



Welcome to the CLU-IN Internet Seminar

Pollution Prevention Success Story: Partnering with Promotoras
Sponsored by: U.S. EPA Region 9 and National Institute of Environmental Health Sciences, Superfund Research Program
Delivered: November 2, 2012, 1:00 PM - 2:00 PM, EDT (17:00-18:00 GMT)

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Moderator:

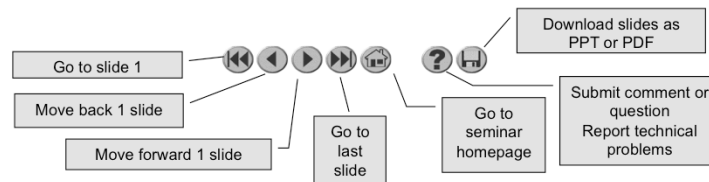
Sarah T. Wilkinson, Superfund Research Program, University of Arizona (wilkinso@pharmacy.arizona.edu)

Visit the Clean Up Information Network online at www.cluin.org

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Housekeeping

- Please mute your phone lines, Do NOT put this call on hold
- Q&A
- Turn off any pop-up blockers
- Move through slides using # links on left or buttons



- This event is being recorded
- Archives accessed for free <http://clu.in.org/live/archive/>

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Although I'm sure that some of you have these rules memorized from previous CLU-IN events, let's run through them quickly for our new participants.

Please mute your phone lines during the seminar to minimize disruption and background noise. If you do not have a mute button, press *6 to mute #6 to unmute your lines at anytime. Also, please do NOT put this call on hold as this may bring delightful, but unwanted background music over the lines and interrupt the seminar.

You should note that throughout the seminar, we will ask for your feedback. You do not need to wait for Q&A breaks to ask questions or provide comments. To submit comments/questions and report technical problems, please use the ? Icon at the top of your screen. You can move forward/backward in the slides by using the single arrow buttons (left moves back 1 slide, right moves advances 1 slide). The double arrowed buttons will take you to 1st and last slides respectively. You may also advance to any slide using the numbered links that appear on the left side of your screen. The button with a house icon will take you back to main seminar page which displays our agenda, speaker information, links to the slides and additional resources. Lastly, the button with a computer disc can be used to download and save today's presentation materials.

With that, please move to slide 3.

Pollution Prevention Through Community Participation

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M.S.; Ann Marie Wolf, M.S., Eric Betterton, Ph.D.;
and Ana Spitz, Ph.D.



Pollution Prevention (P2)

- Reducing or eliminating waste at source:
 - Modifying production processes
 - Promoting non-toxic or less-toxic substances
 - Implementing conservation techniques
 - Re-using materials

(U.S. Environmental Protection Agency)



Background

- Occupational disease eighth leading cause of death.
- Working conditions more hazardous and located in minority communities.
- Small businesses tend to employ minorities.



Background

- Small businesses utilize hazardous substances like larger businesses.
- Health and safety interventions do not reach all workers.
- Exposures mitigated in the work place decrease exposures in the communities.



Common Substances Used in Small Businesses

Industry	Substance
Auto Maintenance and Repair Auto Paint and Body	Toluene, polycyclic aromatic hydrocarbons*, benzene*, asbestos*, metals*, isocyanates*, methylene chloride**
Hair and Nail Salons	Formalin*, titanium dioxide*, di- <i>n</i> -butyl phthalate**, ethyl methacrylate***, hydroquinone***, sodium hydroxide***
Printing	Xylenes***, acetone***, tetrachloroethylene**, chromium*, methyl ethyl ketone*, carbon tetrachloride**
Woodworking	Isocyanates*, wood dust*, xylenes***, dichloromethane**, methanol***, arsenic*
Dry Cleaning	Tetrachloroethylene**, propylene glycol***, carbon tetrachloride**, stoddard solvent***, siloxane D5**, liquid carbon dioxide***

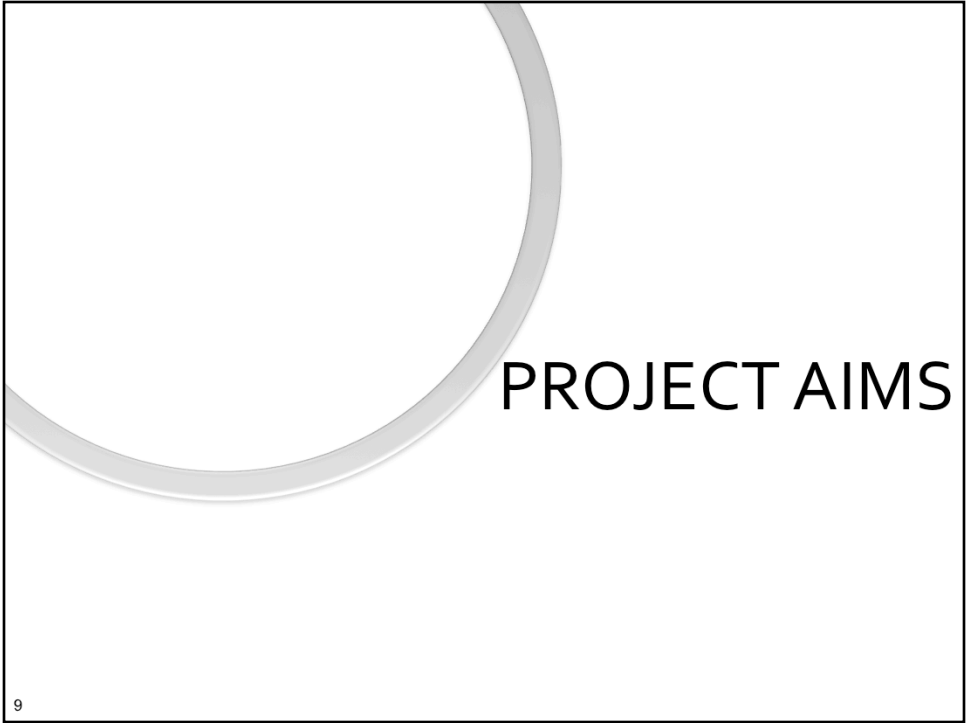
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*Known Carcinogen; **Probable Carcinogen; ***Carcinogenicity not classified

How Did This Project Begin?

- *Promotora*-initiated project.
- During *promotora* home visits issue was identified.
- Chemical odors and locations documented using GPS.





Project Aims

1. Establish a *promotora* P2 training program.
2. Conduct 900 small business visits with measurable outcomes.
3. Provide 8 industry specific workshops.
4. Create P2 community leaders.



Project Partners



Targeted Small Businesses

- Auto Maintenance and Repair
- Auto Paint and Body
- Nail Salons
- Beauty and Hair Salons
- Printing
- Woodworking
- Dry Cleaning





PROJECT OUTCOMES

Aim 1: P2 Training Program

Preliminary steps:

- Researched P2 business opportunities (e.g. existing programs).
- Met with industry leaders and associations to discuss best practices.



Aim 1: P2 Training Program

- Training Themes:
 - Environmental exposure
 - Air quality
 - Water conservation
 - Industry solvents
 - Green printing
 - Auto repair and maintenance
 - Dry cleaning
 - Woodworking



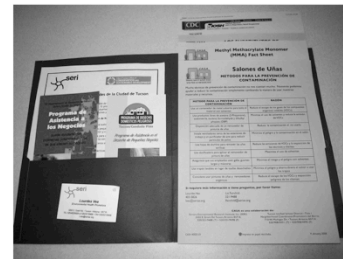
Aim 2: Small Business Visits

- 682 initial small business visits.
- 388 follow-up visits and 105 phone calls.



Aim 2: Small Business Visits

- Distributed P2 packets at initial visits.
- Small business P2 surveys business visits.
- Monitored volatile organic compound levels.



Aim 2: Small Business Visits

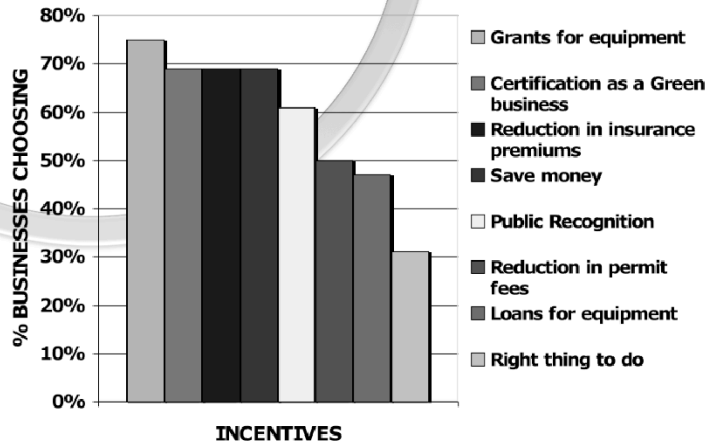
- 84 nail salons reported they switched to non-acetone remover:
 - Emissions reduced ~36,000 lb/yr.
- 238 auto repair shops reported they covered degreaser canisters:
 - Emissions reduced ~24,000 lb/yr.
- 11 hair salons reported they switched to ammonia-free hair dye.



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Aim 2: Small Business Visits

Preferred Incentives for Implementing P2 Measures
(N=535)



Aim 3: Industry-Specific Workshops

- 11 specialized and mini workshops.
- 175 attendees.
- Fostered new business partnerships.
- Provided quick-and-easy best practices leading to implementation.



Aim 4: Creating Community Leaders

Example 1:

- Provided customers greener options.
- Tested “green” degreasers.
- Recycled used metal and automotive oil.
- Used sawdust to clean up oil spills.

Jorge's Auto Repair



Aim 4: Creating Community Leaders

Example 2:

- Installed ventilation system.
- Provided customers with less-toxic hair care options.
- Eliminated acrylic nail services.
- Participated in P2 business trainings.

Extreme Hair Salon



Aim 4: Creating Community Leaders

Example 3:

- Provided P2 trainings to auto repair businesses.
- Purchased a “green” part cleaner (sand and vapor).

McElroy's Automotive



Aim 4: Creating Community Leaders

Example 4:

- Replaced toxic hair products in salon.
- Provided customers with less toxic hair care options.
- Eliminated permanent hair wave service.
- Participated in P2 business trainings.

Karina's Home
Hair Salon



Aim 4: Creating Community Leaders

Example 5:

- Implemented paint room to decrease fumes.
- Created paint mixing room.
- Switched to water-based automotive paint.

C & H Paint and Body



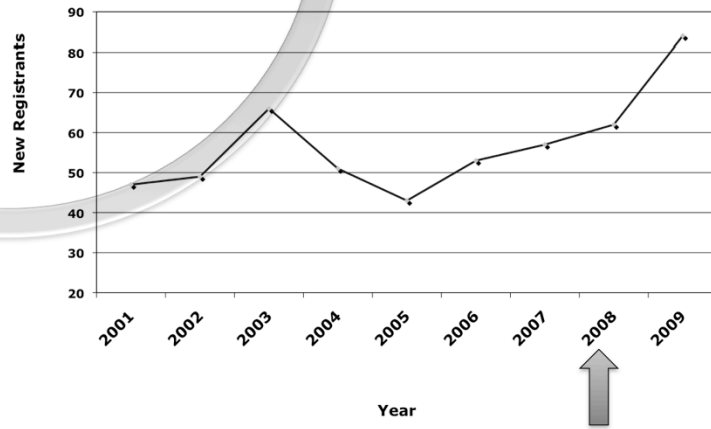
Conclusions

- Overcame barriers reaching minority small businesses not usually accessed.
- Accomplished behavioral changes in small businesses.



Conclusions

New Registrants by Year for City/County Small Business Waste Acceptance Program



Conclusions

- Community members are effective conduits of P2 education.
- Voluntary P2 approaches based on trust and dialogue are successful.
- Decrease exposure, decrease health effects.



Thank You!

Arizona Office of the Automotive Service Association (Luz Rubio)
Printing Industries Association, Inc. of Arizona (Sandi Neuman)

Arizona Lithographers (Jim Brush)

Jorge's Auto Repair

Extreme Hair Salon

Velero Woodworking (Christopher Martin)

Pure Esthetics (Kaelen Johnson)

Green Pro, Inc.

The Source Salon and Spa (Naomi Miller)

Pima County Department of Environmental Quality

Pima Community College (Mark Homan)

Tucson Fire Department (Frank Bonillas)

Arizona Department of Environmental Quality (Dale Anderson)

Sam Lena Tucson Library

Sonora Environmental Research Institute, Inc.

Staff and Volunteers

University of Arizona

Faculty and Staff



Resources & Feedback

- To view a complete list of resources for this seminar, please visit the **Additional Resources**
- Please complete the **Feedback Form** to help ensure events like this are offered in the future

United States Environmental Protection Agency
Technology Innovation Program

J.S. EPA Technical Support Project Engineering Forum
Green Remediation: Opening the Door to Field Use Session C (Green Remediation Tools and Examples)
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