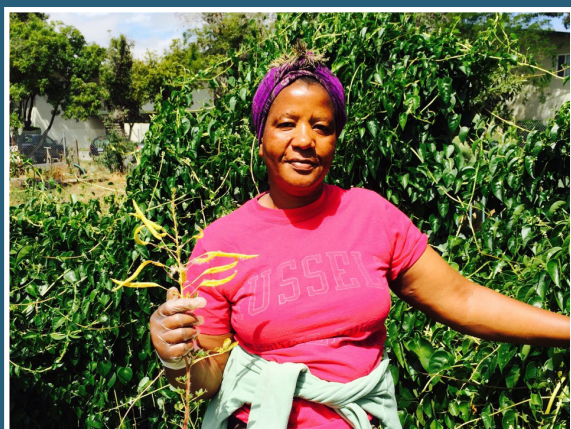
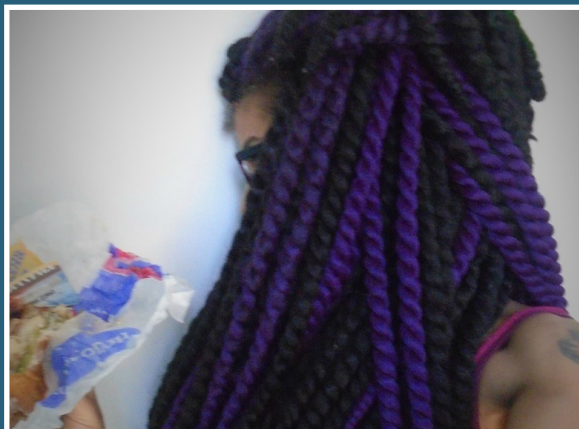


# Berkeley Food Institute Research Showcase

MAY 3, 2017 | ALUMNI HOUSE, UC BERKELEY



# Schedule

8:45 *Light breakfast*

9:00 *Welcoming Remarks by Alastair Iles, BFI Faculty Co-Director*

9:05 **Engaging Indigenous Farmworkers in Promoting Occupational Health and Safety**

John Balmes (Public Health) and Suzanne Teran (Labor Occupational Health Program)

9:20 **Making the Business Case for Improved Farm Labor Conditions**

Christy Getz (Environmental Science, Policy, and Management/Cooperative Extension); Ron Storchlic (UC Agriculture and Natural Resources Nutrition Policy Institute); and Maria Echaveste (Center for Latin American Studies)

9:35 **Exploring Millets to Diversify Cereal Options in Our Diet and the Environment**

Peggy Lemaux (Plant and Microbial Biology); Amrita Hazra (Indian Institute of Science Education and Research, Pune); Patricia Bubner (Postdoc, Energy Biosciences Institute); Pedro Gonçalves (Postdoc, Plant and Microbial Biology); and Rebecca Mackelprang (PhD Candidate, Plant and Microbial Biology)

9:50 **Mapping Agro-Biodiversity Hotspots and Cultural Foods in the Urban Food Desert: Fostering Community Food Security, Biocultural Diversity, and Health**

Jennifer Sowerwine and Maggi Kelly (Environmental Science, Policy, and Management/Cooperative Extension); Rob Bennaton (Cooperative Extension); Thomas Carlson (Integrative Biology); Andrew Doran (University and Jepson Herbaria); and Brent Mishler (University and Jepson Herbaria/Integrative Biology)

10:05 **The Berkeley Sugar-Sweetened Beverage Tax: A Transdisciplinary Approach to Evaluating the Impact**

Karen Sokal-Gutierrez, Kristine Madsen, and Lori Dorfman (Public Health); Jennifer Falbe (Postdoc, Public Health); Pamela Mejia and Laura Nixon (Berkeley Media Studies Group); and Patricia Crawford (UC Agriculture and Natural Resources Nutrition Policy Institute)

10:20 **Home and Harvest: A Participatory Approach to Improving Food Security among Formerly Homeless Youth in Permanent Supportive Housing**

Colette Auerswald and Emily Ozer (Public Health); Jessica Ciprioni, Apple Cronk, Jade Deva, Josh Frazier, Jessica Holland, Mercedes Lacky, Nick Lindley, Amber Sheldon, and Justin Smith (Young Adults Photovoice Project)

10:35 *Closing Q&A to Full Group (time permitting)*



# Engaging Indigenous Farmworkers in Promoting Occupational Health and Safety

Agriculture ranks among the most dangerous industries in the United States. The 2015 fatal injury rate for agriculture, forestry, and fishing was the highest of any industrial sector, at 22.8 per 100,000 full-time equivalent (FTE) workers compared to 3.38 per 100,000 for all workers in the US.<sup>1</sup> Furthermore, an average of 160 agricultural workers per day suffer lost-work-time injuries, 5% of which result in permanent impairment.<sup>2</sup>

Fair, safe, and dignified working conditions are critical elements of a healthy, just, diverse, and resilient food system. Achieving these conditions depends on empowered workers, able to advocate for their rights and for needed changes. The ultimate goal of this work is transformative change in the role workers play in agricultural systems, so that they are engaged and feel they have the self-efficacy and agency to advocate for themselves.

## Objectives

1. Build the foundation for a sustainable and effective partnership among indigenous farm workers, trusted indigenous organizations, and university researchers.
2. Assess indigenous farmworkers' and other stakeholders' perceptions and experiences about occupational health hazards, ability to take action, and challenges and opportunities for interventions.
3. Use findings from this formative research and partnership development phase to set the stage for an intervention research program that uses a theoretical framework of community-based participatory research, capacity building, and social network analysis.



Farmworkers in Oxnard, California. Photo by Alex Proimos.

## Methods

- Focus groups with indigenous farmworkers: two in Spanish and one in Mixteco (32 participants total)
- In-depth interviews with indigenous leaders and community representatives: five interviews with staff from Frente Indígena Organización Binacional, California Rural Legal Assistance, Inc., Central California Legal Services, United Farm Workers, and Centro Binacional para el Desarrollo Indígena Oaxaqueño.

## Findings

### Health hazards and problems in the field

Workers reported a range of health hazards, including: falling from ladders, getting cut from shears and tools, heat, poor quality tools and equipment, pesticides sprayed near workers, slipping and falling, stress, working at fast pace, sexual harassment, and verbal abuse.

## Factors that influence risk

### Individual and interpersonal factors:

- Accepting hazardous conditions as the norm
- Distrust of people outside the indigenous community
- Lack of unity within crews
- Fear of retaliation

### Organizational and work site factors:

- Workers responsible for providing their own equipment (shears, gloves, boots, etc.)
- Lack of knowledge of indigenous languages
- Crew leader attitudes and discrimination
- Piece-rate system rewards fast work pace
- Lack of medical care if injured
- Enforcement of heat regulations (one focus group noted significant changes since Cal/OSHA began enforcing heat regulations)

## Extent to which workers feel they can advocate for themselves

There was a strong sense of vulnerability and powerlessness among many of the workers. Issues such as immigration status, language, and a perceived scarcity of available work contributed to the workers feeling like they had little standing or recourse in the face of unsafe working conditions, harsh treatment, or unfair practices.

In each group, some workers shared stories of actions taken, for example, to clarify wages and payment before starting work, to demand higher wages, or to call Cal/OSHA when they lacked water. Factors that may influence workers' ability to take action include their length of time in US, belief in having experience needed by employers, training as community educators, and personality. Pay rate and wage theft were reported as the most important issues among workers.

## Crew leaders' role in working conditions

Crew leaders play a critical role as a link between workers and contractors or growers. Many focus group participants felt that crew leaders often exhort employees to work faster, have abusive attitudes, are not responsive to concerns, and are not well prepared for role.

## Conclusions and Implications

The themes raised in the formative research highlight the importance of multiple points of intervention in order to enhance the health and well-being of indigenous farmworkers effectively, including efforts to influence growers and labor contractors to improve working conditions. Implications for future interventions with workers include framing occupational health as a social justice issue, working with trusted community members, and addressing language needs. In terms of policy, adequate enforcement of labor and safety regulations is critical in influencing employer behavior and policies that incentivize training and professional development for crew leaders. The research team was successful in establishing a partnership and is pursuing follow-up research opportunities.

## Research Team

Suzanne Teran and John Balmes (UC Berkeley Center for Occupational and Environmental Health), Catherine Heaney (Stanford Prevention Research Center), and Leoncio Vásquez (Centro Binacional para el Desarrollo Indígena Oaxaqueño)

## References

1. *National Census of Fatal Occupational Injuries in 2015*. Bureau of Labor Statistics. December 16, 2016.
2. "Agricultural Safety." Centers for Disease Control and Prevention. December 15, 2014. Accessed April 28, 2017. <https://www.cdc.gov/niosh/topics/aginjury/>.

# Making the Business Case for Improved Farm Labor Conditions

The goal of this project is to generate much needed data to support the implementation and roll-out of the Equitable Food Initiative (EFI), a new voluntary certification program promoting reduced pesticide use, greater food safety, and improved farm labor conditions. EFI is a collaboration between farmworker unions, growers, retailers, and pesticide and food safety consumer advocacy organizations.

One of the underpinnings of the Equitable Food Initiative's approach is the creation of "Leadership Teams" on EFI-certified farms that consist of growers, farm managers, field supervisors, and field workers. This model is meant to ensure that all stakeholders understand EFI standards, create channels of communication and collaboration, and empower workers to report instances of non-compliance.

## Objectives and Methods

### The Business Case for Improved Farm Labor Conditions

**Objectives:** Identify the costs and benefits of participating in EFI (and high-bar labor standards in general), and develop a set of indicators that would allow quantification of these costs and benefits.

#### EFI by the numbers

Includes **19 farms** in US, Canada & Mexico

Covers **10,000** field workers

Goal of **100,000** workers by 2022



Strawberry pickers at Sierra Farms, an EFI-certified farm. Photo by Diane Villadsen.

#### Methods:

1. Literature review
2. Key informant interviews with academics
3. Grower interviews
4. Farmworker focus groups

### Effectiveness of Leadership Teams

**Objectives:** Evaluate the strengths and weaknesses of EFI's Leadership Team implementation on five farms in the United States and Mexico.

#### Methods:

1. Observation of 5-day Leadership Team training in Mexico
2. Observations of Leadership Team meetings
3. Focus groups and key informant interviews with growers, farm managers, Leadership Team members, non-Leadership Team farmworkers, and academics

# Findings

## The Business Case for Improved Farm Labor Conditions

A set of farm-level indicators were developed to assess impacts of improved labor conditions:

- Retention and access to a stable labor force
- Occupational Health and Safety
- Productivity
- Product quality
- Food safety
- Legal/lawsuits (wage & hour, sexual harassment, etc.)
- Marketing
- Worker satisfaction

## Effectiveness of Leadership Teams

### Benefits for workers:

- Ability to advocate for improved conditions without fear of retaliation
- Greater transparency and awareness about farm management decisions
- Improved communications and reduced conflict
- More respectful treatment; culture of care
- Women, indigenous workers report reduced harassment and discrimination

### Concerns:

- Awareness of specific labor standards is limited
- Potential for leadership “abuse” if not implemented well
- Role of women, indigenous workers and contract workers on leadership teams
- Steep learning curve to successful implementation; additional support needed on some farms

### Benefits for growers:

- Improved two-way communication; Leadership Teams convey information to and share feedback from field workers
- Growers are able to address workers’ concerns, which improves worker morale and satisfaction
- Leadership Teams often handle conflicts as they arise, freeing up supervisors’ time

### Concerns:

- High training costs
- A lot of time spent “teaching to the test” to pass audit

## Conclusions and Implications

Growers and workers reported many benefits associated with participation in EFI, including high levels of satisfaction with the EFI Leadership Team model. In fact, growers indicated that they would maintain the model even if it were not an EFI requirement. Overall, our findings suggest that with meaningful participation of farmworkers and farmworker organizations, market-based initiatives can be a promising mechanism for improving farm labor conditions. However, they are not a substitute for collective bargaining’s ability to put workers on a more level playing field. Next steps for further research include conducting a pre- and post-assessment of farms joining EFI (based on the indicators developed in this research) and comparing social certification programs in the United States.

## Research Team

Christy Getz (Environmental Science, Policy, and Management; UC Cooperative Extension), Ron Storchlic (UC Agriculture and Natural Resources), and Maria Echaveste (UC Berkeley Center for Latin American Studies)



## THE MILLET PROJECT

# Exploring Millets to Diversify Cereal Options in our Diet and the Environment

Millet is a drought-tolerant, gluten-free grain with a diverse nutrient profile. Despite this, it is not commonly grown or consumed in the United States, where corn, wheat, and rice dominate cereal grain production. “The Millet Project” (TMP) was initiated at the height of California’s drought in 2015. The goal of the project is to investigate how different millet varieties grow in various microclimates in California and the effect of drought and semi-drought conditions on their yield. TMP participants also strive to convey the benefits of millet to farmers and consumers in order to diversify the human diet, and consequently, agriculture.

## Objectives

1. Test cultivation of several millet varieties at different locations in California on a small-scale.
2. Build collaborative relationships with regional farmers and provide them with the best information about growing millets in their locations. This includes conducting a cost-benefit analysis of growing millets to measure its profitability per acre, allowing farmers to compare millet production against other crops.
3. Introduce millets to consumers and educate them about the many benefits of the grain through local millet exhibits and outreach events. Connect food producers with farmers and customers, encouraging them to use millet.

### So, what are millets?

*Millets are a grain family that is gluten-free, lower in carbohydrates, and higher in protein, fiber, and minerals than most other grains.*



Millet varieties. Photo by Amrita Hazra.

## Methods and Findings

### Test small-scale cultivation of different millet types

Along with farmer-collaborators, the team tested the growth of different varieties of millets in different agroclimatic conditions in California. In the first year, three types of millets (Japanese, foxtail, and pearl) were tested, and in the second year, finger millet and two varieties of teff—also a millet—were added. TMP assisted farmers by providing planting guidelines. The TMP team tested the effect of three different field variables on the various millet varieties:

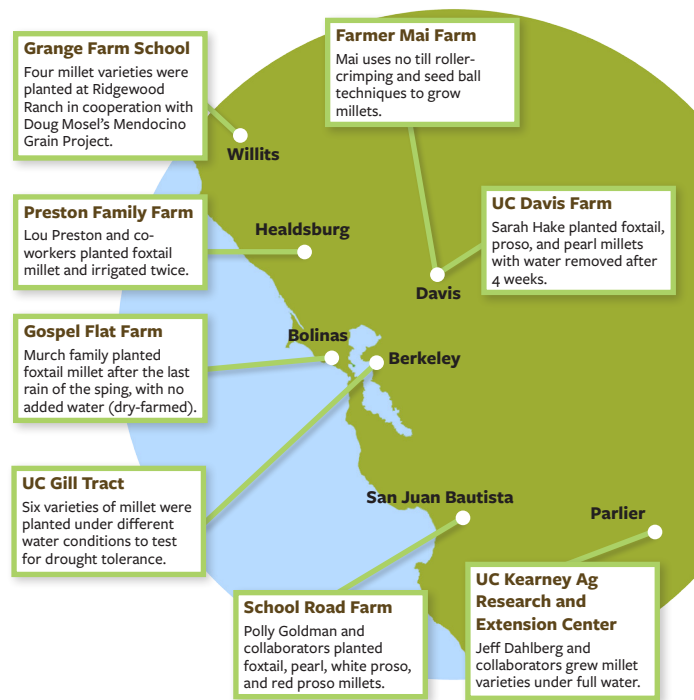
- watering regimes (irrigation, semi-irrigation, drought)
- soil conditions
- temperatures

At the end of the growth period, growth and yield of each millet variety were measured using:

- plant height
- number of millet heads
- length and weight of the seed heads

Numbers were correlated over the two years, and another year of planting is under way.

## Approach local California farmers to encourage cultivation of millets



Map of project sites with descriptions.

Through an annual exhibit, word of mouth, and media coverage of the project, several farmers and researchers in California, other states, and other countries are now interested in working with TMP and growing millets.

In its first year, the project worked with collaborators at six sites in California to grow millet, and expanded to seven sites in the second year. In its third year, TMP will develop new collaborations across the United States and internationally. To encourage farmers to grow millets, the project also works to connect growers with local buyers, small business, and food manufacturers.

### Outreach to the community

In the past two years, the annual Millet Project Exhibit has introduced the team's efforts to the public. TMP invited the Bay Area community to the UC Gill Tract to see the millet varieties being grown first-hand, taste food made with millets, and take home millet seeds and grain to cook. The Millet Project team has developed several

new millet-based products with potential for viability in the consumer marketplace and has collected valuable feedback on the products using surveys. In addition to the Millet Exhibit, TMP members have presented the goals and successes of the project at several other venues and events, including Cal Day at UC Berkeley, the California Academy of Sciences, and Litquake in San Francisco. In the future, TMP members wish to carry out similar activities to popularize millets and millet-based food.

## Conclusions and Implications

In a comparison of different millet types in three Northern California locations, it appears that pearl millet is likely to be the most drought-tolerant of the varieties tested. The Millet Project has garnered interest among farmers, including those curious about growing millets in California, as well as farmers outside the state who already grow millet and would like to collaborate. Public outreach events served not only to introduce consumers to millet, but also to gather feedback on millet-based products. This ongoing work will hopefully serve to popularize millet as both a nutritious food and a drought-resistant grain crop.

## Research Team

*Principal Investigators:* Amrita Hazra (Indian Institute of Science Education and Research, Pune), Patricia Bubner (Energy Biosciences Institute), Peggy Lemaux (UC Cooperative Extension), Sarah Hake (USDA Plant Gene Expression Center)

*Current team members:* Pedro Gonçalves (Postdoc, Plant and Microbial Biology), Rebecca Mackelprang (PhD candidate, Plant and Microbial Biology), Nicholas Mylet (MBA candidate, Haas Business School), Jyoti Taneja (Postdoc, Plant and Microbial Biology), Hailey Zhou, Elijah Bartolome, Eileen Wu, Alyssa Case, and Jerry Li (undergraduate students)



FOSTERING FOOD SECURITY, BIOCULTURAL DIVERSITY, AND HEALTH

## Mapping Agro-biodiversity Hotspots and Cultural Foods in the Urban Food Desert



Kenyan gardener grows cultural plants high in protein and medicinal qualities. Photo by Jennifer Sowerwine.

The purpose of this project is two-fold: 1) to increase the visibility and opportunity for scaling up the production and exchange of culturally important food plants to help foster healthful food traditions and combat food insecurity in urban food deserts, and 2) to test the hypothesis that urban areas with high cultural diversity may also have high concentrations of agro-biodiversity in their gardens. We will survey the diversity of cultural food plants that are being grown in East Bay community gardens and create an interactive, participatory visual tool (GIS map) for communities to promote seed and plant sharing.

### Objectives

1. Gather ethnographic and botanical information about East Bay urban agro-biodiversity and cultivated cultural food plants.
2. Develop an interactive GIS map of East Bay community gardens and urban production farms in collaboration with community-based non-profits,

documenting agro-biodiversity with socio-economic, demographic, and food desert overlays.

3. Create an East Bay Cultural Food Exchange to increase visibility of and promote the exchange and cultivation of cultural foods.

### Methods

- 1. Planning:** 15 students (13 undergraduate and 2 graduate) were trained in ethnobotanical research and plant collection methods. 106 gardens (school, community, for-profit and non-profit farms) in the East Bay were identified and added to a GIS database/map.
- 2. Participatory Research:** At 12 community gardens, the team took photos and conducted ethnobotanical interviews with 46 gardeners from 18 different ethnic backgrounds. Information was gathered on over 800 plants and plant samples were collected to determine biodiversity patterns and hotspots.
- 3. Extension:** The team hosted four seed and plant exchanges to engage the East Bay community, and informed refugee and immigrant farmers about gardening opportunities.

### Findings

#### High Agrobiodiversity in the East Bay

We identified 310 species (not including varieties) of plants representing 71 plant families in just 10.5 acres. Eight plant families make up more than half of all plant species identified, yet more than 60 families contribute 48% of all species, indicating very high botanical diversity.

In contrast, the world's food supply depends on about 150 plant species. Of those 150, just 12 provide three-quarters of the world's food.

### Community Gardens are Vital for Food Security, Cultural and Mental Health

Access to food was the primary reason people gardened (33%) followed by enjoyment (22%), mental health (15%), physical health, spending time with friends and being outside (4%). There were 18% that said "other," which included spiritual reasons, ability to share food, learn new things, access organic food, and for art. Immigrant gardeners maintain strong cultural ties to their food plant heritage, "These are important ingredients in my cuisine, they remind me of my home and mother." Many share their cultural foods with family and friends outside of the Bay Area. All indicated a desire for more land, and four indicated that loss of the garden would pose great hardship.

### Relationship between Agrobiodiversity and Cultural Diversity

Many unique varieties, species and plant families are cultivated by immigrants for food, medicinal and spiritual reasons in the East Bay. Inter-cultural exchange is a vibrant part of diverse community gardens in which gardeners

share seeds, starts, recipes, and knowledge. Many species can be considered "global" species such as cucumber, pepper, leafy greens and mints, however immigrant groups often cultivate unique varieties.



### Conclusion: Risks and Opportunities for Urban Agrobiodiversity

East Bay urban gardens are important repositories of agrobiodiversity, and contain rich cultural knowledge and sharing of culturally important food plants for both food security and mental/physical/social/cultural health outcomes. But like other vulnerable ecosystems, we need to consider urban gardens as part of the larger agroecosystem and take measures to conserve & protect them. Tenuous land rights, development pressures and shifting priorities threaten the viability of urban agroecosystems. Future research will include expanding the number of gardens, and further developing and promoting the interactive garden map.

### Research Team

Jennifer Sowerwine and Maggi Kelly (UC Cooperative Extensive; Environmental Science, Policy, and Management), Thomas Carlson (Integrative Biology), Rob Bennaton (UCCE).

#### Acknowledgements:

*Special thanks to community partners and gardeners for facilitating access to their gardens and sharing information.*



# THE BERKELEY SUGAR-SWEETENED BEVERAGE TAX

## A Transdisciplinary Approach to Evaluating the Impact

Frequent consumption of sugar-sweetened beverages (SSBs)—especially by children—is contributing to high rates of tooth decay, obesity, cardiovascular disease, and diabetes. In an effort to reduce these health threats, Berkeley became the first municipality to pass an excise tax on SSBs. While most of the public dialogue on SSBs has focused on the obesity-related concerns, the oral health concerns warrant additional attention. Through an interdisciplinary collaboration among public health, nutrition, dental and media experts, and community groups, this project assesses the impact of Berkeley’s SSB tax by adding evaluation of oral health themes through analysis of media messages, focus groups and interviews with parents, and tracking oral health outcomes through existing child dental screening data.

### Objectives and Methods

#### 1. Evaluate the public debate about SSB excise taxes, including the role of oral health, through the window of news coverage

In collaboration with the Berkeley Media Studies Group, the team collected data from local and national media—television, newspapers, e-news, radio, home mailers and social media—to assess how the SSB tax debates unfolded during the campaign and immediately following the elections. The team coded and analyzed how, by whom, and in what context oral health arguments were used relative to arguments around obesity, diabetes and other SSB-related health outcomes.

#### 2. Determine the saliency of oral health, relative to other health outcomes, among Berkeley voters

In collaboration with Berkeley Head Start and Berkeley Unified School District, the team conducted focus groups



Photo by Chen Gong, *Daily Californian*.

with Berkeley voters who have children under twelve years old around issues of oral health, other SSB-related health outcomes, and the SSB tax campaign. Additionally, the research team conducted interviews with twenty Berkeley parent voters, in both English and Spanish, to explore what they felt, knew, and practiced when it comes to giving their children SSBs.

#### 3. Determine the impact of Berkeley’s SSB tax on changes in oral health among Berkeley children

In collaboration with UCSF School of Dentistry, the team developed partnerships with the City of Berkeley’s Oral Health Program and Alameda County’s Office of Dental Health to begin assembling a dataset of Berkeley children’s oral health outcomes pre- and post-tax.

### Findings

#### 1. Dental professionals can be better engaged in SSB tax efforts

Dental professionals were not significantly involved in the media efforts around the SSB tax, and oral health/tooth decay was mentioned in only 2% of the communications. This study identified a missed opportunity that could



be seized in future SSB tax efforts—to increase the involvement of dental professionals and increase the focus on reducing SSB consumption to reduce tooth decay in children and adults.

## 2. Parents want to reduce sugar consumption, but additional education and outreach is needed

Parents were interested in reducing their families' sugar consumption, but held misperceptions regarding the sugar content of different beverages, and experienced social pressures to consume SSBs at family and community events. Parents who succeeded in reducing SSB consumption often cited education or personal experiences with diseases such as obesity, diabetes, and tooth decay as motivation for behavior change. Parents found visual messages regarding oral health very impactful.

## 3. Parents seek greater transparency over how the tax funds are being used

Although most parents supported Measure D, and some reported decreasing SSB consumption as a result of the tax, many expressed confusion and concern over how funds were being used.



An example of marketing materials created by Contra Costa County to communicate the connection between consumption of SSBs and children's oral health.

Soda can destroy teeth, cause obesity and lead to type II diabetes.  
**Protect your kids. Choose water instead of sugary drinks.**

FIRST5  
Healthy + Active  
Children 5

CutSugaryDrinks.org

## Conclusions

Berkeley's passage of the SSB tax in November 2014 provided an unprecedented opportunity to evaluate the

impact of these campaigns and taxes. Our study is the first to document parents' reactions to a local SSB tax and their responsiveness to health messages, particularly regarding oral health. The study identified an opportunity to increase advocacy by dental professionals and expand public health messages to oral health, which may increase the effectiveness of advocacy and messaging beyond those limited to obesity and diabetes.

In addition, the study identified a need to further educate parents about the sugar content of SSBs and the how funds from Measure D are spent, and to develop strategies to support parents to reduce SSB consumption, particularly at social events.

## Next Steps

Our team is disseminating the study results through multiple avenues including presentations, websites, and professional publications. This study's interdisciplinary partnerships—across the university, public health, nutrition, dentistry, media experts, public health agencies, and community groups—may be extended for further interventions and studies focused on obesity and oral health. Berkeley's SSB tax may stimulate changes at multiple levels: in food environments via higher prices, message environments via media, culture by changing social norms, and individual behavior and health.

Lessons learned from this study can provide important information for other cities promoting SSB taxes (including San Francisco, Oakland, and Albany where SSB taxes were passed in November 2016), and other areas that are planning SSB tax initiatives.

In all, Berkeley's SSB tax serves as a landmark case study of a local economic approach to changing food systems, which may inform future local and grassroots efforts to improve the food and agricultural environment.

## Research Team

Karen Sokal-Gutierrez, UC Berkeley School of Public Health (SPH); Kristine Madsen, SPH; Jennifer Falbe, SPH; Lori Dorfman, SPH and Berkeley Media Studies Group (BMSG); Pamela Mejia, BMSG; and Patricia Crawford, SPH

## HOME AND HARVEST

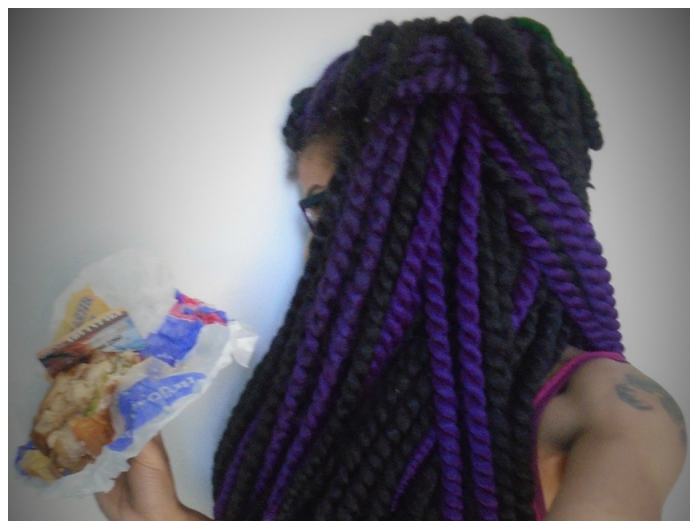
# Improving Food Security Among Youth in Permanent Supportive Housing

Food insecurity is a critical issue among minors and young adults who experience homelessness and unstable housing. In the 2013 San Francisco Point in Time count, 61% of unaccompanied minors and homeless young adults ages 8–24 reported food as their greatest need.<sup>1</sup> Even for youth who manage to obtain permanent supportive housing, many continue to face barriers to obtaining healthy and adequate nutrition. In our prior work, we found that among youth living in San Francisco’s first city-funded permanent supportive housing building specifically designated for transitional aged youth (aged 18–24), 71% of residents scored at a level of severe food insecurity on the Household Food Insecurity Access Scale,<sup>2</sup> and an additional 16% were moderately food insecure.

This study was launched in order to better understand the barriers to obtaining adequate nutrition among youth with a history of homelessness/unstable housing now living in permanent supportive housing. We chose a participatory, arts-based methodological approach (PhotoVoice) to enable the youth participants to take ownership of the research process and explore issues of food insecurity in their lives in a creative, engaging manner.

## Objectives

1. Assess and document barriers to obtaining adequate healthy foods faced by youth living in permanent supportive housing.
2. Inform programs and practices around food security for housing providers working with youth who have experienced homelessness.



An EBT card inside a Carl’s Junior sandwich. Photo by Jade.

3. Increase public awareness and engage community members, businesses, and policymakers in discussion about homeless, unstably housed, and marginalized youth’s experiences of hunger.
4. Inform potential philanthropic or policy solutions to food insecurity among vulnerable youth populations.

## The Research

The Young Adult Photovoice Project (YAPP) is a community-based participatory research study designed to assess, document, and disseminate an understanding of the barriers to obtaining adequate healthy food faced by formerly homeless youth. The project utilizes PhotoVoice, a research methodology that combines photography and group discussion in order to amplify the voices and visions of marginalized communities.

Nine young adult residents (ages 18–25) participated in the study. The project consisted of eleven 2.5-hour long sessions over a period of four months. Study participants were given digital cameras and received training in photography as well as in the safety and ethics of taking pictures. Each week participants chose a prompt to guide their photo taking, and participated in critical reflection and dialogue around their photos. Participants subsequently created captions and wrote narratives for their photographs. All group discussions were audio recorded and transcribed verbatim, and were coded using thematic analysis. The project culminated in a final photography exhibit in downtown San Francisco.

## Findings

Group discussions of photographs revealed several important barriers to food insecurity. These included:

- Inadequate funding through government assistance programs to cover monthly food expenses
- Lack of accessible, affordable healthy food outlets near the supportive housing facility
- The importance of pets as emotional support and the prioritization of limited funding on pets over food
- Challenges associated with communal living, such as the lack of hygiene in the communal kitchen
- The stigma associated with seeking free meals at homeless shelters and soup kitchens
- Restrictions imposed by restaurants and grocery stores on giving away unused food
- The lack of fresh, healthy foods included in the food boxes given out by non-profits
- Health issues that impede some participants from being able to leave the building on a regular basis to seek out food.

***“I wish my food stamps didn’t get cut off. I don’t know why they got cut off. So I had to go to the food bank and get all of this crap. I spent all of my money on my dog’s food.” – Nick, YAPP participant***



“Your Trash, My Treasure.” Photo by Josh.

## Implications

Findings highlight the challenges of youth entering into permanent supportive housing related to food security. In addition, findings presented through the final photo exhibition helped to increase awareness of food insecurity among community members, businesses, and policymakers in San Francisco.

## Research Team

Youth photographers: Amber, Apple, Jade, Jessica, Jessica, Josh, Justin, Mercedes, and Nick; Colette (Coco) Auerswald and Emily Ozer (Principal Investigators, Public Health), Corey Drew (Project Coordinator), Kelly Johnson (DrPH student researcher), Sarah Dobbins (photography mentor)

## References

1. *Homeless Point-in-Time Count and Survey: Comprehensive Report*. Applied Survey Research (ASR). 2013.
2. *Household Food Insecurity Access Scale (HFIAS) for Measurement of Household Food Access: Indicator Guide (v. 3)*. USAID. Washington, D.C.: Food and Nutrition Technical Assistance Project, Academy for Educational Development, August 2007.