



Reducing Toxics in Child Care

BOBBI WILDING
CLEAN AND HEALTHY NEW YORK

What is Eco-Healthy Child Care®?

- ▶ National Program through Children's Environmental Health Network (CEHN)
- ▶ More than 1,800 endorsed facilities and 75,500 safer children
- ▶ www.cehn.org/ehcc



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Learning Objectives

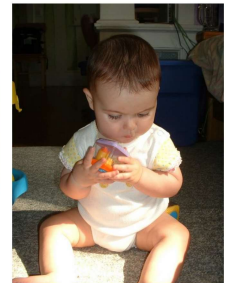
- ▶ Understand why children are more susceptible to chemicals in their environment.
- ▶ Learn the chemicals of concern that are found in the early childhood setting & what risk they may pose to health.
- ▶ Find & share practical and low-cost solutions and resources to create clean & healthy child care settings.

...And a couple caveats

- I'm not a doctor
- Context matters
- Small steps add up

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Chemicals and our Health: Overview



About Clean and Healthy New York

- ▶ Founded in 2006
- ▶ Focused on **protecting health** by **getting toxic chemicals out** of everyday things
 - ▶ **Policy** advocates (BPA, flame retardants, heavy metals)
 - ▶ **Market** campaigners (Getting Ready for Baby)
 - ▶ **Educators** (Over 600 child care providers trained to date)
 - ▶ **Collaborators** (partner with groups in NY, across US, and around the world)

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Environmental health: the outside world affects health

In our Environment

- ▶ Lead in drinking water
- ▶ Air pollution from cars
- ▶ Tobacco Smoke
- ▶ Chemicals in products

Potential health impacts

- ▶ Loss of IQ/learning developmental disabilities
- ▶ Asthma, heart disease
- ▶ Lung cancer
- ▶ The above, plus infertility, other cancers, obesity, diabetes

Cost just in New York, just for some diseases, just for children: \$4.35 billion annually (According to Mt. Sinai School of Medicine)

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How do the chemicals get in our bodies?

11

We ingest them –
swallow them



Prenatal exposures

absorb them –
through skin, mucus
membranes



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Children's Unique Vulnerability

18

- ▶ Their behavior – everything in their mouth, crawling
- ▶ Their consumption – more air, water, food
- ▶ Their development – first thousand days are critical
- ▶ Different environment: they're close to the ground, the air is different down there!



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Environmental Health- Chemical Regulation

12

- ▶ Constant & frequent chemical exposure
 - ▶ Over 84,000 chemicals in use
 - ▶ New technology & products
- ▶ Inadequate chemical testing & regulations
 - ▶ 1976 Toxic Substances Control Act (TSCA)
 - ▶ Insufficient update in 2016, implementation stalled
 - ▶ 250 EPA internal reviews, 5 banned

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Children are not little adults



- More **vulnerable** to harm from the exposure
 - ▶ Organ systems still developing
 - ▶ Metabolism and excretion not as efficient
 - ▶ Adults may suffer little or no harm from exposure to a chemical (lead, mercury, alcohol) when that same exposure can cause life-long damage to a child
- Early chronic exposures pose greater risk
 - ▶ Many years within which to become sick

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Why Focus on Children?

17



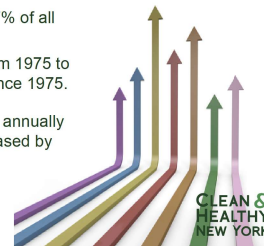
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Rates of health problems increasing

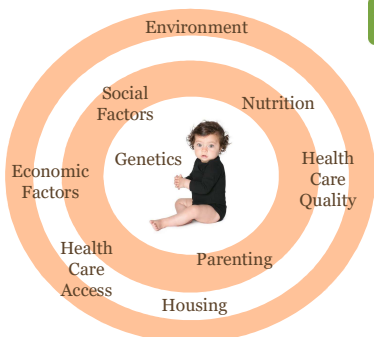
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- ▶ Developmental disabilities now affect nearly 7% of all kids ages 3-17 (Source: CDC 2017)
- ▶ Childhood cancer rates increased by 27% from 1975 to 2014. Leukemia has increased nearly 35% since 1975. (Source: National Cancer Institute)
- ▶ Childhood type 1 diabetes increased by 1.8% annually from 2002 to 2012, and type 2 diabetes increased by 4.8% annually.

(Source: National Institute of Health)



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Flame retardants

25

Made with bromine, chlorine, and phosphorous

Health problems

- ▶ Cancer
- ▶ Neurological problems
- ▶ Infertility
- ▶ Smoke from a fire is more toxic

Where you find them

- ▶ Nap mats
- ▶ Padded furniture
- ▶ Curtains
- ▶ Carpet padding
- ▶ Electronics



In 2017 the CPSC issued a warning to avoid organohalogen FRs in children's products, furniture, mattresses, and electronics

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Child Care Environments Matter

22



6 million US children below age 6 are enrolled at child care and preschool facilities and family child care programs, averaging 33 hours/week – up to 50 hours a week

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Formaldehyde

27

Health problems

- ▶ Eye and lung irritation
- ▶ Cancer

Where you find it

- ▶ Particle board cabinet and furniture
- ▶ Laminate flooring
- ▶ Permanent press drapes
- ▶ Plywood puzzles



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Key chemicals of concern

Among many that pose health risks

24



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Bisphenols... not just BPA

BPS, BPF, BPF, BPAF... hormone disruption

28

Health effects - BPA

- ▶ Diabetes
- ▶ Obesity
- ▶ Reproductive and developmental problems
- ▶ Infertility
- ▶ Cardiovascular disease

Where to find them

- ▶ Food can linings
- ▶ Baby bottles
- ▶ Teething rings
- ▶ Receipt paper
- ▶ Polycarbonate plastic (#7)



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Phthalates ("THAL-ates")

29

Health effects

- ▶ Hormone disruptor
- ▶ Asthma - trigger
- ▶ Asthma - cause
- ▶ Liver and thyroid harm
- ▶ Obesity

Where you find them

- ▶ Vinyl products
 - ▶ Toys made before 2008
 - ▶ Products for general population
- ▶ Flooring
- ▶ Wallpaper
- ▶ Wall decals
- ▶ Fragrances



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Recognize these toys?

35



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PFAS Per- and poly- fluorinated alkyl substances ("teflon chemicals")

30

Health effects

- ▶ Delayed puberty
- ▶ Higher cholesterol
- ▶ Reduced response to immunizations (source: US EPA)
- ▶ Some evidence points toward cancer

Where you find them

- ▶ Popcorn bags
- ▶ Couches and carpets
- ▶ Nonstick pans
- ▶ Food wrappers and dishes
- ▶ Fire-fighting foams
- ▶ Drinking water

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Pesticides



- Pesticides - designed to be poison
- Linger inside buildings
- Persist inside our bodies
- Can spread through air, seep into soil and water
- Residues commonly found in fruits, vegetables, and water
- Both inside and outside uses - major source of exposure
- 50% of the 2 million poisoning incidents/year: < 6 yrs



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Heavy metals

lead, mercury, cadmium, arsenic, antimony

31

Health problems

- ▶ Decreased IQ
- ▶ Brain disease
- ▶ Aggression
- ▶ Delayed puberty
- ▶ Heart disease
- ▶ Organ damage

Where you find them

- ▶ Toys before 2008
- ▶ Zipper pulls
- ▶ Jewelry kits
- ▶ Drinking water
- ▶ Fluorescent lights
- ▶ Old thermometers
- ▶ Old pressure treated wood

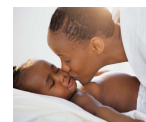


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Pesticide health effects



- Linked to:
 - Childhood leukemia
 - Parkinson's disease
 - Kidney, liver damage
 - Hormone disruption
- Pre-natal exposure linked to:
 - Smaller head circumference
 - Lower birth weight
 - 1.5 to 2-year developmental delay
 - Lower IQs



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Household Chemicals



- 84,000+ synthetic chemicals in commercial use today
 - Only a small fraction has been tested for toxicity
- Toxic to our health and to the environment
 - Indoor air unhealthy to breathe
 - Irritate the skin, lungs, and eyes
 - Harm the endocrine system
 - Pollute the natural environment



Flame retardants

44

Little steps

- ▶ Dust frequently and damp mop
- ▶ Maintain padded products (no raw foam exposed)
- ▶ Remove foam-based books, chairs
- ▶ Choose wood or aluminum blinds or no window covers
- ▶ Limit electronics

Big steps

- ▶ Replace nap mats with newer cots or mats that are FR-free
- ▶ Remove carpeting with padding – only use area rugs without padding underneath
- ▶ Limit polyurethane foam products



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Making child care healthier

SMALL STEPS AND BIG ONES

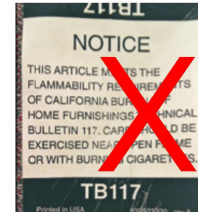
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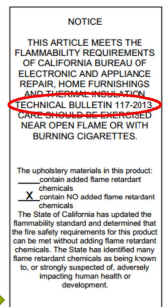
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What you can do--avoid these products

- Avoid polyurethane foam
- Avoid products with TB 117 label



Look for this label! →



How well is child care doing?



Few environmental health issues are addressed by:



- Professional development
- Accreditation Standards
- Quality Rating Systems
- Licensing Regulations

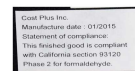
Exciting Progress!

Formaldehyde

46

Little steps

- ▶ Look for low-formaldehyde labels
- ▶ Let new particleboard air out for several weeks before putting near children
- ▶ Ventilate



Big steps

- ▶ Ask furniture makers if they are using formaldehyde-free composite board
- ▶ Choose solid wood when possible
- ▶ Choose solid wood flooring, or natural tile materials (linoleum is back!)



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Bisphenols

47

Little Steps

- ▶ Choose BPA-free cans for food
- ▶ Allow glass baby bottles
- ▶ Offer non-plastic teething options (frozen wash cloths, spoons, etc)
- ▶ Avoid receipt paper, don't let kids play with them

Big Steps

- ▶ Replace plastic blender with glass
- ▶ Replace plastic cups with polypropylene, glass, or stainless steel
- ▶ Replace clear plastic pitchers with polypropylene or stainless steel



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The choices and decisions we make DO make a difference

After 3 days of:

- ▶ Eliminating canned and packaged foods from the diet
- ▶ Using only glass or stainless steel food storage containers

Body burdens fell:

- ▶ BPA down 66%
- ▶ Phthalates down 53-56%



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Phthalates

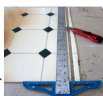
48

Little steps

- ▶ Remove pre-2008 vinyl toys
- ▶ Don't use products with "fragrance"
- ▶ Don't buy adult/general use vinyl items, they can still contain phthalates legally

Big steps

- ▶ Replace vinyl floors
- ▶ Don't use vinyl wall paper
- ▶ Don't put on vinyl siding



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Per- and poly-fluorinated alkyl substances (PFAS)

51

Little steps

- ▶ DIY microwave popcorn!
- ▶ Reusable dishes
- ▶ Replace non-stick cookware
- ▶ Beware of new "PFOA-free" non-stick— may not be PFAS-free

Big steps

- ▶ Remove stain-treated carpet, curtains, and furnishings
- ▶ Replace non-stick cookware



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Heating Milk

- Heat in a glass or porcelain container, then move to bottle
- OR-
- Heat over the stove, then move to bottle

Heating breast milk in the microwave with glass or porcelain does not work.



Heavy metals –Lead, etc.

52

Little steps

- ▶ Remove toys made before 2003
- ▶ Flush water taps until cold
- ▶ Cook with cold water
- ▶ Don't accept donated toys
- ▶ Treat old thermostats, thermometers, fluorescent lights as hazardous waste
- ▶ No adult costume jewelry for kids
- ▶ No adult keys, plumbing brass as toys

Big steps

- ▶ Test water for lead, take action



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More opportunities to make child care healthier

Tips from EcoHealthy Child Care®



Eco-Healthy Child Care®



What you can do



- Clear kitchen of food and keep bathrooms dry
- Fix leaks
- Food and trash away in closed containers
- Clean up crumbs...quickly!
- Seal potential entryways
 - Caulk cracks and holes
- Use pesticides only as a *last resort*
- Use least-toxic pesticide

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Candles and Air Fresheners

- Scented and Unscented Fragrances
 - These products contain multiple harmful chemicals which can include dangerous solvents and fragrances.
- Essential Oils
 - Some of them contain compounds that are skin and/or respiratory irritants to sensitive individuals.

No Smell is the Best Smell !!

What to do

- Provide good ventilation
- Use HEPA filters, and HVAC systems
- Place lemon slices in a dish of baking soda
- Work with children to create natural fragrances such as placing cloves into citrus fruits
- Simmering cinnamon sticks (on a back burner).



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Cleaning Products- What to Avoid

- ▶ Ammonia
- ▶ Bleach
- ▶ Nonylphenol ethoxylates (NPEs)
- ▶ Phthalates



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Pesticides- What Can I Do?

- ▶ Choose organic, and local foods as often as possible
- ▶ Wash your fruit with soap or vinegar spray

Clean Fifteen 2017 Highlights

EWG's Clean Fifteen: The Clean 15 lists include fruit and vegetables with the lowest pesticide concentrations. The following foods made the 2017 list:



Dirty Dozen 2017 Highlights

EWG's Dirty Dozen: The Dirty Dozen lists include fruit and vegetables with the most pesticide residues. The following foods made the 2017 list:



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Choose Safer Cleaning Products

- Safer cleaning products
 - less-toxic
 - environmentally safe
 - often cost the same as conventional cleaners
- Use EPA-Registered products for sanitizing and disinfecting



www.greenseal.org



www.ecologo.org



epa.gov/saferchoice



epa.gov/saferchoice



3rd party certifiers of products that are environmentally friendly and less toxic to human health.



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Caring for our children, 3rd edition



Appendix J



- Routine cleaning with detergent and water is the most useful method for removing germs from surfaces in the child care setting.
- However, some items and surfaces require an additional step after cleaning to further reduce the number of germs on a surface to a level that is unlikely to transmit disease.
- . . . the label instructions on most disinfectants indicate that the surface must be pre-cleaned before applying the disinfectant.



Bleach

- Sodium hypochlorite
 - New concentration- 8.25%
 - Mix and label daily
 - Drying time
- There are less toxic non-chlorine options
 - Peroxide-based bleach products
- EPA registered number

Fact

Bleach has been classified an asthmagens- something that can cause asthma.

| | |
|---|--------------------------------|
| | |
| The Clorox Company 1221 Broadway Oakland, CA 94612 Tel. (415) 271-7000 | |
| Product: | CLOROX REGULAR BLEACH |
| Description: | CLEAR, LIGHT YELLOW LIQUID |
| Other Designations | Dist |
| Clorox Bleach EPA Reg. No. 5813-50 | Clorox Co. 12211 Oakland |



What is the difference?

- Cleaning To physically remove all dirt and other organic contamination (dirt, sand, bugs, feces) by washing with soap/detergent and water solution and rinsing with water.
- Sanitizing To reduce germs on surfaces such as food contact surfaces, toys, and pacifiers to meet a specific health standard.
- Disinfecting To destroy most germs on non-porous surfaces.

Sanitizer and disinfectants are effective only if organic matter (dirt, crumbs, juice, sand, food) has been first cleaned from the surface/object with a soap/detergent, water solution and rinsed with water.

<http://bit.ly/ICS-disinfect>



What to do (continued)

- Store cleaning products, paints, and other household chemicals where children cannot reach them.
- Do not allow providers to bring in cleaning supplies from home
- Limit eating and drinking to assigned areas
- When cleaning
 - Keep screened windows open or use fans
 - Read and follow label instructions
 - Use products when children are not in the area
 - Don't mix products
 - Wear protective gear
 - Use chlorine bleach only when and where it is recommended by state and local authorities

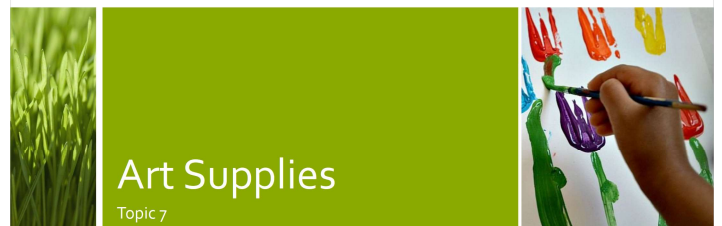
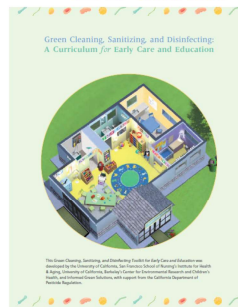


Not this



Green Cleaning Curriculum

- This Toolkit will help you answer these questions
 - Which products should be used to clean?
 - Which areas should be sanitized and which should be disinfected and how often?
 - What is the difference?
 - What sanitizing and disinfecting products are safe to use?
 - How do we comply with child care licensing regulations?
 - Can disinfectants make us sicker than the diseases they are meant to prevent?
 - Can I use bleach safely?
 - If a product says that it is "green," is it safe to use?



Art Supplies

Topic 7

Art Supplies



- Lead, asbestos and organic solvents
 - Used to enhance color
 - Used to preserve art products
 - Used to improve application
- These toxic ingredients can trigger
 - Asthma attacks
 - Allergies
 - Headaches
 - Nausea

Fact

- Not all toxic substances have a warning label.
- Products labeled as "non-toxic" may still pose a health hazard for children.

Tips for Safer Arts & Crafts



- Store and label all supplies properly
- Read labels and identify precautions
- Keep workspaces well ventilated
- No eating or drink
- Have children wear protective smocks and wash hands thoroughly
- Clean area mop or vacuum the floor

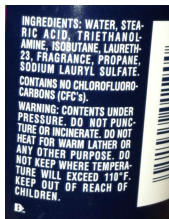
Be sure children are closely supervised when using household supplies (such as cotton balls or dried pasta noodles) as art materials to avoid ingestion or improper use.



Guess the Product



Shaving Cream



What you can do?



- ★ Look for the recycling code triangle on the bottom and avoid these:

○ "3" or "V" (PVC)

○ "6" "PS" (Polystyrene)

○ "7" "other" (polycarbonate)*



Products to Avoid

- Solvent based products
- Products that contain lead and other heavy metals
- Products that are not in original container or without proper labeling
- Products that can be inhaled, or get into children's eyes
- Commercial Dyes
- Instant Papier-mâché
- Permanent felt tin markers or scented markers



What to do

- Use water based supplies
- Use vegetable or food dyes
- Use newspaper papier-mâché
- Use supplies from Arts and Crafts Material Institute
www.acminet.org



EHCC & Provider Benefits

118

- ▶ Certificate, poster
- ▶ Posting on CEHN national website
- ▶ Eco-Healthy tips by e-mail
- ▶ Entered into Child Care Council Referral database



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121

Broader action to address chemicals in child care

GETTING READY FOR BABY
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124

How are they doing?



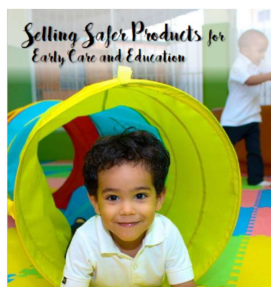
- **Best:** Community Playthings (retailer and manufacturer) has a comprehensive chemicals policy and selects materials that avoid toxics
- **Good:** Kids Advance Montessori avoids all flame retardants.
- **OK:** Kaplan Early Learning offers products meeting 8 certifications for being preferable.
- **A good step:** Constructive Playthings offers "Greenscape collection"

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122

Who's selling YOU stuff?

And are they making sure it's not made with toxic chemicals?



125

Companies selling to early care and learning should...

- Create a policy to screen out harmful chemicals
- Establish a timeline for implementation
- Make the policy, list of chemicals, and timeline public
- Establish clear and consistent way for consumers to identify products that are less toxic
- Require vendors to verify these claims



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123

Direct to you: early care and learning retailers

- 24 companies market specifically to early care and education programs
- They sell items you can't get at mainstream stores: cubbies, kid-sized chairs and tables, nap mats, play mats, etc.



126

Resources

- ▶ Clean & Healthy New York: www.cleanhealthyny.org
- ▶ EcoHealthy Child Care: www.cehn.org/ehcc
- ▶ JustGreen Partnership: www.just-green.org
- ▶ Getting Ready for Baby: www.gettingready4baby.org
- ▶ Informed Green Solutions for Green Cleaning: informedgreensolutions.org
- ▶ Safer Chemicals, Healthy Families: www.saferchemicals.org
- ▶ Healthy Stuff: www.HealthyStuff.org
- ▶ SkinDeep database: www.cosmeticsdatabase.org
- ▶ The Green Guide: www.thegreenguide.com

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Questions?



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Thanks for helping us keep children healthy & safe!

Bobbi Wilding
Deputy Director
518-708-3875
bobbi@cleanhealthyny.org
www.cleanhealthyny.org
Facebook and Twitter: @cleanhealthyny

More resources and fact sheets:
<https://cleanandhealthynyork.kbox.com/ChildCare>



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