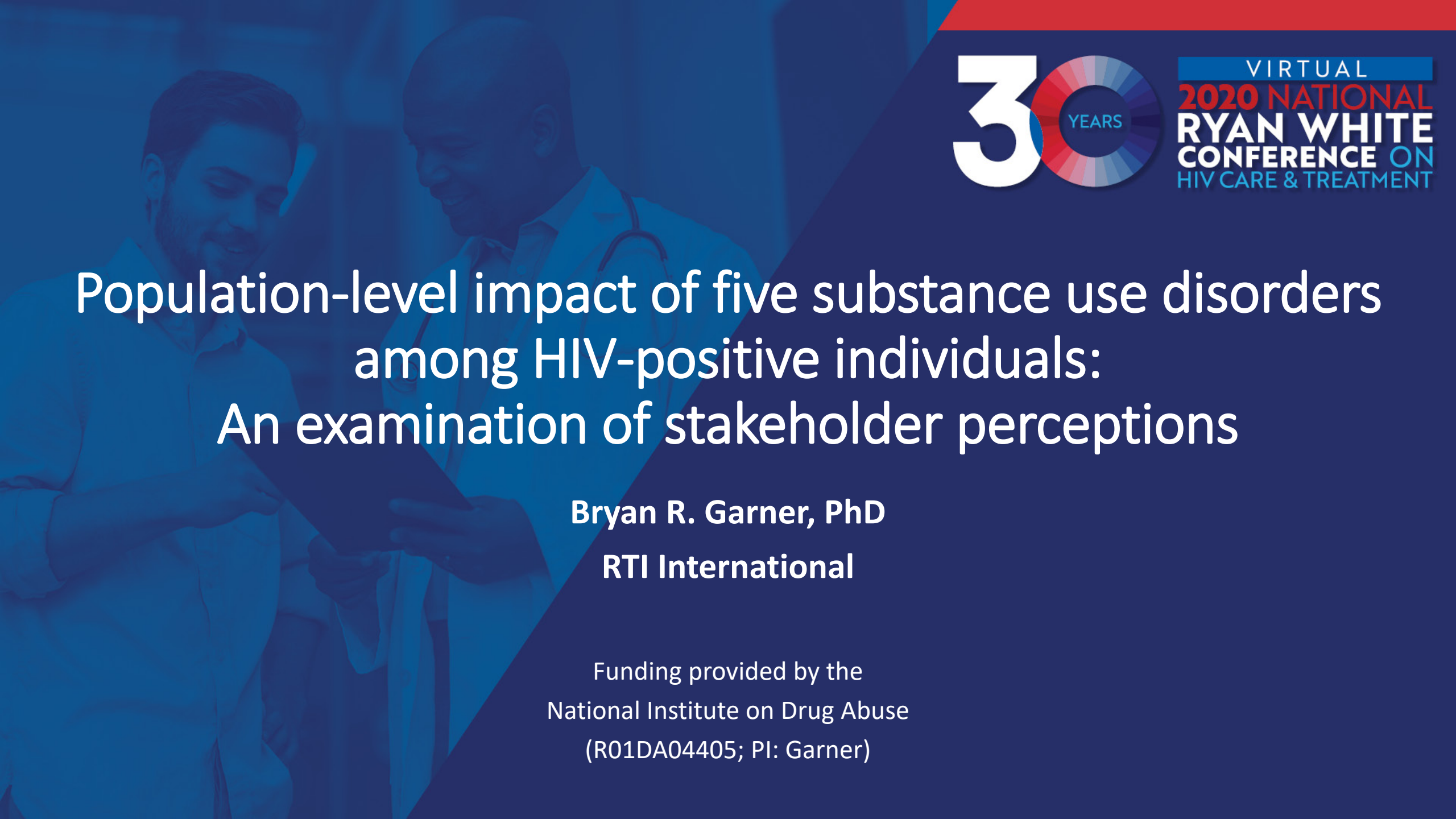

VIRTUAL 2020 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

Population-level impact of five substance use disorders among HIV-positive individuals: An examination of stakeholder perceptions

Bryan R. Garner, PhD

RTI International

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National Institute on Drug Abuse
(R01DA04405; PI: Garner)

Disclosures

No relevant financial or non-financial interests to disclose.

Disclosure will be made when a product is discussed for an unapproved use.

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Commercial support was not received for this activity.

Learning Outcomes

At the conclusion of this activity, the participant will be able to:

1. List the substance use disorders that have the greatest prevalence among people with HIV.
2. List the substance use disorders that have the greatest individual-level impact on HIV care.
3. List the substance use disorders that have the most negative population-level negative impact.

Substance use disorders (SUDs) among people with HIV 1

AIDS Behav (2017) 21:1138–1148
DOI 10.1007/s10461-016-1584-6

ORIGINAL PAPER

Prevalence and Predictors of Substance Use Disorders Among HIV Care Enrollees in the United States

Bryan Hartzler[1] · Julia C. Dombrowski[2] · Heidi M. Crane[2] · Joseph J. Eron[3,4] · Elvin H. Geng[5] · W. Christopher Mathews[6] · Kenneth H. Mayer[7,8] · Richard D. Moore[9,10,11] · Michael J. Mugavero[12] · Sonia Napravnik[3] · Benigno Rodriguez[13] · Dennis M. Donovan[1,14]

Published online: 13 October 2016

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Substance use disorders (SUDs) among people with HIV 3

AIDS Behav (2017) 21:1138–1148

Table 2 Substance use disorder prevalence by geographic site

	Site #1 (818) (%)	Site #2 (852) (%)	Site #3 (2580) (%)	Site #4 (3179) (%)	Site #5 (1161) (%)	Site #6 (706) (%)	Site #7 (1356) (%)	Aggregate (10,652) (%)
Any SUD	60	21	39	48	71	34	61	48
Alcohol UD	27	13	16	18	21	14	22	19
Cocaine UD	13	7	11	8	17	7	18	11
Marijuana UD	36	4	26	29	52	24	42	31
Methamphetamine UD	14	1	4	17	31	2	21	13
Opioid UD	3	1	3	3	8	1	7	4

Site de-identification stipulated by institutional review board of one or more CNICS university-affiliate care sites

Corresponding sample/subsample sizes listed in parentheses

SUD identification based on substance-specific diagnostic thresholds from the AUDIT-C (alcohol UD) and the ASSIST (cocaine UD, marijuana UD, methamphetamine UD, opioid UD)

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1. Data was limited to individuals already linked to care, yet the likelihood of linkage to HIV care has been shown to be significantly lower for individuals with a SUD.

Substance use disorders (SUDs) among people with HIV 5

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2. Study policy was to not conduct assessments on individuals who appeared under the influence of a substance.

Substance use disorders (SUDs) among people with HIV 6

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3 . Estimates were based on data collected between 2007 and 2014 and therefore may not be representative of current SUD prevalence rates among people with HIV.

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The Substance, Treatment, Strategies for HIV Care (STS4HIV) Project 1

STS 4 HIV

FUNDED BY THE NATIONAL INSTITUTE ON DRUG ABUSE

Aim 1: Empirically identify **Substance-Treatment-Strategy (STS) recommendations**

A specific …

Substance (e.g., alcohol),

Treatment (e.g., motivational interviewing), and

Strategy (e.g., workshop training + feedback + coaching)

… combination for improving services within HSOs across the United States.

The Substance, Treatment, Strategies for HIV Care (STS4HIV) Project 2

STS 4 HIV

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Aim 1: Empirically identify **Substance-Treatment-Strategy (STS) recommendations**

A specific …

Substance (e.g., alcohol),

Year 1: Identify the most problematic substance use disorders for people with HIV.

Treatment (e.g., motivational interviewing), and

Strategy (e.g., workshop training + feedback + coaching)

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The Substance, Treatment, Strategies for HIV Care (STS4HIV) Project 3

STS 4 HIV

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Year 2: Identify the most promising treatment interventions for integrating into HSOs in order to help to address the most problematic substances.

The Substance, Treatment, Strategies for HIV Care (STS4HIV) Project 4

STS 4 HIV

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Year 3: Identify the most promising strategy, for helping integrate the most promising treatment interventions, to help addressing the most problematic substances.

The Substance, Treatment, Strategies for HIV Care (STS4HIV) Project 5

VIRTUAL 2020 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

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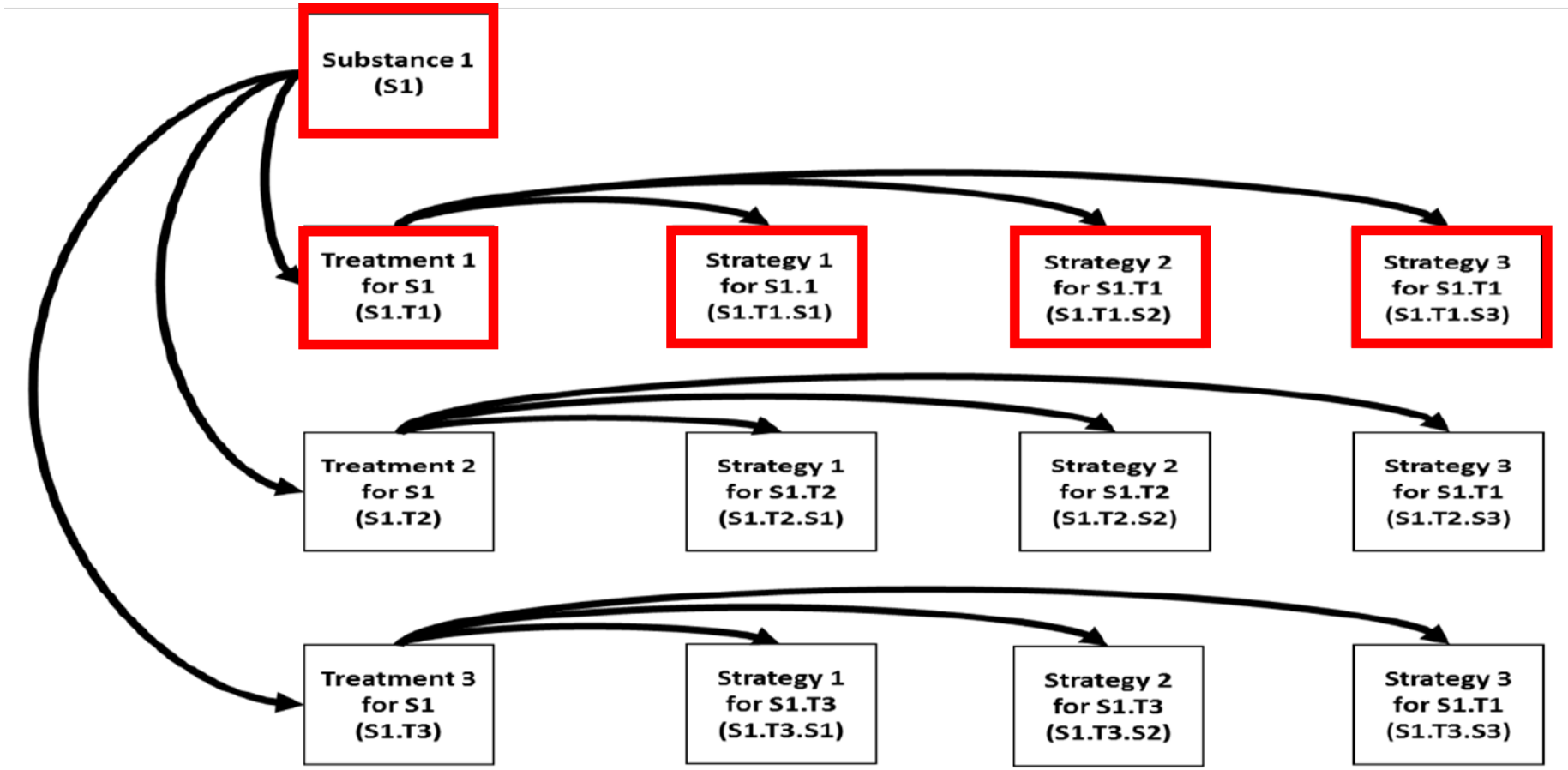
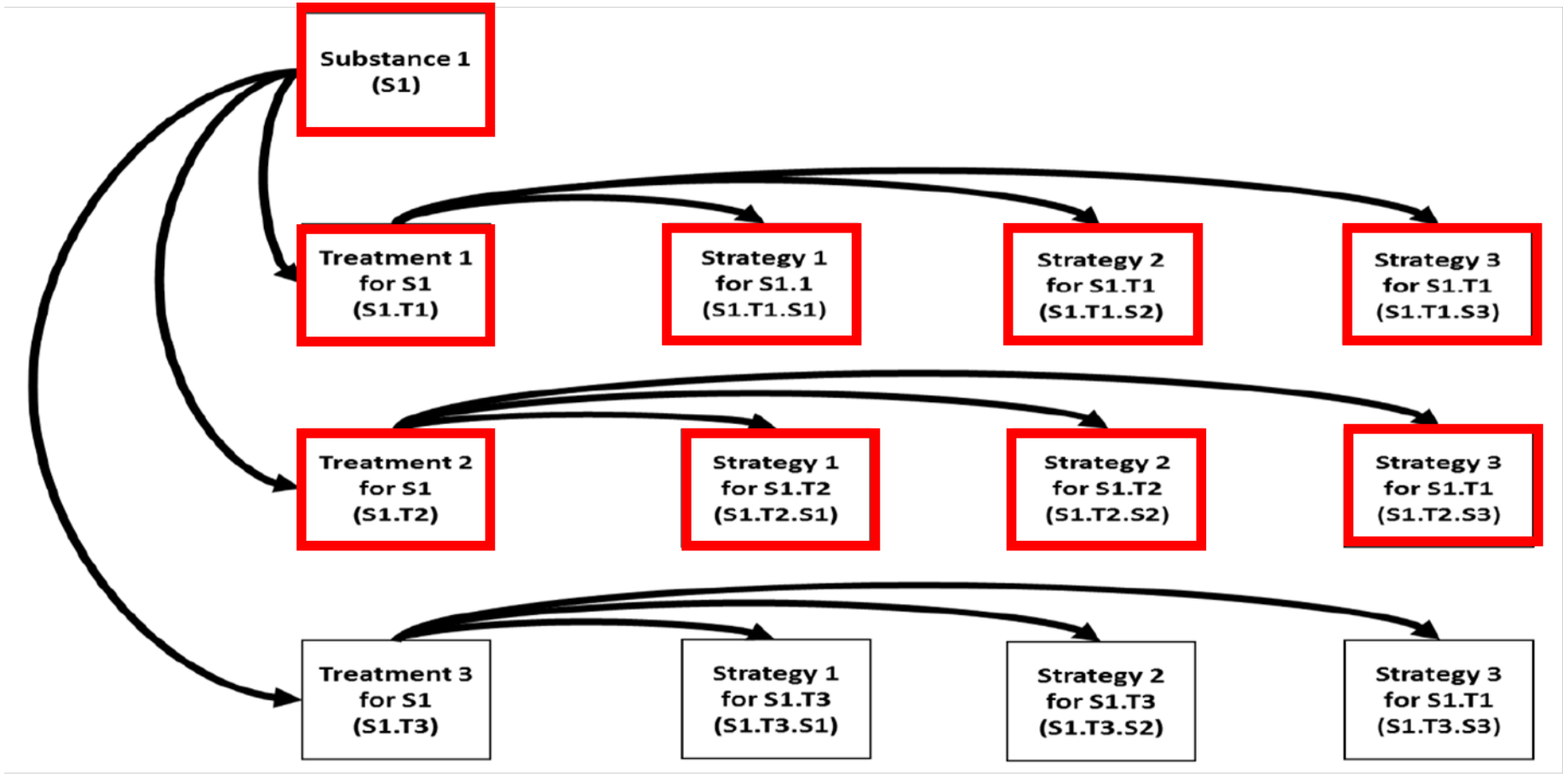
Example of a STS Recommendation "Decision Tree" 1



Example of a STS Recommendation "Decision Tree" 2



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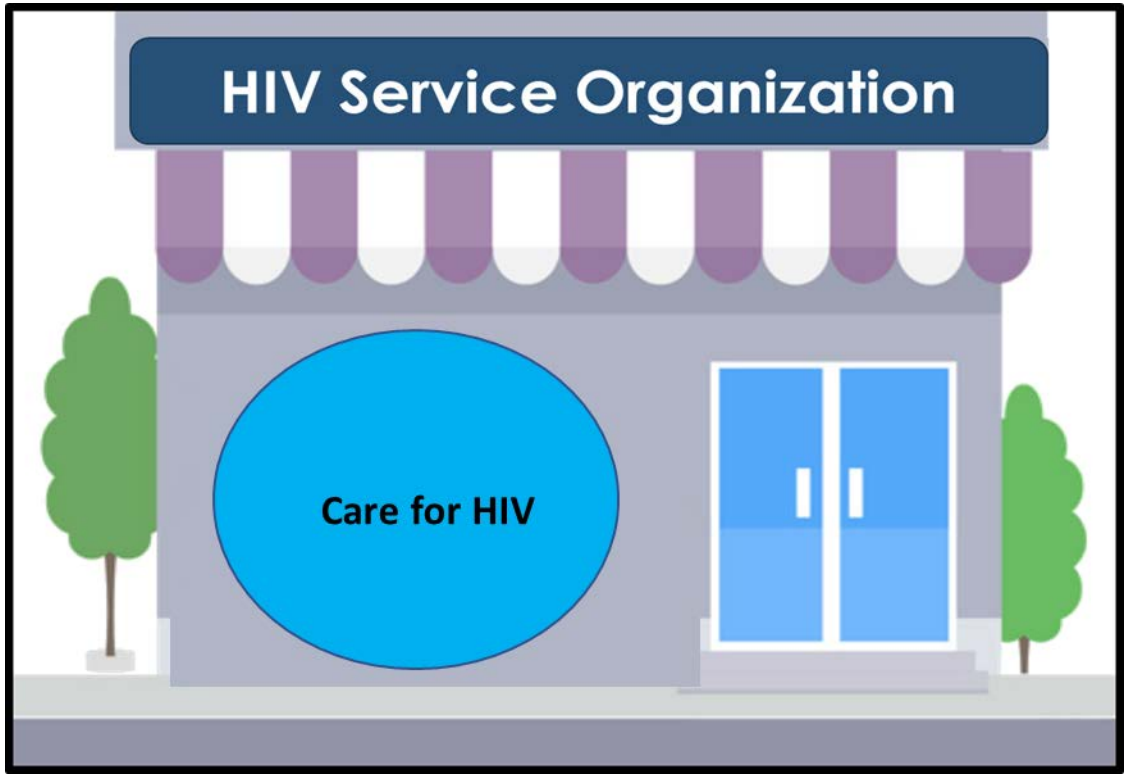
Aim 2: Experimentally test the effectiveness of the **Implementation & Sustainment Facilitation (ISF) Strategy** to help HIV service organizations use the STS recommendations.



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STS 4 HIV

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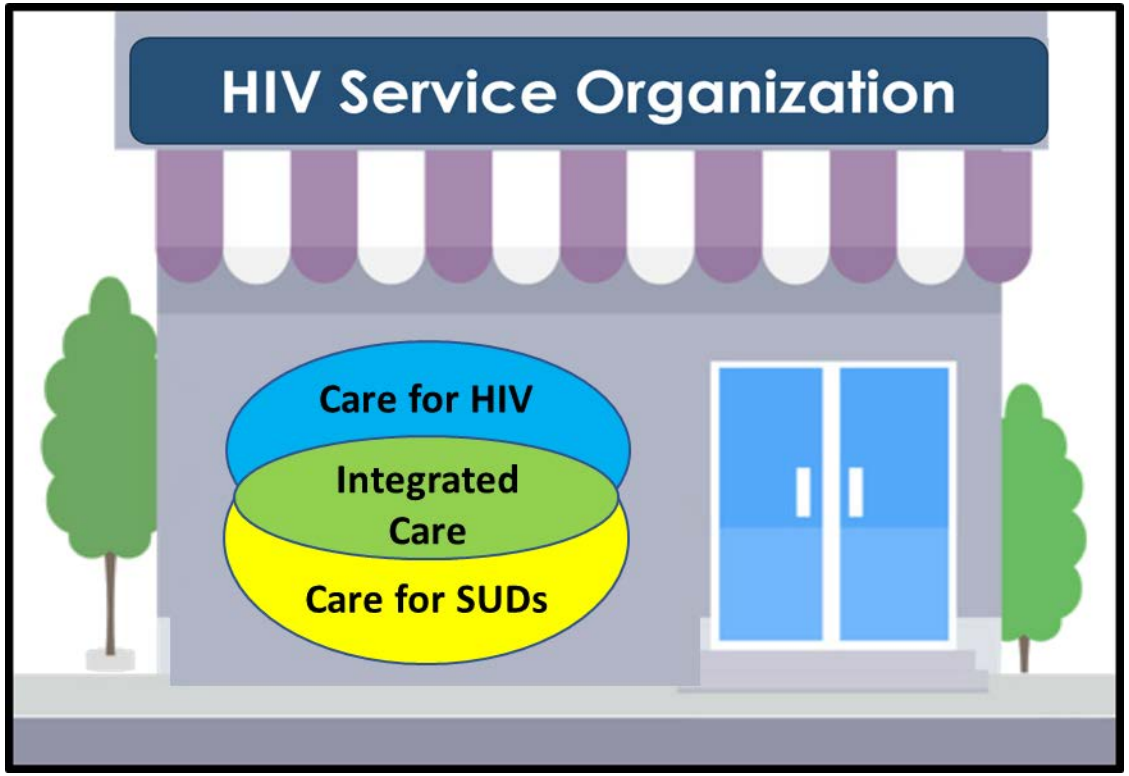
Interested in learning more about participation?

Aim 2: Experimentally test the effectiveness of the **Implementation & Sustainment Facilitation (ISF) Strategy** to help HIV service organizations use the STS recommendations.

CONTACT US
www.sts4hiv@rti.org

ISF
IMPLEMENTATION & SUSTAINMENT FACILIATION



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TUS de 47 % (entre-ubicación gama de 21 a 71 %), con 20 % de la muestra que demuestra un trastorno que implica múltiples sustancias; 2) las tasas SUD por sustancia específica de 31 % para la marihuana, 19 % para el alcohol, 13 % de la metanfetamina, 11 % de la cocaína, y 4 % de los opiáceos; y 3) el surgimiento de menor edad y el sexo masculino como predictores robustos de los trastornos por uso de sustancias. Los resultados sugieren que los pacientes en las clínicas urbanas VIH tienen altas tasas de TUS, describen las tasas de sustancias específicas, e identifican subgrupos de pacientes en situación de riesgo.

Keywords HIV care settings · Substance use disorders · Patient demography · United States

Introduction

Prior reports suggest 80 % of HIV+ Americans effectively engaged in care reach viral suppression [1, 2], though consequent optimism is tempered as this applies to a subset of those living with HIV. Estimates suggest 14–21 % of HIV+ Americans are unaware of their status, and up to half of those linked to care ineffectively engage in services [3]. While health policies, delivery systems, and providers may all influence patient engagement in HIV care [4], clinical attributes of the HIV+ population also play a key role. One such attribute is substance use disorders (SUDs), defined by a set of adverse physiological and behavioral consequences (i.e., tolerance, withdrawal, role failure, craving, unsuccessful quitting). Increased care access among persons with SUD due to the Affordable Care Act [5, 6] and strong inter-rater reliability for the singular DSM-V conceptualization of SUD [7] are recent developments suggesting this as an opportune time for reporting SUD prevalence estimates among HIV care enrollees.

From a public health perspective, SUDs and HIV comprise a health syndemic for which deleterious impacts are observed throughout the HIV Care Continuum [8]. With regard to HIV transmission, effectiveness of universal *test-and-treat* approaches is diminished among persons with SUD [9, 10]. Post-diagnosis linkage to care occurs less often among persons with SUD [11], likely due to a complex mix of system, provider, and patient factors [12]. Even after care linkage, persons with SUD visit clinic inconsistently, initiate antiretroviral medication at later stages of illness, and display poor adherence [13–18]. Though definitions of HIV care retention may vary [4, 19], research suggests the presence of an SUD has a detrimental influence [20–22]. Comparatively less effective HIV diagnosis, care linkage, antiretroviral medication adherence, and retention in services would be expected to diminish likelihood of eventual viral suppression; however, those with SUD respond no differently to antiretroviral medication when regimens are followed [23]. Further, adherence and consequent viral suppression are achievable if appropriate health services are in place [24, 25]. Thus, clarity of the scope of SUD prevalence may inform service needs of substance-using populations along the HIV Care Continuum.

To date, nearly all efforts to estimate SUD prevalence in U.S.-based HIV care have been limited to single-site trial data. Inherent geographic isolation and selection bias common to such trials contribute to diverse estimates, ranging from 21 to 65 % [26–45]. Caveats are compounded by a lack of diagnostic specificity, as trial sample sizes have typically precluded substance-specific examination even as individual substances of abuse pose differential risk in HIV transmission, course, and outcome [15, 46–48]. Alternative data sources, if generated via continuous and coordinated multisite collection, may address apparent gaps in extant literature to offer more comprehensive, detailed estimation of SUD prevalence. Patient geography and demography (i.e., age, gender, race/ethnicity, sexual identity) predict both substance use among HIV care enrollees [50–52] and SUD rates in community sampling [53, 54], and thereby merit inclusion in such analytic work. The Center for AIDS Research Network of Integrated Clinical Systems (CNICS) [55] is a U.S.-based data source offering a multi-regional, continuous cohort of HIV care enrollees, with demographic information and capacity to delineate substance-specific SUDs.

Aims of the current work were to report prevalence estimates for SUDs among HIV care enrollees, and identify demographic predictors that increase likelihood that an SUD is present. Corresponding examination of a 10,000+ cohort, drawn from seven urban university-affiliated care centers, enabled derivation of multiregional, substance-specific SUD prevalence estimates. Patient geography, demography, and HIV transmission risk factors were explored as potential SUD predictors, in effort to identify patient subgroups at greater consequent risk to prematurely disengage from HIV care. Increased understanding of the scope of the SUD-HIV syndemic may spur implementation of addiction-focused services that respond to needs of HIV care enrollees.

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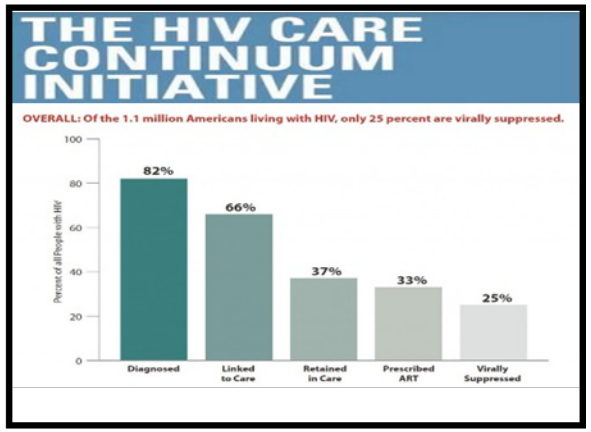

Substance use disorders (SUDs) among people with HIV 10

AIDS Behav (2017) 21:1138–1148

TUS de 47 % (entre-ubicación gama de 21 a 71 %), con 20 % de la muestra que demuestra un trastorno que implica múltiples sustancias; 2) las tasas SUD por sustancia específica de 31 % para la marihuana, 19 % para el alcohol, 13 % de la metanfetamina, 11 % de la cocaína, y 4 % de los opiáceos; y 3) el surgimiento de menor edad y el sexo masculino como predictores robustos de los trastornos por uso de sustancias. Los resultados sugieren que los pacientes en las clínicas urbanas VIH tienen altas tasas de TUS, describen las tasas de sustancias específicas, e identifican subgrupos de pacientes en situación de riesgo.

Keywords HIV care settings · Substance use disorders · Patient demography · United States

Introduction

Prior reports suggest 80 % of HIV+ Americans effectively engaged in care reach viral suppression [1, 2], though consequent optimism is tempered as this applies to a subset of those living with HIV. Estimates suggest 14–21 % of HIV+ Americans are unaware of their status, and up to half of those linked to care ineffectively engage in services [3]. While health policies, delivery systems, and providers may all influence patient engagement in HIV care [4], clinical attributes of the HIV+ population also play a key role. One such attribute is substance use disorders (SUDs), defined by a set of adverse physiological and behavioral consequences (i.e., tolerance, withdrawal, role failure, craving, unsuccessful quitting). Increased care access among persons with SUD due to the Affordable Care Act [5, 6] and strong inter-rater reliability for the singular DSM-V conceptualization of SUD [7] are recent developments suggesting this as an opportune time for reporting SUD prevalence estimates among HIV care enrollees.

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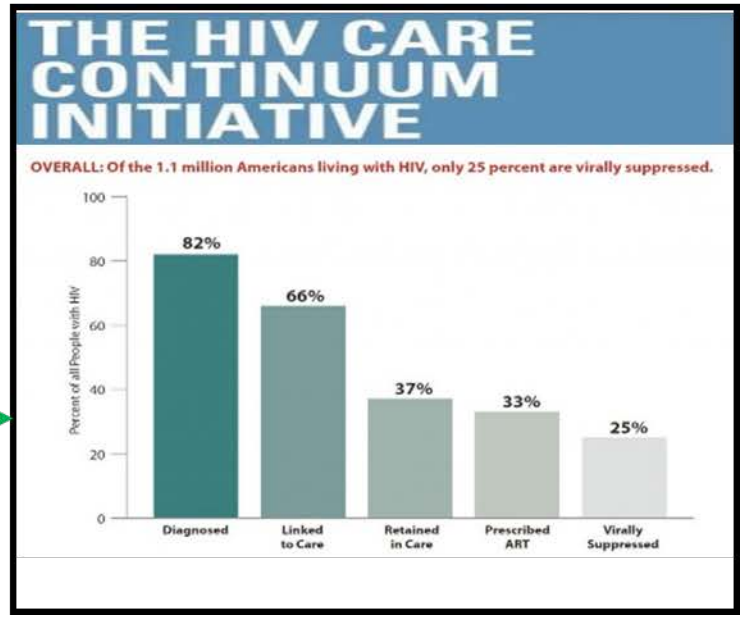
not all SUDs are the same.

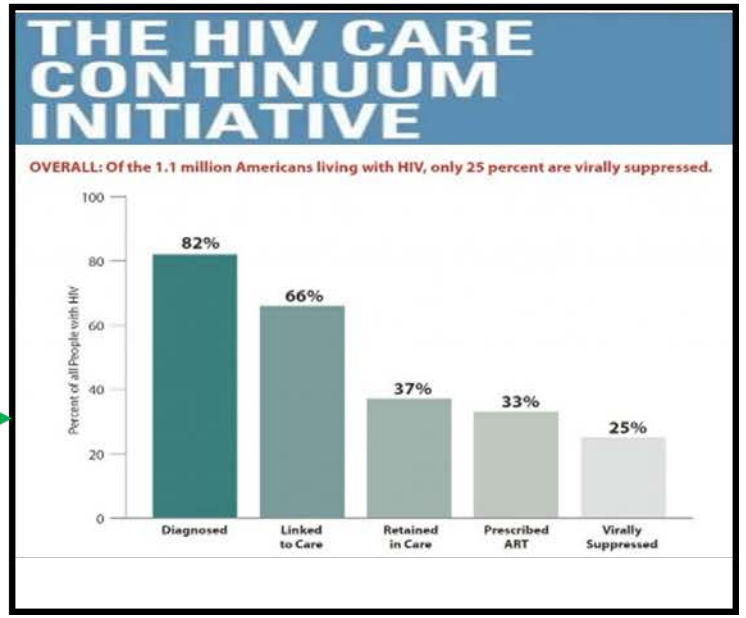
To what extent does each type of SUD have a negative impact on HIV care continuum? 1

To what extent does a use disorder for **alcohol** have a negative impact on an individual's HIV care?



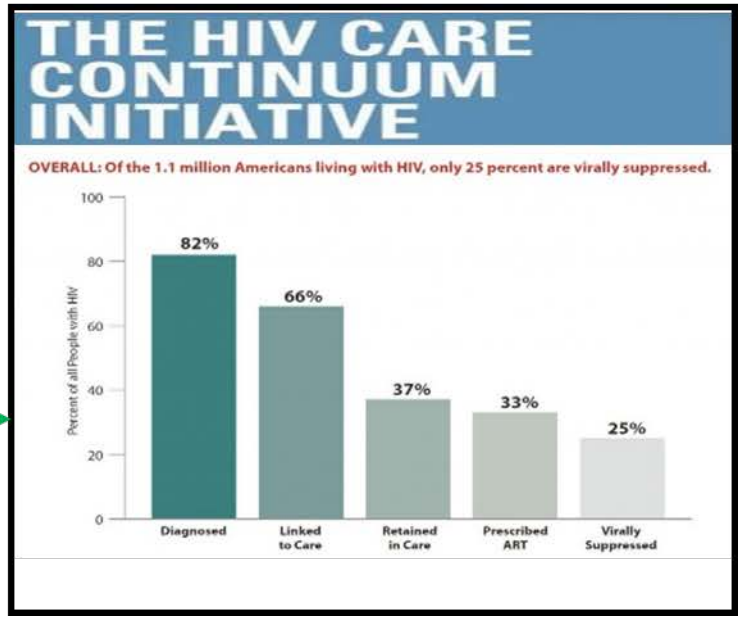
To what extent does each type of SUD have a negative impact on HIV care continuum? 2

To what extent does a use disorder for **cocaine** have a negative impact on an individual's HIV care?



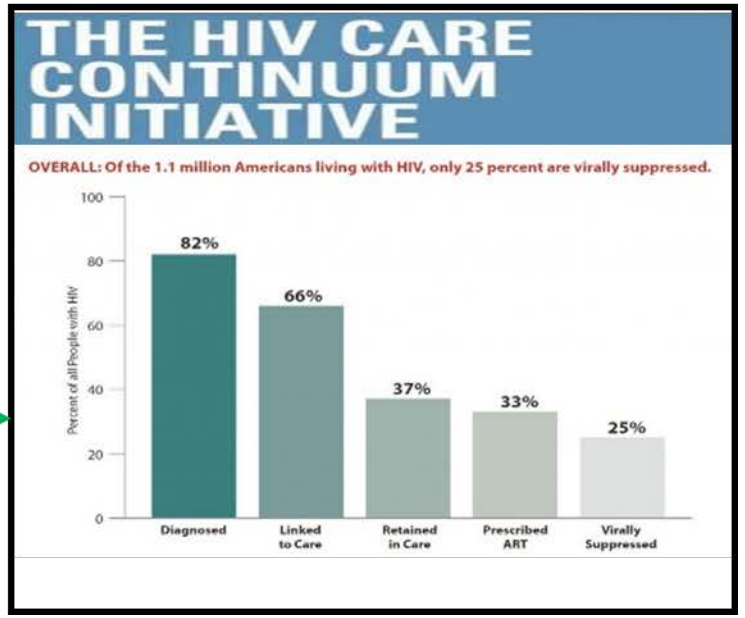
To what extent does each type of SUD have a negative impact on HIV care continuum? 3

To what extent does a use disorder for **<u>marijuana</u>** have a negative impact on an individual's HIV care?



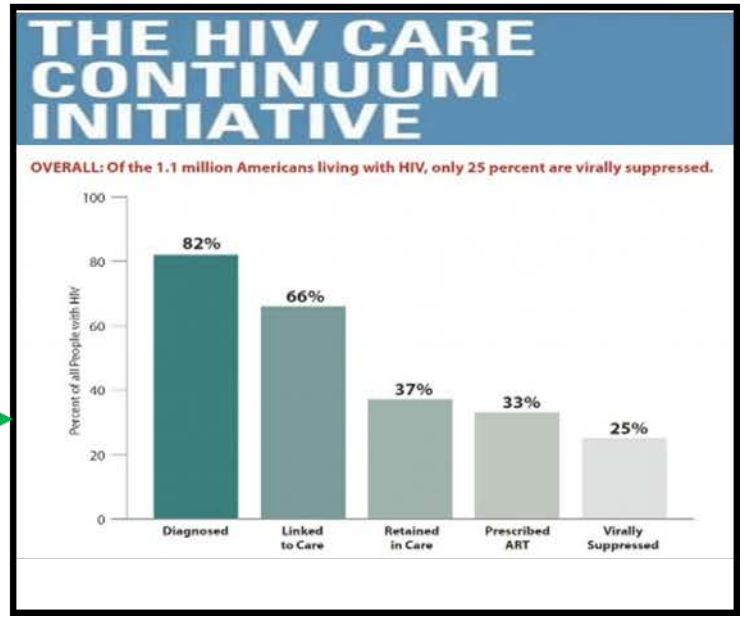
To what extent does each type of SUD have a negative impact on HIV care continuum? 4

To what extent does a use disorder for **<u>methamphetamine</u>** have a negative impact on an individual's HIV care?



To what extent does each type of SUD have a negative impact on HIV care continuum? 5

To what extent does a use disorder for **opioids** have a negative impact on an individual's HIV care?



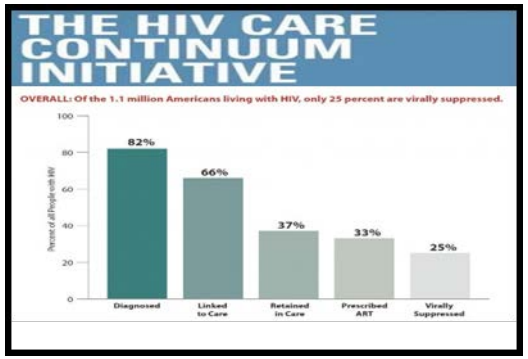
To what extent does each type of SUD have a negative impact on other important outcomes? 1

To what extent does a use disorder for **[insert SUD]** have a negative impact on an individual's HIV care?

Other important outcomes

- Having stable housing.
- Having a reliable mode of transportation.
- Being employed.
- Having a strong social support system.

The individual-level negative impact index



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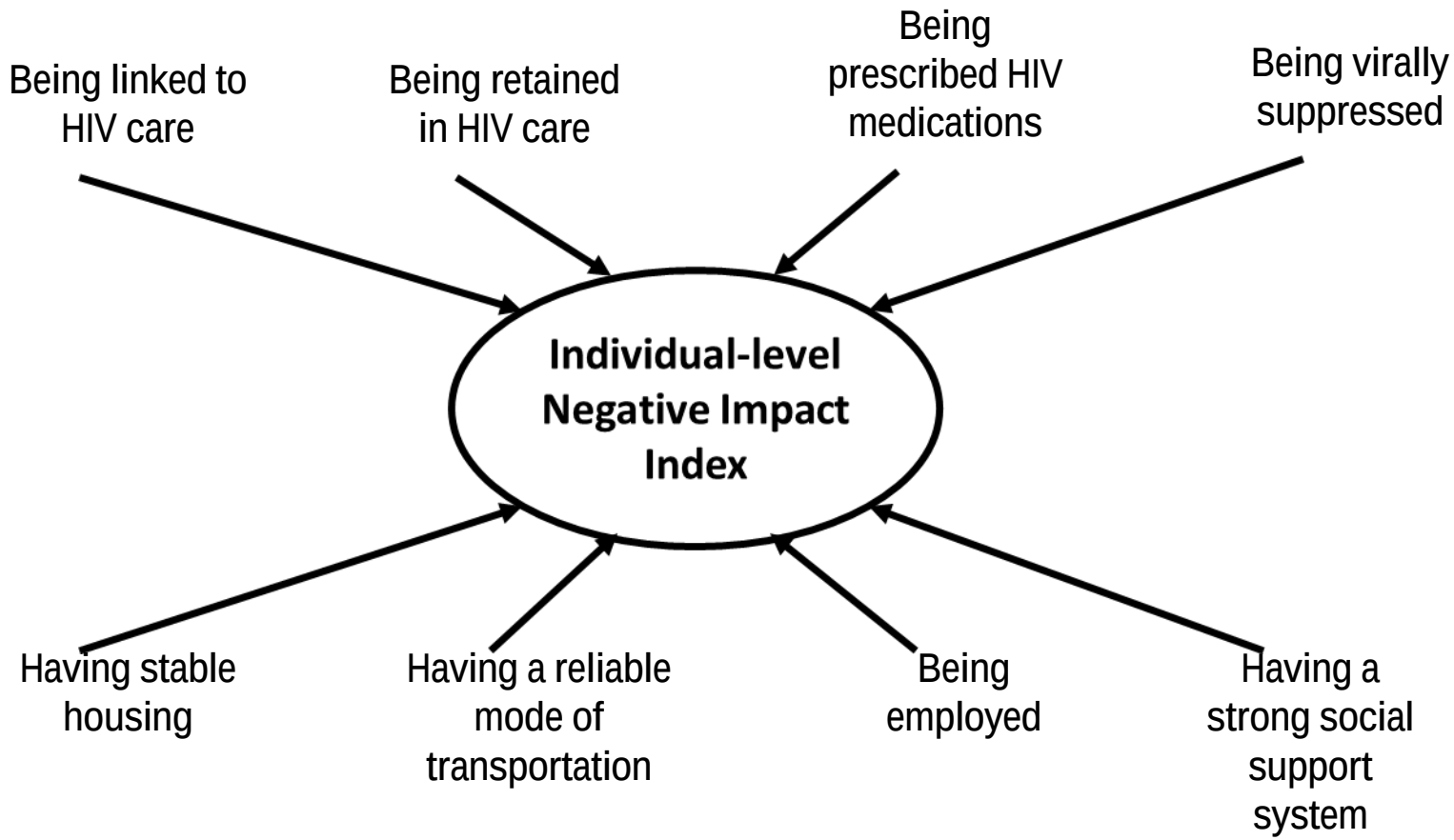
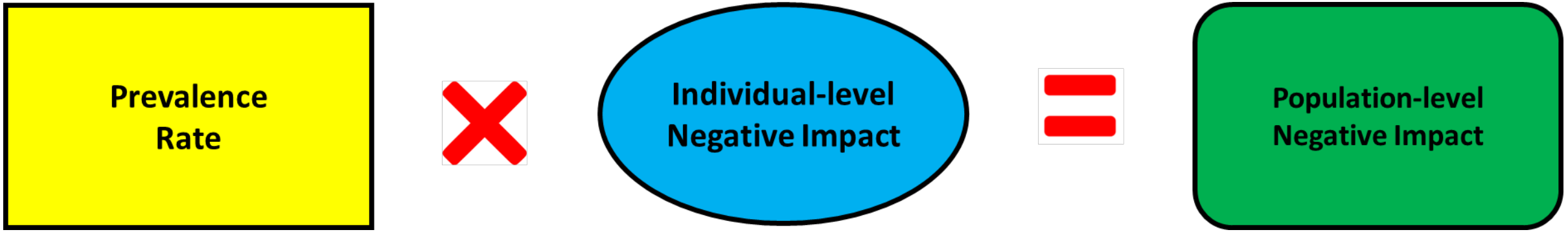


The population-level negative impact score



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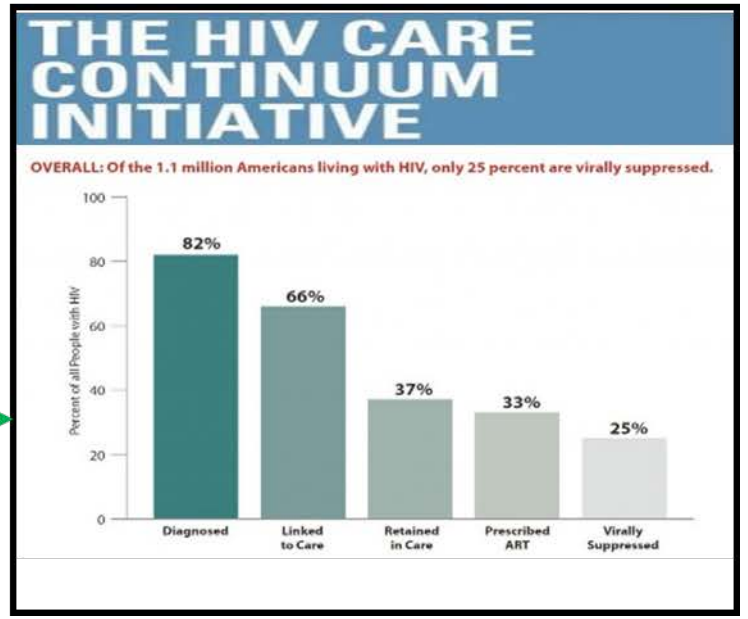

Prevalence Rate × **Individual-level Negative Impact** = **Population-level Negative Impact**

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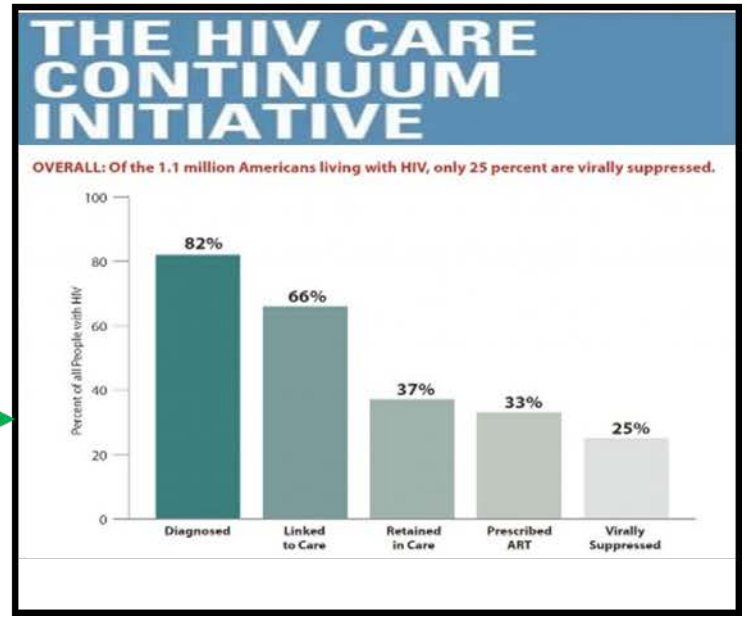

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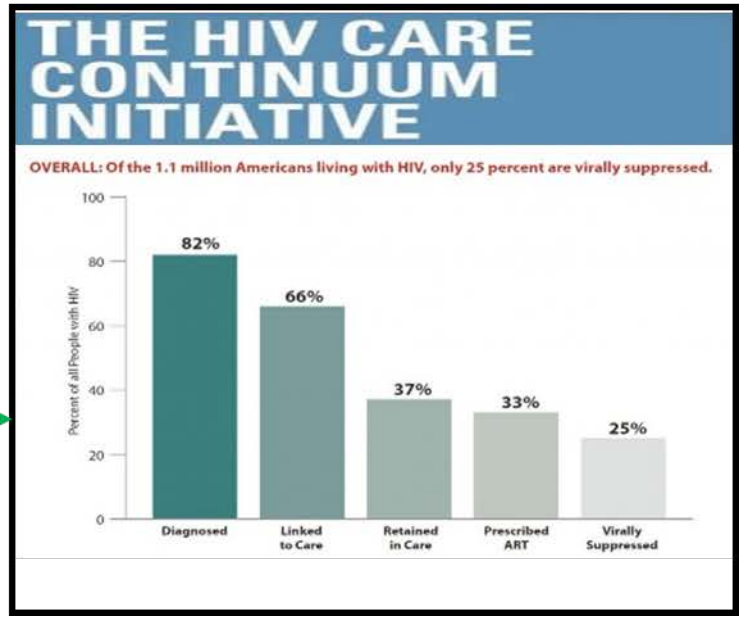

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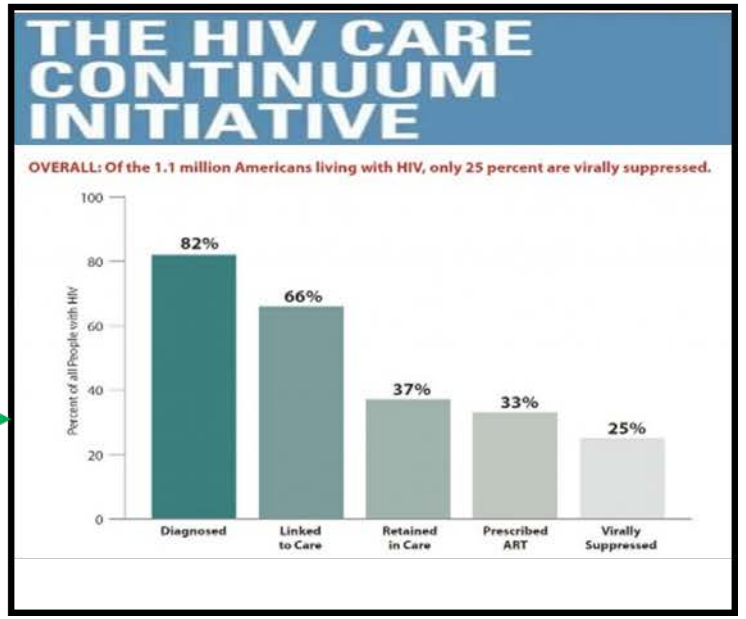

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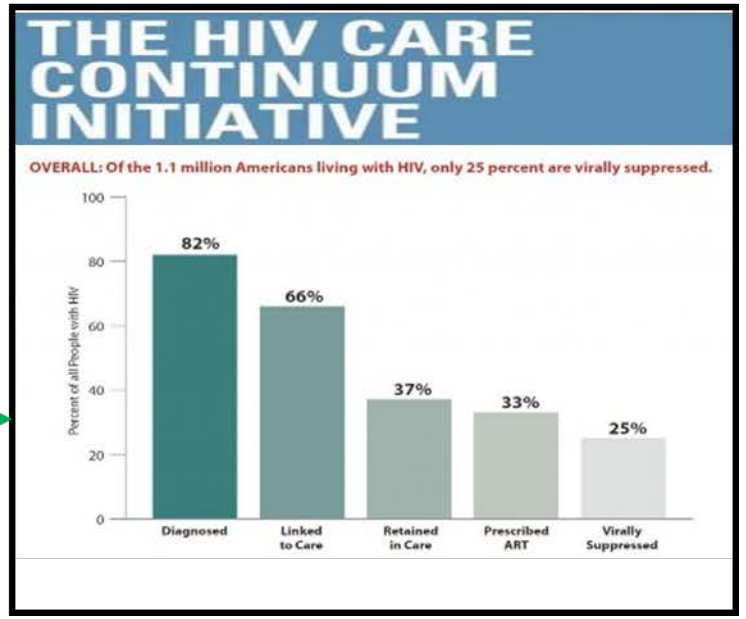

Prevalence Rate × **Individual-level Negative Impact** = **Population-level Negative Impact**

The Substance, Treatment, Strategies for HIV Care (STS4HIV) Project 9

STS 4 HIV

FUNDED BY THE NATIONAL INSTITUTE ON DRUG ABUSE

Aim 1: Empirically identify **Substance-Treatment-Strategy (STS) recommendations**

A specific …

Substance-Treatment-Strategy (STS) recommendations

Substance (e.g., alcohol),

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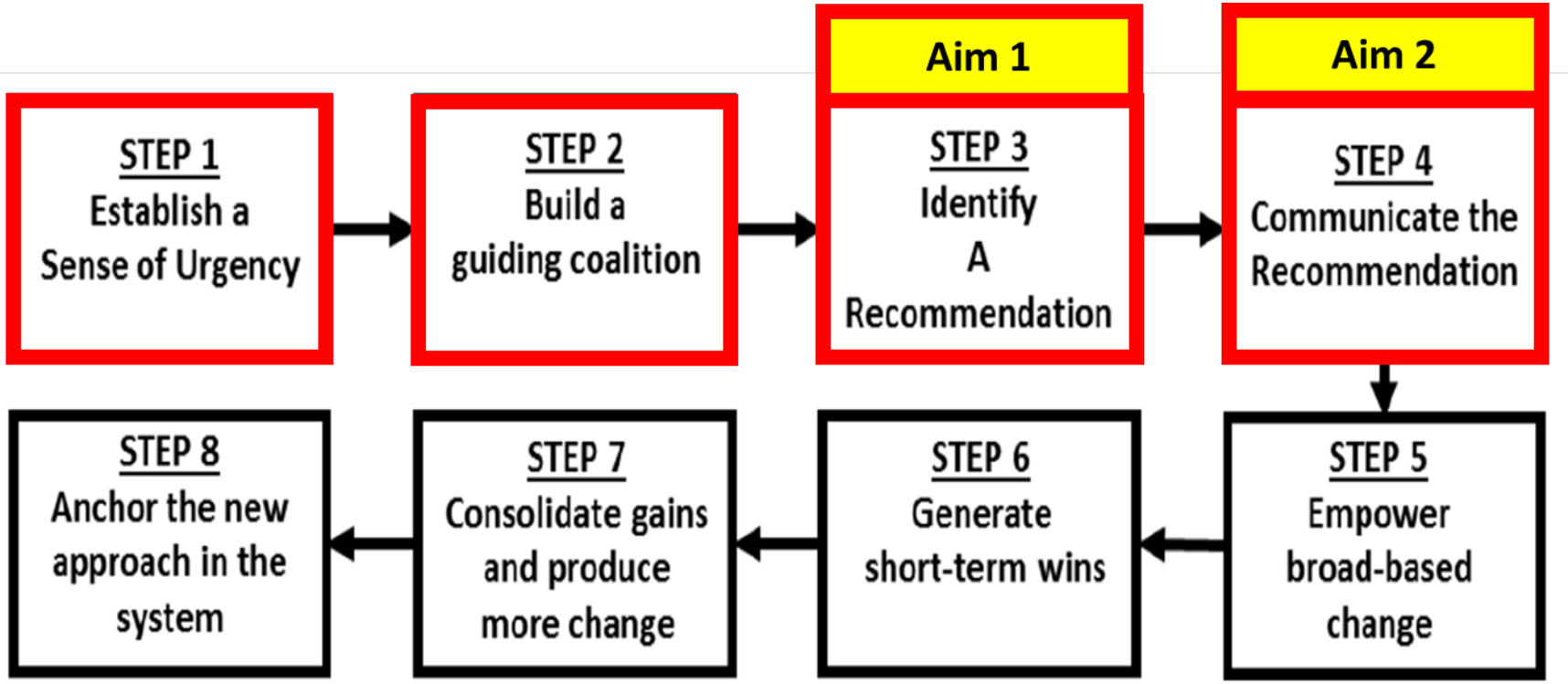
… combination for improving services within HSOs across the United States

The STS4HIV Project's Guiding Change Framework 1



Kotter JP. Leading change. Boston, MA: Harvard Business School Press; 1996.

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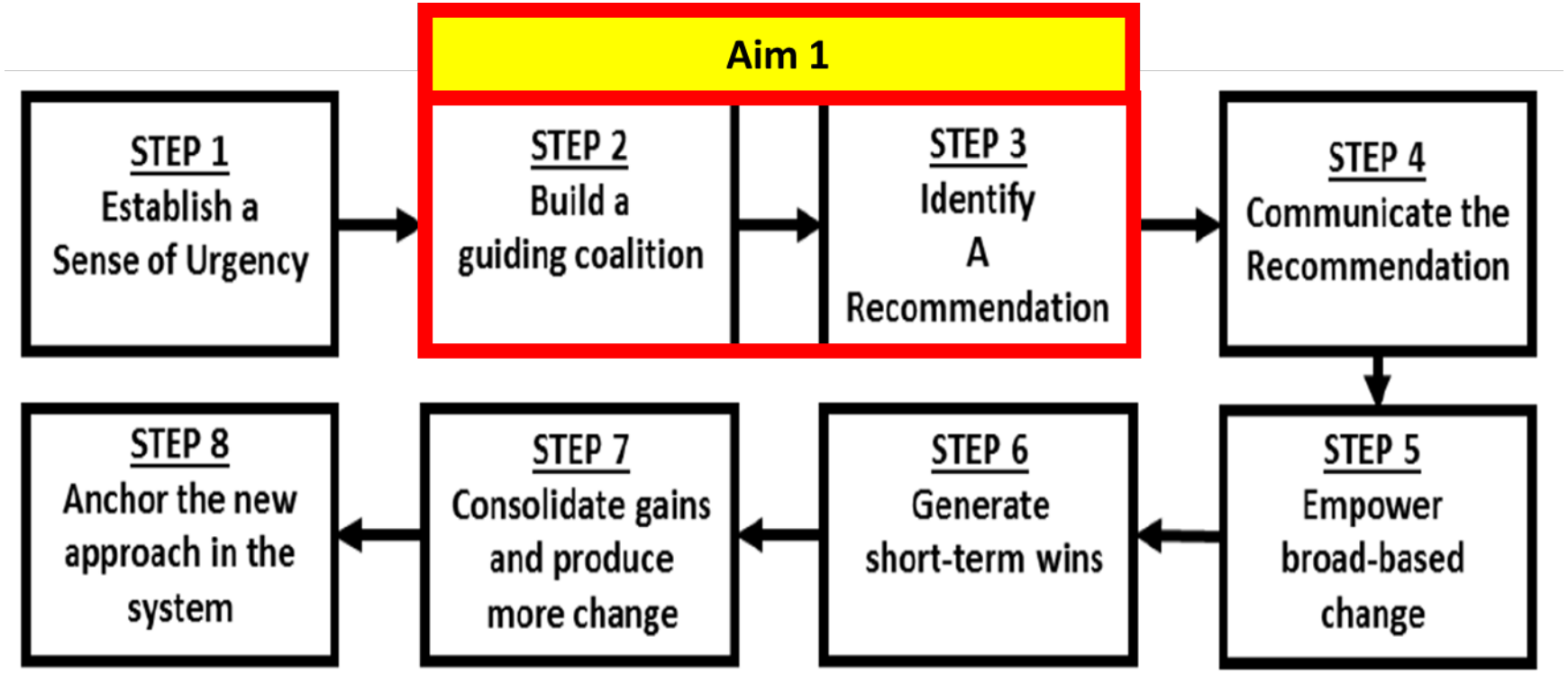

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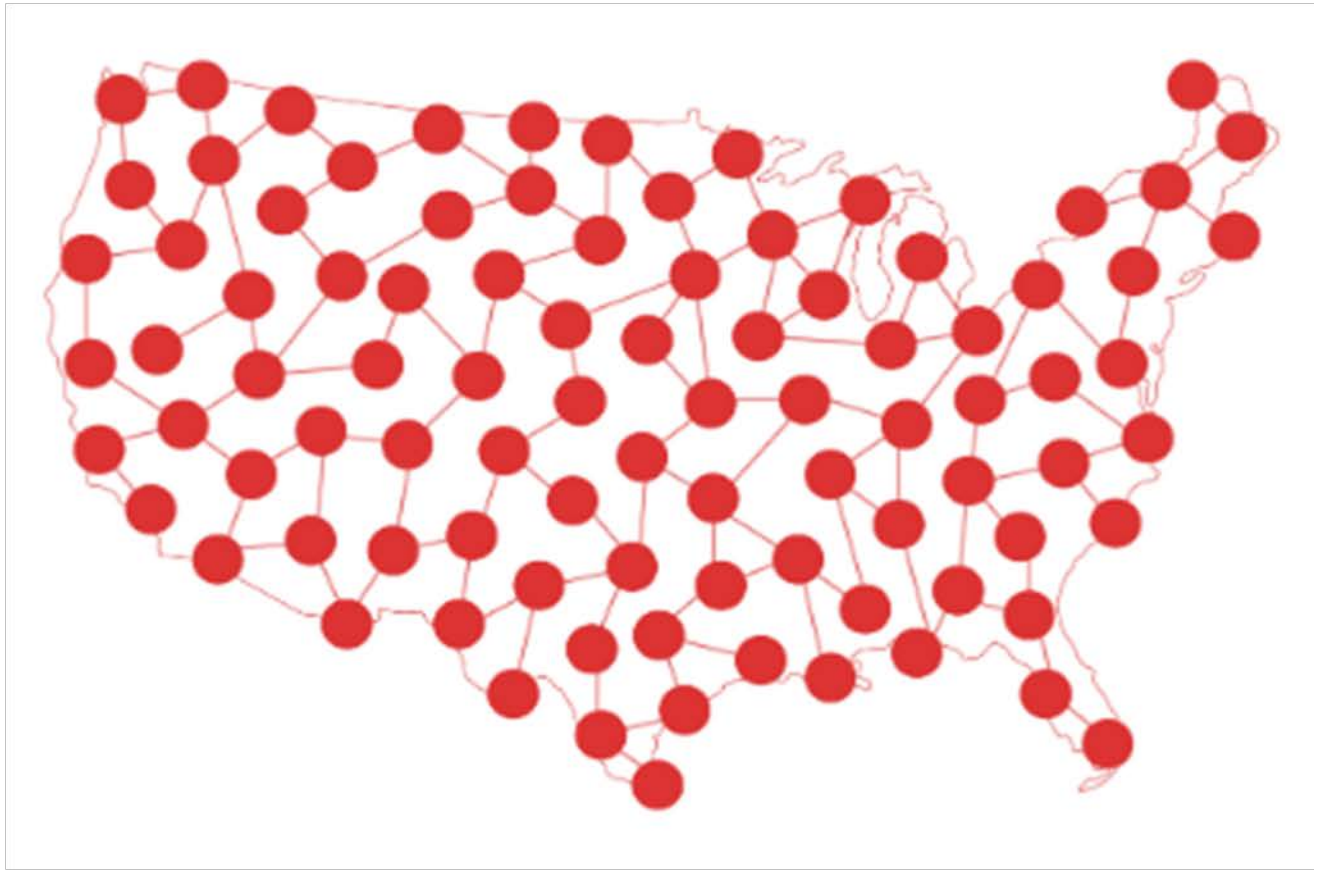
The project's Guiding Coalition of Stakeholders and Key Stakeholders across the United States

The STS4HIV Project's Guiding Coalition of Stakeholders

The STS4HIV Project's Key Stakeholders from across the United States



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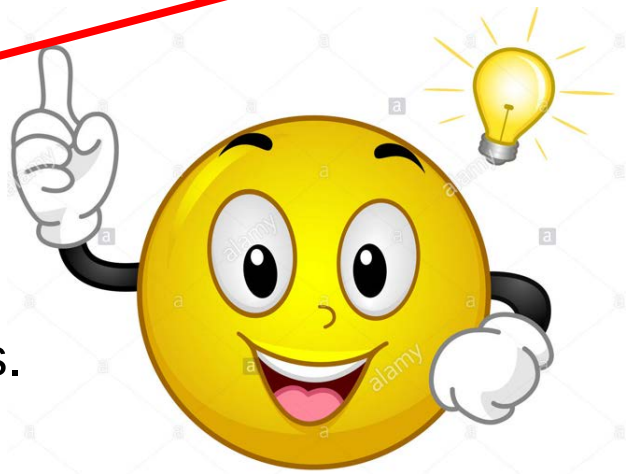
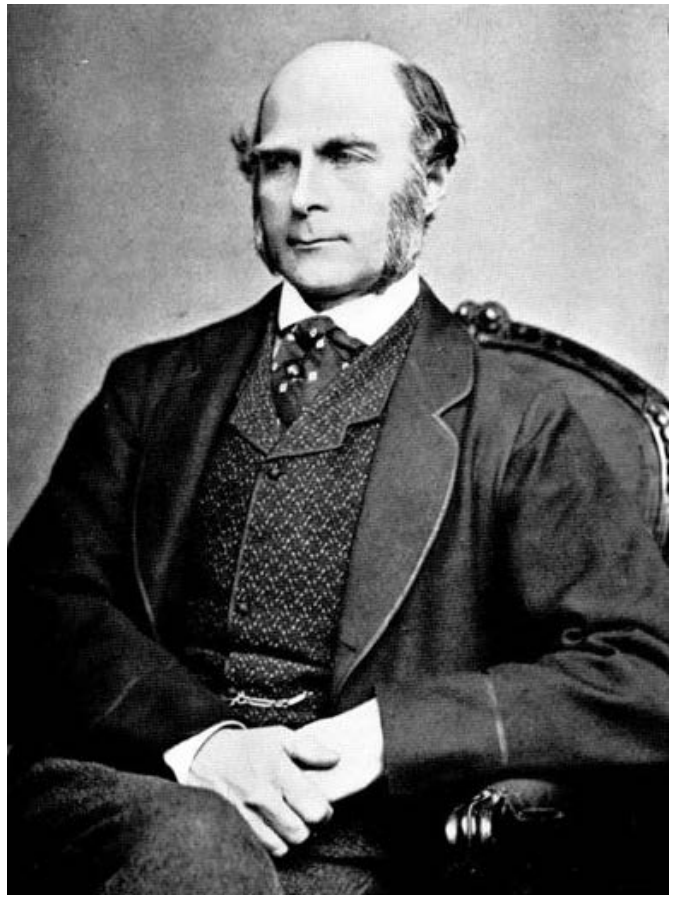
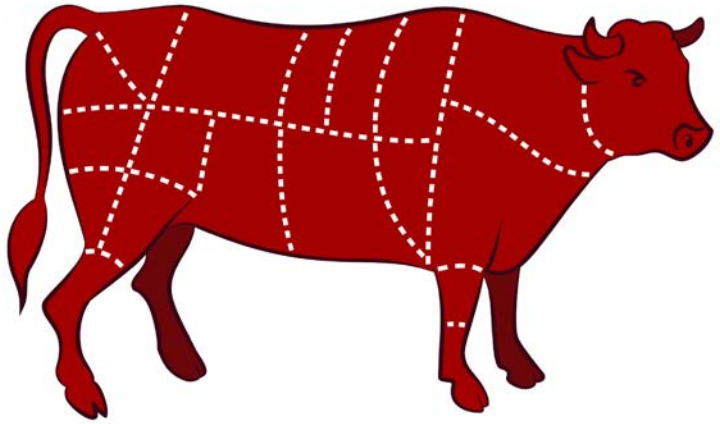


The Wisdom of Crowds

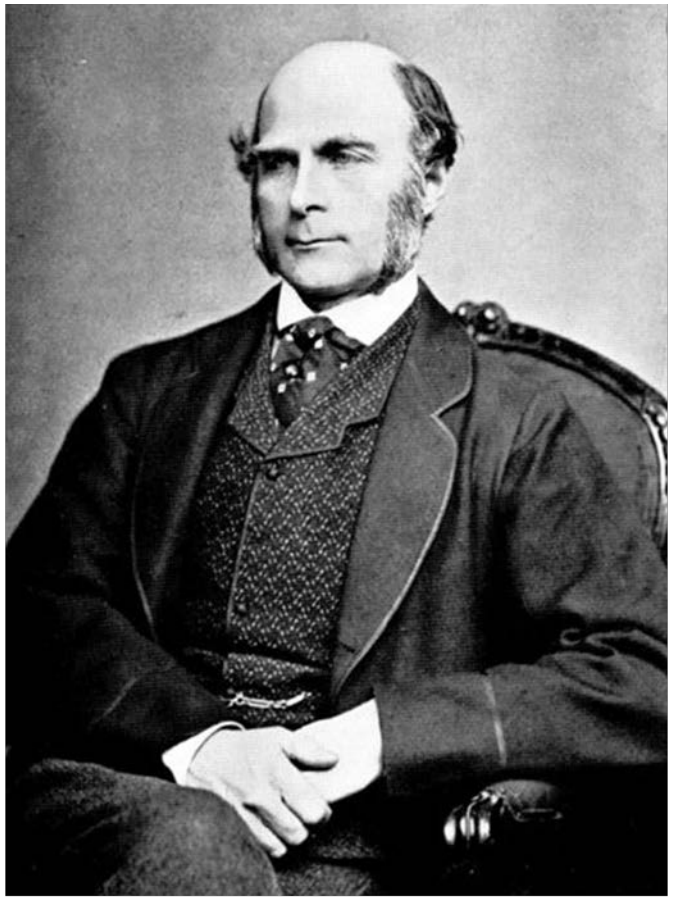


Sir Francis Galton
February 16th 1822 – January 17th 1911

1906 County Fair in England



The Wisdom of Crowds continued



Sir Francis Galton
February 16th 1822 – January 17th 1911

Results

Lowest guess: 1074 lbs

787 guesses

Highest guess: 1293 lbs

The crowd average was less than one percentage point away from correct weight!

Average guess: 1207 lbs

Actual weight: 1198 lbs

The Substance, Treatment, Strategies for HIV Care (STS4HIV) Project 11

STS 4 HIV

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Interactive National Survey 1

VIRTUAL 2020 NATIONAL RYAN WHITE CONFERENCE ON HIV CARE & TREATMENT

STS 4 HIV

FUNDED BY THE NATIONAL INSTITUTE ON DRUG ABUSE

Substance-focused interactive national survey

Interactive National Survey 2

Question	Your Answers, Group Averages, and Comments
Question 1 of 10 Thinking about people living with HIV in your area, please estimate the percentage that you believe have an **Alcohol Use Disorder** (i.e., 2 or more of the 11 criteria during the past 12 months). View the 11 criteria	Enter a percent from 0 to 100: 80 % The current number of responses is: 16 The current group average score is: 30.8% Click to Save Add or Read Comments
Question 2 of 10 For people living with HIV in your area who have an **Alcohol Use Disorder**, to what extent does having an Alcohol Use Disorder have a negative impact on those individuals… **being linked to HIV care?** View the 11 criteria	No Negative Impact At All =1 / A Minor Negative Impact =2 / A Moderate Negative Impact =3 / A Major Negative Impact =4 ○ / ◉ / ○ / ○ 0 people have selected this answer. / 8 people have selected this answer. / 4 people have selected this answer. / 3 people have selected this answer. The current number of responses is: 15 The current group average score is: 2.67 Click to Save Add or Read Comments

Respondent's answer

Number of responses and current group average

Add/Read Comments

Respondent's answer

Distribution of responses

Number of responses and current group average

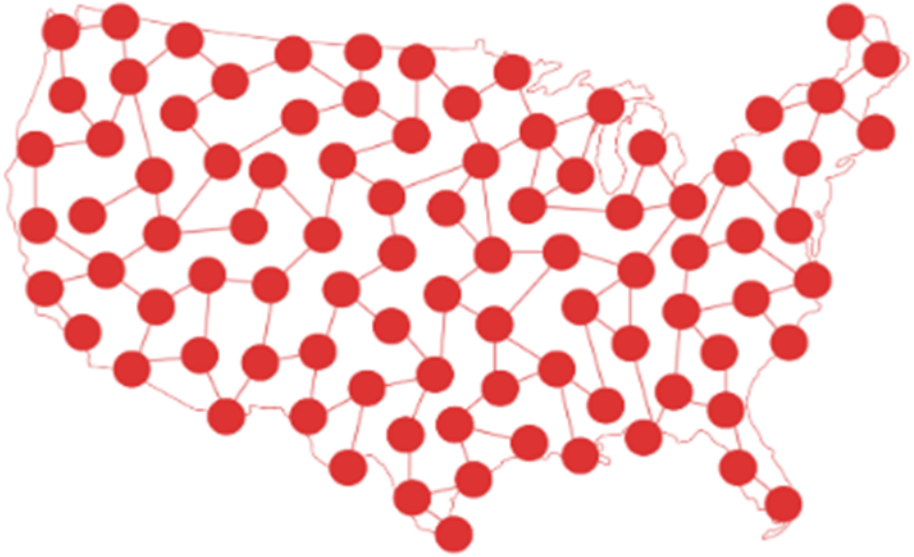
Add/Read Comments

Interactive National Survey 3

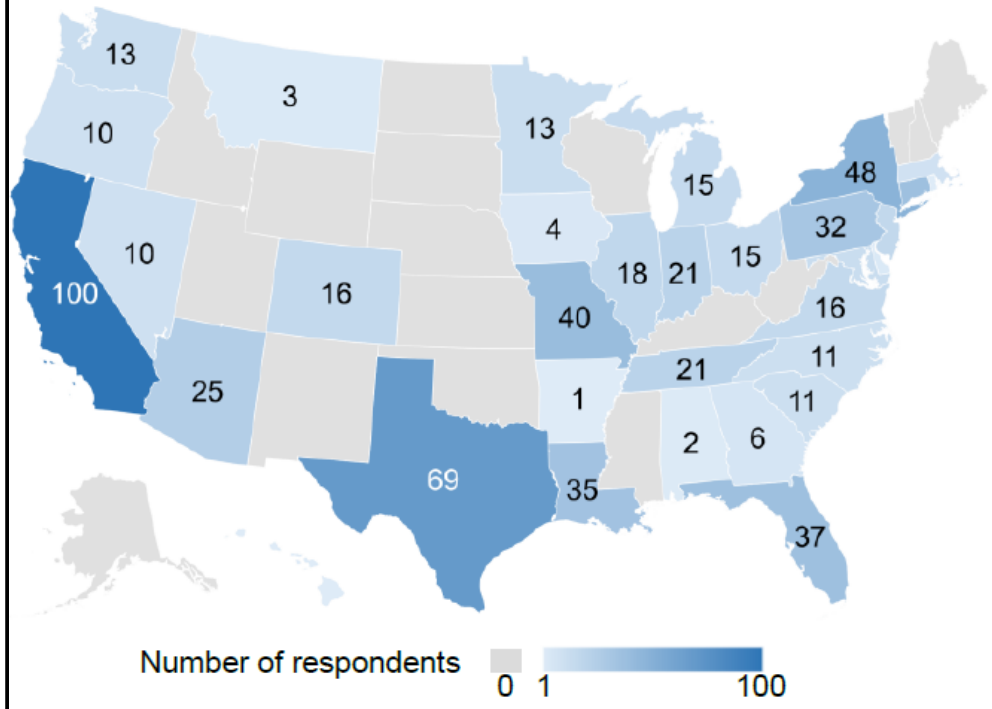
STS 4 HIV

FUNDED BY THE NATIONAL INSTITUTE ON DRUG ABUSE

Substance-focused interactive national survey



Conducted in May 2019
690 respondents (80% of those invited) participated



CT:	37
DE:	3
HI:	1
MA:	9
MD:	13
NJ:	17
RI:	1
PR:	1

Interactive National Survey 4

Types of Participating Organizations and Individuals

Types of Organizations and Individuals (N = 690)	n	(%)
HIV service organization	528	(76.5)
Client	*109*	*(15.8)*
Direct care staff	*247*	*(35.8)*
Leadership or supervisory staff	*172*	*(24.9)*
Substance use treatment organization	29	(4.2)
Client	*12*	*(1.7)*
Direct care staff	*0*	*(0.0)*
Leadership or supervisory staff	*17*	*(2.5)*
Planning council or body	115	(16.7)
Other	18	(2.6)

[a]*Participants were asked to indicate their primary affiliation.*

76% are affiliated with **HIV service organizations**

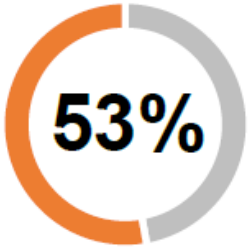
17% are affiliated with **planning councils or bodies**

4% are affiliated with **substance use treatment organizations**

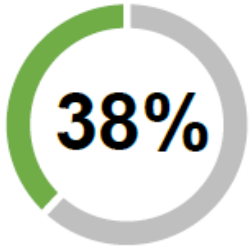
3% are affiliated with **other types of organizations**

Interactive National Survey 5

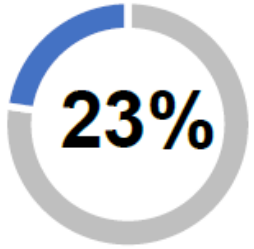
Respondent Demographics



identify as **female**



identify as **black or African American**



identify as **Hispanic or Latino**

Current gender identity (N = 683)	n	(%)
Male	291	(42.6)
Female	359	(52.6)
Transgender (Male to Female)	16	(2.3)
Transgender (Female to Male)	6	(0.9)
Genderqueer/gender non-conforming	9	(1.3)
Different identity	2	(0.3)

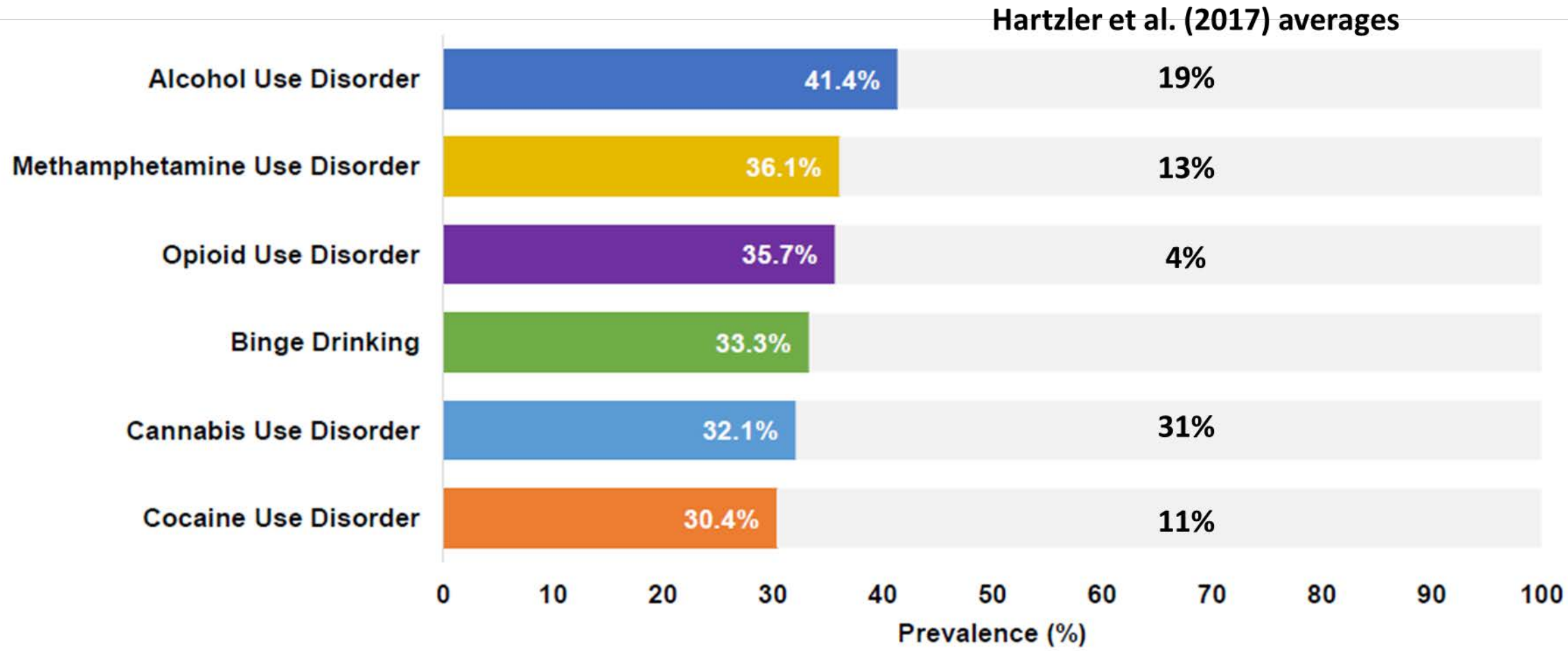
Race (N = 675)	n	(%)
African American/Black	254	(37.6)
American Indian/Alaska Native	40	(5.9)
Asian	24	(3.6)
Caucasian/White	401	(59.4)
Native Hawaiian/Other Pacific Islander	8	(1.2)

**Participants could select more than one race.*

Age (N = 690)	Mean	(SD)
Age in years	43.6	(12.3)

Ethnicity (N = 690)	n	(%)
Hispanic or Latino	160	(23.2)

Prevalence

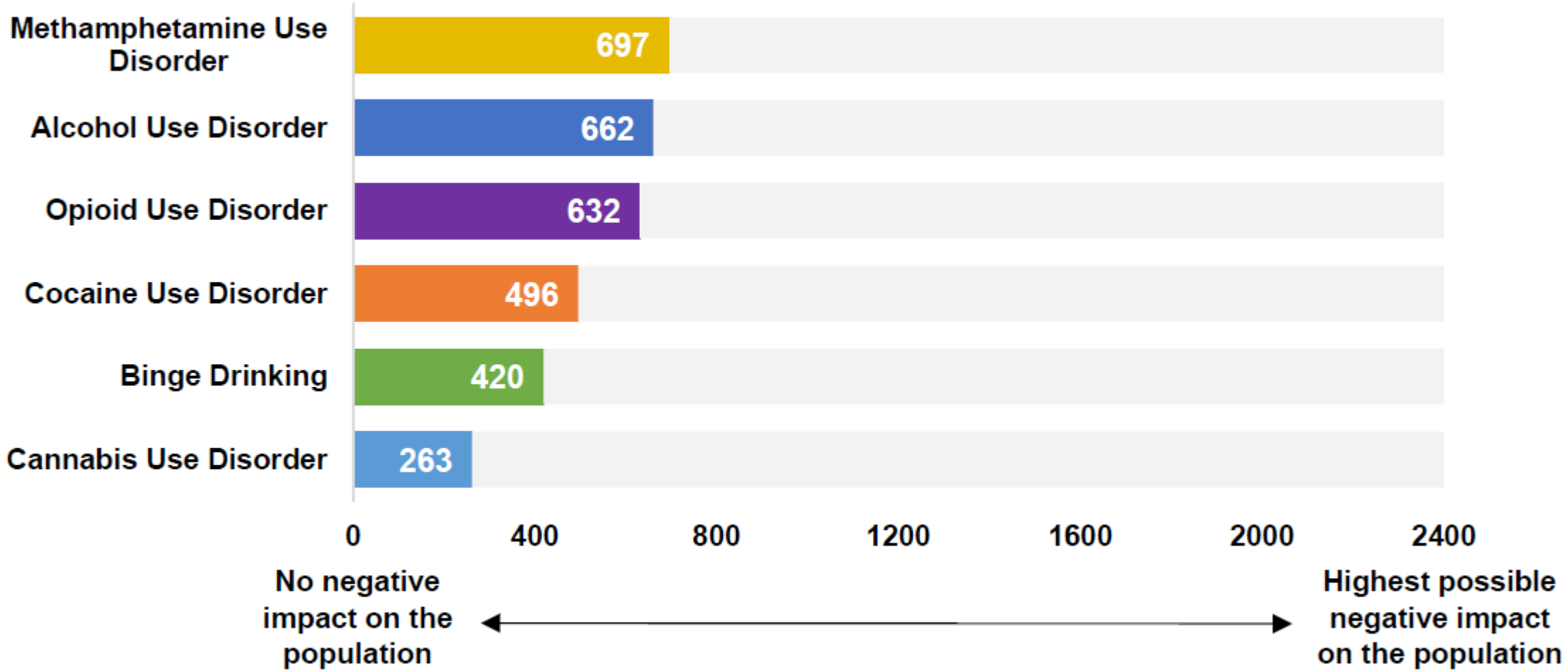

Hartzler et al. (2017) averages
Alcohol Use Disorder
41.4%
19%
Methamphetamine Use Disorder
36.1%
13%
Opioid Use Disorder
35.7%
4%
Binge Drinking
33.3%
Cannabis Use Disorder
32.1%
31%
Cocaine Use Disorder
30.4%
11%
0
10
20
30
40
50
60
70
80
90
100
Prevalence (%)

Individual-level negative impacts

Negative impact on individuals with HIV who are not virally suppressed…[a,b]	Least negative impact ← Cannabis Use Disorder	Binge Drinking	Alcohol Use Disorder	Cocaine Use Disorder	Opioid Use Disorder	Meth. Use Disorder → Highest negative impact
Being linked to HIV care	1.0	1.6	2.0	2.0	2.2	2.3
Being retained in HIV care	1.0	1.6	2.1	2.1	2.3	2.5
Being prescribed HIV medications	0.8	1.3	1.6	1.7	1.9	2.1
Being virally suppressed	0.9	1.6	2.0	2.1	2.2	2.5
Having stable housing	1.1	1.6	2.1	2.2	2.4	2.6
Having a reliable mode of transportation	1.0	1.6	1.9	1.9	2.0	2.2
Being employed	1.4	1.7	2.2	2.3	2.5	2.6
Having a strong social support system	0.9	1.6	2.0	2.0	2.2	2.5
Individual-level negative impact[c]	**8.2**	**12.6**	**16.0**	**16.3**	**17.7**	**19.3**

[a] *All items rated on a scale of 0 'No negative impact' to 3 'A Major Negative Impact'.*
[b] *Only participants who responded to the prevalence and the eight negative impact items are included in this analysis. Methamphetamine Use Disorder: N = 646; Opioid Use Disorder: N = 652; Cocaine Use Disorder: N = 667; Alcohol Use Disorder: N = 663; Binge Drinking: N = 662; Cannabis Use Disorder: N = 666.*
[c] *The total negative impact is the sum of the eight items above. The minimum possible total negative impact is 0; the maximum is 24.*

Population-level negative impacts



Conclusions

- During the last several years, unprecedented efforts have focused on combating the opioid use disorder crisis within the United States. Although warranted, the current research highlights the importance of not letting efforts to address opioid use disorder completely overshadow efforts to address other SUDS, especially use disorders for methamphetamine and alcohol.

- Future research remains needed to advance knowledge regarding the best treatment interventions and implementation strategies to help address comorbid HIV and SUDs within HIV service settings.

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