look around for opportunities to make improvements.

## Opportunities

We also identified some opportunities to make this program more effective in the future. They include:

1. Program directors should work with their staff to **make sure existing regulations and policies are being implemented.** We saw many instances of staff going against the stated policy, i.e., by failing to sweep, or bringing in their own cleaners or air fresheners.
2. Sales catalogs can be misleading – providers think that a product offered there must be safe. **Helping providers know what to look for in catalogs,** instead of assuming that everything in one place is OK, would empower them to be savvier shoppers for safer products.
3. Providers are creative and will use all sorts of different products, but many of these products aren't meant for kids, so they don't follow applicable laws. This creativity might actually expose the kids to more toxic chemicals. Providers should be reminded to **only use products meant for kids.** Examples include adult polycarbonate tumblers made from BPA, dollar store inflatable items containing phthalates used for infants, shaving cream containing phthalates and other suspect chemicals used in an art project or texture table.
4. Even when the numbers are right in front of them (for lead or mercury, for example), providers are reluctant to remove favorite toys or mats. Not all decisions are rational - **we need to account for emotional attachments** and help address it.
5. Our experience in a variety of settings showed that the younger the kids, the more vinyl, especially vinyl covered foam, there was around. In general, there was no basic understanding that vinyl, even when it doesn't contain phthalates, contains other chemicals that can threaten children's health – including lead. We need to identify the very few non-vinyl alternatives for items like climbers and play mats, so providers have choices, and know about them.
6. We saw the same products over and over (shape sorter buckets, roly cars/ giraffes, ring stackers, vinyl cubes) in lots of places: homes and centers alike.

These are the 'timeless' popular toys. Nearly all of the old ones (pre-2008) had toxic metals, and none of the new, identical-looking ones did. **Providers should be explicitly encouraged to systematically cycle out old toys and not accept donations.** Our trained experts had difficulty distinguishing between the old and new. We can't expect providers to know, except based on date.

7. Deciding what to do with old toys or items that need to be removed from a center can be an ethical challenge. We encourage trainers to accept old items for display use, and to connect with other non-profits who might use them to educate people about products with toxic chemicals. Neither throwing away, nor passing along, these items makes sense. It also highlights the importance of **encouraging manufacturers to produce the safest materials possible**, so there are no more end-of-life concerns in the future.
8. Cleaning product labels can be very misleading. Oftentimes, centers use distributors, and are misled by the salesperson into buying a disinfectant or cleaner with a quaternary ammonium compound ("quat") that claims to be 'green.' They just want something that works, and seem surprised that their 'green' cleaner contains chemicals that could harm their health. (Quats can sensitize workers to respiratory problems, including asthma.<sup>2</sup>) **Providers should reference our list (available upon request) first.**
9. Because some of the largest sources of toxic chemicals come from fixed items, like vinyl floors, and flame retarded carpet padding, it can be a financial challenge for providers to make an immediate change. In those cases, **it is important to empower providers with behavioral changes**, including regular cleaning to remove dust, and ensuring good air circulation, until they can select a safer durable good.
10. The practice of washing hands around bathroom use and before meals is fairly consistent. To reduce ingestion and absorption of environmental chemicals, **providers should have children wash hands after playing outside or with crafts.**
11. Providers have questions about other items related to issues we didn't cover. Most frequently asked were issues relating to the new playground ground cover, questions about water quality (specific to their region, if we recommended a certain filter), and the type of vacuums we recommend. **We should consider incorporating answers to these questions into a general FAQ for future use.**
12. There is a disconnect in some counties that receive co-op style food from Food Banks. Every month half of the food they receive is canned. **CCRRs should work**

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<sup>2</sup> See for example, Gonzalez et. al., "Asthma among workers in healthcare settings: role of disinfection with quaternary ammonium compounds" Clinical & Experimental Allergy, Vol 44 Issue 3, 22 Feb 2014



**to offer more fresh, frozen, and non-canned options that are also nutritionally friendly.**

13. Generally, regulations are clear. In some cases, we did find that some providers were still misinformed, or had inspectors who misinterpreted regulations. This primarily happened with cleaning regulations, specifically how much bleach, and where bleach is required. It also occurred around the use of glass bottles and other items. Some thought it was illegal, which it isn't. There were also confusions around nap mats - requirement of depth, material, etc. We advise providers, in a non-confrontational way, **to ask inspectors where in the regulations they are basing their determinations, to demonstrate that our recommendations comply with all regulations.**
14. We found a number of facilities that had obviously poor air quality due to high humidity or poor ventilation. Providers should be encouraged to understand the importance of appropriate humidity, and educated on how to **use a low-cost hygrometer to ensure they stay in a healthy humidity range.**

## Recommendations for CEHN's Eco-Healthy Child Care® program

As the Children's Environmental Health Network continues to refine the Eco-Healthy Child Care® program, we have the following recommendations:

1. **Add pictures to the training manual and encourage sharing with providers.** We gave our training manual to all trainees, whether they were trainers or providers, to give them a deeper background on the material we were presenting and the information in the fact sheets. Adding images to the training manual would make it more accessible for both audiences.
2. **Provide more information on alternatives to bleach.** We found that providers really appreciated our detailed spreadsheet of disinfectants. While this is New York-specific, we recommend using it where applicable, and adapting it where necessary to meet other state requirements. In general, providing more specific information about bleach alternatives would help providers who are looking to avoid the respiratory and skin irritation resulting from the use of bleach.
3. **Provide a fact sheet to providers for parents.** We developed a simple sheet that providers could send home with parents to broaden the circle of impact from Eco-Healthy Child Care® trainings.
4. **Provide information about incremental changes.** CEHN already does this in its training presentation, but could go further. Since most providers can't make drastic changes, or many changes all at once, for budgetary reasons, we found it

was important to empower providers with strategies to minimize the potential harm from products they already owned. Our recommendations included not to serve hot things in BPA/polycarbonate tumblers, and to allow food to cool before putting onto plastic plates instead of afterwards. Providers really appreciated concrete tips about how to best, and more safely, use what they have, for example: don't serve hot things in BPA tumblers; let food cool before putting on plastic plates instead of after.

5. **Include information from Environmental Health Perspectives article "Environmental Exposures in Child Care."** Most providers have a hard time grasping that all of this is actually real and quantifiable, and this article resonated well with our audiences.
6. **Provide a list of preferred products.** Even if CEHN doesn't want to name specific brands, providing material descriptions, or decision tools ('choose this, not that') would be really helpful. We have encountered seemingly endless greenwashing, and having this addressed directly would help providers not end up with "buyer's remorse," and give up on making changes.
7. **Add information about electronics.** Computers release flame retardants, and unlike foam-based products, no regulatory changes have alleviated pressure to add toxic chemicals as flame retardants to these devices. Several states, including New York, now prohibit dumping electronics into the general waste stream, and require recycling. Even before a legal driver, we found that many providers took steps to appropriately recycle their "e-waste" after our training.
8. **Upgrade the Eco-Healthy Child Care website.** We are excited to hear that this effort is already underway. We recommend:
  - a. Make endorsed providers easier to search, and add them to the database on a more regular basis, so they get a tangible benefit from becoming endorsed.
  - b. Add a list of CCRR & certified EHCC trainers so that if someone wants to attend a training in that state, they have a resource.
9. **Work with CCRR & regulatory agencies to follow up with endorsed providers.** Providers generally want to be visited/checked in on by CEHN. We understand that a follow-up process for endorsed providers is underway, and we support this. More follow-up would mean more providers taking concrete steps. We would encourage taking time in Train the Trainer events to talk about how trainers from CCRRs could work with providers to craft a simple action plan, and discuss ways that the CCRR can follow up, even with few resources.

## Recommendations for Institutions and Providers within Them

We trained providers at several large institutions, including Head Start programs and YMCAs. At those trainings, we received questions from providers about what they could do in the absence of a change of policy. We also considered what those institutions could do to create a broad impact across many locations.

### Recommendations for Institutions

1. Policies
  - a. Implement and promote a no-idling policy at all facilities.
  - b. Set a policy that no items should be brought from home.
  - c. Refuse donated items from homes and businesses, especially used items.
2. Purchasing
  - a. Do not purchase from restaurant supply centers – these frequently sell items made of polycarbonate.
  - b. Standardize your cleaning products: eliminate aerosols, assess our disinfectant list for a less-toxic option.
  - c. When possible, buy in bulk to get a volume discount.
3. Suppliers
  - a. If your food service is catered, find out what kind of tableware they use.
  - b. If you use a cleaning/janitorial company, get a list of products they use, and work with them to ensure products are as non-toxic as possible.
  - c. Ask around; get references from other child care providers and companies to use caterers and services that respect your preferences.
4. Staff education
  - a. Use a staff meeting to spend time discussing Eco-Healthy Child Care®, your changes, and why they are important.
  - b. Stick with a policy that staff are not allowed to bring in their own cleaners or air fresheners.
  - c. If you've recently made a change in purchasing, make sure to tell staff the reasons for the change and provide new instructions or a demonstration. For example, when you switch to a new disinfectant.
  - d. Often staff is not in charge of cleaning/grounds maintenance. Owners and Directors need to engage the Facility Director or cleaning company to discuss the changes driven by Eco-Healthy Child Care. Ideally this is done through a formal training, and procedures are put in writing for all involved.

## Recommendations for Individual Providers in Institutions

### 1. Immediate actions

- a. Discard foam filled items with ripped covers.
- b. Remove products covered in vinyl.
- c. Remove artificial air fresheners. Look for the root of the problem. Figure out what is causing the smell, then fix it.
- d. Check hand soap for triclosan. Choose a soap without triclosan.
- e. Clean. (Reduce dust, which can harbor toxic chemicals that have migrated from products).

### 2. Work with parents

- a. Ask them to abide by a no-idling policy.
- b. Set rules for toy donations, or a policy to not accept them
- c. Educate parents
  - i. Send a letter to parents about changes you're making to help protect their children's health.
  - ii. Include Eco-Healthy tips in your newsletter.

### 3. Purchasing

*When purchasing products, always choose those made for children (instead of adults), and choose the youngest possible age group. Laws for chemicals in products are stricter for children 0-3 yrs.*

- a. Kitchen items
  - i. Do not purchase restaurant supplies (see above).
  - ii. If you are using disposable products, look for natural materials or recyclability (#1, 2, 4 and 5 plastics are safer).
  - iii. Buy frozen or fresh foods, avoid canned foods whenever possible.
- b. Toys:
  - i. Avoid vinyl wherever possible.
  - ii. If you're using a large supplier or ordering from a catalog, look for specific brands that you know are safer, like Green Toys.
- c. Cleaners:
  - i. Ask your supplier what EPA-registered options are available.
  - ii. Check out our disinfectants list!
- d. Other:

When choosing mats or floor padding, consider fabric-covered items instead of vinyl. Similarly, choose poly-filled items instead of foam. Limit children's use of electronics (like playing with an old phone or computer).

#### 4. Staff education

- a. Use a staff meeting to spend time discussing Eco-Healthy Child Care, your changes, and why they are important.
- b. Stick with a policy that staff are not allowed to bring in their own cleaners, etc.
- a. If you've recently made a change in purchasing, make sure to tell staff the reasons for the change and provide new instructions or a demonstration. For example, when you switch to a new disinfectant.

## Conclusion

Clean and Healthy New York saw significant, measurable changes in the behaviors of most child care providers who attended an Eco-Healthy Child Care® training funded by this program. Providers left with useful knowledge and skills to improve the quality of their facility's environment, which can improve the health of the children in their care, the adult workers, and the broader environment. We also found opportunities for improving the New York and national program. Clean and Healthy New York is proud of the accomplishments we have achieved with our partners, and looks forward to bringing this program to other areas across the state.