



Unequal risk for tobacco-related stroke in Black adults

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**“It’s About a Billion Lives” Symposium
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Acknowledgment

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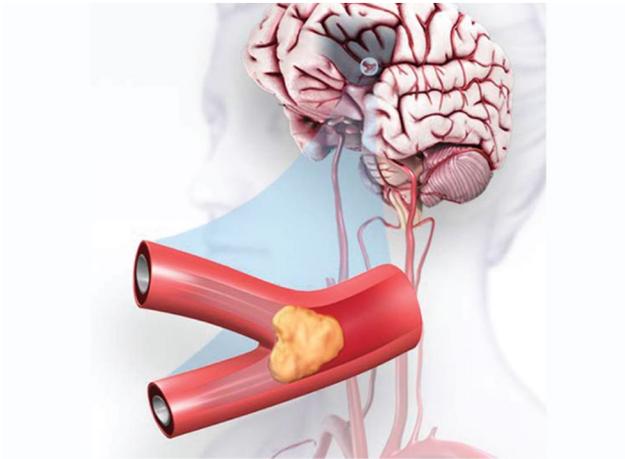
NCI (T32 CA 113710)

Read Family Foundation

Background & Research Question

Stroke: one of the top causes of death in U.S.

- Every **40 seconds** someone has a stroke
- Every **3.5 minutes** someone dies of stroke
- Fifth leading cause of death and leading cause of long-term disability



Black smokers have uniquely high risk for stroke

- Black people: the highest risk for stroke compared to all other races

Cigarette Smoking and Incident Stroke in Blacks of the Jackson Heart Study African American/Black people = Black people

Adebamike A. Oshunbade, Wondwosen K. Yimer, Karen A. Valle, Donald Clark III, Daisuke Kamimura, Wendy B. White, Andrew P. DeFilippis, Michael J. Blaha, Emelia J. Benjamin, Emily C. O'Brien, Robert J. Mentz, Ervin R. Fox, Charles S. O'Mara, Javed Butler, Adolfo Correa and Michael E. Hall 

Originally published 10 Jun 2020 | <https://doi.org/10.1161/JAHA.119.014990> | Journal of the American Heart Association. 2020;9:e014990

Smoker vs Nonsmoker:

Black people (HR = 2.5)

White people (HR = 1.5)

Framingham Heart Study defined risk factors

- Long-term ongoing cardiovascular (includes **stroke**) cohort study
- Defined traditional risk factors for stroke (blood pressure, smoking..)



Framingham Heart Study conducted in White people

Cohort	Total, <i>n</i> DNA, <i>n</i>		Ancestry, %				Year recruited .	
			White		Other races			
Original	5209	971	100	0	0	0	0	1948–53
Offspring (and spouses)	5124	3930	100	0	0	0	0	1971–75
Third Generation	4095	4077	100	0	0	0	0	2002–05
Offspring Spouses	103	101	100	0	0	0	0	2003–05

Table: Adapted from Tsao CW, Vasan RS. *Int J Epidemiol.* (2015)

Apolipoprotein L1 (APOL1)

THE JOURNAL OF BIOLOGICAL CHEMISTRY
© 1997 by The American Society for Biochemistry and Molecular Biology, Inc.

Vol. 272, No. 41, Issue of October 10, pp. 25576–25582, 1997
Printed in U.S.A.

Apolipoprotein L, a New Human High Density Lipoprotein Apolipoprotein Expressed by the Pancreas

IDENTIFICATION, CLONING, CHARACTERIZATION, AND PLASMA DISTRIBUTION OF APOLIPOPROTEIN L*

(Received for publication, April 21, 1997, and in revised form, July 21, 1997)

**Philippe N. Duchateau, Clive R. Pullinger, Roberto E. Orellana, Steven T. Kunitake,
Josefina Naya-Vigne, Patricia M. O'Connor, Mary J. Malloy, and John P. Kane‡**

From the Cardiovascular Research Institute, University of California, San Francisco, California 94143-0130

Apolipoprotein L gene family: tissue-specific expression, splicing, promoter regions; discovery of a new gene

Philippe N. Duchateau,^{1,2,*} Clive R. Pullinger,^{1,*} Min H. Cho,^{*} Celeste Eng,^{*} and John P. Kane^{†,§}

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APOL1: part of the “good” cholesterol

APOL1:

- Component of high-density lipoprotein (HDL)
- Protects against African sleeping sickness
(Parasite *Trypanosoma brucei*)



“Good”



APOL1 genotypes

- The most common: G0 (reference sequence)
- **Two genetic variants: G1 & G2**

Carriers of APOL1 genetic variants:

- ↑ protection - African sleeping sickness
- ↑ risk of kidney disease
- ↑ risk of **stroke**

In the U.S., ~ 50% of Black people carry APOL1 G1 and/or G2 variants

KNOWN

**Black smokers have uniquely high risk for stroke
+
High prevalence of the APOL1 genetic variants
associated with stroke among Black people**



UNKNOWN

**The role of APOL1 genetic variants in tobacco-related
stroke among Black people**



RESEARCH QUESTION

**Whether carriers of APOL1 genetic variants are more
susceptible to tobacco-related stroke compared to
non-carriers?**

Methods

Study Design

Cross-sectional study

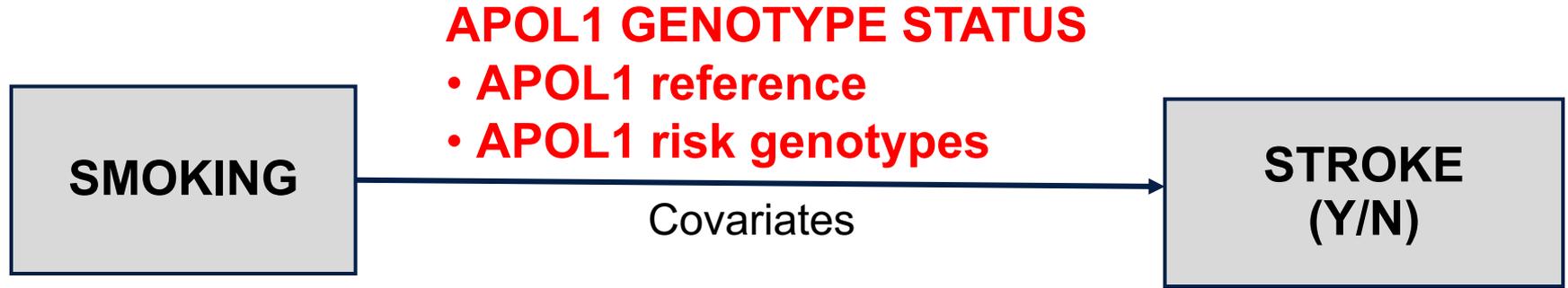
- Collect data at a single point in time, without intervention on participants

Study population

- 527 Black people, recruited through the UCSF Lipid Clinic (1999-2019)



Study Design



- **EVER smokers (Past + Current)**
- **NEVER smokers**

APOL1 genotype status

- Sequencing: the terminal exon of APOL1 gene



APOL1 groups: APOL1 reference or risk genotypes



REFERENCE



APOL1 REFERENCE



1 RISK ALLELE



APOL1 RISK GENOTYPES



2 RISK ALLELES

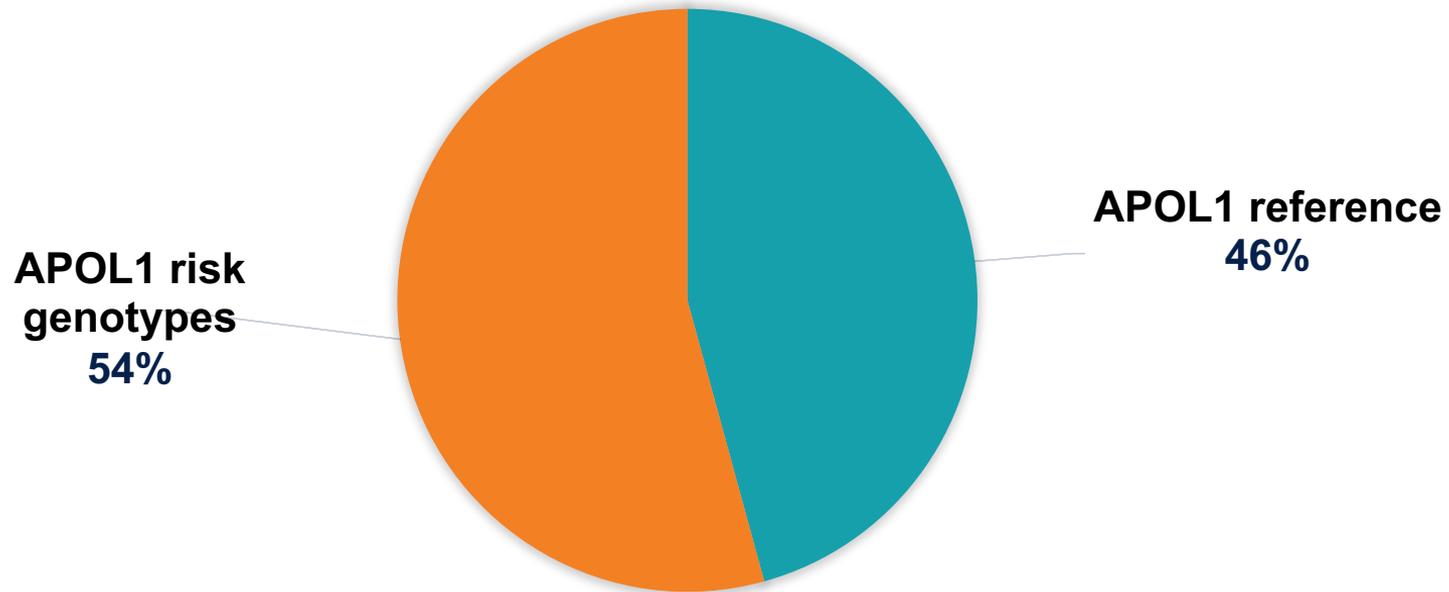


Results

Participants' characteristics

- Median age in years: 58 [18 – 88]
- 52% are female
- 42% ever smokers (current and past smokers)
- Diabetes (28%)
- High blood pressure (56%)
- High lipid levels (28%)

Prevalence of the APOL1 genotypes (N=527)

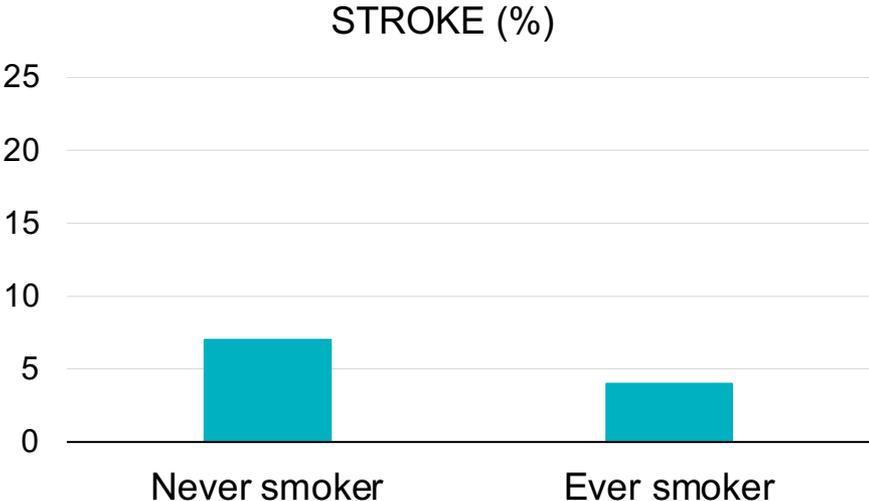


Participants in smoking groups differ

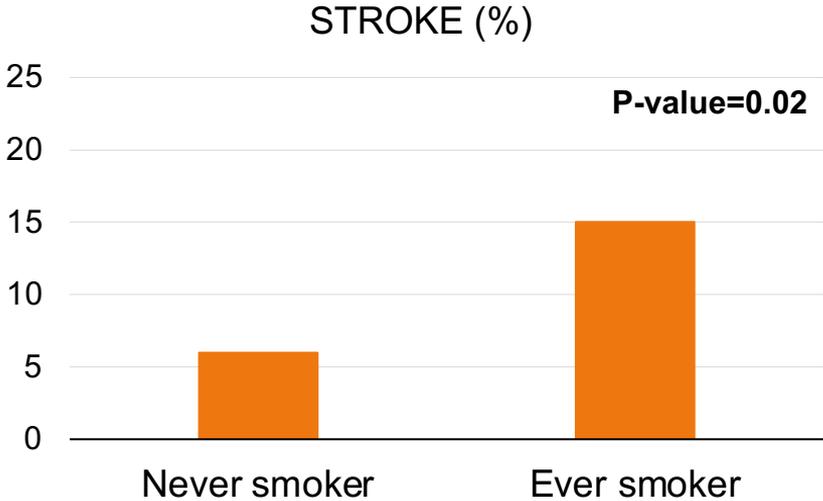
- Age
- Sex
- Diabetes
- High blood pressure
- High lipid levels

More stroke in smokers with APOL1 risk genotypes

APOL1 reference

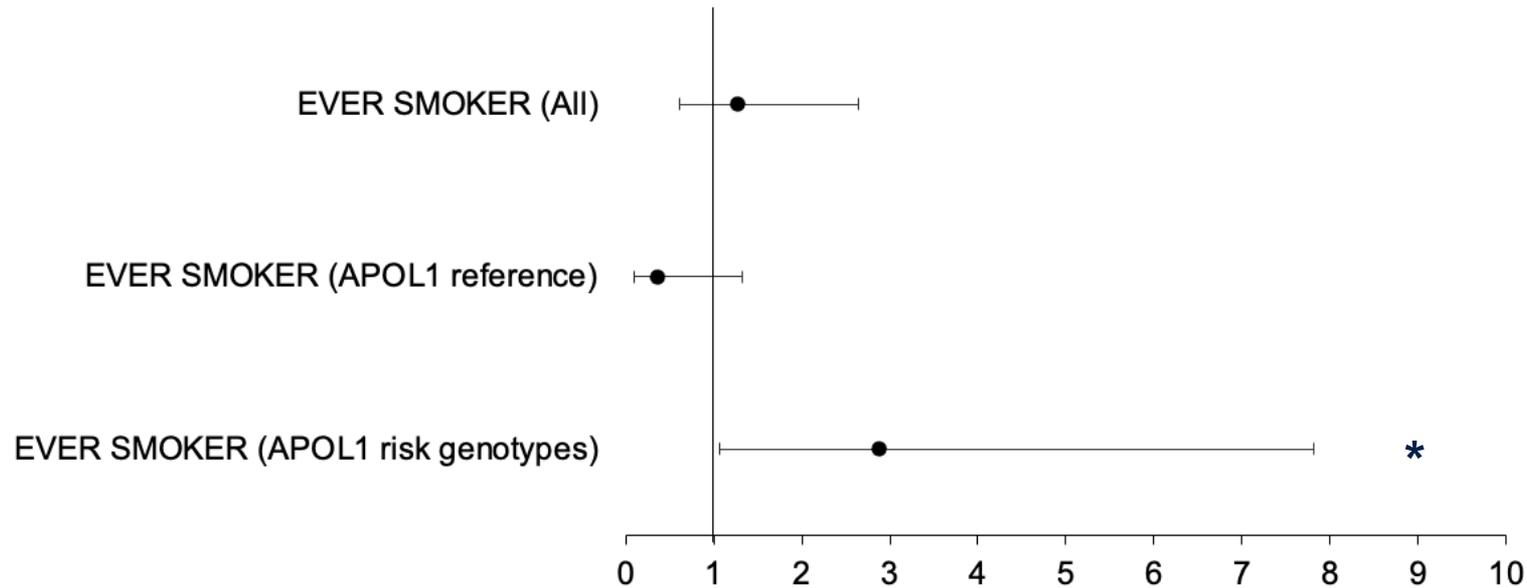


APOL1 risk genotypes



APOL1 variants increase tobacco-related stroke

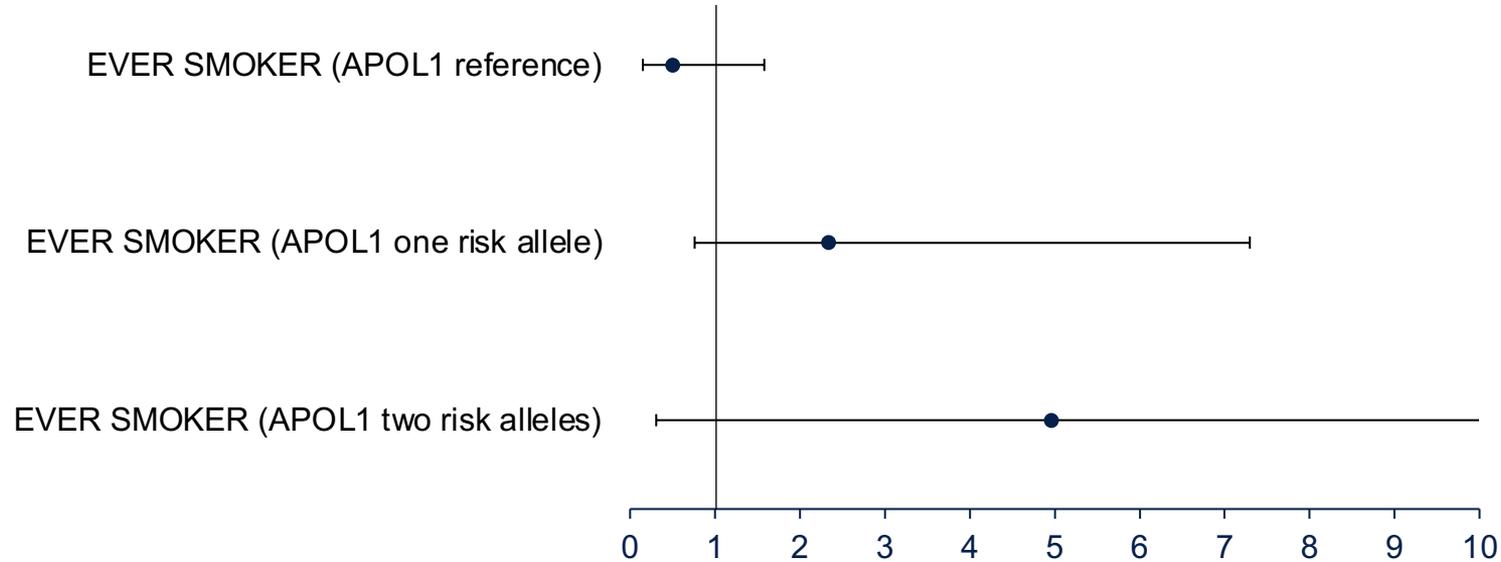
Odds ratio (OR)



Logistic regression (ADJUSTED model: age, sex, high lipid levels, diabetes, high blood pressure)

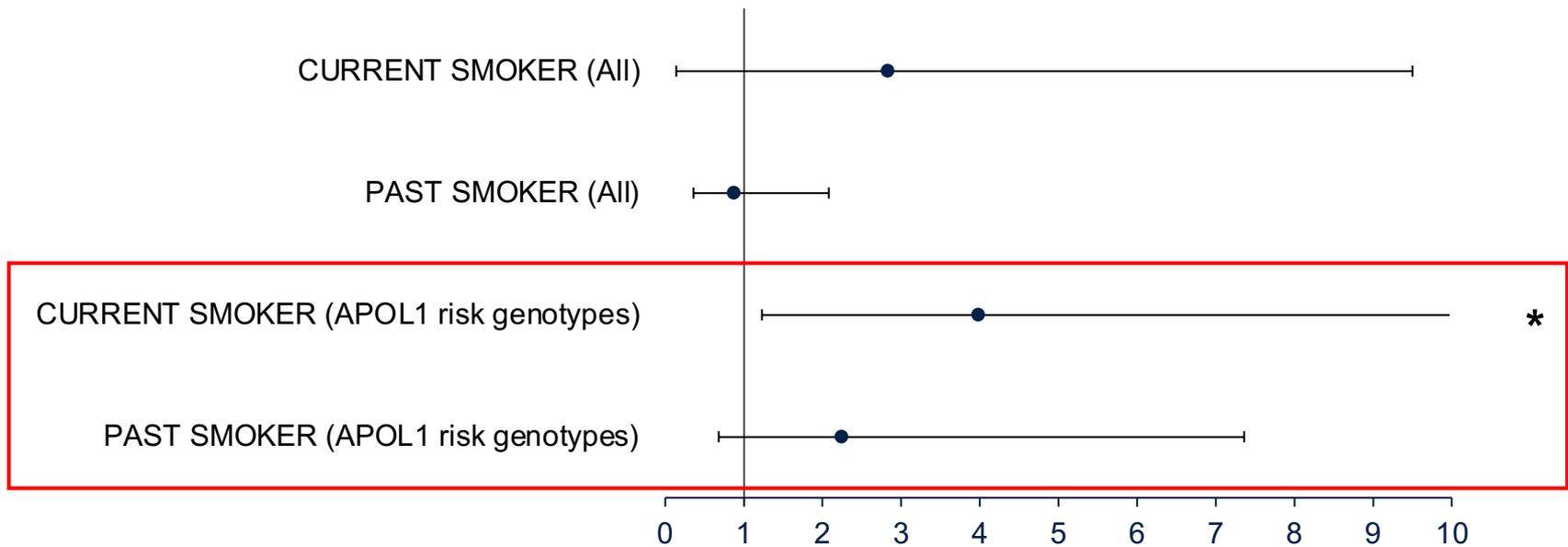
*P < 0.05

Exploratory: dose-response of APOL1 risk alleles



Logistic regression (ADJUSTED model: age, sex, high lipid levels, diabetes, high blood pressure)

Exploratory: Current and Past smoking status



Logistic regression (ADJUSTED model: age, sex, high lipid levels, diabetes, high blood pressure)

*P<0.05

Conclusions & Implications

CONCLUSIONS

- Ever smokers CARRIERS of APOL1 risk variants are more susceptible to stroke
- Carriers of TWO APOL1 risk alleles may be more likely to have stroke than carriers of ONE APOL1 risk allele
- Carriers of APOL1 risk variants who QUIT smoking may be less likely to have stroke

IMPLICATIONS

- Screening for the APOE4 genetic variants can help identify people at especially high risk for tobacco-related stroke
- Policies, like the recent menthol ban that affects Black smokers, may address the susceptibility of the carriers
- Smoking cessation programs may address this susceptibility

Reference

Limou, S., et al. "APOL1 kidney risk alleles: population genetics and disease associations." *Adv Chronic Kidney Dis.* (2014)

Tsao CW, Vasan RS. "Cohort Profile: The Framingham Heart Study (FHS): overview of milestones in cardiovascular epidemiology." *Int J Epidemiol.* (2015)



University of California
San Francisco



Industry Influence Over Scientific Information on Breast Cancer:

Exploring the UCSF Industry Documents Library

Cristin Kearns, DDS, MBA, PhD(c)

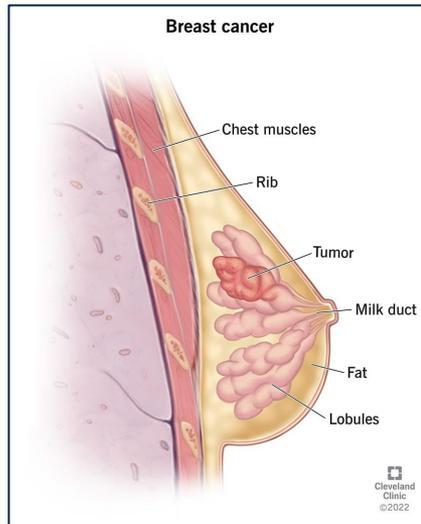
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Breast Cancer – Key Facts



- Most common form of cancer in women, except for skin cancer
- Over 42,000 women and 500 men die each year
- Family history accounts for only 10% of breast cancer diagnoses



- A large and growing body of evidence indicates that toxic chemicals may increase the risk of developing

RFP to Explore UCSF Industry Documents Library – January 2021

//// INDUSTRY DOCUMENTS LIBRARY

UCSF

- Tobacco Collections *(all tobacco collections selected)*
- Chemical Collections *(all chemical collections selected)*
- Drug Collections *(all drug collections selected)*
- Food Collections *(all food collections selected)*
- Fossil Fuel Collections *(all fossilfuel collections selected)*

- “None of the over 800 journal articles published to date relate directly to breast cancer.”
- “Bibliography of publications that have used the Industry Documents Library for the keyword “breast” returned a single newspaper article, and no scientific or other publications.”

Preliminary IDL Search: “breast cancer”

/// INDUSTRY DOCUMENTS LIBRARY

Tobacco Collections *(all tobacco collections selected)*

Chemical Collections *(all chemical collections selected)*

Drug Collections *(all drug collections selected)*

Food Collections *(all food collections selected)*

Fossil Fuel Collections *(all fossilfuel collections selected)*

Documents
Returned

54,283

169

549

842

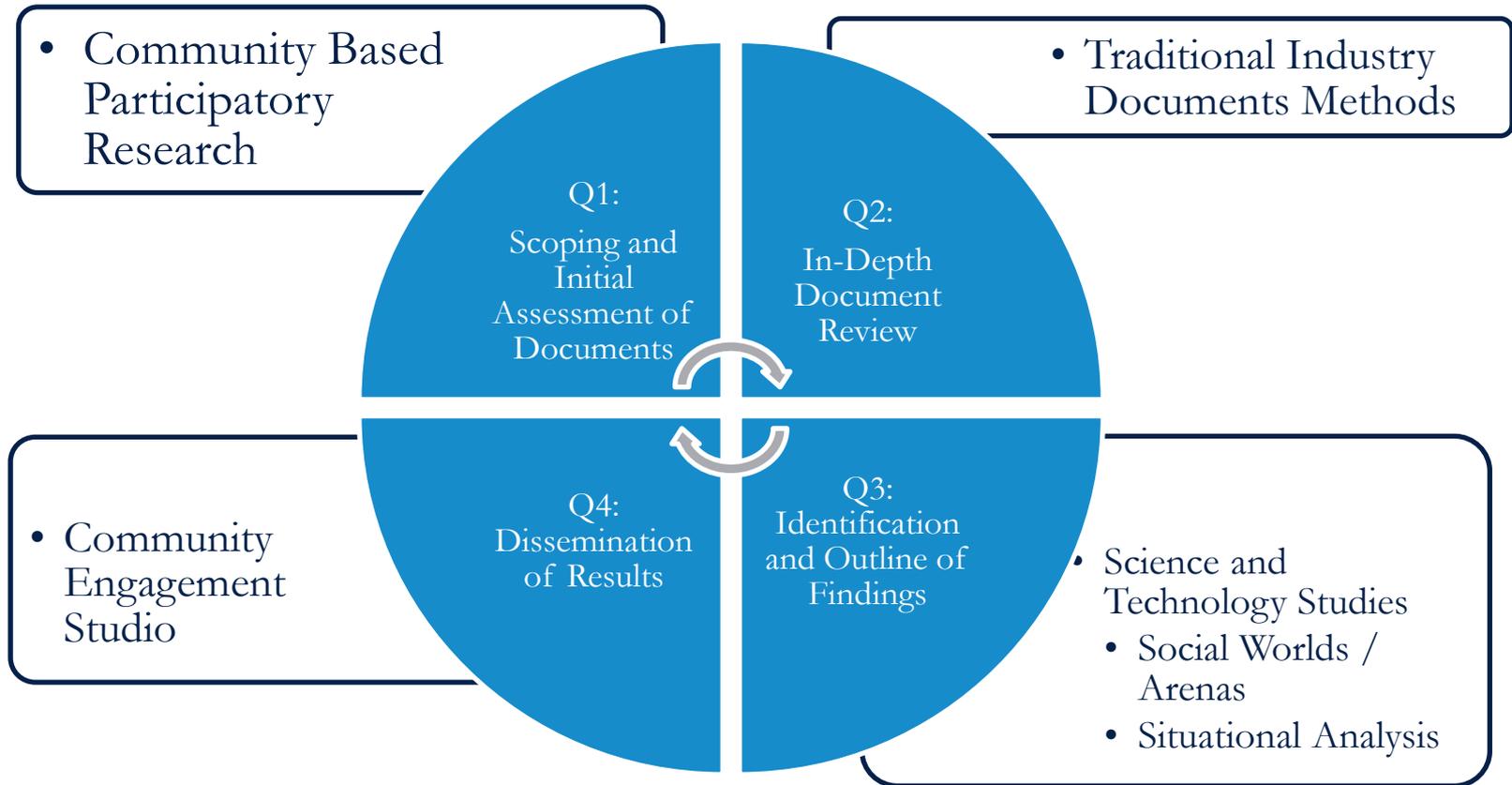
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Our Transdisciplinary Team



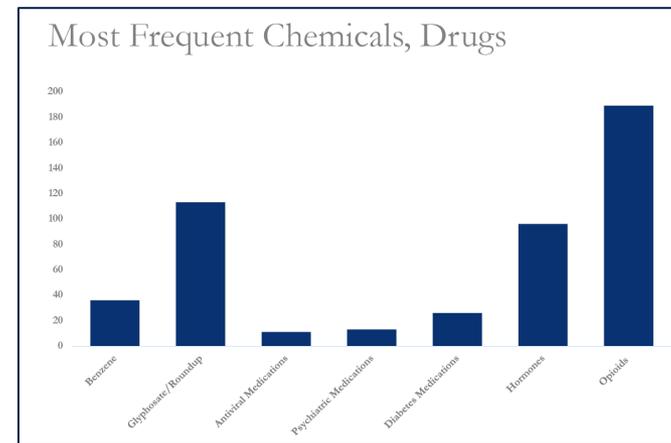
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- Rachel Taketa, MLIS

Project Timeline and Methodology



Research Tools

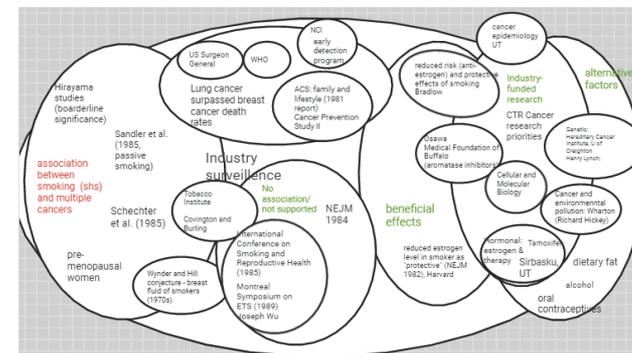
- Document Characteristics



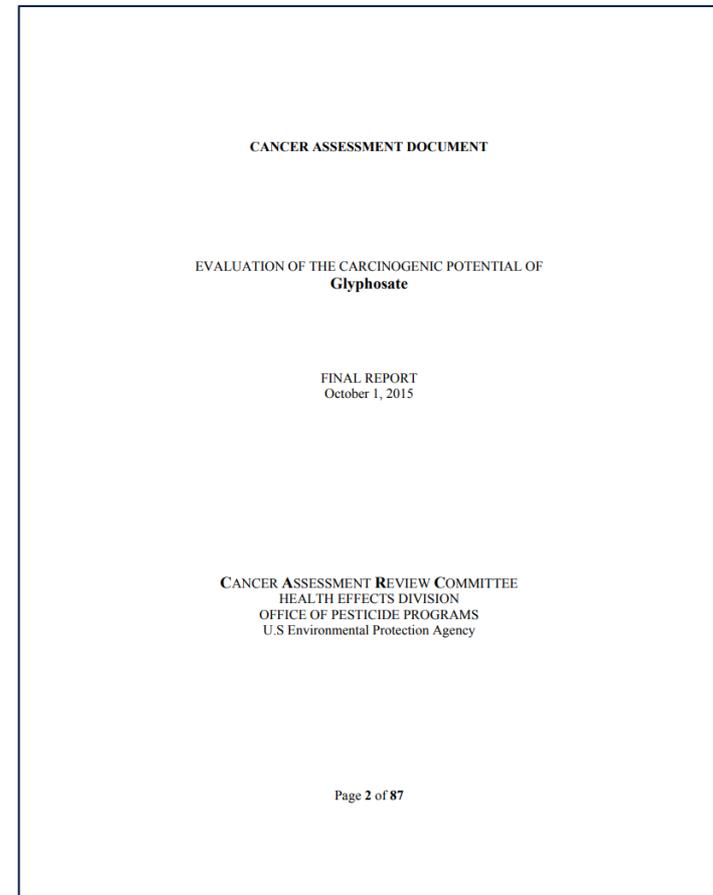
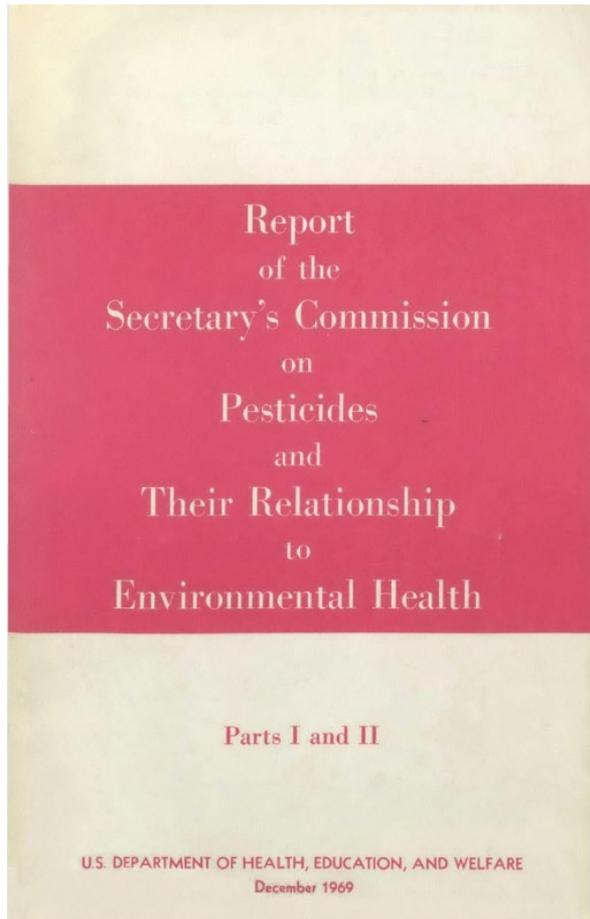
- Timelines of Key Events - Padlet



- Social Worlds / Arenas Mapping – Google Jamboard



Over 50 Key Threatening Events Related to Breast Cancer Identified (1969-2015)



Topics Selected for Further Review

Risk of Breast Cancer Related to:

- Smoking
- Environmental Tobacco Smoke
- Hormonal Replacement Therapy
- Glyphosate
- Benzene
- DDT
- Recombinant Bovine Somatotropin
- Dietary Fat



Key Tobacco Industry Findings-Council for Tobacco Research

Breast Cancer Research (at least 13,186 documents)

At least 38 research publications



1970s-1990

- Non-tobacco related explanations for breast cancer risks: genetics and estrogen metabolism
- Smoking's positive effects on breast cancer due to the aromatase inhibitor content of smoke
- Aromatase inhibitor extraction for therapeutic purposes
- Epidemiological studies of breast cancer mortality in contrast to lung cancer
- Cellular and molecular biology research



1990s-

- Methodological critiques of epidemiological studies
- Genetic causes (BRCA-1, BRCA-2)
- Hormonal therapy
- Vitamin D, protein protease therapeutics

Key Tobacco Industry Findings – Philip Morris / RJ Reynolds

California Environmental Protection Agency Reports on Health Effects of Environmental Tobacco Smoke (at least 1,067 documents)



1997

- Key strategy: Deflection and Misdirection
 - published research
 - attended scientific conferences
 - highlighted other studies that emphasized other breast cancer causes including alcohol use, body mass index, premenopausal and postmenopausal status, reproductive effects



2005

- Key strategy: Denial and Suppression of Evidence
 - published research
 - attended scientific conferences
 - Criticized other studies that found a link between ETS and breast cancer, scrutinized validity of research design, sample size, etc.

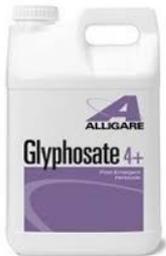
Key Drug, Chemical and Fossil Fuel Industry Findings

Wyeth-Ayerst (at least 175 documents) – Monsanto (at least 250 documents) – Oil Industry (at least 350 documents)



2002

- Wyeth developed a PR campaign in response to evidence that Premarin increase breast cancer risk
- Monitored new evidence, presented positive evidence to professionals, targeted women's health providers
- Women's Health Research Institute



2015

- Monsanto hired Sustainalytics to mitigate impact of 2015 IARC report
- Monitored news media, NGO reports, press releases regulatory announcements
- Monsanto's "GMO Answers" PR program criticized studies linking glyphosate to breast cancer



1984

- Shell Oil and others hired Environ Corp. to undermine generalizability of animal models to humans related to benzene exposure and mammary/ovarian tumors
- Shifted blame from benzene to dietary fat
- Exxon contributions to Susan G. Komen Foundation

Key Food Industry Findings

DDT (at least 102 documents) – rBST (at least 143 documents) – Dietary Fat (at least 10,000 documents)



1993-94

- ACSH / ILSI secretly engaged leaders at Mount Sinai Medical School and Harvard to disseminate claims critical of evidence linking DDT residues in foods to breast cancer
- Harvard's Nutrition Program conducted public relations activities for ILSI and other industry organizations in exchange for sponsorship



2015

- Monsanto recruited experts at Mass. General Hospital and Harvard to counter proposed state legislation to require labelling of milk from cows treated with rBST
- Monsanto subsequently donated \$100K to Harvard's Department of Nutrition
- ACSH instrumental in opposing efforts to ban rBST in NY



1984

- Food, chemical, fossil fuel, and tobacco industry – all involved in influencing dietary recommendations related to dietary fat and breast cancer
- Key events include the 1974 National Cancer Act, formation of the National Cancer Institute Diet, Nutrition, and Cancer Program, agency reports that published conflicting conclusions on dietary fat and cancer in the 1970s and 1980s

Opportunities and Lessons Learned

- Rich opportunities for future research and public health action
- New methodological approaches and research tools applied to documents research – high-level scoping
- Dissemination is ongoing: 2023 Annual Tobacco Industry Docs Workshop
- Many other areas of potential interest unexplored:
 - 1483 documents: U.S. Brewers Association, Alcohol Beverage Medical Research Foundation
 - 1121 documents: Synthetic Estrogen
 - 4829 documents: Physical Activity
 - 8980 documents: American Council on Science and Health
 - 3029 documents: Chemical Manufacturers Association
 - 10262 documents: International Life Sciences Association
 - 4478 documents: American Petroleum Institute



Tobacco Cessation in Substance Use Treatment:

Research and Policy Efforts to Reduce Tobacco-Related
Health Inequity

Caravella McCuistian, PhD

January 26th, 2023

Supported by:

California Tobacco Control Program (CTCP 18-10025)

NIDA Training Grant (NIDA T32DA007250)

Tobacco-Related Disease Research Program (TRDRP T32KT5241)



Collaborators and Partners

Research Team	Community Partners	
Joseph Guydish	Smoking Cessation Leadership Center UCSF	Champions Recovery Hanford
Barbara Campbell	HealthRight360 San Francisco	ACW Los Angeles
Valerie Gruber	Amity Foundation Los Angeles, San Diego	Van Ness Recovery Los Angeles
Carmen Masson	Center Point Napa San Rafael	Project Pride Oakland
Anna Pagano	Progress House Camino/Garden Valley	LA CADA Los Angeles
Konadu Fokuo	Fourth & Hope Woodland	La Familia Oakland
Jennifer Le	Fred Brown Recovery San Pedro	Chabad Rehab Los Angeles
Elliott Chaney	Janus of Santa Cruz Santa Cruz	Yolo Community Care Woodland

Substance Use Disorder

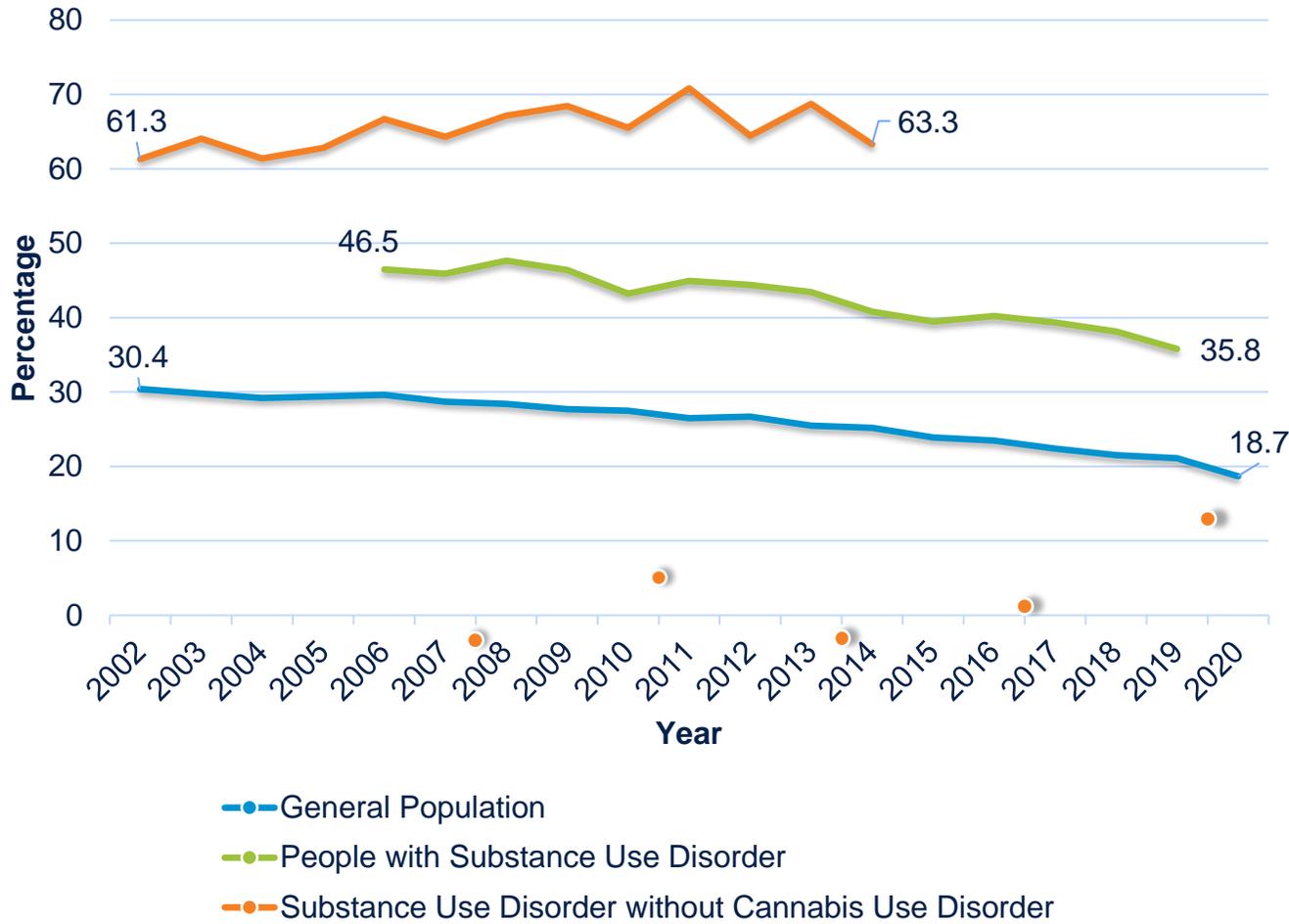
In the United States in 2019

- **165.4** million people reported any substance use in the past month
- **20.4** million people reported substance use disorder
- **4.2** million received any form of substance use treatment



Smoking Prevalence Among People with Substance Use Disorder

Smoking Prevalence



SAMHSA 2020

Decrease in smoking prevalence among general population from 2002 – 2020

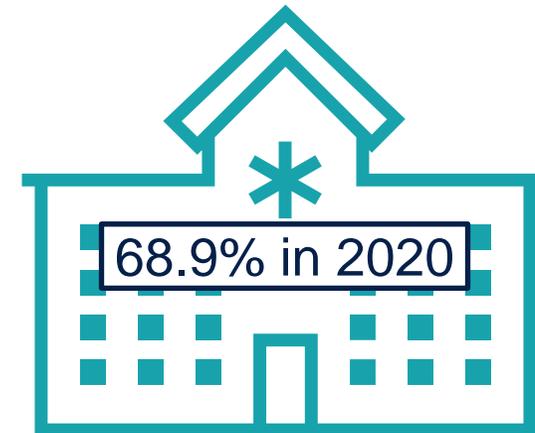
Han et al., 2022

Significant decrease in smoking prevalence among people with substance use disorder from 2006-2019

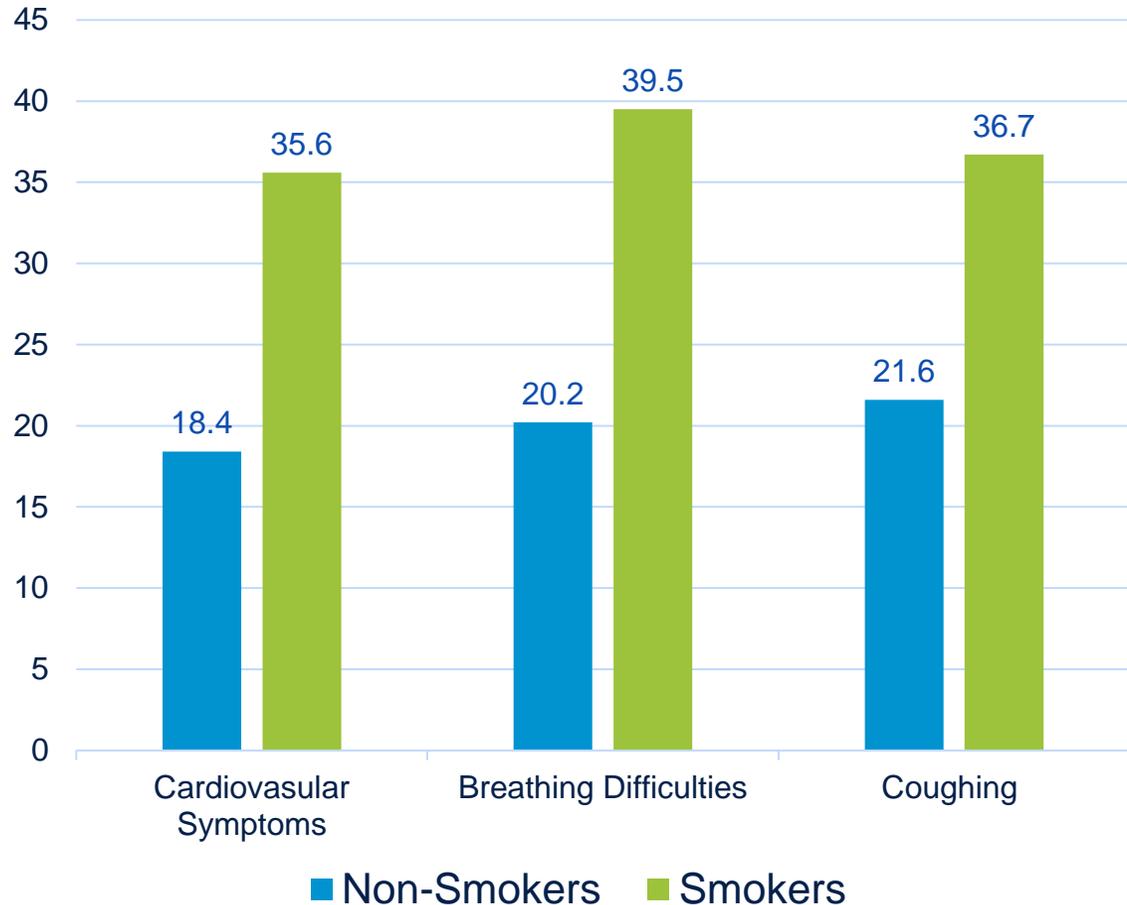
Weinberger et al. 2018

When excluding cannabis use disorder, smoking prevalence among people with substance use disorder increased from 2002-2014

Smoking Prevalence in Substance Use Disorder Treatment in California



Health Symptoms Related to Smoking among People with Substance Use Disorder



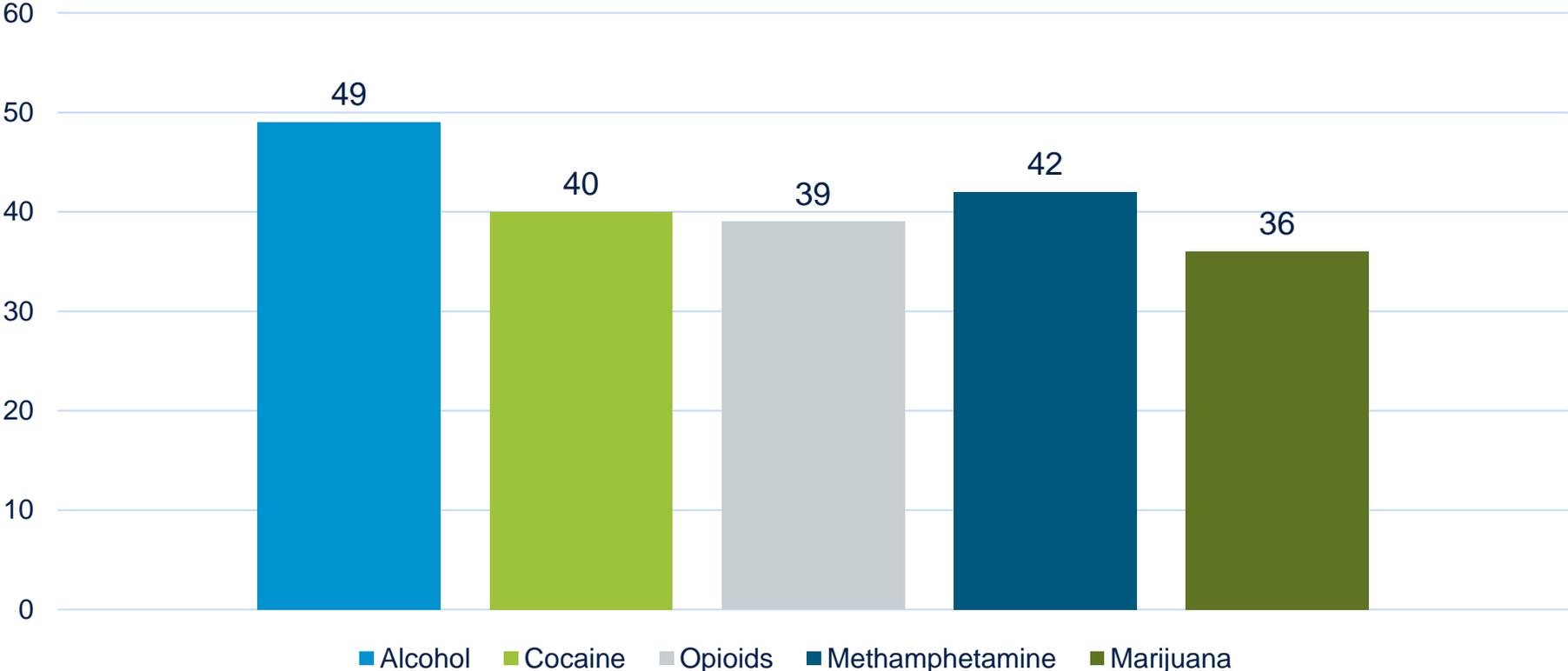
Compared to non-smokers, California smokers report more:

- Days of poor mental health in past month
 - 1 among non-smokers, 3 among smokers ($p = 0.05$)
- Sugary beverage consumption
 - 5 among non-smokers, 9 among smokers ($p < .0001$)

Patkar et al, 2002
Pagano et al 2022

Tobacco-Related Deaths Among People with Substance Use Disorder

Rates of Deaths Due to Smoking-Related Conditions in California 1990-2005



Callaghan et al., 2018

Tobacco Cessation and Substance Use Treatment Outcomes

- Continued smoking is associated with increased relapse
- Smoking contributes to economic hardship
- Smoking cessation is not associated with negative treatment outcomes
- Smoking cessation is associated with a 25% increase in abstinence from other drugs



Schroeder & Morris, 2010
Weinberger et al. 2017
Prochaska et al., 2004
McKelvey et al. 2017

Smoking Cessation Services in Substance Use Disorder Treatment

- Substance use disorder treatment is well-positioned to offer smoking cessation services
- Gaps in treatment exist

California	
Screening	52%
Counseling	42%
Tobacco-free grounds	22%
NRT	20%
Pharmacotherapy	16%

Marynak et al., 2018

Perceived Pros/Cons to Offering Tobacco Services in Substance Use Disorder Treatment

“We try to encourage people to stop smoking, but when staff’s outside smoking, it’s kind of hard.”

“Clients may choose not to come here for treatment or leave treatment”

“You don’t want them to quit everything at the same time, because It just puts too much stress [on clients]”

“People who quit smoking have a better chance of staying quit from other drugs and alcohol. And that’s what we do here. Treatment.”

“We want outdoor space for alternative activities – walking paths...to allow folks to participate in alternatives to smoking.”

“If we’re working on whole-person education...we really need to figure out how we can assist them in quitting [tobacco] too.”

Fokuo, et al. 2022, Pagano et al., 2016

Interventions for Tobacco Cessation in SUD Treatment

Client Level

- Individual smoking cessation groups
- Referral to Quitline

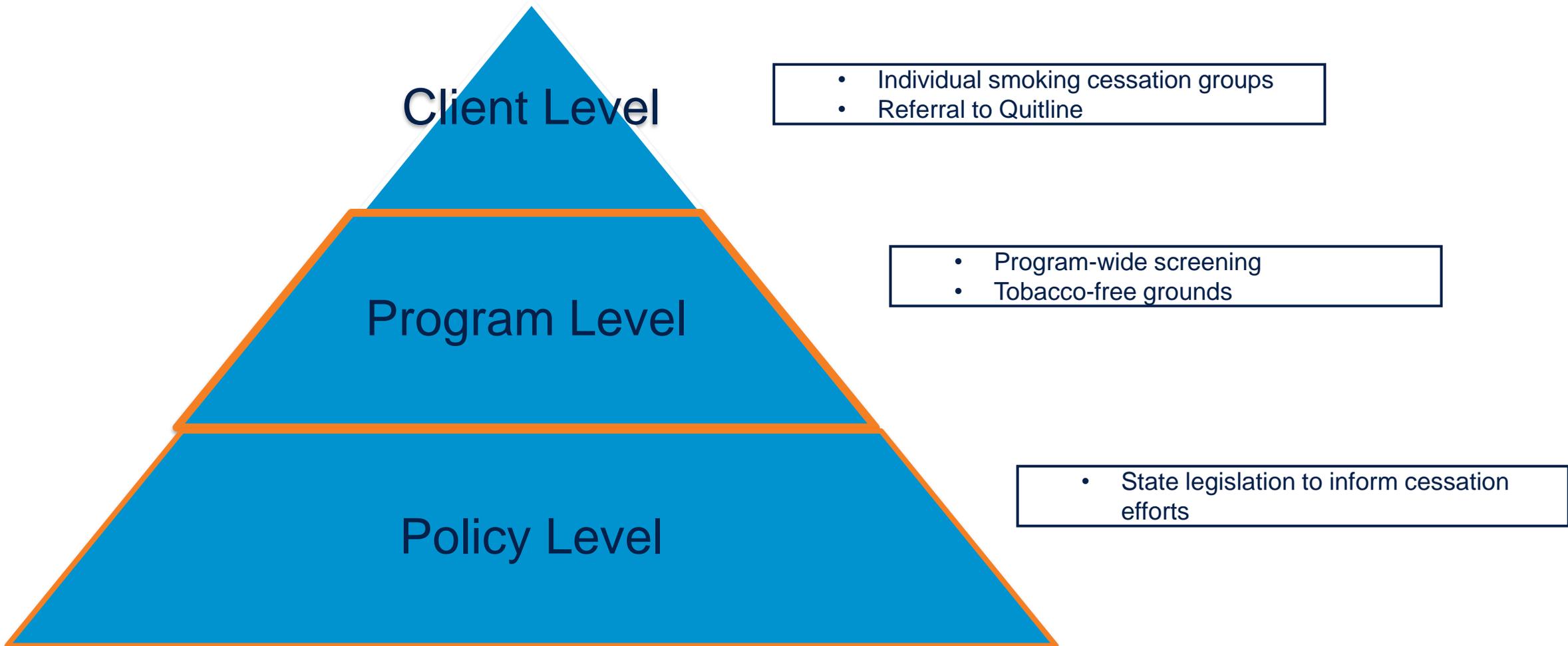
Program Level

- Program-wide screening
- Tobacco-free grounds

Policy Level

- State legislation to inform cessation efforts

Interventions for Tobacco Cessation in SUD Treatment



Client Level

- Individual smoking cessation groups
- Referral to Quitline

Program Level

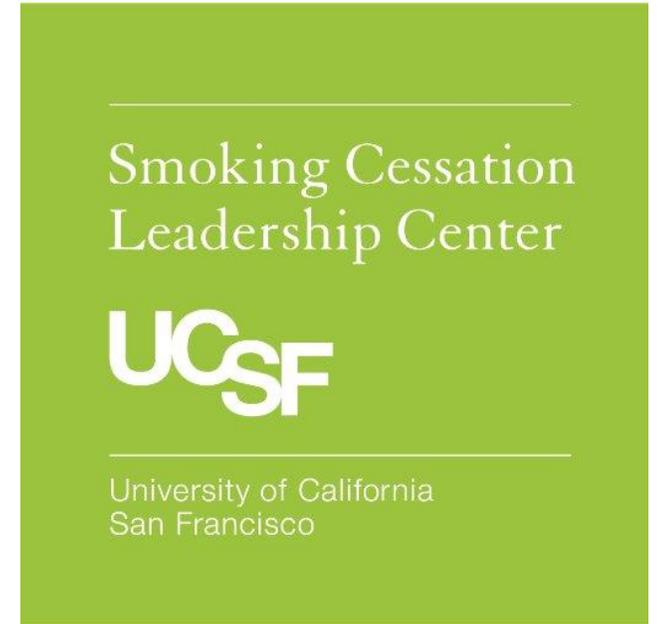
- Program-wide screening
- Tobacco-free grounds

Policy Level

- State legislation to inform cessation efforts

California Tobacco Control Program Tobacco Free for Recovery Initiative

- Substance use disorder treatment programs received 18-month contract (\$36,000) to develop an individualized tobacco-free policy
- Activities to Support Policy Development
 - Completed needs assessment
 - Evaluated current tobacco policies
 - Identified barriers/facilitators to policy implementation
 - Met monthly with UCSF Smoking Cessation Leadership Center
 - Attended SCLC-sponsored training for program representatives and key staff
 - Attended monthly learning collaboratives



Policy Requirements

- Create an individualized policy that:
 - Prohibit tobacco use on program grounds for clients, staff, and visitors
 - Details specific enforcement plan
 - Outlines details for screening, education, and treatment
 - Describes in detail how the policy will be communicated
 - Assessed and treats client tobacco use
 - Implemented other wellness activities that support a tobacco-free environment



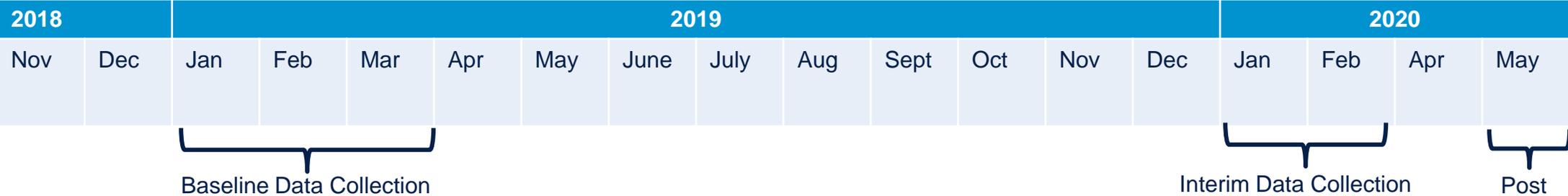
Examples of Individualized Policies and Changes



KICK / T
California

Overview of Tobacco Free for Recovery Cohorts and Evaluation

Cohort 1: 7 Programs



Cohort 2: 6 Programs



Cohort 3: 5 Programs

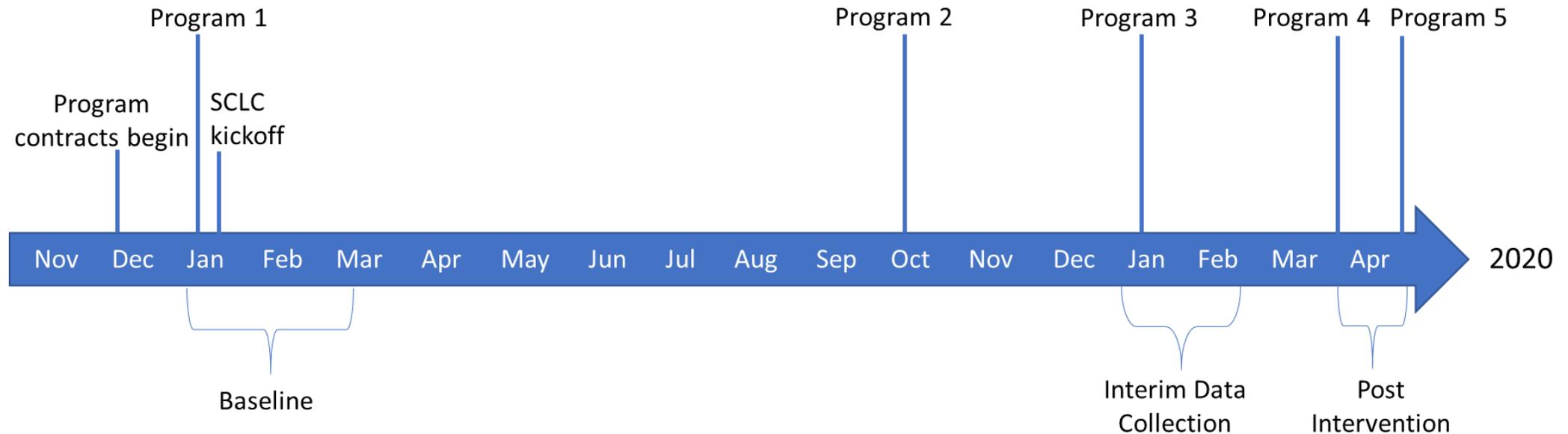


Evaluation Metrics for Tobacco Free for Recovery Initiative

Client Survey	
Smoking Prevalence All participants	<ul style="list-style-type: none"> • Current smoker and 100 cigarette in lifetime
Tobacco Use Behaviors Current smokers	<ul style="list-style-type: none"> • Cigarettes per day • Concurrent Staff/Client Smoking
Cessation Services Current smokers and those who quit in treatment	<ul style="list-style-type: none"> • Asked if you smoke • Referral • Counseling • Nicotine Replacement Therapy or Pharmacotherapy • Cessation in treatment plan

Staff Survey	
Smoking Prevalence	<ul style="list-style-type: none"> • Current smoker and 100 cigarettes in lifetime
Tobacco Free Policy	<ul style="list-style-type: none"> • Report in change in tobacco policy
Tobacco Cessation Education	<ul style="list-style-type: none"> • Attending a training on tobacco cessation
Provision of Cessation Services	<ul style="list-style-type: none"> • Asked if you smoke • Referral • Counseling • Nicotine Replacement Therapy or Pharmacotherapy • Cessation in treatment plan

Timeline of Tobacco Free Grounds Policies in Cohort 1

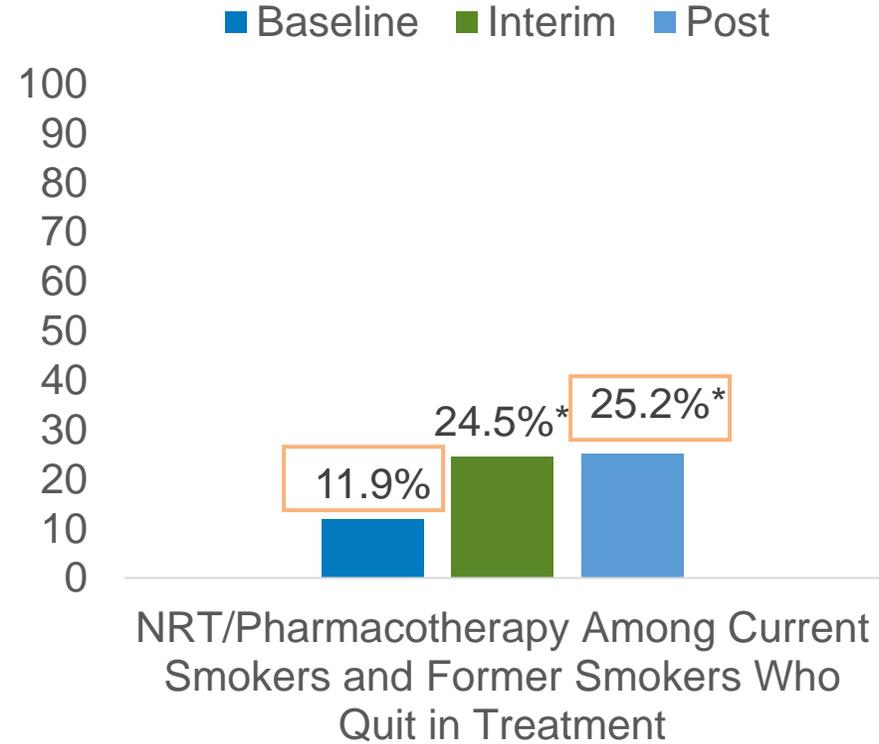
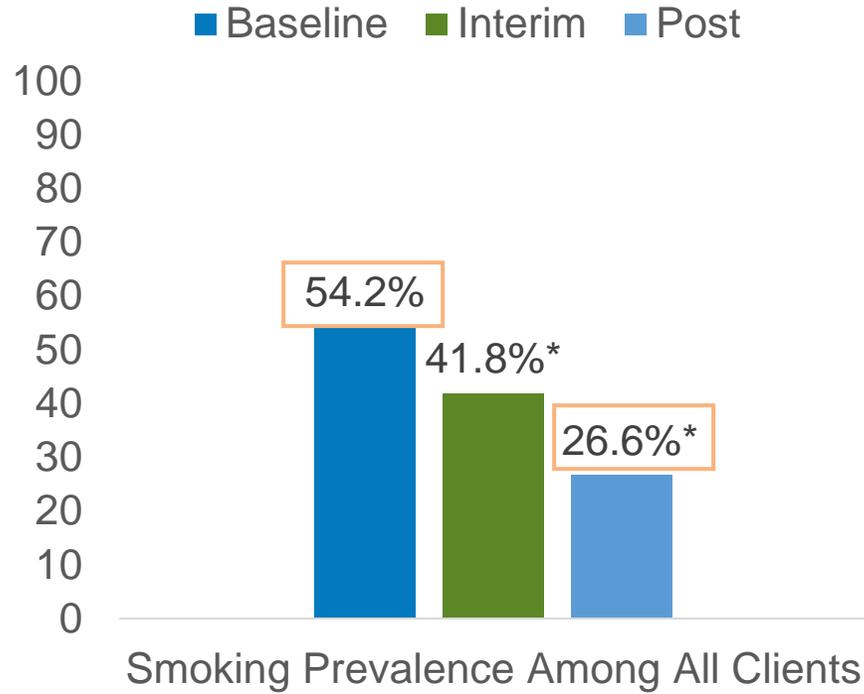


Two programs did not implement tobacco free policies due to county directives requiring a designated smoking area

Figure 1: Timeline for data collection and tobacco-free policy implementation

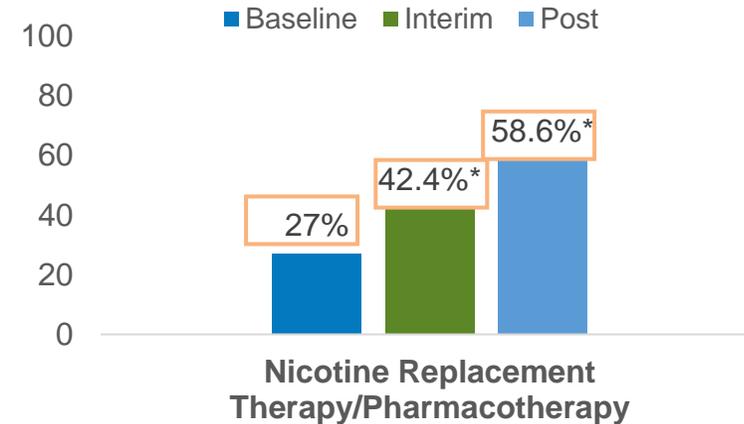
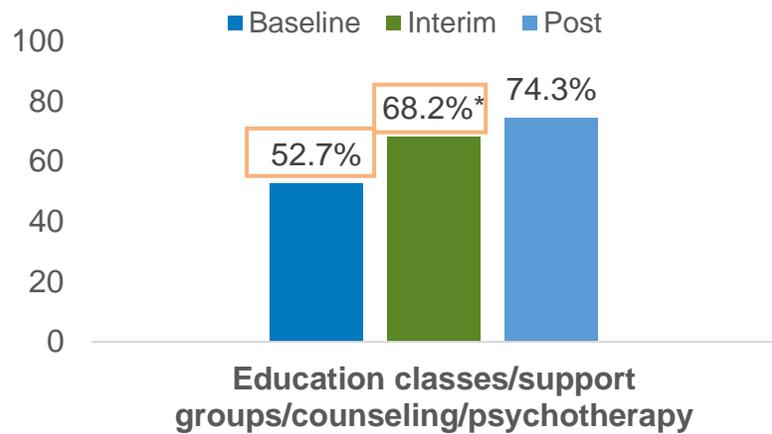
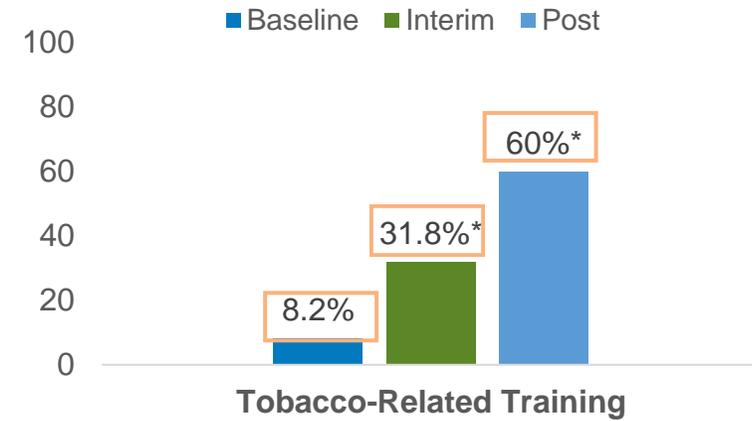
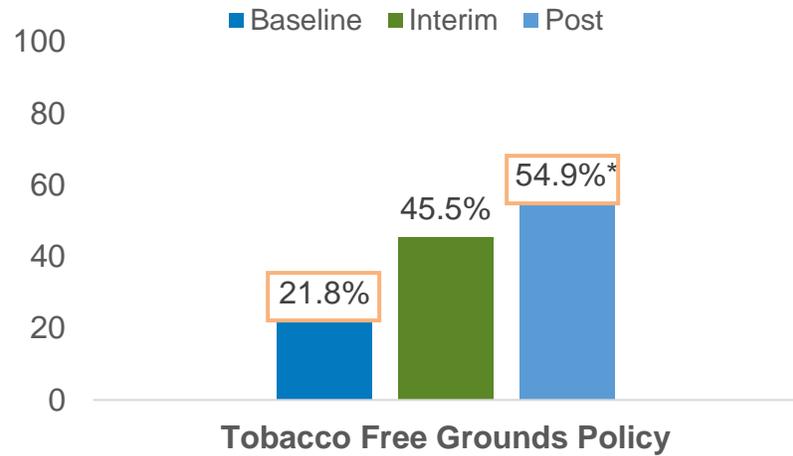
McCuistian et al. (2022)

Cohort 1 Client-Level Changes



*significantly different from baseline

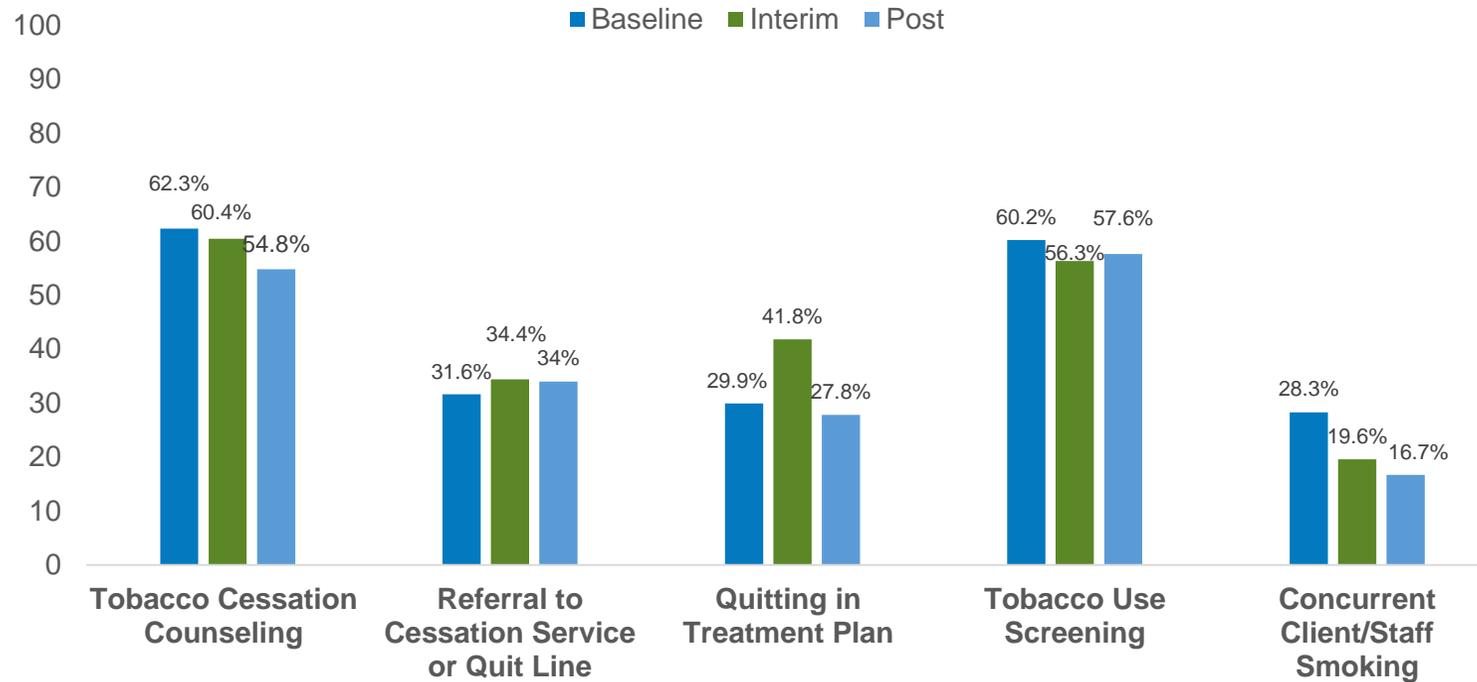
Cohort 1 Staff Level Changes



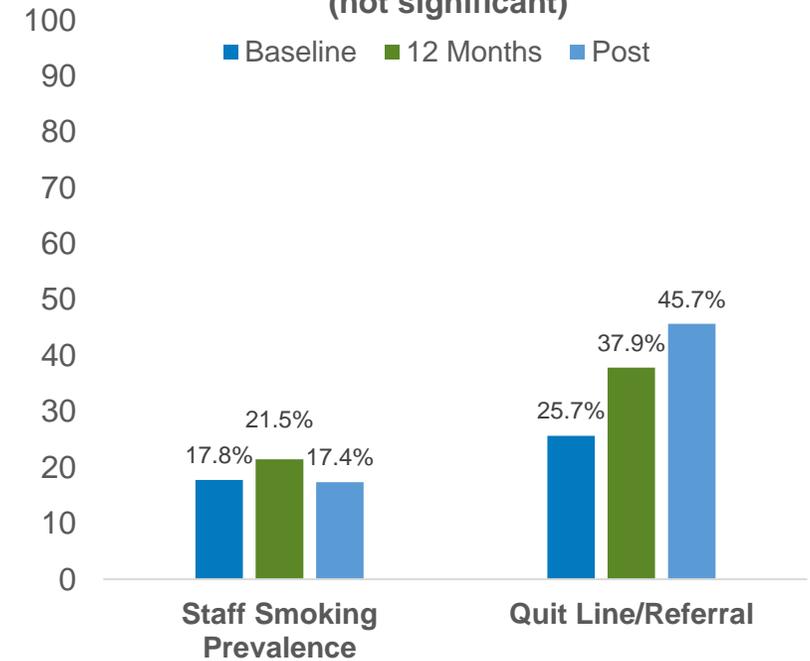
*significantly different from baseline

Areas for Improvement

Other Client-Level Behaviors and Services (not significant)

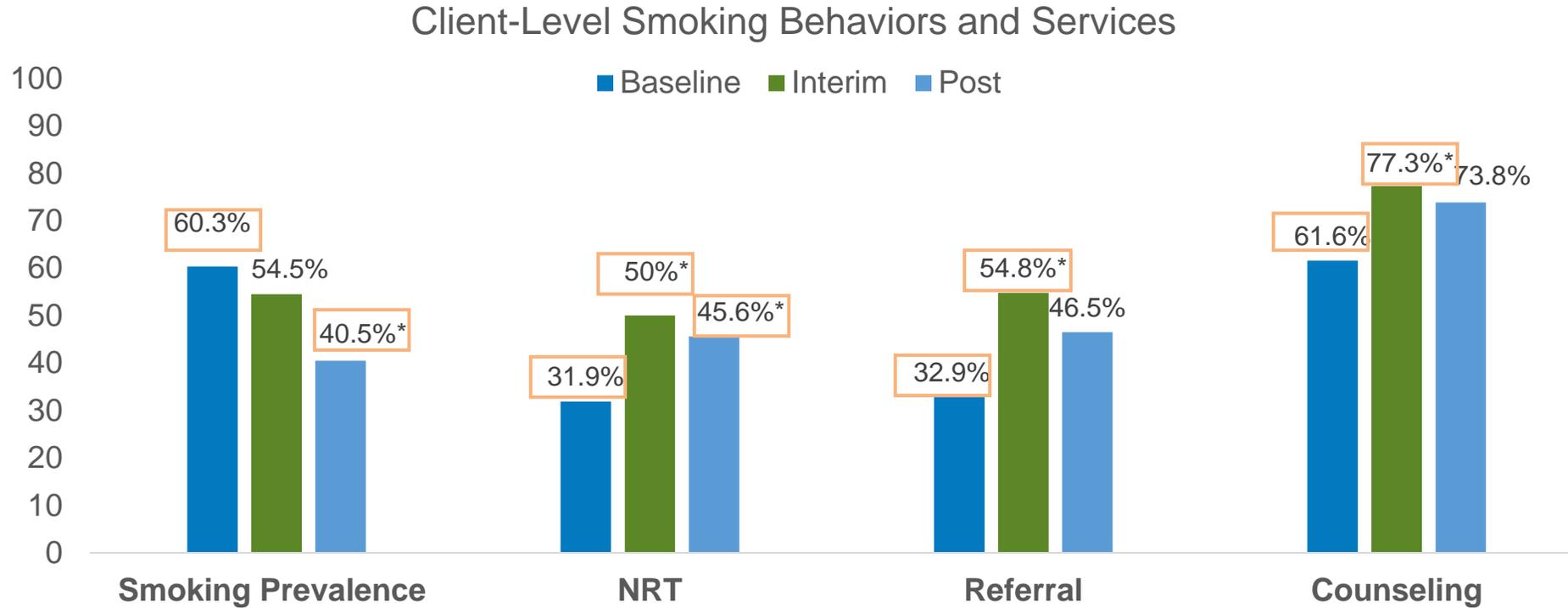


Other Staff-Level Behaviors and Services (not significant)



McCuistian et al. (2022)
Campbell et al. (2022)

Preliminary Findings for Cohorts 2 & 3



*significantly different from baseline

Potential Health Equity Impact

Across 24 Californian residential SUD treatment programs

- Non-Hispanic Whites smoked at a higher rate (68.7%) than both Hispanics (54.9%) and non-Hispanic Blacks (55.6%)
- Racial/ethnic minorities were accessing more smoking cessation services than Whites, suggesting that **SUD treatment could serve as a place to address tobacco-related racial inequities**

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Racial/Ethnic Differences In Tobacco Use and Cessation Services among Individuals In Substance Use Treatment

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ABSTRACT

Few studies explore racial/ethnic disparities in tobacco use and access to cessation services among people with substance use disorders (SUD). We collected data from Hispanics ($n = 255$), non-Hispanic Whites ($n = 195$), and non-Hispanic Blacks ($n = 126$) across 24 Californian residential SUD treatment programs. Data were analyzed via regression models adjusting for demographics, cigarettes per day, past quit attempts, intent to quit in the next 30 days, and physical health status. Non-Hispanic Whites smoked at a higher rate (68.7%) than both Hispanics (54.9%) and non-Hispanic Blacks (55.6%) and smoked more cigarettes per day ($M = 11.2$, $SD = 6.5$). Hispanics were more likely than non-Hispanic Whites to receive a referral to a cessation specialist (adjusted odds ratio; $AOR = 2.34$, 95% $CI = 1.15, 4.78$) and tobacco-cessation counseling ($AOR = 2.68$, 95% $CI = 1.28, 5.62$). Non-Hispanic Blacks were also more likely than non-Hispanic Whites to receive cessation counseling ($AOR = 3.61$, 95% $CI = 1.01, 12.87$) and NRT/pharmacotherapy ($AOR = 2.65$, 95% $CI = 1.57, 4.47$). Despite their decreased smoking prevalence and severity, REMs were accessing smoking cessation services while in treatment, suggesting that SUD treatment could serve as a place to address tobacco-related racial inequities.

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KEYWORDS

Health disparity; tobacco cessation; substance use treatment; racial/ethnic minority

Although smoking prevalence has declined steadily over the past decade in the United States (CDC 2020b; Cornelius et al. 2020), disparities in tobacco use and smoking cessation remain across racial/ethnic minority (REM) groups. For example, specific sub-groups of Hispanic populations smoke at rates 4–17% higher than the national average (CDC 2019c). Approximately 85% of non-Hispanic Black smokers use menthol cigarettes, surpassing the rates of menthol use among White smokers (28.9%) and smokers from other REM groups (e.g., Hispanics, Asians, and multiracial individuals; Villanti et al. 2016). Menthol cigarettes, marketed directly to African American communities (Gardiner 2004), have been associated with decreased smoking cessation (Delnevo et al. 2011). While there is a tendency toward light or intermittent smoking (Reyes-Guzman et al. 2017; Trinidad et al. 2009), some REM groups, such as African Americans, are less likely than Whites to successfully quit (Bacio et al. 2014; Trinidad

REM groups also experience increased health risks related to tobacco use. African Americans are more likely than Whites to die from smoking related diseases (CDC 2020a). Several smoking-related cancers are the leading cause of death for Hispanics, Native Americans/Alaskan Natives, Asians, Pacific Islanders, and Native Hawaiians (CDC 2019a, 2019b, 2019c). These health consequences are exacerbated by social determinants of health such as income inequality, housing insecurity, and racial discrimination that disproportionately impact REM communities and contribute to racial health inequity in the U.S. (Braveman, Egerter, and Williams 2011).

Another population with disproportionate rates of smoking prevalence are people with substance use disorders (SUD; Schroeder and Morris 2010). Smoking prevalence among people with SUD has not followed the same pattern noted in the general population, showing no decline from 2002–2014 (CDC 2020b;

State-wide Tobacco Free Grounds Policies



New Jersey (1999)

All programs provided assessment or treatment for tobacco use, 80% had treatment for smoking staff, and 85% used NRT with clients

New York (2008)

Pre-post decrease in client smoking prevalence (69.4% to 62.8%)

Oregon (2012)

Increased tobacco screening (83% vs 92 and referrals to Quit line (32% vs. 51%)

California AB 541

- Assembly Bill (Berman) signed in August 2021
- Went into effect January 2022, slow implementation
- All licensed and certified California SUD treatment programs must:
 - Assess clients for tobacco use
 - Educate clients on the harms of tobacco
 - Include tobacco cessation in treatment plan
 - Offer treatment or referral to services
 - **Limited guidance on what services (could vary) or how to implement these changes**
 - **Does not prohibit smoking, no tobacco free grounds**
 - **Associated change with smoking prevalence needs to be examined**



Reducing Tobacco Use in SUD Treatment: Policy and Legislative Approaches

TRDRP T32KT5241– PI: McCuistian

Examine changes associated with AB541	Examine the sustainability of Tobacco Free for Recovery Initiative
<ul style="list-style-type: none">• Compare client tobacco prevalence, smoking behaviors, and smoking cessation services before and after implementation of AB541 among programs not included in Tobacco Free for Recovery	<ul style="list-style-type: none">• Determine whether client-reported changes in smoking prevalence and receipt of cessation services associated with tobacco free for recovery initiative are maintained 24 months post implementation

Take Away Message

Providing monetary support, education, and resources allows programs to develop an individualized policy for implementing tobacco free grounds that demonstrates promise for reducing smoking prevalence among people in substance use disorder treatment

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Center for Tobacco Control
Research and Education

Tobacco Industry Documents: How Looking Through the Keyhole Contributed to Tobacco Control in Brazil

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- **Area - 8,516,000 km²**
- **Population - 213 million (estimation 2021)**

Brazilian Health Regulatory Agency (ANVISA)

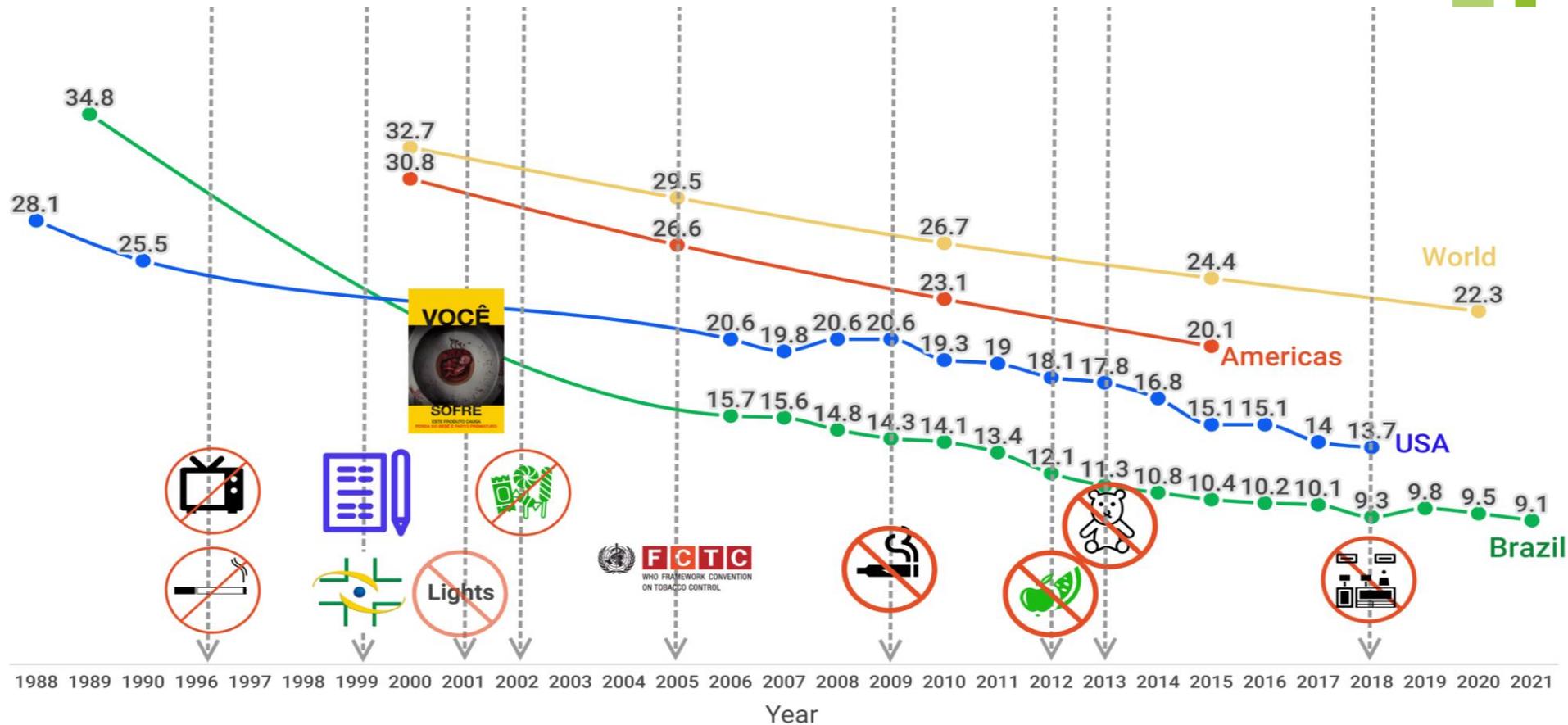


- Health surveillance and sanitary control of products, services, marketing
- Former coordinator - regulation, enforcement, and registration activities

Tobacco Control

- Leading regulatory agency in the world
- Global Tobacco Regulators Forum member
- Specialized support to WHO Framework Convention on Tobacco Control

Smoking Rates (%)



Tobacco Industry Documents & Brazilian Regulation



- Anticipate and expose industry strategies
 - Marketing to special groups like kids and women
- Creating and updating regulatory practices
 - Additive ban, pictorial health warnings
- Respond to industry allegations in courts and regulatory processes

Case Study: Tobacco Additive Regulation



Additive ban regulatory process (2010 to 2013)

- Strong opposition from Tobacco Industry
- Tobacco Industry Documents:
 - Supported conceptualization & development of regulation
 - Countered industry arguments in courts and during regulatory process

Tobacco Additive Ban in Brazil



Prohibits importing or selling of tobacco products containing:

Additives with flavoring properties that are used to modify or enhance the flavor of tobacco products.

- Nutritive substances, herbs, spices
- Stimulants
- Ameliorants
- Pigments
- Ammonia
- Fruit/vegetable products
- Sweeteners

One of the most restrictive tobacco additive bans in the world



More than 127,000 letters received

The taste of smoke: tobacco industry strategies to prevent the prohibition of additives in tobacco products in Brazil

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ABSTRACT

Background The tobacco industry (TI) uses several strategies to attract new consumers, including using additives in tobacco products, which makes tobacco especially attractive to youth. Based on scientific evidence and the principles of the WHO Framework Convention on Tobacco Control, the Brazilian Health Regulatory Agency (ANVISA, for the name in Portuguese), published the Collegiate Board Resolution (RDC, for the name in Portuguese) 14/2012 in 2012, prohibiting the addition of substances that enhance the flavour and taste of tobacco products in order to make them more attractive. In response, the TI used various strategies to prevent RDC 14/2012 from entering into force. At the time, the Brazilian additive ban was the most comprehensive in the world as it included a ban on menthol.

Objectives This paper analyses the arguments and strategies used by the TI to prevent the implementation of the additives ban.

Methods Review of published articles, reports, legislation and legislative activity, internal TI documents, media stories and other documents to describe TI's reaction to the ban.

Results The results show that the TI used some well-known strategies to delay or cancel the entering into force of the resolution. For example, the TI attempted political interference, used litigation and commissioned studies with findings that questioned the resolution's rationale. The TI strategies used in Brazil are similar to those used at the global level to oppose other tobacco control measures.

Conclusions TI successfully delayed the most comprehensive additive ban in the world using its usual tactics, despite the fact that none of the arguments presented by the TI had an acceptable scientific basis or evidence.

INTRODUCTION

Tobacco use is the leading cause of preventable death and disease in the world.¹ Efforts to address this global epidemic need to include strategies to ensure that young people do not become addicted to tobacco products. Evidence shows that the younger the person starts smoking, the sooner he or she becomes a regular smoker, and the harder it is for them to quit.^{2,3} Even smoking chocolate cigarettes in childhood correlates with smoking in adulthood.^{4,5}

Estimates indicate that, globally, 82 000 to 99 000 children start smoking every day.^{6–8} In Brazil, data indicate (2013–2014) that 18.5% of adolescents between 12 and 17 years of age have tried cigarettes in their lifetime.⁹ The national Special Tobacco Survey (PETab) conducted by the Brazilian Ministry of Health showed that 17.2% of the population aged 15 years or older used tobacco products in 2008.¹⁰ Other surveys showed that the majority of smokers in Brazil started to smoke before they were 20 years of age.^{11–14}

The tobacco industry (TI) uses a variety of strategies to attract new smokers, maintain dependency and prevent tobacco control regulations.^{15,16} These strategies lead to reduced cessation and target young people to start, as the industry needs to replace smokers who stop smoking or die.^{14–16} Among the strategies used by the TI to maintain addiction and profits, cigarette engineering is perhaps one of the most ingenious. Modern cigarettes are the result of innumerable technological developments where all aspects of their composition are controlled and built to, among other characteristics, optimise the delivery of nicotine to the smoker, facilitate the initiation of new smokers, make the product more palatable and less irritating, mask environmental tobacco smoke and reduce production costs.^{17–23}

One of the technologies used by the TI is the use of additives. The TI's own internal documents point to additives as an important technology for expanding its markets.^{16 17 19 22–23} The use of additives in tobacco products facilitates tobacco use, enhances the effects of nicotine and allows the TI to use false claims of properties associated with health and well-being.^{24–32}

Data from the TI³³ show that flavourings are added to cigarettes to improve their flavour and aroma.³⁴ Additionally, TI documents show that these additives are also used to reduce airway irritation caused by smoke.^{23 25–27} The TI recognises that irritation caused by smoke, unpleasant taste, astringency, dry mouth and other unpleasant tobacco characteristics are effective barriers to the initiation and perpetuation of smoking,¹⁶ thus the TI considered additives pivotal to market success.

Aware of the TI's reasons to use additives, ANVISA, the Brazilian agency empowered, by legislation, to regulate tobacco products, considered the evidence on additives and its public health harms and published a resolution, RDC 14/2012, in 2012, which *inter alia* prohibited the use of additives that

► *Tob Control*. 2019 Dec;28(e2):e92–e101. doi: 10.1136/tobaccocontrol-2018-054892. Epub 2019 May 31.

The taste of smoke: tobacco industry strategies to prevent the prohibition of additives in tobacco products in Brazil

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Tobacco Industry Arguments



versus

Tobacco Industry Documents

Menthol cigarettes and smoking initiation: a tobacco industry perspective

Kim Klausner

This evidence suggests that a ban on menthol in cigarettes would result in fewer people smoking cigarettes. Menthol is a prominent design feature used by cigarette manufacturers to attract and retain new, younger smokers. In addition, not only

**CONFIDENTIAL
(For Response Only)**

Winston introduces "100% First Cut" tobacco blend

General Statement/Q&A

...

MUST AIRS

1. Winston is strengthening its No Bull positioning by introducing a 100% First Cut tobacco blend.
 - The blend, which contains no reprocessed tobacco sheet along with no additives, continues to deliver true tobacco taste – a cornerstone of the brand's No Bull positioning (launched in August 1997).

...

INGREDIENTS

- **If 100% First Cut raises questions about ingredients in other brands:** Reynolds Tobacco's use of cigarette ingredients is guided by the principle of achieving the desired taste characteristics by using the minimum amount of additives. Reynolds Tobacco does not -- and will not -- use any cigarette ingredient if scientific methods and tests indicate that it will increase the inherent toxicity of tobacco smoke.

Tobacco additives have been used in cigarettes throughout the history of cigarette manufacturing. The majority of these ingredients (such as cocoa and sugars) are used to enhance aroma and flavor. Others are used to enhance the sensory aspects, including taste, associated with the smoke (such as menthol), facilitate tobacco processing and cigarette manufacturing (such as carbon dioxide and water), and preserve moisture levels in the finished cigarette (such as water and glycerin).

LICORICE

TYPES OF LICORICE

WHAT DOES IT DO?

1. IMPARTS DEEP, HEAVY (WOODY) FLAVOR NOTES
2. IMPARTS SLIGHT SWEETNESS

BLOCK

SPRAY-DRIED

liquid

B&W, 1996

Current Status



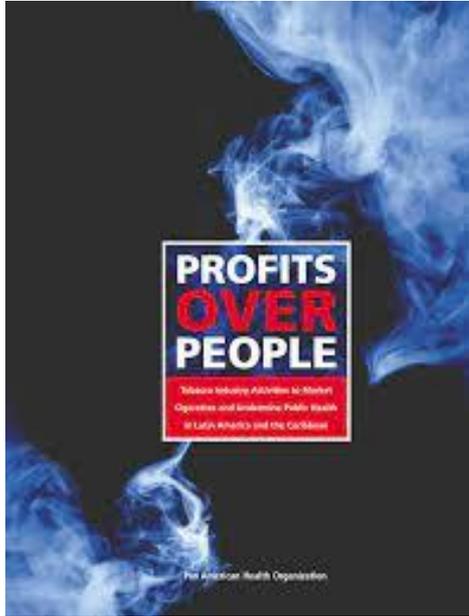
- An injunction allows major companies to keep selling tobacco products with additives
- No discussion whether additives make tobacco products more attractive

Concluding Remarks

- Industry documents as a powerful tool to support effective regulations
- Lessons learned from Brazil's regulatory success
- More research on industry strategies in developing countries
- Industry documents to identify and regulate “new” technologies
 - Example: flavor capsules, synthetic nicotine



Acknowledgments

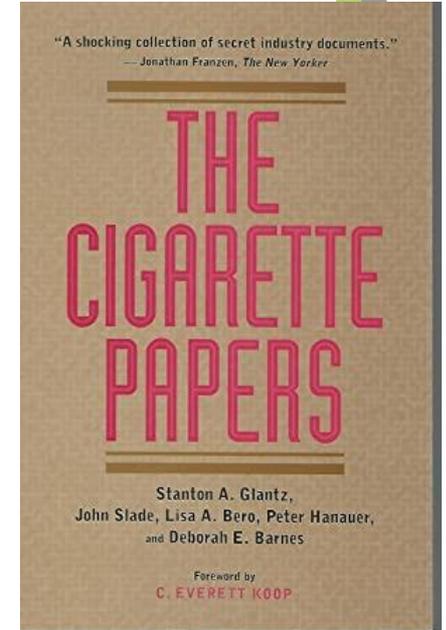


Looking Through a Keyhole at the Tobacco Industry

The Brown and Williamson Documents

Stanton A. Glantz, PhD; Deborah E. Barnes; Lisa Bero, PhD; Peter Hanauer, LLB; John Slade

JAMA, July 19, 1995—Vol 274, No. 3



Center for Tobacco
Control Research
and Education



Agência Nacional
de Vigilância Sanitária



Source: AGEVISA = PB/ Brazil