Community-Based Participatory Research Project

Center for Child Environmental Health Risks Research at the University of Washington and Fred Hutchinson Cancer Research Center
The Yakima Valley

- Agricultural: apples, peaches, pears, cherries, grapes, hops
- Over 60% Latino
- Farmworkers (majority Latino) tasks include harvesting, pruning, thinning
Aims of our Pesticide Work

- Understand the occupational and environmental pesticide exposure in farmworkers, non-farmworkers, and their children
- Collect information over specific times to identify peak times of exposure
- Collect multiple blood, urine, dust, and buccal samples to understand OP levels
Community Based Participatory Research Model

“...a collaborative approach to research that equitably involves all partners in the research process and recognizes the unique strengths that each brings”
Involving the Community

- Formed Community Advisory Board (CAB) at onset of project (1999)

- CAB advised us along the way
  - Suggested collection of vehicle dust (take-home pathway)
  - Suggested hypotheses for second study
  - Suggested importance of working closely with community members
Involving the Community (cont.)

- Held town forums to present results
  - Presented to participants and CAB
  - Presented to CEHC External Advisory Board
- Provided feedback to individual participants
  - Acetylcholinesterase levels
  - Pesticide urinary metabolites
- Conducted qualitative study to determine what participants thought of the study
Data Collected in 2011

- Three Seasons Throughout One Year
- 100 adults; 100 children
- Loss to follow-up = 2%
  - 2,376 urine samples
  - 564 venous blood samples
  - 1,158 buccal cell samples
  - 592 samples of household dust
  - 571 car dust samples
  - 1,782 surveys
Importance of Project to Participants

- Asked participants why they wanted to be part of the study
- Asked the participants what their contributions would bring to the population
- Asked participants about barriers and facilitators to participation
Why Participate?

“I know the importance of sometimes getting that information of what the pesticides contain and what they can do to people....These findings are important.”

--Female farmworker

“It’s good to learn about this exposure. [The promotora] told me that the field where I work has many chemicals, and I can bring them home and things there could become contaminated. I didn’t know that.”

--Male farmworker

“I decided to participate because I wanted to know: if I don’t work in the field, is it a little bit dangerous [referring to pesticide exposure] to live in the Valley? I wanted to know what was in my blood.”

--Female non-farmworker
Participants are eager to contribute

“Why do we do research? Well, to learn how to prevent illness and all of that.”
--Male non-farmworker

“I participate to help others, so maybe they could detect [cancer] earlier if I helped.”
--Male farm worker

“I am proud that I can collaborate on research that will help future generations, in this case, for pesticides.”
--Male non-farm worker
Barriers and Challenges

Competing priorities

“Well, some people cannot participate, because they have young children and they are busy.”

--Female non-farmworker

Logistics

“I was thinking all night about [the urine sample]. What if I forgot? So I put the cup in the sink, so I would remember when I woke up.”

--Female farmworker

Fear

“When [the promotora] asked me, ‘When did you last eat?’ and things like that, I couldn’t remember, and I didn’t want to tell him the wrong answer, so I was a little scared.”

--Male farmworker
Findings to Date

- Farmworkers have higher pesticide metabolites than non-farmworkers.
- Farmworker children have higher pesticide metabolites than non-farmworker children.
- Highest levels of exposure are during the thinning season.
- During the non-spray season, levels in farmworkers decreased to those of non-farmworkers.
- Among non-farmworkers, levels were higher than those of NHANES.
Conclusions

- Strong relationship with communities in the Valley led to trust and confidence in the project
- The existence and makeup of the CAB led to further trust and confidence.

- Latinos had a strong understanding of and desire to contribute to our biomedical research.
- Levels of pesticide exposure in urine and dust were higher among farmworkers and their children than among non-farmworkers and their children
Thank you!