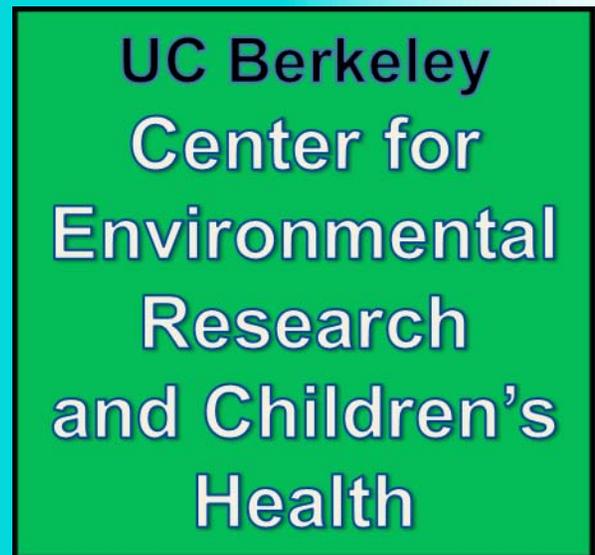


INTEGRATED PEST MANAGEMENT IN EARLY CARE & EDUCATION



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.



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OUTLINE OF PRESENTATION

- Survey results
- IPM Toolkit project goals and collaborative work
- What is the IPM Toolkit?
- Key messages
- Dissemination of IPM Toolkit
- IPM Checklist and Director Interview
- Preliminary results
- Lessons learned

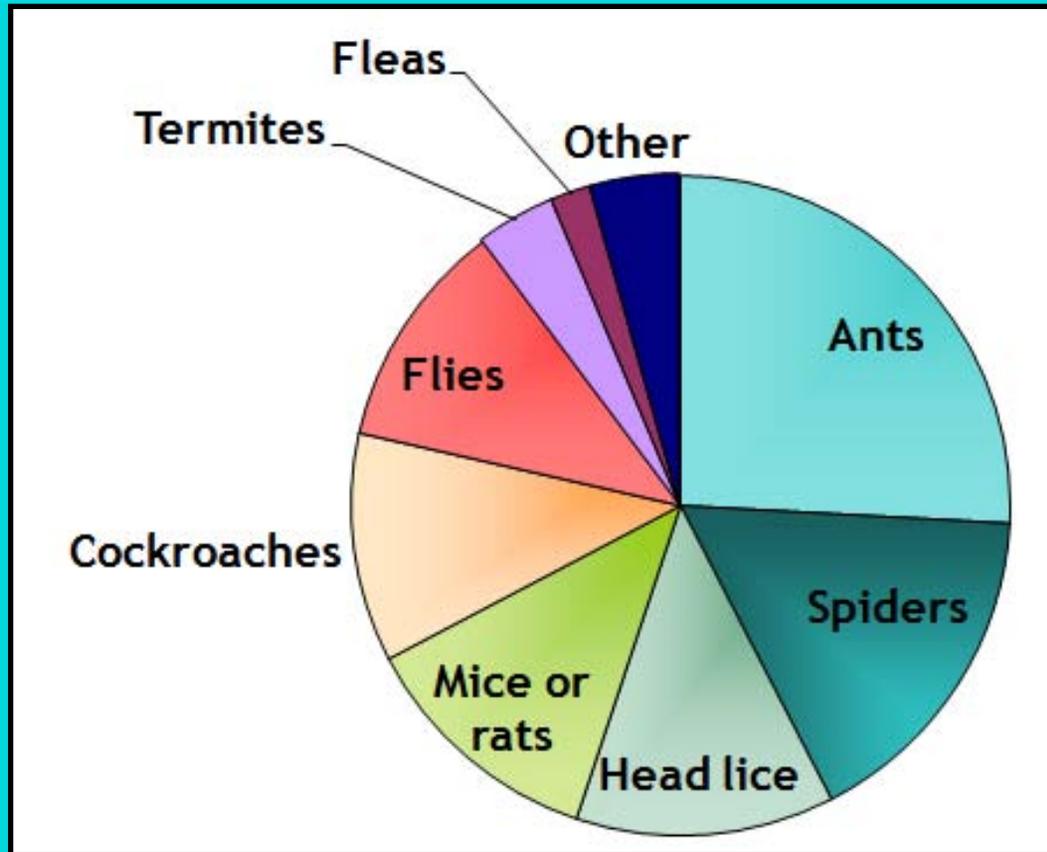


SURVEY : METHODS

- In 2008, the Center for Environmental Research and Children's Health (CERCH), in collaboration with the Department of Pesticide Regulation and UCSF California Childcare Health Program, conducted a study to identify pest problems and pest management practices in California's licensed child care centers.
- 2,000 randomly selected child care centers were mailed the survey.
- 637 centers completed the survey (32% response rate).



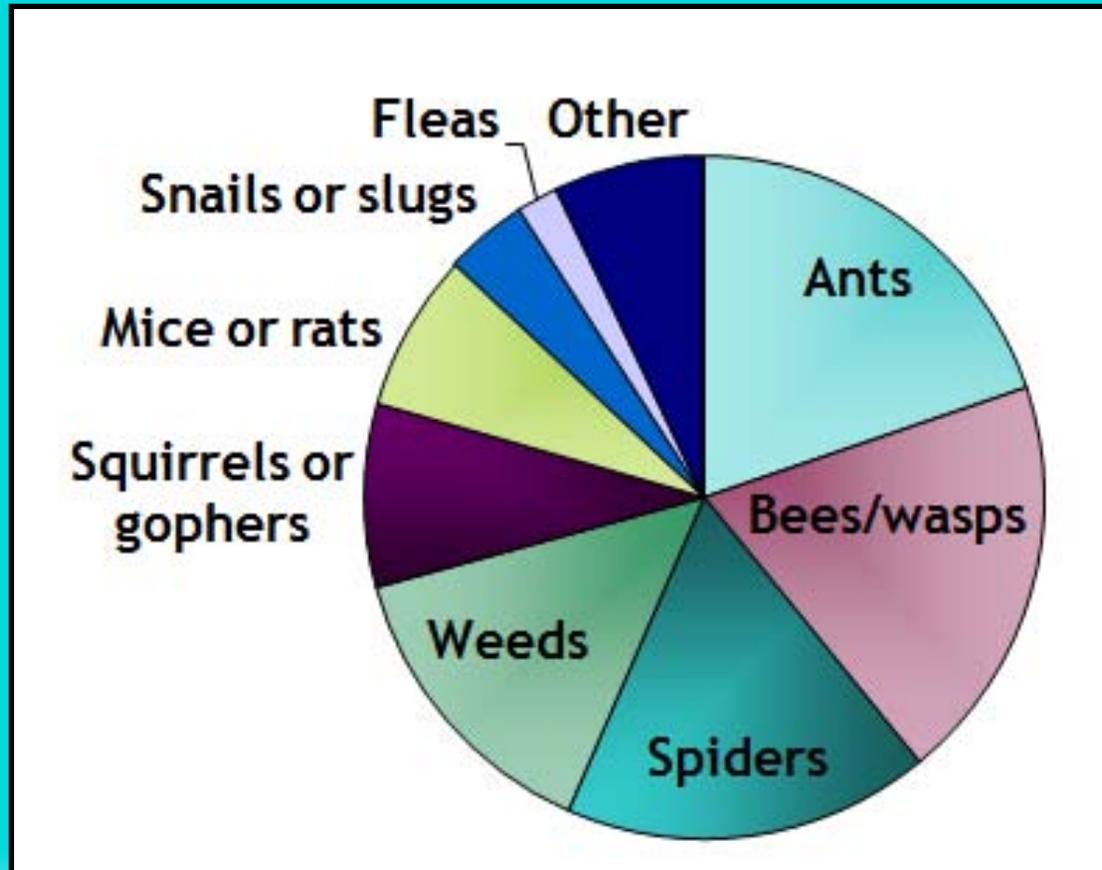
WHAT ARE THE MOST COMMON **INDOOR** PESTS IN CALIFORNIA CHILD CARE CENTERS?



Bradman, A., Dobson, C., Leonard, V. & Messenger, B. (2010). *Pest Management and Pesticide Use in California Child Care Centers*, Center for Children's Environmental Health Research, School of Public Health, UC Berkeley at apps.cdpr.ca.gov/schoolipm/childcare/pest_mgt_childcare.pdf.



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HOW COMMON IS PESTICIDE-USE?

California Child Care Pest Management Survey

Pest problem present	90%
Using any pesticides	55%
Using spray or fogger	47%
Using at least one IPM approach	65%
Aware of IPM	25%

Bradman, A., Dobson, C., Leonard, V. & Messenger, B. (2010). *Pest Management and Pesticide Use in California Child Care Centers*, Center for Children's Environmental Health Research, School of Public Health, UC Berkeley at apps.cdpr.ca.gov/schoolipm/childcare/pest_mgt_childcare.pdf.



MANAGEMENT TEAM PARTNERS

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Graphic Design: Robin Brandes

Illustrations: Noa Kaplan

Outside reviewers: National Center for Healthy Homes, PA IPM Program, DPH, US EPA, and others



PROJECT GOALS

- Develop an IPM Toolkit for Early Care and Education (ECE) centers in English and Spanish.
 - Informed by the DPR Child Care Survey
 - Support implementation of the Healthy Schools Act
- Conduct workshops in centers, present at statewide conferences, and disseminate to child care community.
- Develop an IPM Checklist and complete assessment in 10 centers before and after the workshops.



COLLABORATIVE WORK

- Management Team
 - Project Goals
 - Outline of IPM Toolkit
 - Key messages and terms
 - Review drafts of Curriculum, Notes, Fact Sheets, Posters
 - Coordinate text with illustrations and layout
- Alliance Team
 - Discuss key messages and content in IPM Toolkit
 - Elicit suggestions on format, key tables, terms
 - Review final drafts of Curriculum



IPM TOOLKIT

- IPM curriculum
- Complimentary materials
 - Health and Safety Notes (11)
 - Fact Sheets for Families (2)
 - Laminated Posters (4)
 - IPM Checklist
- Training presentation



IPM CURRICULUM: SECTIONS

- What is IPM?
- The Healthy Schools Act
- Pests: What you need to know
- Pesticides: What you need to know
- Understanding IPM Practices
- Implementing IPM in your ECE Program
- How to hire a pest management professional
- Glossary, Resources, Forms



COMPLIMENTARY MATERIALS

CCHP Health and Safety Notes

Ants	Mosquitoes
Cockroaches	Molds and Mildew
Rodents	Head Lice
Slugs and Snails	Sanitize Safely
Yellowjackets	Green Cleaning
Spiders	

Fact Sheets for Families

Head Lice	Ants
-----------	------

Laminated Posters

- Steps to a Pest-Free Indoor Environment
- Steps to a Pest-Free Outdoor Environment
- How to Read a Pesticide Label
- How to Chose a Safer Pesticide to Manage Pests

IPM Checklist



WORKSHOPS AT CENTERS: FORMAT

- Introduction/ Pre-Test
- Icebreaker
 - Puzzle: “Find Your Match”
 - What you want to learn today
- Skit: “Adventures of Super IPM”
- Slide presentation on curriculum
- ‘Show and Tell’: Giftbox of IPM tools
- Wrap-up: “Curious Cabbage”
- Questions/ Post-test



IPM WORKSHOP OBJECTIVES



1. Explain California's Healthy Schools Act.
2. Define what is a pest, what is a pesticide and what is integrated pest management.
3. Explain why children are vulnerable to the health risks of pesticides.
4. Describe the health effects for children and staff exposed to pesticides and common pests.



OBJECTIVES:

5. Identify simple and inexpensive IPM methods to prevent or manage common pests.
6. Inspect your child care facility for the presence of pests or conditions that attract pests using the IPM Checklist.
7. Develop and implement IPM policies and practices in your program.
8. How to hire a Pest Management Professional
9. Share IPM information and resources with staff and parents.



HEALTHY SCHOOLS ACT (HSA)

The HSA requires that all child care centers:

- **Keep records** about pesticide use;
- **Maintain a registry** of people to notify when pesticides are used;
- **Notify** parents and staff before pesticides are applied and
- **Post warning signs** in areas where pesticides will or have been applied.



HEALTHY SCHOOLS ACT

The HSA encourages centers to:

**USE IPM
METHODS**

- Keep pests out!
- Remove their access to food, water and shelter

**USE EXEMPT
PESTICIDES**

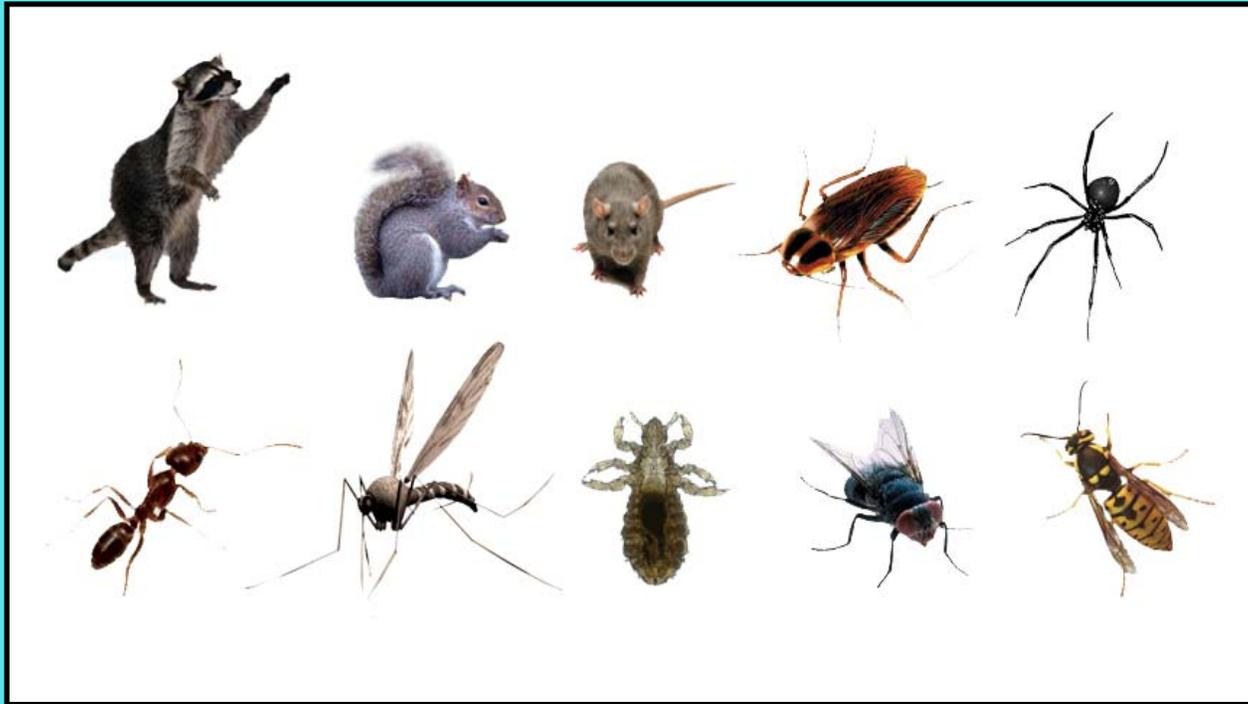
- bait stations
- gel/paste in cracks/crevices
- exempt materials (e.g. mint oil)
- cleaners/sanitizers

AVOID use of
nonexempt
pesticides

- sprays
- foggers



WHAT IS A PEST?



A pest is any living organism that causes damage or discomfort, or transmits or produces disease.



WHAT ARE PESTICIDES?



Examples:

- Roach and ant spray
- Flea bombs
- Rat poison
- Weed killer
- Mothballs
- Insecticide chalk

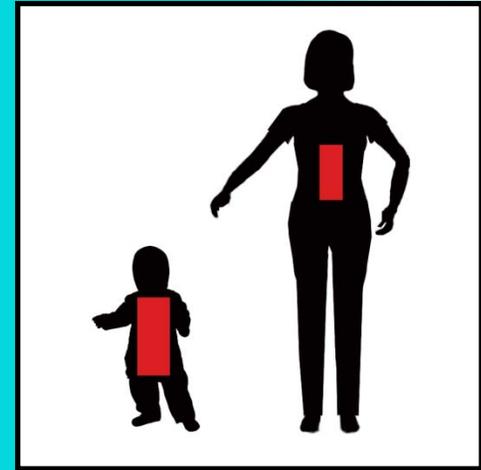
Pesticides are **poisons** that are designed to kill or control living things.



WHY ARE CHILDREN MORE VULNERABLE?

Higher exposures

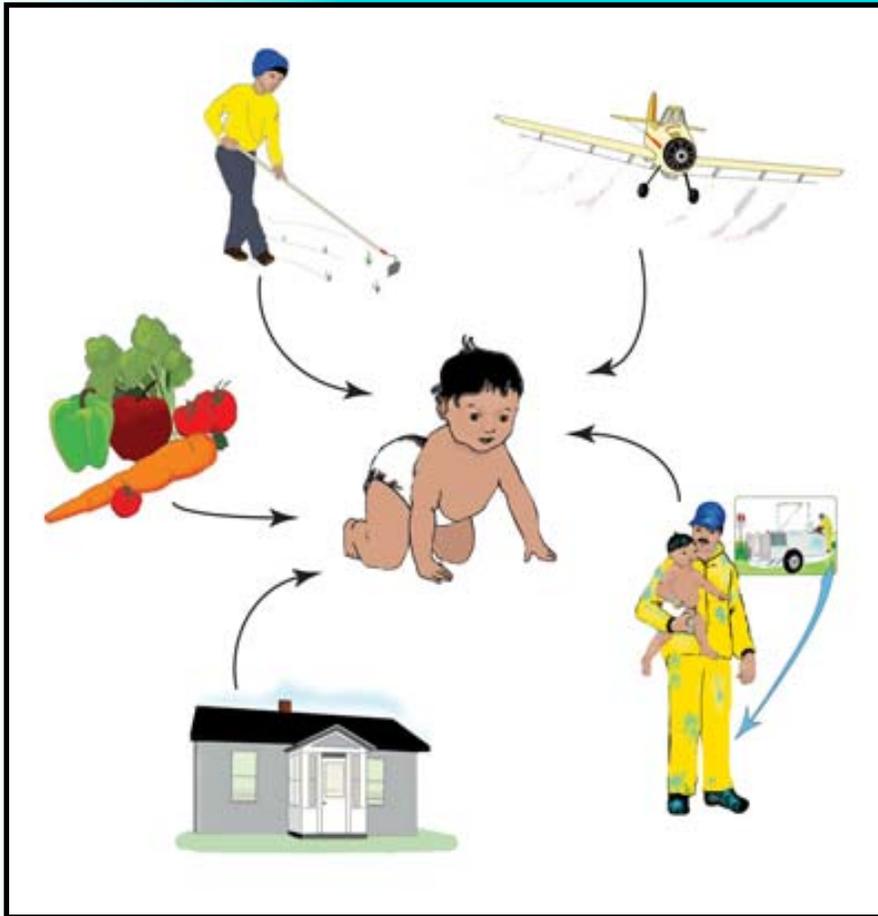
- Frequent contact with the ground or floor, where pesticides collect
- Hand-to-mouth activity
- Eat, drink, and breathe more per kg
- Less varied diet
- Spend most of their time indoors



If a pesticide is present in the air, food or water, a greater amount will be taken in by a child in proportion to their body size or weight than by an adult.



WHAT ARE THE PATHWAYS OF EXPOSURE FOR CHILDREN?



1. By eating
2. By breathing
3. Through skin
4. Across the placenta (in the womb)



WHAT IS INTEGRATED PEST MANAGEMENT (IPM)?

A “common-sense” approach to:

- **Preventing pest problems**
by

1. keeping pests out and
2. getting rid of their food, water, and shelter.

- **Managing pest problems**
by

1. using non-chemical approaches;
2. using least-toxic pesticides when necessary and
3. reducing the use of harmful pesticides.



IPM NUTS & BOLTS



1. Prevention



- Keep Pests Out
- Remove Pest's Food, Water & Shelter

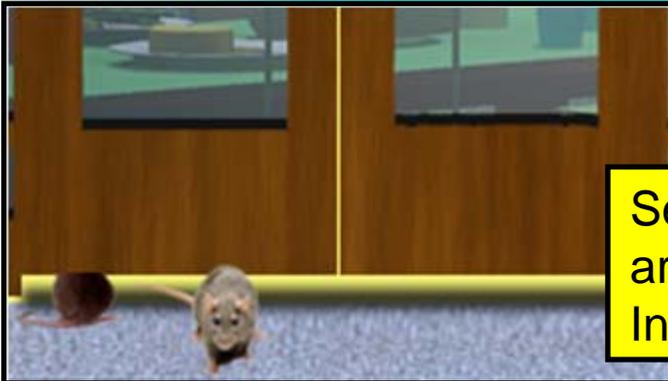
2. Inspect and Monitor

3. Identify Pests

4. Manage Existing Problems



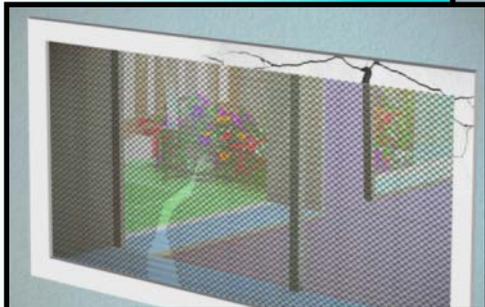
PREVENTION: KEEP PESTS OUT



Seal or block gaps
around doors
Install doorsweeps



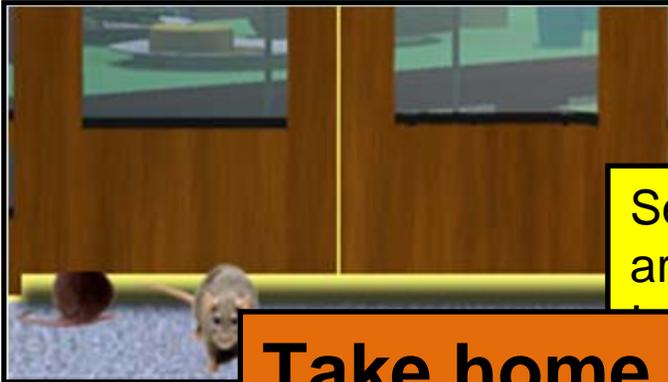
Seal gaps around pipes



Patch holes in screens

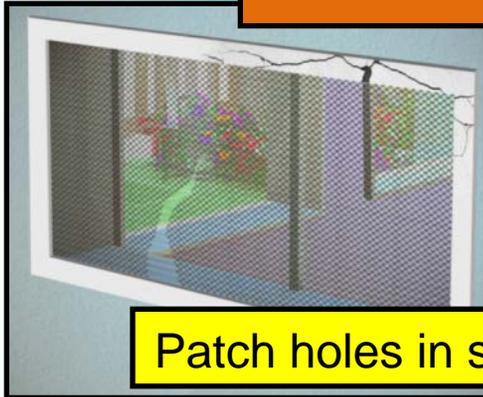


PREVENTION: KEEP PESTS OUT



Seal or block gaps around doors

Take home message: Close off entryways so pests can't get into your facility in the first place!



Patch holes in screens



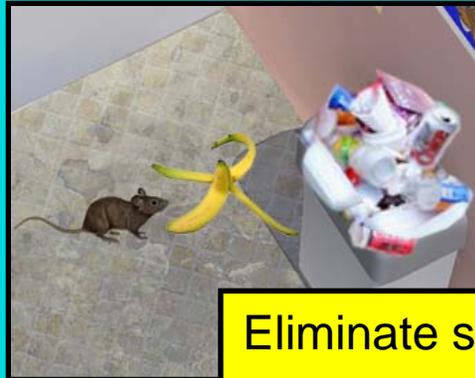
Seal gaps around pipes



PREVENTION: REMOVE PESTS' FOOD & WATER



Clean up food before pests are attracted to leftovers



Eliminate sanitation & garbage problems



Eliminate standing water, clogged sinks & leaking faucets



Store food & art supplies in sealed containers



PREVENTION: REMOVE PESTS' FOOD & WATER



Clean up food
are attracted to

Take home message: Pests need food and water to survive. Take away their access to these things, and you're taking away their diet!

Eliminate standing water,
clogged sinks & leaking
faucets



Store food & art supplies
in sealed containers



INSPECTION



Use the IPM Checklist to look for:

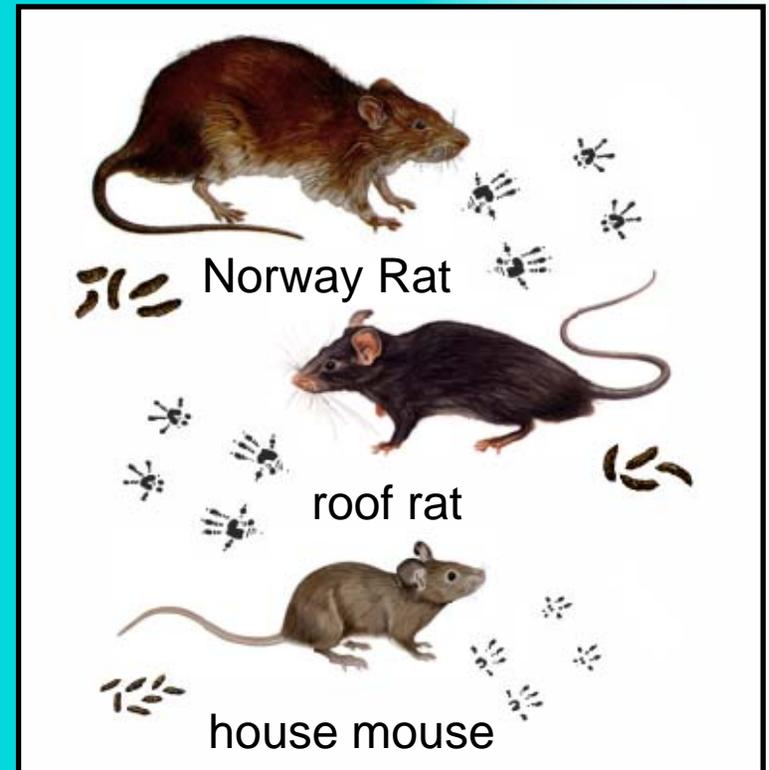
- pests;
- signs of pests and their damage and
- conditions that might attract pests.





IDENTIFICATION

- The next step is to identify what kind of pest you have.
- Use Health & Safety Notes to understand pests' lifecycle, food and shelter.
- The statewide IPM program is a great resource:
<http://www.ipm.ucdavis.edu>



MONITORING

- Regularly inspect the facility for pests and pest damage.
- Identify sources of food, water and shelter that might attract pests.
- Identify where pests are living and breeding.
- Determine if and when treatment is needed.
- Assess whether current actions are working.



MANAGEMENT

Often you can manage pests without using chemicals.
IPM-recommended techniques include:

Prevention

Vacuum to remove pests

Wash areas with soap and water

Place traps

<http://reviews.walgreens.com/2001/prod3447245/koolatron-mini-bug-vacuum-1ea-reviews/reviews.htm>



IMPLEMENTING IPM IN YOUR CENTER

1. WRITE AN IPM POLICY.

2. DESIGNATE AN IPM COORDINATOR.

3. PROVIDE TRAINING FOR STAFF AND PARENTS.

4. OBTAIN INFORMATION FOR ANY OUTSIDE CONTRACTORS.

5. IF NEEDED, HIRE A PMP THAT HAS IPM EXPERIENCE AND KNOWS ABOUT THE HS A REQUIREMENTS.



IMPLEMENTING IPM IN YOUR CENTER (II)

6. IF YOU HAVE A PEST PROBLEM, INSPECT BUILDINGS AND GROUNDS FOR SOURCES OF INFESTATIONS AND CONTRIBUTING CONDITIONS.

7. ESTABLISH PEST MONITORING PROCEDURES.

8. IDENTIFY ANY PESTS FOUND AND CREATE AN IPM ACTION PLAN FOR EACH PEST YOU FIND IN YOUR ENVIRONMENT.

9. ESTABLISH RECORD KEEPING.

10. EVALUATE THE PROGRAM ON A REGULAR BASIS.



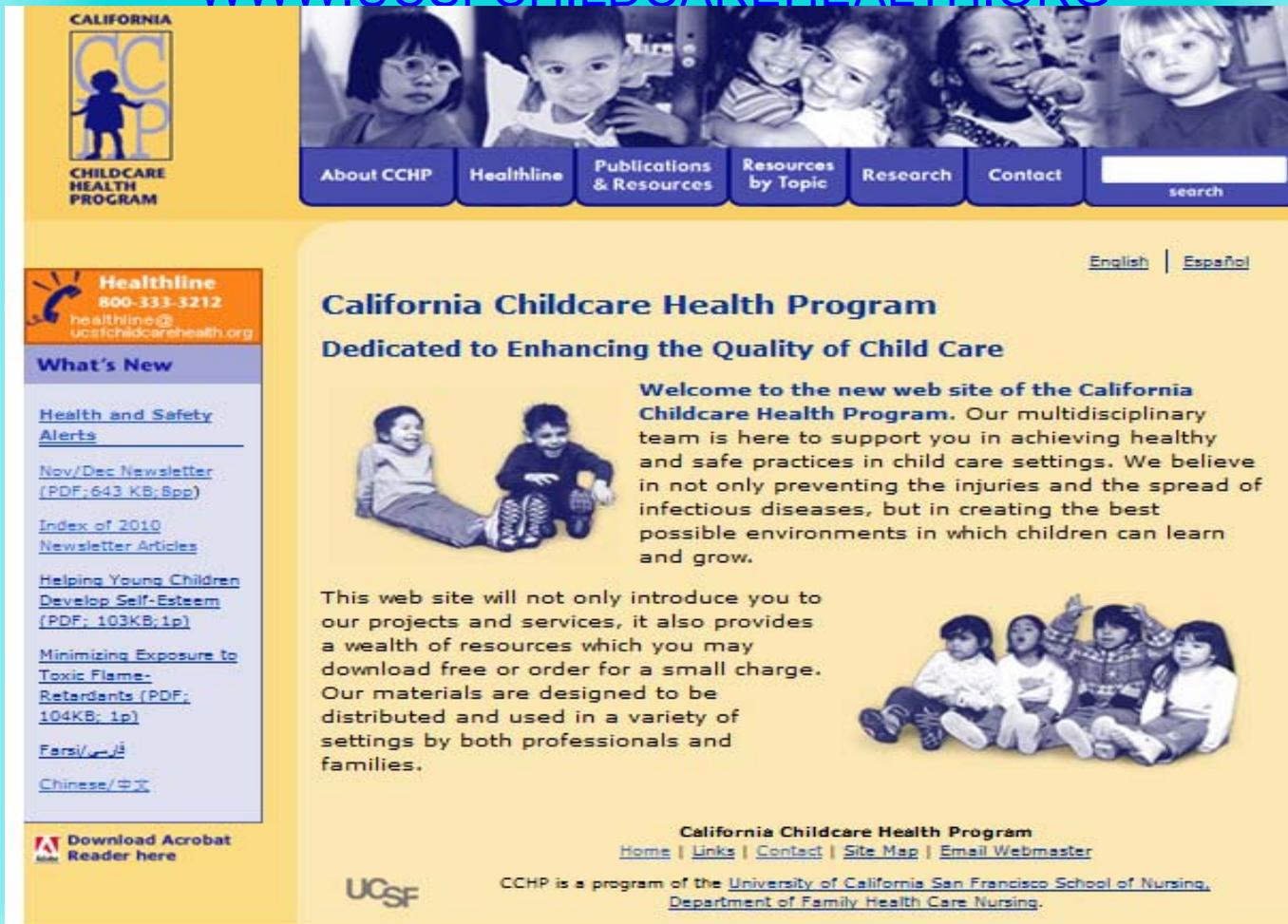
DISSEMINATION

- Child Care Center Workshops (n=10)
- Child Care Professional Conferences
 - Statewide Resource and Referral Conference, Oct, 2010
 - Head Start Health Institute, April, 2010
 - CAEYC, April, 2010
 - NAEYC, Nov., 2010
- CCHP Website
 - Curriculum page
 - English and Spanish
- Direct Mailings
 - Resource and Referral Agencies (n=56)
 - Centers



DISSEMINATION: CCHP 'S WEBSITE

WWW.UCSFCHILDCAREHEALTH.ORG



The screenshot shows the homepage of the California Childcare Health Program website. At the top left is the CCHP logo, which features a stylized 'CCHP' and the text 'CALIFORNIA CHILDCARE HEALTH PROGRAM'. To the right of the logo is a navigation menu with buttons for 'About CCHP', 'Healthline', 'Publications & Resources', 'Resources by Topic', 'Research', and 'Contact'. A search bar is located to the right of the 'Contact' button. Below the navigation menu is a banner image of diverse young children. The main content area has a yellow background and features the text 'California Childcare Health Program' and 'Dedicated to Enhancing the Quality of Child Care'. A welcome message states: 'Welcome to the new web site of the California Childcare Health Program. Our multidisciplinary team is here to support you in achieving healthy and safe practices in child care settings. We believe in not only preventing the injuries and the spread of infectious diseases, but in creating the best possible environments in which children can learn and grow.' Below this text is an image of two children sitting on the floor. To the right of the text is another image of four children sitting together. A sidebar on the left contains a 'Healthline' section with the phone number 800-333-3212 and an email address healthline@ucsfchildcarehealth.org. Below this is a 'What's New' section with links to 'Health and Safety Alerts', 'Nov/Dec Newsletter (PDF; 643 KB; 8pp)', 'Index of 2010 Newsletter Articles', 'Helping Young Children Develop Self-Esteem (PDF; 103KB; 1p)', and 'Minimizing Exposure to Toxic Flame-Retardants (PDF; 104KB; 1p)'. At the bottom of the sidebar are links for 'Farsi/فارسی' and 'Chinese/中文'. A download icon for Adobe Acrobat Reader is also present. At the bottom of the main content area, there is a footer with the UCSF logo and the text: 'CCHP is a program of the University of California San Francisco School of Nursing, Department of Family Health Care Nursing.' Navigation links for 'Home', 'Links', 'Contact', 'Site Map', and 'Email Webmaster' are also provided.



INTEGRATED PEST MANAGEMENT TOOLKIT FOR EARLY CARE AND EDUCATION PROGRAMS

[Fact Sheets for Families](#)

[Forms](#)

[Health & Safety Notes](#)

[Illness Sheets](#)

[Newsletter](#)

[Public Policy](#)

[Survival Tips Posters](#)

[Training Curricula](#)

Ordering a publication?
Download our form.

 Download Acrobat
Reader here

Training curricula are designed for the training of early care and education professionals by qualified trainers. Each curriculum stands on its own and has its own educational objectives and handouts. They are simple to use, and the subjects can be taught easily through instructions and suggestions provided in the trainer sheets.

- **[Integrated Pest Management: A Toolkit for Early Care and Education Programs](#)**

This *Integrated Pest Management Toolkit for Early Care and Education Programs* presents practical information about using integrated pest management (IPM) to prevent and manage pest problems in early care and education programs.

The toolkit includes the following:

[A curriculum booklet, Integrated Pest Management: A Curriculum for Early Care and Education Programs \(pdf; 3.45mb; 44pp\)](#)

- [Introduction](#)
- [What is integrated pest management \(IPM\)](#)
- [The Healthy Schools Act](#)
- [Pests: What you need to know](#)
- [Pesticides: What you need to know](#)
- [Understanding IPM Practices](#)
- [Implementing IPM in your ECE Program](#)
- [How to hire a pest management professional](#)
- [Glossary](#)
- [Resources](#)
- [Appendices](#)

[Complimentary materials](#)

- [Health and Safety Notes on individual pests](#)
- [Fact Sheets for Families](#)
- [Posters](#)
- IPM Checklist
- Slide Presentation



IPM CHECKLIST: ENVIRONMENTAL ASSESSMENT

- Rating: Yes, No, Not applicable
- Outdoor (n=# items)
 - Garbage storage (n=5)
 - Building exterior (n=6)
 - Landscape and play area (n=11)
- Indoors (n= # items)
 - Kitchen (n=14)
 - Bathrooms (n=5)
 - Common space, play area, eating area (n=10)
 - Storage area (n=5)
 - Staff area (n=8)
- Evidence of pests (by area and pest)



DIRECTOR/ SITE SUPERVISOR INTERVIEW

- Demographics
 - Director
 - Staff
 - Children
 - Custodial staff
- Building maintenance
 - Outdoor
 - Indoor
- Pesticide use/IPM practices
 - Policies
 - IPM practices



PRELIMINARY RESULTS



CHECKLIST: OUTDOORS (N= 6 CENTERS:



Garbage Storage **YES/# NO)**

Garbage receptacles seal properly (n=5/6)

Receptacles on hard, cleanable surface (5/6)

Evidence of **ants** (n=1/6)

Building Exterior

Walls, roof or foundation free of holes or cracks
(n=2/6)

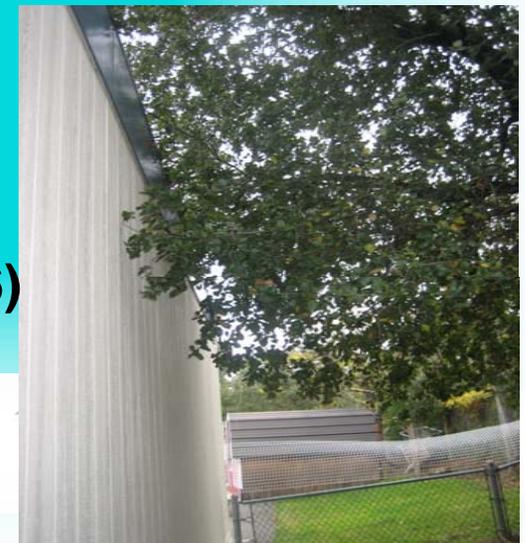
Exterior doors have sweeps, weatherstripping
(n=3/6)

Landscape and Play Area

Plants at least 12" away from building (4/6)

Free of ivy and other vines (n=3/6)

Equipment & toys free of standing water (n=4/6)



CHECKLIST: INDOOR (N=6 CENTERS

Kitchen

#YES/#NO)

Food stored in tightly sealed containers
(n=4/5)

Trash containers have lids (n=5/6)

Evidence of **cockroaches** (n=1/6)

Evidence of **flies** (n=1/6)



Bathrooms

Gaps between pipes, vents, walls
sealed or screened (n=3/6)

Cracks, crevices around cabinets, mirrors sealed or plugged
(n=3/6)



Storage Area

Clean, organized, free of clutter (n=1/6)

Mops and buckets clean, dry or hung
upside down (2/5)



WORKSHOP: KNOWLEDGE CHANGE

10 Items	Pretest	Posttest
# participants	72	75
# sites	6	6
<hr/>		
% Correct		
Total	71%	71%
English	79%	82%
Spanish	52%	47%



KNOWLEDGE CHANGE: HSA

The Healthy Schools Act applies to California's K through 12 schools and

a. Licensed child care centers only

b. Licensed family day care homes only

c. Child care center, family day care homes, and informal care

Improved knowledge from pre-test (28%) to post-test (48%)*

* $p < .05$



FEEDBACK FROM CENTER DIRECTORS

Workshop feedback: Head Start director said “... we are all just really impressed and grateful for the insight that was shared. I wanted to talk to you about an opportunity at the CA Head Start Association ... Thank you so very much, we’re still talking about the great work that came out of this and interested in connecting around this more...”

IPM Checklist: “Thank you for your thorough check of our facility. I have made a hard copy of the information sent. I will share it with the staff.”



LESSONS LEARNED: CHILD CARE

- Literacy level of written materials, presentations, and pre-post- tests
- Lack of knowledge about IPM
- New area of interest for child care providers, directors
- Directors do not know a lot about building and maintenance issues
- Enthusiasm for learning and want to know more



WHAT WE NEED TO DO

- Workshops (n=2)
- Spanish Translation of IPM Toolkit
 - Back translation
 - Formatting and printing
- Checklist: Final Formatting
- Post-workshop: Checklists and Director Interviews (n=8)
- Follow-up: Review Post-Workshop Checklist Findings
- DPR Final Report

