



Building Healing Systems:

Trauma-Informed/Healing-Centered Organizational Transformation

Adverse Childhood Experiences
and Somatic Health
among Maryland Adults
July, 2025

Behavioral Health Administration & Universities Partnership



UNIVERSITY of MARYLAND
SCHOOL OF MEDICINE

UM SOM Psychiatry Department

- Division of Child and Adolescent Psychiatry (DCAP)
- Systems Evaluation Center (SEC)



Bowie State University

- Department of Behavioral Sciences and Services

Maryland Childhood Trauma and ACEs

The following data is available due to the efforts of:

- The Maryland Department of Health: Prevention and Health Promotion Administration
- The Maryland adults who participated in the surveys used in this project

Contents

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Building Healing Behavioral Health Systems:

Focused Data Study #6: Study Focus and Questions

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Focused Data Studies

- Focused Data Studies aim to describe and contextualize the prevalence of childhood trauma and ACEs in the State of Maryland Public Behavioral Health System, with two studies planned each year.
 - Study 1 Publicly available aggregated data comparing Maryland and Nationwide prevalence for youths and adults
 - Study 2 Maryland high school students and behavioral health (YRBS/YTS)
 - Study 3 Maryland middle school students and behavioral health (YRBS/YTS)
 - Study 4 Gender and LGBTQ in Maryland students and behavioral health (YRBS/YTS)
 - Study 5 Maryland adults and behavioral health (BRFSS)
 - **Study 6 (this report) Maryland adults and somatic health indicators (BRFSS)**

Focused Data Study #6: Study Focus

Study Focus: The prevalence of Adverse Childhood Experiences (ACEs) and their relationship to a range of somatic health variables among adult respondents to the BRFSS survey administered in 2020 and 2023. *

**Most Variables are available in both years. Data from 2020 and 2023 will be combined for all variables that appear in both years. For items that only appear in a single year, results will be based on responses from that survey year.*

Focused Data Study #6: Study Questions

Question #1: What is the prevalence across a range of ACEs among Maryland adults responding to the 2020 and 2023 BRFSS survey

Detail: A total of 8 Adverse Childhood Experiences (ACEs) based on the Kaiser Permanente Constructs will be used for this focused analytic study. These include 3 personally experienced ACEs (Physical Abuse, Verbal Abuse, and Sexual Abuse) and 5 household related ACEs (Household Mental Illness, Household Incarceration, Household Separation or Divorce, Domestic Violence, and Household Alcohol or Drug Use).

See Focused Data Study Methods Section Below (Slides 22-38) for details on how variables were defined

Focused Data Study #6: Study Questions

Question #2: How do reports of ACEs relate to a range of somatic health indicators

Detail: See Focused Data Study Methods Section below (slides 22-38) for more details about specific variables/indicators and how they were defined



Building Healing Behavioral Health Systems:

Adverse Childhood Experiences Background

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What are Adverse Childhood Experiences?

ACE Overview

Childhood exposure to physical, emotional, or sexual abuse, neglect, and other stressors are known as adverse childhood experiences (ACEs)

- Experiencing violence, abuse, or neglect
- Witnessing violence
- Experiencing household substance misuse
- Experiencing household mental health problems
- Instability in the home (parental separation/divorce or household members in jail or prison)

Source:

https://www.cdc.gov/violenceprevention/aces/fastfact.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fviolenceprevention%2Ffastfact.html

Jallah & Harding (2022)

What are Adverse Childhood Experiences?

ACE Survey

Kaiser-Permanente^a

Personal ACEs

1. Emotional Abuse
2. Physical Abuse
3. Sexual Abuse
4. Emotional Neglect*
5. Physical Neglect*

Household ACEs

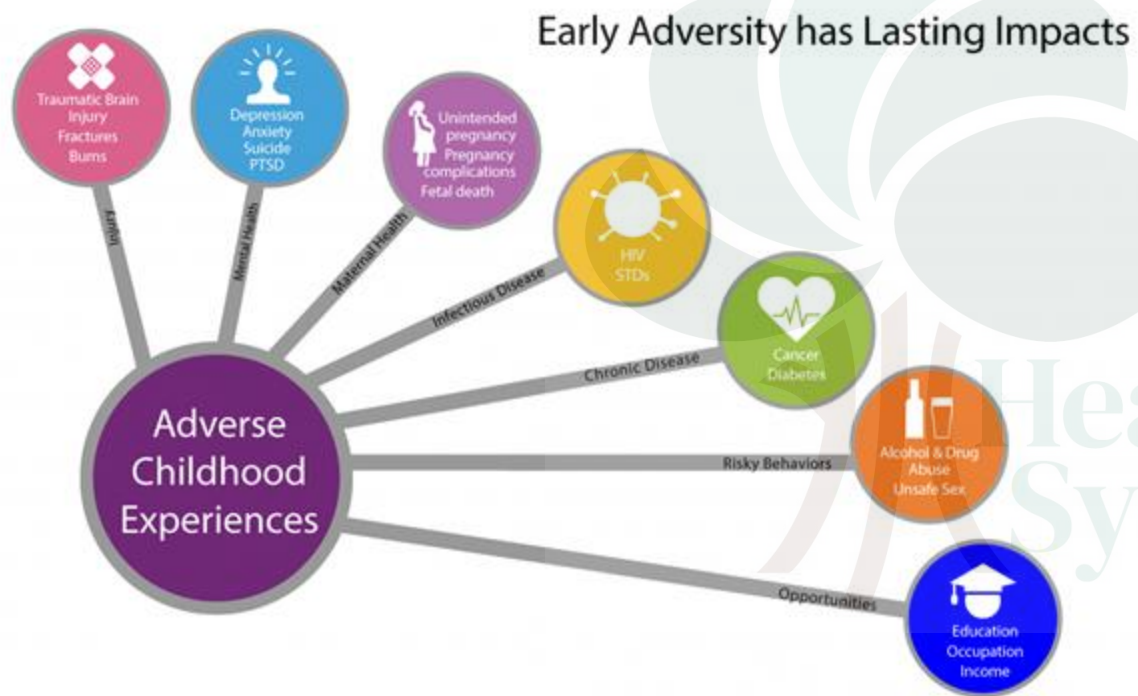
6. Parental Separation or Divorce
7. Household Domestic Violence
8. Household Substance Abuse
9. Household Mental Illness
10. Household Incarceration

*Indicates Items NOT Available for Analysis in the Maryland BRFSS data

^aFelitti, et al., (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ace) study. *American Journal of Preventive Medicine*, 14(4), 245–258.

What are Adverse Childhood Experiences?

Negative Effects of ACEs



ACEs are linked to mental health problems, and substance use in adulthood.

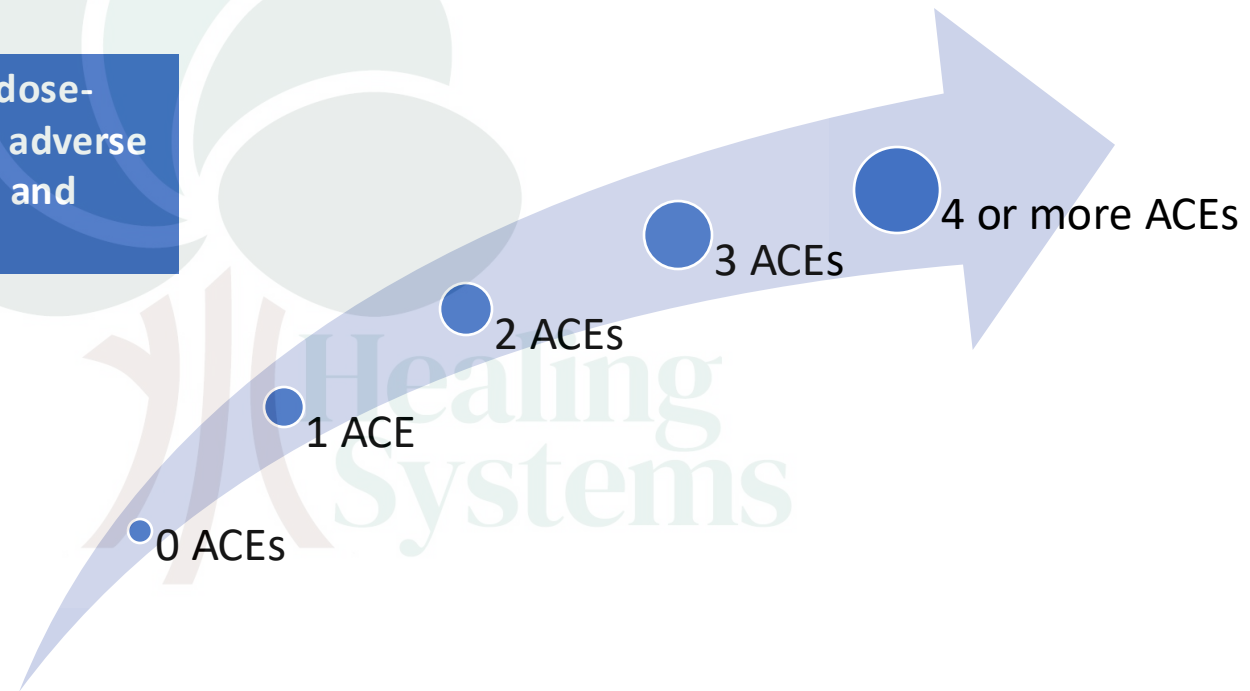
ACEs are also linked to chronic health problems and early mortality

Source:
https://www.cdc.gov/violenceprevention/aces/resources.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fviolenceprevention%2Ffacestudy%2Fresources.html
Jallah & Harding (2022)

What are Adverse Childhood Experiences?

Dose-Response Relationship

ACEs have been found to have a dose-response relationship with many adverse risk behaviors and mental health and somatic outcomes



Felitti, et al., (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The adverse childhood experiences (ace) study. *American Journal of Preventive Medicine*, 14(4), 245–258.
Jallah & Harding (2022)



Building Healing Behavioral Health Systems:

List of Somatic Health Indicators

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Somatic Health Indicators: 4 Health Functioning Variables

1. Poor General Health Status
2. Poor Physical Health Functioning
3. Poor Mental Health Functioning
4. Health Having Negative Impact of Daily Activities

Detail: See Focused Data Study Methods Section below (slides 22-38) for more details about how these were defined

Somatic Health Indicators: List of Specific Conditions

1. Hypertension
2. High Cholesterol
3. Heart Disease
4. Stroke
5. Asthma
6. COPD
7. Kidney Disease
8. Depression
9. Arthritis
10. Overweight/Obesity



Detail: See Focused Data Study Methods Section below (slides 22-38) for more details about specific conditions and how they were defined



Building Healing Behavioral Health Systems:

Key Take Aways

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Key Take Aways



HISTORICAL ACEs WERE ASSOCIATED WITH INCREASED ODDS OF POOR HEALTH FUNCTIONING:

- Those who experienced ACEs had between 1.3 and 3.5 increased odds of also having Poorer Health across the four Health Indicators; including past month impact on General/overall health, Physical/Somatic health, Mental Health, and Impact on Activities

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations*

Key Take Aways



HISTORICAL ACEs WERE ASSOCIATED WITH INCREASED ODDS FOR SEVERAL MEDICAL CONDITIONS INCLUDING:

- **DEPRESSION**
- **RESPIRATORY CONDITIONS (COPD and ASTHMA)**
- **STROKE**
- **OVERWEIGHT/OBESITY**

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations*

Key Take Aways



HISTORICAL ACEs HAD MIXED ODDS (Both increased and decreased odds) ASSOCIATED WITH SEVERAL MEDICAL CONDITIONS, INCLUDING:

- HEART DISEASE
- HIGH CHOLESTEROL
- HYPERTENSION
- ARTHRITIS

THOSE WITH HISTORICAL ACEs HAD DECREASED ODDS FOR KIDNEY DISEASE AND DIABETES



Building Healing Behavioral Health Systems:

Focused Data Study Methods

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Methods: Data Source

- 2020 and 2023 Behavioral Risk Factor Surveillance Survey (BRFSS) combined dataset.
 - Individual years analyzed for variables not collected in both years.
- Maryland collaborates with the Centers for Disease Control and Prevention (CDC) to collect behavioral risk data from Maryland adults.
- Data received from the Maryland Department of Health: Center for Chronic Disease Prevention and Control Prevention and Health Promotion Administration.

Methods: Sample

- These analyses include a random telephone sample of Maryland adults to best understand the impact of each ACE across behavioral health indicators for individuals with behavioral health challenges compared to those without.
- Analyses were conducted using statistical weighting methods to reflect known proportions of the population based on age, sex, categories of ethnicity, geographic regions within states, marital status, education level, home ownership, and type of phone ownership. (CDC, 2025)
- All specific findings reported in this analysis are statistically significant unless otherwise stated.

*Data Source: 2020 & 2023 Behavioral Risk
Factor Surveillance System (BRFSS).*

See slides 39- 41 for data limitations

Methods: Defining Concepts in the Data

- This analysis aims to understand the relationship of ACEs with Somatic Health Indicators.
- Several BRFSS questions were assessed for both areas of analysis: ACEs, Somatic Health Indicators
- Operational definitions for each area were developed

Methods: Identifying Personal ACEs

- The original Kaiser ACE questions asked if individuals ever experienced each ACE with response options of Yes or No
- ACEs are counted in the BRFSS when the following conditions are met:

Personal ACEs	Now, looking back before you were 18 years of age---	BRFSS Options	ACE counted if
• Emotional Abuse	• How often did a parent or adult in your home ever swear at you, insult you, or put you down? Was it -	Never Once More than Once	Once or More than once
• Physical Abuse	• Not including spanking, (before age 18), how often did a parent or adult in your home ever hit, beat, kick, or physically hurt you in any way? Was it --	Never Once More than Once	Once or More than once

Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS)
See slides 39-41 for data limitations

Methods: Identifying Personal ACEs

Personal ACE	Now, looking back before you were 18 years of age---	BRFSS Options	ACE counted if
<ul style="list-style-type: none"> Sexual Abuse 	<ul style="list-style-type: none"> How often did anyone at least 5 years older than you or an adult, ever touch you sexually? Was it – 	Never Once More than Once	Once or More than once OR
	<ul style="list-style-type: none"> How often did anyone at least 5 years older than you or an adult, try to make you touch them sexually? Was it – 	Never Once More than Once	Once or More than once OR
	<ul style="list-style-type: none"> How often did anyone at least 5 years older than you or an adult, force you to have sex? Was it -- 	Never Once More than Once	Once or More than once

Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
 See slides 39-41 for data limitations

Methods: Identifying Personal ACEs

Any Personal ACE	How Variable was Operationalized	Focused Response
Experience of any of the 3 Personal ACEs	<p>“Yes” if any of the three personal ACEs (emotional, physical, sexual abuse) were experienced</p> <p>“No” If none of the three personal ACEs (emotional, physical, sexual abuse) were experienced</p>	“YES”

*Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 32-24 for data limitations*

Methods: Identifying Household ACEs

Household ACE	Now, looking back before you were 18 years of age---	BRFSS Options	ACE counted if
<ul style="list-style-type: none"> Parental Separation or Divorce 	<ul style="list-style-type: none"> Were your parents separated or divorced? 	Yes No Parents not married	Yes
<ul style="list-style-type: none"> Household Domestic Violence 	<ul style="list-style-type: none"> How often did your parents or adults in your home ever slap, hit, kick, punch or beat each other up? Was it -- 	Never Once More than Once	Once or More than once
<ul style="list-style-type: none"> Household Substance Abuse 	<ul style="list-style-type: none"> Did you live with anyone who was a problem drinker or alcoholic? Did you live with anyone who used illegal street drugs or who abused prescription medications? 	Yes No Yes No	Yes OR Yes

Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS)
See slides 39-41 for data limitations

Methods: Identifying Household ACEs

Household ACE	Now, looking back before you were 18 years of age---	BRFSS Options	ACE counted if
<ul style="list-style-type: none">Household Mental Illness	<ul style="list-style-type: none">Did you live with anyone who was depressed, mentally ill, or suicidal?	Yes No	Yes
<ul style="list-style-type: none">Household Incarceration	<ul style="list-style-type: none">Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?	Yes No	Yes

Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS)
See slides 39-41 for data limitations

Methods: Identifying Household ACEs

Any Household ACE		Focused Response
Experience of any of the 5 Household ACEs	<p>“Yes” if any of the five household ACEs (parental divorce/separation, domestic violence, household substance use, household mental illness, incarceration) were experienced</p> <p>“No” If none of the five household ACES (parental divorce/separation, domestic violence, household substance use, household mental illness, incarceration were experienced</p>	“YES”

Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Methods: ACE Count Threshold for Adverse Somatic Health Outcomes

- The original 10-item Kaiser-Permanente ACE study found that an ACE count of 4 or more ACEs is implicated in poor health outcomes in adulthood.
- Although the BRFSS only collects 8 of the original Kaiser-Permanente ACEs, this analysis uses an ACE count of 3 or more ACEs as a threshold for increased poor outcomes in adulthood. This was defined in these analyses as “High Aces”

Methods: Identifying “High ACEs”

High ACEs	How Variable was Operationalized	Focused Response
3 or more of the 8 possible ACEs (across personal and household): Considered as standard threshold (using BRFSS) relating to negative health implications	<p>“Yes” if responded reported three or more of the 8 total possible ACEs (across personal and household)</p> <p>“No” if responded reported less than three of the 8 total possible ACEs (across personal and household)</p>	“YES”

Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS). See slides 39-41 for data limitations

Methods: Defining Somatic Health Indicators

Health Challenges: Individuals meeting any of the criteria below

Category	Question	Focused Response
Poor General Health Status	Would you say that in general your health is... Excellent, Very Good, Good, Fair, or Poor	We created dichotomous variable with focus on precent reporting either fair or poor
Poor Physical Health Functioning	Now thinking about your physical health, which includes physical illness and injury, for how may days during the past 30 days was your physical health not good ?	We created dichotomous variable with 14 or more days defined as poor physical health functioning

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations*

Methods: Defining Somatic Health Indicators

Health Challenges: Individuals meeting any of the criteria below

Category	Question	Focused Response
Poor Mental Health Functioning	Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?	We created dichotomous variable with 14 or more days defined as poor mental health functioning
Negative Impact on Daily Activities	During the past 30 days, for about how many days did poor physical or mental health keep you from doing your usual activities, such as self-care, work, or recreation	We created dichotomous variable with 14 or more days defined as negative impact on daily activities

Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Methods: Specific Somatic Diagnoses

Health Challenges: Individuals meeting any of the criteria below

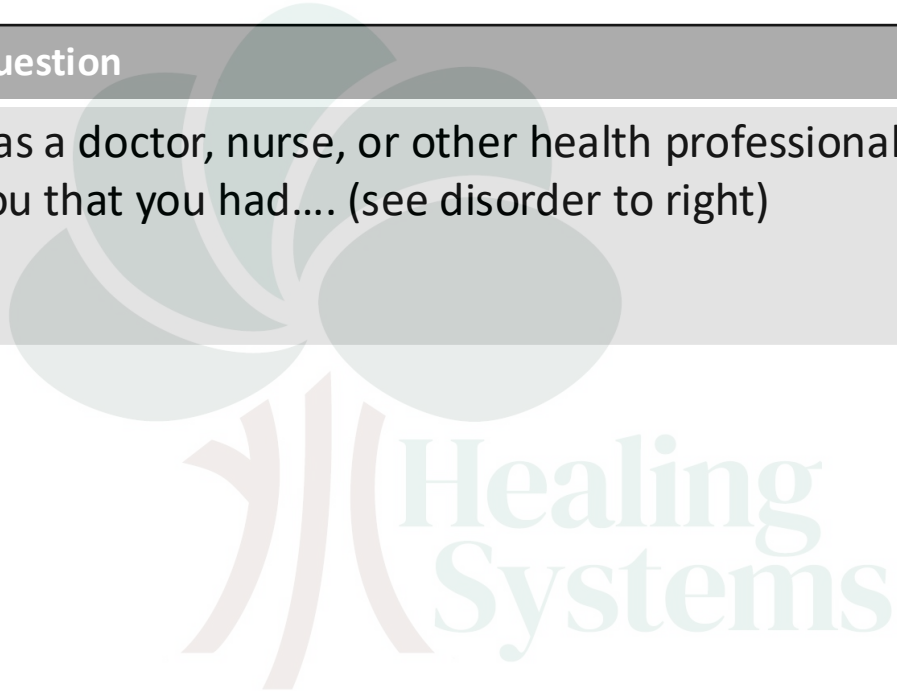
Category	Question	Focused Response
Hypertension* (ever told) High Cholesterol* (ever told) Heart Diseases (ever told) Stroke (ever told)	Has a doctor, nurse, or other health professional ever told you that you had.... (see disorder to right)	"YES"
Asthma (ever told) COPD (ever told) Arthritis (ever told) Kidney Disease (ever told) Diabetes (ever told)	Has a doctor, nurse, or other health professional ever told you that you had.... (see disorder to right)	"YES"

* VARIABLE AVAILABLE IN 2023 DATASET ONLY

Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Methods: Depression

Category	Question	Focused Response
Depression (ever told)	Has a doctor, nurse, or other health professional ever told you that you had.... (see disorder to right)	"YES"



*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-3 41 1for data limitations*

Methods: Overweight/Obesity

Category	Response
BMI	
Average BMI:	28.4 (0.01)
Normal (between 18.5 and 24.9)	31.5%
Overweight (between 25 and 29.9)	36.2%
Obese (BMI 30 or greater)	32.2%
Overweight/Obese (% Yes) -combined	68.4%

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations*

Methods: Limitations

Measurement of Risk

- This analysis measures somatic health risks associated with ACEs using an odds ratio:
Among those reporting a specified ACE, how many times higher or lower are the odds of also reporting each of the somatic health?
- These risks are **not causal, they are associations.**
 - **SAY:** There is a relationship between having experienced an ACE and experiencing somatic health variables
 - **NOT:** Experiencing an ACE causes somatic health challenges

Methods: Limitations

- Analyses did not focus on consideration of various combinations of somatic health indicators, nor did they examine how mental and somatic health and additional behavioral risk factors influence the relationship between ACEs and the somatic health indicators
- Analyses did not include other variables that might be important including, age, gender, and race
- Analyses do not account for varying time spans between experiencing a particular ACE and any of the somatic health indicators

Methods: Limitations

- The BRFSS uses 3 or more ACEs (of 8 collected) as a threshold for implications in adult health outcomes instead of the traditional 4 or more ACEs (of the 10 collected) by Kaiser-Permanente. As a result, findings on high ACE counts may or may not be comparable to other, publicly-available research.
- The BRFSS does not ask questions regarding neglect, a factor which likely contributes to somatic health outcomes.
- All outcomes are self-reported



Building Healing Behavioral Health Systems:

Demographic Characteristics

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Percentage of adults responding to survey by age, gender, sexual orientation, race, and ethnicity

Demographic Characteristic	%
Age Range	
18-29 Years	20.1%
30- 44 years	26.0%
45-64 years	31.9%
65 years or older	22.0%
Gender	
Male	47.6%
Female	52.4%
Sexual Orientation*	
Heterosexual / Straight	85.7%
Lesbian, Gay or Bisexual	6.7%
Other	2.9%
Don't know / Unsure	2.2%

Demographic Characteristic	%
Race	
Black or African American	29.6%
White	48.7%
Asian	6.9%
American Indian / Alaskan Native	0.5%
Native Hawaiian / Pacific Islander	0.2%
Other	0.9%
Spanish, Hispanic / Latinx	11.0%

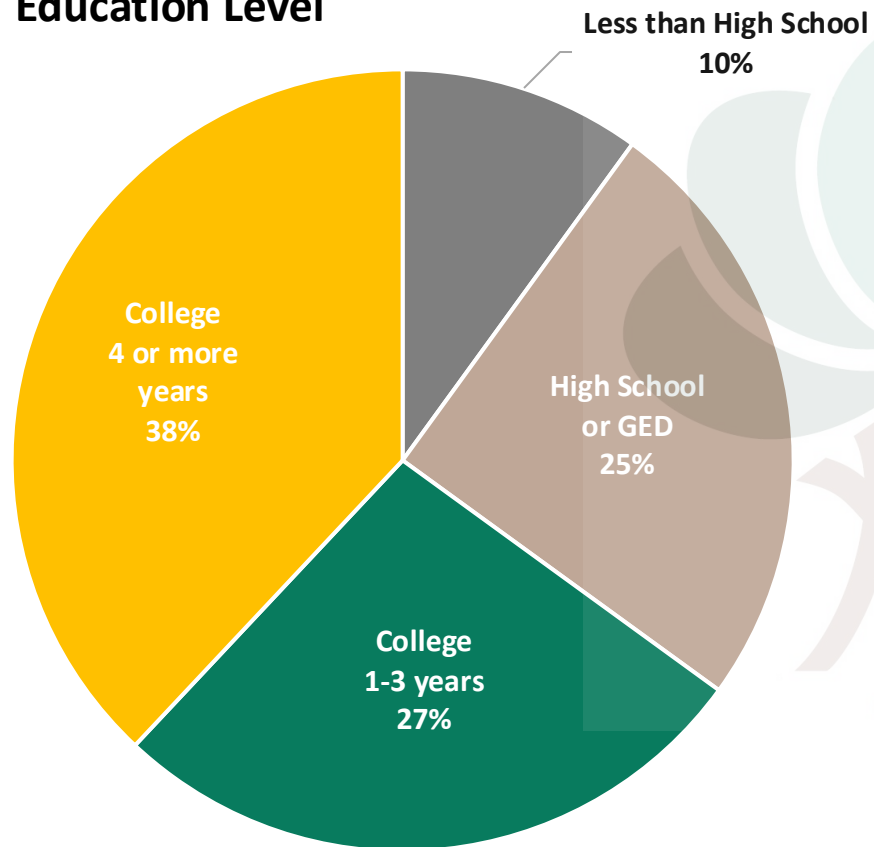
Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

* Note: Sexual orientation and transgender status only asked in 2023 questionnaire

Education and Income

Percentage of adults by education level and household income

Education Level



Household Income	%
Less than \$10,000	3.2%
\$10,000 to < \$15,000	2.2%
\$15,000 to < \$20,000	4.2%
\$20,000 to < \$25,000	5.7%
\$25,000 to < \$35,000	9.0%
\$35,000 to < \$50,000	10.1%
\$50,000 to < \$75,000	14.3%
\$75,000 or more	51.2%

Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-341 for data limitations



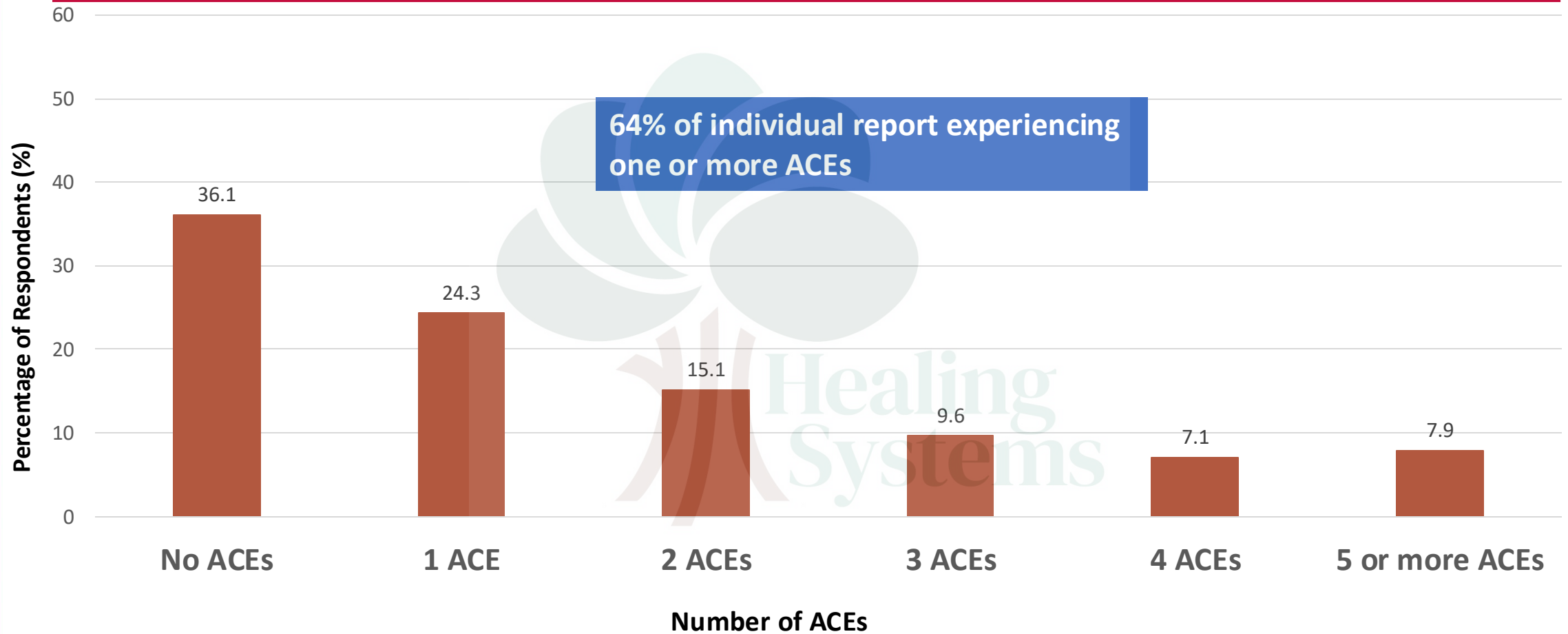
Building Healing Behavioral Health Systems:

Adverse Childhood Experiences: Personal, Household and Summary Categories

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ACE Counts among Maryland Adults

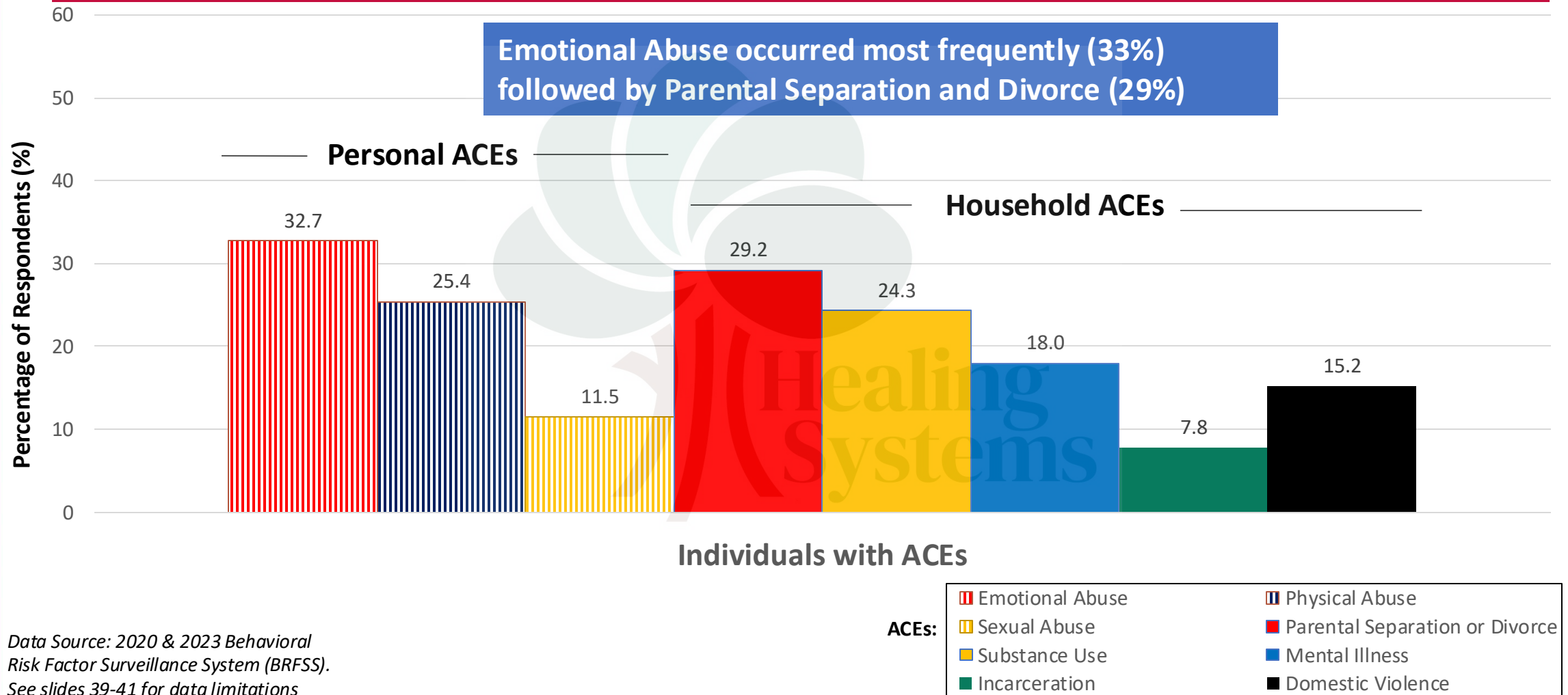
Percentage of adults who report adverse childhood experiences (ACEs)



Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

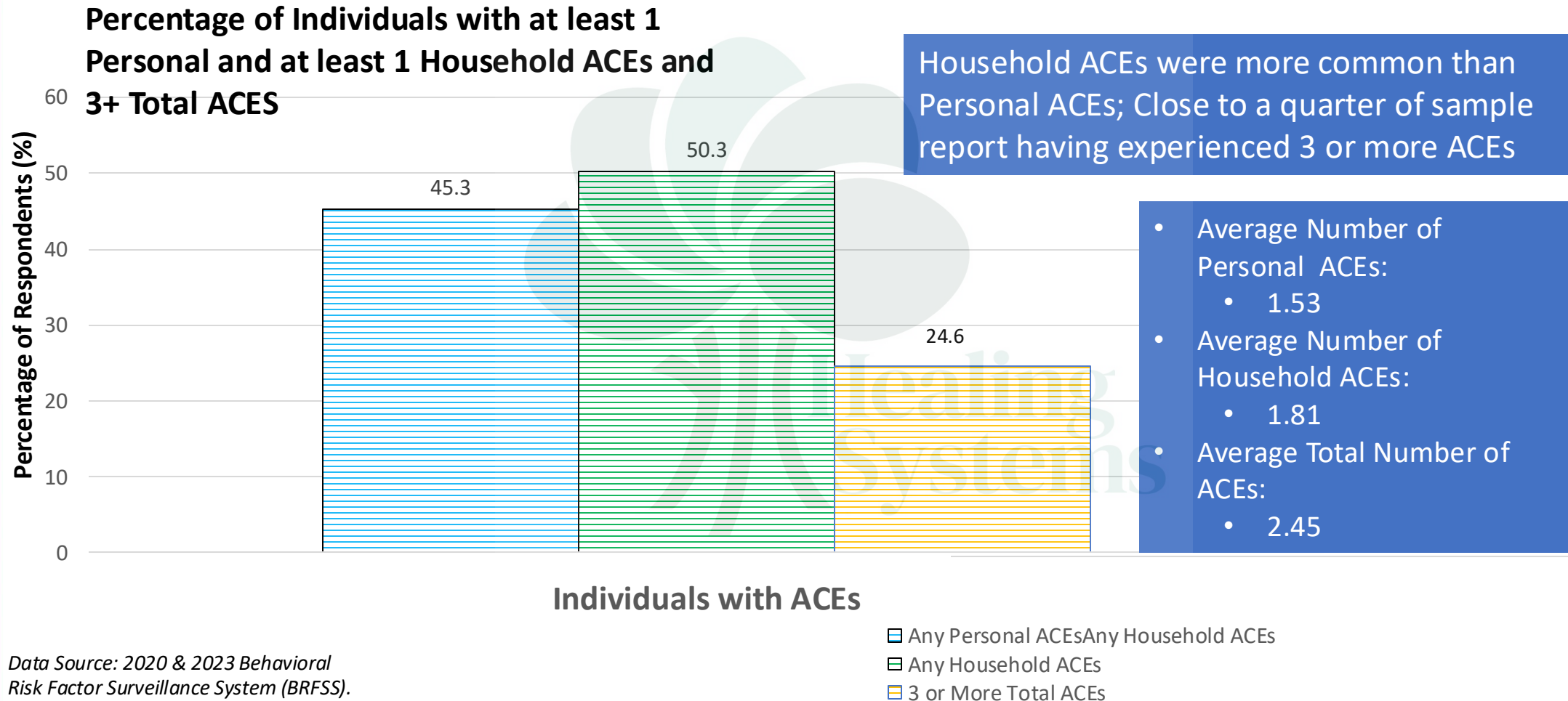
Individual ACEs among Maryland Adults

Percentage of adults who report adverse childhood experiences (ACEs)



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Personal and Household ACEs and “High ACEs”



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations



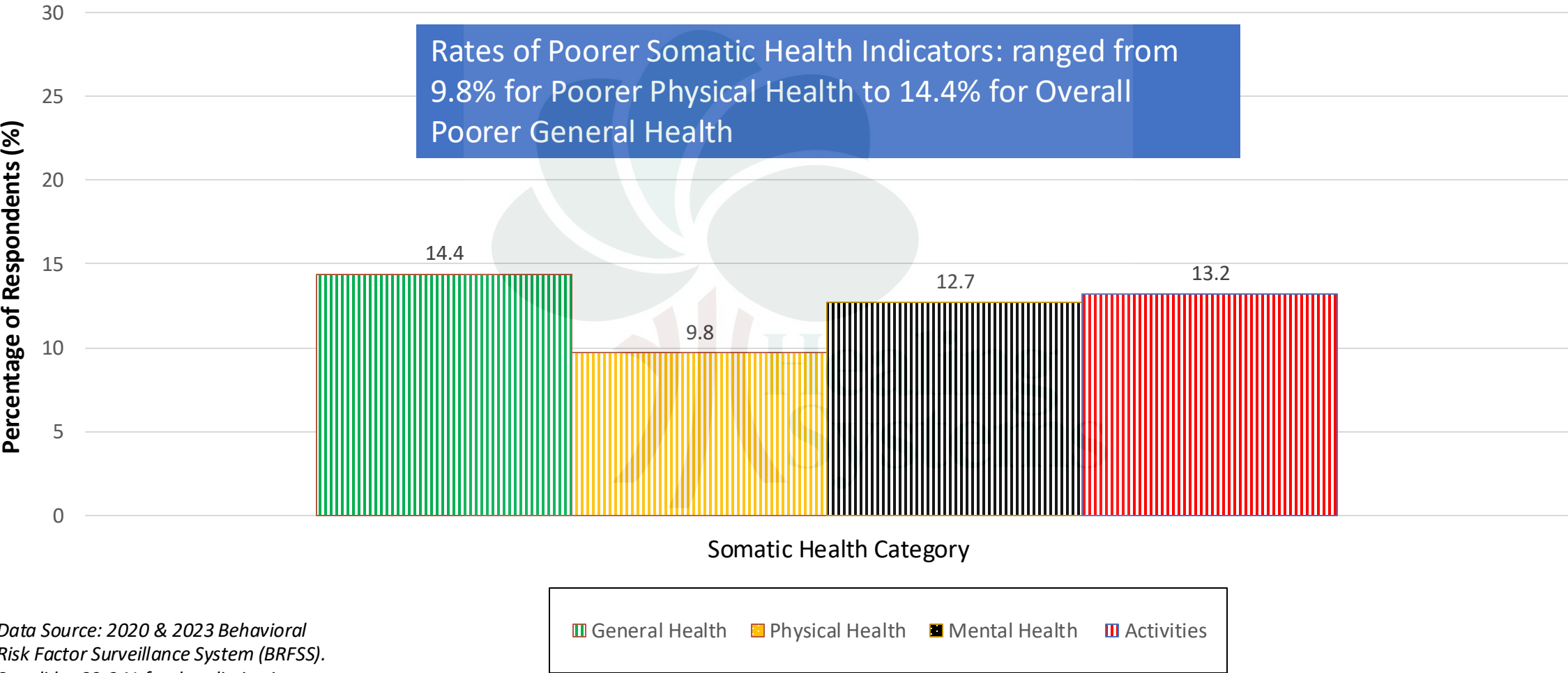
Building Healing Behavioral Health Systems:

Somatic Health Indicators and Adverse Childhood Experiences:

4 Somatic Health Functioning Indicators

General, Physical, Mental Health & Negative Impact on Activities Among Maryland Adults

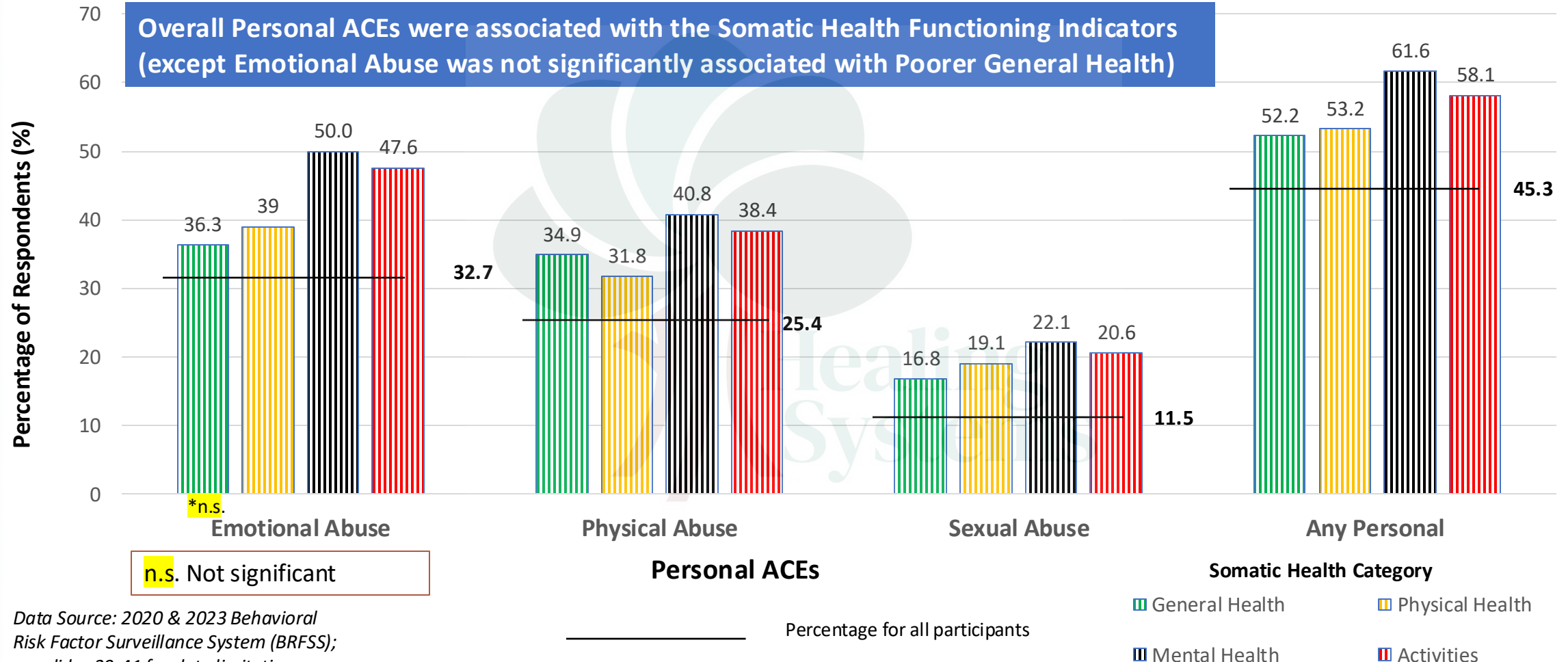
Percentage of adults who reported negative impact for 14+ days across somatic health indicators



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-341 for data limitations

Personal ACEs and General, Physical, Mental Health and Activities

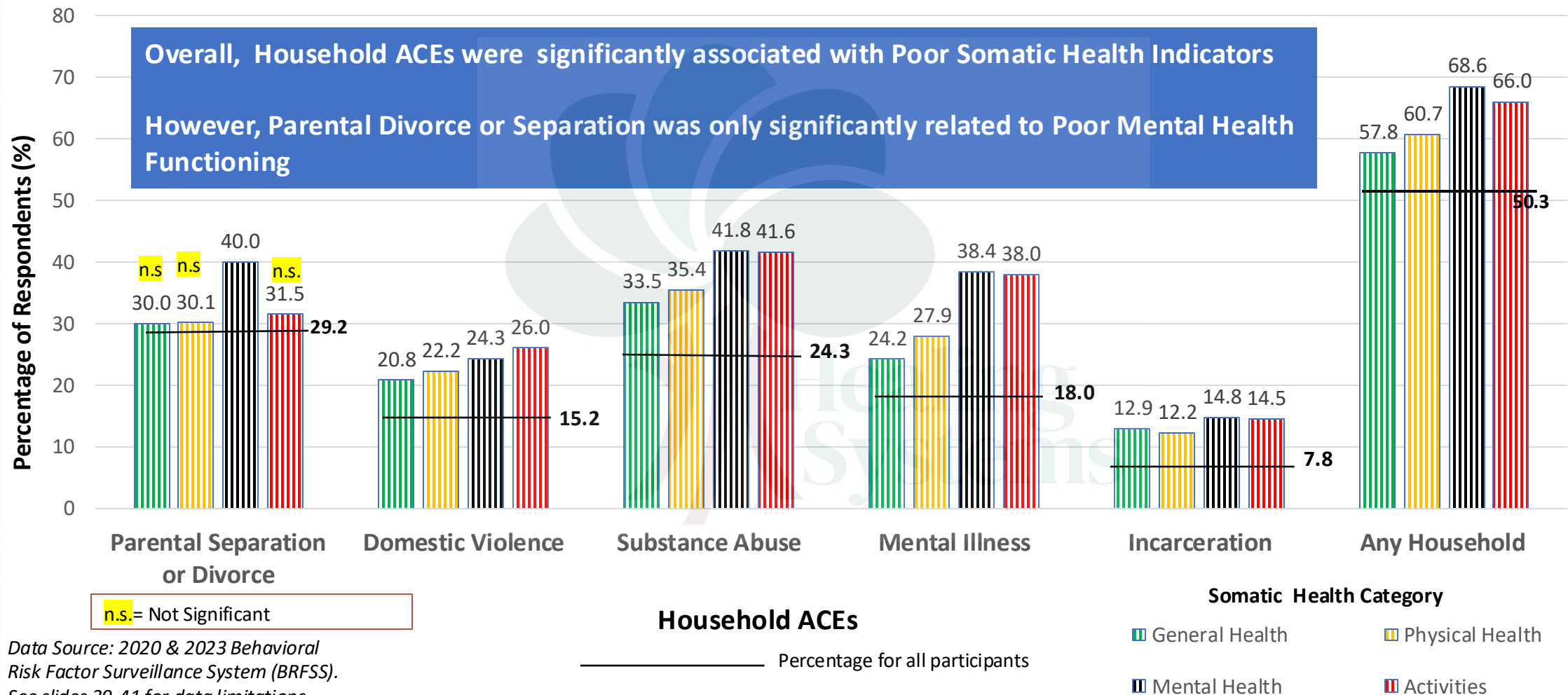
Percentage of adults who report personal adverse childhood experiences (ACEs) by type of somatic health indicator



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS); see slides 39-41 for data limitations.

Household ACEs and General, Physical, Mental Health and Activities

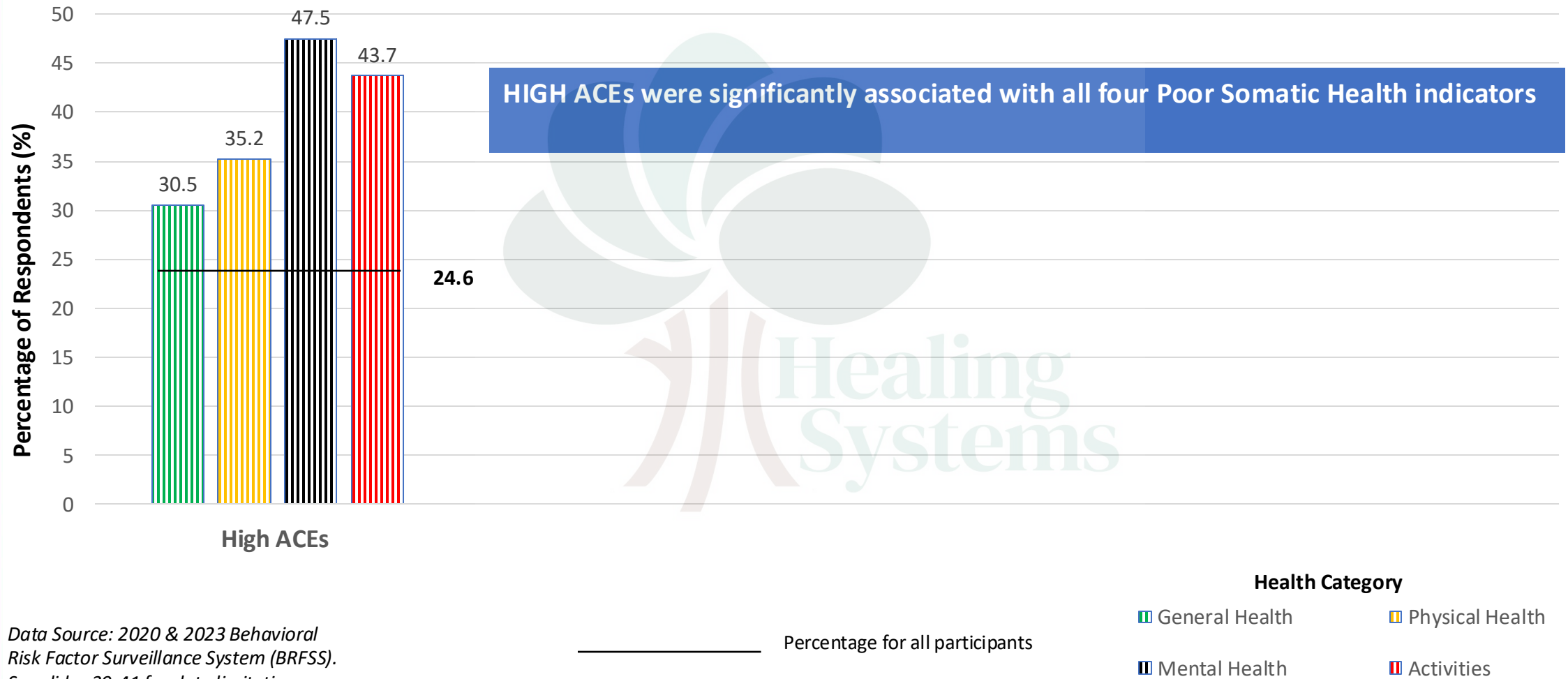
Percentage of adults who report household adverse childhood experiences (ACEs) by type of somatic health indicators



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

High ACEs and General, Physical, Mental Health and Activities

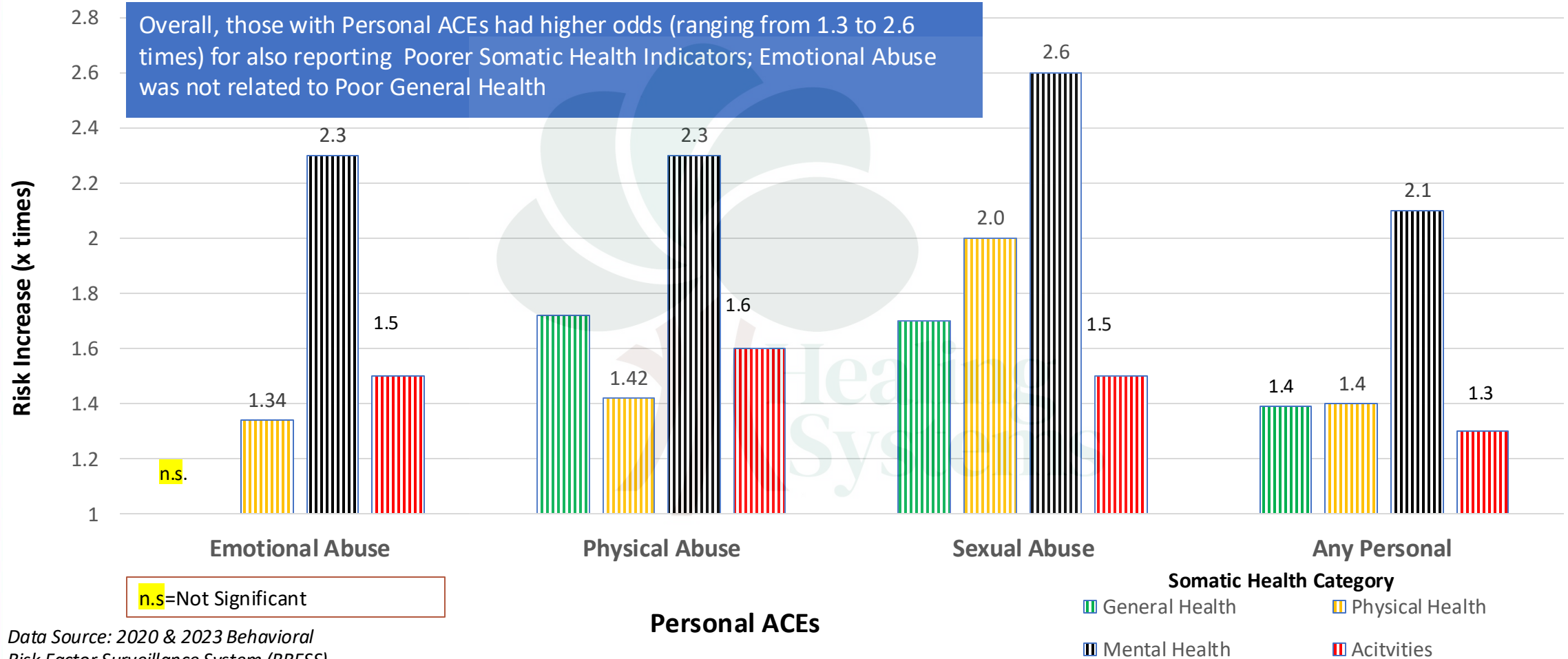
Percentage of adults who report High ACEs (3+ ACEs) by type of somatic health indicators



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Personal ACEs Increase Risk of Poor General, Physical, Mental Health and Activities

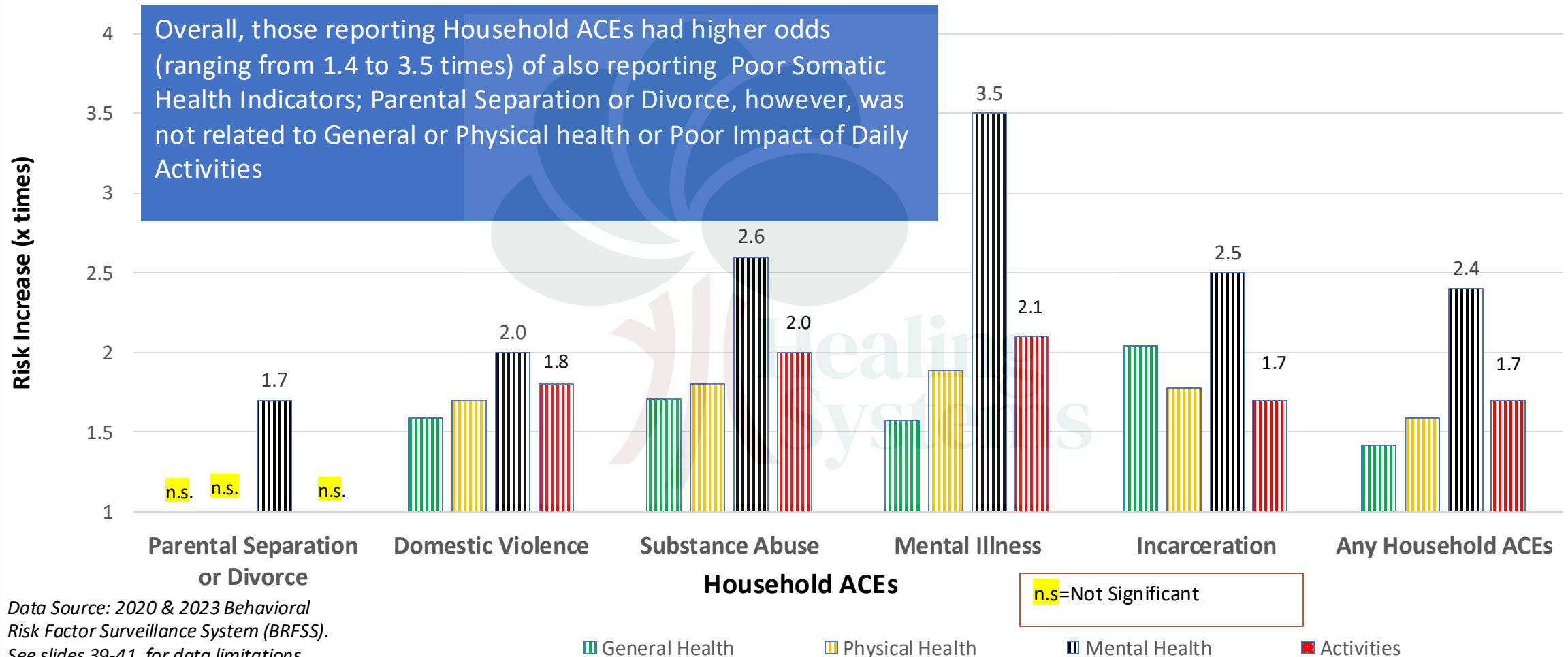
Odds ratios of adults who report personal adverse childhood experiences (ACEs) and poor somatic health indicators



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

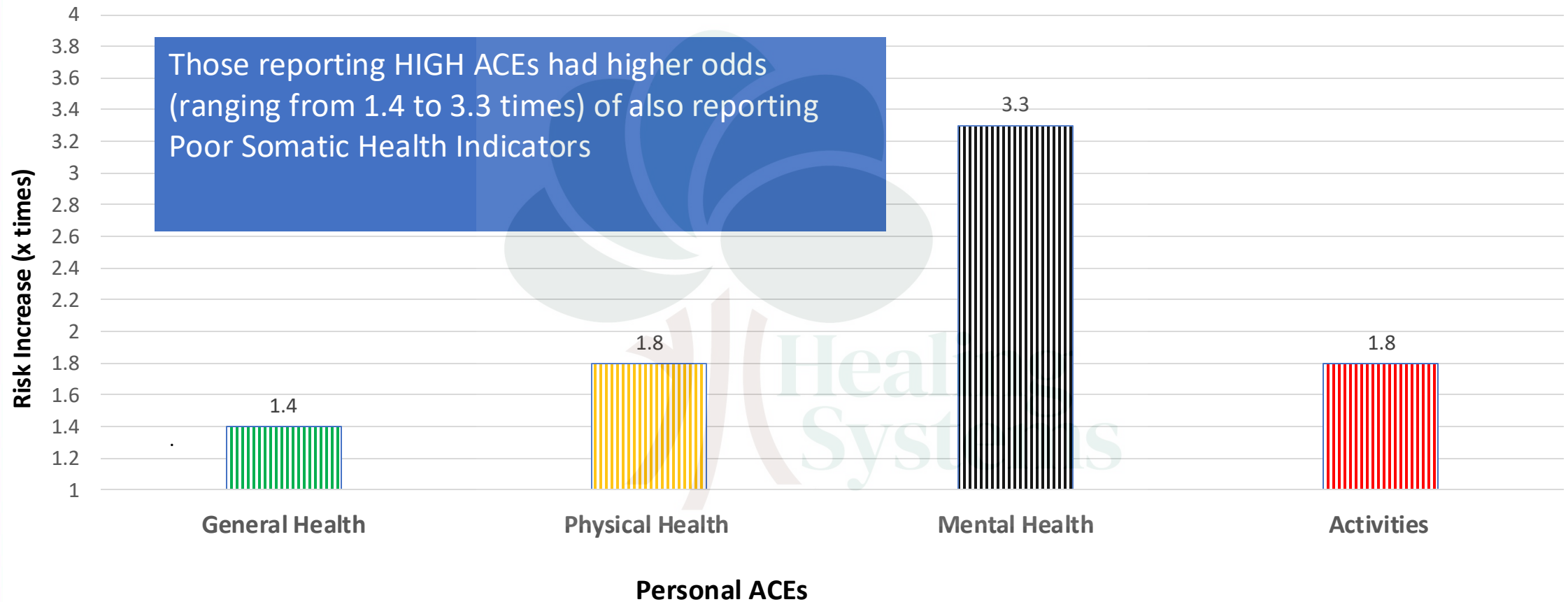
Household ACEs Increase Risk of Poor General, Physical, Mental Health & Activities

Odds ratios of adults who report household adverse childhood experiences (ACEs) and poor somatic health indicators



3+ ACES and General, Physical, Mental Health and Activities

Odds ratios of adults who report three or more adverse childhood experiences (High ACEs) and poor somatic health indicators



Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations



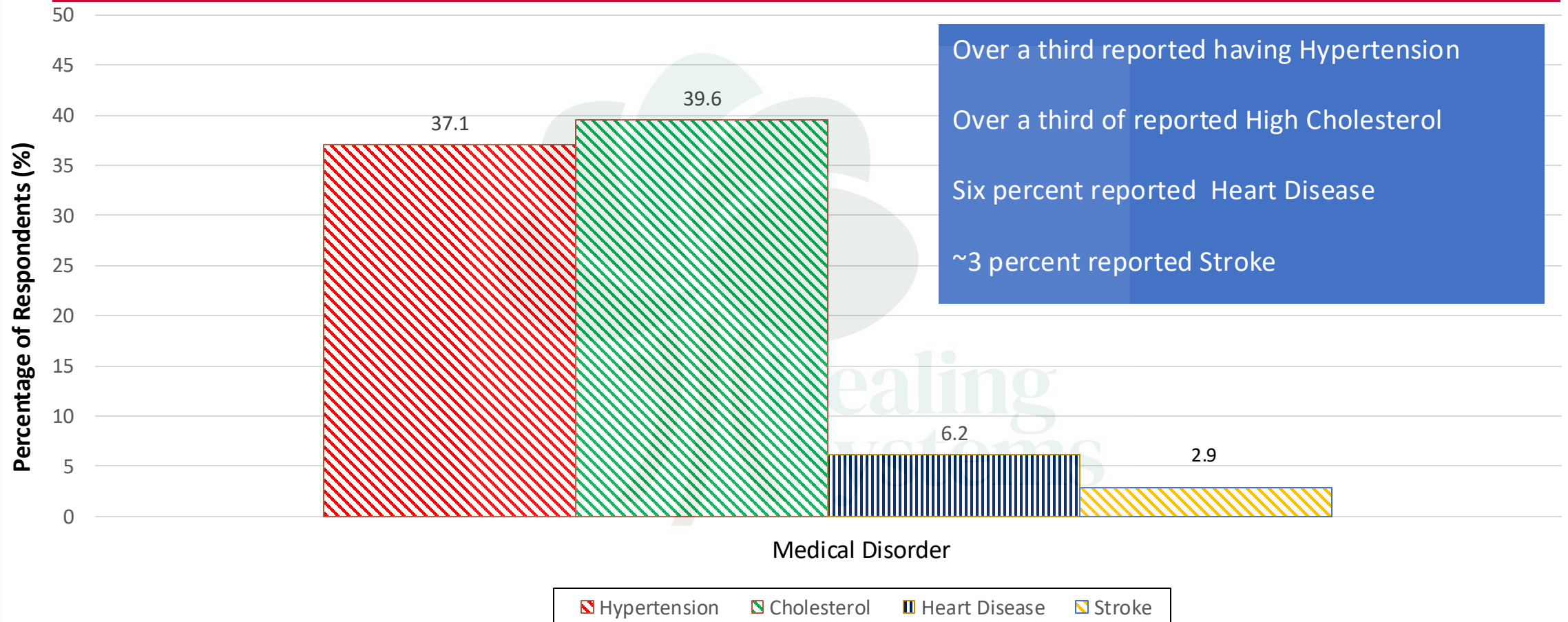
Building Healing Behavioral Health Systems:

Somatic Health Indicators and Adverse Childhood Experiences:

Specific Diseases/Disorders

Medical Disorder Rates Among Maryland Adults

Percentage of adults who report ever having been told they have medical disorder

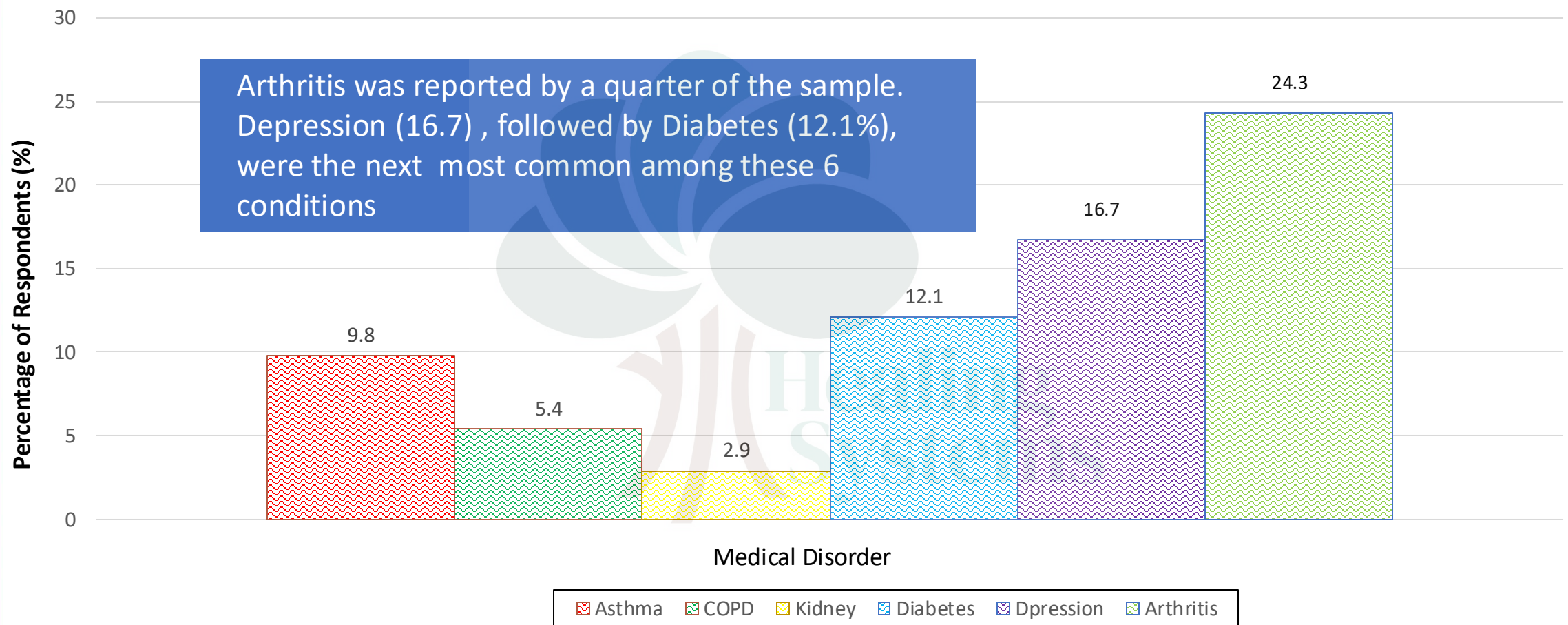


Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

* Hypertension and Cholesterol only in 2023 BRFSS Data

Medical Disorder Rates Among Maryland Adults

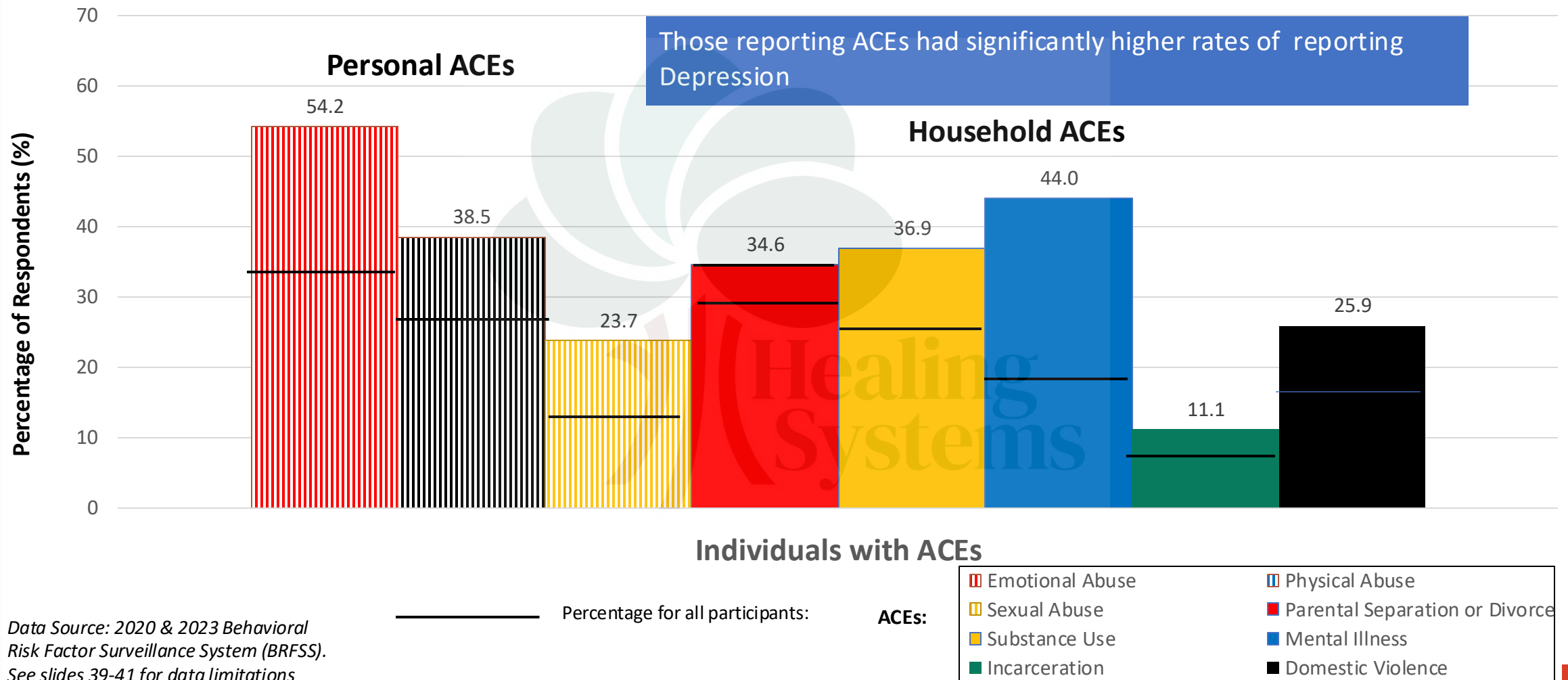
Percentage of adults who report ever having been told they have medical disorders



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Depression and ACEs

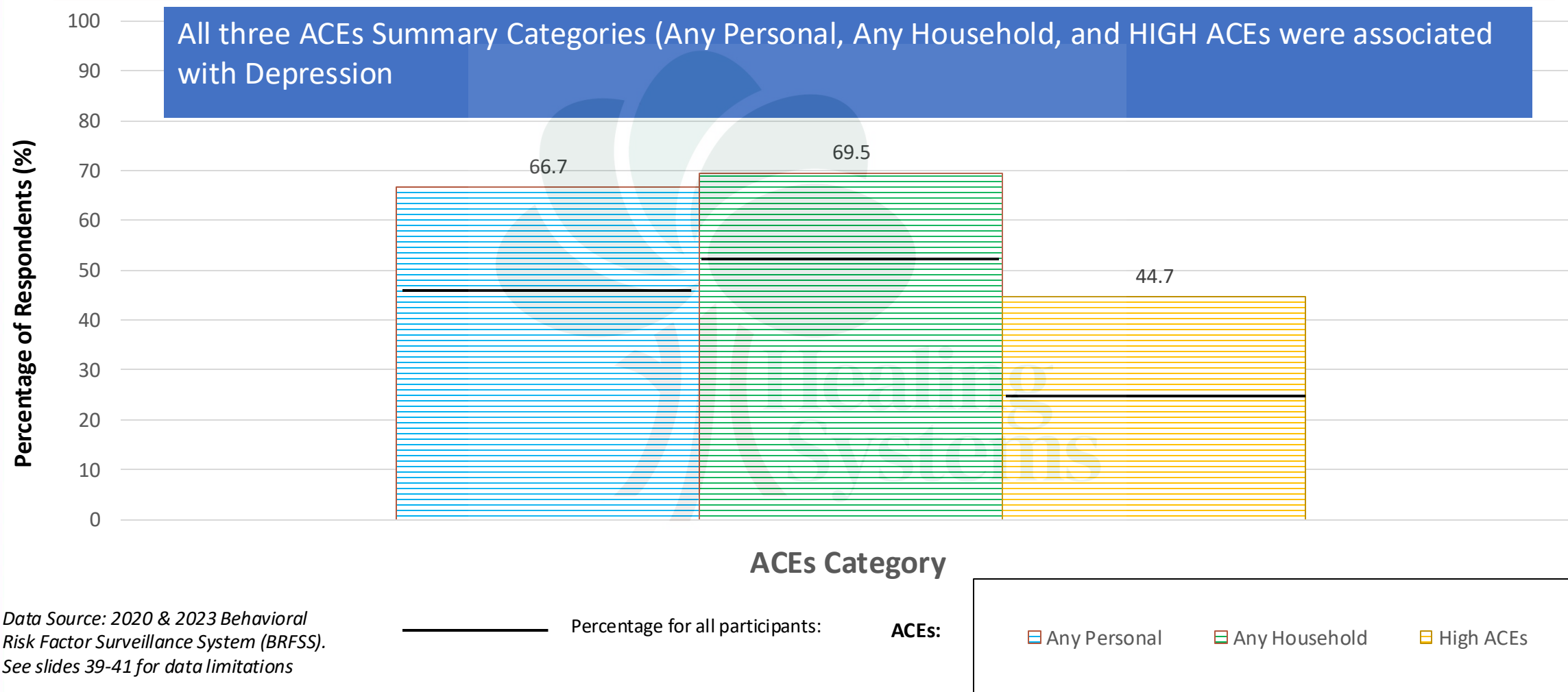
Percentage of adults who report ever having received depressive disorder diagnosis by adverse childhood experiences (ACEs)



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

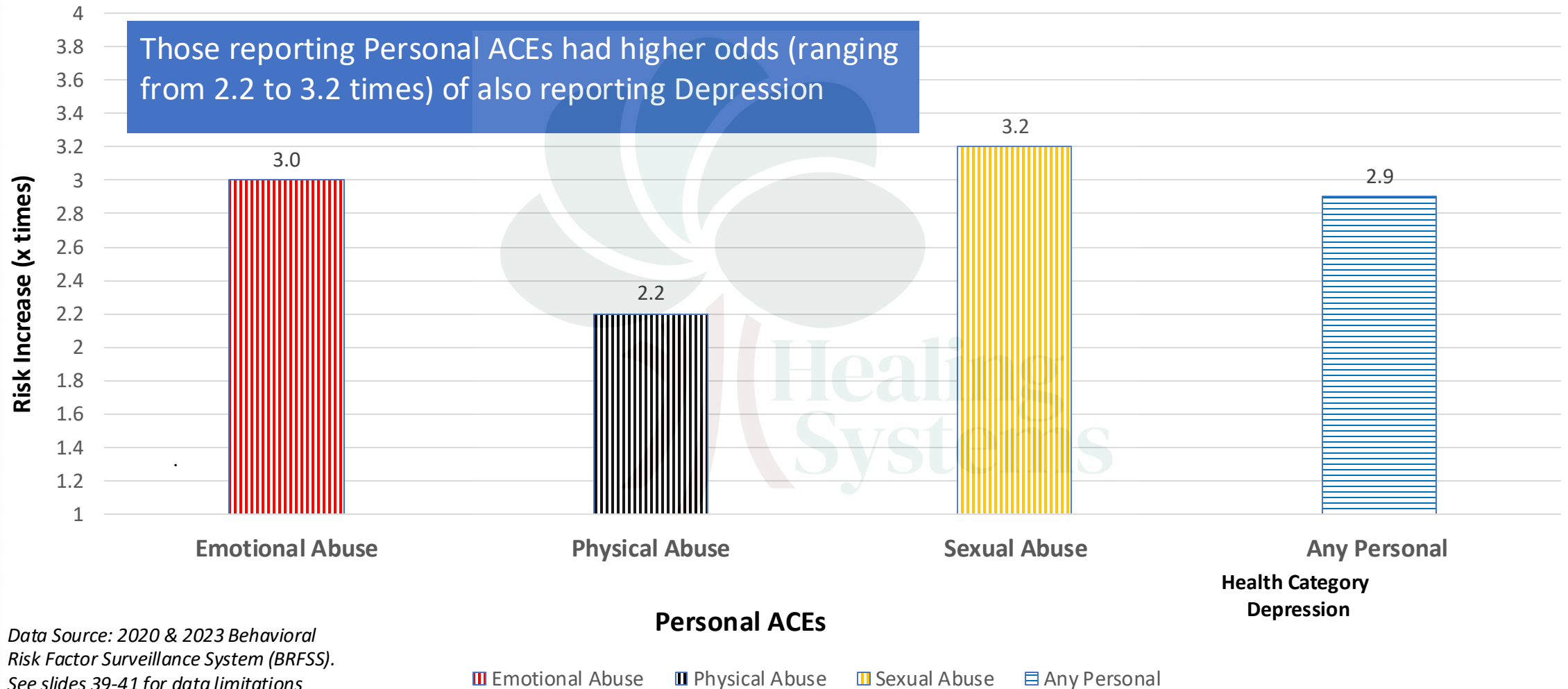
Depression and ACEs Summary Categories

Percentage of adults who report ever having received depressive disorder diagnosis by ACEs summary categories



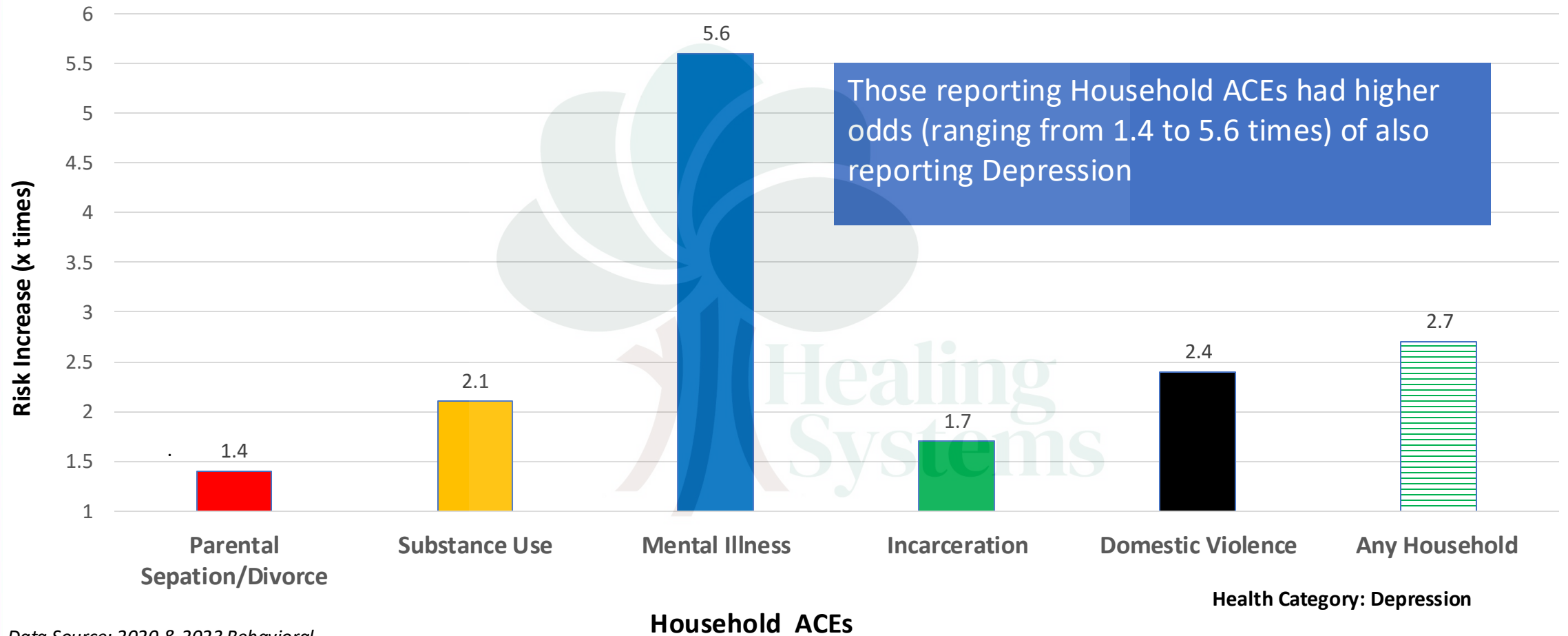
Personal ACEs and Risk of Depression

Odds ratios of adults who report personal adverse childhood experiences (ACEs) and depression



Household ACEs and Risk of Depression

Odds ratios of adults who report household adverse childhood experiences (ACEs) and depression

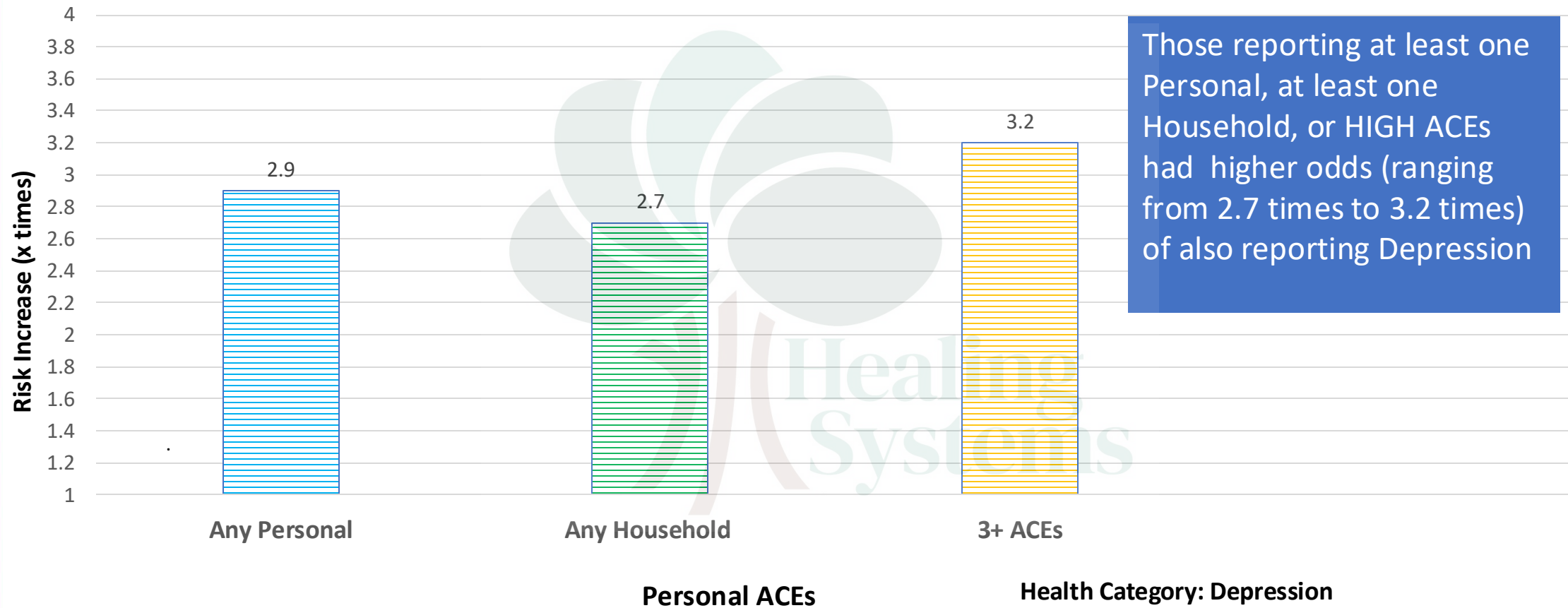


Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS). See slides 39-41 for data limitations

■ Parental Separation/Divorce ■ Substance Use ■ Mental Illness ■ Incarceration ■ Domestic Violence ■ Any Household

Any Personal, Any Household and 3+ ACES Risk for Depression

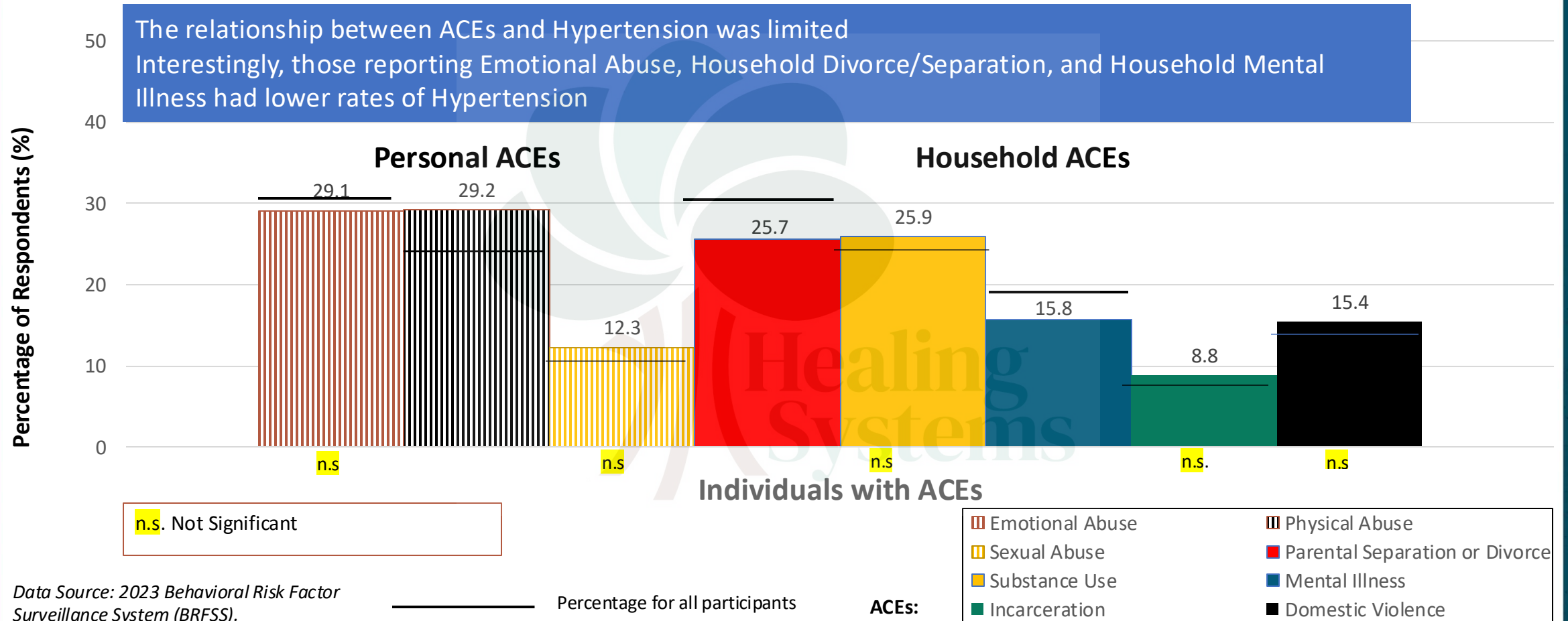
Odds ratios of adults who report any personal, any household and 3+ ACES and depression



Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Hypertension and ACEs (2023 Data Only)

Percentage of adults who report ever having received hypertension diagnosis by adverse childhood experiences (ACEs)

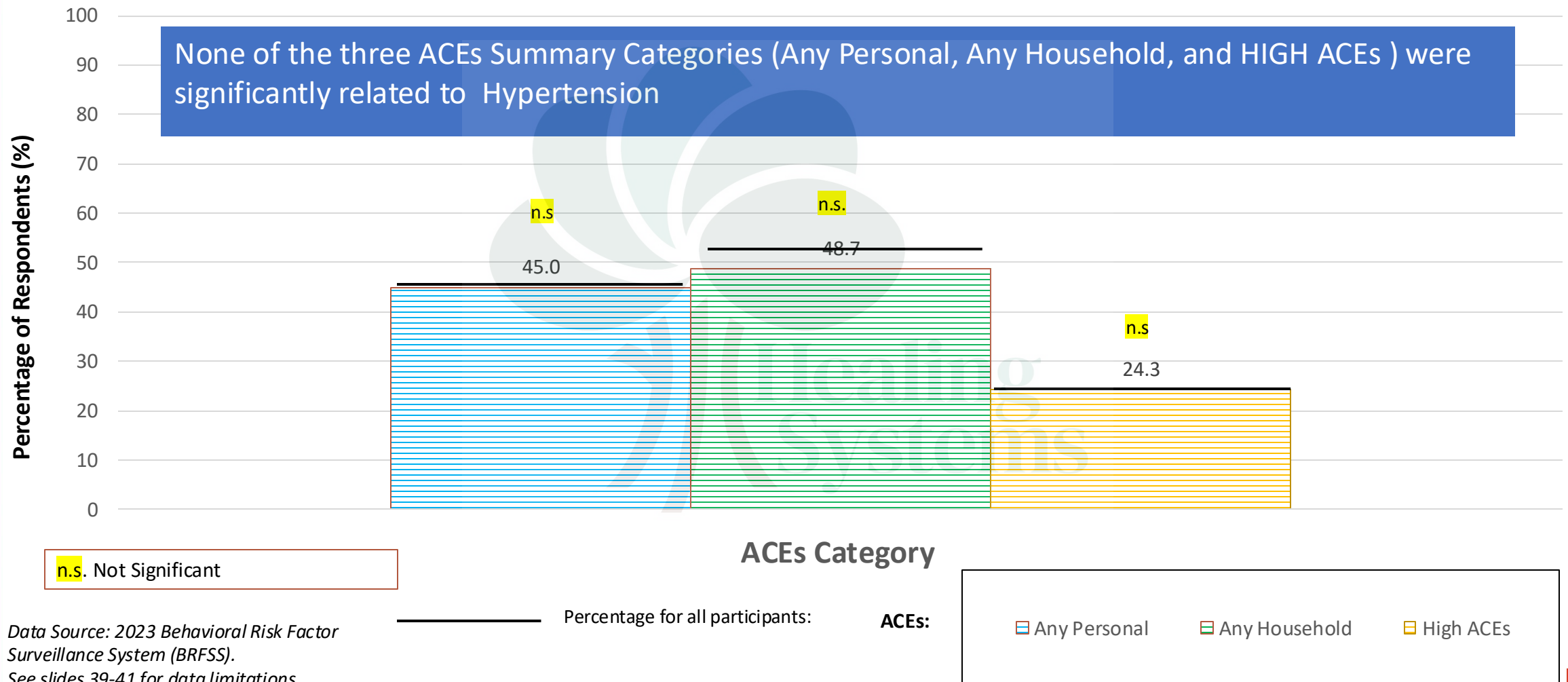


Data Source: 2023 Behavioral Risk Factor Surveillance System (BRFSS).

See slides 39-41 for data limitations

Hypertension and ACEs Summary Categories (2023 Data Only)

Percentage of adults who report ever having hypertension by summary ACEs category

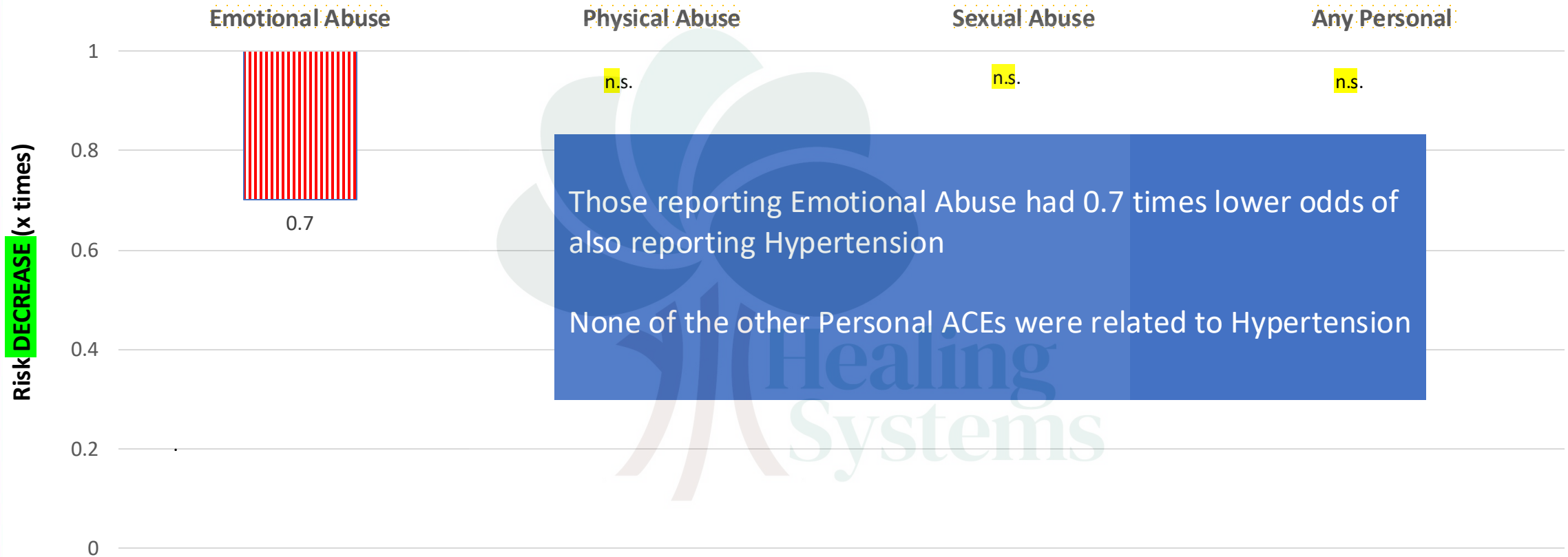


Data Source: 2023 Behavioral Risk Factor Surveillance System (BRFSS).

See slides 39-41 for data limitations

Personal ACEs and Risk of Hypertension (2023 Data Only)

Odds ratios of adults who report personal adverse childhood experiences (ACEs) and hypertension



Data Source: 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

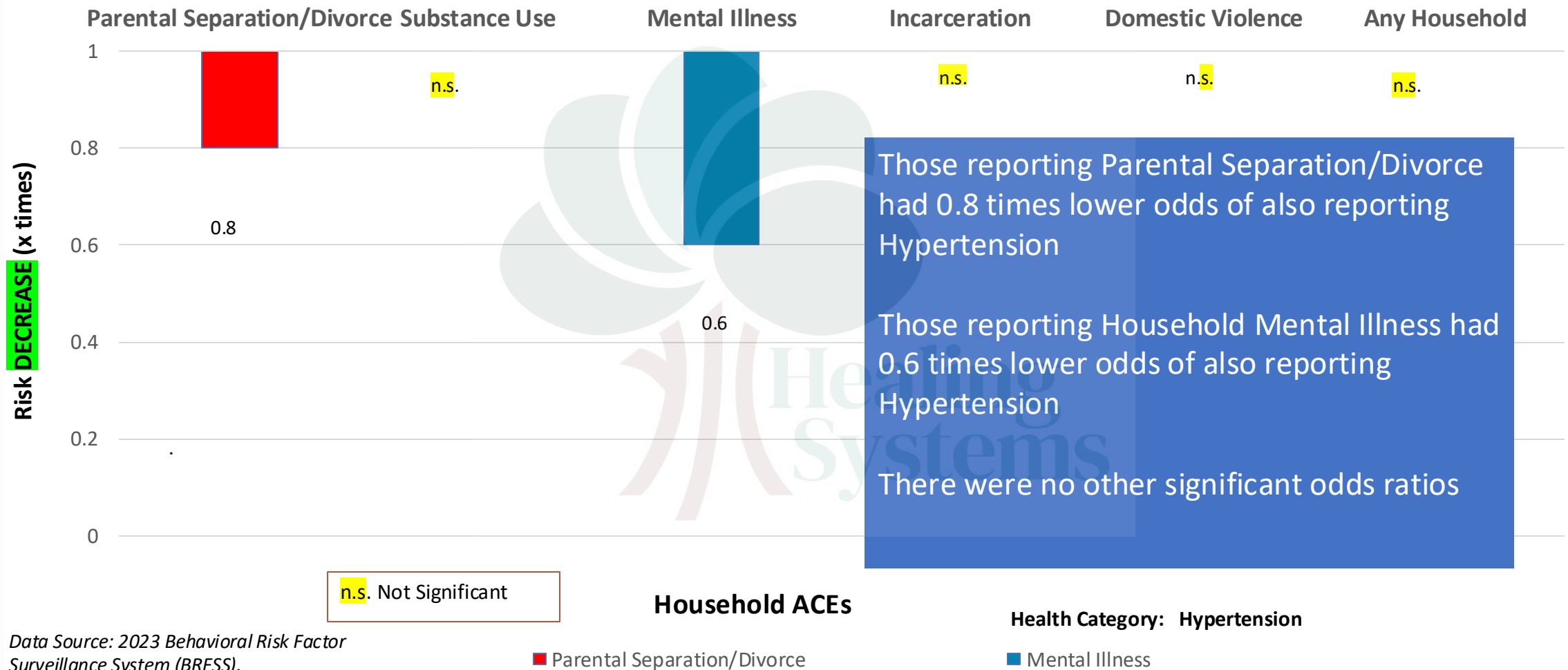
n.s. Not Significant

Personal ACEs

Health Category: Hypertension

Household ACEs and Risk of Hypertension (2023 Data Only)

Odds ratios of adults who report household adverse childhood experiences (ACEs) and hypertension



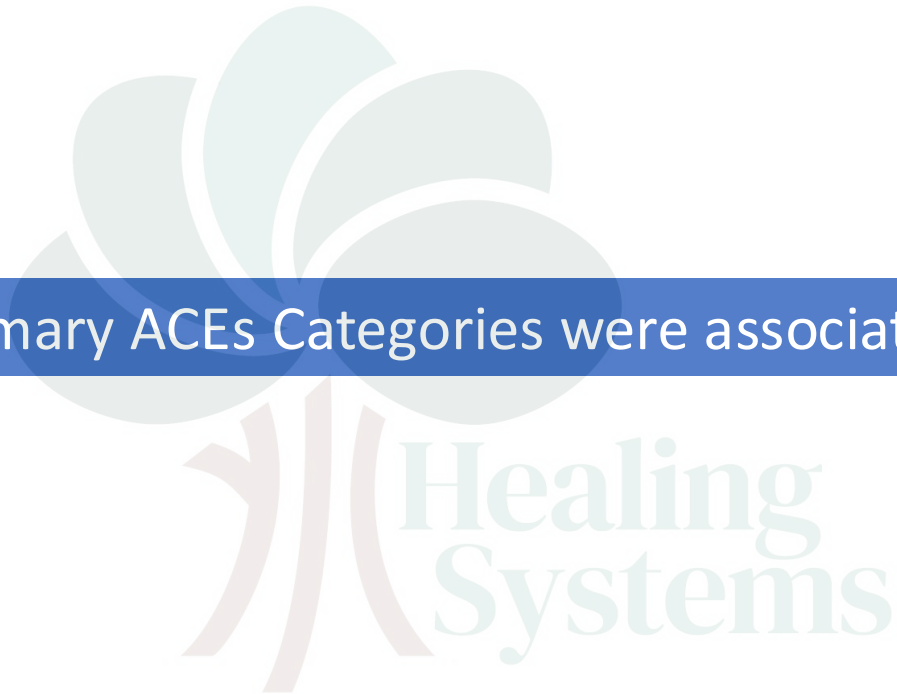
Data Source: 2023 Behavioral Risk Factor Surveillance System (BRFSS).

See slides 39-41 for data limitations

Any Personal, Any Household and 3+ ACES Risk for Hypertension

Odds ratios of adults who report any personal, any household and 3+ ACES and Hypertension

None of the three summary ACEs Categories were associated with Hypertension

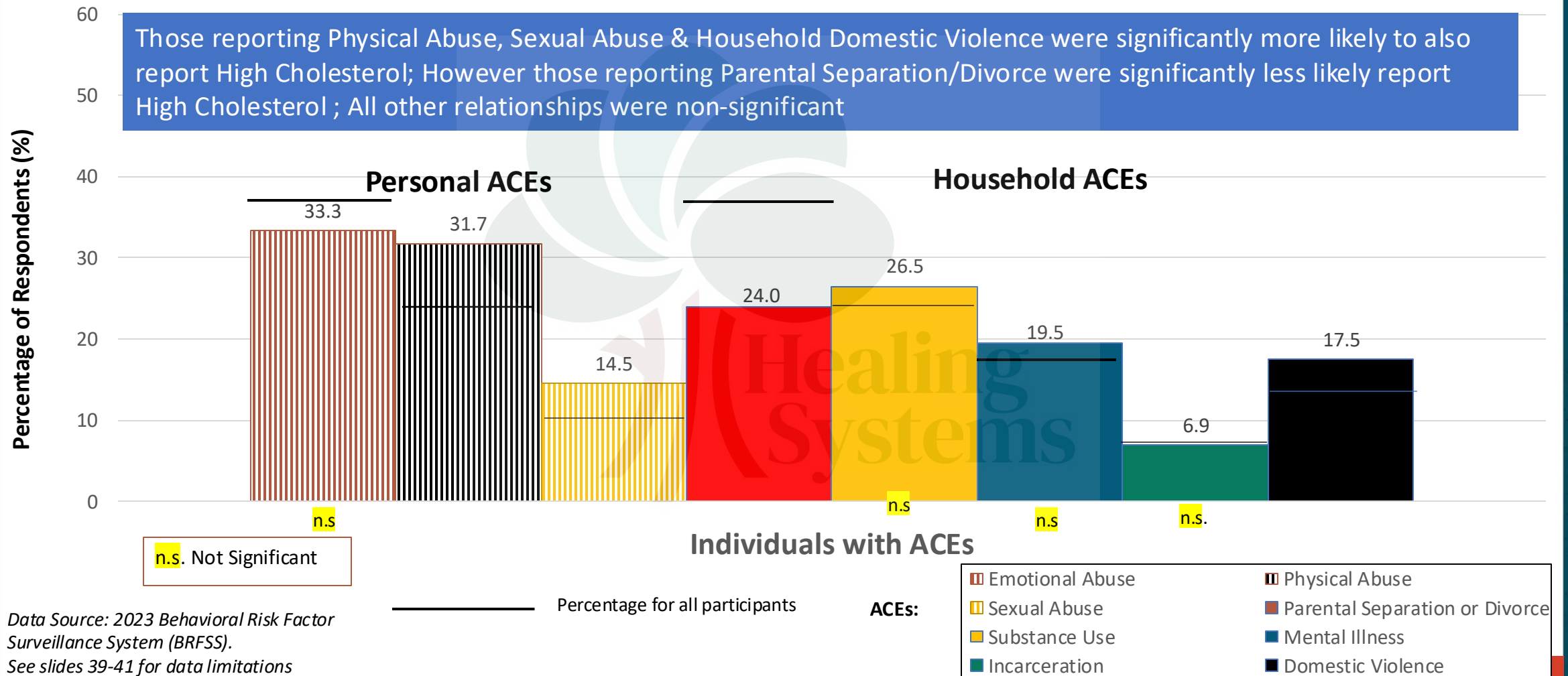


*Data Source: 2023 Behavioral Risk Factor
Surveillance System (BRFSS).*

See slides 39-41 for data limitations

Cholesterol and ACEs (2023 Data Only)

Percentage of adults who report ever having received high cholesterol diagnosis by adverse childhood experiences (ACEs)

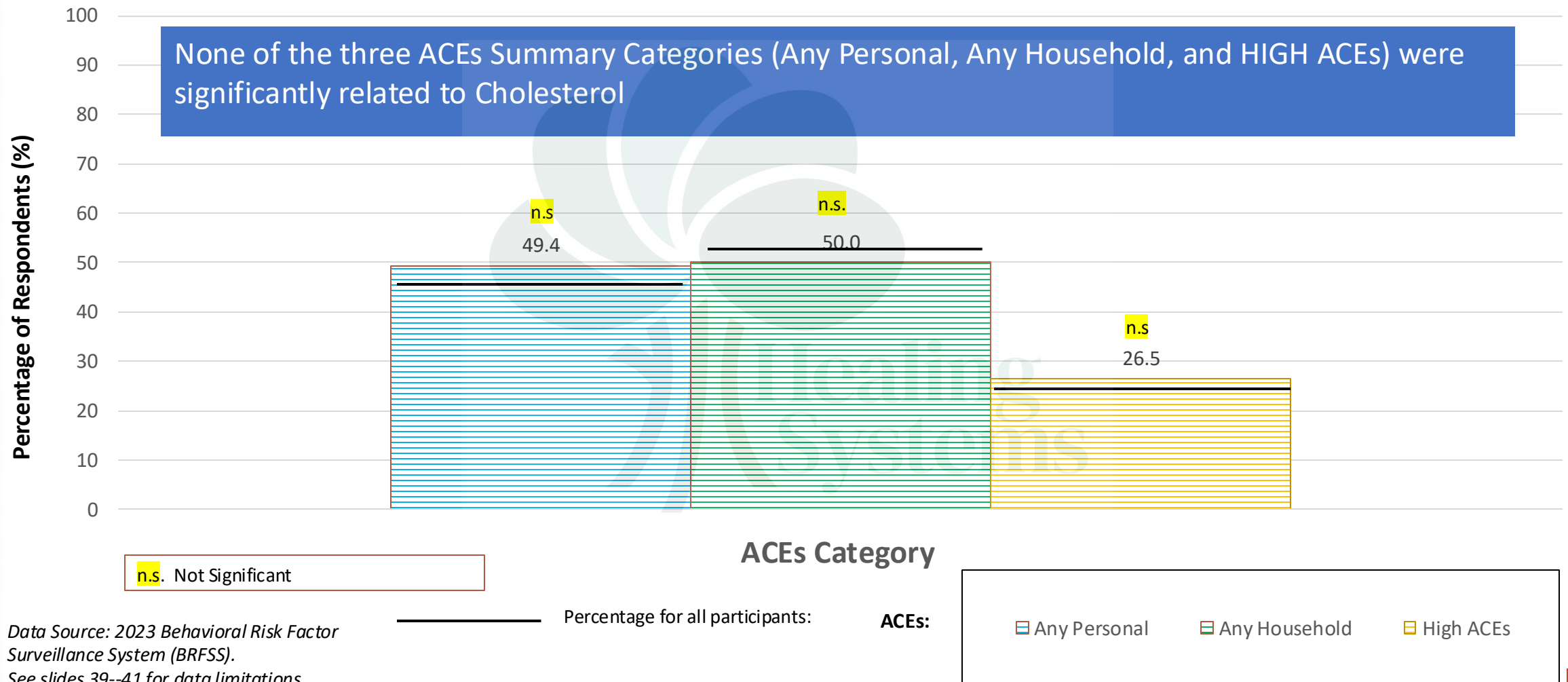


Data Source: 2023 Behavioral Risk Factor Surveillance System (BRFSS).

See slides 39-41 for data limitations

Cholesterol and ACEs Summary Categories (2023 Data Only)

Percentage of adults who report ever having received high cholesterol diagnosis by ACEs summary categories

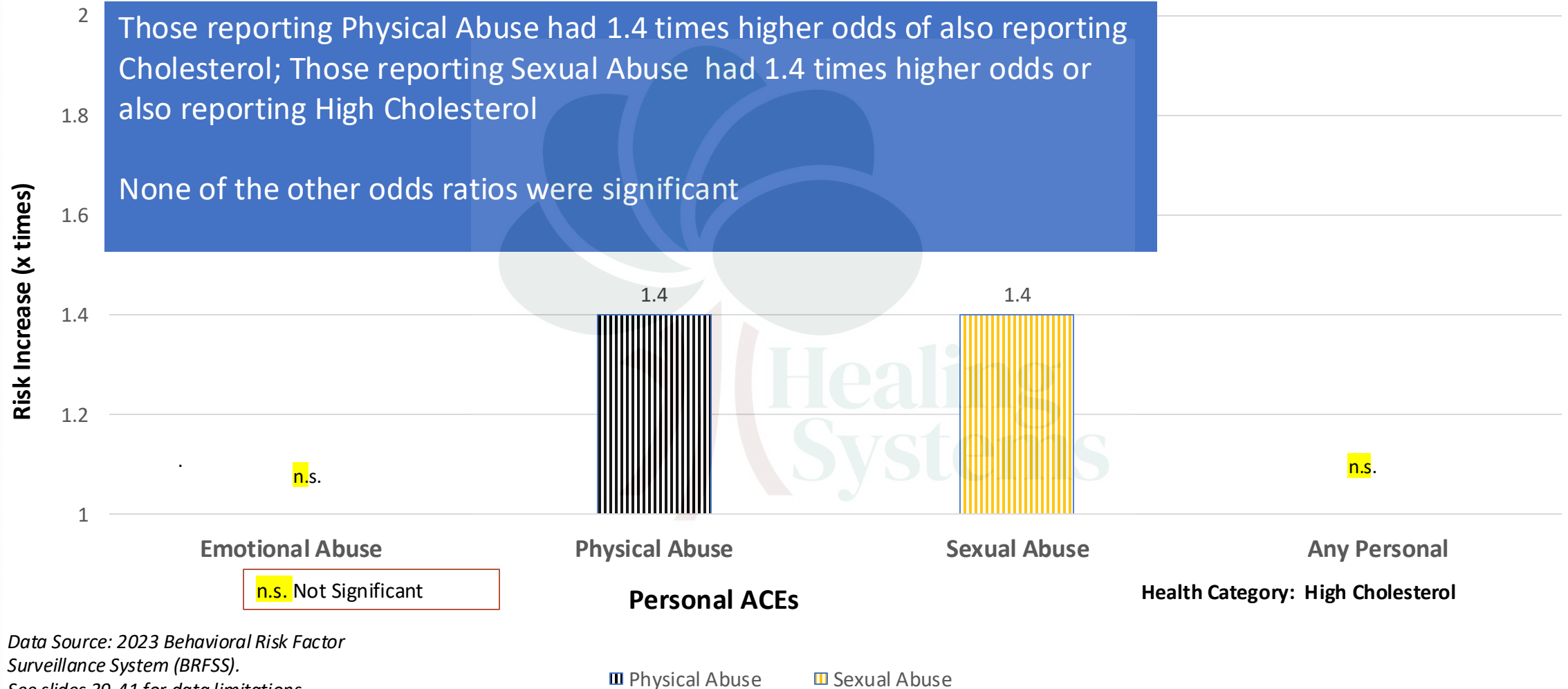


Data Source: 2023 Behavioral Risk Factor Surveillance System (BRFSS).

See slides 39--41 for data limitations

Personal ACEs and Risk of Cholesterol (2023 Data Only)

Odds ratios of adults who report personal adverse childhood experiences (ACEs) high cholesterol

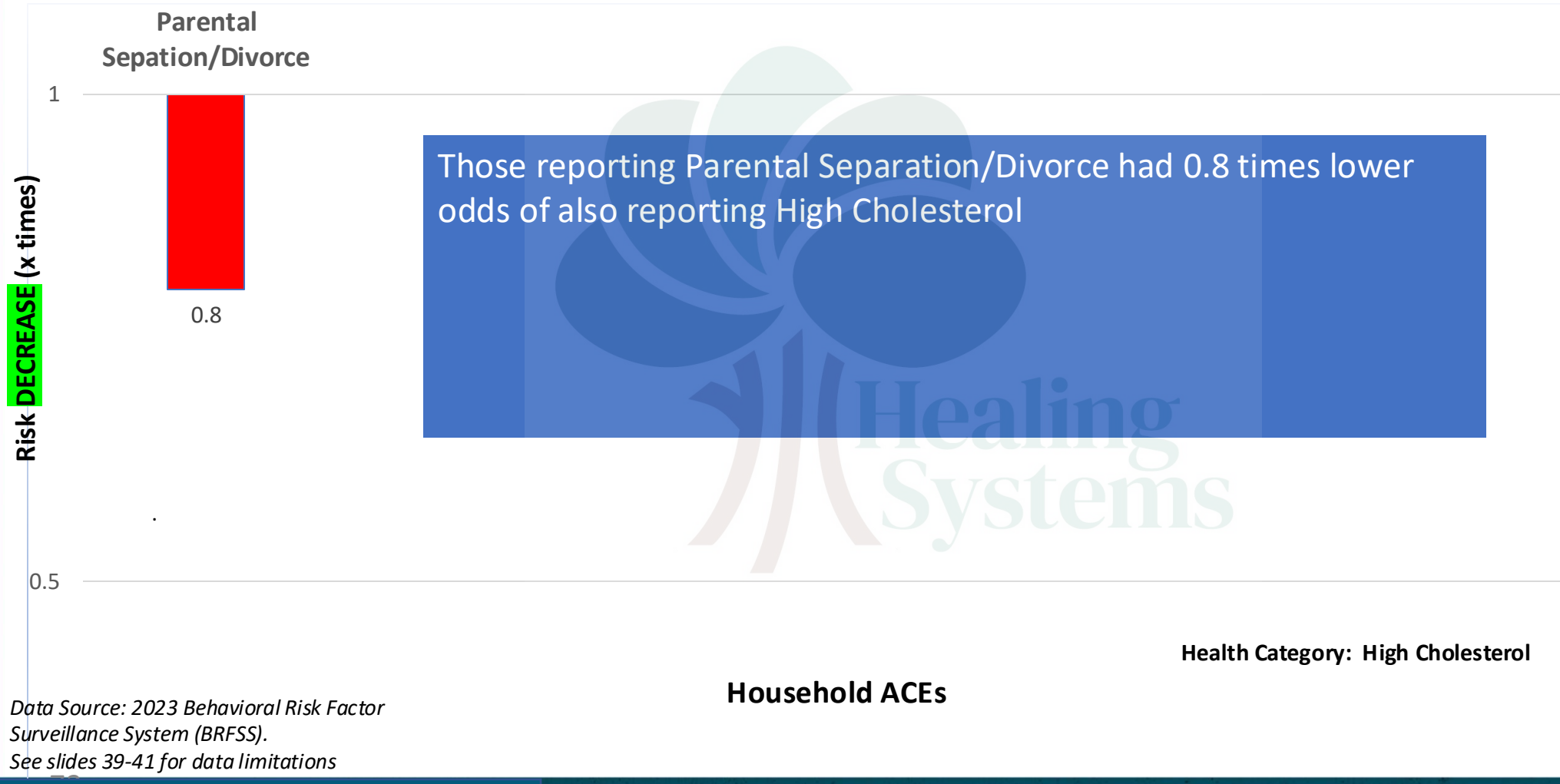


Data Source: 2023 Behavioral Risk Factor Surveillance System (BRFSS).

See slides 39-41 for data limitations

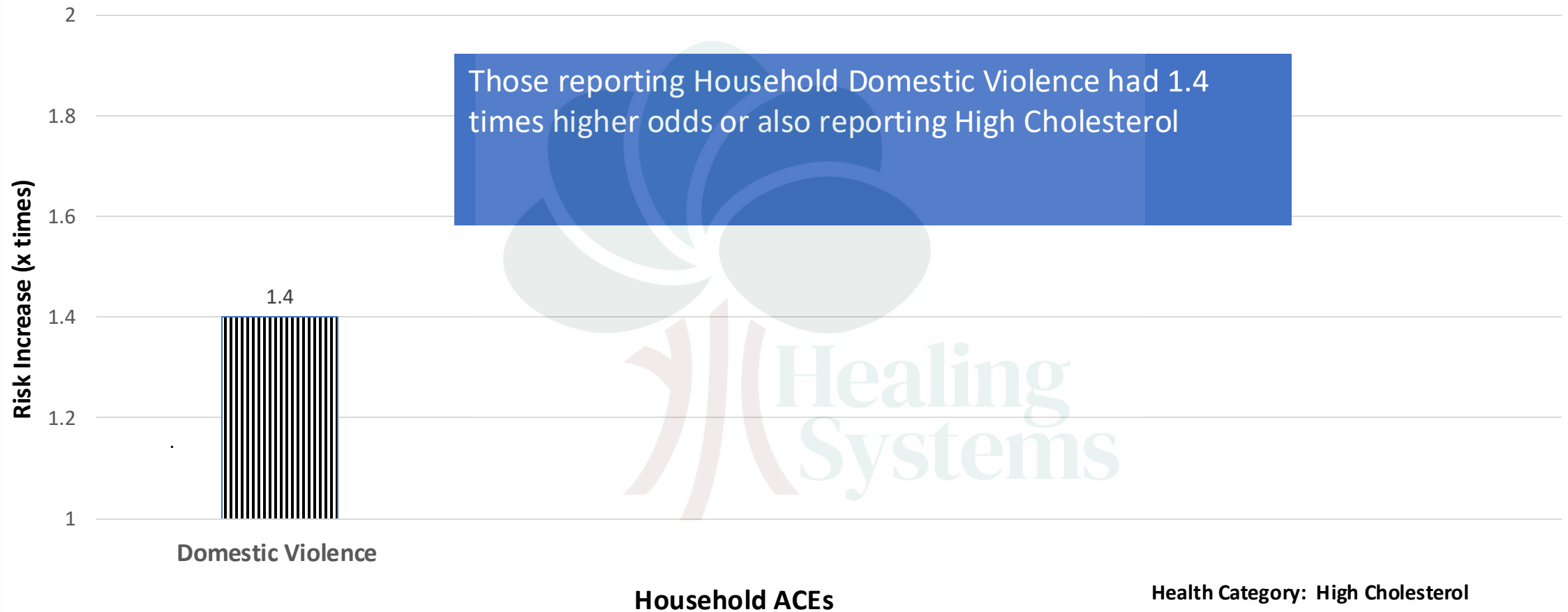
Household ACEs and Risk of Cholesterol (2023 Data Only)

Odds ratios of adults who report Parental Separation/Divorce and high cholesterol



Personal ACEs and Risk of Cholesterol (2023 Data Only)

Odds ratios of adults who report domestic violence and high cholesterol



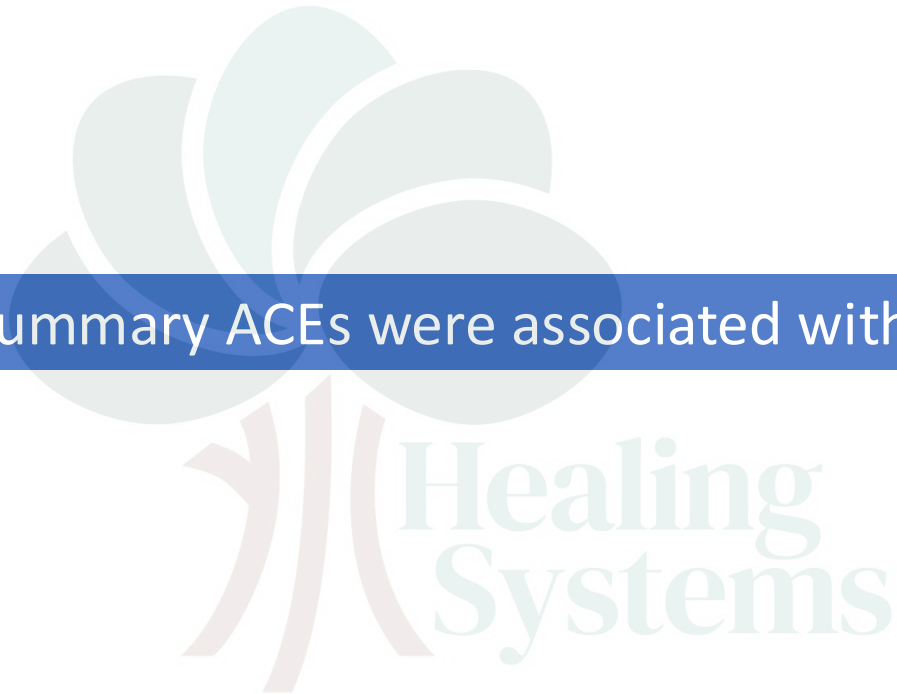
Data Source: 2023 Behavioral Risk Factor Surveillance System (BRFSS).

See slides 39-41 for data limitations

Any Personal, Any Household and 3+ ACES Risk for High Cholesterol

Odds ratios of adults who report any personal, any household and 3+ ACES and High Cholesterol

None of the three summary ACEs were associated with High Cholesterol

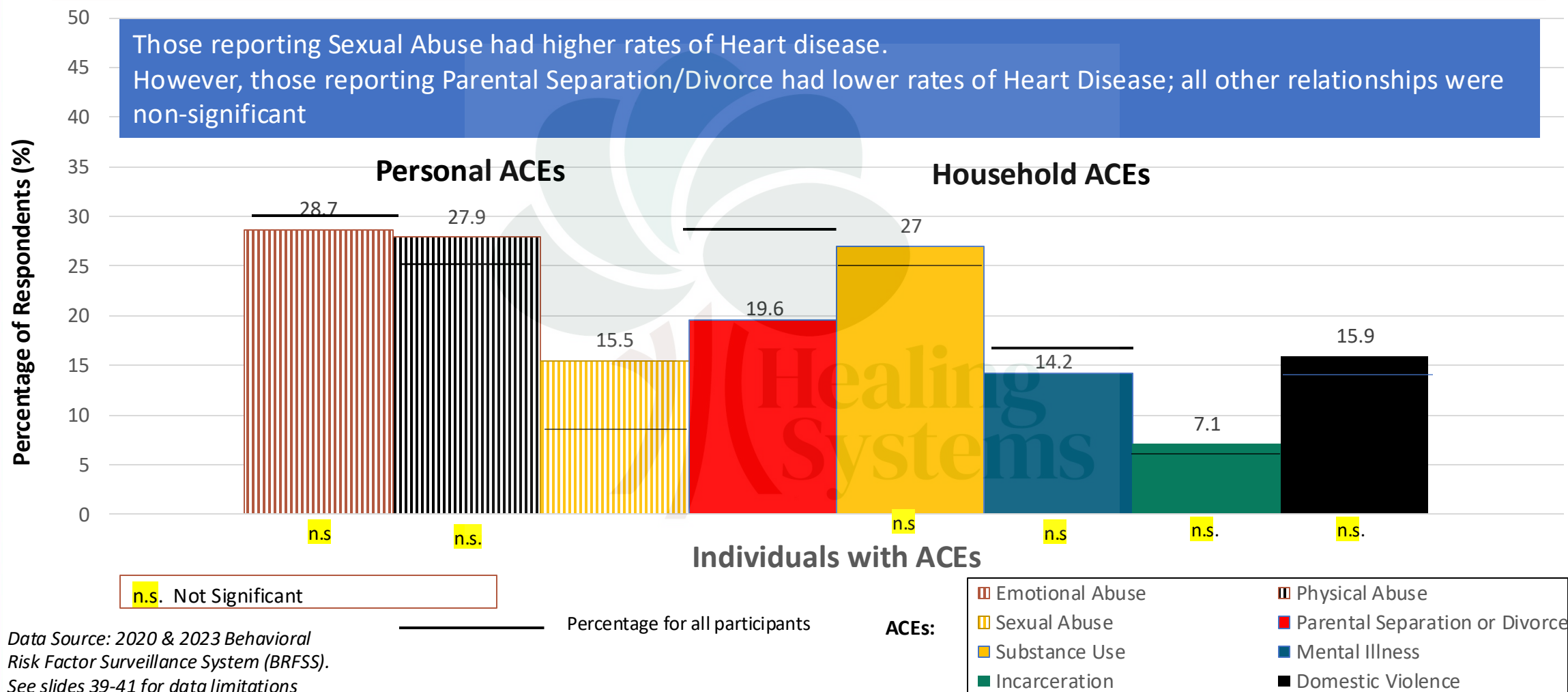


*Data Source: 2023 Behavioral Risk Factor
Surveillance System (BRFSS).*

See slides 39-41 for data limitations

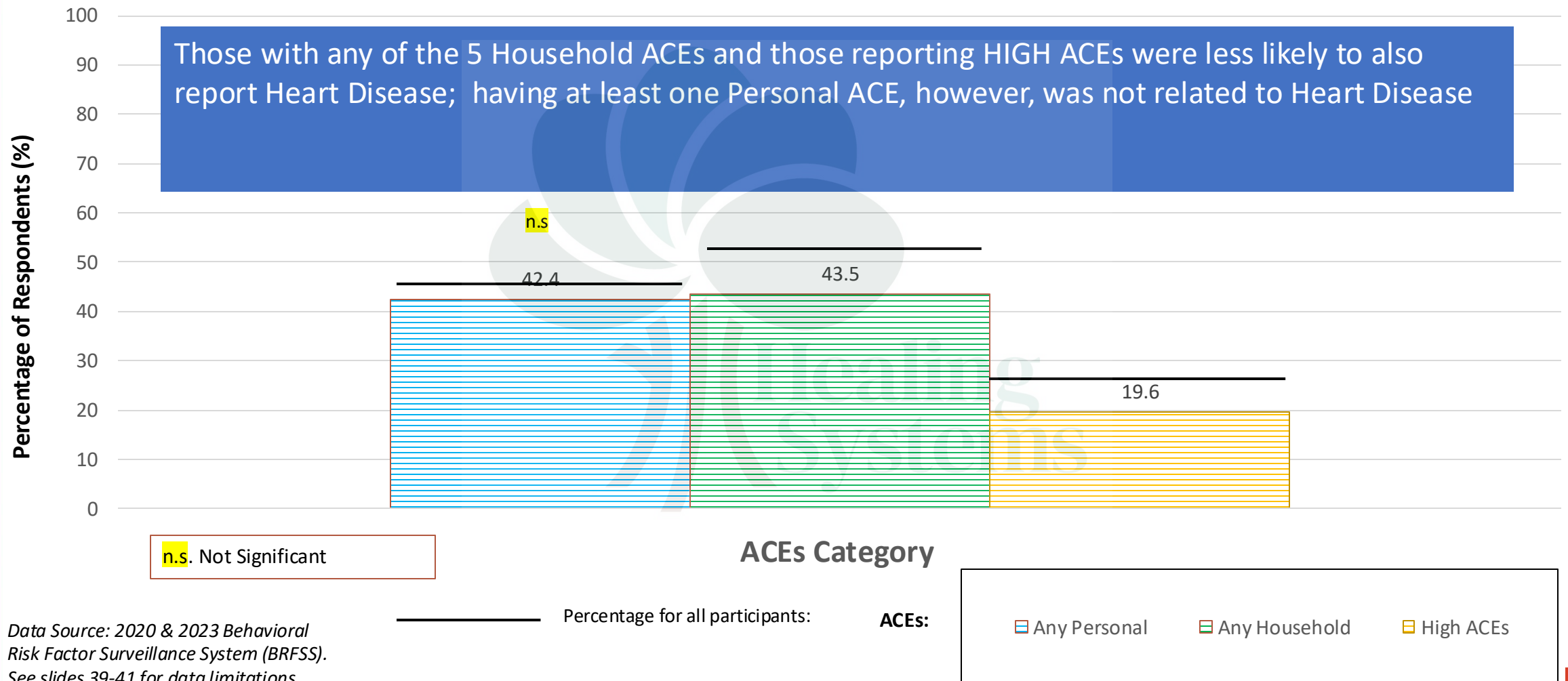
Heart Disease and ACEs

Percentage of adults who report ever having received heart disease diagnosis by adverse childhood experiences (ACEs)



Heart Disease and ACEs Summary Categories (2023 Data Only)

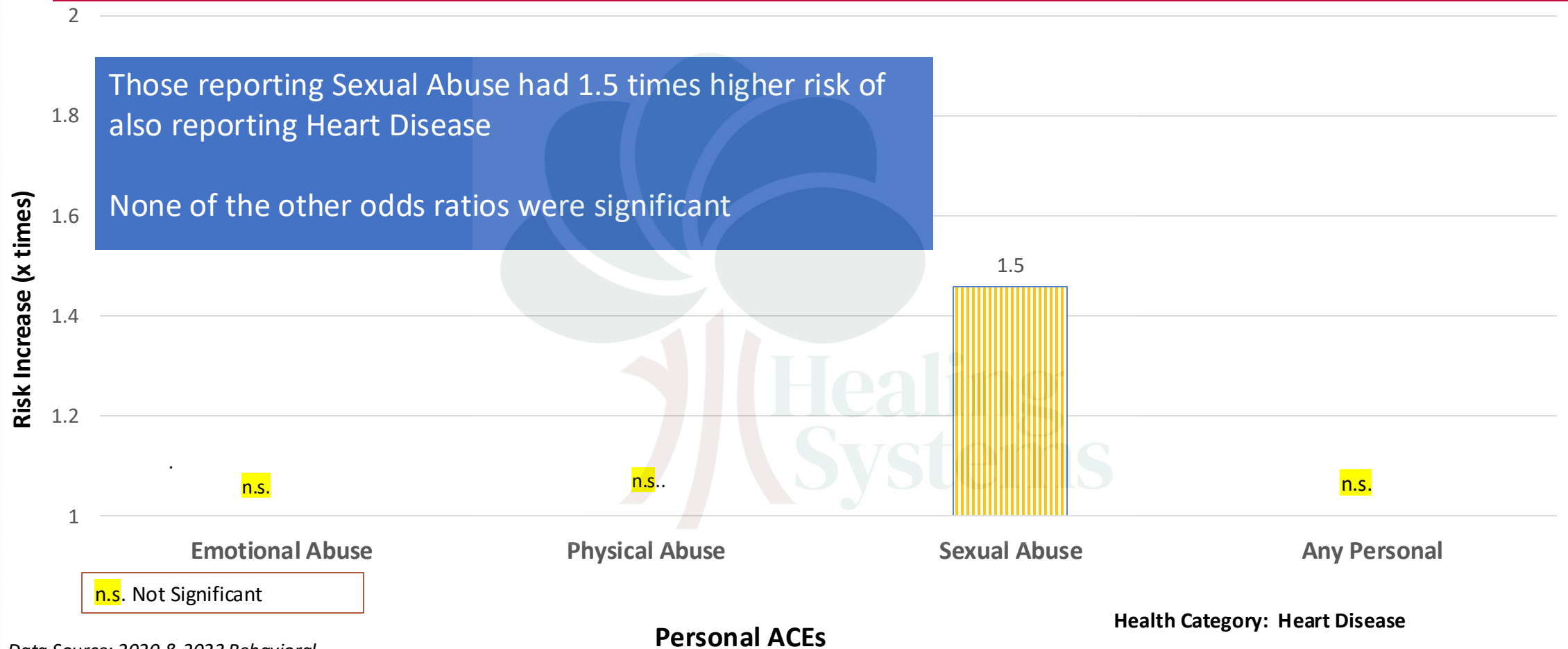
Percentage of adults with heart disease diagnosis by adverse childhood experiences (ACEs) Summary Categories



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Personal ACEs Increase Risk of Heart Disease

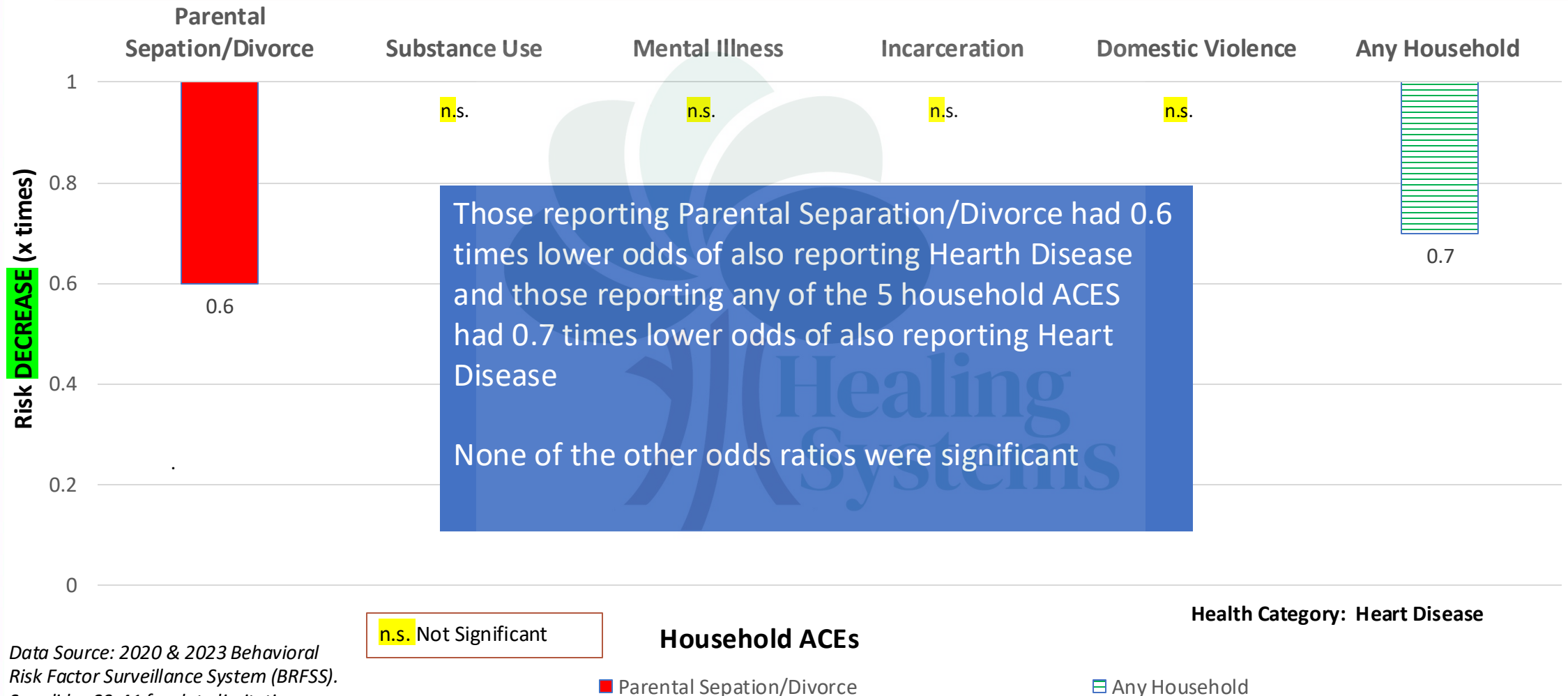
Odds ratios of adults who report personal adverse childhood experiences (ACEs) and heart disease



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Household ACEs Increase Risk of Heart Disease

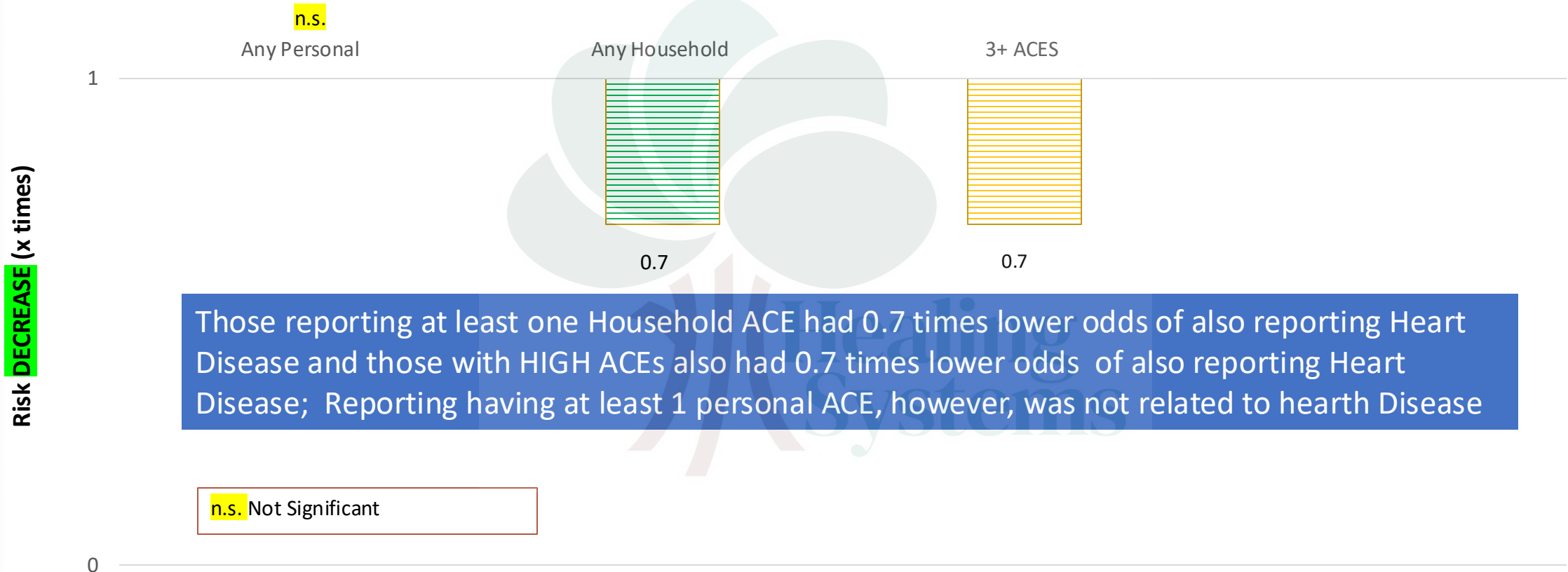
Odds ratios of adults who report household adverse childhood experiences (ACEs) and Heart Disease



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Any Personal, Any Household and 3+ ACES Risk for Heart Disease

Odds ratios of adults who report any personal, any household and 3+ ACES and stroke

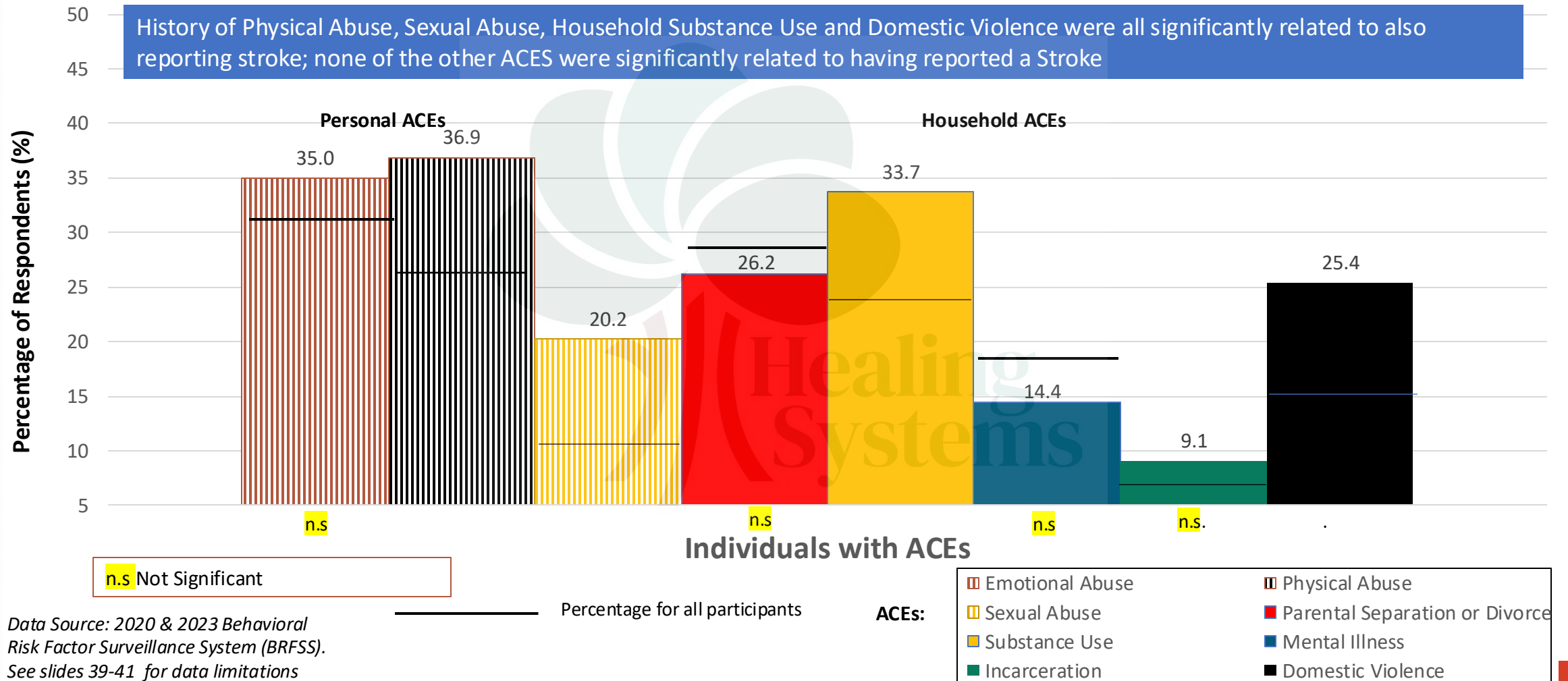


Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Health Category: Heart Disease

Stroke and ACEs

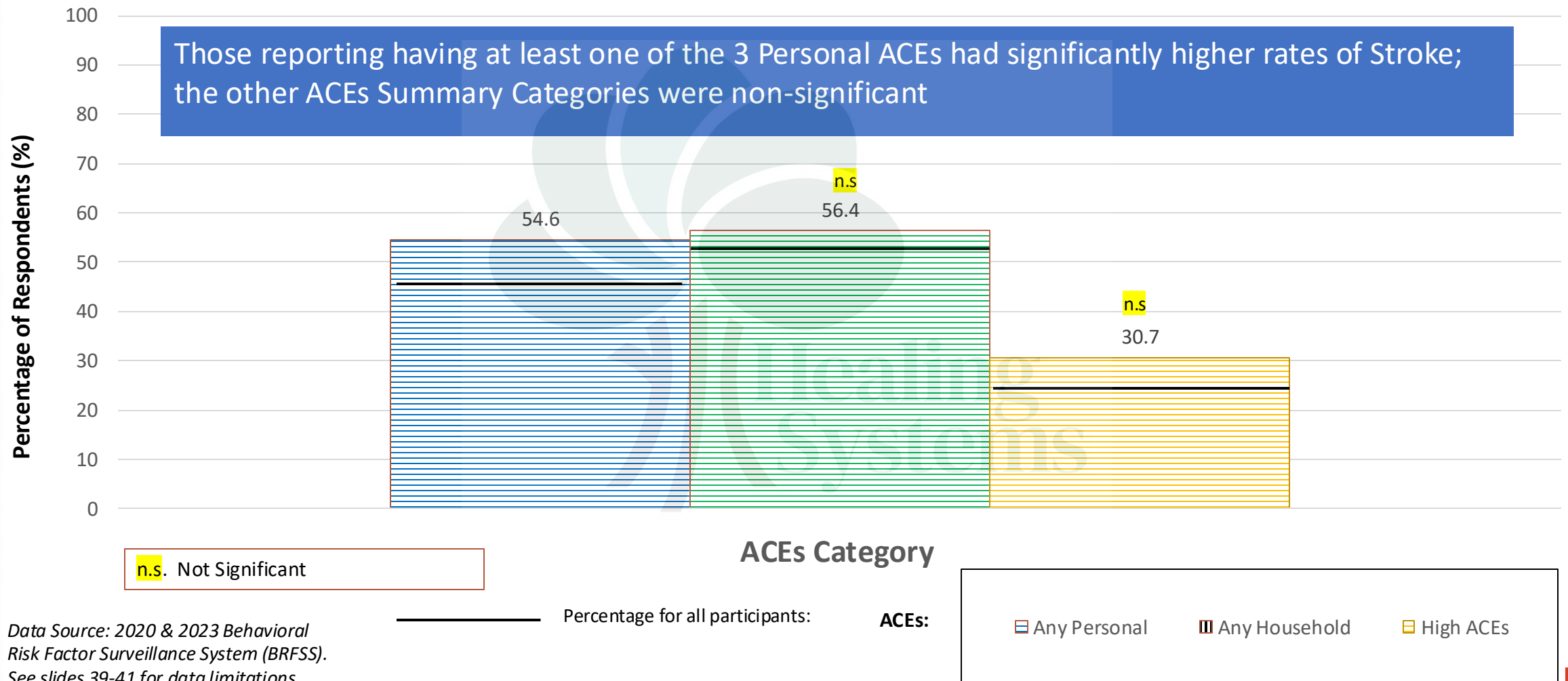
Percentage of adults who report ever having received stroke diagnosis by adverse childhood experiences (ACEs)



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Stroke and ACEs Summary Categories

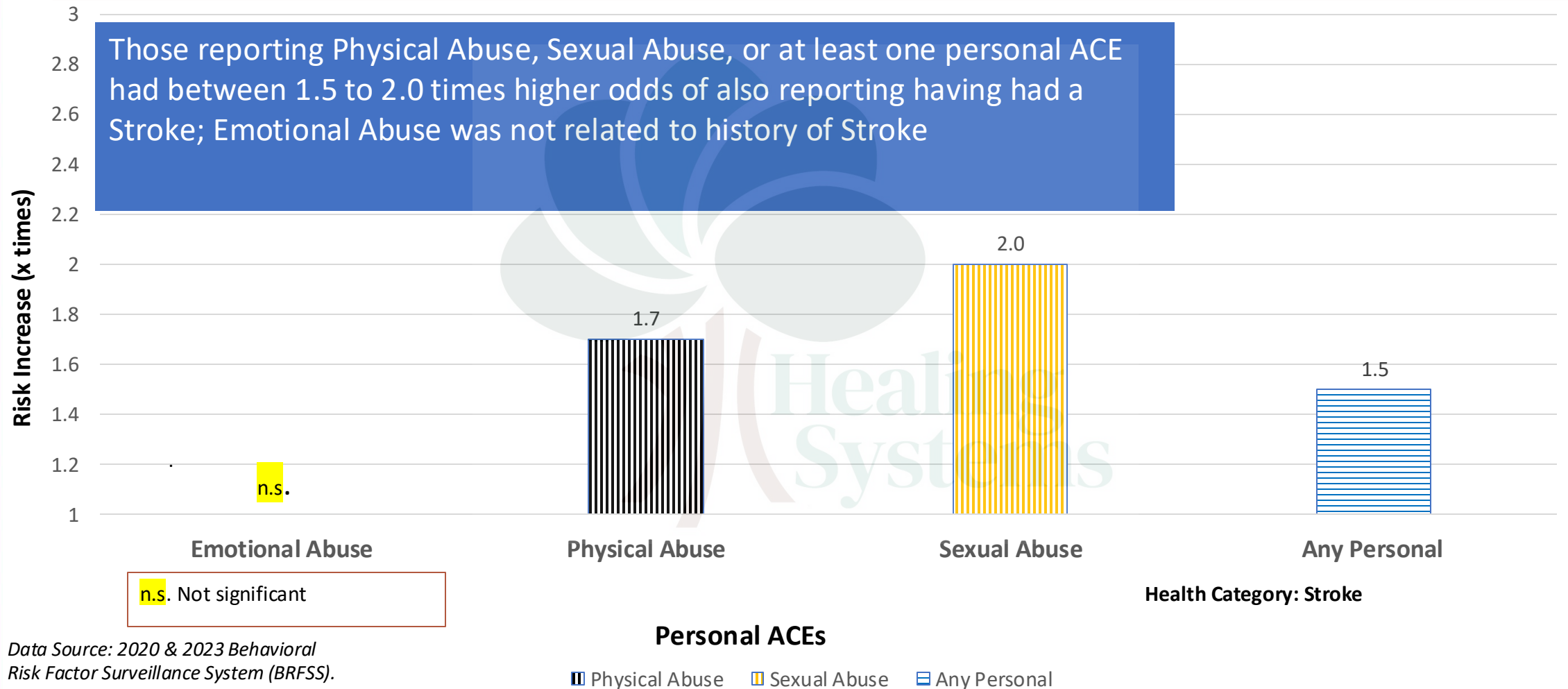
Percentage of adults who report ever having received stroke diagnosis by adverse childhood experiences (ACEs)



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Personal ACEs Increase Risk of Stroke

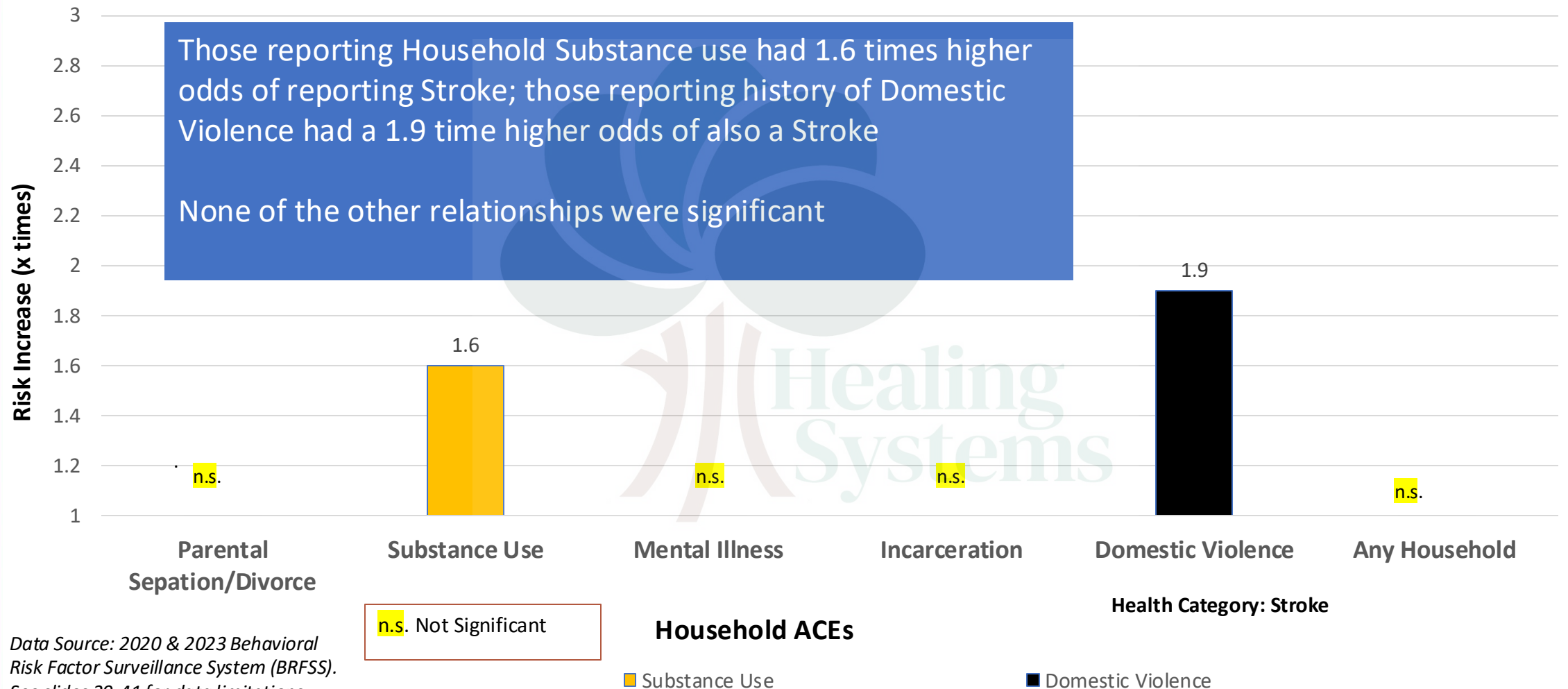
Odds ratios of adults who report personal adverse childhood experiences (ACEs) and stroke



Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Household ACEs Increase Risk of Stroke

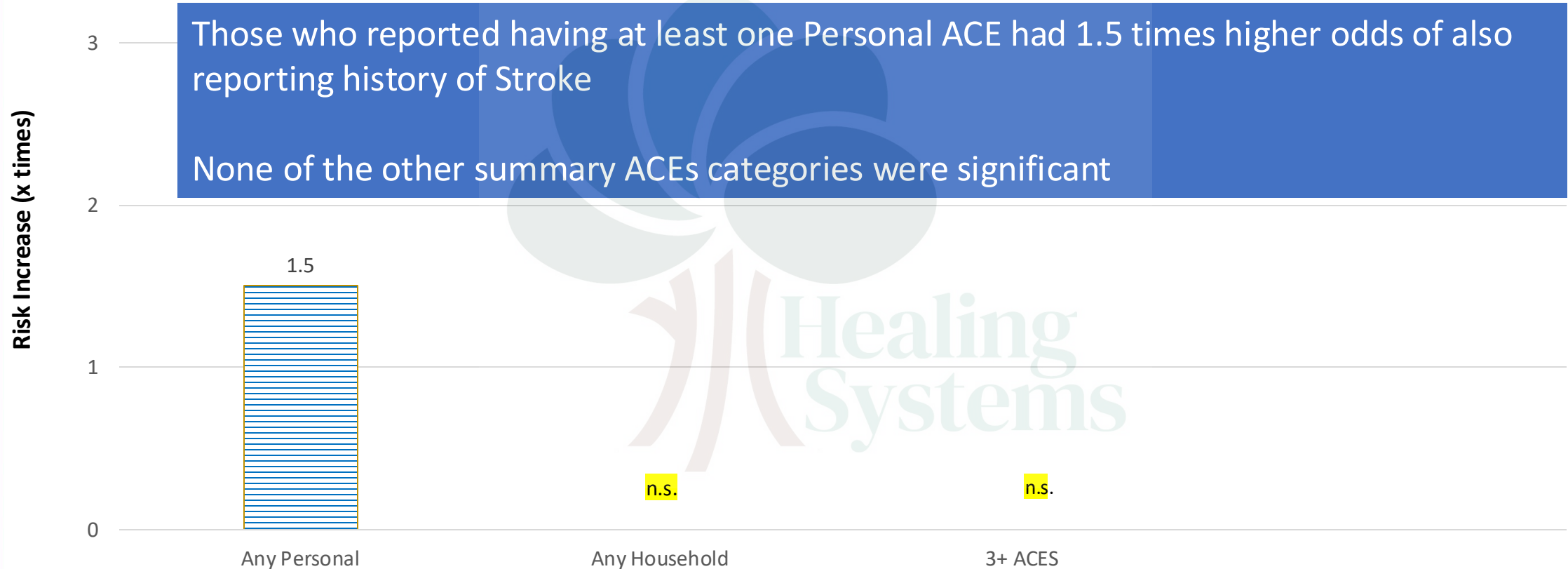
Odds ratios of adults who report household adverse childhood experiences (ACEs) and stroke



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Any Personal, Any Household and 3+ ACES Risk for Stroke

Odds ratios of adults who report any personal, any household and 3+ ACES and stroke



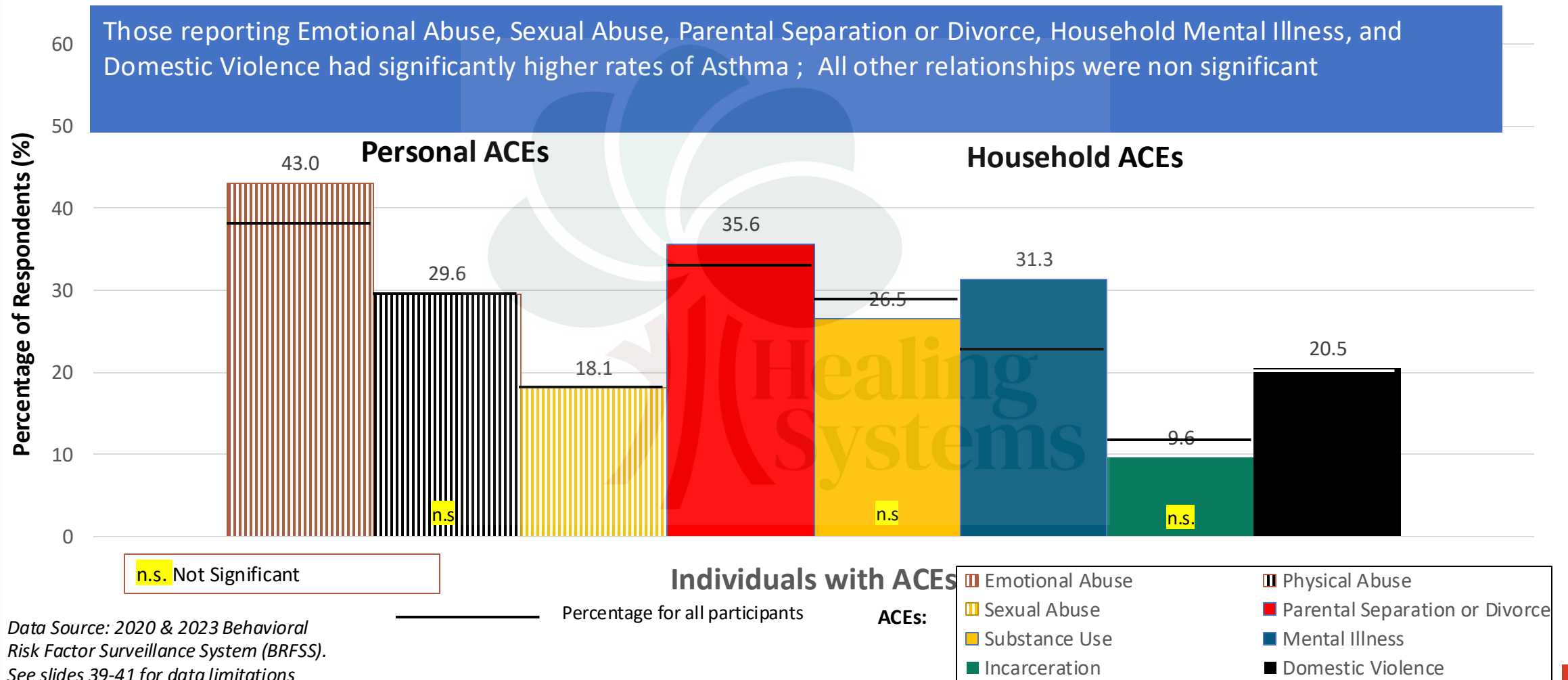
Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

n.s. Not Significant

Health Category: Stroke

Asthma and ACEs

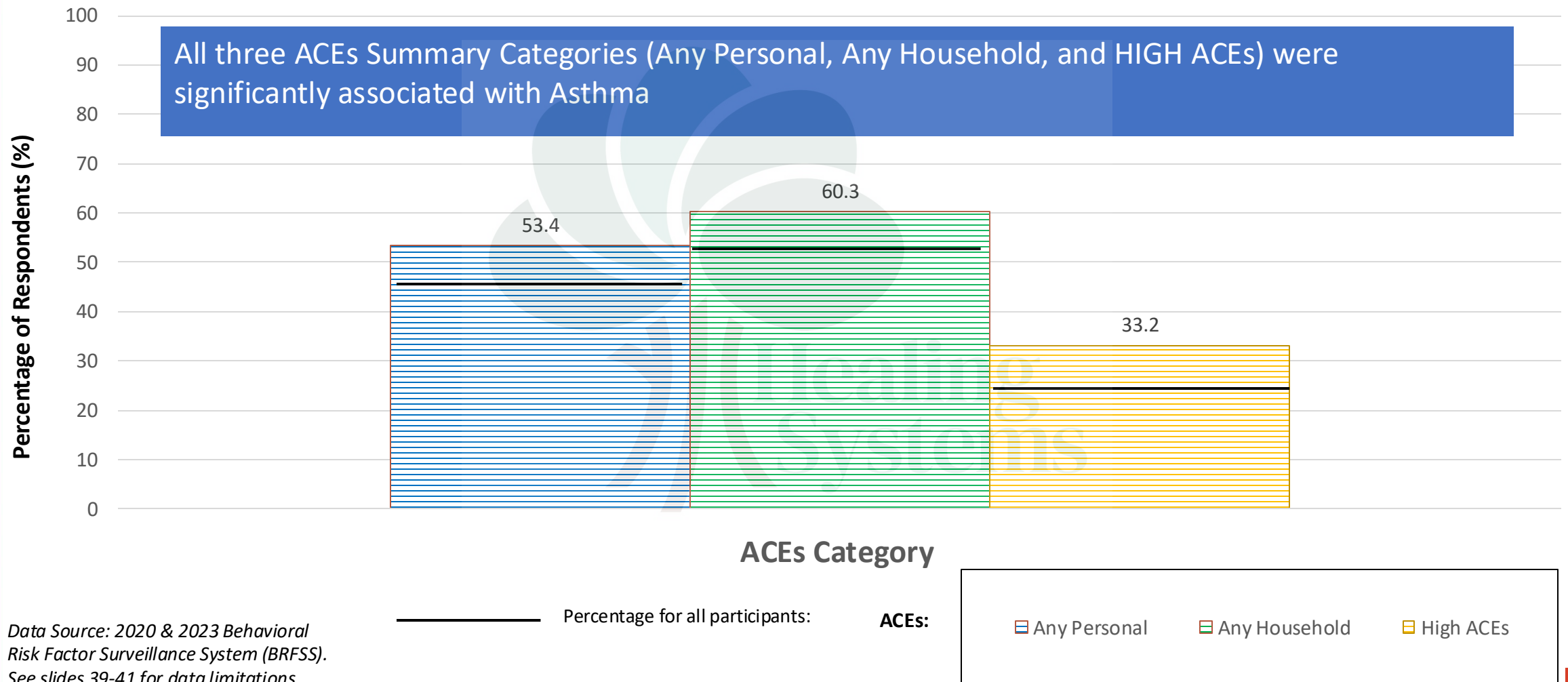
Percentage of adults who report ever having received asthma diagnosis by adverse childhood experiences (ACEs)



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Asthma and ACEs Summary Categories

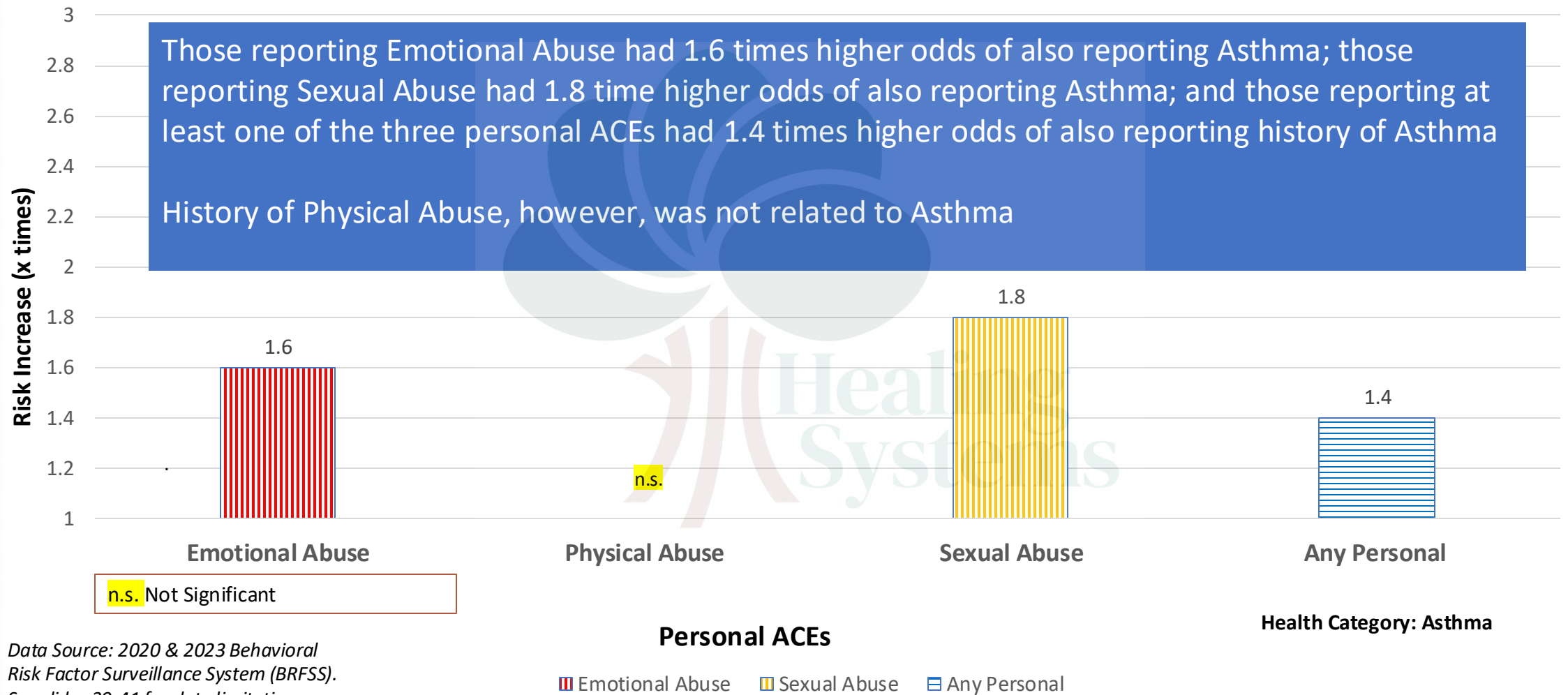
Percentage of adults who report ever having received asthma diagnosis (ACEs) summary category



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Personal ACEs Increase Risk of Asthma

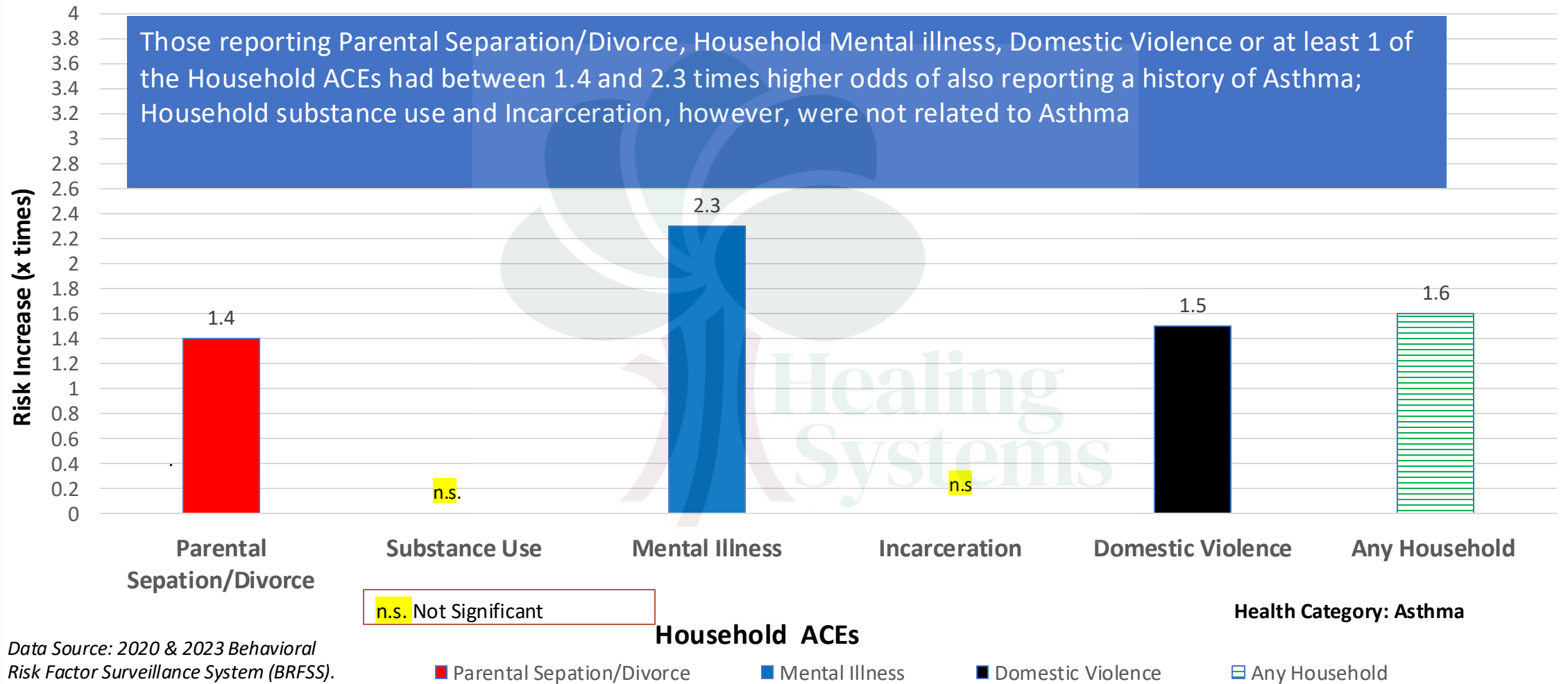
Odds ratios of adults who report personal adverse childhood experiences (ACEs) and asthma



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Household ACEs Increase Risk of Asthma

Odds ratios of adults who report household adverse childhood experiences (ACEs) and diabetes



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Any Personal, Any Household and 3+ ACES Risk for Asthma

Odds ratios of adults who report any personal, any household and 3+ ACES and asthma

All three summary ACEs variables were associated with higher (ranging from 1.4 to 1.6 times) odds of also reporting Asthma

Risk Increase (x times)

3

2

1

0

Any Personal

Any Household

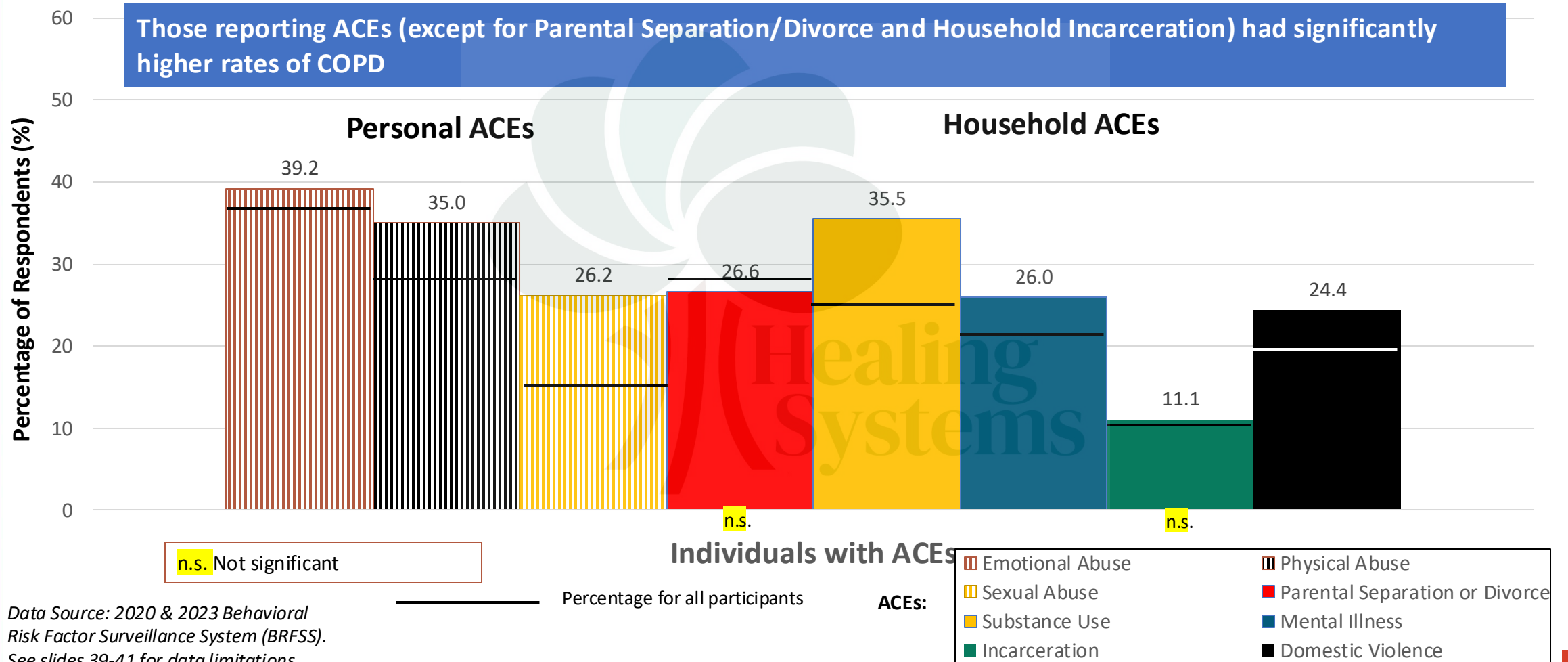
3+ ACES

Health Category: Asthma

Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

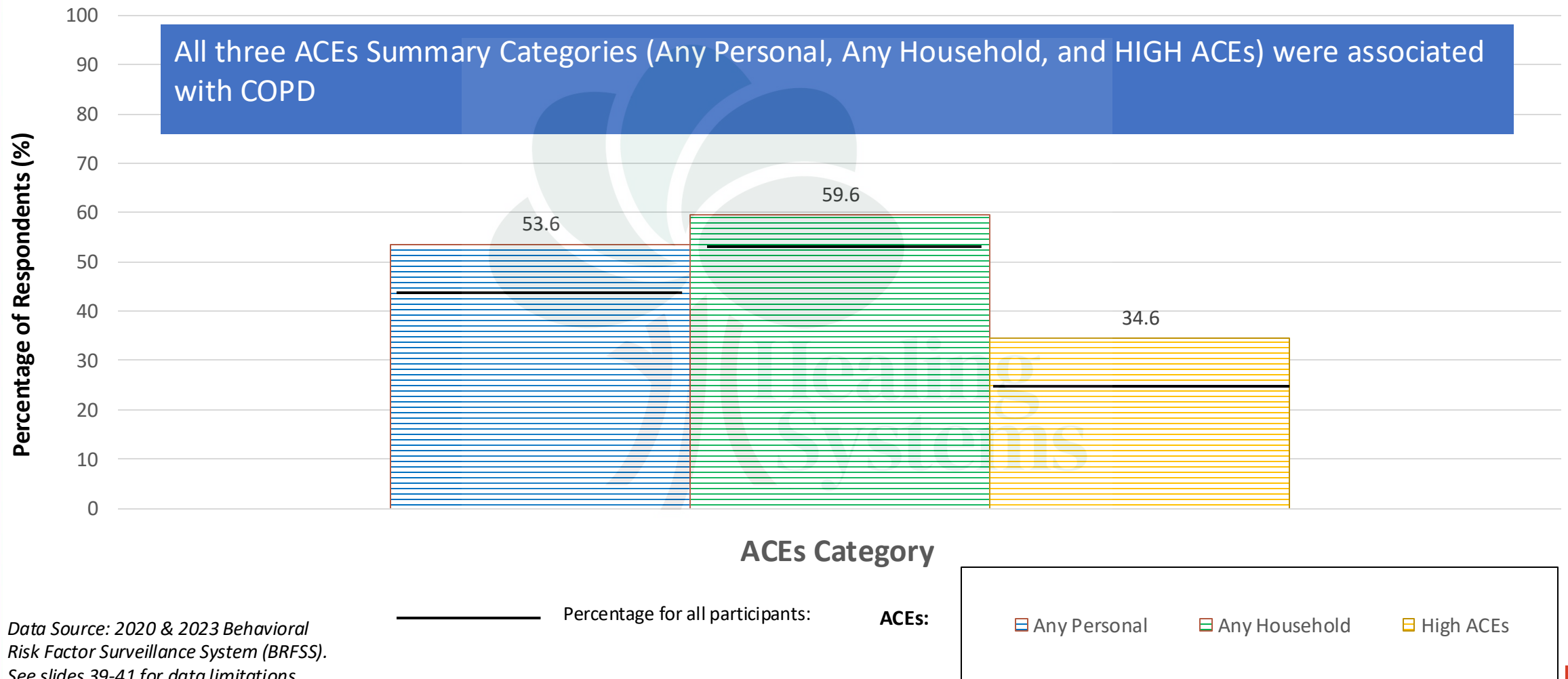
COPD and ACEs

Percentage of adults who report ever having received COPD diagnosis by adverse childhood experiences (ACEs)



COPD and ACEs Summary Categories

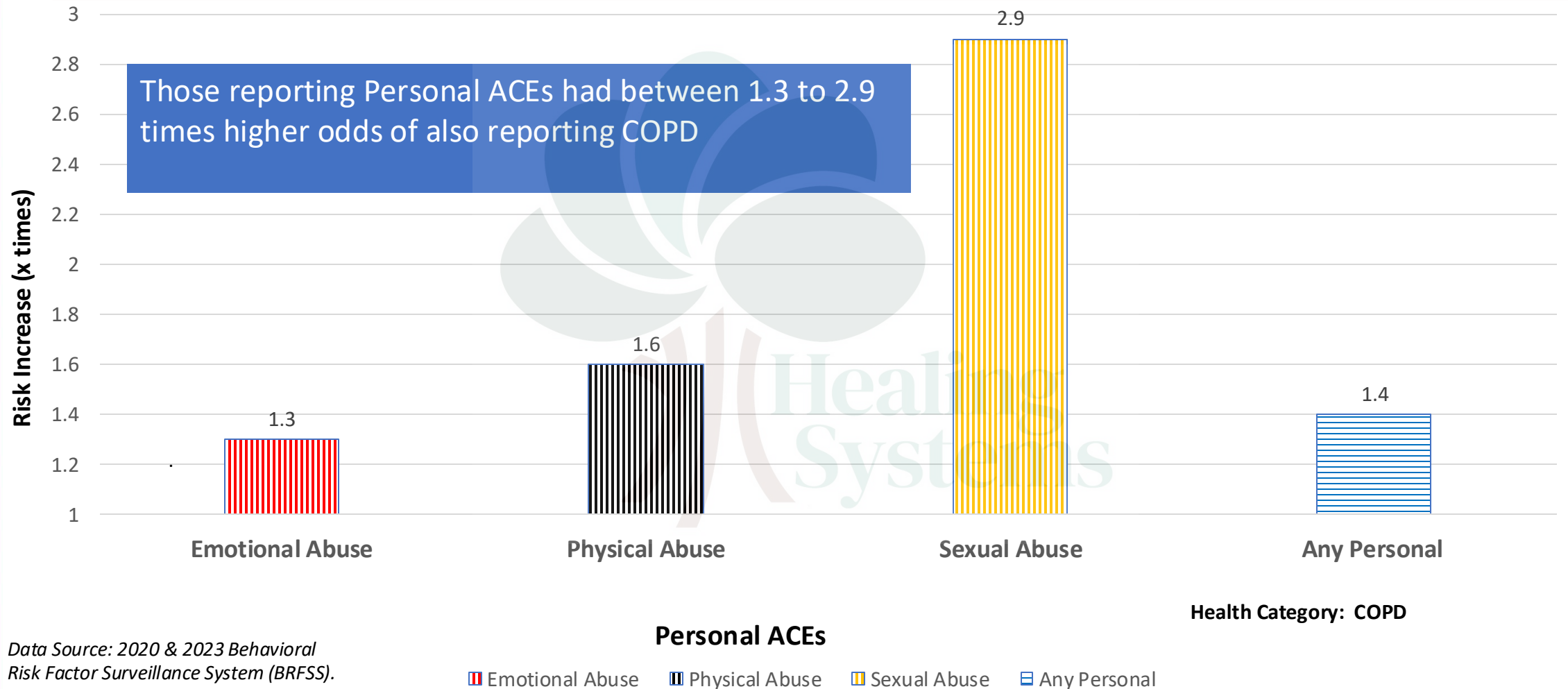
Percentage of adults who report ever having received COPD diagnosis by ACEs Summary Category



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Personal ACEs Increase Risk of COPD

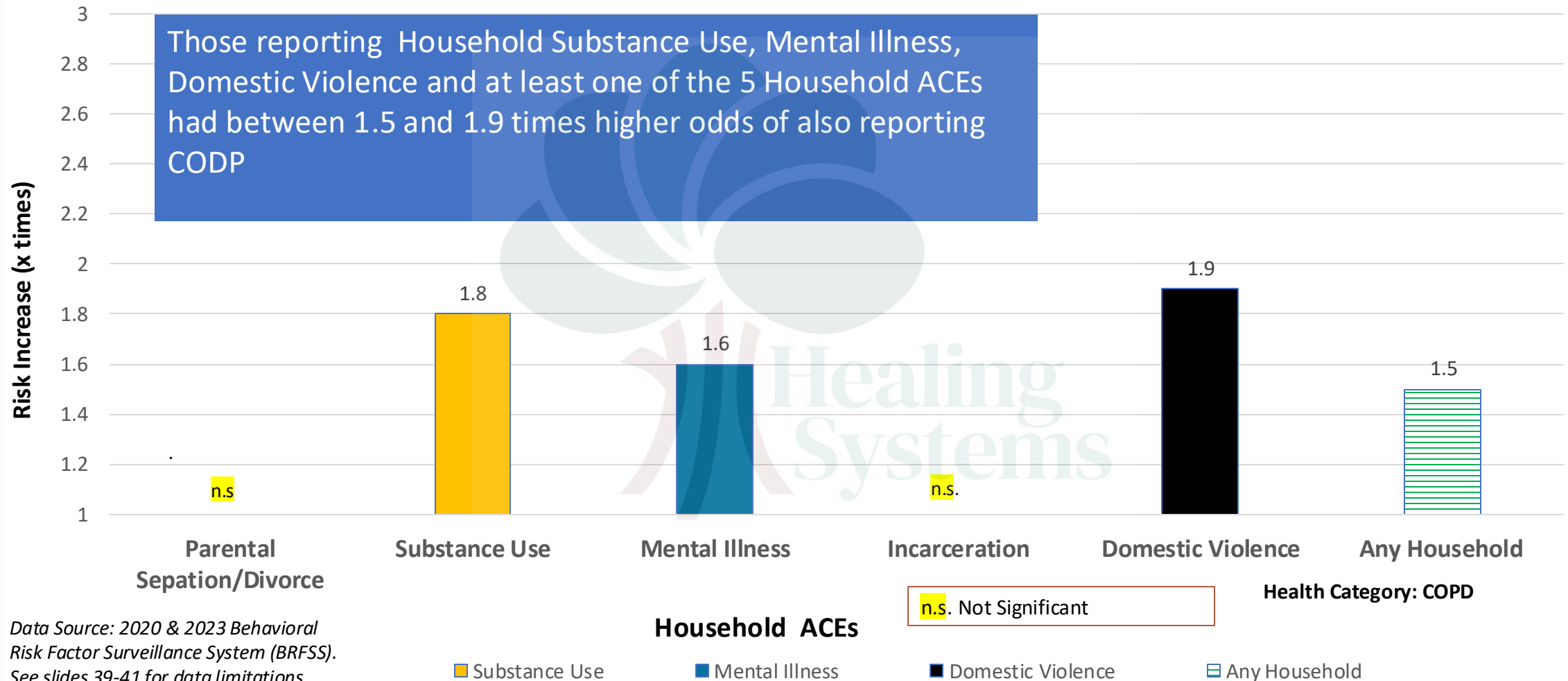
Odds ratios of adults who report personal adverse childhood experiences (ACEs) and COPD



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Household ACEs Increase Risk of COPD

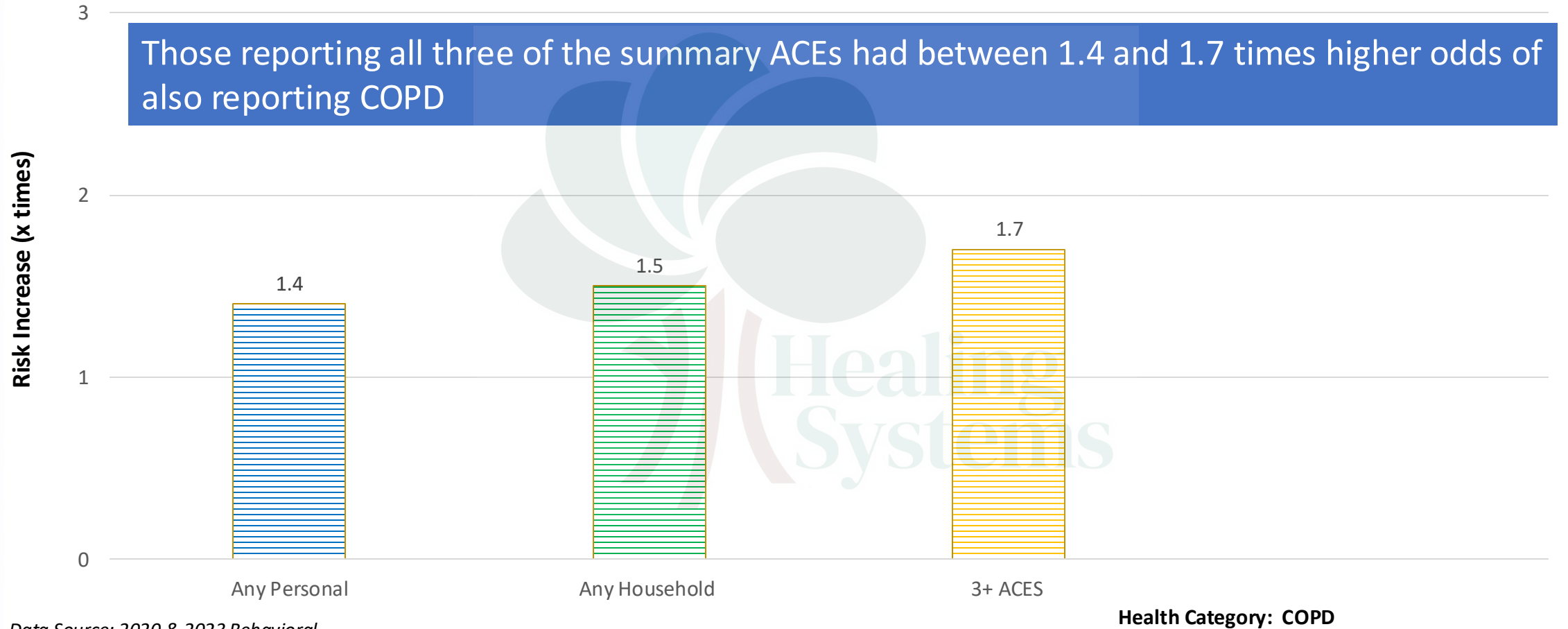
Odds ratios of adults who report household adverse childhood experiences (ACEs) and diabetes



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS). See slides 39-41 for data limitations

Any Personal, Any Household and 3+ ACES Risk for COPD

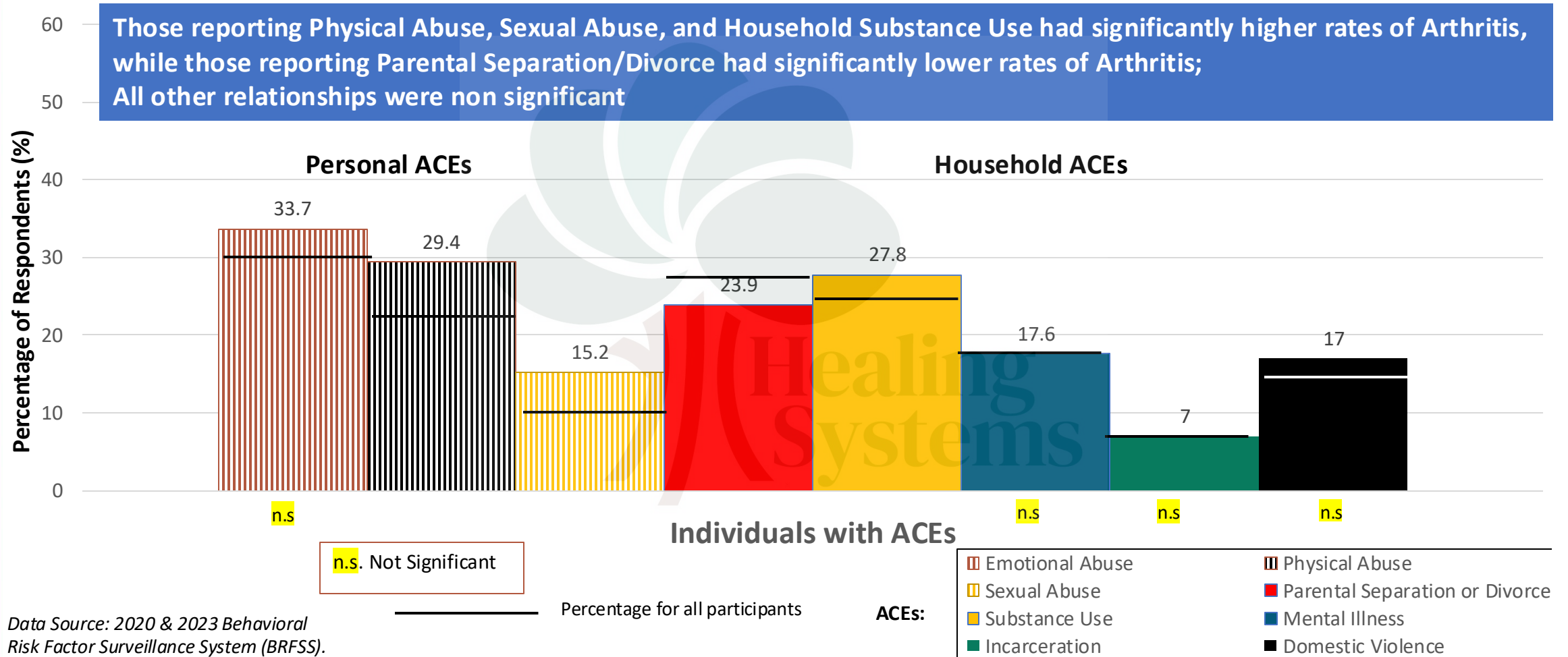
Odds ratios of adults who report any personal, any household and 3+ ACES and COPD



Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Arthritis and ACEs

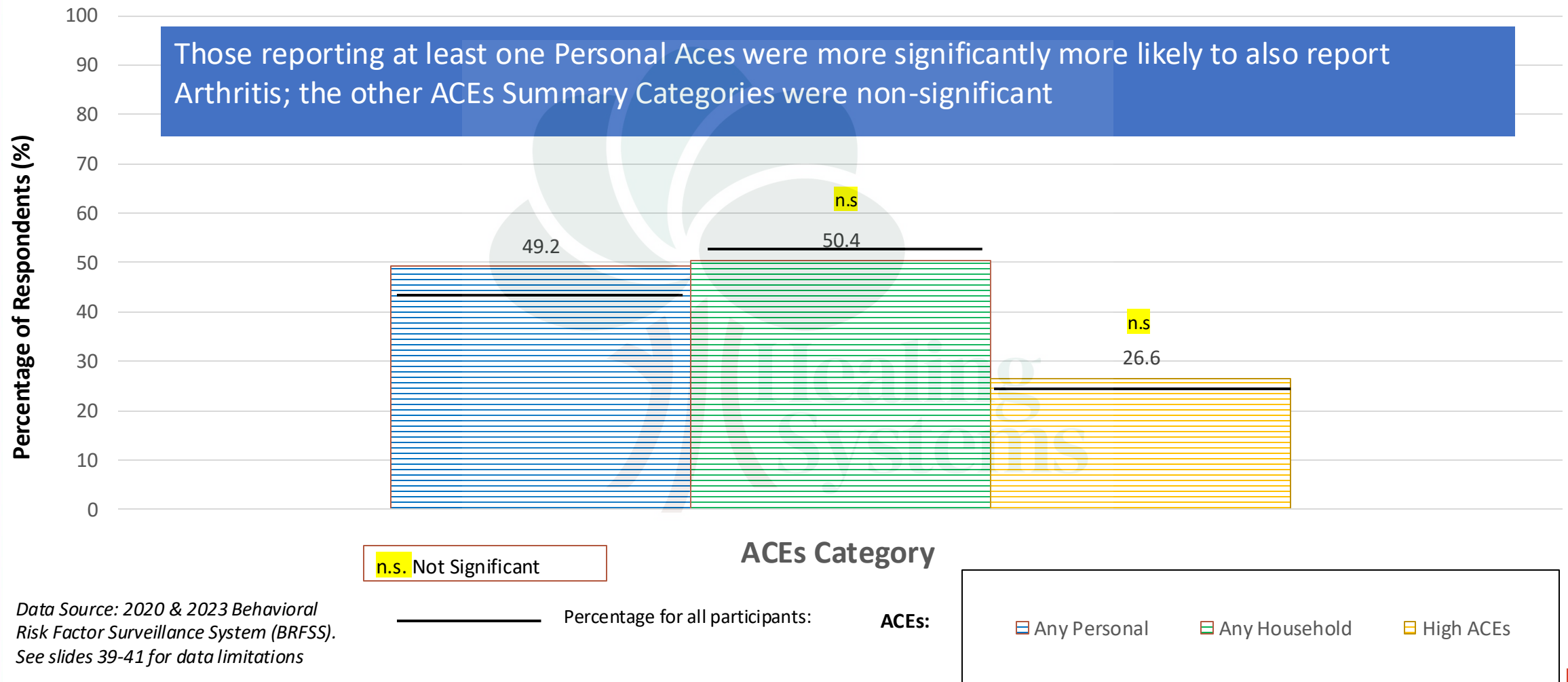
Percentage of adults who report ever having received arthritis diagnosis by adverse childhood experiences (ACEs)



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

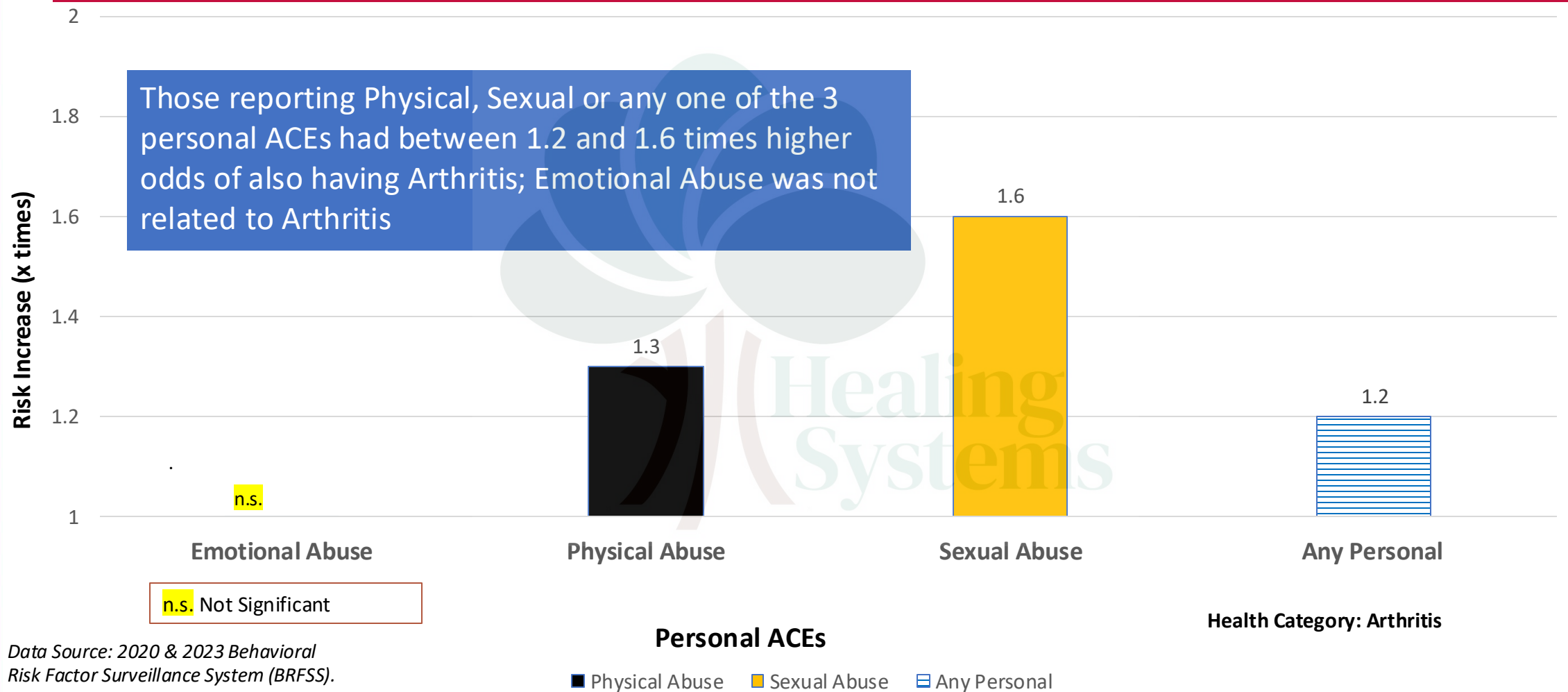
Arthritis and ACEs Summary Categories

Percentage of adults who report ever having arthritis diagnosis by adverse childhood experiences (ACEs) Summary Categories



Personal ACEs Increase Risk of Arthritis

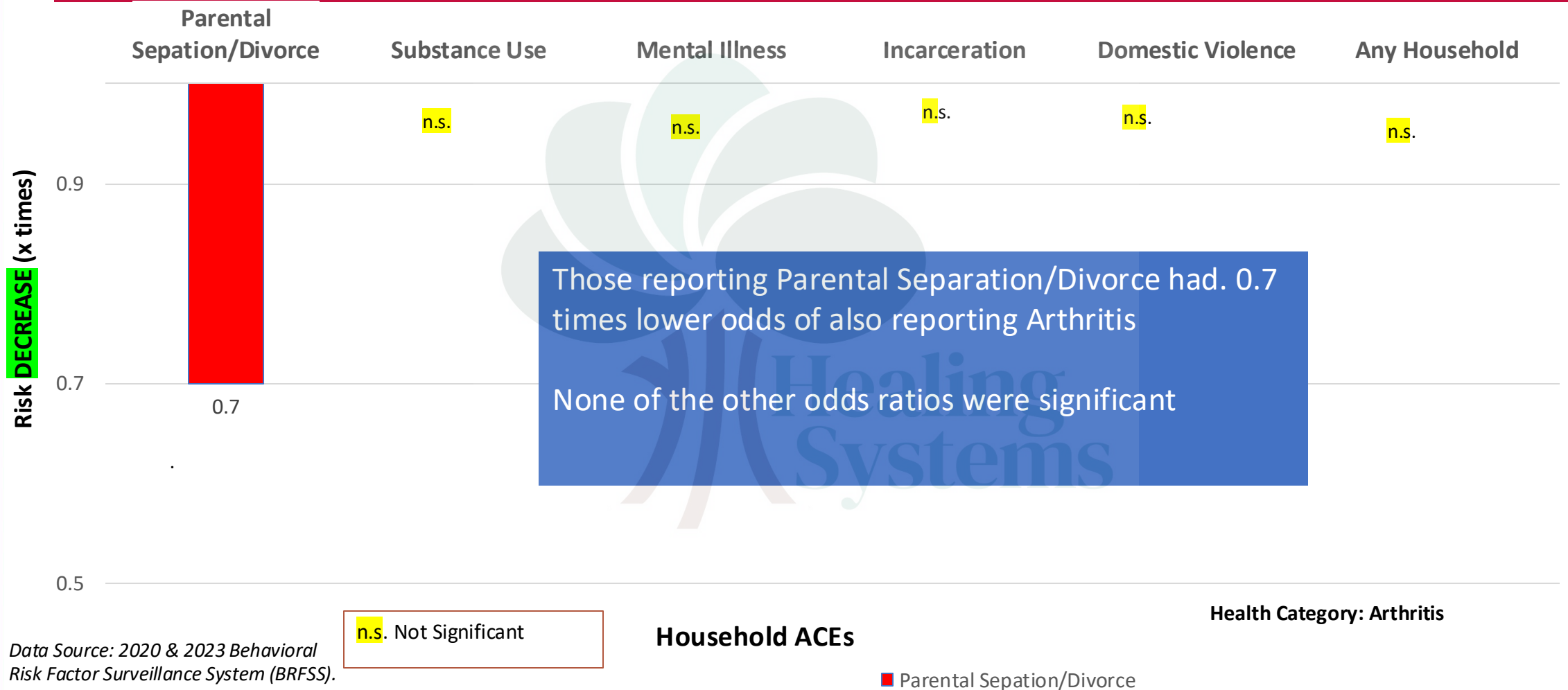
Odds ratios of adults who report personal adverse childhood experiences (ACEs) and arthritis



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Household ACEs Increase Risk of Arthritis

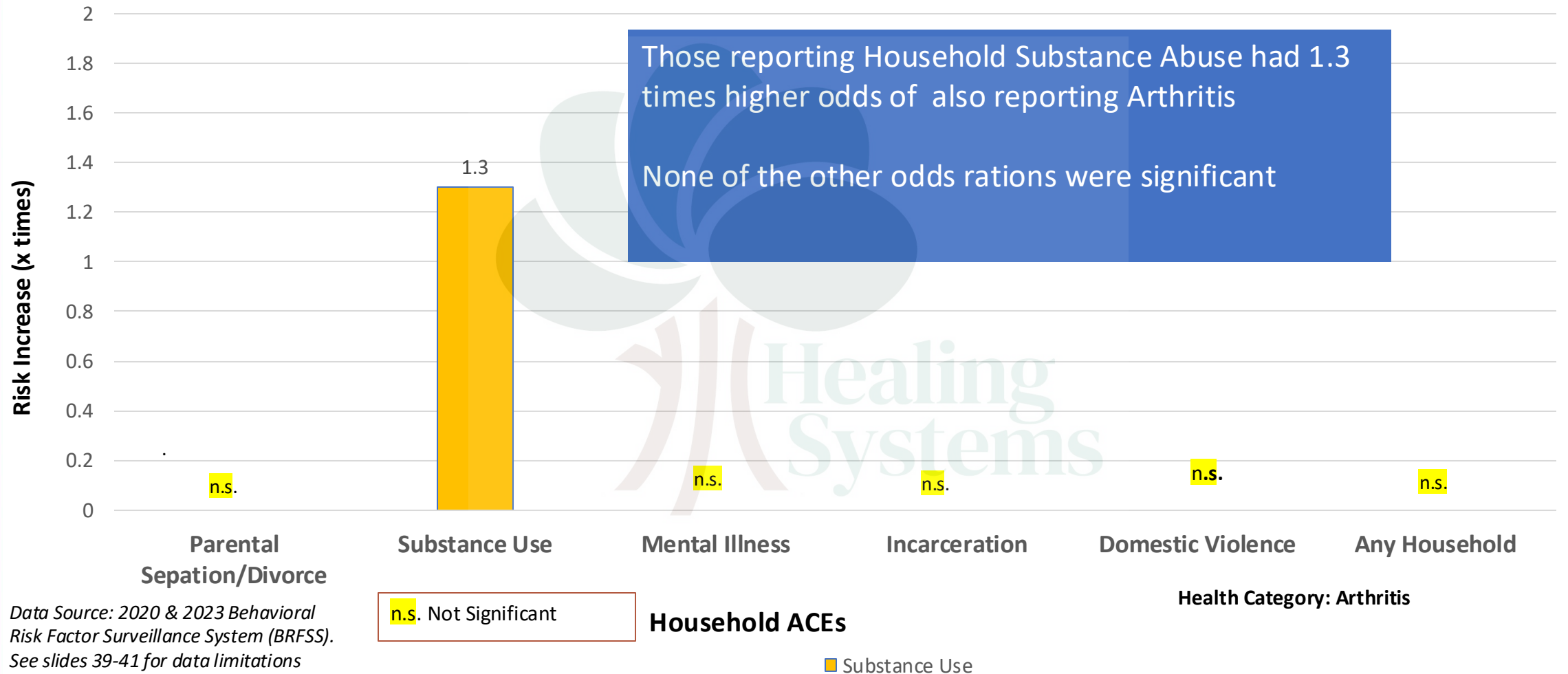
Odds ratios of adults who report Household adverse childhood experiences (ACEs) and arthritis



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS). See slides 39-41 for data limitations

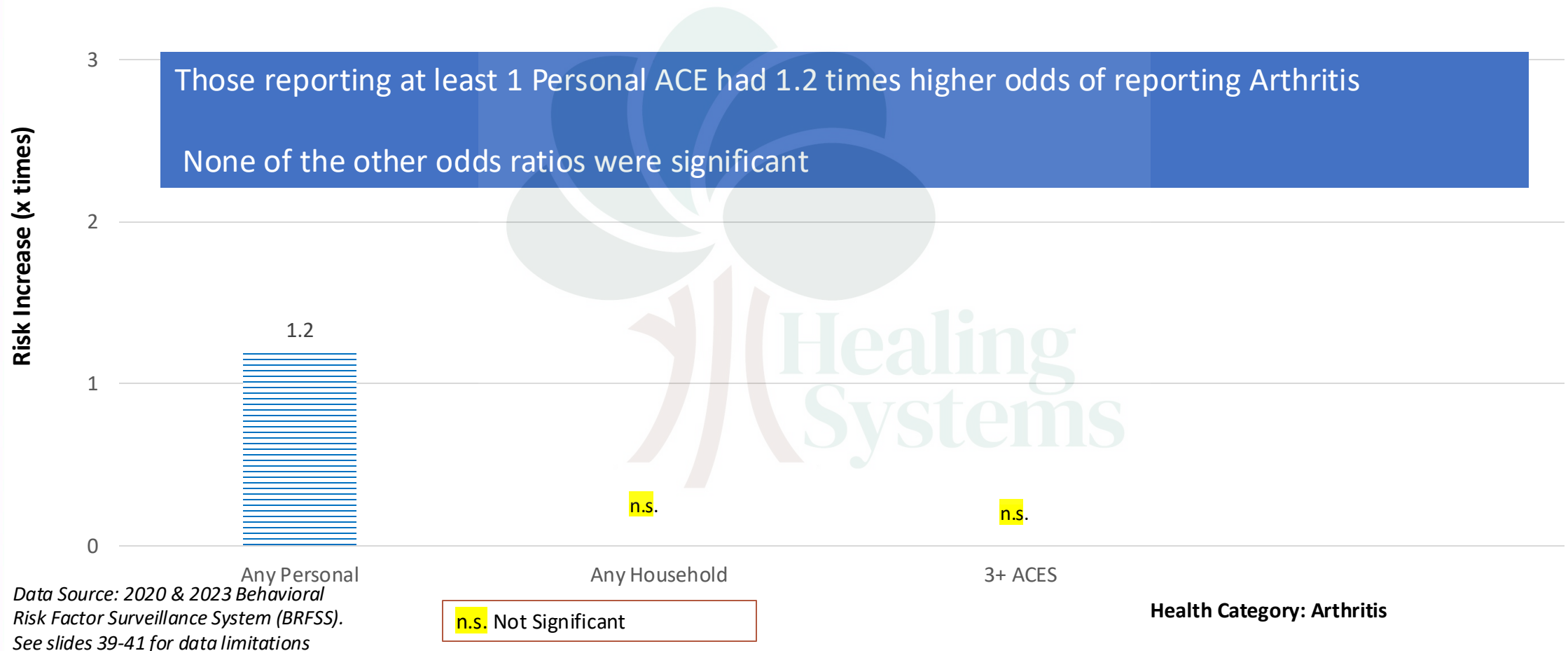
Household ACEs Increase Risk of Arthritis

Odds ratios of adults who report household adverse childhood experiences (ACEs) and arthritis



Any Personal, Any Household and 3+ ACES Risk for Arthritis

Odds ratios of adults who report any personal, any household and 3+ ACES and arthritis



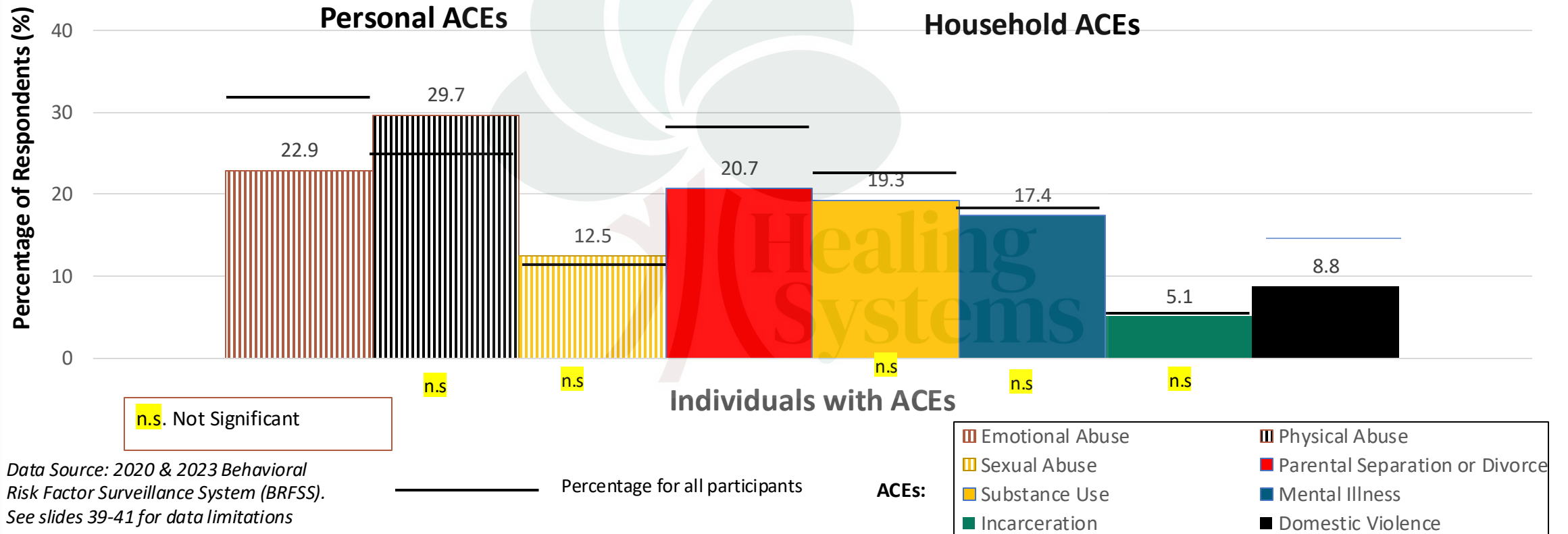
Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS). See slides 39-41 for data limitations

Kidney Disease and ACEs

Percentage of adults who report ever having received kidney disease diagnosis by adverse childhood experiences (ACEs)

60

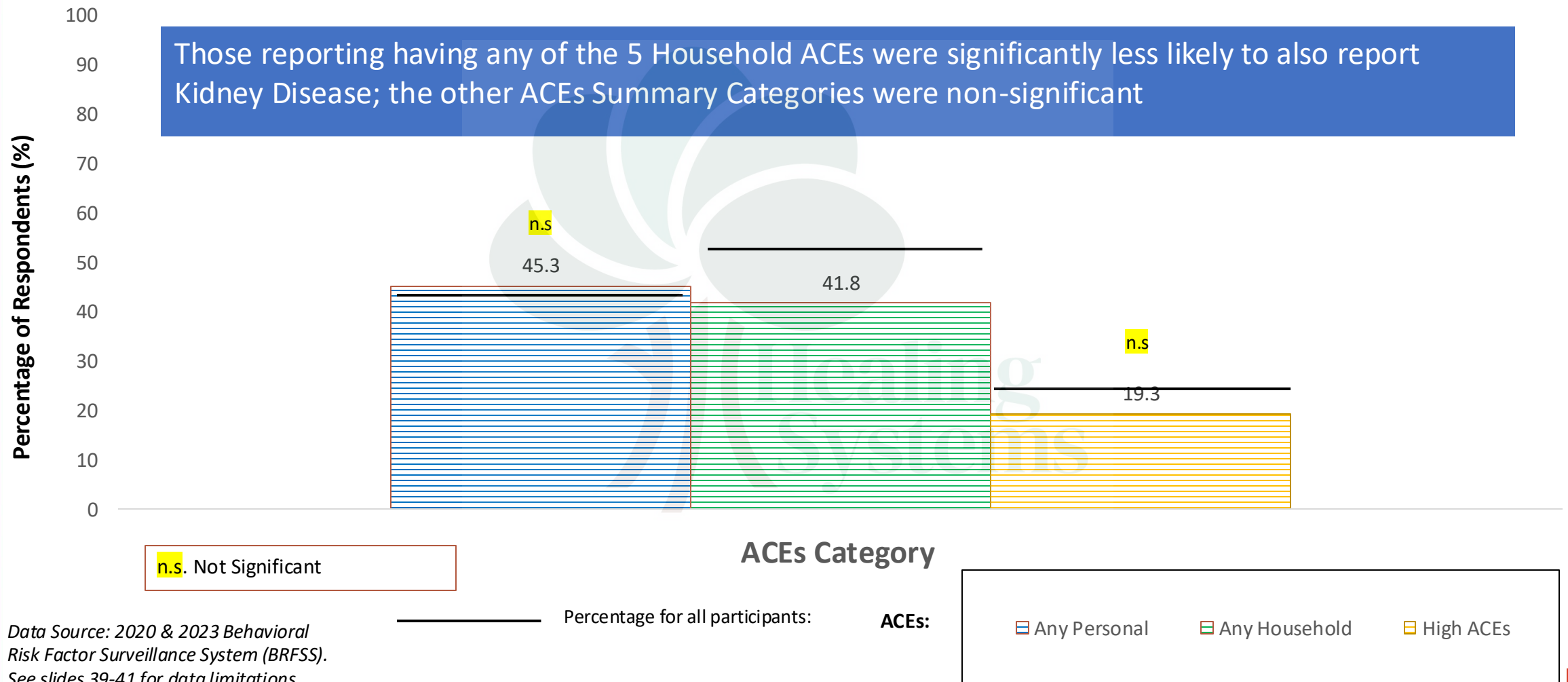
Those reporting Emotional Abuse, Parental Separation and Divorce had significantly lower rates of Kidney Disease; all other relationships were non-significant



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS). See slides 39-41 for data limitations

Kidney Disease and ACEs Summary Categories

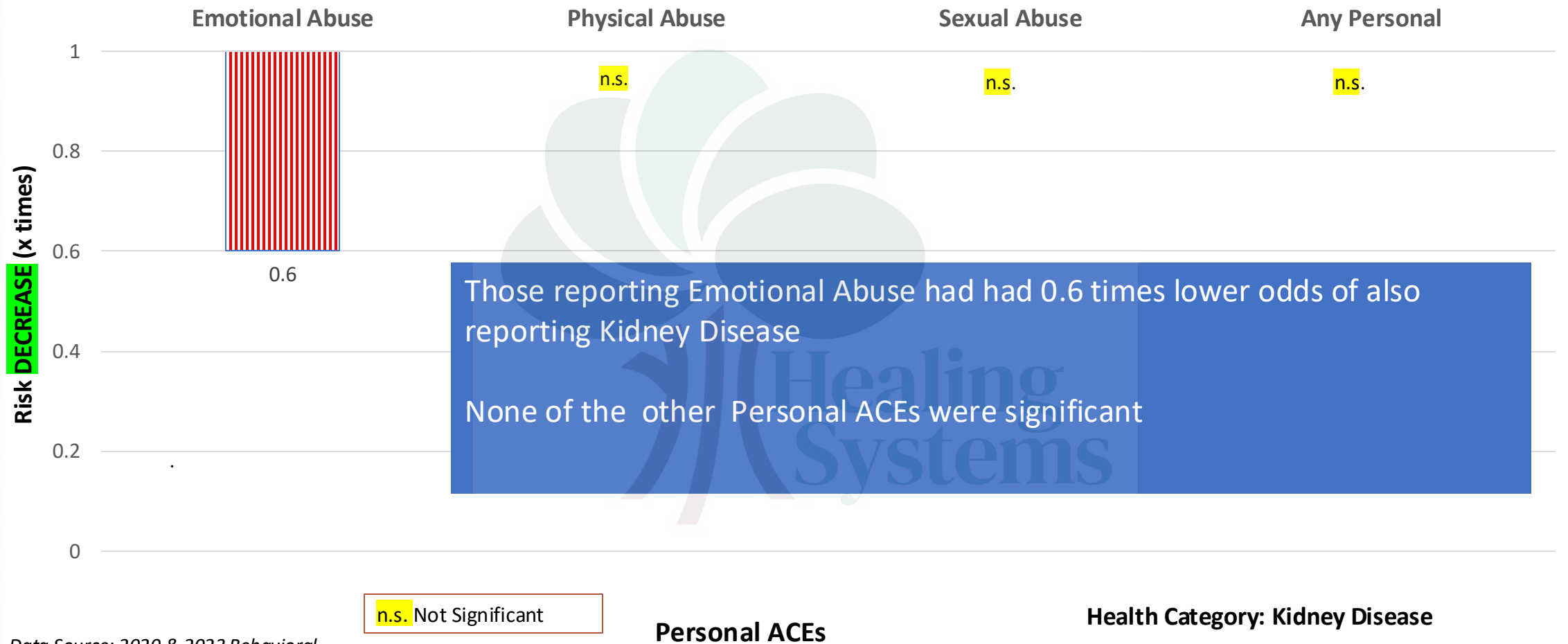
Percentage of adults who report ever having received kidney disease diagnosis by ACEs summary category



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Personal ACEs Increase Risk of Kidney Disease

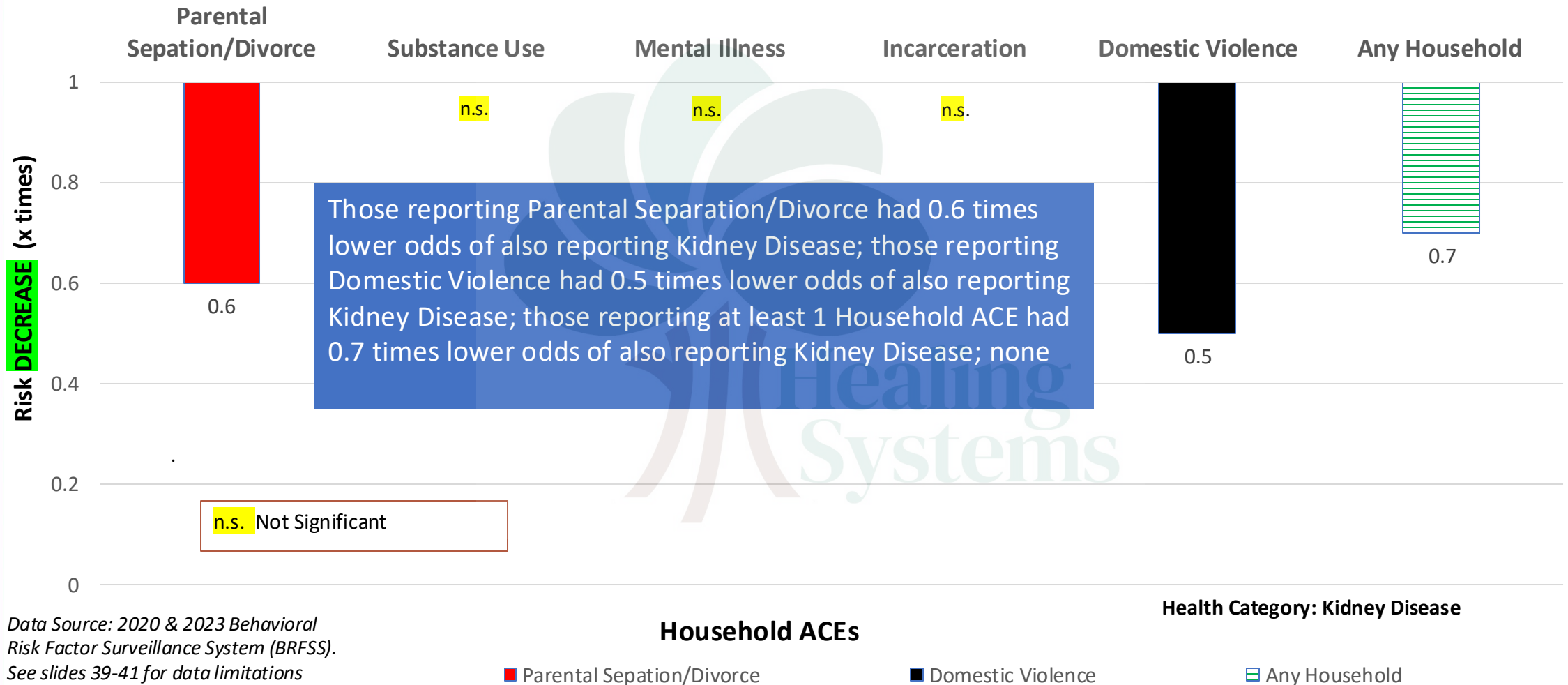
Odds ratios of adults who report personal adverse childhood experiences (ACEs) and kidney Disease



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

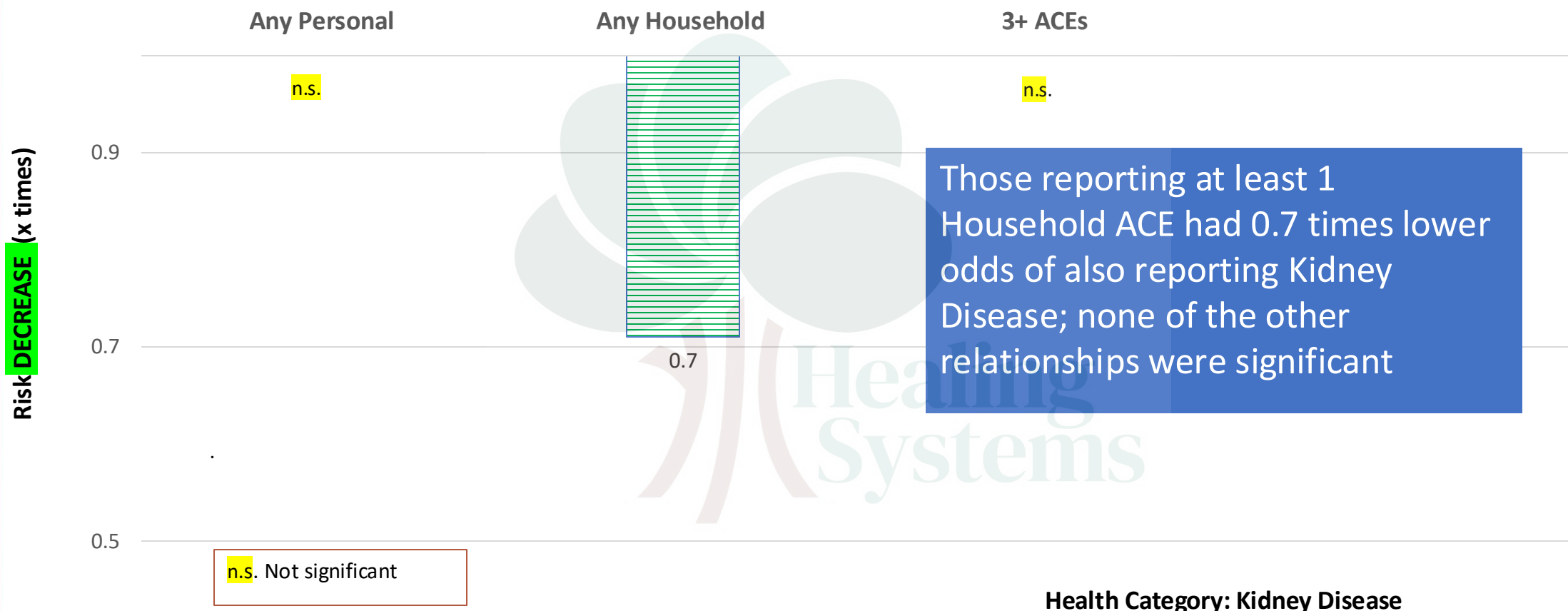
Household ACEs Increase Risk of Kidney Disease

Odds ratios of adults who report household adverse childhood experiences (ACEs) and Kidney Disease



Any Personal, Any Household and 3+ ACES Risk for Kidney Disease

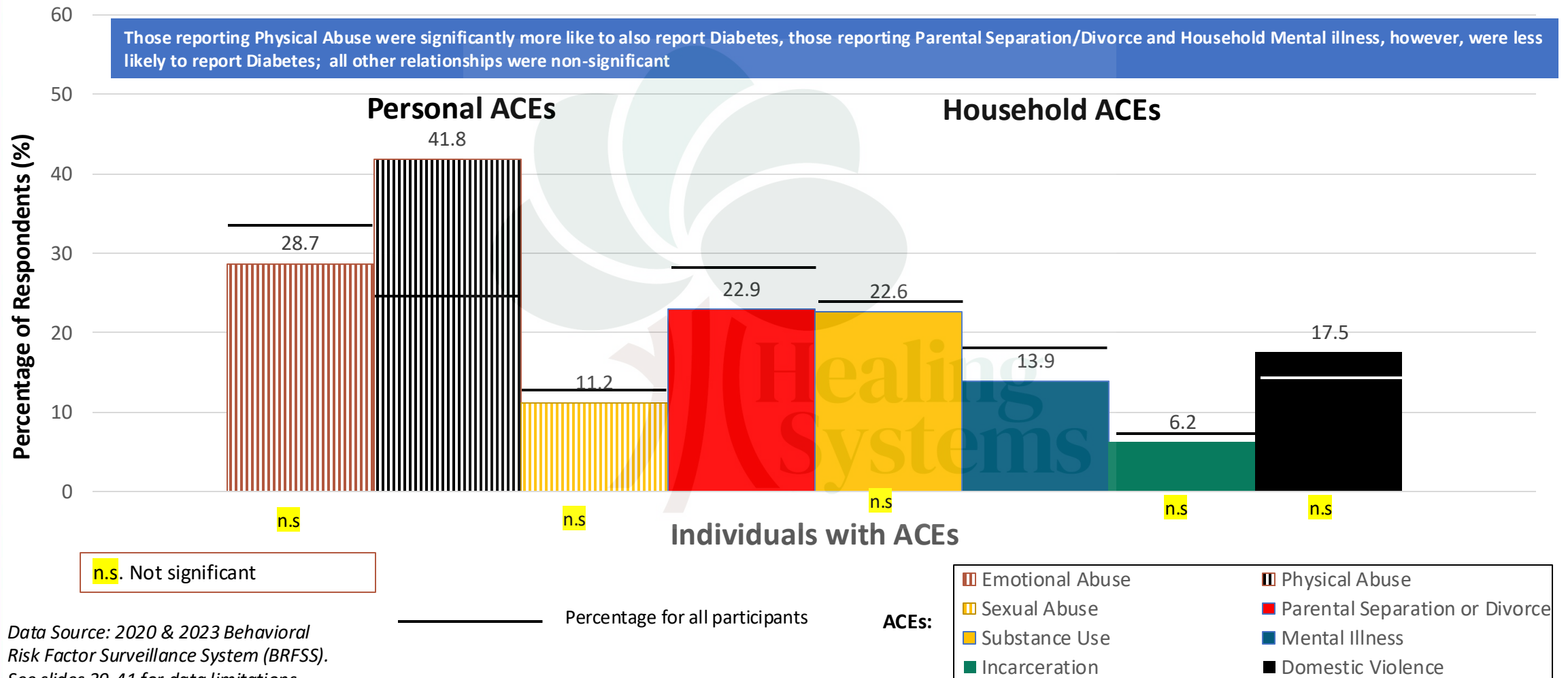
Odds ratios of adults who report any personal, any household and 3+ ACES and depression



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Diabetes and ACEs

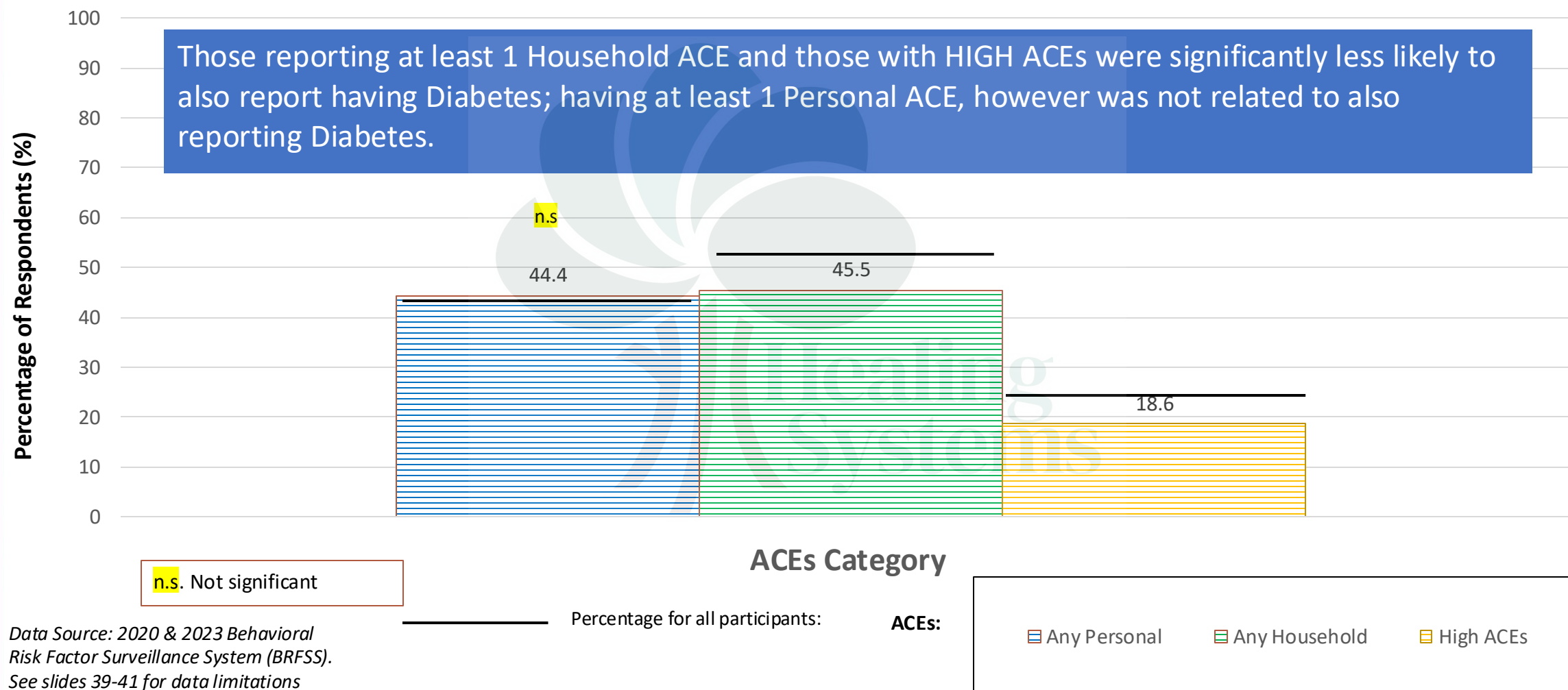
Percentage of adults who report ever having received diabetes diagnosis by adverse childhood experiences (ACEs)



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Diabetes and ACEs Summary Categories

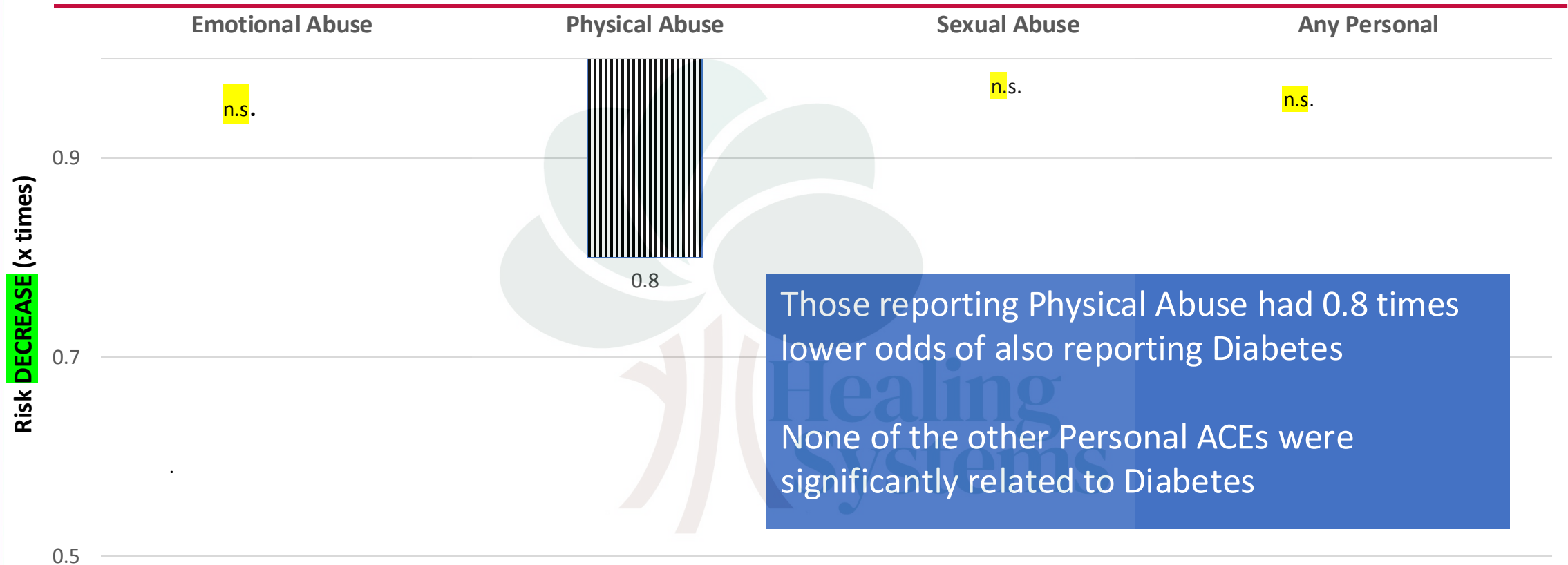
Percentage of adults who report ever having received depressive disorder diagnosis by adverse childhood experiences (ACEs)



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Personal ACEs Decrease Risk of Diabetes

Odds ratios of adults who report personal adverse childhood experiences (ACEs) and diabetes



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS). See slides 39-41 for data limitations

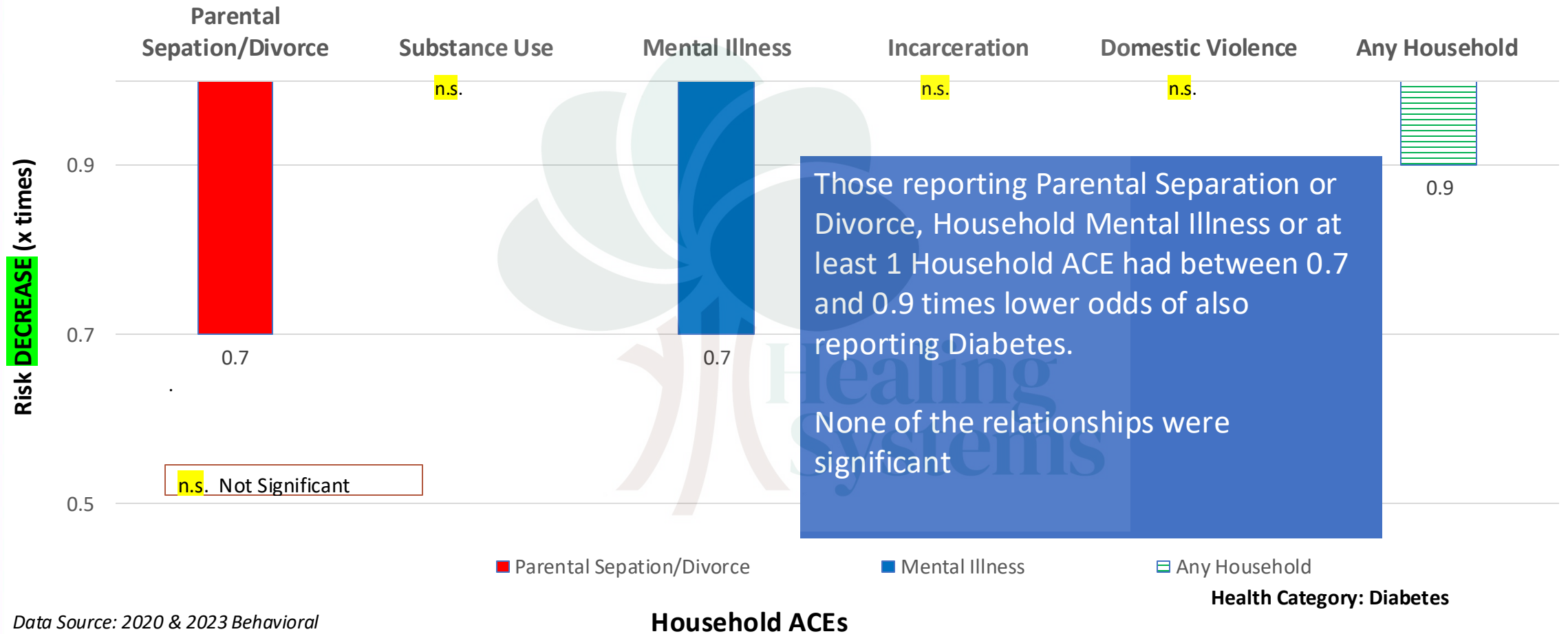
n.s. Not Significant

Personal ACEs

Health Category: Diabetes

Household ACEs Increase Risk of Diabetes

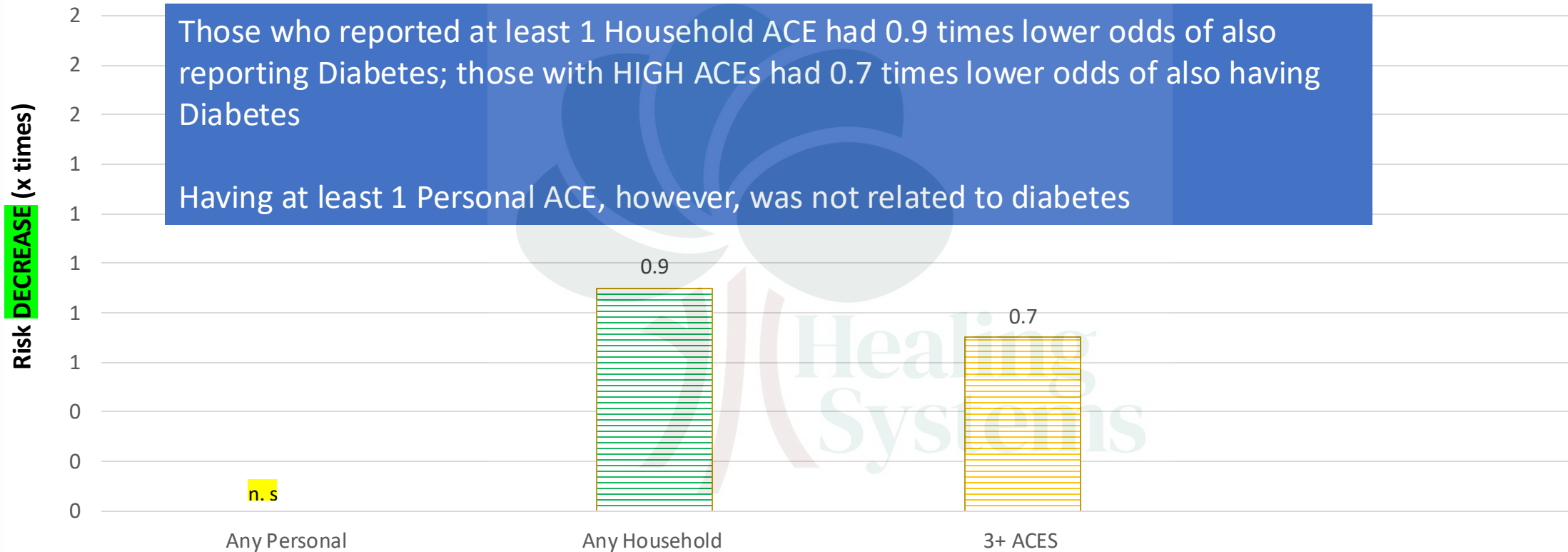
Odds ratios of adults who report household adverse childhood experiences (ACEs) and diabetes



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS). See slides 39-41 for data limitations

Any Personal, Any Household and 3+ ACES Risk for Diabetes

Odds ratios of adults who report any personal, any household and 3+ ACES and diabetes



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS). See slides 39-41 for data limitations

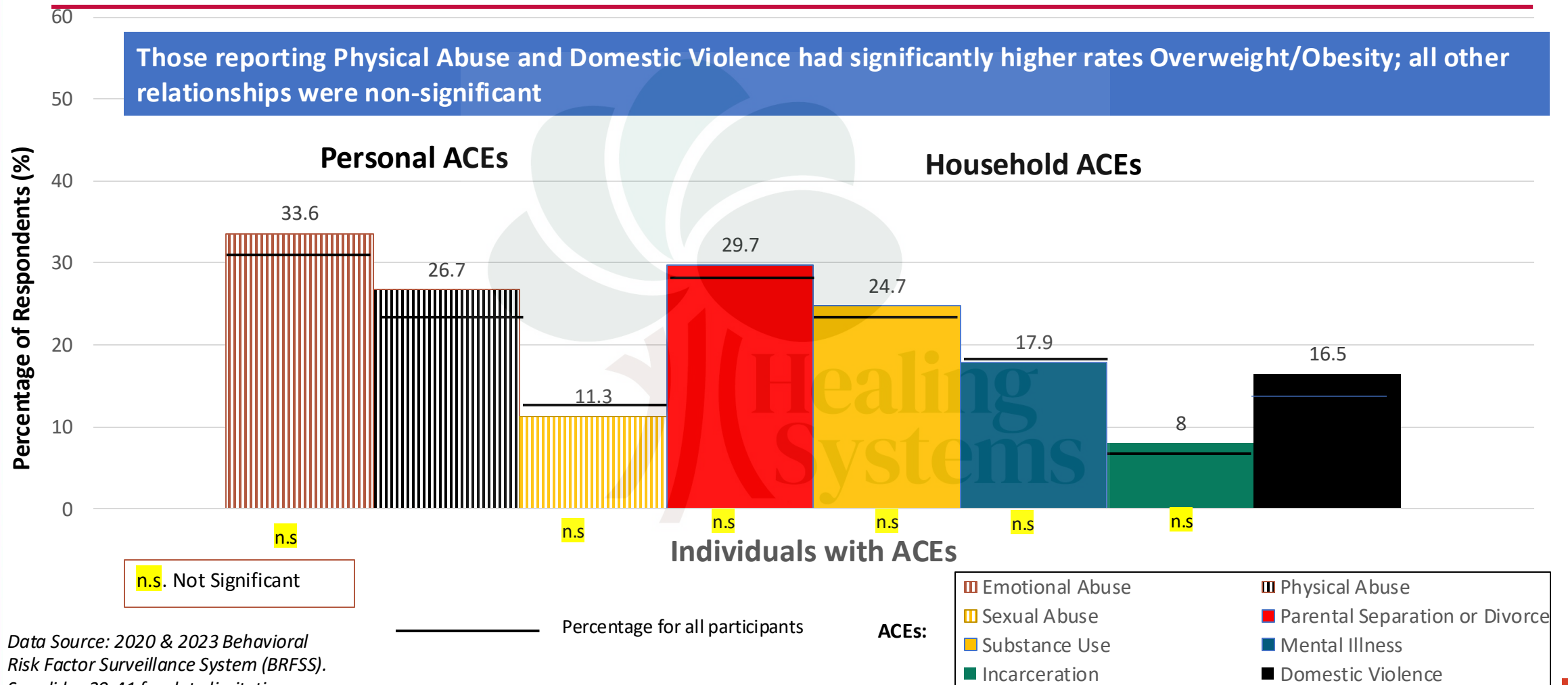
n.s. Not Significant

n.s. Not Significant

Health Category: Diabetes

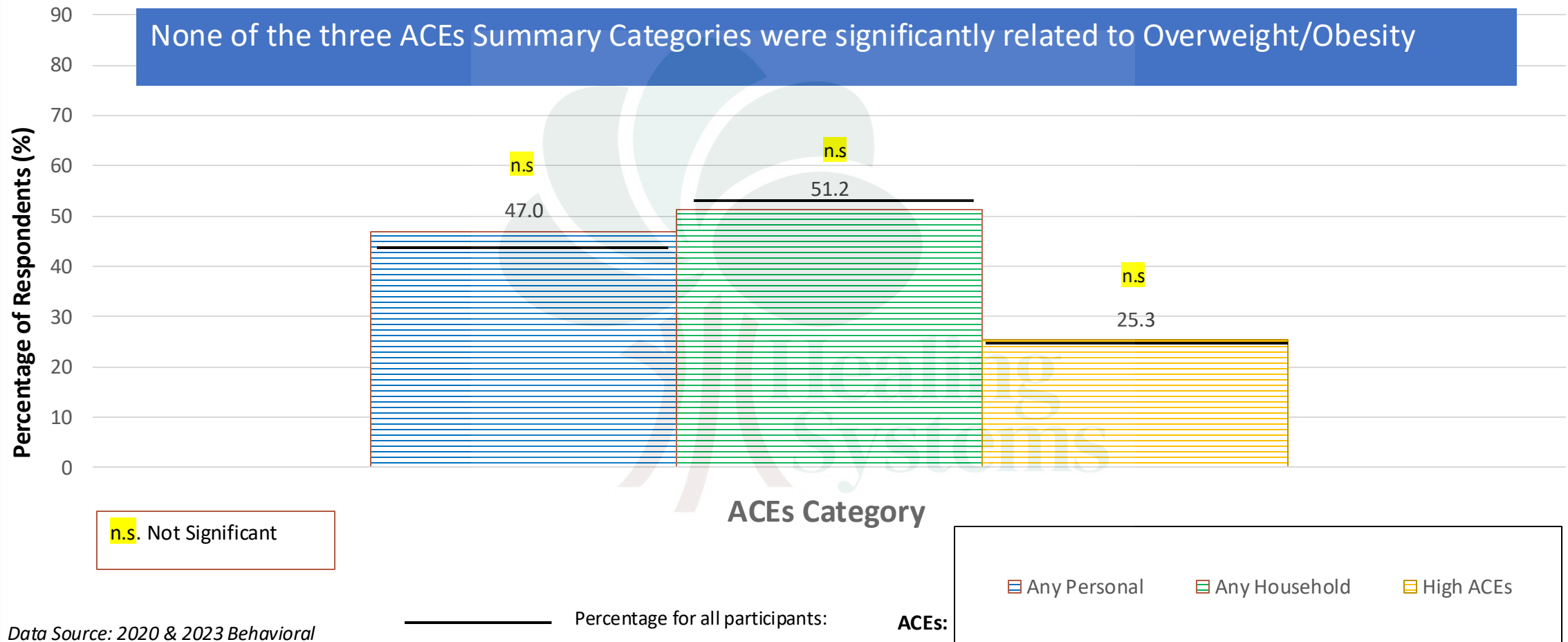
Overweight/Obesity and ACEs

Percentage of adults who report ever having received kidney disease diagnosis by adverse childhood experiences (ACEs)



Overweight/Obesity and ACEs Summary Categories

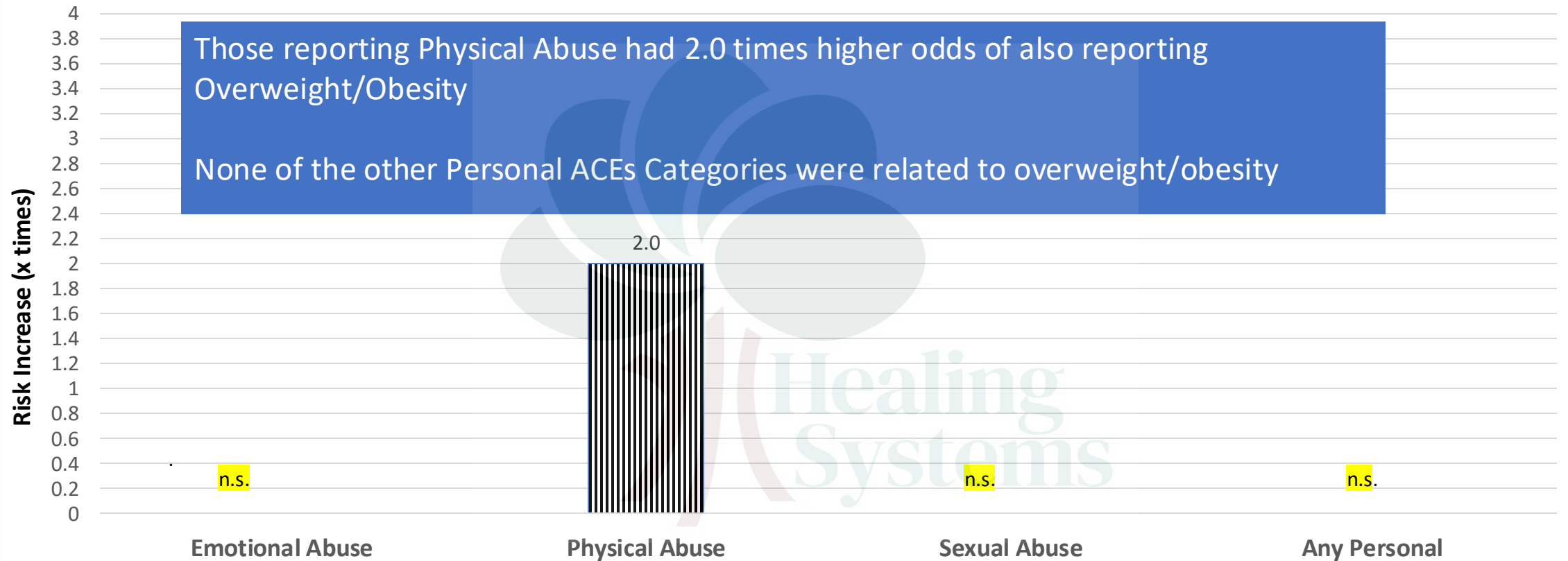
Percentage of adults who report ever having received depressive disorder diagnosis by adverse childhood experiences (ACEs)



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

Personal ACEs Increase Risk of Overweight/Obesity

Odds ratios of adults who report personal adverse childhood experiences (ACEs) and overweight/obesity



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations

n.s. Not Significant

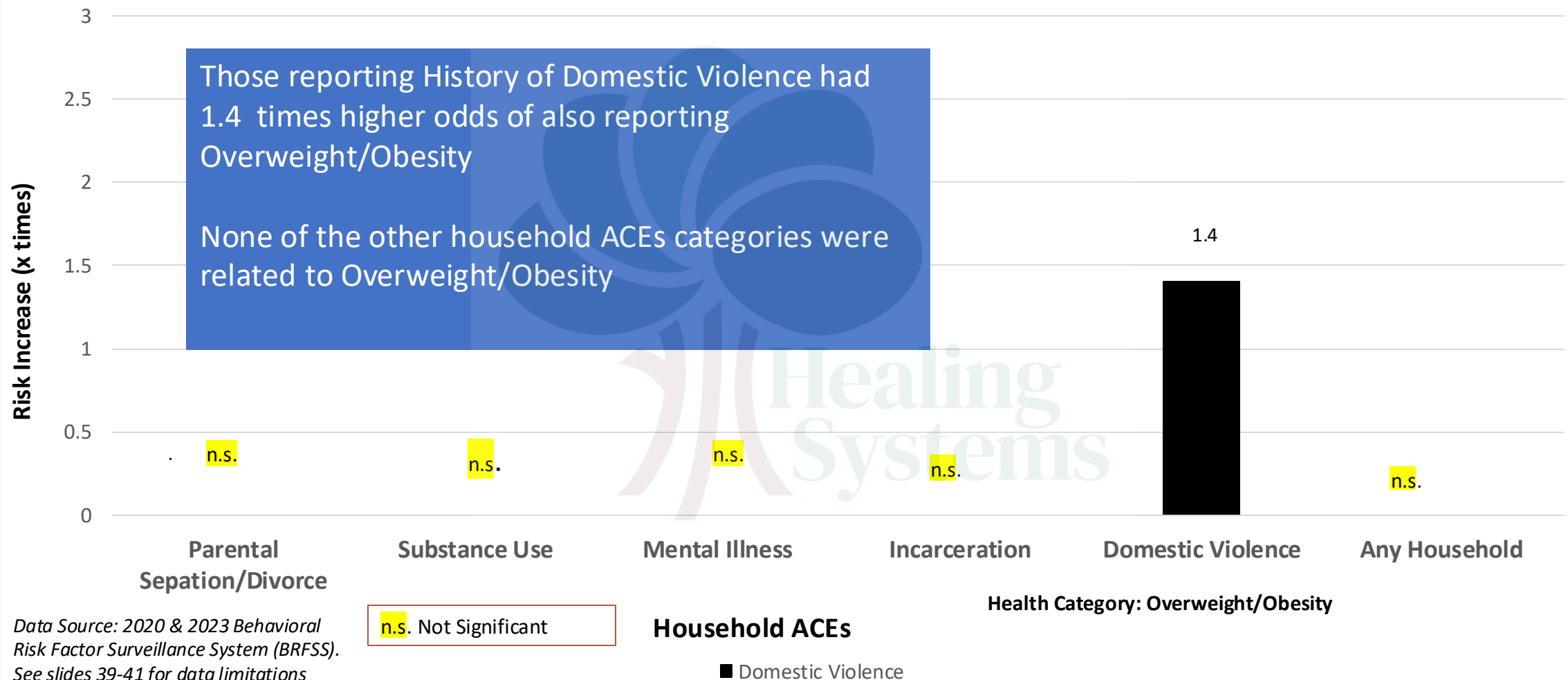
Personal ACEs

Physical Abuse

Health Category: Overweight/Obesity

Household ACEs Increase Risk of Overweight/Obesity

Odds ratios of adults who report household adverse childhood experiences (ACEs) and overweight/obesity



Data Source: 2020 & 2023 Behavioral Risk Factor Surveillance System (BRFSS). See slides 39-41 for data limitations

Any Personal, Any Household and 3+ ACES Risk for Overweight/Obesity

Odds ratios of adults who report any personal, any household and 3+ ACES and Overweight/Obesity

None of the three summary ACEs variables were related to Overweight/Obesity

Healing
Systems



Building Healing Behavioral Health Systems:

Summary of Somatic Health Indicators by ACEs

Healing
Systems

Summary of Poor General Health and ACEs

- Those reporting Poor General Health in the past 30 days were also significantly likely to:
 - report 6 or the 8 ACEs (except for Emotional abuse and Parental separation/divorce)
 - report at least 1 Personal ACE report least 1 Household ACE
 - report High ACEs (3+ total ACEs)
- Among those 6 significant relationships those reporting Poor General Health in the past 30 days had ***higher odds*** (between 1.39 and 2.04) of also reporting ACEs

Summary of Poor Physical Health and ACEs

- Those reporting Poor Physical Health in the past 30 days were also significantly likely to report 7 or the 8 ACEs (except for Parental Separation/Divorce); report at least 1 Personal ACE; report at least 1 Household ACE; report High ACEs (3+ total ACEs)
- Among those 7 significant relationships those reporting Poor Physical Health in the past 30 days had **higher odds** (between 1.34 and 1.98) of also reporting ACEs

Summary of Poor Mental Health and ACEs

- Those reporting Poor Mental Health in the past 30 days were also significantly likely to:
 - report all of the 8 ACEs
 - report at least 1 Personal ACE
 - report at least 1 Household ACE; report High ACEs (3+ total ACEs)
- Overall, those reporting Poor Mental Health in the past 30 days had **higher odds** (between 1.70 and 3.50) of also reporting ACEs

Summary of Health Impacting Daily Activities and ACEs

- Those reporting that their Health Impacted their Daily Activities in the past 30 days were also significantly likely to:
 - report 7 or the 8 ACEs (except for Parental Separation/Divorce)
 - report at least 1 Personal ACE
 - report at least 1 Household ACE
 - Report High ACEs (3+ total ACEs)
- Among these 7 significant relationships, those reporting their health impacted their daily activities in the past 30 days had ***higher odds*** (between 1.30 and 2.10) of also reporting ACEs

Summary of Depression and ACEs

- Depression: Depression was significantly related to all 11 ACEs categories. 8 of the 11 ACEs indicators (all except physical abuse, household incarceration, and household substance use, domestic violence)
- **Higher odds** across the 11 ACEs ranged from 1.4 (Parental Separation/Divorce) to 5.6 (Household Mental Illness)

Summary of Hypertension and ACEs

- Hypertension: Hypertension was significantly inversely related to history of emotional abuse, household mental illness, and parental separation/divorce
- Those with hypertension had 0.68 ***lower odds*** of also reporting history of emotional abuse, a 0.63 ***lower odds*** of reporting household mental illness, and a 0.78 ***lower odds*** of history of parental separation/divorce

Summary of High Cholesterol and ACEs

- Heart High Cholesterol: High Cholesterol was significantly related to history of Sexual and Physical Abuse, significantly inversely related to Parental Separation/Divorce
- Although those with High Cholesterol had 1.36 **higher odds** of also reporting history of Physical Abuse, 1.37 **higher odds** of reporting history of Sexual Abuse, and 1.37 **higher odds** of reporting history of Domestic Violence, they had 0.75 **lower odds** of reporting history of Parental Separation/Divorce

Summary of Heart Disease and ACEs

- Heart Disease: Heart Disease was significantly related to history of sexual abuse, parental separation/divorce, having at least 1 household ACE and High ACEs
- Although those with heart disease had 1.6 **higher odds** of also reporting history of sexual abuse, they had **lower odds** of reporting history of parental separation/divorce, reporting High ACEs, and having at least 1 household ACE (odd ratios ranging from 0.57 to 0.74)

Summary of Stroke and ACEs

- Stroke: Stroke was significantly related to history of Physical Abuse, Sexual Abuse, Household Substance Abuse, and Domestic Violence
- Those with a history of Stroke had 1.7 **higher odds** of also reporting history of Physical Abuse, 2.0 **higher odds** of history of Sexual Abuse, 1.6 **higher odds** of also reporting history of Household Substance abuse, and 1.9 higher odds of reporting history of Domestic Violence

Summary of Asthma and ACEs

- Asthma: Asthma was significantly related to 8 of the 11 ACEs indicators (all except physical abuse, household incarceration, household substance use, and domestic violence)
- Those with diagnoses of Asthma had ***higher odds*** of reporting each 8 of the 11 ACEs indicators (with odds ranging from 1.4 to 2.3)

Summary of COPD and ACEs

- COPD: COPD was significantly related to 9 of the 11 ACEs indicators (all except Parental Separation/Divorce and Household Incarceration)
- Those with diagnoses of Asthma had ***higher odds*** of reporting each 8 of the 11 ACEs indicators (with odds ranging from 1.4 to 2.3)

Summary of Arthritis and ACEs

- Arthritis: Arthritis was significantly related to history of Sexual and Physical Abuse, Household Substance Use, and having at least 1 of the 3 personal ACEs, but significantly inversely related to Parental Separation/Divorce
- Those with Arthritis had 1.3 **higher odds** of also reporting history Physical Abuse, 1.6 **higher odds** of reporting history of Sexual Abuse, 1.3 **higher odds** of reporting history of Household Substance Use, and 1.2 **higher odds** of having at least 1 of the 3 Personal ACEs, but 0.7 **lower odds** of reporting history of Parental Separation/Divorce

Summary of Kidney Disease and ACEs

- Kidney Disease: Kidney disease was significantly inversely related to history of emotional abuse, household mental illness, household domestic violence, and having at least 1 of the 5 household ACEs
- Those with hypertension had 0.60 **lower odds** of also reporting history of emotional abuse, a 0.62 **lower odds** of reporting household mental illness, and a 0.53 **lower odds** of household domestic violence, and a 0.71 **lower odds** of having at least 1 of the 5 household ACEs

Summary of Diabetes and ACEs

- Diabetes: Diabetes was significantly inversely related to history of Physical Abuse, Household Mental Illness, Parental Separation, having at least 1 of the 5 Household ACEs, and High ACEs (3+ of the 8 ACEs)
- Those with Diabetes had 0.75 ***lower odds*** of also reporting history of Physical abuse, a 0.71 ***lower odds*** of reporting Household Mental Illness, a 0.69 ***lower odds*** of history of Parental Separation/Divorce, a 0.86 ***lower odds*** of having at least 1 of the 5 Household ACEs, and a 0.67 ***lower odds*** of High ACEs

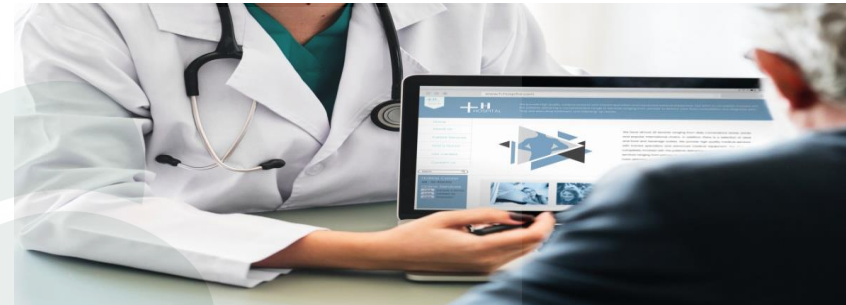
Summary of Overweight/Obesity and ACEs

- Overweight/Obesity: Overweight/Obesity was significantly related to history of physical abuse and household domestic violence
- Those with overweight/obesity had 2.0 ***higher odds*** of also reporting history of physical abuse, and a 1.4 ***higher odds*** of reporting household domestic violence

Summary of ACEs and Somatic Health Indicators



45% experienced at least 1 Personal ACE
50% experienced at least 1 household ACE
25% experienced High ACEs



14% reported poor general health
10% reported poor physical health
13% reported poor mental health
14% reported poor health impacting activities

Overall, those reporting ACEs had between 1.3 and 3.5 times higher odds of also reporting Poor Somatic Health Indicators

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations*

Summary of ACEs and Depression



45% experienced at least 1 Personal ACE
50% experienced at least 1 household ACE
25% experienced High ACEs



17% reported diagnosis of Depression

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Overall, those with all of the 8 ACEs had between 1.4 and 5.6 times higher odds of also reporting Depression

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations*

Summary of ACEs and Respiratory Diseases



45% experienced at least 1 Personal ACE
50% experienced at least 1 household ACE
25% experienced High ACEs



10% reported diagnosis Asthma
5% reported diagnosis of COPD

Overall, those with ACEs were between 1.3 to 2.9 times more likely to report Asthma and COPD

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations*

Summary of ACEs and Stroke



45% experienced at least 1 Personal ACE
50% experienced at least 1 household ACE
25% experienced High ACEs



3% reported history of Stroke

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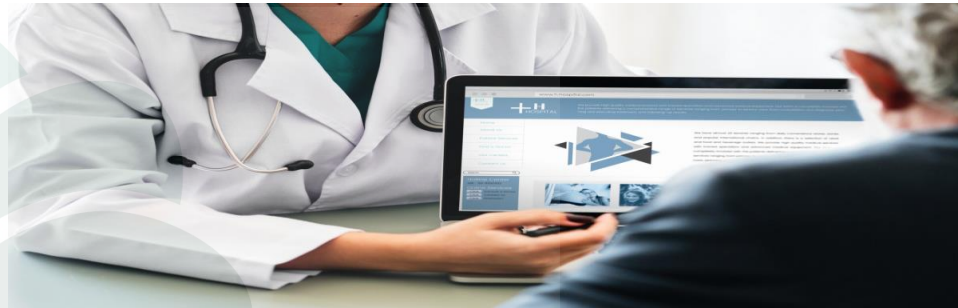
Those with four of the 8 ACEs had between 1.5 and 2.0 higher odds of also having suffered a Stroke

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations*

Summary ACEs and Cardiovascular Disorders



45% experienced at least 1 Personal ACE
50% experienced at least 1 household ACE
25% experienced High ACEs

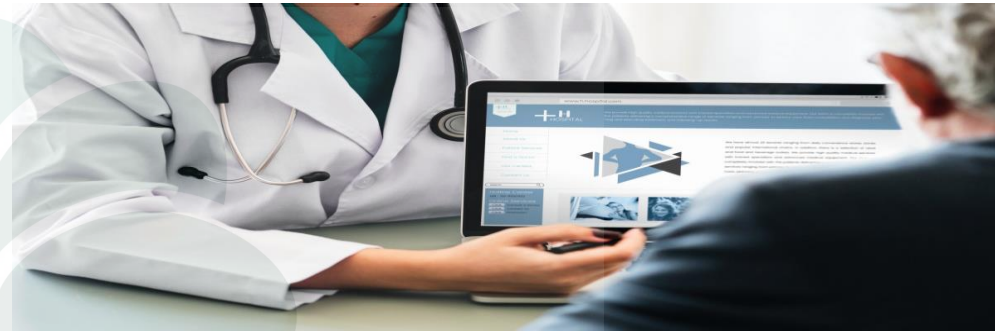


37% reported history of hypertension
39% reported history of high cholesterol
6% reported been told they had heart disease

The relationships between ACEs and Cardiovascular Disorders were mixed (with both increased odds across some and decreased odds among other ACEs; a notable exception was that those with history of Sexual Abuse had 1.5 times higher odds of also reporting Heart Disease)

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 32-34 for data limitations*

Summary of ACEs and: Kidney Disease and Diabetes



45% experienced at least 1 Personal ACE
50% experienced at least 1 household ACE
25% experienced High ACEs

3% reported history of kidney disease
12% reported diagnosis of diabetes

Those with many of the 8 ACEs had between 0.5 and 0.9 times lower odds of also reporting Kidney Disease or Diabetes

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations*

Summary of ACEs and Body Mass Index



45% experienced at least 1 Personal ACE
50% experienced at least 1 household ACE
25% experienced High ACEs



36% had BMIs in the Overweight Range (25-30)
32% had BMIs in the Obese Range (30 or higher)

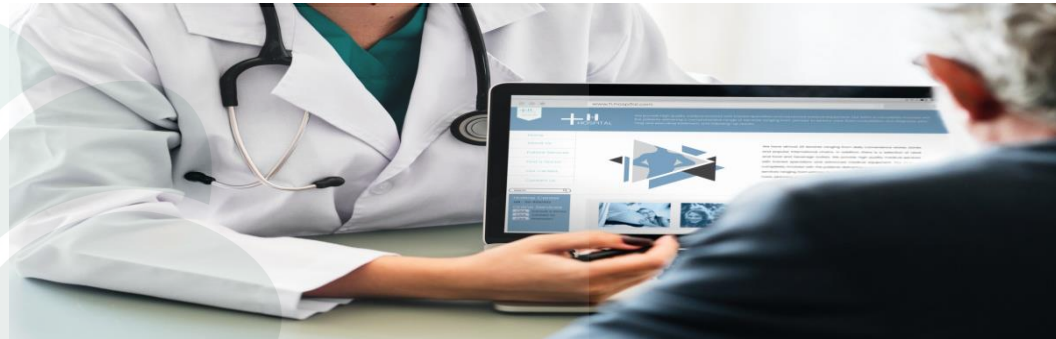
Those with history of Physical Abuse had 2.0 times higher odds of also being Overweight/Obese and those with history of Domestic Violence had 1.4 times higher odds of also being Overweight/Obese; none of the other ACEs were significantly related to Overweight/Obesity

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 32-34 for data limitations*

Summary of ACEs and Arthritis



45% experienced at least 1 Personal ACE
50% experienced at least 1 household ACE
25% experienced High ACEs



24% reported being told they have arthritis

Those with history of Physical and Sexual Abuse respectively had 1.3 and 1.6 times higher odds of also reporting Arthritis; Those with history of Household ACEs had between 1.2 to 1.3 times higher odds of also having Arthritis (except those with history of Parental Separation/Divorce, who had 0.7 times lower odds of also reporting Arthritis)

*Data Source: 2020 & 2023 Behavioral
Risk Factor Surveillance System (BRFSS).
See slides 39-41 for data limitations*



Building Healing Behavioral Health Systems:

Potential Action Steps

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Potential Action Steps: Somatic Health Providers and Organizations



- Facilitate somatic health organization-level approaches to trauma informed care to mitigate the impact of ACEs on somatic health among adults.
- Develop a comprehensive approach to foster trauma informed organizational policies and practices in somatic health care organizations. This would include activities such as:
 - Completing a Trauma Informed Organizational Assessment
 - Promote screening for ACEs in high-risk groups and provide appropriate referrals for counseling and other supports.

Potential Action Steps: Screening and Referral



- Implement appropriate screening and symptom assessment tools
 - Use screening tools that assess exposure to trauma as well as trauma symptoms.
 - Understanding how trauma impacts health outcomes will help facilitate appropriate treatment and referrals to behavioral health services.
- Discourage sole use of the ACEs questionnaire as a screening tool, because it does not collect:
 - information on the impact of ACE exposure on somatic health symptoms, as it does not provide information on individuals' treatment needs.
 - the cumulative effect of a single ACE encountered repeatedly.

Potential Action Steps: Professional Support and Development



- Build a trauma informed health care workforce that is trained to promote positive well-being for the entire workforce and the people it serves.
- Provide training and professional development for full integrated behavioral/mental and somatic health care workforce clinicians and administrators around ACEs and their relationship to somatic health outcomes.
- Educate behavioral health practitioners about the importance of connecting individuals with somatic healthcare providers for regular screening and treatment.

Potential Action Steps: Interventions



- Encourage somatic health providers to consider referrals as indicated to adjunctive mental and behavioral health interventions for individuals with history of trauma and related ACEs.
- Provide psychoeducation to clients to increase awareness on the importance of regular appointments with primary care physicians and asking for specific health screenings, such as diabetes.
- Create client handouts for
 - Behavioral health providers with information on somatic risks and trauma
 - Somatic providers about screening for trauma and impact on health

Potential Action Steps: Beyond Somatic Health Systems



- Address community social problems that contribute to ACEs.
- Incorporate interventions across a broad array of service organizations including behavioral, mental and somatic health.
- Explore how to incorporate effective interventions with agencies where these domains are under their purview.

Potential Action Steps: Additional Analyses



- Consider use of multivariate models to more precisely characterize the relationships between ACEs and the somatic health indicators
- Such models could also include mental and behavioral indicators to see how these may mediate the relationship between ACEs and somatic health indicators

Potential Action Steps: Data to Action Toolkit



- Integrate this report into the Building Healing Systems (BHS) Data-to-Action toolkit

<https://www.healingsystemsdata.org/>





Please contact us! :)

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