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

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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
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*
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

**AIM 1**
CA-wide survey of product use (n=600)

**AIM 2**
Mobile app-based study of product use and biomonitoring (n=70)
Focus groups (6 groups)
Retailer inventory

**AIM 3**
Product Testing (n=35)

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)

Taking Stock App use

Participant at home

DAY 0

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

DAY 1

• Reminder phone call

DAY 2

Day 3

Day 4

Day 5

Day 6

Day 7

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

Evening urine
Morning urine

with Taking Stock team member

ACT Kids Anticavity Fluoride Rinse Bubble Gum Blowout
Body Wash Dove For Sensitive Skin
Degree Dry Protection Anti-Perspirant & Deodorant Shower Clean
Method Gel

Add new product Log Use
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

How often did we find each chemical in our participants?

Percent of participants who have a detectable level

Chemical type:
- UV Filter
- Paraben
- Phthalate
- Chlorinated Phenol
- Bisphenol
- Antimicrobial

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
- 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

### Cosmetics
- Earliest memories
- Products/routine
- Health impacts
- Messages

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

### Intimate Care
- Menstrual products used
- Issues with odor/using fragrance
- Messages
- Health impacts

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

### Appearance
- Self conscious about appearance
- Changes in appearance
- Power in appearance

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*PRELIMINARY DATA-- DO NOT CITE*
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*
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!

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

And our larger Taking Stock team