

# DEVELOPING AN IPM PROGRAM TO REDUCE THE EXPOSURE TO PESTICIDES FOR YOUNG CHILDREN IN FAMILY CHILD CARE HOMES



Pest Management Advisory Committee Meeting  
November 10, 2016



# ACKNOWLEDGMENTS

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## Alliance Team Partners

- UC, Berkeley Center for Environmental Research and Children's Health, CA Resource and Referral Network, Alameda Healthy Homes, Alameda Family Child Care Network

# OUTLINE

- Grant Overview and Background
- Phase I: Focus Groups
- Phase II: Toolkit Development & Dissemination
- Phase III: Pilot Intervention
- Next Steps & Lessons Learned



# GOAL AND OBJECTIVES

**Goal:** To reduce the exposure of pesticides for young children attending licensed family child care homes (FCCHs) by providing an IPM program for FCCH providers.

## **Objectives:**

- Identify the needs of FCCHs to modify the IPM Toolkit developed for child care centers.
- Develop an IPM Toolkit for FCCHs in English and Spanish.
- Conduct and evaluate an IPM intervention program in 21 FCCHs.
- Disseminate the FCCH IPM Toolkit.



# BACKGROUND

- There are 30,701 licensed family child care homes in CA serving 312,277 children (California Child Care Resource & Referral Network, 2014).
- Family child care homes are not covered by Healthy Schools Act (AB 2865).
- State licensing regulations for FCCHs cover storage of pesticides, but not pesticide use or IPM practices.



# PESTICIDES AND CHILDREN'S HEALTH

- Young children are more vulnerable to the harmful effects of pesticides than adults.
- Indoor low-level pesticide exposure for children is associated with serious adverse health problems.



# PHASE I: FOCUS GROUPS

- Conduct focus groups with 19 FCCH providers in three regions (Bay Area, Stanislaus County, Santa Cruz County)
- Purpose: Identify key themes about IPM practices, knowledge, and needs



# FOCUS GROUP DEMOGRAPHICS

	Respondents (n=19)
<b>Race/Ethnicity</b>	Latino/Hispanic: 68% African American: 21% Caucasian/White: 11%
<b>Education</b>	High School/GED: 11% Some college: 63% College graduate or more : 26%
<b>Is the FCCH</b>	Yes: 100% (n=19)





# FOCUS GROUP RESULTS

- Most frequent pests problems
- Pest management practices
- Pest management information
- Toolkit format



# PHASE II: TOOLKIT DEVELOPMENT

- Convene interdisciplinary Alliance Team
- In-depth revision of content
- Pilot test in two FCCHs
- Revise and edit
- Translate into Spanish
- Dissemination



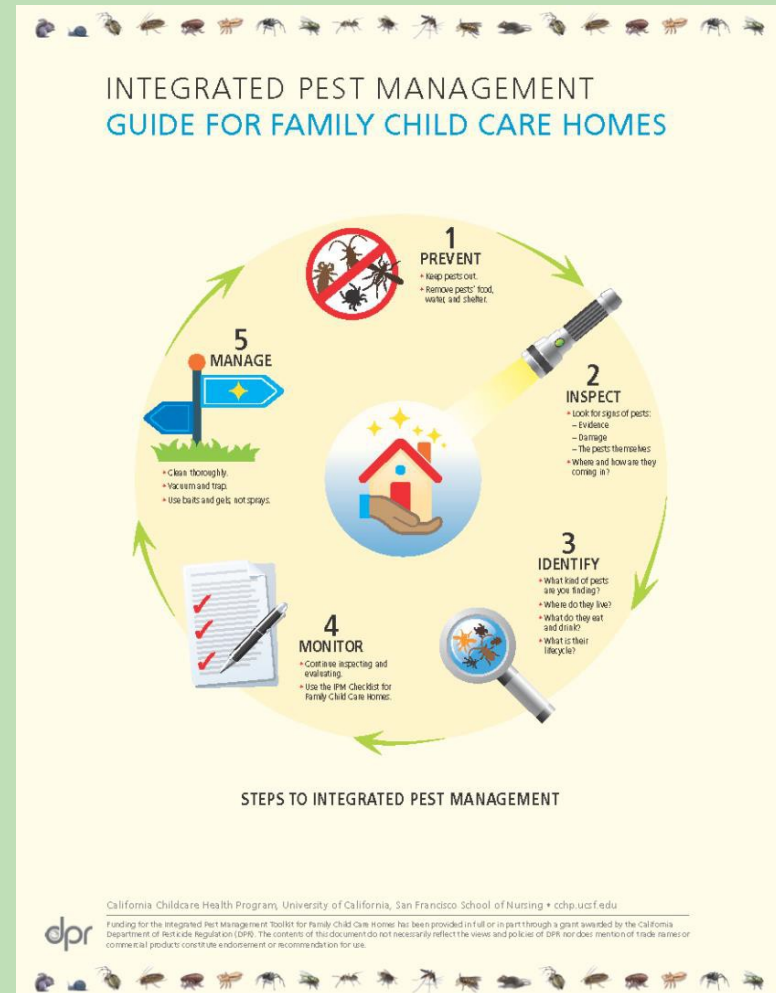
# COMPONENTS OF IPM TOOLKIT

- Integrated Pest Management (IPM) Guide for Family Child Care Homes
- IPM Checklist for Family Child Care Homes
- IPM Handouts for Family Child Care Homes



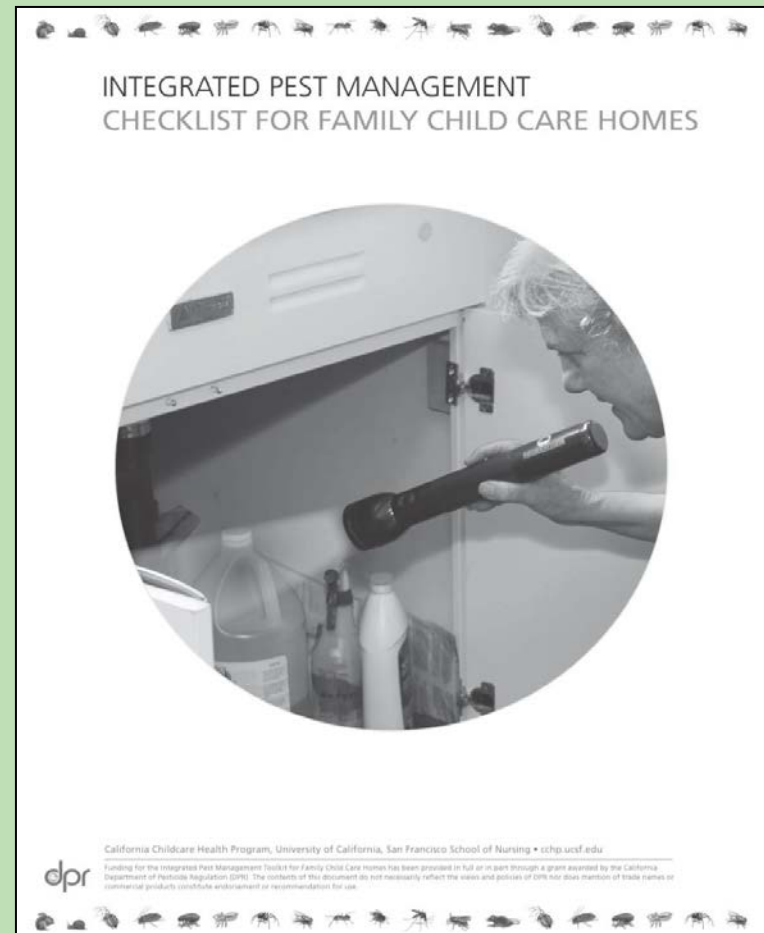
# IPM GUIDE FOR FCCHS

- What is IPM?
- What are Pests?
- What are Pesticides?
- Steps to IPM
  - Prevention
  - Inspection
  - Identification
  - Monitoring
  - Management
- Glossary



# IPM CHECKLIST FOR FCCHS

- 66 items
  - Rating: yes, no, not applicable
  - Comments
- Subscales
  - Outdoor Area
  - Indoor Area
- Pests or evidence of pests
- Action Plan



# IPM HANDOUTS (N=23)

- Ants
- Bed bugs
- Cockroaches
- Caring for your outdoor environment
- Dust
- Fleas
- Flies
- Gophers
- Green cleaning, sanitizing and disinfecting
- Ground squirrels
- Head lice
- How to choose a pesticide
- How to read a label
- IPM policy
- Mold
- Mosquitoes
- Pinworms
- Rats & mice
- Resources
- Scabies
- Spiders
- What to know about the HSA
- Yellowjackets



# DISSEMINATION: CHILD CARE INITIATIVE PROJECT (CCIP) TRAININGS

- 4 Regions FY 2015-2016
  - Northern CA: Chico
  - Southern CA: Studio City
  - Central Valley: Visalia
  - Bay Area: Oakland
  
- 112 CCIP Participants
  - Train 3,690 child care providers/ last year



# DISSEMINATION

- American Academy of Pediatrics (AAP)
  - Council on Early Childhood listserv
  - National conference – poster presentation
- American Public Health Association (APHA) Child Care Committee listserv
- CA Child Care Resource and Referral Network
- California Licensing Quarterly Update (Winter)
- Center for Environmental Research and Children's Health (CERCH), UC Berkeley website
- Eco-Healthy Child Care social media
- Head Start
  - Head Start Region 9 Health Cluster Meeting
  - California Head Start Association Listserv
- Western IPM Center newsletter





# CCHP.UCSF.EDU

The screenshot shows a web browser window with the address bar displaying 'cchp.ucsf.edu'. The page header includes the UCSF logo and 'University of California San Francisco'. Navigation links include 'Content', 'Structure', 'Appearance', 'People', 'Modules', 'Configuration', and 'Reports'. A user profile 'bobbie' is visible in the top right. The main navigation menu contains 'Home', 'About', 'Resources', 'Topics', 'Research', and 'Contact'. The main content area features a large image of a smiling child wearing glasses. A purple overlay on the left contains the text: 'Dedicated to Enhancing the Quality of Child Care' and 'This website will introduce you to our projects and services.' The Windows taskbar at the bottom shows various application icons and the system clock indicating 9:20 AM on 11/8/2016.



# CCHP.UCSF.EDU – IPM FOR FCCH



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Family child care homes are unique because they are a workplace, a home, and a place for children, from infancy to school-age, to learn and grow. The following resources are about health and safety in family child care homes. These resources are written specifically for family child care providers and the families they serve. Other helpful health and safety information can be found on the CCHP website by clicking the Resources tab or by using the Search window. The materials are available in English and Spanish and are free to download.

### Integrated Pest Management Toolkit for Family Child Care Homes

The *Integrated Pest Management (IPM) Toolkit for Family Child Care Homes* provides practical information about using IPM to keep pests out and manage pest problems in family child care homes. It includes:

- *Integrated Pest Management Guide for Family Child Care Homes*: a summary of key information about pests, pesticides, and IPM practices;
- *Integrated Pest Management Checklist for Family Child Care Homes*: an assessment tool to identify where pests enter, find food and water, and seek shelter in family child care homes;
- *IPM Handouts for Family Child Care Homes*: a collection of resources to help implement IPM such as individual pest sheets, a sample IPM policy, information on green cleaning practices, and IPM for the outdoor environment;
- *IPM Presentation for Family Child Care*: a PowerPoint slide presentation about IPM that can be used for home study, educational programs, or workshops.

ENGLISH	SPANISH
<a href="#">IPM Guide for Family Child Care Homes</a>	<a href="#">Guía de manejo integrado de plagas para cuidado infantil hogareño</a>
<a href="#">IPM Checklist for Family Child Care Homes</a>	<a href="#">Manejo integrado de plagas lista de control para cuidado infantil hogareño</a>
<a href="#">IPM Handouts for Family Child Care Homes</a>	<a href="#">Los folletos de IPM para cuidado infantil hogareño</a>
<a href="#">IPM Presentation for Family Child Care Homes</a>	<a href="#">IPM Presentación en español</a>

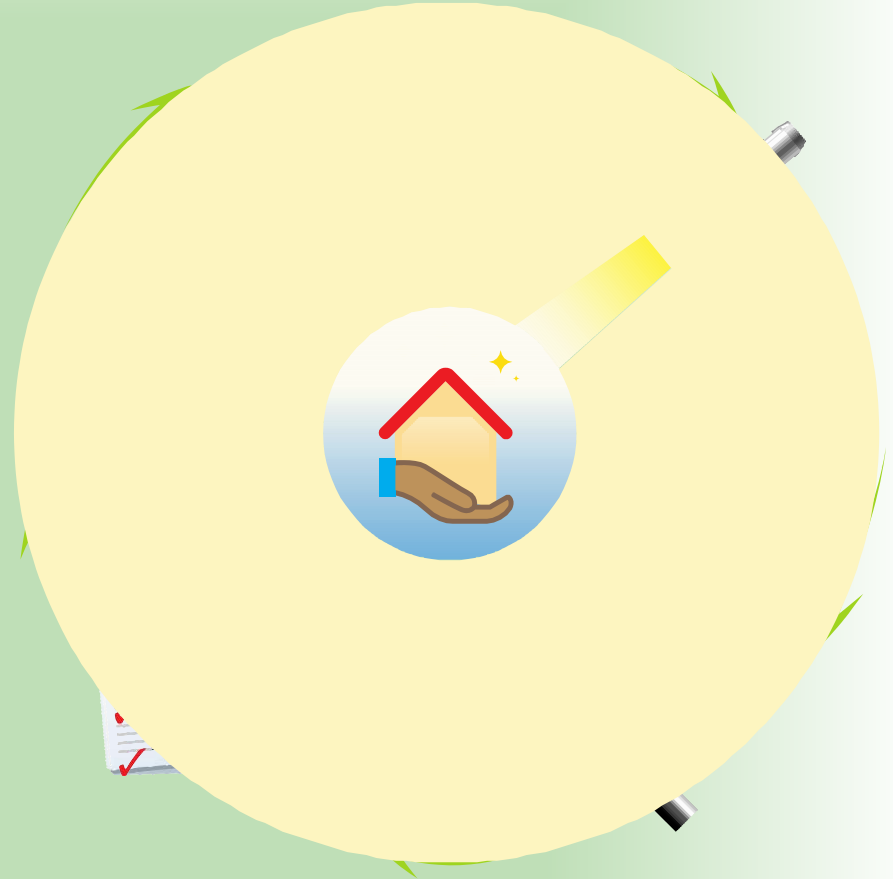
# PHASE III: INTERVENTION PROJECT

- Conduct pilot study of the IPM intervention in 21 FCCHs
- **Child care health consultants provide:**
  - Educational IPM workshop
  - IPM assessment
  - Monthly consultation for 6 months



# IPM WORKSHOP

- Pests
- Pesticides
- Integrated Pest Management (IPM)
- Group Activity:  
Pest Scenarios  
with Pest Sheets



# TOOLBOX

- Flashlight
- Ant bait stations(8)
- Roach gel
- Caulk and caulking gun
- Microfiber duster
- Fly swatter
- Yellowjacket trap
- Clear storage container



# INTERVENTION MEASURES

Measures	Pre-	Post-
Demographic Survey	X	NA
IPM Knowledge Survey	X	NA
Director Interview	X	X
IPM Checklist	X	X



# FCCH PROVIDER DEMOGRAPHICS

- Average age = 48 years
- Average years worked in child care = 15
- Average work hours/week = 54 hours
- Ethnic/ Racial background
  - 38% White
  - 29% Latino/ Hispanic
  - 14% Multi-racial
  - 10% African American, 10% Asian
- Education – 67% some college
- Spanish spoken at FCCH – 38%



# RESULTS: IPM KNOWLEDGE (N=21)

<b>Pre- and Post- Workshop Knowledge Survey</b>	<b>Percent</b>
<b>1. Bait stations are the pesticide with least health risk</b>	<b>22%</b>
<b>2. Mold can trigger asthma</b>	<b>18%</b>
<b>3. Pests need food, water, and shelter to survive</b>	<b>13%</b>
<b>4. Prevent pests from entering FCCH by sealing cracks and</b>	<b>13%</b>
<b>5. Cockroaches can live in cardboard boxes</b>	<b>9%</b>
<b>6. Keep food in containers with tight-fitting lid</b>	<b>9%</b>
<b>7. IPM keeps pests out while reducing the use of pesticides</b>	<b>5%</b>

\*  $p < .05$



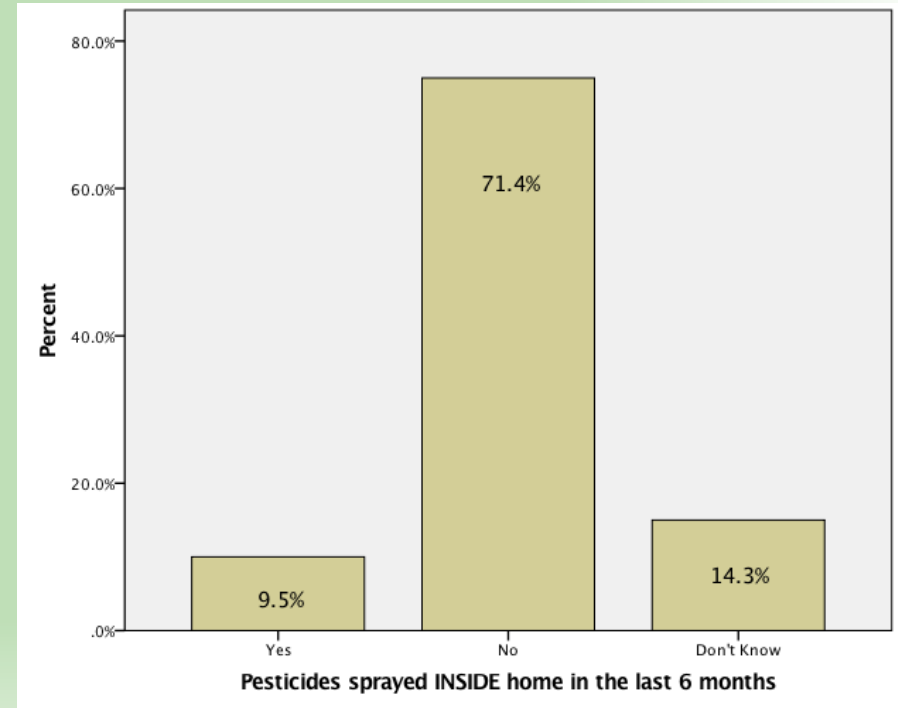
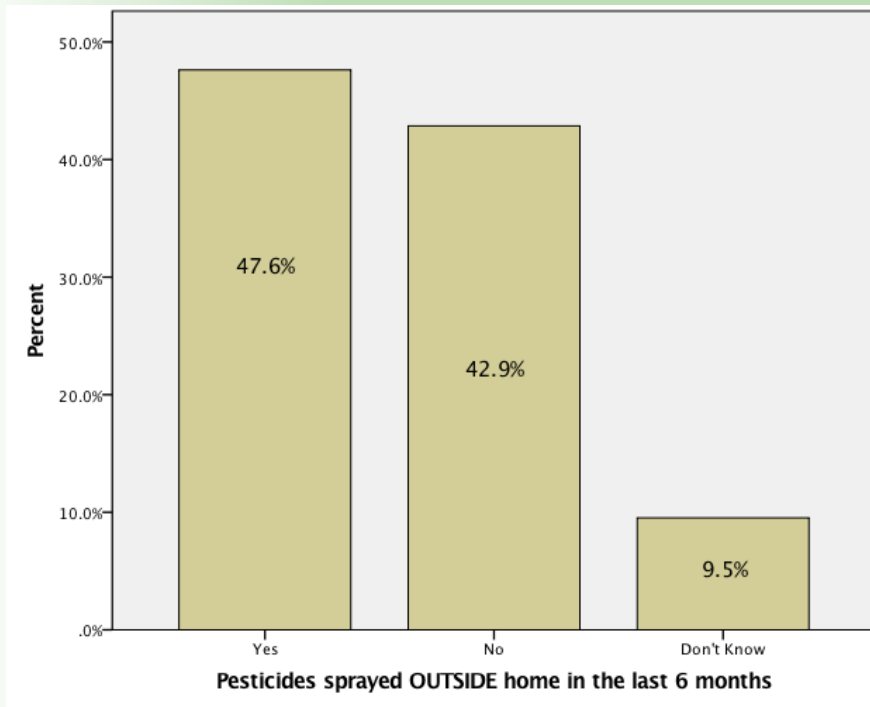
# BASELINE INTERVIEW: PESTICIDE USE

Pesticides sprayed OUTSIDE FCCH  
in last 6 months

Pesticides sprayed INSIDE FCCH  
in last 6 months

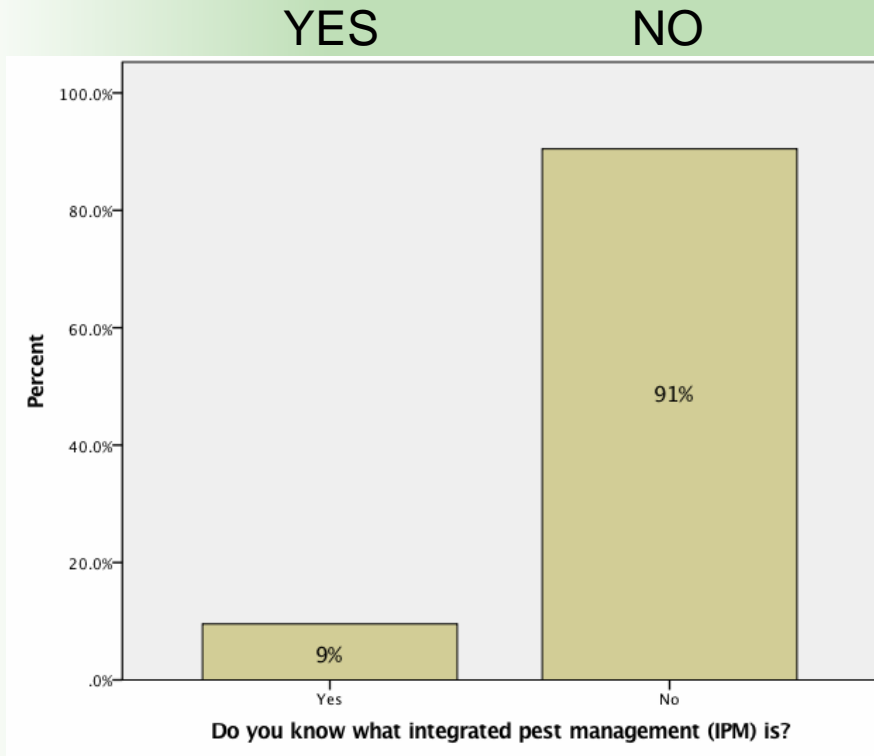
YES NO Don't Know

YES NO Don't Know

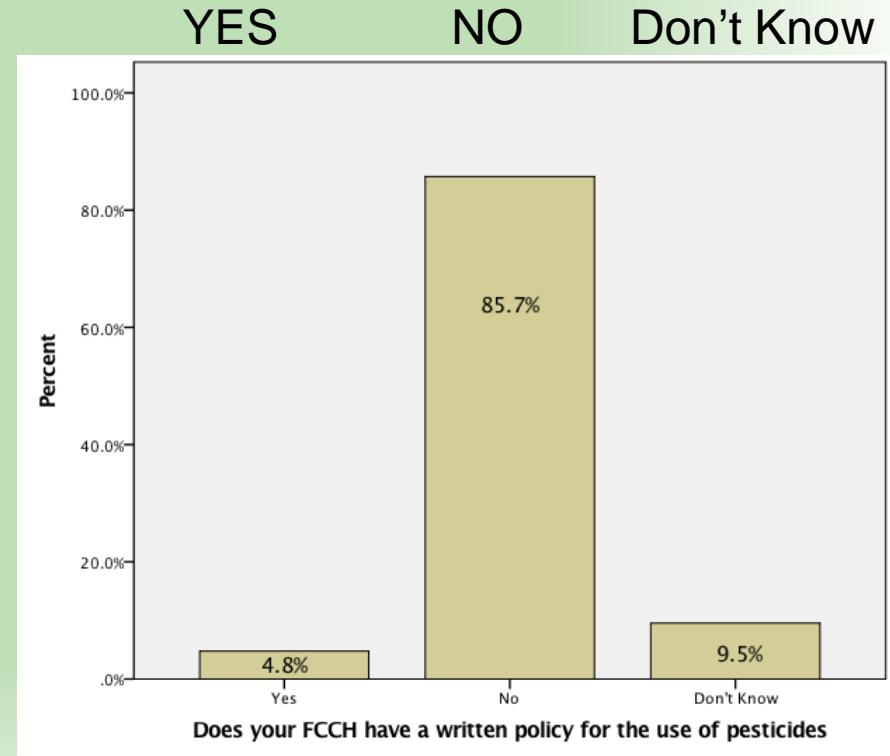


# BASELINE INTERVIEW: IPM KNOWLEDGE

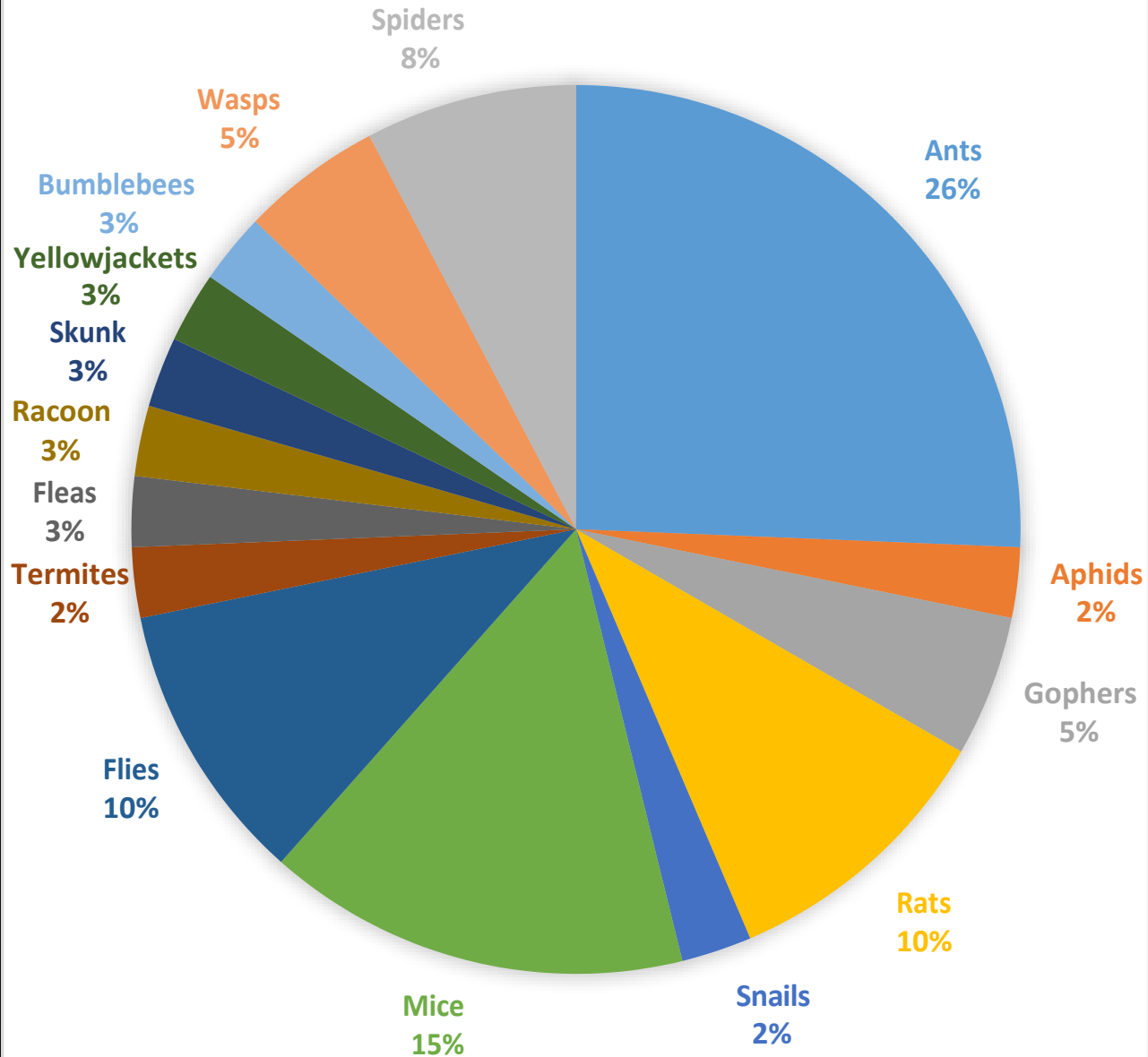
Do you know what IPM is?



Does your FCCH have a policy for the use of pesticides?



# MOST COMMON PEST PROBLEMS



# BASELINE IPM ASSESSMENT: SUBSCALES

<b>IPM Checklist: Subscales N=21 FCCHs</b>	
<b>Outdoor Areas</b>	
<b>Buildings: Structure, Landscaping, Play Area</b>	
<b>Garbage, Recycling, and Compost</b>	
<b>Indoor Areas</b>	
<b>Storage Areas: Attic, Basement, Garage, or Shed</b>	
<b>Kitchen and Eating Area</b>	
<b>Living and Play Areas</b>	
<b>Bathroom</b>	
<b>Total Score (all 66 items)</b>	

# IPM CHECKLIST: OUTSIDE

- Plants are at least 12 inches away from building (48% yes).



# IPM CHECKLIST: INSIDE

- Food is stored in tightly sealed containers.  
(28% yes)



# IPM CHECKLIST: STORAGE

## Storage Areas: Attic, Basement, Garage, or Shed

- Areas are clean, organized, and free of clutter.

(52% yes)



# IPM CHECKLIST: STORAGE

- Cardboard boxes are not used for storage.  
(52% yes)





# NEXT STEPS & LESSONS LEARNED

- Complete the intervention and final analyses.
- Differences between centers and homes:
  - FCCH providers have more control
  - Very motivated
  - Hard to recruit
  - Few state regulations
  - Size and maintenance
- Future studies:
  - Collect data on the current types and frequency of pesticide use
  - Ask about pesticides indirectly (redesign interview), and request to see storage of pesticide products
  - Complete IPM Assessment by an objective person

