Green Cleaning, Sanitizing and Disinfection: A Toolkit for Early Care and Education
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Who We Are

This *Green Cleaning, Sanitizing and Disinfecting Toolkit for Early Care and Education* was developed by a team of public health professionals, health educators, nurses, and policy makers both in California and across the nation. The principle organizations involved in its development are:

Funding for this project has been provided in full or in part through a grant awarded by the California Department of Pesticide Regulation (DPR). The contents of this document do not necessarily reflect the views and policies of DPR nor does mention of trade names or commercial products constitute endorsement or recommendation for use.
Development of the Toolkit

- 2006-2010: Increasing awareness at the California Childcare Health Program about the importance of environmental health in ECE
- Dialogue with DPR re: antimicrobials as pesticides
- Little focus on environmental health in the ECE field
  - No mention of environmental health in 2010 state quality improvement hearings for ECE
- 2008: First Toolkit on IPM funded, focused on IPM in ECE
- 2010: Second Toolkit funded
Development of the Toolkit

- Literature reviewed on
  - how infectious diseases are transmitted
  - the risks of currently widely-used cleaning and antimicrobial products to human health and the environment
  - evaluating alternative cleaning and antimicrobial products for safety (for human health and the environment)
    - Different agencies for certification
    - Different criteria for certification
      - chemical content
      - effectiveness
Monthly calls with diverse group of national stakeholders on topics relevant to the Toolkit such as:

- Devices as alternatives to chemical disinfectants
- Testing of products and devices by TURI
- The meaning of certification/standards
- EPA’s Design for the Environment Antimicrobial Pilot Project
- Green Seal’s certification process
- How to control odors
- State quality rating systems for environmental health
  - Pennsylvania’s system
Pilots

- Two pilots were done at two centers, one in Alameda and one in Daly City.
- We did a presentation on the Toolkit material as well as a “show and tell” of products and devices such as microfiber mops, walkoff mats, microfiber cleaning cloths.
- One of the challenges was having enough time to present the material.
Participants in the first pilot were very interested in the information we provided, but they were upset that we didn’t have a list of products that they could just buy.

This center bought their cleaning and disinfecting products at retail stores.

In response to this feedback, we developed a list of DfE certified cleaning products that are available at retail stores. We didn’t want to include a list of products in the Toolkit because these products are changing all the time and it would be quickly out of date.

The Use/Don’t Use poster was partly a response to the feedback we got from this pilot.
Green Cleaning Toolkit *for* Early Care and Education

**Pilots**
For the second pilot, we had samples of two safer disinfectants: Oxivir TB and Cleancide, and we provided them with a list of retail products that have been approved by Design for the Environment. This pilot went much more smoothly and participants were very interested in the presentation.
# Evaluation of Second Pilot

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<tr>
<th>1-4 Scale: 1=strongly disagree, 4=strongly agree</th>
<th>The goals of the Green Cleaning, Sanitising, and Disinfecting Toolkit were clearly identified</th>
<th>The topics covered were relevant to my work and workplace</th>
<th>The illustrations and powerpoint helped me to learn the material</th>
<th>The handouts were helpful for learning the material</th>
<th>The course was the appropriate length</th>
<th># of Years as an ECE Provider</th>
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![Bar graph showing evaluation results]
To ensure the most scientifically accurate content for the Toolkit, we requested review of the Toolkit materials from a wide group of stakeholders that included the monthly call group, DPR, Head Start, the American Academy of Pediatrics, the Children’s Environmental Health Network, the Environmental Working Group, The U.S. EPA, the California Air Resources Board.
Green Cleaning Toolkit for Early Care and Education

TOOLKIT OVERVIEW

The Toolkit includes:

- A 64 page *Green Cleaning, Sanitizing, and Disinfecting for Early Care and Education* curriculum booklet
- 4 Posters
- 10 stand alone fact sheets for ECE providers
- 2 fact sheets for families
Green Cleaning Toolkit *for* Early Care and Education

**Toolkit Overview**

- **A Choosing Green Cleaners, Sanitizers and Disinfectants Wallet Card**
- **A Green Cleaning, Sanitizing and Disinfecting in ECE Checklist** to help develop and maintain a Green Cleaning, Sanitizing and Disinfecting Program
- There is also a PowerPoint presentation posted online as well as a reference document with journal references by section, as well as a list of third party certified products available in retail settings
Green Cleaning, Sanitizing, and Disinfecting: A Toolkit for Early Care and Education

This Green Cleaning, Sanitizing, and Disinfecting Toolkit for Early Care and Education was developed by the University of California, San Francisco School of Nursing Institute for Health & Aging, University of California, Berkeley’s Center for Environmental Research and Children’s Health, and Inherited Green Solutions, with support from the California Department of Pesticide Regulation.

Green Cleaning, Sanitizing, and Disinfecting: A Curriculum for Early Care and Education

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Toolkit Contents
Green Cleaning Toolkit for Early Care and Education

Toolkit Contents

Why is it important to sanitize and disinfect in ECE programs?
- Children in ECE get sick more often than children cared for at home, and are often sicker.
- Infectious illnesses like colds, flu and asthma are the most common reason children are absent from ECE.

Hazard vs. Hazard
- Hazard: toxicity of the product
- Risk: its potential to cause harm

Asthma and Asthmatics
- Many cleaning, sanitizing, and disinfecting products can irritate the lungs, and trigger or even cause asthma.

Asthma Triggers:
- Wheezing
- Coughing
- Chest tightness
- Trouble breathing

Endocrine Disrupting Chemicals (EDCs)
- Endocrine disruptors are chemicals that interfere with or alter natural hormonal messages.
- Since hormones work at very small doses, endocrine disrupting chemicals can also affect healthy very small doses.
- Endocrine disrupting may cause:
  - Reduced fertility in women and men
  - Early puberty in girls
  - Increased cancer rates of the breast, ovaries, and prostate.

Very small doses of EDCs can harm people in different ways, especially affecting the body in response to chemicals at hormonal levels.
The Toolkit curriculum booklet also contains

- Policies and protocols for:
  - establishing a green cleaning program
  - purchasing and using safer cleaning and disinfecting products
  - negotiating a contract for cleaning services with an outside vendor
Online Availability

- We have posted all of the Toolkit components and the PowerPoint presentation on the following websites:
  - The Center for Environmental Research on Children’s Health
  - DPR’s Growing Up Green website
  - Informed Green Solutions
  - The Federal EPA Child Care website
EPA Webinar

- In June 2013 we were asked to do a webinar on the Toolkit materials.
- The EPA was amazed at the response to the webinar announcement.
  - 1250 people registered for the webinar.
  - EPA reported that more would have registered if they hadn’t closed it to new registrations.
  - 650 people actually attended the webinar.
- The response was very enthusiastic
Webinar Response

“I really enjoyed the webinar last month on the Green Cleaning. You did an excellent job not only on the document, but also in the webinar. I heard the same comment from another colleague on the webinar. I am using a lot of your information in a training next week for a local Head Start program. I love the way you presented everything from a practical and cost effective viewpoint. You provided a lot of valuable information and it is very easy to understand, both in the PPT and in the document.”
Webinar Response

- I wanted you to know I thought the Webinar was great! Well thought out and great information for someone who is just started looking for information to make this happen.

- We here at the Washoe County Health District appreciated the presentation and gained useful information from the presentation.

- I learned a lot from the webinar and I am grateful for the resources- having concrete, reputable resources that help to explain the connection between bleach and asthma will be great in my consulting work!
Also, I'd like to thank you for offering it. This was by far, the best training I received this year. I've been in the ECE business for over 20 years. I loved the way you presented the information. Wow! There was a lot of new information for me. I have been on the phone with daycare licensing in Michigan and with our local health department. Nobody could give me an alternative to using bleach or the correct formula to mix it. And, our local health department didn't know manufactures changed the bleach formula. So, thank you again for the information. I will be staying posted with your website. This webinar was very informative and helpful and easy to stay focused.
Getting the Word Out

- The IPM Institute of North America is going to feature the Green Cleaning Toolkit in the “what’s new” section of its November School IPM 2015 Newsletter.
- Both the IPM and the Green Cleaning, Sanitizing, and Disinfecting Toolkits were featured in our workshops at the Improving Kids’ Environments conference in Indianapolis in October.
- Our proposal to present the Toolkit at the Head Start Health Institute in January was accepted.
- We were asked to do a second EPA webinar, but this is on hold because of funding.
Getting the Word Out

- The Seventh Generation Foundation funded the printing of extra Toolkits to be distributed to all pediatricians in Vermont and to many child care centers, as well as additional recipients nationally.
- Altogether, we were able to print 4,000 Toolkits - 2500 more than we proposed initially.
- The hope is that printing this larger number of Toolkits will allow us to reach a larger audience and will contribute to change in the field. The IPM Toolkits are no longer available, though we know that there is still interest in them.
We have also presented at

- the 4Cs, one of the Alameda County Child Care Resource and Referral agencies
- The Southern California Head Start Health Cluster in Riverside
- Marin County Head Start providers (60 providers in two back-to-back presentations)
1400+ Toolkits have been shipped to:

- All of the California State Child Care Licensing offices
- 71 California county child care resource and referral agencies
- All of the EPA regional children’s environmental health coordinators and school coordinators.
- Green Cleaning, Sanitizing, and Disinfecting Toolkit training sites and pilot sites and participants.
- All of the members of the monthly Collaborative to Promote Green Cleaning in Early Care and Education call group
Getting the Word Out

- Individuals and programs that purchased copies after the July EPA webinar that we did
- All of the State Head Start Collaborative offices in the country
- ECE professional organizations such as NAEYC, Child Care Aware
- The American Academy of Pediatrics, Department of Child Health and Wellness, Division of Developmental Pediatrics and Preventive Services, Early Education and Child Care Initiatives.
- The Healthy Facilities Institute
- The Healthy Schools Campaign
Getting the Word Out

- The American Federation of Teachers
- The Children’s Environmental Health Network
- The Pennsylvania Office of Child Development and Early Learning Healthy & Green Initiative
- All of the EPA-funded Pediatric Environmental Health Specialty Units
- The Safer Pest Control Project
- The California Emergency Services Authority (oversees health and safety training of ECE providers)
- All of the Child Development Departments in the California Community College System
Response to the Toolkit

- A formal survey of the Toolkit recipients will be completed early next year, but response has been very positive. For example:
  - What a pleasant surprise when I opened my mailbox this afternoon to find your "Tool Kit" inside! I believe you and your collaborators have hit a "HOME RUN" with this tool kit. I love it! Thank you for including me in the distribution.
Left to Do

- We are waiting to hear whether we will be presenting at the California Association for the Education of Young Children
- Two additional training workshops are being planned
- An online evaluation survey of all recipients of the Toolkit will be completed early next year.
- Final report to be written after survey has been completed.
Challenges

- The science behind this project is an emerging science.
- Keeping abreast of research findings, product developments, and certification issues as they were emerging, and translating them for use by the public was like catching a wave.
For example:

◦ In May, 2012, bleach was declared an asthmagen by the Association of Occupational and Environmental Clinics.

◦ Research studies are increasingly documenting an association between QUATS and asthma.

◦ Research on the role of microbes in maintaining human health have exploded in the last two years, requiring a re-orientation: not all microbes are bad and we destroy the good with the bad.

◦ Inhalation of particulates can impact the cardiovascular system and liver in addition to the lungs.
Challenges

- Collating 4,000 Toolkits from their 80,000 parts was challenging from the perspective of time and space!
What’s Next?

- We would like to write a grant to develop the IPM and Green Cleaning, Sanitizing, and Disinfecting Toolkits into a Community College level class on environmental health in ECE for students in the Child Development Programs throughout the state. The class could be both an in-person class and an online class.

- Another possible grant: to work with a group of centers in low income communities to form a buying cooperative in order to purchase cheaper and safer products, and to work with staff in the centers to establish green cleaning and IPM programs.
Feedback on Alliance Grant Program

- The ability to have educational materials graphically designed and formatted makes them much more inviting to the user. Several recipients have commented on this and on the foresight of the funder to allow funding for these things. It makes all the difference.

- The grant requirement that no funds be used to purchase a computer or other equipment is a problem. I ended up having to work at home during most of the writing of the Toolkit materials because the ancient free computer I received from the department just wasn’t up to the task.
Thank you to DPR

- We are deeply grateful to have had the opportunity to develop the Toolkits and to introduce and promote the idea of environmental health to ECE providers, an underpaid and under-resourced work force serving our nation’s most vulnerable citizens.
- We look forward to moving this effort forward. Building the Toolkits into a community college course on environmental health in ECE is a logical next step.
- Pressing the ECE community to include environmental exposures in quality ratings is another important piece of work that remains.