Institute for Environmental Solutions
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COMMUNITIES FOR CLEAN WATER INITIATIVE 2018 REPORT

Pilot Program, January to May 2018
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REDUCE YOUR
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2. EXECUTIVE SUMMARY

This report documents the 2017-2018 Institute for Environmental Solutions (IES) pilot Communities for Clean Water Initiative (CCWI). IES collaborated with the Honors Program at Red Rocks Community College (RRCC), Lakewood, CO to plan and implement its pilot initiative.

The IES CCWI was created to further the mission of the IES Chemical Footprint (CFP) Project to prevent water pollution and protect human and environmental health by reducing household and commercial chemical footprints. The structure of the IES CCWI was an evolution of the IES Save Our Water Initiative. The IES CCWI reduces chemical footprints by informing communities on the growing problem of household and personal care products containing contaminants of emerging concern (CECs). CECs pollute waterways and expose communities to harmful contaminants. The IES CCWI instills sustainable behavior change in community members that results in a reduction in individuals' chemical footprints. Both the IES CFP Project and CCWI were developed to advance IES's mission to deliver scientific solutions to improve our health and environment.

The IES CCWI engenders sustainable behavior change by implementing community-based social marketing (CBSM). The IES CCWI implemented CBSM by first using surveys and focus groups to gather information on the pilot community's knowledge of CECs, product preferences, and benefits and barriers the community associates with reducing chemical footprints. That information was then used in the creation of a pilot community workshop structured around the remaining CBSM strategies. The pilot workshop comprised an informative presentation on the issue of CEC pollution, group activities to teach how to reduce chemical footprints and then obtain commitments from participants, and do-it-yourself product making. Workshop participants critiqued the workshop and then received information and CEC-free product samples to help initiate the new behavior change.

This report describes the pilot initiative's background, planning, implementation, and outcomes. The report and appendices document the pilot initiative's structure, objectives, tasks, notes, and contributors. All facets of the IES CCWI are described and documented. This report assesses the successes and failures of the IES CCWI, provides recommendations for possible adjustments, and determines next steps for possible future iterations.

IES encourages comments and questions. Please contact IES at solutions@i4es.org or visit our website at www.i4es.org.

3. INTRODUCTION AND OVERVIEW

Report Overview

This report summarizes the 2018 Institute for Environmental Solutions (IES) pilot Communities for Clean Water Initiative (CCWI). The IES CCWI was created by the IES Chemical Footprint (CFP) Project. With seed funding from First Unitarian Society of Denver and collaboration with Red Rocks Community College Lakewood, the 2018 IES CCWI focused on reducing chemical footprints and improving human and environmental health in the Denver metro area. The planning and implementation were done in conjunction with IES volunteers and local community members. This report serves as documentation and provides complete detailed information about the development, implementation, results, and analysis of all aspects of the IES CCWI, including online and in-person surveys, two focus groups, and a community workshop.

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IES is an independent nonprofit based in Denver, Colorado. Founded in 2004, IES delivers scientific solutions to improve our health and environment. IES consists of over 40 Board members, staff members, associates, volunteers, and graduate interns. The IES Board of Directors includes environmental professionals, business leaders, and community members with a wide range of experience and expertise. IES relies on volunteers who donate their time to support IES's programs. Information on IES projects, contributors, and recent accomplishments are included in the IES Annual Report 2017 in Appendix A.

IES's vision is to create efficient ways of dealing with complex environmental problems. IES strives to prevent waste and unwanted side effects, provide opportunities to optimize environmental improvements, and reduces energy consumption and greenhouse gas emissions through a unique technical, multi-disciplinary approach. By engaging a broad spectrum of participants in examining these problems on a project basis, IES develops sound, cost-effective solutions. IES works with partners and stakeholders to solve multidisciplinary environmental problems. IES's approach emphasizes an element critical to a successful remedy: communication and integration across technical, organizational, and social barriers.

Chemical Footprint Project

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IES created the CFP Project to prevent water pollution and protect human and environmental health by reducing household and commercial chemical footprints. One important environmental problem that IES attempts to address with the CFP Project is the contamination of water by unregulated, harmful chemicals found in common household and personal care products that pollute waterways and drinking water and result in direct harm to human and environmental health.

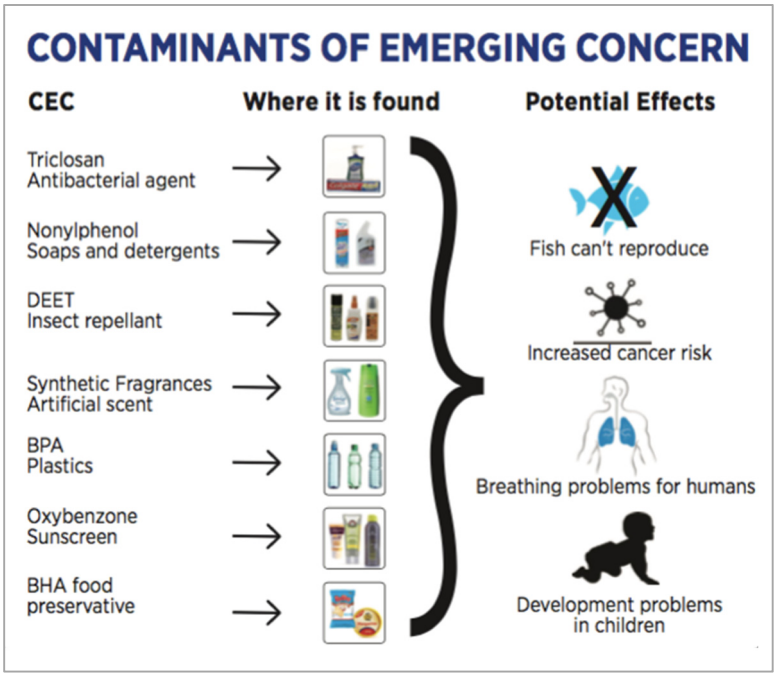
A dedicated team of individuals conducts the CFP Project with diverse expertise from a broad range of disciplines. Team members work to advance the project's mission while demonstrating that prevention of trace contaminants in water is cheaper, more effective, and more sustainable than treatment. The Chemical Footprint Project Steering Committee guides the CFP Project's goals and objectives. The Steering Committee is made up of representatives from a variety of organizations and professions concerned with water quality and human and environmental health. Committee members volunteer their time and provide professional expertise to maintain high technical and organizational standards for this project. The committee reviews project plans and details, providing advice and suggestions for improvement.

Contaminants of Emerging Concern

Many common household and personal care products—including shampoo, soap, skin lotions, detergents, cleaning products, and insect repellent—contain small concentrations of environmentally hazardous and persistent chemical contaminants such as triclosan, parabens, surfactants, synthetic fragrances, DEET, bisphenol-a (BPA), alkylphenols, and oxybenzone. These hazardous chemicals are known as contaminants of emerging concern (CECs).

CECs are carcinogenic compounds and endocrine disruptors that can change the way hormones function. CECs are not currently regulated by the U.S. government and are generally not treated in wastewater treatment facilities, despite their potentially toxic effects. CECs pollute drinking water, affect human health, re-enter the water supply, and negatively impact wildlife and the environment. The following image illustrates CECs found in common household and personal care products and the potential human and environmental effects that can result from exposure.

The science of CECs is complex, creating unique education and outreach challenges. IES uses the CFP Project to help solve this pollution and health problem by reducing the use of personal care and household products containing CECs and prevent future contamination of water.



Many people are unaware of the existence of CECs and the hazards they pose to our health.

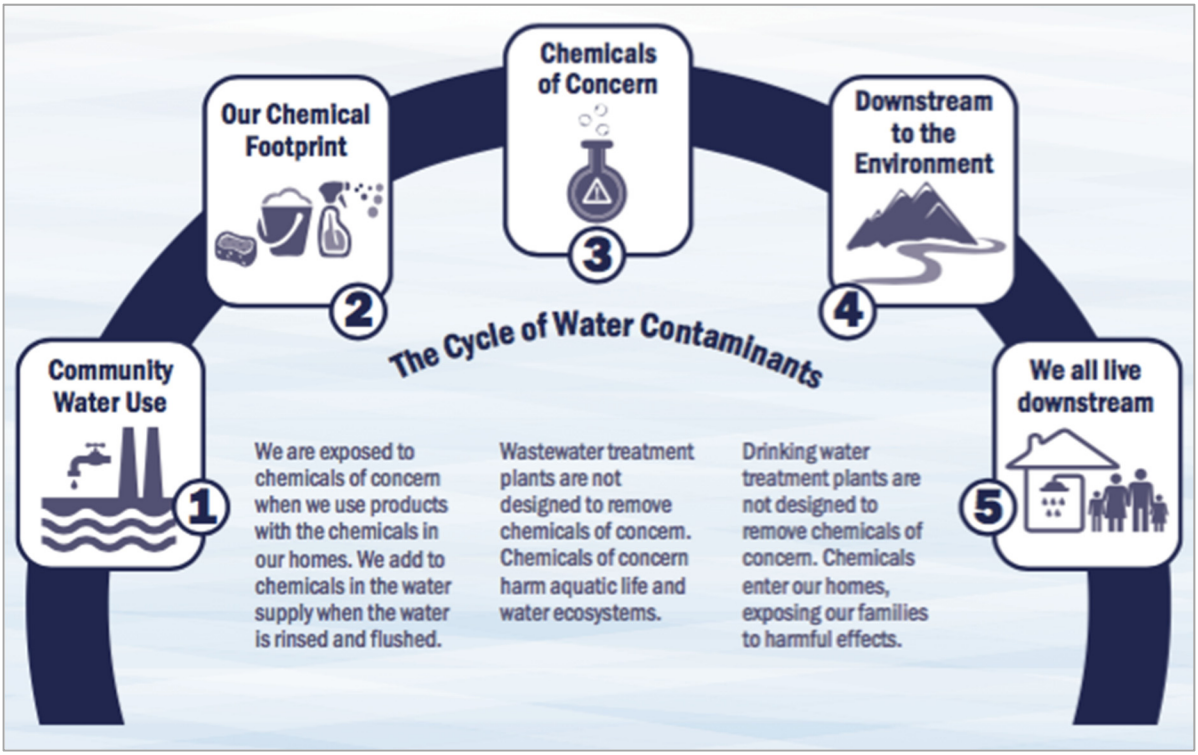
4. COMMUNITIES FOR CLEAN WATER INITIATIVE

IES created CCWI to engage residents in the Denver metro area to prevent water pollution from CECs, avoid exposure to harmful chemicals, and improve human health. The IES CCWI is intended to dispel misconceptions about current regulations and wastewater treatment plant processes that do or do not address CECs and to show how prevention of CEC pollution is faster, cheaper, and more effective than treatment.

The CCWI advances the goals of the CFP Project, which include:

- Foster commitment to reduce use of personal care, food, and household products containing chemicals of concern.
- Identify safe and effective alternatives to products containing chemicals of concern.
- Show children and adults how to reduce their chemical footprints.
- Demonstrate that prevention of trace contaminants in water is cheaper and more effective than treatment.
- Expand and improve outreach and communication about the issue.
- Increase knowledge and resources about reducing chemical footprints.

The IES CCWI attempts to disrupt the cycle of water contamination.



The IES CCWI will help prevent contamination of drinking water by reducing exposure to CECs contained in personal care and household products. This is achieved by using simple, low-cost strategies that include using less, making your own, and shopping smart. Originally called Save Our Water Initiative, it was renamed in August 2017 to the Communities for Clean Water Initiative to avoid confusion with water conservation efforts. The IES CCWI uses community-based strategies to decrease the use of personal care and household products containing CECs. Additional information on the IES CCWI is included in the CCWI Prospectus in Appendix B.

Community-Based Social Marketing

The IES CCWI reduces chemical footprints by using community-based social marketing (CBSM) to instill sustainable behavior change in community members so that they reduce their use of personal care and household products containing CECs. Doug McKenzie-Mohr details the behavior change strategies involved in CBSM in his book *Fostering Sustainable Behavior*.[1]

CBSM is based on the premise that:

- Conventional marketing can help create public awareness, but awareness of a problem is not enough to invoke effective and sustainable action to solve that problem.
- Social marketing is needed to identify and overcome barriers to long-lasting behavior change.

CBSM strategies involve:

- Identifying barriers and benefits to sustainable behavior change
- Using social norms to build support for change
- Highlighting benefits and addressing barriers
- Obtaining commitments
- Using prompts to trigger continued action
- Speeding up awareness and adoption through social diffusion
- Designing and implementing a program that can be expanded into and implemented within different communities

IES CCWI was based on implementing CBSM strategies such as:

- Conducting surveys and focus groups
- Identifying barriers and benefits to sustainable behavior change
- Collecting and analyzing data
- Using survey and focus group data to maximize the effectiveness of a community workshop

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[1] McKenzie-Mohr, D. (2011). Fostering sustainable behavior: An introduction to community-based social marketing (3rd ed.). Gabriola Island, B.C: New Society Publishers.

Community workshops help educate participants on the harm posed by CECs by:

- Addressing known barriers to behavior changes
- Highlighting incentives to reducing chemical footprints
- Demonstrating how easy it is to find alternatives to using products containing CEC
- Obtaining commitments from participants agreeing to change their behavior

Following the workshop, team member observations and participant evaluations are assessed to gauge the effectiveness of the pilot. A final report provides an overview of the analysis while offering recommendations for adjustments for any expansion or future iterations.

IES CCWI Origins

IES submitted a proposal to fund a pilot workshop to the First Unitarian Society of Denver (FUSD) Giving in Action program. It was accepted on December 16, 2016. The CFP Project team was invited to speak to the FUSD congregation on April 2, 2017 and explain to the congregation the issue of CECs found in personal care and household products contaminating water and endangering human and environmental health. The FUSD Giving in Action program awarded the CFP Project $1,269 collected in contributions by the congregation to fund a pilot workshop. At a meeting in late 2016, the FUSD Giving in Action committee expressed great enthusiasm in having FUSD community members serve as IES's workshop participants for the pilot program. However, later attempts to collaborate with the FUSD and conduct the pilot workshop with interested congregation members were unsuccessful. The CFP Project team then sought an alternative community that could host the pilot workshop.

Included in IES's November 2017 e-newsletter, which is sent to approximately 1,000 IES stakeholders and interested community members, was an article seeking recommendations for a community that could host the IES CCWI pilot workshop. In response to the article, IES volunteer Betty Jo Page referred us to her colleague, Dr. Barbra Sobhani, Director of Honors Program at Red Rocks Community College (RRCC) Lakewood Campus. CFP Project team members met with Dr. Sobhani on January 24, 2017. Dr. Sobhani agreed to have RRCC serve as the pilot community for IES CCWI, to provide meeting space for the workshop, and to allow the project team to survey RRCC students and conduct two focus groups.

5. IES CCWI SURVEYS

Objective

The IES CCWI relied on surveys to implement a core strategy of CBSM: identifying barriers and benefits to sustainable behavior change.

The survey questions were developed to gain information regarding:

- The level of knowledge respondents have on CECs, the existence of CECs in commonly used household and personal care products, and whether knowing that information would prevent participants from purchasing products that contain CECs.
- The most important factors respondents consider when purchasing products.
- The barriers that keep respondents reducing use of products containing CECs in favor of safer products.
- The benefits that motivate respondents to switch to safer products.

Planning

Initial survey question drafts went through seven rounds of reviews and refinement before being sent to IES Board Member Dr. Michael Verdone and colleagues at BBC Research & Consulting. After consulting with Dr. Verdone and going through more rounds of editing, the finalized survey questions were uploaded to SurveyMonkey and hard copies were printed. A complete list of all survey questions can be found in Appendix C.

Implementation

Surveys were distributed through several different media:

- In-person surveys conducted at RRCC Lakewood campus over the course of two hours each day from February 5 through February 9, 2018. Complimentary snacks (granola bars, candy, and fruit) were offered to incentivize participation.
- Emails sent to approximately 1,000 people in IES's contact database.
- Link to online survey posted on IES and CFP Project team members' Facebook and Twitter accounts.
- Link to online survey included in survey promotion fliers distributed at RRCC Lakewood campus.
- Link to online survey distributed to Foothills Animal Shelter staff and volunteers through the Midweek Squeak email.
- Frequent social media posts on Facebook, Twitter, LinkedIn, and Instagram promoting survey participation.
- IES team members used personal social media accounts and spoke with friends and family members to recruit participants.

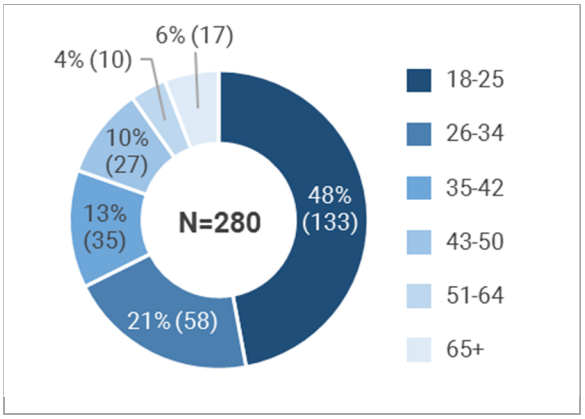
Results

Survey participation encompassed 295 responses: 213 paper surveys and 82 online surveys. The paper survey results were tallied by CFP team members and sent to IES Board Members Dr. Michael Verdone and Kel Rayens (both employees of BBC Research & Consulting) to be combined with online survey results and analyzed. In-person and online survey results are included in Appendix D.

The sample size ended up having heavy representation in the 18-25 age cohort, but the gender, education, and income categories had more balanced distributions. Below is a summary of the demographic information that was self-reported by survey takers.

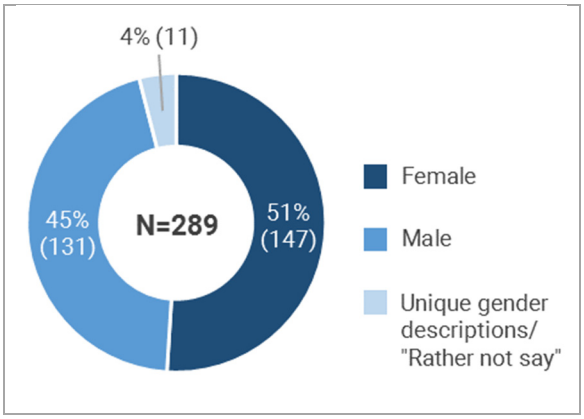
AGE GROUP

Percentage out of 280 responses, (number of responses)



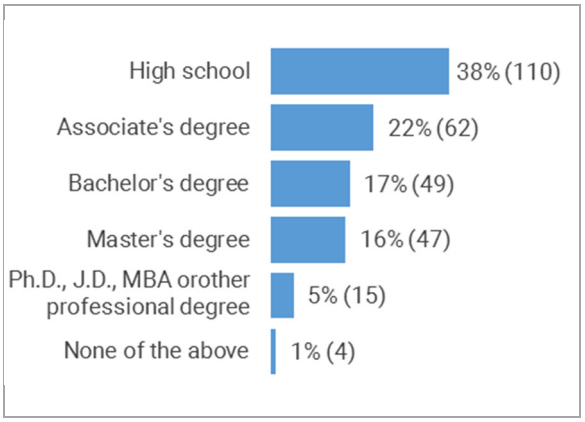
GENDER

Percentage out of 289 responses, (number of responses)



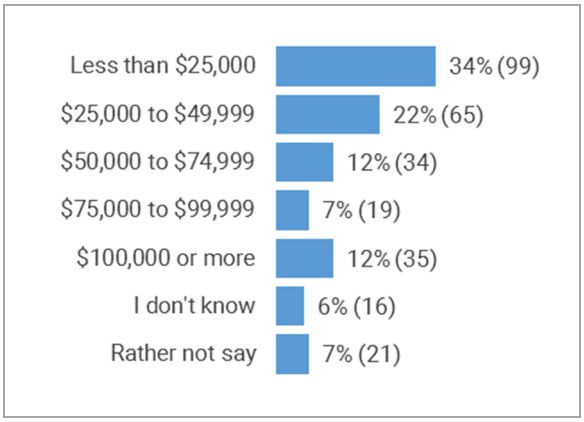
LEVEL OF EDUCATION OBTAINED

Percentage out of 287 responses, (number of responses)



TOTAL ANNUAL HOUSEHOLD INCOME

Percentage out of 289 responses, (number of responses)



Key Findings:

- The percentage of respondents that are aware that harmful chemicals exist in household and personal care products: **89%**
- Availability, affordability, and effectiveness are important to respondents when asked about switching products.
  - The percentage of respondents that would avoid products containing harmful chemicals if alternative products were available: **49%**
  - The percentage of respondents that said they would maybe switch, but it would depend on product price: **26%**
  - The percentage of respondents that said they would maybe switch, but it would depend on product effectiveness: **23%**
- Product effectiveness, price, and the existence of eco-friendly ingredients are all important factors when purchasing products.
  - The percentage of respondents that listed product effectiveness as the most important factor when purchasing products: **31%**
  - The percentage of respondents that listed price: **28%**
  - The percentage of respondents that chose eco-friendly/natural ingredients: **24%**
- Respondents believe that changing their personal behavior makes a difference.
  - The percentage of respondents that said yes, switching to safer products would have an impact on the environment: **66%**
  - The percentage of respondents that said maybe, but the impact will be insignificant: **23%**
- Ensuring the safety of water and environment is a shared responsibility. Survey participants allocated responsibility almost equally among all groups listed. Many respondents chose all options given to them.
  - The percentage of respondents that chose water treatment facilities: **21%**
  - The percentage of respondents that chose regulatory agencies: **19%**
  - The percentage of respondents that chose local government: **20%**
  - The percentage of respondents that chose our community: **19%**
  - The percentage of respondents that chose ourselves as individuals: **20%**
- High costs and not knowing which products are safe are two main barriers preventing respondents from switching to safer products.
  - The percentage of respondents that said they do not know what products are free from harmful chemicals: **34%**
  - The percentage of respondents that said safer alternative products are too expensive: **28%**
- Homemade products are believed to be safer for pets and children (**18%**) and too much of a hassle to make (**22%**).

Observations and Next Steps

CFP Project team member engagement, combined with using complimentary snacks as an incentive, was effective in boosting in-person survey participation. The benefits of online surveys are that they are easier to tabulate, require no materials, and do not allow participants to stray away from the questions' response guidelines.

With a robust sample size of 295 respondents, another community workshop will not necessarily need a new survey component unless the demographics of the new community are significantly different from those surveyed for this pilot initiative. If it is deemed necessary to survey another community, then review and refinement of the survey questions will be conducted. One area where new information could be useful is in better determining respondents' thresholds in making the switch to safer products. Survey takers listed product effectiveness, cost, and eco-friendly ingredients as the most important factors in the products they purchase. It is rare that a safe alternative product exists that is as or more effective, the same or cheaper price, and a brand that people are willing to try. It would be valuable knowing which combination of factors best induces a change in product use.

6. IES CCWI FOCUS GROUPS

Objective

Following survey implementation, the IES CCWI used two focus groups to investigate common survey responses and help implement the core strategy of CBSM: identifying barriers and benefits to sustainable behavior change.

The focus groups that followed the survey allowed project members to assess participants' current thoughts, feelings, and habits about purchasing household cleaning and personal care products in relation to those products' effects on human and environmental health. The information obtained from the focus groups shaped the presentation and activities included in the community workshop.

Planning

Collaborating with Dr. Barbra Sobhani, Director of the Honors Program at Red Rocks Community College (RRCC) Lakewood campus, we reserved a room at RRCC on Monday, April 2 from 12:00 noon to 3:00 pm. CFP team members recruited focus group participants by:

- Emailing all survey respondents that expressed interest in participating in a focus group.
- Posting promotional fliers around the RRCC Lakewood campus and having Dr. Sobhani conduct internal promotion to students and faculty.
- Posting social media posts through IES Facebook, Twitter, LinkedIn, and Instagram accounts.
- Emailing IES e-newsletter recipients.
- Offering a $15 Whole Foods gift card for participating.

Implementation

Following recruitment, 15 individuals responded to confirm their participation. Two of those 15 did not attend the focus groups. A confirmation email was sent to each participant, specifying their time slot and directions to the room. Both driving and public transportation directions to RRCC were provided to participants. A reminder email was sent the night before the focus group. On the day of the focus groups, seven participants attended the first focus group and six participants attended the second focus group. Each focus group was conducted in the same manner and the second group immediately followed the first. Below are photos taken during the two focus groups.

Focus Group 1

Seven participants attended the 12 noon to 1:15 pm focus group held at Red Rocks Community College Lakewood.

Focus Group 2

Six participants attended the 1:45 to 3 pm focus group held at Red Rocks Community College Lakewood.

The focus group consisted of an introduction, discussion questions, and a conclusion. CFP Project team member Kelsey Householder moderated the focus groups, drawing on her previous experience of being a moderator through the Peace Corps. Team members Mike Smith and Tim Smith took notes throughout each focus group. The instructions, moderator questions, and common responses given by participants are included in Appendix E. The introduction explained the purpose of the focus group, set up ground rules, and provided an overview of focus groups to anyone that had not participated in one before. The discussion questions delved deeper into the survey responses. A complete list of the discussion questions and a summary of the answers can be found in Appendix F, and a summary of the questions and the common responses is provided below. The conclusion gave participants a chance to bring up any points they felt were missed and to give feedback on the focus group.

The discussion questions were designed to elicit information about:

- Factors participants consider when purchasing products
- Barriers that prevent a switch to eco-friendly products
- Experience and willingness to make homemade products
- Perceived best approaches to preventing human and environmental exposure to harmful ingredients
- What information is helpful in avoiding harmful ingredients

Results

When considering which products to buy, participants agreed on a shared set of determining factors:

- Price
- Ingredients
- Effectiveness
- Fragrance
- Side effects
- Environmental effects

Participants were not opposed to buying eco-friendly products if they did not have to pay too much or sacrifice effectiveness.

Participants had mixed feeling about homemade products. Some felt that the initial investment for homemade products was too high and that products were too difficult to make. They did not know where to find the necessary ingredients and containers to make the products. Others protested that after getting over the hurdle of learning how to make the product, homemade products could be easy to make, affordable, and effective. The groups were split when asked about the convenience of making homemade products. Some felt it was easier to run to the store rather than spending time making a product, while others loved the idea of having the necessary ingredients on hand and not having to leave the house.

When asked about ways to prevent exposure to harmful ingredients, participants had several common answers. Participants believed that better labeling, education and awareness, better regulations, and personal responsibility were the best ways to prevent exposure to harmful chemicals. When asked what information would be most useful in avoiding exposure to harmful ingredients, participants wanted to know which chemicals are harmful, what effects those chemicals have on humans and the environment, and the best techniques to avoid them.

Observations and Next Steps

We anticipated that our recruitment efforts would lead to heavy RRCC Lakewood participation, with a mix of both students and staff with wide-ranging opinions. However, over half of the participants were IES e-newsletter recipients and only five were associated with RRCC Lakewood. It is likely that this imbalance caused the focus group to skew toward a more environmentally-conscious perspective. Future recruitment and participation could be aided by holding focus groups in a classroom setting to guarantee a minimum number of participants. Participants in the two focus groups were pleased with the compensation of a $15 Whole Foods gift card and complimentary snacks and beverages.

Future focus groups will benefit from intensified recruitment efforts aimed at engaging participants who are not connected with IES. This will help to obtain a more representative set of opinions in the community. Some participants were initially hesitant to disclose their use of unsafe products, knowing there were so many environmentally-conscious people in the room. However, our focus group moderator effectively fostered a safe space where people quickly felt comfortable sharing their opinions with others.

The information obtained in the two focus groups was helpful in shaping the workshop in several ways. Since price and effectiveness were commonly-mentioned factors, the workshop was adjusted to better emphasize that do-it-yourself (DIY) products and certain commercially available eco-friendly products could be both affordable and effective. The main concern with DIY products was that they are too difficult to make and that the initial investment is too high. The workshop demonstrated how simple homemade products can be made and that a lot of the ingredients needed are common household items or easily acquired. Personal responsibility was a recurring theme in discussions on how best to prevent exposure to harmful chemicals. Participants were encouraged to share ideas on how they could reduce their chemical footprints and make their own commitments to be personally responsible for the products they use. Participants wanted to know what chemicals are harmful, those chemicals' effects, and useful techniques to avoid them. The workshop presentation discussed five commonly-used CECs, their effects on human and environmental health, and recommendations on avoiding exposure.

7. IES CCWI PILOT WORKSHOP PRESENTATION

Objective

The IES CCWI developed a pilot community workshop to address the barriers and highlight the incentives identified by survey and focus group participants and to implement the remaining CBSM strategies. The presentation was designed and organized to give structure to the workshop, which was divided into three parts: an informational presentation, hands-on activities, and do-it-yourself product making. The total length of the workshop and its presentation was approximately 90 minutes.

SECTION	NUMBER OF SLIDES	SPEAKER	TIMING (MIN:SEC)
Welcome Slide, IES and CFP Project Mission and Overview	3	Mike	1:30
CEC Definition and Introduction	1	Mike	1:00
CEC Harm Overview, Contamination Cycle Explanation, Prevention is Key	3	Helen	2:30
CCWI Workshop Overview, CEC Introduction Cover Slide	2	Helen	1:40
Triclosan	3	Grace	1:30
BPA	3	Samantha	2:30
Synthetic Fragrance	3	Kelsey	1:30
Parabens, DEET	6	Tim	2:00
Oxybenzone, Alkylphenols	6	N/A	N/A
Reduce Your Chemical Footprint Activities	1	Samantha	30:00
DIY Product Making	1	Mike	30:00
Commitments	1	Kelsey	10:00
Evaluations	1	Mike	5:00
Conclusion	1	Mike	1:00

The informational presentation portion of the workshop was used to implement two CBSM strategies:

- Using social norms to build support for behavior change
- Addressing barriers that keep people from changing their behaviors

Some social norms that help aid the uptake of sustainable behavior change are the desire to protect our own health and the health of our friends and family. Another is the desire to be responsible caretakers of the environment and its wildlife. Relying on these social norms, the presentation included accurate scientific information on the human and environmental health impacts caused by CEC exposure. While different individuals and groups hold varying degrees of adherences to most social norms, there are societal behaviors, like the desire to save money, which many people can appreciate.

The presentation addressed the barrier of unfamiliarity with CECs. While awareness of a problem alone is not enough for behaviors to change, no change can take place if people do not know that a problem exists. The presentation made clear how harmful CECs are to human and environmental health, what specific CECs to avoid and where they are typically found, and that wastewater treatment facilities and drinking water treatment plants do not specifically filter or treat CECs.

Planning

The IES CCWI pilot workshop PowerPoint presentation began with scientific information and was designed to educate participants on CECs present in common household and personal care products, the contamination cycle of water, and the lack of treatment solutions for this growing problem. The following image shows a slide used to provide information on triclosan, an antibacterial chemical.

The IES CCWI pilot workshop presentation included a total of 35 slides that covered the following sections:

- IES and CFP Project missions
- Overview of the pilot workshop
- Explanation of contaminants of emerging concern
- Depiction of the contamination cycle
- Details on seven CECs: triclosan, bisphenol-A (BPA), synthetic fragrances, parabens, diethyltoluamide (DEET), oxybenzone, and alkylphenols
  - General information
  - Specific harm to human and environmental health
  - How to protect yourself and the environment
- Descriptions of the Reduce Your Chemical Footprint activities

Speakers provided information for five CECs. An example of a slide covering triclosan, its harm to human and environmental health.

  - Label reading
  - Phone application demonstration
  - 30-day challenge information
- Descriptions of the DIY product making
  - Face wash
  - Sugar body scrub
  - Hand sanitizer
  - All-purpose cleaner
- Participant brainstorming on how to reduce chemical footprints and what individual commitments they will make
- Conclusion and evaluations

Each above section of the workshop PowerPoint presentation was assigned to CFP Project team members who drafted and reviewed each other's content. The content and visuals went through a series of drafts, reviews, and edits before being transferred into PowerPoint. CFP Project team members conducted two rehearsals prior to the workshop.

With a time allotment of 25 minutes for the presentation, CFP Project team members chose to focus on seven common CECs found in a wide-range of household and personal care products:

- Triclosan
- Bisphenol-A (BPA)
- Synthetic Fragrances
- Parabens
- Diethyltoluamide (DEET)
- Oxybenzone
- Alkylphenols

Each team member researched one CEC and focused the slide content into four main parts: its uses, where it is found, the harm it poses to human and environmental health, and recommendations on limiting exposure.

Implementation

Due to time constraints and a worry that participants may lose patience with too much lecture, only five of the seven CECs were discussed by CFP Project team members. Oxybenzone and alkyphenols were included in the presentation slides but not formally presented at the workshop. The complete presentation was uploaded to a USB flash drive that was distributed to all participants after the

completion of an evaluation form. Six team members were present for the workshop and presented at least three slides each. A copy of the presentation can be found in Appendix G.

Observations and Next Steps

Based on participant feedback, the presentation was engaging and successfully conveyed complex information on CECs. CFP team members determined that, for future presentations, including oxybenzone and alkylphenols would be worth the additional time, particularly as there were products included in the label reading activity that contained oxybenzone and alkylphenol but participants did not know to look for them because they were not discussed in the presentation. For future workshops, much of the material used in the pilot presentation could be updated and reused.

8. IES CCWI PILOT WORKSHOP ACTIVITIES

The CFP Project team chose to use four different activities at the pilot workshop as a way to engage participants and give them hands-on experience:

1. A phone application demonstration of two free phone apps that can help participants shop smarter
2. A label reading activity to teach participants how to identify CECs in product ingredients
3. An introduction to a 30-day challenge to foster new, sustainable behaviors by way of making and purchasing CEC-free products
4. A group discussion about what actions they would take as individuals to reduce their chemical footprints

The four activities used in workshop were chosen to implement a range of CBSM strategies:

- Using social norms to build support for change
- Highlighting benefits and addressing barriers
- Obtaining commitments
- Using prompts to trigger continued action
- Speeding up awareness and adoption through social diffusion

CFP Project team members outlined each activity and included detailed instructions on its implementation. An outline of the activities can be found in Appendix H.

Phone Application Demonstration

Objective

The main objective of this activity was to give participants a tool to help them figure out if their current personal and household products contain CECs and to help them shop smarter. The CBSM strategies that we focused on were:

1. Addressing barriers (of lack of knowledge)
2. Using prompts (in this case, the information given by the phone application) to trigger continued action

The phone applications are meant to be used in a store when shopping for products or at home to determine if the products you currently own are contaminant-free. With an easy-to-use application, participants do not need to spend as much time researching and remembering specific harmful chemicals and therefore may be more likely to commit to buying products that are CEC-free.

The two phone applications that were demonstrated were Think Dirty® and EWG Healthy Living.

Think Dirty® is a free phone application that supplies easy-to-understand descriptions of the ingredients of various personal care products. The app uses a 1-10 rating system. The user can determine if a product contains harmful ingredients, what those ingredients are, why they are harmful, and which safe alternative products are available.

EWG Healthy Living is a free application created by the Environmental Working Group that uses its database of personal care and food products to give in-depth information regarding the ingredients in various consumer products. Using a barcode scanner, users can look up product ratings and alternative options.

Planning

In planning this activity, CFP Project team members downloaded the phone applications and experimented with them on their own products to ensure their usefulness and to become familiar with how they worked. The team evaluated the benefits and limitations of the phone apps to determine whether they should be promoted and demonstrated at the workshop. Team members collected various product containers that could be used at the workshop to demonstrate the barcode reading function of the phone applications.

The CFP Project team decided to create wallet cards that could be used while shopping to help avoid harmful products, especially for those without smartphones. The wallet cards contain information on CECs in major consumer product categories, including foods and beverages, cleaning products, and personal care products. The cards include helpful hints to find CEC-free products in each category.

Implementation

During the workshop, two CFP Project team members provided their phones for the phone application activity. Participants were taught how to scan product labels to get pertinent information on ingredients. Participants were able to practice using the applications with a variety of products that CFP Project team members had gathered for the workshop, such as sunscreen, lotion, shampoo, body wash, hand soap, and toothpaste. Participants were encouraged to download the applications during the workshop and use their own devices during the activity as well.

During the CCWI Workshop, participants learned how to use various phone applications to scan product barcodes and determine if they contained CECs.

During this activity, the wallet cards were shown to participants as a phone application alternative, especially to those in the groups that did not have smartphones with them. The wallet cards were given to each participant in the IES tote bag that they received at the end of the workshop. There were e-versions of the cards included on the USB drives given to participants.

Results

The idea of using a phone application to assist with smart purchasing was well received by the participants. Even the few participants that did not use smartphones were interested and engaged while learning to use the applications and testing them on various product containers. Most participants that owned smartphones said that they would use the apps in their shopping, and some downloaded one or both of the applications onto their phones during the activity demonstration.

Observations and Next Steps

The CFP Project team plans to continue researching new product scanning phone applications and verifying their neutrality and function before recommending its use.

Label Reading

Objective

The objective of the label reading activity was similar to the phone application demonstration activity in that it focused on the same CBSM strategies:

1. Addressing barriers: consumers' lack of knowledge on what CECs are used in their products
2. Using prompts to trigger continued action: noticing any CECs contained in the products' ingredients

The label reading activity used a variety of personal care and household product containers to teach workshop participants how to recognize CECs in order to make better and more informed purchasing choices.

Planning

Personal care and household products were collected by CFP Project team members to demonstrate where certain ingredients are listed. Products that contained CECs and products that were CEC-free were used as examples. The team specifically worked to ensure that all the major CECs were represented in the assortment of product containers that were gathered.

Implementation

Using these product containers, workshop participants were advised to read the labels and find one of the seven CECs covered during the presentation. Participants were shown how certain CEC-free products are labeled so that participants could more easily recognize CEC-free products when shopping in stores. The CFP Project team members were able to aid participants if needed. Examples

include participants identifying triclosan in toothpaste, parabens in body lotion, and oxybenzone in sunscreen.

Results

Participants found this activity useful and felt more comfortable knowing where to find certain CECs listed on product labels. They claimed that knowing where to look for such ingredients would allow them to more easily avoid products containing CECs.

During the CCWI Workshop, participants practiced product label reading to know were certain CEC ingredients were listed on products

Observations and Next Steps

Some participants had difficulty locating the two CECs that were not covered by the presentation. The CECs oxybenzone and alkylphenols were more difficult for participants to locate simply due to the fact they were unfamiliar with them.

This issue was partly addressed in the 30-Day challenge when participants were given more in-depth information about these CECs. The complete presentation, provided on USB drives after the workshop, contained information on oxybenzone and alkylphenols. However, including them in the label reading without having discussed them explicitly during the presentation caused unnecessary confusion. In future workshops, the CFP Project team will either make the time to cover these CECs or not include them in the workshop activities.

30-Day Challenge

Objective

The 30-day Challenge to Reduce Your Chemical Footprint is a month-long challenge to instill positive habits regarding the purchase and use of personal care and household products. The challenge is divided into four week-long themes, each focusing on a different part of the house where CEC-containing products are most commonly found, making the effort to create a CEC-free household more manageable. The weekly themes were the bathroom, kitchen, laundry room, and miscellaneous places in the home. Various activities, such as safely disposing of products containing CECs or making DIY CEC-free products, would earn points for the participant. The number of points earned varied depending on the difficulty or relative expense of the activity. Participants would complete activities and record points based on an honor system.

The CBSM strategies implemented for this activity included:

1. Obtaining commitments

2. Speeding up awareness and adoption through social diffusion (primarily through the use of social media)
3. Using prompts (weekly themes) to trigger continued action
4. Identifying benefits and addressing barriers

The introduction to the 30-day challenge at the workshop gave participants an immediate way to commit to changing their purchasing habits and implement the other skills that were taught at the workshop, such as DIY CEC-free product making. It gave IES a way to stay in contact with participants after the workshop and assist in any struggles that they encountered to help ensure the sustainability of their behavior changes. The 30-day challenge reinforced commitments by allowing participants to connect with a supportive community that shared their progress in reducing chemical footprints, infusing extra motivation into participants. The 30 day-challenge reduced barriers by allowing participants to see others cheaply and easily phase out contaminated products. The 30-day challenge highlighted benefits by allowing participants to see others buy or create safer alternatives, adding emphasis to a positive social norm that everyone should care about the environment and human health.

Planning

Details of the challenge were created and discussed by CFP Project team members, including the rules, the main activities that would earn points, how many points each activity would be worth, the prize system that would be used, and what the prizes would be.

The CFP Project team created a Facebook group for the 30-day challenge. The group encouraged social diffusion among participants, allowing interaction with each other and CFP Project team members. Facebook group followers were encouraged to post questions, comments, and photos of challenge activities. CFP Project team members were available to assist with any questions or concerns participants may have during the challenge.

Implementation

CFP Project team members gave a brief introduction to the 30-day challenge that included the purpose of the challenge, the main activities involved, and the prizes that would be included. A computer was used to show the participants the 30-day challenge Facebook group and CFP Project team members answered questions pertaining to the challenge and how it would run. If workshop participants were interested, they were encouraged to include their names on a sign-up sheet. All workshop participants signed up to participate in the 30-day challenge.

After the workshop was complete, those that signed up to participate in the 30-day challenge were sent an email confirmation of their commitment to the challenge. The email outlined the challenge structure and rules for their reference, gave details about when the challenge would begin, and included a point sheet for record keeping. Participants were provided a link to the 30-day challenge Facebook group and urged to join so that they would have immediate access to a community and information resource.

At the beginning of May, the first weekly challenge email was sent, welcoming participants to the challenge and outlining the first week's theme (the bathroom). The email explained the specific CECs that would be targeted during the week, the products in which they are predominately found, how to safely dispose of such products, and tips for safe alternatives. Participants were again urged to use the Facebook group to post questions or comments throughout the week.

During the CCWI Workshop, participants were given an introduction to the 30-Day Challenge; a post-workshop activity meant to help instill commitments to reducing chemical footprints.

Each week continued in this way with the following themes:

Week 1: The Bathroom

Week 2: The Kitchen

Week 3: The Laundry Room

Week 4: Miscellaneous Places Where Chemicals/Products are Kept

At the beginning of each week, an email outlining the new theme and correlating CECs was sent to participants. At the end of the challenge, a concluding email was sent, congratulating participants on their hard work. They were requested to return their point sheets and to fill out a short evaluation of the 30-day challenge. Copies of the weekly emails, point sheet, and evaluation questions can be found in the Appendices I, J, and K.

Results

Through email correspondence during the challenge, Facebook postings, and the evaluations received, the CFP team found that a program like the 30-day challenge was helpful in instilling positive behavior change. The Facebook group was a helpful tool in answering their questions.

All of the workshop participants signed up to try the 30-day challenge; however, only about 30% actually completed the challenge by returning their point sheets and evaluations. Because of this, it is difficult to know who completed which sections of the challenge or when they stopped. In some cases, through verbal or email communication, the team was told that failure to complete the challenge in its entirety was due to a busy schedule or travel plans that made it difficult to commit to the full 30 days.

Observations and Next Steps

All workshop participants signed up to commit to the 30-day challenge. The CFP Project team found that only half the workshop participants were initially committed to completing the challenge. Because the sign-up process was done in a group setting, some participants may have felt socially pressured to sign up to participate even though they were not seriously committed. Some participants even acknowledged that while they would sign up, their schedules would likely not allow time for them to truly participate in the challenge (mostly due to travel plans that would keep them away from their homes during the challenge).

The CFP Project team plans to conduct more challenges like this in the future to help ease participants into the process of becoming CEC-free. The 30-day challenge Facebook group had only positive posts and comments from participants. They shared with each other CEC-free product price information, where to go to buy natural alternatives, and their own chemical footprint reduction tips. During “laundry room week” an individual commented on his success using the CEC-free laundry samples provided at the workshop. Asked to evaluate the 30-day challenge, one participant said she was now more likely to read labels and has become more aware of CECs in personal care and household products. This led to her avoiding fragrance in face cream, resulting in better skin condition. She appreciated having a supportive community and liked knowing that her actions would help the environment, wildlife, and human health. She recommended trying a 60-day challenge in the future.

9. IES CCWI PILOT WORKSHOP DO-IT-YOURSELF PRODUCT MAKING

Objective

The workshop included a DIY product making activity to focus on the CBSM strategy of addressing barriers and highlighting benefits. Two barriers we attempted to surmount were the perceptions that homemade products were ineffective and too much of a hassle to make. By making the product in a matter of minutes, participants would understand how simple the process was. The ability to take the product home and try it out gave participants an opportunity to test its effectiveness. We highlighted the affordable and easy-to-find ingredients used in the making of products.

Planning

Team members researched and tested personal care and household product DIY recipes to find the easiest, cheapest alternatives. Most of these recipes were found online via DIY websites and personal blogs. A complete list of all product recipes that were researched and tested can be found in Appendix L. User reviews and feedback helped us select the simplest, most cost-effective recipes. Some recipes were passed along from team members who have been making their own products prior to the pilot workshop. CFP Project team members kept up to date on current research regarding which ingredients are considered safe to guide our decisions when choosing products. All recommended DIY product recipes were thoroughly tested by CFP Project team members to ensure efficacy.

CFP Project team member making a CEC-free sugar body scrub that was later incorporated in the workshop DIY activity.

Each team member was assigned DIY products to make and try at home. After all team members completed this process, there was a discussion of which products to keep or eliminate. Some team members tested alternate ingredients and modifications to assess if one was more effective than the other (e.g., carrier oil versus coconut oil, temperature of water). After this thorough testing, CFP Project team members created a spreadsheet of all ingredients and supplies required for the workshop: those that needed to be purchased and those already made. We researched the most cost-effective options available through the Internet and in stores. Ingredients and supplies that needed to be purchased were obtained from Amazon, the Container Store, and Natural Grocers.

Implementation

After researching, testing, and choosing products, the CFP Project team finalized a list of recipes to recommend to others. A CFP Project team member purchased needed ingredients and product containers. At the IES CCWI pilot workshop, the CFP Project team made four products with participants:

- Face wash
- Hand sanitizer
- All-purpose cleaner
- Sugar body scrub

The four products consisted of affordable ingredients, were easy to make, and represented commonly used products in everyday life that were applicable to most people. The activity was set up in to workstations, and there was a worktable for each DIY product. Each table had two team members assisting participants with DIY product making. Each participant was able to take home each product that they chose to make at the workshop. Participants were provided with a USB flash drive that included a DIY recipe list. The recipes covered a wide variety of useful products, such as:

- Glass cleaner
- Wood cleaner
- Bug repellent
- Cinnamon scrub
- Oatmeal scrub with almond and chamomile
- Deodorant
- Eye makeup remover
- Toilet bowl cleaner
- Floor cleaner
- Apple cider vinegar hair conditioner

The recipe document included helpful tips for choosing safe ingredients, specifically what ingredients to use and their common purpose. See Appendix M to view the Reduce Your Chemical Footprint Tips handout.

Results

All participants engaged in DIY product making and were very intrigued and enthused by the activity. Participants made several comments that these products were indeed easy to make, and some seemed quite surprised. Participants had approximately 3-5 minutes at each workstation,

demonstrating the ease and quickness of making each product. All participants had ample time to make their product, ask questions, and engage with team members and other participants.

Observations and Next Steps

Based on observations from the workshop, barriers to fostering sustainable behavior change are the cost, level of difficulty, and effectiveness of making DIY products instead of buying commercial products that contain CECs. The goal of the IES CCWI pilot workshop was to use CBSM strategies and show participants that behavior change regarding CECs is attainable. Most recipes contained only a few ingredients and were easy to make. To show how effective these DIY products are, participants were able to test the products at home, implementing CBSM strategy of obtaining commitments. With this knowledge and experience, participants can continue these actions and teach others how easy and effective homemade products are, creating social norms.

Most participants commented that they enjoyed the DIY product making activity; specifically, they liked that it was hands-on, informative, valuable, and engaging. Of the products made at the workshop, participants liked the all-purpose cleaner the best. There was a request to make more DIY products for future workshops.

10. GROUP DISCUSSION AND INDIVIDUAL ACTION

Objective

The objective of the group discussion and individual action activity was to focus on the following CBSM strategies:

1. Obtain commitments
2. Using social norms to build support for change
3. Speed up adoption through social diffusion

The primary focus of this activity was to obtain commitments through having participants vocalize what they would do to reduce their chemical footprints based on what they had learned during the workshop.

Planning

The CFP Project team decided that it would be best to break the participants into small groups of three to allow for more meaningful and involved discussion time. The groups would be given five minutes to discuss what actions they, as a group, could take to reduce chemical footprints and what possible actions individuals could take. Using this structure, the CFP Project team felt that everyone would have a chance to give their opinion and verbally commit to actions they would take to reduce their chemical footprints.

Implementation

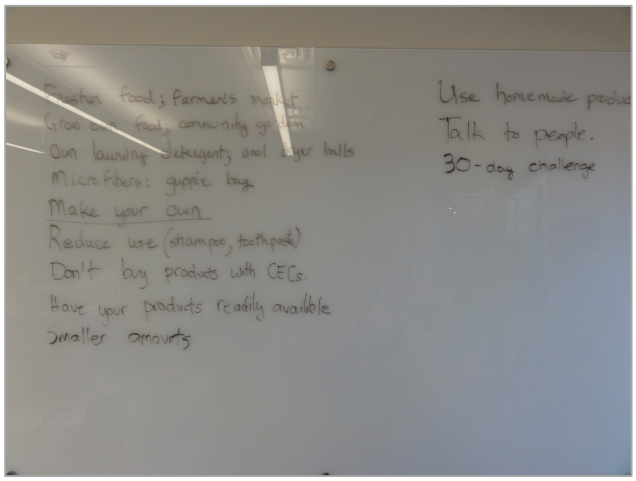
In an effort to gain sustainable commitments from workshop participants, participants were split into small groups and discussed various ways they could individually work to reduce their chemical footprint. Each group was asked to think of at least three ways that they could use what they had learned at the workshop to reduce their own use of and exposure to CECs. The groups were given approximately five minutes to discuss before presenting their ideas to the entire group.

Results

A CFP Project team member listed all the group ideas on a whiteboard:

- Purchase fresh food
- Attend farmers' market
- Grow your own food
- Join a community garden
- Use less laundry detergent
- Use dryer balls
- Reduce use of shampoo and toothpaste

- Wash clothes with microfibers less often
- Use “guppy bag” when washing microfiber clothing
- Make your own CEC-free products
- Do not buy products containing CECs
- Use smaller amounts of products
- Talk to people about how to reduce chemical footprints
- Have your product ingredients readily available
- Participate in 30-day challenge



At the end of the CCWI workshop, participants to were asked to discuss various actions they could take as a group and individually to reduce their chemical footprints.

Once the list was complete, we discussed and addressed probable concerns with carrying out any of the listed actions. Once that was complete, the CFP Project team asked participants if they felt that they could reasonably adhere to the actions they listed, to which the participants reacted positively.

Observations and Next Steps

During the small group discussions, a CFP Project team member joined each group after about five minutes to check on its progress and give guidance or advice if the group had questions about specific actions or CECs. There was a lot of meaningful discussion among participants. During the wrap-up when everyone came back together as one group to list actions on a whiteboard, there was some confusion about whether we were discussing group actions or individual actions. In future workshops, the CFP Project team plans to make this distinction clearer by listing group actions on a whiteboard that can be seen by everyone and listing individual actions on paper that participants can take with them. This would provide not only a verbal commitment from participants but also a written one that could later act as a prompt for continued action.

11. IES TOTE BAG, USB FLASH DRIVE, CEC-FREE PRODUCT SAMPLES

Objective

The CFP Project team designed the IES CCWI workshop to use as little paper as possible. With the exception of the CFP wallet cards, no informational handouts were printed. All handouts were instead included in digital form and uploaded to complimentary IES-logoed, USB flash drives that were made from recycled cardboard. The USB flash drives contained the IES CCWI workshop presentation and additional information presented at the workshop so that note-taking was not necessary. Documents uploaded to the USB flash drive were:

- IES CCWI presentation
- IES CCWI prospectus
- IES annual report
- CFP wallet cards
- Tips to reduce chemical footprints
- CEC-free product recipes list

In additional to the USB flash drives, IES-logoed heavy canvas tote bags with samples of CEC-free products were provided to participants that submitted workshop evaluation forms. All participants submitted an evaluation form and received a tote bag. Included in the tote bags were CFP wallet cards that provided tips on avoiding CECs when shopping for products and directions for do-it-yourself product making. CEC-free product samples were included to help participants start a CEC-free lifestyle.

Planning

CFP Project team members conducted research on companies that provided CEC-free products and created a spreadsheet containing product details and contact information. Emails were drafted, reviewed, finalized, and sent to these companies, with a focus on companies in Colorado. The email content contained information on IES, the CFP Project, CCWI, the workshop, and a request for CEC-free product donations. Following the email communication, a CFP team member would call the company to follow up. The spreadsheet was updated accordingly.

The CFP Project team decided that reusable tote bags containing the IES logo would be used to hold all of the free samples and CFP wallet cards. Team members hoped participants would find the bags useful, using them for grocery shopping and other activities and limiting future single-use plastic bag use. CFP team members researched affordable options and Totebagfactory.com was found to be suitable.

The workshop was designed to be implemented as a nearly paperless venture, so it was decided that the best way to share and give participants access to information after the workshop was to use USB flash drives. After researching affordable options, the CFP Project team settled on USB flash drives made from recycled paper from Logotech.com. The team thought this would help promote the message of sustainability that was used throughout the workshop.

Implementation

CFP team members were assigned as coordinators with Logotech.com, Totebagfactor.com, and the CEC-free product companies that donated supplies. The spreadsheet containing known CEC-free product companies had been compiled over a series of months and was continuously updated following any communication or product updates. The spreadsheet allowed CFP Project team members to keep track of the amount and different types of donated product samples. It was important that a wide variety of product samples be available so that workshop participants could test out many different types of CEC-free products, learn how effective they are, and create new and sustainable purchasing behaviors.

After participants turned in their workshop evaluation forms, they received a complimentary canvas tote bag containing CEC-free product samples, CFP wallet card printouts, and a USB flash drive made from recycled cardboard.

The CFP wallet cards were created and distributed to all workshop participants to provide helpful guidance for shoppers wanting to avoid CECs when purchasing personal care and household products. The CFP wallet cards included information on some of the CECs covered in the workshop, such as BPA, BHA, DEET, triclosan, and parabens. The cards provided brief information on the CECs, where they are found, the harm posed by exposure, and what safe alternative products and practices exist that can be used to avoid them. The cards were drafted, revised, finalized, and printed by CFP team members. A digital version of the CFP wallet card was included in the USB flash drive that was given to all participants and can be found in Appendix N. More details are available on the tote bags, USB flash drives, and CEC-free product samples in Appendix O.

Results

Workshop participants were surprised and pleased to receive the tote bags, CEC-free product samples, and USB flash drives. They indicated that they were grateful for the chance to try out CEC-free products. CFP Project team members referred to the USB flash drives throughout the workshop.

The USB flash drives were handed out separately because they were the most expensive component of the workshop and we wanted to emphasize their value.

Observations and Next Steps

Following the workshop, a thank-you email was drafted, reviewed, and sent to the companies that donated CEC-free product samples. The project team hopes to maintain relationships with the companies that provided donations while continuing outreach with new companies for future workshop donations. The project team did experience difficulties obtaining the tote bag order from Totebagfactory.com and will research new options for future orders. The leftover CEC-free product samples, USB flash drives, and tote bags will be used for future events. Based on the workshop participant feedback and the CFP Project team member observations, it is recommended that this part of the workshop be repeated for future events if resources are available.

12. EVALUATIONS, OBSERVATIONS, AND FOLLOW-UPS

Evaluations

Paper evaluation forms were given to all participants with six questions the team determined would be most valuable to understand the benefits of the pilot workshop and what may need to be changed for future iterations. The pilot workshop evaluation form is shown in Appendix P.

A summary of the evaluations can be found in Appendix Q. Based on the high marks included in the completed evaluations, and combined with CFP Project team member discussions and observations, all participants found the pilot workshop useful and enjoyable. Participants found learning how to make DIY products valuable and thought the activities were helpful and easy to follow. Participants indicated that CFP Project team members were well-prepared, organized, and provided valuable information during the presentation. Participants enjoyed being able to confer with each other and partake in hands-on activities and learning experiences. While some participants enjoyed everything about the workshop, others found it could have been longer. Some expressed they would have liked to include all seven CECs in the presentation and others thought a group discussion would have been valuable.

Participants had differing opinions on the most valuable components of the workshop. Some found the information on CECs most important. They found the cycle of CECs through the water system interesting. Many were surprised by the fact that most wastewater treatment plants do not remove many CECs. They found the list of CECs to avoid and the information on the USB flash drive useful. Other participants found the activities to be the most valuable part of the pilot workshop. They enjoyed learning about the phone applications and making the commitment to join the 30-day challenge. Participants enjoyed being able to meet other people who are as interested and concerned about these issues as they are.

Some participants found they would like the workshop to focus more on the presentation, delving deeper into scientific studies, and would like to have made more DIY products. They thought CFP Project team members could improve the workshop by expanding to other locations and focusing more on hands-on activities to keep participants involved.

Observations

All of the activities were popular with audience members, and they seemed engaged throughout the evaluation portion of the workshop. While participants liked the label reading activity, they found the phone applications even more valuable. The CFP Project team members concluded that more samples need to be included in the label reading portion to have a more diverse set of products and that the label reading activity would have been more valuable if oxybenzone and alkylphenols were included in the presentation part of the workshop. Participants were interested in the 30-day challenge and indicated that they would sign up and take part. The team determined it would be valuable in future workshops to include tent cards and signs on the tables to indicate the type of activity and what is in

each product. The product-making portion of the workshop was a hit; participants enjoyed making their own products and taking them home. Future workshops should use recipes that do not require hot water, and the team should bring extra measuring cups and stir sticks.

Follow-Up

Following the workshop, the team reviewed the evaluations received from the participants and compiled the data. Participants of the 30-day challenge received weekly emails and a 30-day challenge Facebook group was created to encourage participants to keep up with the challenge and allow participants to communicate with other challenge members as well as CFP Project team members.

Follow-up emails were sent after the workshop was completed. Participants received thank-you emails that contained information about the 30-day challenge. Non-participants received emails notifying them that they will be notified of future IES events. Thank-you emails were sent to all of the companies that provided IES with samples to include in the tote bags and to Dr. Barbra Sobhani, RRCC, for her help and access to RRCC Lakewood. Finally, emails were sent to other environmental nonprofits that attended the event: Clean Labels Project and Ocean First Institute.

13. IES CCWI FOCUS GROUPS AND WORKSHOP PARTICIPATION

Obtaining commitments and assistance from stakeholders and securing participation for the focus groups and workshop was a significant challenge. The First Unitarian Society of Denver had originally agreed to serve as the pilot community for the IES CCWI when it funded the endeavor. FUSD designated representatives were not responsive to repeated attempts to schedule focus groups and a workshop, requiring the CFP Project team to find an alternative community. Red Rocks Community College was an attractive pilot community based on Dr. Sobhani's initial zeal to engage with all levels of IES CCWI, along with RRCC's student population numbers and demographics. The RRCC Honors Program assisted our recruiting efforts by distributing IES CCWI fliers, emailing its Honors Program members, and reserving space for our in-person surveys, focus groups, and community workshop. The amount of in-person survey responses we received from RRCC students was impressive. Asking survey takers to include their email addresses on their survey forms was useful in conducting outreach to potential focus groups and workshop participants.

Unfortunately, we were unable to attract many RRCC students for the focus groups and workshop. Class scheduling conflicts may be one reason students did not participate. Initially, CFP Project team members planned to arrange promotional classroom visits to science and environmental classes to market the focus groups and workshops. Unfortunately, no instructors were willing to provide us classroom time. This was a serious roadblock in our promotion efforts. The CFP Project team fell back on social media posts, emails, and fliers to broadly promote the surveys, focus groups, and workshop, but the participant numbers for the workshop were underwhelming. Only 16 people signed up to participate and, of that group, only nine showed up to the workshop. The focus groups required an intense outreach campaign to IES newsletter recipients to boost participation rates. Going forward, finding ways to increase participation rates is essential, considering the amount of time and resources required.

14. LESSONS LEARNED AND NEXT STEPS

The completion of the pilot Communities for Clean Water Initiative provided the CFP Project team valuable lessons that will be used to plan the next iteration of IES CCWI.

The IES CCWI surveys successfully provided an adequate sample of community members of varying ages and diverse economic and educational backgrounds. Finding efficient ways to obtain larger and more diverse sample sizes to obtain accurate barometers of public opinion may be a future goal. Online surveys were easier to tabulate and did not allow survey takers to stray from directions, increasing survey accuracy. In-person survey takers sometimes selected multiple answers when directed to choose only a single answer. This affected the analysis of the combined online and hard copy response results. Certain questions on the hard copy surveys became different than the mirrored online survey questions, making it difficult to compare. It is recommended that future surveys only be available online. The range and wording of the survey questions seemed adequate to the task of finding out what people knew and how people felt about the issue of CEC pollution, their product purchasing motivations, and existing benefits and barriers to behavior change. For future surveys, the CFP Project team will review and analyze the questions for possible replacements and adjustments.

The focus groups successfully elaborated on the majority opinions of the surveys and provided useful information on the barriers and benefits to behavior change. Future analysis and refinement are needed to improve member diversity and participation numbers. The focus groups were populated with many environmentally conscious individuals, many of whom already supported IES and were aware of the issue of CEC pollution. The day, time, and location of the focus groups were a hindrance for some participants. Hosting the focus groups in the evening or weekends could increase participation for working adults, but reduce participation among people who do not want to devote their off-time to participate in focus groups. The CFP Project team will evaluate alternative meeting locations, such as other college campuses, middle and high schools, and libraries. It is unclear how altering these variables will increase or decrease overall participation rates.

The pilot workshop was highly rated by participants and provided CFP Project team members valuable insights for future events. Upon the completion of the workshop, the team found that the information obtained from the surveys and the focus groups should be more thoroughly integrated into the workshop. For example, product price and effectiveness were important factors for participants in all stages of the pilot initiative. Adding activities that provide cost information could help in securing behavior change commitments.

Skipping oxybenzone and alkylphenol in the presentation resulted in confusion later in the activities section of the workshop. Some participants found product labels and finding ingredients confusing without being introduced to these specific CECs. Including those CECs in the presentation would provide a clearer understanding on how to shop for products that contain them, such as sunscreen and detergents.

Based on team member observations, commitments made by workshop participants were not as validating as they could have been. In future workshops, commitments should be more concrete, such as participants writing down their specific intents. There should be action plans created during this stage of the workshop: participants should state what they are going to do specifically, when are they going to do it, how are they going to do it, and who is responsible for what action. This is especially valuable for any participants who are unable or unwilling to participate in the 30-Day challenge.

Based on workshop evaluations, participants thoroughly enjoyed the workshop. The activities and DIY product making kept participants engaged. Some participants wanted more time for the DIY product making; others wanted additional facts on CECs.

A post-workshop analysis was conducted by the CFP Project team, followed shortly after with a debrief with the CFP Project Steering Committee. The meeting notes of these two events can be found in Appendices R and S. The planning of a short, three-minute CEC explanation video is underway to gain attention from individuals outside of IES and market the CFP Project as well as the IES CCWI. The CEC explanation video will be made for future IES CCWI outreach to gain participation from a more general audience unaware of CECs and their impact. The surveys will be reproduced if necessary; new communities pose differing barriers to behavior change and could hold a different mindset on clean water. Input from surveys would therefore be necessary in developing a specific workshop for that community. Focus groups will be reproduced to gain a larger and more diverse set of opinions in a community. The workshop will be modified to fit a varied set of opinions in a community, especially when expanded to communities outside of Red Rocks Community College Lakewood.

15. CONCLUSION

The IES pilot CCWI succeeded in implementing community-based social marketing to further the goal of instilling sustainable behavior change for reducing chemical footprints. CFP Project team members gathered useful benefits and barriers information and efficiently organized the surveys, focus groups, workshop, and post-workshop follow-up.

The 295 survey responses were larger than expected and provided valuable information to unpack with two thoughtful focus group discussions. Opinions from the surveys and focus groups led to useful workshop content adjustments. Participants were pleased to receive the $15 Whole Foods gift card, but it was not clear how many showed up in response to that incentive. Additional focus groups would be useful, but obtaining focus group participants that are not connected to IES is needed to ensure diverse and objective results.

The workshop presentation went smoothly and met our time goals to keep the audience's attention. In the future, time needs to be allotted during the workshop presentation to focus on oxybenzone and alkylphenols. There was slight confusion with the label reading activity because we asked participants to identify CECs that were not verbally covered in the presentation. The workshop product making and activities were well received, and participants found them useful. Several participants downloaded the barcode scanning phone applications Think Dirty® and EWG Healthy Living. Workshop participants said they were interested in the 30-day challenge, but post-workshop involvement was lacking. Obtaining more outright commitments for the 30-day challenge during the group discussion activity is recommended.

Given the time and resources required to host a community workshop, better strategies are needed to attract robust and committed participation to make the event worth the effort. While we received valuable logistical help from the RRCC Honors Program, the RRCC faculty declined to engage with our student outreach efforts. We had enough materials to accommodate 50 participants. However, only 16 people signed up to participate, and of that group, only 9 showed up. Regardless of the makeup, location, or scheduling, IES will need more help in future events from lead stakeholders and community organizers to entice or guarantee captive audiences.

Despite the low attendance, workshop participants seemed engaged throughout the workshop and indicated through their interactions and evaluations that they enjoyed and found it useful. The pilot provided a good foundation that can be improved to increase effectiveness. Putting into effect possible adjustments detailed in this report, the IES CCWI could be improved and later expanded to additional communities.

16. PLANS FOR PRINTING, BINDING, AND DISTRIBUTION OF REPORT

The final report will be available electronically on our website: www.i4es.org. We will print a limited number of reports. If you would like a printed copy, please email IES at solutions@i4es.org. Appendices are not included with the hard copy of this report, but are available online.

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