

Closing the Exposure Assessment Gap: Community Based Research and The Taking Stock Study

Bhavna Shamasunder, Astrid Williams, Ami Zota, Lariah Edwards, Elissia Franklin,
Sandy Navarro, Robin Dodson

July 20, 2023

For Collaborative on Health and Environment



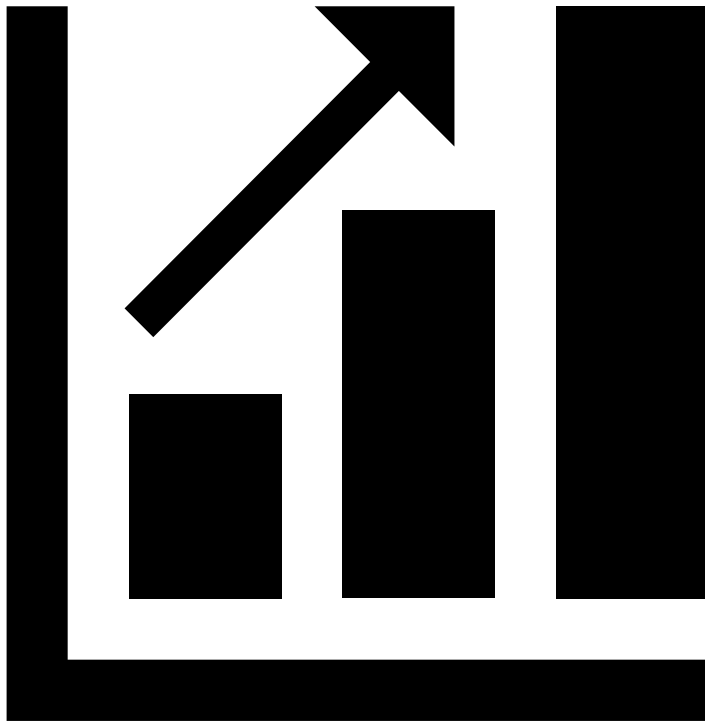
Problem Statement (Vandenberg et al, 2023)

There are major sources of uncertainty in exposure assessments, and when these uncertainties contribute to underestimates of human exposures, they detract from the validity of risk assessments and ultimately put the public at risk

Our goal:

Identify big and important problems in exposure assessments and make recommendations for how to address these with improved use of science in policy/regulation.

With increasing numbers of chemicals released into the environment, many exposures are unknown



- Exposure assessments can't keep up with the number of chemicals on the market
- Chemicals are evaluated one at a time
- Regrettable replacements are introduced
- Chemical identities are kept secret as confidential business information
- The absence of chemical standards make exposure assessments impossible



The Taking Stock Study

Since 2018, our community-academic partnership has worked to reduce health disparities among women of color by addressing chemical exposures through consumer products.

Women of color are disproportionately exposed to consumer product chemicals.

Many of these chemicals are endocrine-active. Exposure associated with hormone-mediated health conditions: uterine fibroids, preterm birth, diabetes, asthma, immunosuppression, and breast cancer

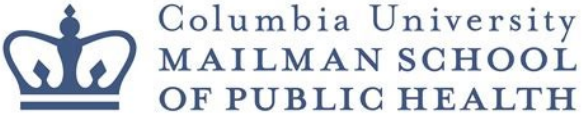
Documentation of product use among diverse women is limited

Taking Stock

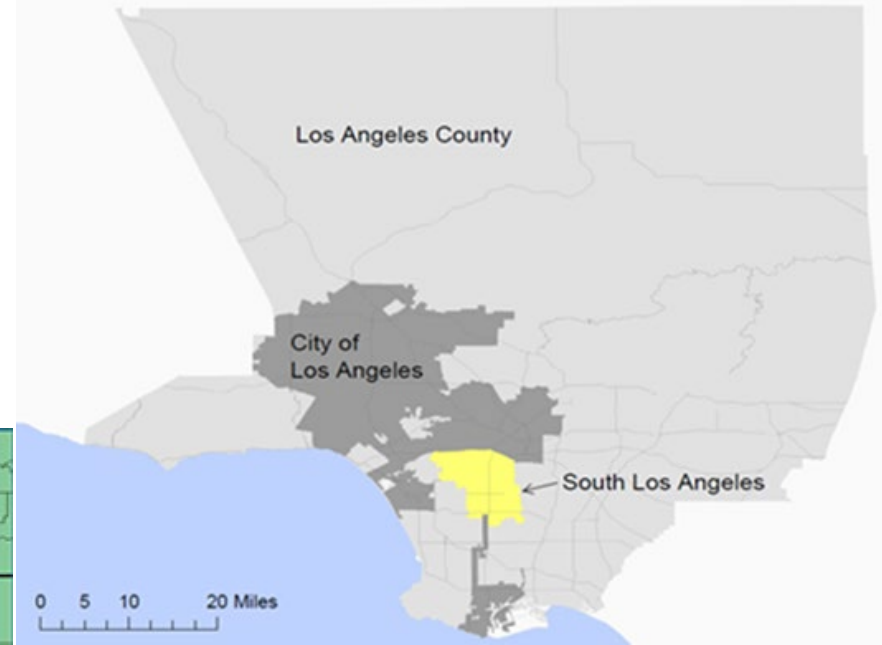


Our Study Team

Black Women for Wellness
Occidental College
Silent Spring Institute
Columbia University
LA GRIT Media



Place Based & Community Grounded in South Los Angeles



**Population LA County ~10
million people**

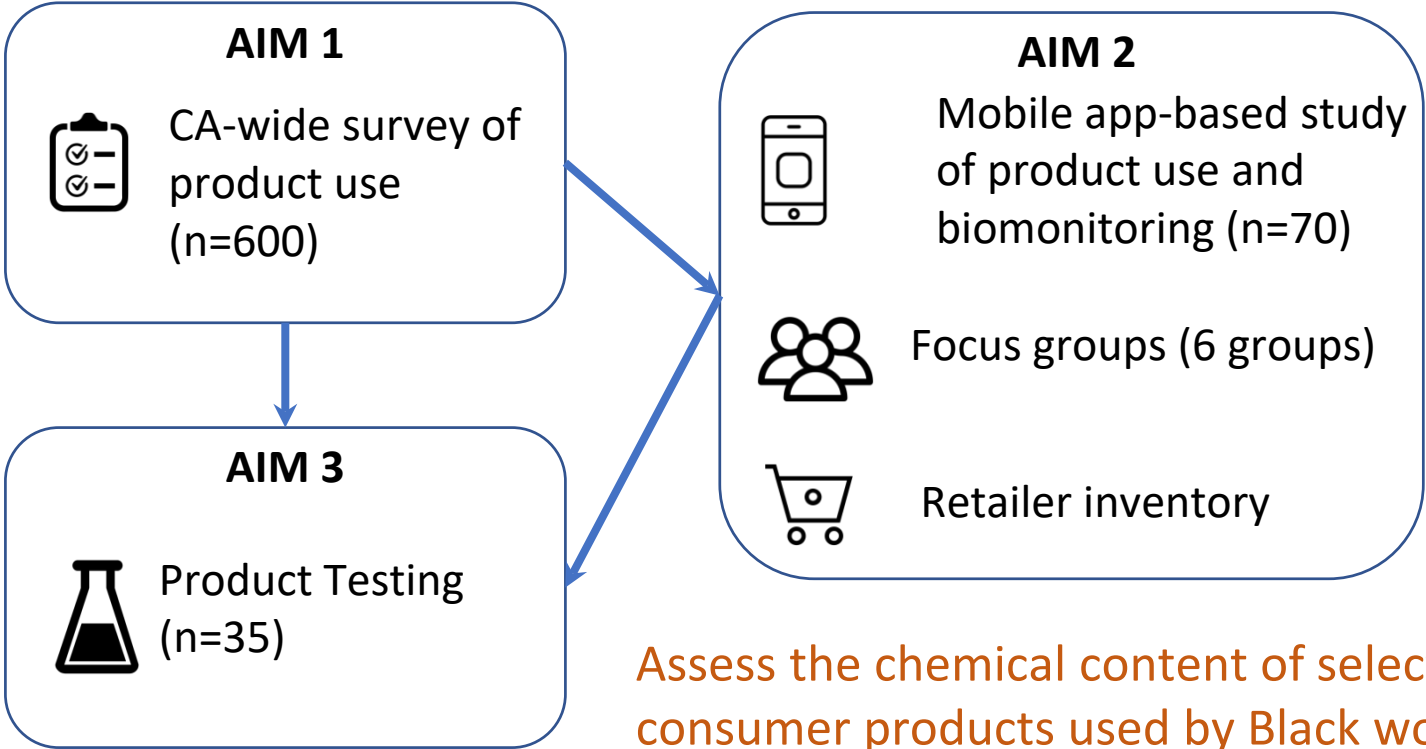
**Population LA City ~4
million people**



Taking Stock Study

Examine racial/ethnic differences in personal care and cleaning product use among 600 premenopausal women in California.

Dodson et al. 2021

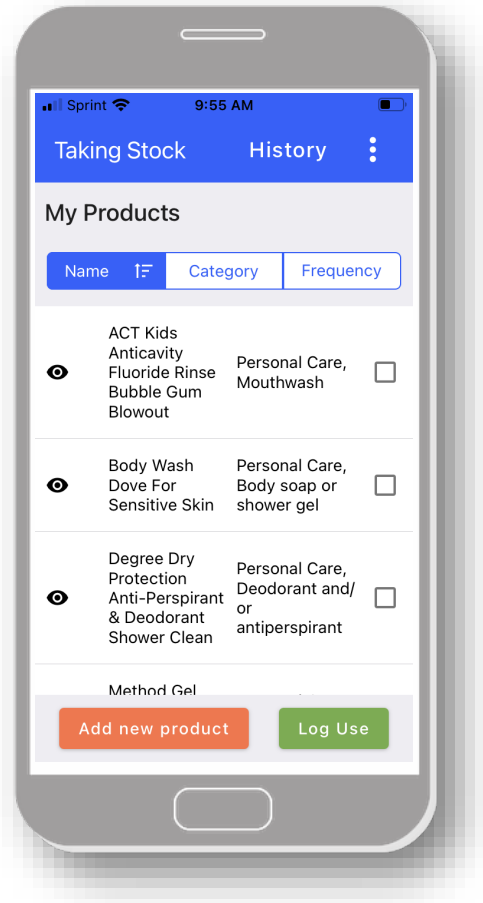


Characterize perceptions, accessibility, and use of personal care and cleaning products among Black women and Latinas in South Los Angeles

Assess the chemical content of selected consumer products used by Black women and Latinas.

Community science phase

Community science phase (n = 35 Latinas, n = 35 Black women living in South LA)



Participant at home

Taking Stock App use



with Taking Stock team member

- **Baseline Survey** (housing characteristics, demographics, infrequently used products)
- **App set-up**
- **Urine materials**

• **Reminder phone call**

- **Follow-up Survey**
- **App upload**
- **Urine pick up**
- **Provide resources** (e.g., Detox Me app)

TAKING STOCK

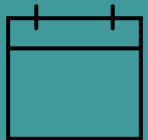
Rich data dataset of product use



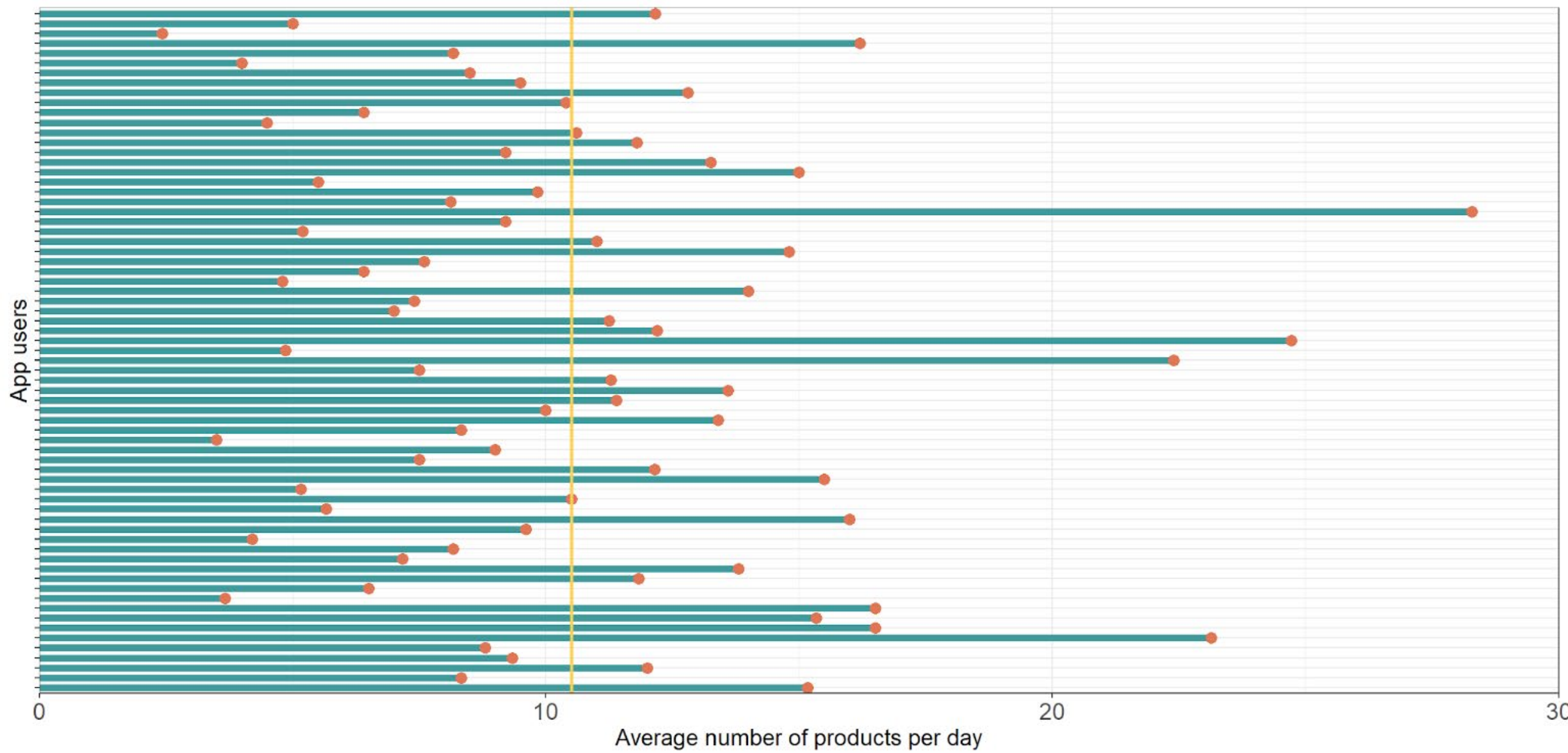
6000+ Number of logs



1200+ Number of unique products logged



~11 Average number of products logged per day



PRELIMINARY DATA-- DO NOT CITE

Smartphone App Data & Focus Groups

An average of 11 products used daily

70 women scanned 1400 different products

Products with greatest brand variety

Face cream, serum or moisturizer without sunscreen: 91 products (43 users)

Hand or body lotion: 95 products (58 users)

Hair oil, sheen, serum or shine: 36 products (23 users)

Body oil: 25 products (17 users)

Not all lotions are the same



Lotion A

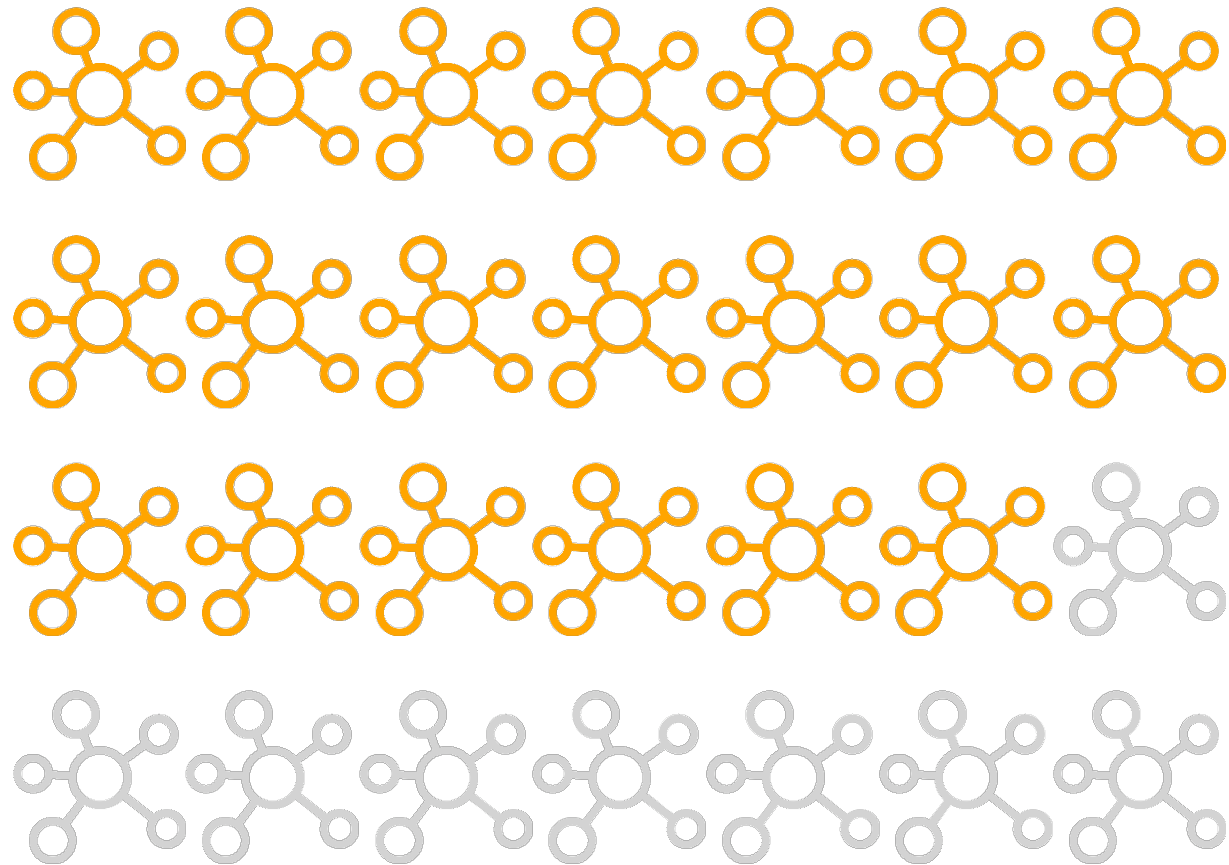
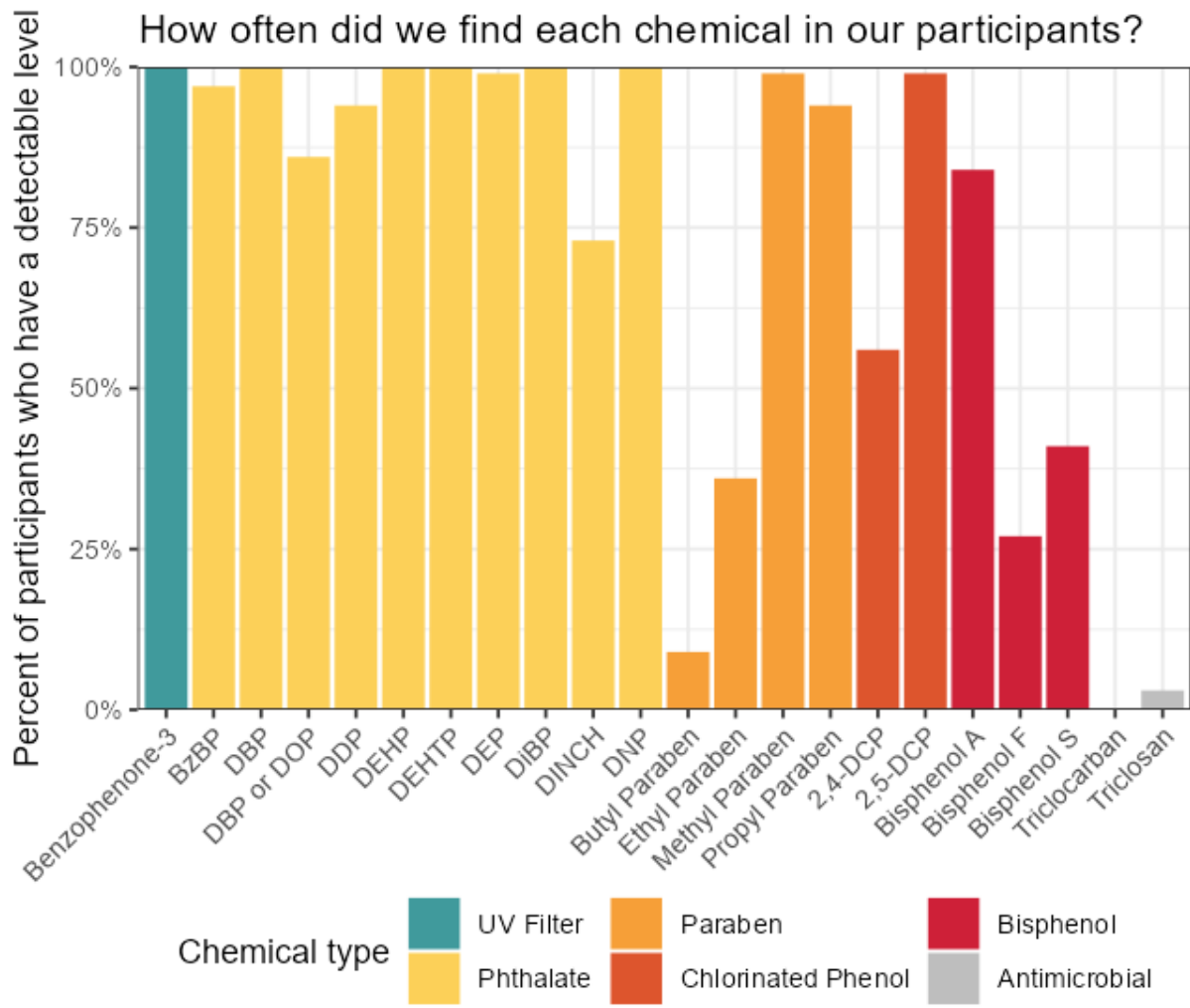
water, mineral oil, paraffinum liquidum/huile minerale, glycerin, fragrance(parfum), stearic acid, cetyl alcohol, peg-100 stearate, glyceryl stearate, dimethicone, diazolidinyl urea, methylparaben, acrylates/C10-30A/Acrylate crosspolymer, sodium hydroxide, propylparaben, BHT, disodium EDTA, tocopheryl acetate, aloe barbadensis leaf juice, butylphenyl methylpropional, linalool, benzyl salicylate, hexyl cinnamal, limonene, hydroxycitronellal, geraniol, citronellol, citral, alpha isomethyl ionone

Lotion B

olive oil, beeswax, honey, bee pollen, propolis, royal jelly

COMMUNITY SCIENCE PHASE

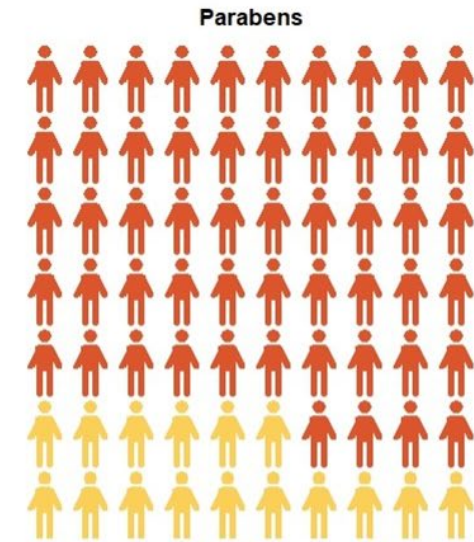
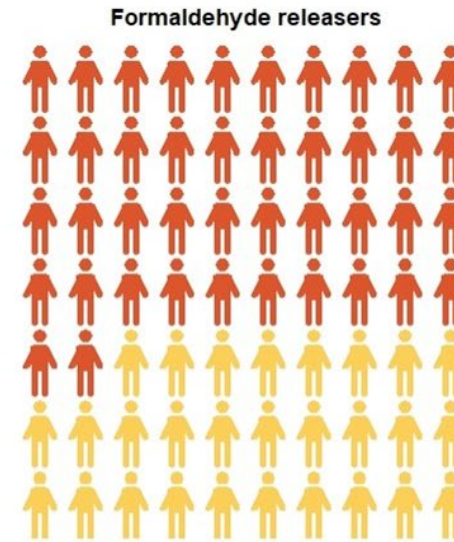
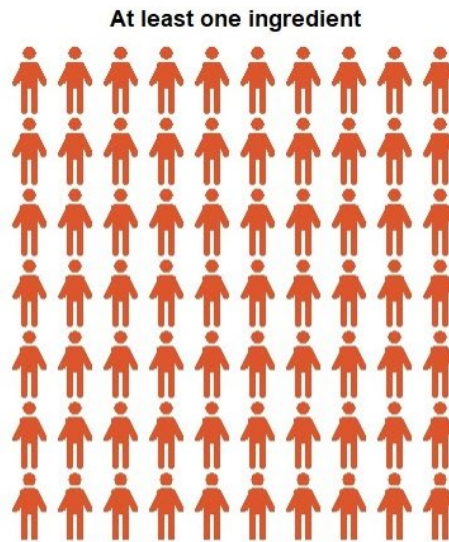
Participants have PCP chemicals in their bodies





PRELIMINARY DATA-- DO NOT CITE

Ingredients of health concern found in products

- Parabens
- Sunscreen chemicals
- **Phthalates**
- Antimicrobials
- Formaldehyde and formaldehyde releasers
- Other preservatives (isothiazolinones, BHT/BHA)
- Cyclosiloxanes
- Ethanolamines
- Fragrance



 Uses a product with ingredient of health concern

 Does not use a product with ingredient of health concern

PRELIMINARY DATA-- DO NOT CITE

- Data gaps, such as limited public information on products women of color use, contribute to corporate leveraging of this gap to claim lack of evidence of harm. And this enables regulatory inaction.
- We know women are using multiple products, and co-exposures are a concern.
- Not all products are the same
- Regulatory agencies should use existing exposure data to take action
- Community Driven Efforts as a vehicle to close gaps in exposure (and improve assessment)



Black Women for Wellness

Mission Statement:

Black Women for Wellness, a 501 c(3) non-profit, is committed to the *health and well-being* of Black women and girls through health education, empowerment and advocacy.



Programs:

- Reproductive Justice
- Get Smart B4 U Get Sexy
- Grown & Sexy
- Maternal & Infant Health
- Sisters@8
- Kitchen Divas & Food Distribution
- Voting Rules Everyone Around Me
- Diabetes Prevention Program
- BWWAP
- ***Environmental Justice***



Environmental Justice Team

Built Environment Initiatives

- Water equity
- Urban Oil Drilling
- Plastics Pollution

Beauty Justice Initiatives

- Research: Taking Stock Study
- Empowerment: Curls & Conversations
- Advocacy: Safer Beauty Bill Package



Dr. Astrid Williams



Tianna S.W

Community Perspectives



3 Black women focus groups

Black Women for Wellness
2 Adult groups (participant subset)

1 Youth group

3 Latina focus groups

LA Grit Media

2 Adult (1 English and 1 Spanish)

1 Youth

Focus Group Questions

Skin Care

Skin care routine/products
Development of routine
Skin lightening products/use
Use of oils

Hair Care

Hair routine/products (going to the salon)
Challenges
Going natural
Policies

Influence

Influence of family, friends, partner, etc
Advice/messages
Community support

Cosmetics

Earliest memories
Products/routine
Health impacts
Messages

Intimate Care

Menstrual products used
Issues with odor/using fragrance
Messages
Health impacts

Appearance

Self conscious about appearance
Changes in appearance
Power in appearance

What we found out about product use with Black women

- **Pressure to look presentable**, especially in professional situations, requires hair products to either **straighten hair or maintain natural hair in an acceptable form**, moisturizing products to **prevent ashiness**, and frequent bathing and deodorant use to **smell good**
- Women are **aware that products they used in childhood** (chemical relaxers, douches, baby powder) are **toxic and many have stopped using them**
- Hair is also tied to their identity (**worried about gray hairs, texture, hair loss**)
- **Older women reported using perfume regardless of them knowing the negative health impacts.** However, younger participants reported steering clear of fragrance due to chemicals
- **Skin lightening products** are used for acne scars, exfoliation, dark spots, but **not necessarily to achieve an overall lighter complexion**

PRELIMINARY DATA-- DO NOT CITE



TAKING STOCK
CONSUMER PRODUCT USE AMONG BLACK WOMEN AND LATINAS

Community Efforts to Reduce Exposures

Social movements can reduce exposures to hazards known to the public.

BWW Does this through

Community Engagement-- Curls & Conversations- a series designed for and by Black women to discuss all things healthy hair.

- How to wear protective styles
- The importance of reading product labels
- Women's history month & hair care

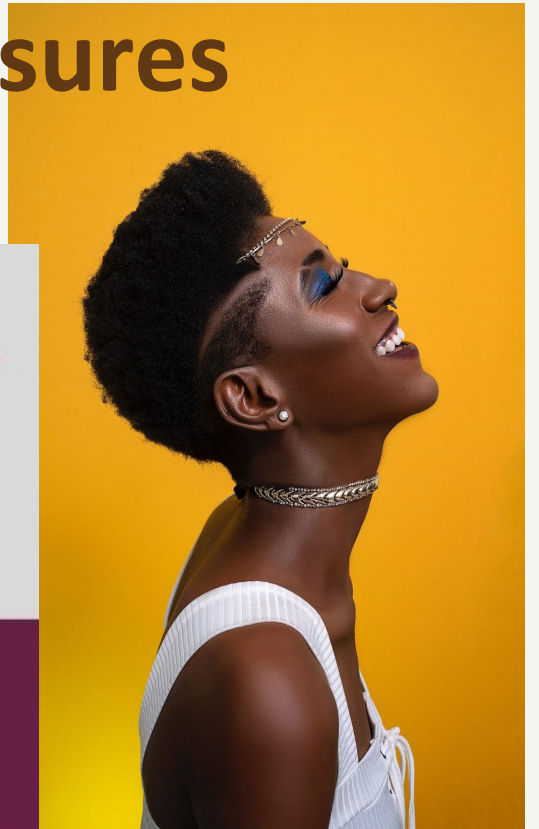
Worker Education-- Behind the Chair, Styling Safety

Occupational Health & Safety for Hairstylists

CHANGE coalition

Micro-grants during COVID

We have seen this in our research. Women recruited by BWW showed lower levels of consumer product chemicals compared to Black women in NHANES



Examples of Policy Change Efforts

Safer Beauty Bill Package: co-sponsor of HR 5540: Safer Protection for Women of Color and Salon & Beauty Professionals

Safer protocols for Salon Workers: The Salon Labeling Report—Exposed- with WVE and CHNSC

CROWN ACT

Resources for Safer Beauty



THANK YOU!

bhavna@oxy.edu

astrid@bwwla.com

Thank you to our funder California
Breast Cancer Research Program
Award #23UB-6511

And our larger Taking Stock team