Cardiovascular Health of LGBTQ Populations

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Cardiometabolic Health Congress
December 7, 2022

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Disclosures & Potential Conflicts of Interest

- President-Elect, US Professional Association for Transgender Health
- Vice-Chair, AMA Advisory Committee on LGBTQ Issues
- Grant funding: NHLBI, NIAAA, AHA, Doris Duke
- Consultant: EverlyWell

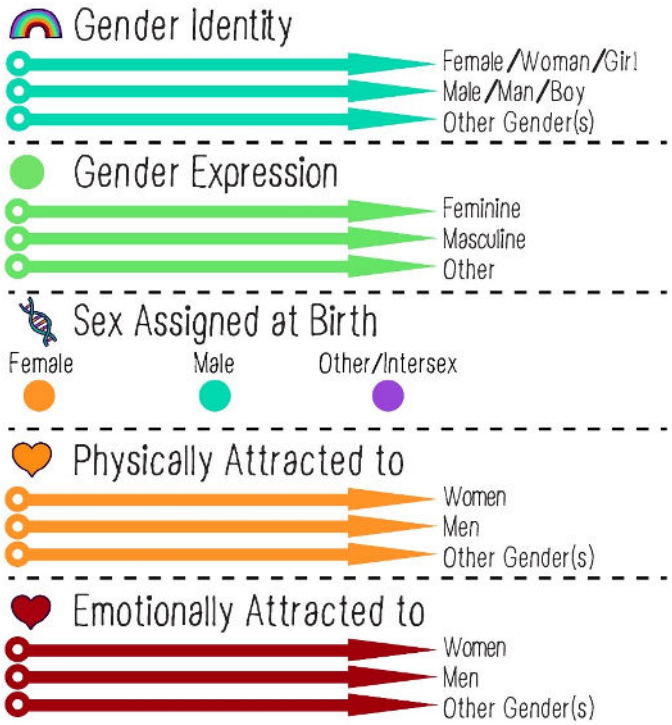
Objectives

- **Present** a conceptual model to elucidate potential mechanisms underlying cardiovascular health disparities in LGBTQ adults
- **Identify** research gaps in both empirical data and patient populations used in trials
- **Provide** suggestions for improving cardiovascular research and care of LGBTQ people

NIH Sexual and Gender Minority Research Office

SGM populations include, but are not limited to, individuals who identify as lesbian, gay, bisexual, asexual, transgender, two-spirit, queer, and/or intersex. Individuals with same-sex or -gender attractions or behaviors and those with a difference in sex development are also included. These populations also encompass those who do not self-identify with one of these terms but whose sexual orientation, gender identity or expression, or reproductive development is characterized by non-binary constructs of sexual orientation, gender, and/or sex.

Current Terminology



Current Terminology

Gender Identity: One's internal sense of being male, female, neither, both, or another gender. Everyone has a gender identity. For transgender and gender non-conforming people, their sex assigned at birth, or natal sex, and their internal sense of gender identity are not the same.

Current Terminology

Gender Expression: Outward manifestations of one's gender identity as presented by one's vocal tenor, body shape, hairstyle, clothing selection, behavior, etc. Many transgender people seek to align their gender expression (how they look) with their gender identity (who they are), rather than with the gender associated with their sex assigned at birth. For example, a transgender man who was assigned female at birth may want to have a masculine gender expression, whereas someone who was assigned female at birth and identifies as genderqueer may want to have a more androgynous (neither masculine nor feminine, or both masculine and feminine) gender expression.

How Many?

Perception

Just your best guess, what percent of Americans today would you say are gay or lesbian?

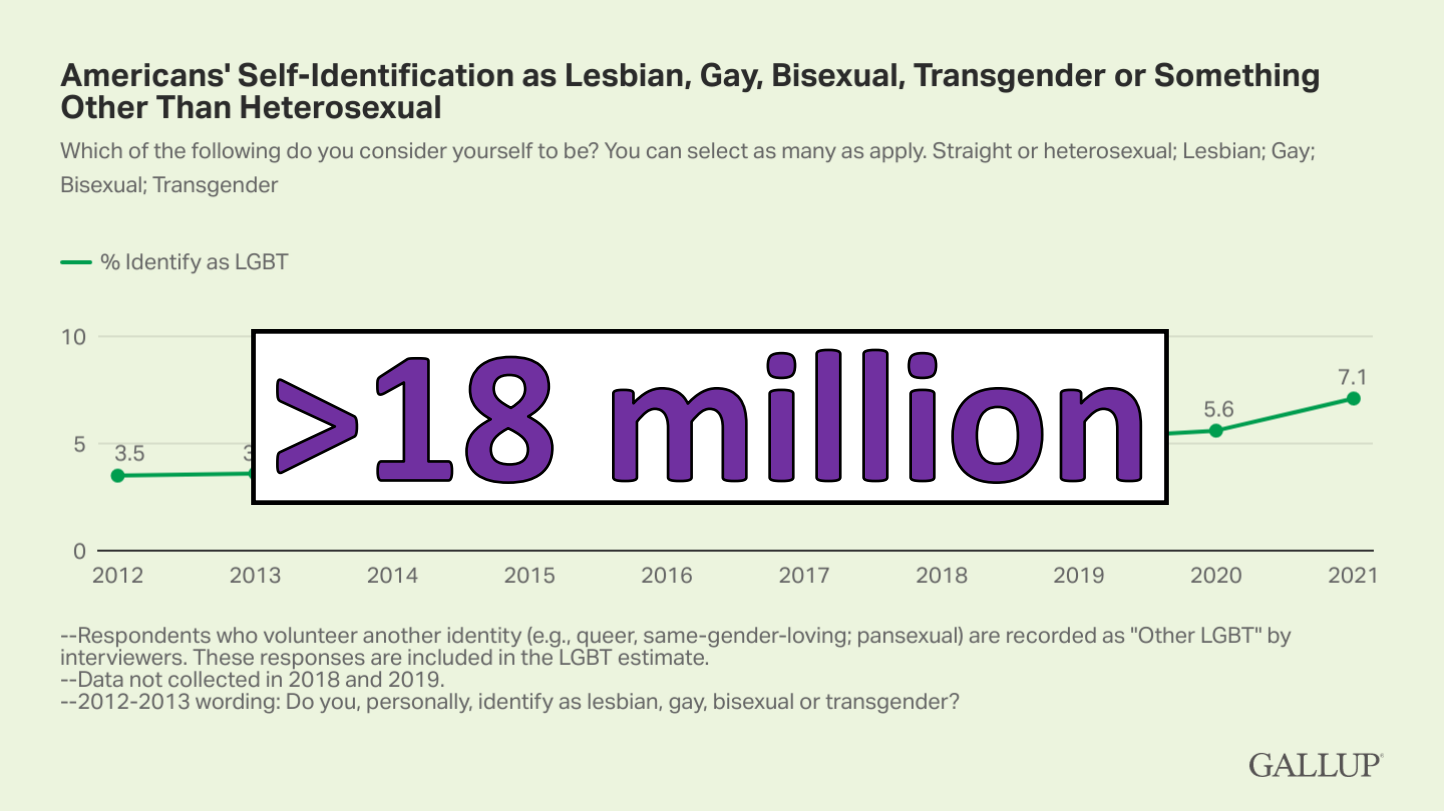
All numbers are in percentages

	Mean	Less than 5%	5% to <10%	10% to <15%	15% to <20%	20% to 25%	More than 25%	No opin.
2015	23	9	11	14	7	20	33	6
2011	25	4	9	17	9	17	35	8
2002*								
Men	21	8	11	16	9	15	25	16
Women	22	7	14	12	7	17	24	19

*Asked of a half sample with wording, with separate questions:
Just your best guess, what percent of men in the United States today would you say are homosexual or gay?
Just your best guess, what percent of women in the United States today would you say are homosexual or lesbian?

GALLUP

How Many People Identify as LGBT?



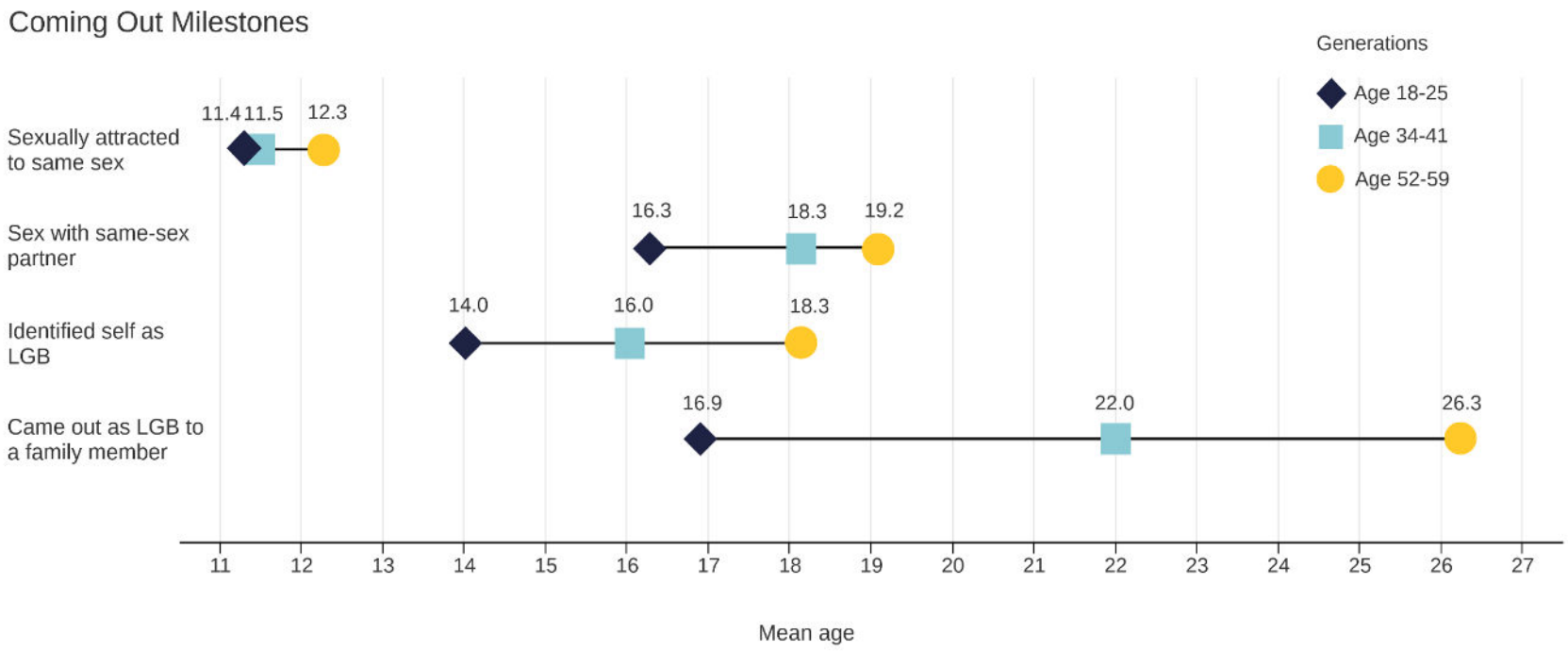
Gallup, 2022

Generational Differences

generations

A Study of the Life and Health of LGB People in a Changing Society

Generational Differences



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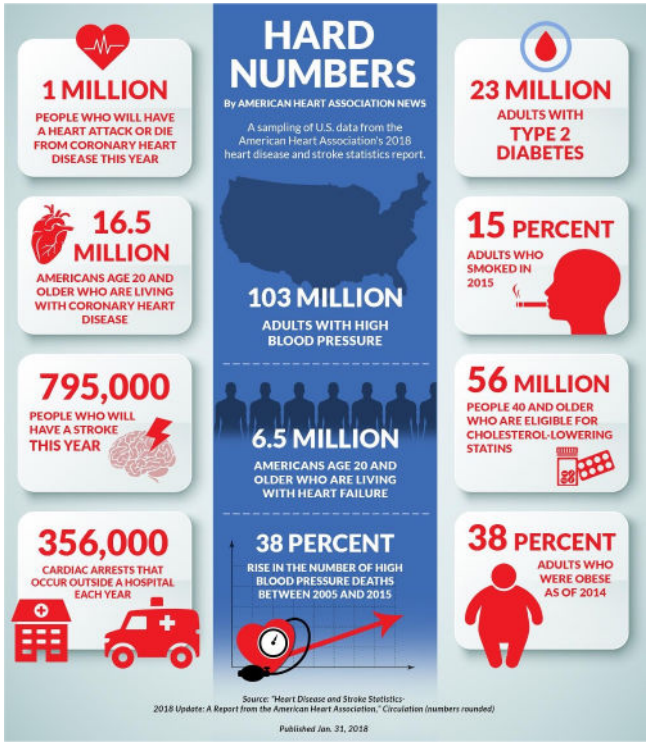
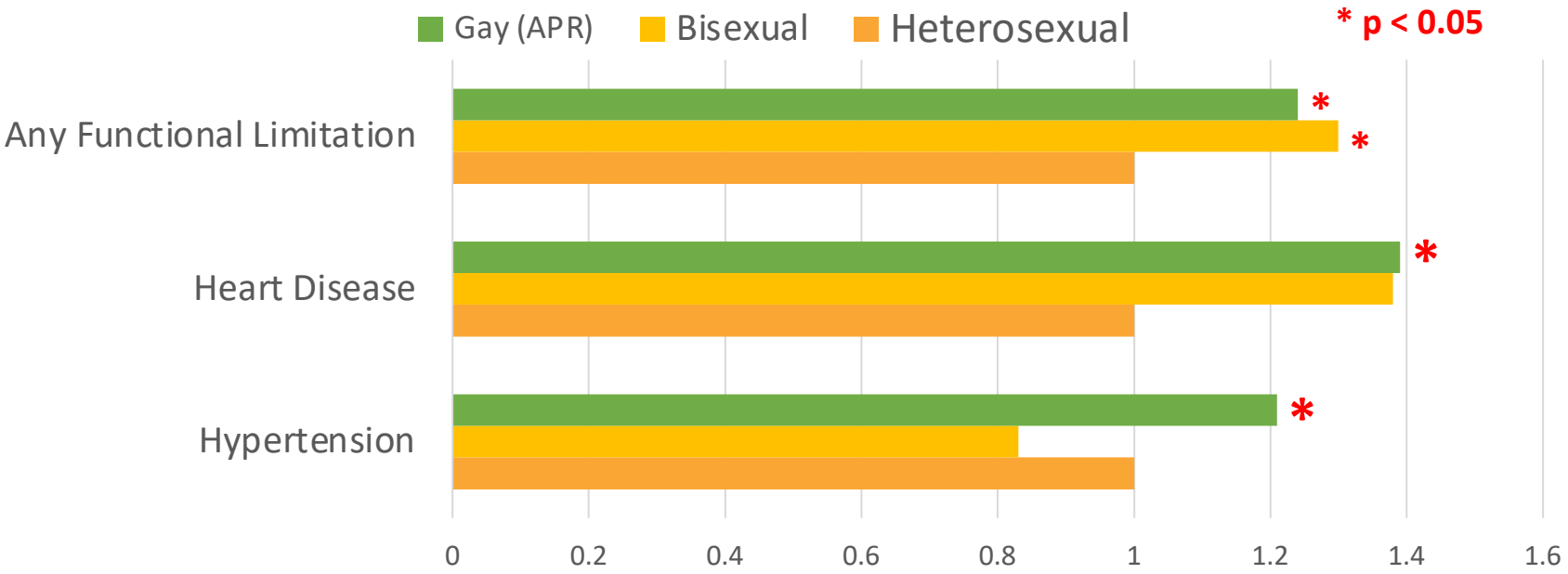
Why CV Health?

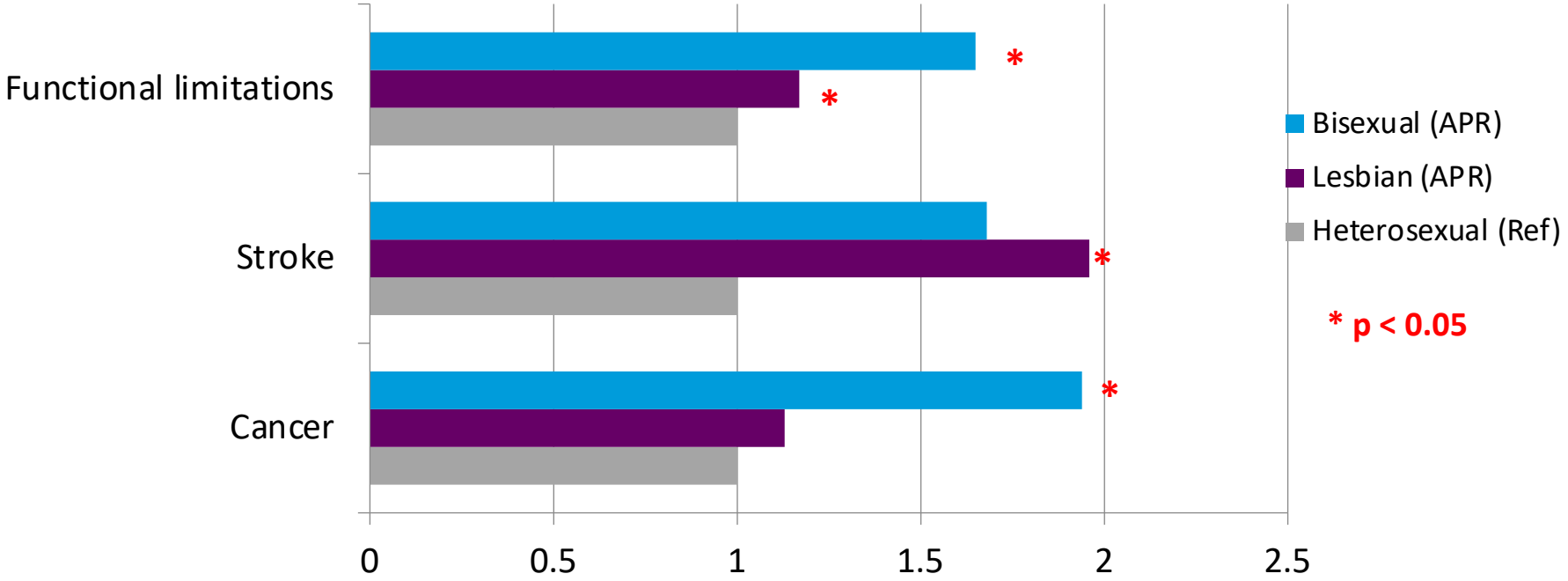


US Cisgender Men Ages 18-64, NHIS 2013-2014



Jackson et al. BMC Public Health 2016

US Cisgender Women Ages 18-64, NHIS 2013-2014



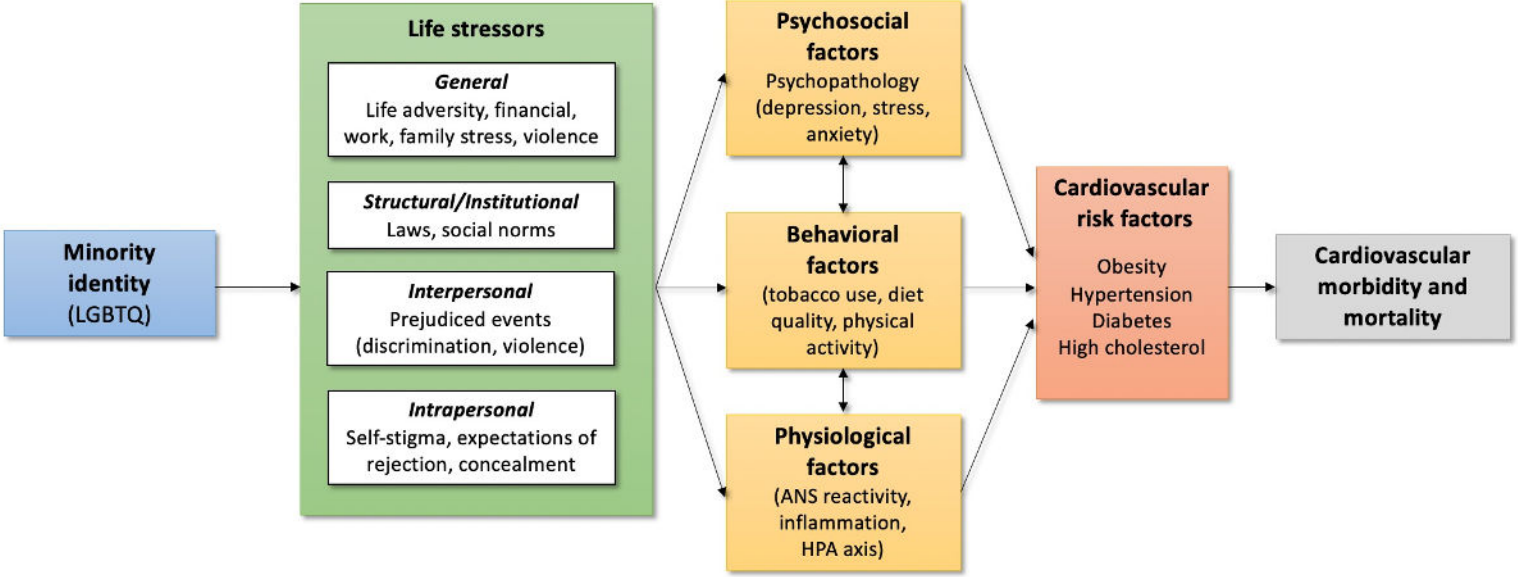
Jackson et al. BMC Public Health 2016

Health Outcomes: Transgender Adults

Variable	Transgender Group (n = 691) No.	Transgender Group (n = 691) % (SE)	Cisgender Group (n = 150 765) No.	Cisgender Group (n = 150 765) % (SE)	Transgender vs Cisgender, OR (95% CI)	Transgender vs Cisgender, Adjusted OR[a] (95% CI)
General health fair or poor	183	26.17 (0.03)	27 002	17.02 (<0.01)	1.73 (1.24, 2.40)	1.75 (1.27, 2.42)
Physical health not good (days per month)[b]	664	6.28 (0.93)	147 604	3.85 (0.04)	2.43 (0.61, 4.24)[c]	2.37 (0.64, 4.11)[d]
Mental health not good (days per month)[b]	671	5.41 (0.74)	148 307	3.67 (0.04)	1.74 (0.28, 3.19)[e]	1.70 (0.22, 3.17)[f]
Lifetime history of diagnosed chronic conditions						
Diabetes	116	13.88 (0.02)	19 788	10.69 (<0.01)	1.35 (0.95, 1.90)	1.37 (0.96, 1.95)
Kidney disease	40	4.29 (0.01)	5 284	2.65 (<0.01)	1.65 (0.96, 2.84)	1.70 (0.98, 2.95)
Arthritis	235	29.84 (0.03)	53 481	27.85 (<0.01)	1.10 (0.81, 1.50)	1.16 (0.86, 1.57)
Asthma	99	13.50 (0.02)	19 859	14.15 (<0.01)	0.95 (0.65, 1.37)	0.94 (0.65, 1.37)
Chronic obstructive pulmonary disease	66	7.87 (0.02)	12 693	6.91 (<0.01)	1.15 (0.75, 1.78)	1.18 (0.76, 1.83)
Skin cancer	55	5.68 (0.01)	13 419	5.71 (<0.01)	0.99 (0.63, 1.58)	1.04 (0.65, 1.68)
Cancer (other than skin)	55	4.32 (0.01)	14 387	6.64 (<0.01)	0.63 (0.42, 0.95)	0.65 (0.43, 0.99)
Stroke	46	4.74 (0.02)	6 134	3.01 (<0.01)	1.60 (0.83, 3.09)	1.75 (0.93, 3.29)
Angina or coronary heart disease	49	5.71 (0.01)	9 195	4.54 (<0.01)	1.27 (0.78, 2.07)	1.37 (0.83, 2.25)
Myocardial infarction	68	7.29 (0.01)	9 029	4.46 (<0.01)	1.69 (1.13, 2.51)	1.82 (1.22, 2.72)
Depressive disorder	142	19.72 (0.03)	28 886	18.76 (<0.01)	1.06 (0.74, 1.54)	1.06 (0.73. 1.53)

Meyer et al. *AJPH*. 2017

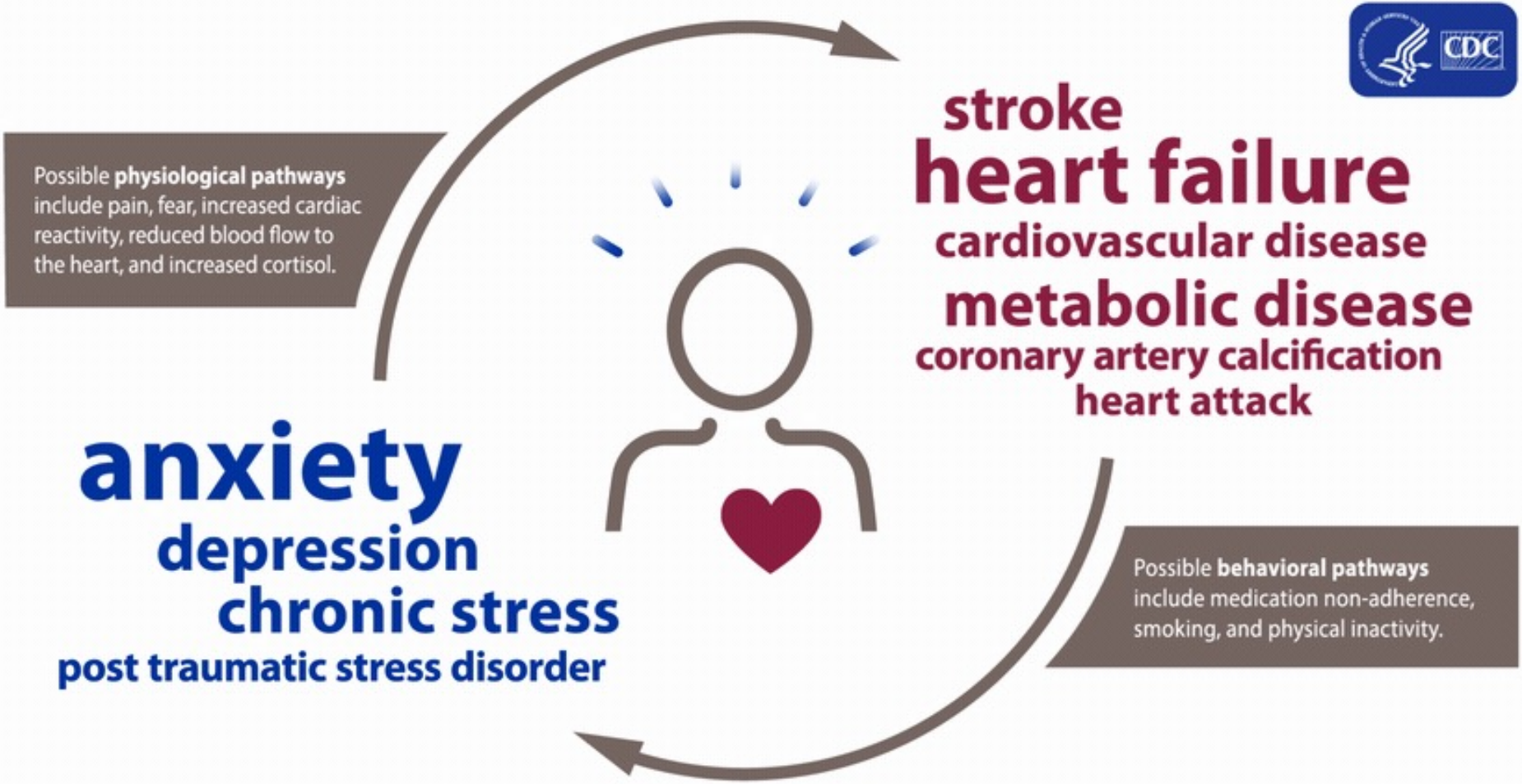
Minority Stress Theory: Cardiovascular Health



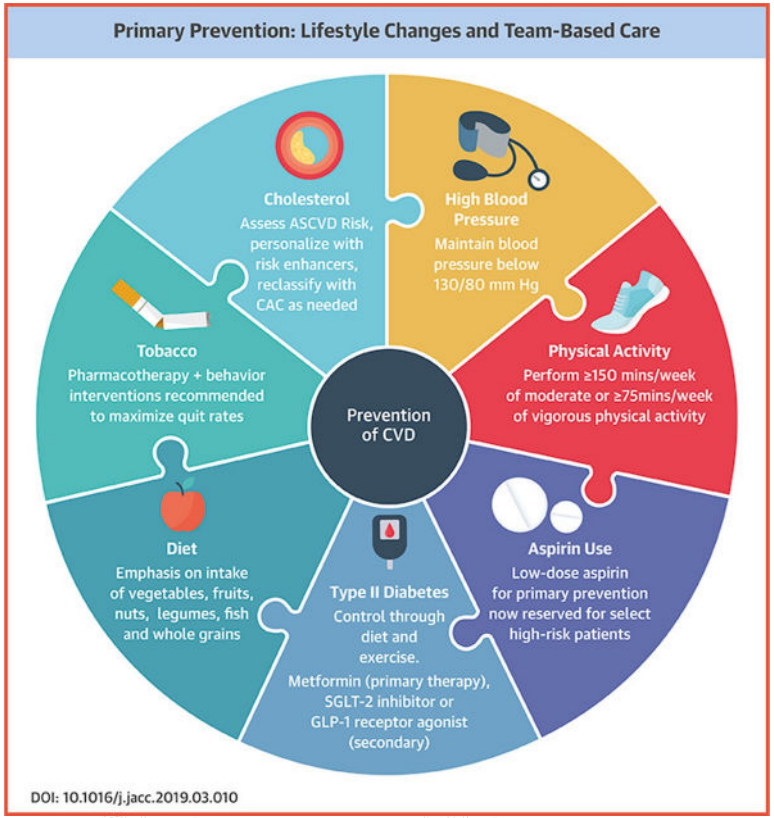
Social and clinical determinants

Sexual orientation	Gender identity	Gender expression
Sex assigned at birth	Race/ethnicity	Hormone status
HIV status	Socioeconomic status	Neighborhood factors
Social support	Coping	Immigration status
Family dynamics	Family history/genetics	

Caceres et al. (2020)
Adapted from Brooks (1981); Meyer (2003); Hatzenbuehler (2009)


CDC
stroke
heart failure
cardiovascular disease
metabolic disease
coronary artery calcification
heart attack
Possible physiological pathways include pain, fear, increased cardiac reactivity, reduced blood flow to the heart, and increased cortisol.
anxiety
depression
chronic stress
post traumatic stress disorder
Possible behavioral pathways include medication non-adherence, smoking, and physical inactivity.

What Constitutes CV Health?



Additional Risk Factors

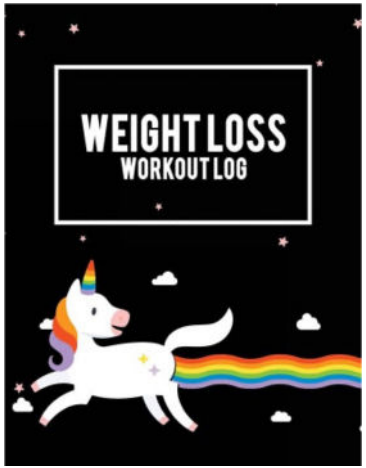
Tobacco Use


Life's Essential 8™
LIPIDS


truth initiative
INSPIRING TOBACCO-FREE LIVES
LGBT
The LGBT community is disproportionately impacted by tobacco.
20.6% LGB adults
35.5% transgender adults
14.9% straight adults
who smokes cigarettes?
2x
LGBT YOUNG ADULTS
Tobacco companies also began to advertise in gay press publications in the early 1990s, often depicting tobacco use as a normal part of LGBT life.
STRAIGHT
LGBT
aged 18-24 are nearly twice as likely to smoke as their straight peers.

Physical Activity

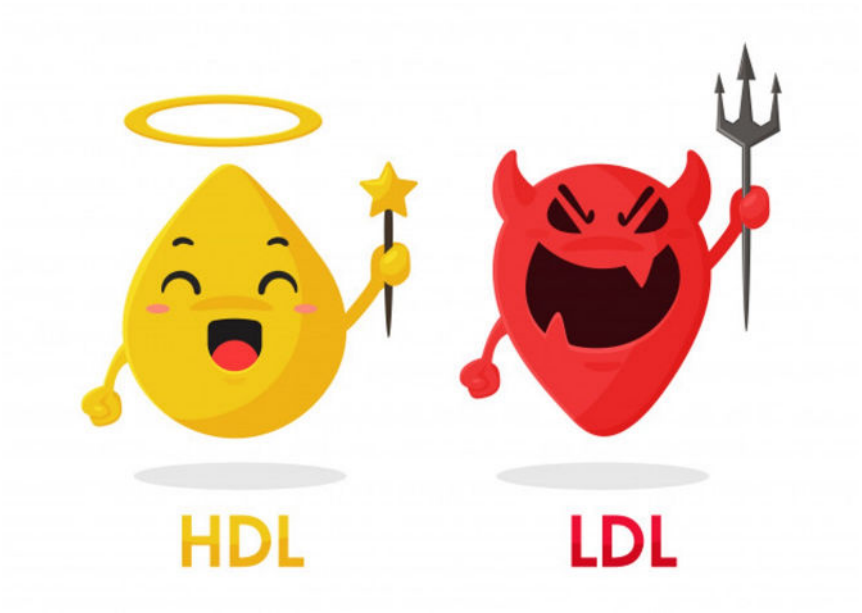
BMI



Diet

Glycemic Status

Cholesterol & Lipids



Blood Pressure

Blood Pressure Categories

American Heart Association | American Stroke Association

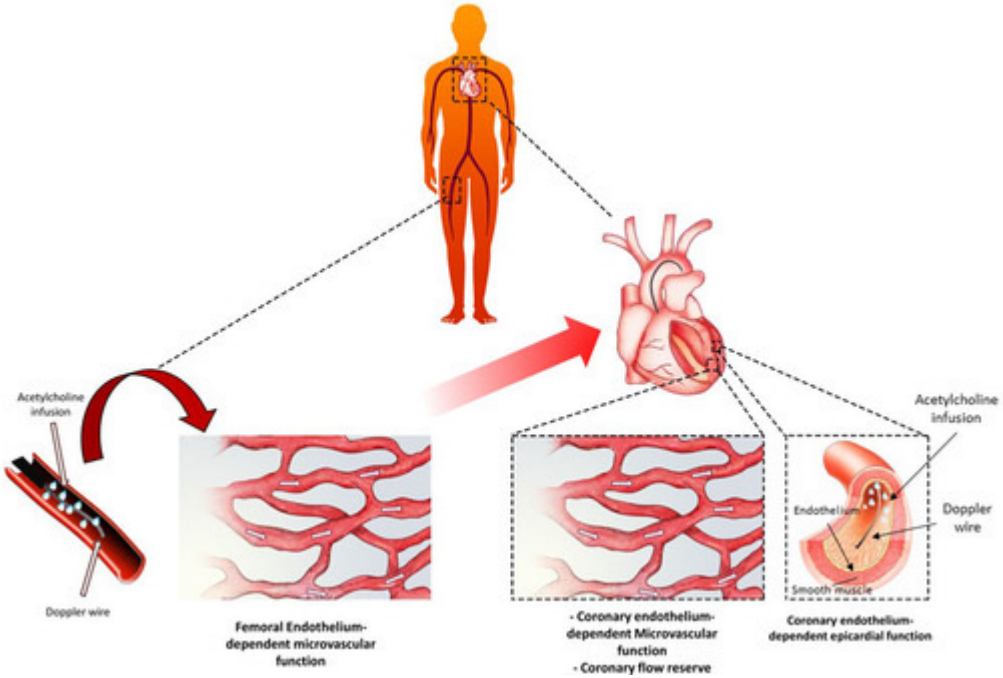
BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

heart.org/bplevels

Sleep

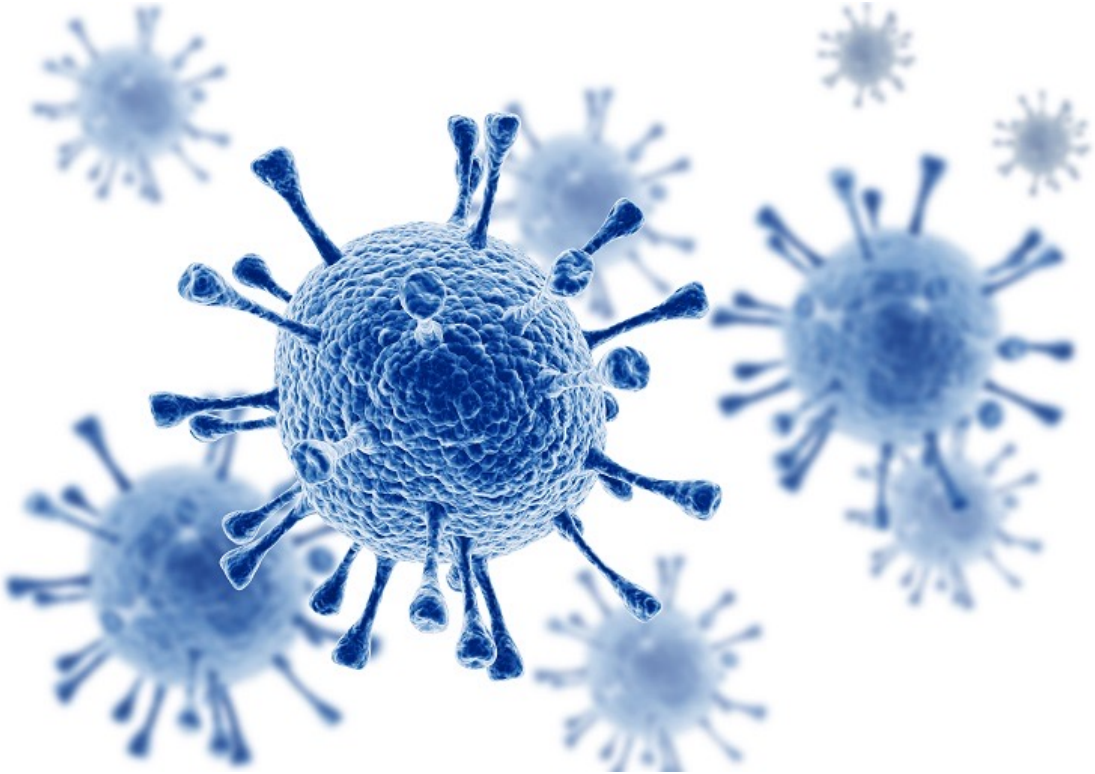
Additional Risk Factors

Additional Risk Factors: Vascular Function



Additional Risk Factors: Alcohol

Additional Risk Factors: HIV



Limitations of Current Tools

AMERICAN COLLEGE of CARDIOLOGY

ASCVD Risk Estimator Plus

Estimate Risk | Therapy Impact | Advice

Current Age *

Age must be between 20-79

Sex *

Male | Female

Race *

White | African American | Other

Systolic Blood Pressure (mm Hg) *

Value must be between 90-200

Diastolic Blood Pressure (mm Hg)

Value must be between 60-130

Total Cholesterol (mg/dL) *

Value must be between 130 - 320

HDL Cholesterol (mg/dL) *

Value must be between 20 - 100

LDL Cholesterol (mg/dL)

Value must be between 30-300

History of Diabetes? *

Yes | No

Smoker? *

Current | Former | Never

On Hypertension Treatment? *

Yes | No

On a Statin?

Yes | No

On Aspirin Therapy?

Yes | No

Preliminary: Transgender Women ASCVD Risk

- Available upon request

Poteat et al. publication pending

Forthcoming Work: Cardiovascular Disease Risk and Outcomes Among Veterans by Sexual Orientation

- Available upon request

Streed et al. publication pending

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- **Present** a conceptual model to elucidate potential mechanisms underlying cardiovascular health disparities in LGBTQ adults
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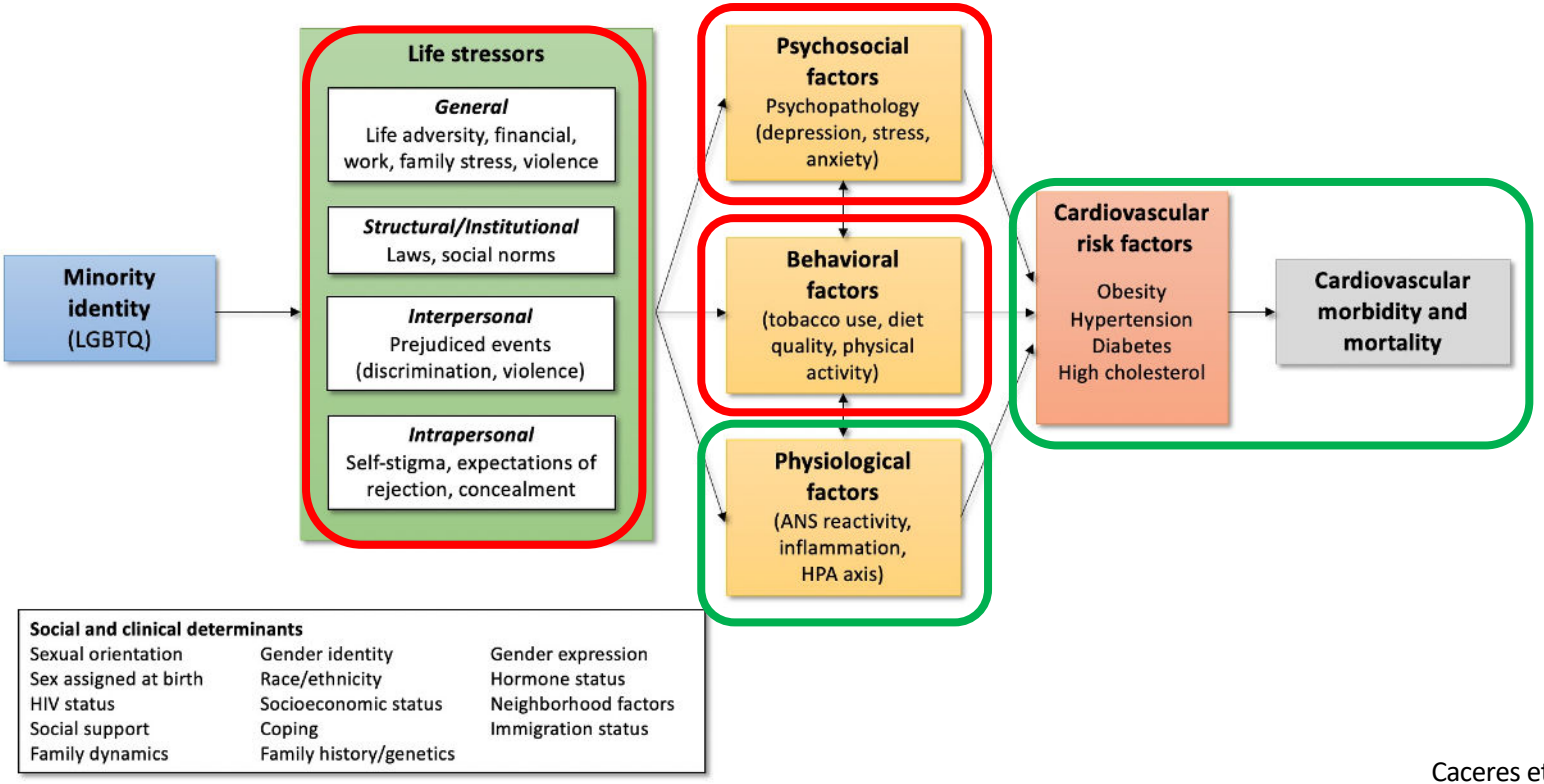
Minority Stress Theory: Cardiovascular Health



Caceres et al. (2020)
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Minority Stress Theory: Cardiovascular Health

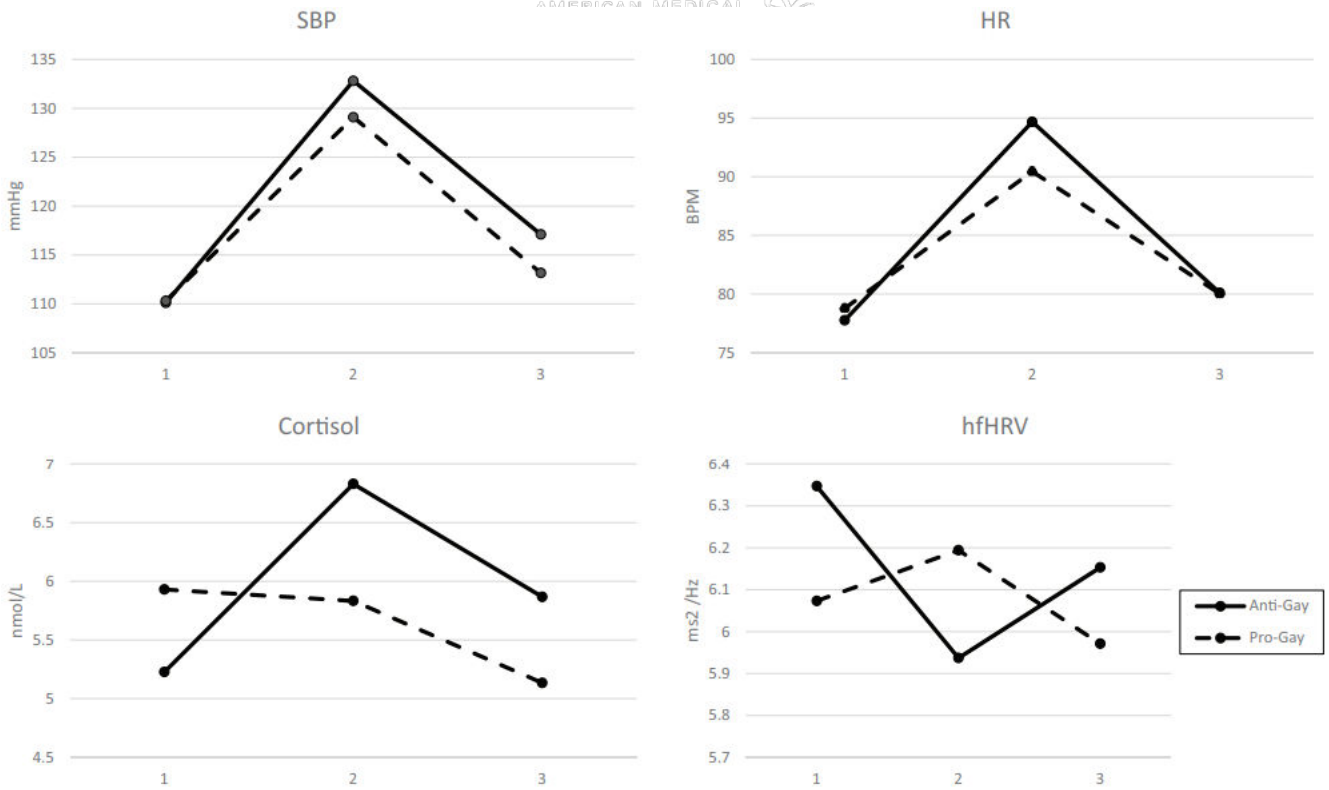
AMERICAN PSYCHOLOGICAL ASSOCIATION
Society for HEALTH PSYCHOLOGY
Health Psychology

ISSN: 0278-6133
2021, Vol. 40, No. 5, 316–325
https://doi.org/10.1037/hea0001067

Cardiovascular and Cortisol Responses to Experimentally-Induced Minority Stress

David M. Huebner[1], Larissa A. McGarrity[2], Nicholas S. Perry[3], Leigh A. Spivey[4], and Timothy W. Smith[5]

Minority Stress Theory: Cardiovascular Health



Discrimination and Health

The State of the LGBTQ Community in 2020

A National Public Opinion Study

- 20% of LGBTQ people overall – and 47% of transgender people – reported being discriminated against because they are part of the LGBTQ community when going to a doctor or health clinic
- 28% of transgender people avoided seeking health care when they needed it in the previous year out of concern they would be discriminated against
- 22% of transgender people had been denied insurance coverage for preventive screenings based on gender

EO on Preventing & Combating Discrimination

Administration Priorities COVID-19

BRIEFING ROOM

Executive Order on Preventing and Combating Discrimination on the Basis of Gender Identity or Sexual Orientation

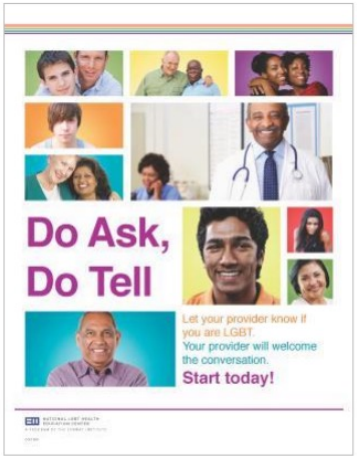
JANUARY 20, 2021 • PRESIDENTIAL ACTIONS

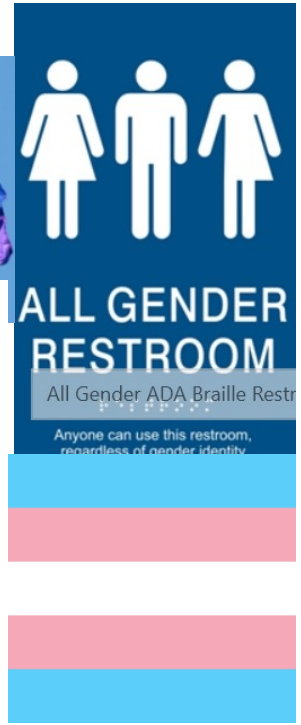
Sec. 2. Enforcing Prohibitions on Sex Discrimination on the Basis of Gender Identity or Sexual Orientation.

(b) The head of each agency shall, as soon as practicable and as appropriate and consistent with applicable law, including the Administrative Procedure Act (5 U.S.C. 551 et seq.), consider whether to revise, suspend, or rescind such agency actions, or promulgate new agency actions, as necessary to fully implement statutes that prohibit sex discrimination and the policy set forth in section 1 of this order.

Creating a Welcoming Environment

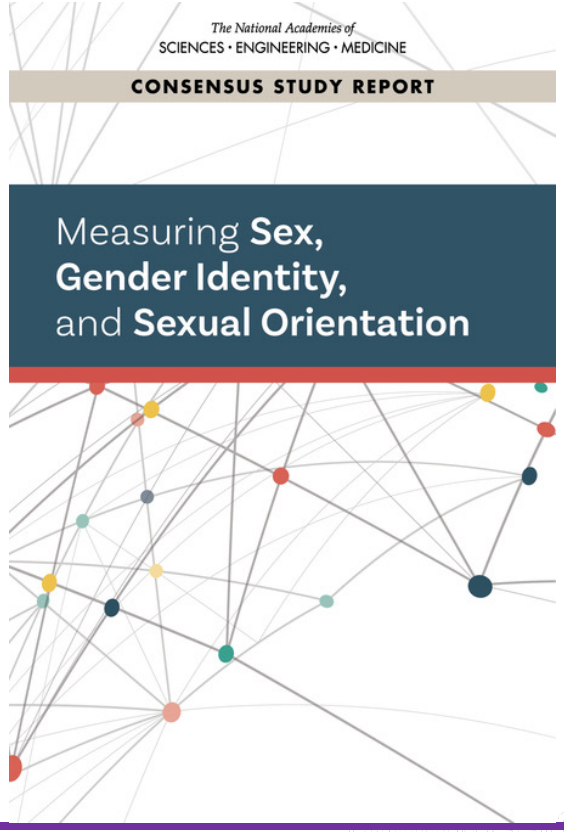
- Display symbols welcoming LGBTQ community
- Include brochures addressing relevant health concerns
- Update intake forms/EMRs
- Staff training re: gender neutral language
- ASK
  - Correct name
  - Pronouns
  - Language for body (anatomy)
- Recognize that much care being sought is not specifically related to SOGI





GLMA. Guidelines for Caring for Lesbian, Gay, Bisexual, Transgender Patients.

National Academies



- Sex assigned at birth
- Intersex status
- Anatomy inventory
- Gender identity
- Sexual orientation

- Name
- Pronouns

Evidence-Based SOGI Data Collection

OPEN ACCESS Freely available online PLOS | ONE

Do Ask, Do Tell: High Levels of Acceptability by Patients of Routine Collection of Sexual Orientation and Gender Identity Data in Four Diverse American Community Health Centers

Sean Cahill[1*], Robbie Singal[2], Chris Grasso[2], Dana King[2], Kenneth Mayer[3], Kellan Baker[4], Harvey Makadon[5]

1 The Fenway Institute, Northeastern University Department of Political Science, Boston, MA, United States of America/New York University Wagner School, New York, NY, United States of America, 2 The Fenway Institute, Boston, MA, United States of America, 3 The Fenway Institute/Beth Israel Deaconess Medical Centre/Harvard Medical School, Boston, MA, United States of America, 4 Center for American Progress, Washington, DC, United States of America, 5 The Fenway Institute/Harvard Medical School, Boston, MA, United States of America

Risks, Benefits, and Importance of Collecting Sexual Orientation and Gender Identity Data in Healthcare Settings: A Multi-Method Analysis of Patient and Provider Perspectives

Allysha C. Maragh-Bass, PhD, MPH,[1] Maya Torain,[2,3] Rachel Adler, ScD, RD,[2,3] Eric Schneider, PhD,[2,3] Anju Ranjit, MD, MPH,[2,3] Lisa M. Kodadek, MD,[4] Ryan Shields,[4] Danielle German, PhD, MPH,[1] Claire Snyder, PhD,[5,6] Susan Peterson, MD,[7] Jeremiah Schuur, MD, MHS,[8] Brandyn Lau, MPH,[4] and Adil H. Haider, MD, MPH[2,3]

ORIGINAL CONTRIBUTION

Is It Okay To Ask: Transgender Patient Perspectives on Sexual Orientation and Gender Identity Collection in Healthcare

Allysha C. Maragh-Bass, PhD, MPH, Maya Torain, BS, Rachel Adler, ScD, Anju Ranjit, MD, MPH, Eric Schneider, PhD, Ryan Y. Shields, MD, Lisa M. Kodadek, MD, Claire F. Snyder, PhD, MHS, Danielle German, PhD, MPH, Susan Peterson, MD, Jeremiah Schuur, MD, MHS, Brandyn D. Lau, MPH, and Adil H. Haider, MD, MPH, FACS

Original article

Collecting sexual orientation and gender identity information in the emergency department : the divide between patient and provider perspectives

Lisa M Kodadek,[1] Susan Peterson,[2] Ryan Y Shields,[3] Danielle German,[4] Anju Ranjit,[5] Claire Snyder,[6,7] Eric Schneider,[8] Brandyn D Lau,[9,10,11,12] Adil H Haider[5]

Home » American Journal of Public Health (AJPH) » **July 2020**

Sexual Orientation and Gender Identity Data Collection: Clinical and Public Health Importance

Carl G. Streed Jr MD, MPH, **Chris Grasso** MPH, **Sari L. Reisner** ScD, and **Kenneth H. Mayer** MD

[+] Author affiliations, information, and correspondence details

Accepted: April 13, 2020 Published Online: June 10, 2020

The NEW ENGLAND JOURNAL of MEDICINE

Perspective

Ensuring That LGBTQI+ People Count — Collecting Data on Sexual Orientation, Gender Identity, and Intersex Status

Kellan E. Baker, Ph.D., M.P.H., Carl G. Streed, Jr., M.D., M.P.H., and Laura E. Durso, Ph.D.

April 1, 2021
N Engl J Med 2021; 384:1184-1186
DOI: 10.1056/NEJMp2032447

Courtesy of Lauren Beach, JD, PhD

SOGI Data Collection in Ambulatory Settings

	1 - Strongly Disagree	2 - Somewhat Disagree	3 – Neutral	4 - Somewhat Agree	5 – Strongly Agree	Missing answer	Mean (SD)
N = 301	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)
10. In answering the question about sexual orientation, please tell us whether you agree or disagree:							
10a. I understood what the question was asking about me	21 (7.0%)	5 (1.7%)	18 (6.0%)	27 (9.0%)	225 (74.8%)	5 (1.7%)	4.45 (1.15)
10b. I understood all of the answer choices	19 (6.3%)	3 (1.0%)	9 (3.0%)	32 (10.6%)	228 (75.7%)	10 (3.3%)	4.54 (1.08)
10c. The question was easy for me to answer	20 (6.6%)	5 (1.7%)	11 (3.7%)	32 (10.6%)	225 (74.8%)	8 (2.7%)	4.49 (1.12)
10d. I would answer this question on a registration form at this health center.	22 (7.3%)	3 (1.0%)	16 (5.3%)	33 (11.0%)	217 (72.1%)	10 (3.3%)	4.44 (1.15)
10e. This question allows me to accurately document my sexual orientation	26 (8.6%)	8 (2.7%)	23 (7.6%)	39 (13.0%)	195 (64.8%)	10 (3.3%)	4.27 (1.26)
10f. I think this information is important for my medical provider to know about me	24 (8.0%)	10 (3.3%)	25 (8.3%)	37 (12.3%)	197 (65.4%)	8 (2.7%)	4.27 (1.25)
15. In answering Question 13 ("What is your current gender identity?"), please let us know whether you agree or disagree:							
15a. I understood what the question was asking about me	20 (6.6%)	3 (1.0%)	7 (2.3%)	20 (6.6%)	246 (81.7%)	5 (1.7%)	4.58 (1.08)
15b. I understood all of the answer choices	20 (6.6%)	9 (3.0%)	8 (2.7%)	25 (8.3%)	234 (77.7%)	5 (1.7%)	4.50 (1.14)
15c. The question was easy for me to answer	20 (6.6%)	1 (0.3%)	9 (3.0%)	21 (7.0%)	244 (81.1%)	6 (2.0%)	4.59 (1.07)
15d. I would answer this question on a registration form at this health center.	21 (7.0%0	3 (1.0%)	14 (4.7%)	17 (5.6%)	242 (80.4%)	4 (1.3%)	4.54 (1.12)
16. In answering Question 14 ("what sex were you assigned at birth on your original birth certificate?"), please let us know whether you agree or disagree:							
16a. I understood what the question was asking about me	17 (5.6%)	1 (0.3%)	8 (2.7%)	11 (3.7%)	256 (85.0%)	8 (2.7%)	4.67 (1.00)
16b. The question was easy for me to answer	19 (6.3%)	1 (0.3%)	12 (4.0%)	11 (3.7%)	247 (82.1)	11 (3.7%)	4.61 (1.06)
16c. I would answer this question on a registration form at this health center.	20 (6.6%)	4 (1.3%)	14 (4.7%)	15 (5.0%)	238 (79.1%)	10 (3.3%)	4.54 (1.12)
17. In answering the gender identity questions (which includes questions 13 and 14), please let us know whether you agree or disagree:							
17a. This set of questions allows me to accurately document my gender identity	20 (6.6%)	5 (1.7%)	17 (5.6%)	18 (6.0%)	231 (76.7%)	10 (3.3%)	4.49 (1.14)
17b. I think this information is important for my provider to know about me	20 (6.6%)	7 (2.3%)	14 (4.7%)	22 (7.3%)	227 (75.4%)	11 (3.7%)	4.48 (1.15)

Note: Data may not add up to 100% due to rounding.
doi:10.1371/journal.pone.0107104.t002

Cahill et al. *PLOS ONE*. 2014

SOGI Data Collection in Emergency Room Settings

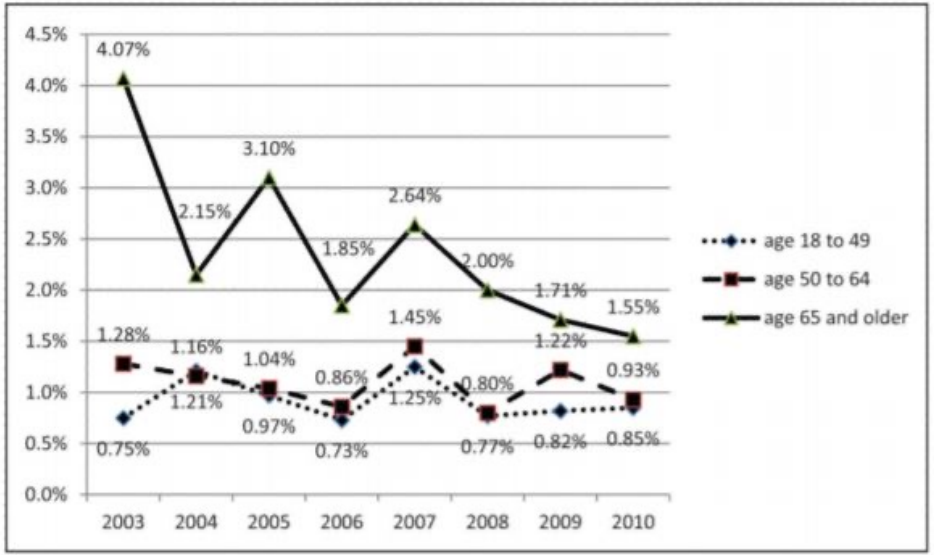
SGM patients to emergency rooms report greater comfort and improved communication when SOGI was collected via nonverbal self-report.

Non-SGM have no preference.

Characteristic	Patients Who Would Refuse vs Not Refuse to Provide Sexual Orientation, No. (%)		P Value
	Refuse (n = 152)	Not Refuse (n = 1331)	
Sexual orientation			
Straight	143.5 (10.1)	1271.0 (89.9)	.049
Lesbian	0.5 (4.8)	9.7 (95.1)	
Gay	3.1 (12.0)	22.8 (88.0)	
Bisexual	5.4 (16.4)	27.6 (83.6)	
Age, y			
18-29	20.0 (6.5)	288.3 (93.5)	.23
30-44	39.0 (10.3)	341.3 (89.7)	
45-59	41.2 (10.3)	359.2 (89.7)	
≥60	52.1 (13.2)	342.7 (86.8)	
Education			
<High school	23.2 (14.2)	139.7 (85.8)	.40
High school	33.8 (7.8)	400.3 (92.2)	
Some college	45.9 (10.5)	392.1 (89.5)	
Undergraduate degree	49.5 (11.0)	399.2 (89.0)	
Race/ethnicity			
White, non-Hispanic	108.5 (10.8)	897.4 (89.2)	.53
Black, non-Hispanic	13.4 (7.8)	157.7 (92.2)	
Other, non-Hispanic	4.0 (4.7)	82.2 (95.3)	
Hispanic	25.6 (12.6)	177.5 (87.4)	
≥2 Races	0.9 (5.2)	16.5 (94.7)	

Haidar et al. *JAMA IM*. 2017

SOGI Data Collection in Surveys



Time trends in rates of “refuse to answer” on sexual orientation by age: Washington state behavioral risk factor surveillance system, 2003–2010 (unweighted n = 172,628).

Fredriksen-Goldsen and Kim. *Res. Aging* 2015

SOGI Data Collection in Surveys

	Total	Sexual orientation			Income	Education	Race/ethnicity
			Don't know/not sure	Refuse to answer			
Age	Weighted % [95% CI]	AOR[a]	Weighted % [95% CI]	Weighted % [95% CI]	Weighted % [95% CI]	Weighted % [95% CI]	Weighted % [95% CI]
Total	1.93 [1.84, 2.03]	—	0.75 [0.69, 0.82]	1.18 [1.11, 1.25]	12.16 [11.91, 12.42]	0.16 [0.14, 0.19]	1.16 [1.08, 1.25]
18–49	1.57 [1.44, 1.72]	0.31***	0.66 [0.57, 0.76]	0.92 [0.82, 1.02]	11.77 [11.40, 12.16]	0.14 [0.11, 0.19]	1.25 [1.13, 1.38]
50–64	1.50 [1.37, 1.65]	0.43***	0.41 [0.34, 0.50]	1.09 [0.98, 1.21]	9.69 [9.37, 10.03]	0.13 [0.10, 0.18]	1.10 [0.99, 1.23]
65 and older	4.04 [3.81, 4.27]	(ref)	1.68 [1.54, 1.84]	2.35 [2.18, 2.54]	17.68 [17.24, 18.14]	0.28 [0.22, 0.35]	0.91 [0.81, 1.03]

Weighted Item Nonresponse Rates on Sexual Orientation, Income, and Education by Age: Washington State Behavioral Risk Factor Surveillance System (BRFSS-WA), 2003–2010.

Fredriksen-Goldsen and Kim. *Res. Aging* 2015

EHR SOGI Data Collection

Month 1:	• Engage with health center leadership and community partners • Establish a process for addressing the community's comments and concerns • Plan time and space for any follow-up engagement that may be required
Month 2:	• Review SOGI questions (refine if needed) • Develop a data collection workflow and process map • Evaluate EHR functionality for collecting SOGI data. Communicate with EHR vendor to create forms and update performance, as needed • Establish a quality improvement process to evaluate the efficiency and effectiveness of the workflow; modify as appropriate • Translate SOGI questions as needed
Months 3-5:	• Train all staff in LGBTQIA+ cultural responsiveness • Provide training and supervision of SOGI data collection to relevant staff, and assess for readiness • Begin making the clinical environment more welcoming and inclusive for people of all sexual orientations and gender identities
Month 3:	• Pilot SOGI workflow in one department or site (train relevant staff) • Make refinements to the workflow and training as needed
Month 4:	• Expand pilot and training to other departments/sites • Make refinements to the workflow and training as needed
Months 3-4:	• Modify electronic health record systems to accommodate clinic workflow, as needed
Months 5-7:	• Continue to expand SOGI data collection and training to other departments/sites
Months 9-10:	• Expand to all departments/sites • Monitor progress through quarterly data feedback reports
Month 14:	• Conduct first data summary report
Ongoing:	• Monitor data quality; respond to patient and staff feedback; train new staff • Translate SOGI questions and resources as needed • Analyze data and report on findings
Annually:	• Train all staff in LGBTQIA+ cultural responsiveness

- Create a team
  - Admin
  - Clinical
  - HIT
- Implementation timeline
- Community engagement

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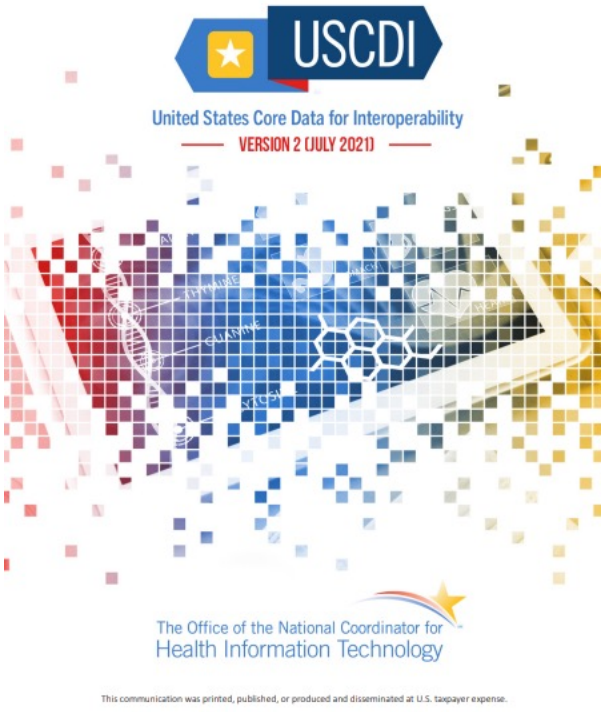
EHR SOGI Data Collection



- Optimizing EHR for SOGI data collection
  - Meaningful Use Stage 3 (2018)
  - ONC USCDI v2 (2021)
  - SOGI data display
  - Customize SOGI templates
  - Cross-talk across systems
- Incorporating SOGI data collection into the workflow
- Training staff to collect SOGI data

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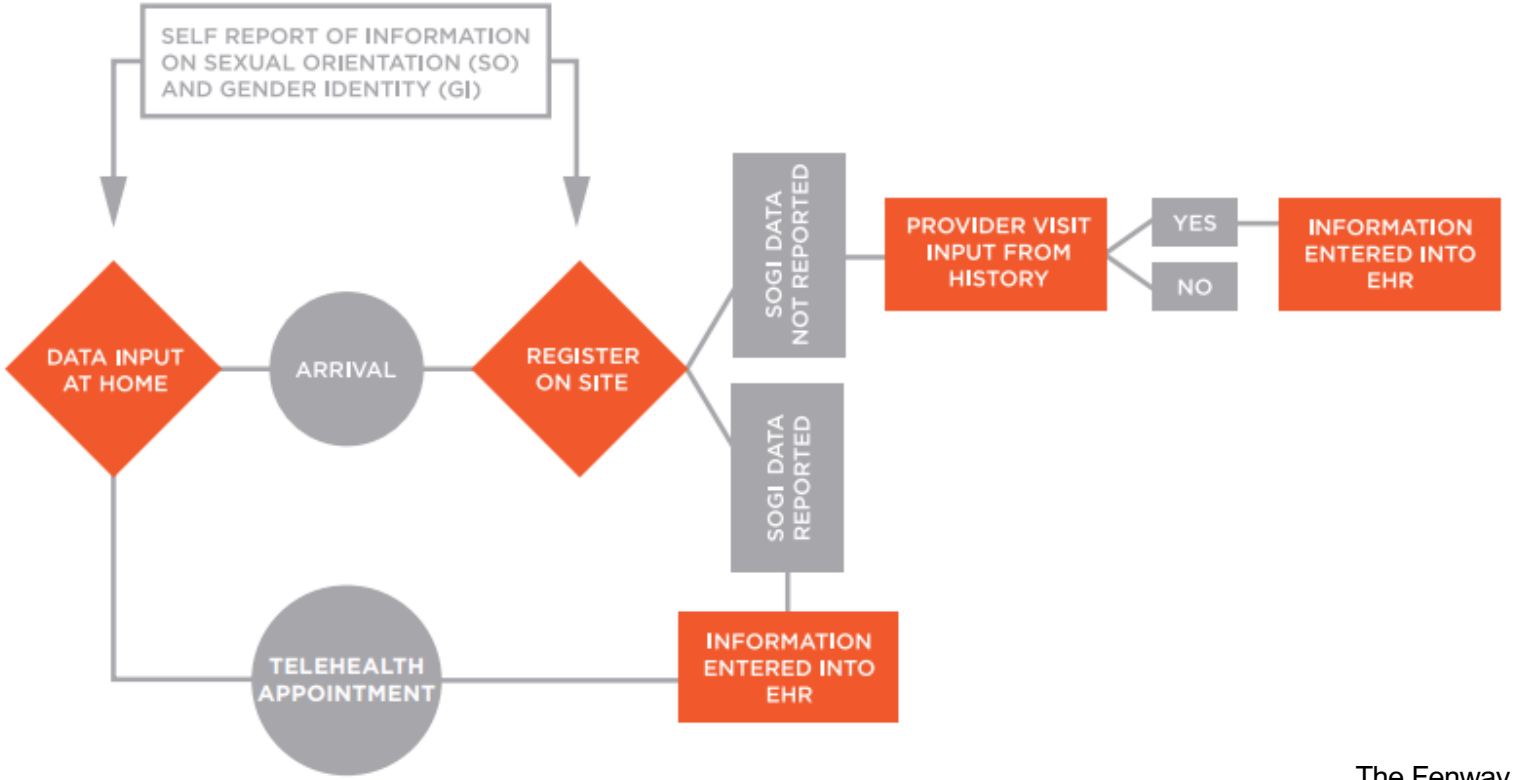
EHR SOGI Data Collection: Workflow



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Anticipated Concerns

Sexual Orientation and Gender Identity

Patient's Preferred Pronouns: He | She | They

Autofill with cisgender responses for: female | male | non-binary

How do you describe your current gender identity?
- Choose not to disclose
- Female
- Gender Non-conforming
- Gender Queer
- Male
- Non-binary
- Other
- Transgender Female / Male-to-Female
- Transgender Male / Female-to-Male

What was the sex written on your original birth certificate?
- Choose not to disclose
- Female
- Male
- Not recorded on birth certificate
- Uncertain
- Unknown

How do you describe your sexual orientation?
- Bisexual
- Choose not to disclose
- Don't know
- Lesbian or Gay
- Queer
- Something else
- Straight (not lesbian or gay)

What are the genders of your sexual partners? Select all that apply:
- Cisgender Female
- Cisgender Male
- Female-to-Male spectrum(FTM)/ Transgender Male/ Trans Man
- Male-to-Female spectrum(MTF)/ Transgender Female/ Trans Woman
- Something else

Organ Inventory

Organs the patient currently has: breasts | cervix | ovaries | uterus | vagina | penis | prostate | testes

Organs present at birth or expected at birth to develop: same as current organs

breasts | cervix | ovaries | uterus | vagina | penis | prostate | testes

- Improving patient satisfaction & improving reach
  - Patient-centered data collection
- Medically relevant
- Supported by professional orgs
  - AMA, NASEM, J.Co., AHA, HHS, etc.
- Privacy and Confidentiality
  - Auditing
  - Restricted views
  - HIPAA

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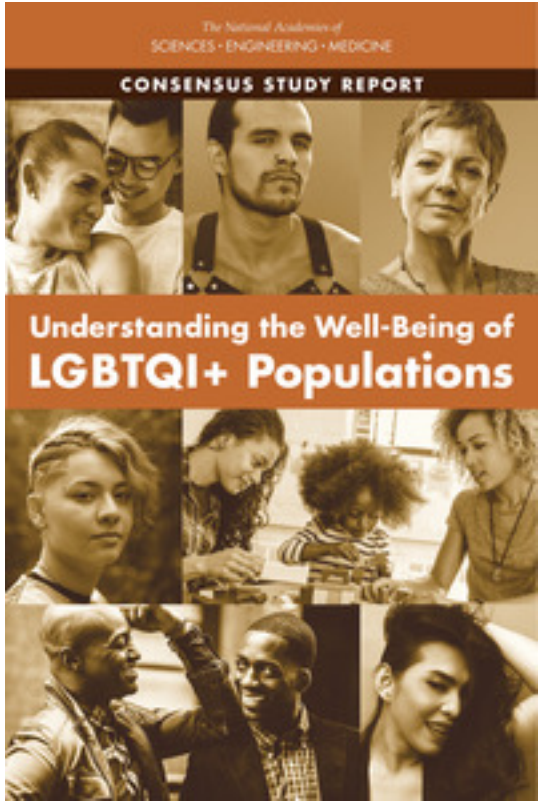
What Can We Do?



1. **Collect Data:** Incorporate sexual orientation, gender identity, and intersex status measures in surveys and other research and data collection instruments and systems (e.g., MCBS; CAHPS; HEDIS, especially for SNPs; stratify measures of quality; identify opportunities to incorporate measures of transgender status in claims)

2. **Improve Measurement:** Continuously refine and improve measures to accurately capture the full range of sexual and gender diversity

3. **Fill Data Gaps:** Support and conduct rigorous and innovative research across all domains of well-being to advance understanding of the experiences and needs of sexual and gender diverse populations

4. **Facilitate Data Use:** Convene government and private stakeholders to facilitate data access, linkages, and use

5. **Expand Evidence-Based Programming and Interventions:** Prioritize research on services, programs, and interventions to improve the well-being of sexual and gender diverse populations

Additional Resources

Suggestions for Research & Clinical Practice

Clinical Practice

- Ensure collection of sexual orientation and gender identity data in electronic health records through providing clinicians with training on LGBTQ health disparities and the proper assessment of sexual orientation and gender identity in healthcare settings
- Incorporate LGBTQ content in the curricula of health professions schools and post-graduate training
- Require continuing education on LGBTQ health for all practicing clinicians that includes content on cardiovascular health disparities
- Familiarize yourself with local resources and LGBTQ-specific support groups and interventions (e.g., tobacco cessation, exercise/weight management groups, etc.)

Suggestions for Research & Clinical Practice

Cardiovascular Research

- Develop standardized sexual orientation and gender identity measures and integrate these in current and future NIH-funded cardiovascular prospective cohort studies to allow for data harmonization
- Integrate biobehavioral measures into cardiovascular research with LGBTQ populations
- Leverage electronic health record data to increase understanding of LGBTQ cardiovascular health
- Partner with LGBTQ communities for measurement development, study design and conduct, and research dissemination to ensure research reflects the needs of LGBTQ adults, especially stigmatized groups
- Develop and test multi-level interventions for cardiovascular risk reduction in LGBTQ adults
- Examine social and clinical determinants of cardiovascular health in LGBTQ adults
- Characterize the role of resilience in buffering the cardiovascular effects of stress in LGBTQ people

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References

1. Newport F. In U.S., estimate of LGBT population rises to 4.5%. Gallup. https://news.gallup.com/poll/234863/estimate-lgbt-population-rises.aspx. Published 2018. Accessed April 15, 2020.
2. Institute of Medicine. *The Health of Lesbian, Gay, Bisexual, and Transgender People: Building a Foundation for Better Understanding*. Washington D.C.: National Academies Press; 2011.
3. Havranek EP, Mujahid MS, Barr DA, et al. Social determinants of risk and outcomes for cardiovascular disease. *Circulation*. 2015;132(9):873-898. doi:10.1161/CIR.0000000000000228
4. Caceres BA, Brody A, Luscombe RE, et al. A systematic review of cardiovascular disease in sexual minorities. *Am J Public Health*. 2017;107(4):e13-e21. doi:10.2105/AJPH.2016.303630
5. Streed CG, Harfouch O, Marvel F, Blumenthal RS, Martin SS, Mukherjee M. Cardiovascular disease among transgender adults receiving hormone therapy: A narrative review. *Ann Intern Med*. 2017;167(4):256-267. doi:10.7326/M17-0577
6. Coulter RWS, Kenst KS, Bowen DJ. Research funded by the National Institutes of Health on the health of lesbian, gay, bisexual, and transgender populations. *Am J Public Health*. 2014;104(2):105-112. doi:10.2105/AJPH.2013.301501
7. Hoffman L, Delahanty J, Johnson SE, Zhao X. Sexual and gender minority cigarette smoking disparities: An analysis of 2016 Behavioral Risk Factor Surveillance System data. *Prev Med (Baltim)*. 2018;113:109-115. doi:10.1016/j.ypmed.2018.05.014
8. Caceres BA, Brody AA, Halkitis PN, Dorsen C, Yu G, Chyun DA. Cardiovascular disease risk in sexual minority women (18-59 years old): Findings from the National Health and Nutrition Examination Survey (2001-2012). *Women's Heal Issues*. 2018;28(4):333-341. doi:10.1016/j.whi.2018.03.004
9. Caceres BA, Makarem N, Hickey KT, Hughes TL. Cardiovascular disease disparities in sexual minority adults: An examination of the Behavioral Risk Factor Surveillance System (2014-2016). *Am J Heal Promot*. 2019;33(4):576-585. doi:10.1177/0890117118810246
10. Azagba S, Latham K, Shan L. Cigarette, smokeless tobacco, and alcohol use among transgender adults in the United States. *Int J Drug Policy*. 2019;73:163-169. doi:10.1016/j.drugpo.2019.07.024
11. Liu H, Chen I-C, Wilkinson L, Pearson J, Zhang Y. Sexual orientation and diabetes during the transition to adulthood. *LGBT Heal*. 2019;6(5):227-234. doi:10.1089/lgbt.2018.0153
12. Alzahrani T, Nguyen T, Ryan A, et al. Cardiovascular disease risk factors and myocardial infarction in the transgender population. *Circ Cardiovasc Qual Outcomes*. 2019;12(4):e005597. doi:10.1161/CIRCOUTCOMES.119.005597
13. Caceres BA, Brody AA, Halkitis PN, Dorsen C, Yu G, Chyun DA. Sexual orientation differences in modifiable risk factors for cardiovascular disease and cardiovascular disease diagnoses in men. *LGBT Heal*. 2018;5(5):284-294. doi:10.1089/lgbt.2017.0220
14. Caceres BA, Ancheta AJ, Dorsen C, Newlin-Lew K, Edmondson D, Hughes TL. A population-based study of the intersection of sexual identity and race/ethnicity on physiological risk factors for CVD among U.S. adults (ages 18-59). *Ethn Health*. March 2020:1-22. doi:10.1080/13557858.2020.1740174
15. Katz-Wise SL, Blood EA, Milliren CE, et al. Sexual orientation disparities in BMI among U.S. adolescents and young adults in three race/ethnicity groups. *J Obes*. 2014:537242. doi:10.1155/2014/537242
16. Lloyd-Jones DM, Hong Y, Labarthe D, et al. Defining and setting national goals for cardiovascular health promotion and disease reduction: The American Heart Association's Strategic Impact Goal through 2020 and beyond. *Circulation*. 2010;121(4):586-613. doi:10.1161/CIRCULATIONAHA.109.192703
17. Brooks VR. *Minority Stress and Lesbian Women.* Lexington, MA: Lexington Books.; 1981.
18. Meyer IH. Prejudice, social stress, and mental health in lesbian, gay, and bisexual populations: Conceptual issues and research evidence. *Psychol Bull*. 2003;129(5):674-697. doi:10.1037/0033-2909.129.5.674
19. McLeroy KR, Bibeau D, Steckler A, Glanz K. An ecological perspective on health promotion programs. *Health Educ Q*. 1988;15(4):351-377. doi:10.1177/109019818801500401
20. Testa RJ, Habarth J, Peta J, Balsam K, Bockting W. Development of the gender minority stress and resilience measure. *Psychol Sex Orientat Gend Divers*. 2015;2(1):65-77. doi:10.1037/sgd0000081

References

21.Balsam KF, Rothblum ED, Beauchaine TP. Victimization over the life span: A comparison of lesbian, gay, bisexual, and heterosexual siblings. *J Consult Clin Psychol*. 2005;73(3):477-487. doi:10.1037/0022-006X.73.3.477

22.Brown TNT, Herman JL. *Intimate Partner Violence and Sexual Abuse Among LGBTQ People*. Los Angeles, CA; 2015. doi:10.1177/1524838012470034

23.Badgett, M.V L, Choi SK, Wilson BDM. LGBT poverty in the United States: A study of differences between sexual orientation and gender identity groups. 2019;(October). https://williamsinstitute.law.ucla.edu/wp-content/uploads/National-LGBT-Poverty-Oct-2019.pdf?utm_campaign=hsric&utm_medium=email&utm_source=govdelivery.

24.Movement Advancement Project. *LGBT Policy Spotlight: Public Accommodations Nondiscrimination Laws*.; 2018. http://www.lgbtmap.org/file/Spotlight-Public-Accommodations-FINAL.pdf. Accessed April 15, 2020.

25.Major B, Dovidio JF, Link BG, Calabrese SK. Stigma and its implications for health: Introduction and overview. In: Major B, Dovidio JF, Link BG, eds. *The Oxford Handbook of Stigma, Discrimination, and Health*. 1st Editio. Oxford, United Kingdom: Oxford University Press; 2017:3-28. doi:10.1093/oxfordhb/9780190243470.001.0001

26.Panza GA, Puhl RM, Taylor BA, Zaleski AL, Livingston J, Pescatello LS. Links between discrimination and cardiovascular health among socially stigmatized groups: A systematic review. *PLoS One*. 2019;14(6):e0217623. doi:10.1371/journal.pone.0217623

27.Lewis TT, Williams DR, Tamene M, Clark CR. Self-reported experiences of discrimination and cardiovascular disease. *Curr Cardiovasc Risk Rep*. 2014;8(1):365. doi:10.1007/s12170-013-0365-2

28.Centers for Disease Control and Prevention. HIV and gay and bisexual men. https://www.cdc.gov/hiv/group/msm/index.html. Published 2019. Accessed April 15, 2020.

29.Feinstein MJ, Hsue PY, Benjamin LA, et al. Characteristics, prevention, and management of cardiovascular disease in people living with HIV: A scientific statement from the American Heart Association. *Circulation*. 2019:1-27. doi:10.1161/CIR.0000000000000695

30.Defreyne J, Van de Bruaene LDL, Rietzschel E, Van Schuylenbergh J, T'Sjoen GGR. Effects of gender-affirming hormones on lipid, metabolic, and cardiac surrogate blood markers in transgender persons. *Clin Chem*. 2019;65(1):119-134. doi:10.1373/clinchem.2018.288241

31.McCabe SE, Hughes TL, Matthews AK, et al. Sexual orientation discrimination and tobacco use disparities in the United States. *Nicotine Tob Res*. 2019;21(4):523-531. doi:10.1093/ntr/ntx283

32.Herrick SSC, Duncan LR. A systematic scoping review of engagement in physical activity among LGBTQ+ adults. *J Phys Act Health*. 2018;15(3):226-232. doi:10.1123/jpah.2017-0292

33.VanKim NA, Bryn AS, Hee-Jin J, Corliss HL. Physical activity and sedentary behaviors among lesbian, bisexual, and heterosexual women: Findings from the Nurses' Health Study II. *J Women's Heal*. 2017;26(10):1077-1085. doi:10.1089/jwh.2017.6389

34.Jones BA, Arcelus J, Bouman WP, Haycraft E. Sport and transgender people: A systematic review of the literature relating to sport participation and competitive sport policies. *Sport Med*. 2017;47(4):701-716. doi:10.1007/s40279-016-0621-y

35.Jones BA, Haycraft E, Bouman WP, Arcelus J. The levels and predictors of physical activity engagement within the treatment-seeking transgender population: A matched control study. *J Phys Act Health*. 2018;15(2):99-107. doi:10.1123/jpah.2017-0298

36.Minnis AM, Catellier D, Kent C, et al. Differences in chronic disease behavioral indicators by sexual orientation and sex. *J Public Heal Manag Pract*. 2016;22(2):S25-32. doi:10.1097/PHH.0000000000000350

37.VanKim NA, Austin SB, Jun H-J, Hu FB, Corliss HL. Dietary patterns during adulthood among lesbian, bisexual, and heterosexual women in the Nurses' Health Study II. *J Acad Nutr Diet*. 2016;S2212-2672(16):31195-31199. doi:10.1016/j.jand.2016.09.028

38.Caceres BA, Veldhuis CB, Hughes TL. Racial/ethnic differences in cardiometabolic risk in a community sample of sexual minority women. *Heal Equity*. 2019;3(1):350-359. doi:10.1089/heq.2019.0024

39.Jackson CL, Agénor M, Johnson DA, Austin SB, Kawachi I. Sexual orientation identity disparities in health behaviors, outcomes, and services use among men and women in the United States: A cross-sectional study. *BMC Public Health*. 2016;16(807):1-11. doi:10.1186/s12889-016-3467-1

40.Hatzenbuehler ML, McLaughlin KA, Slopen N. Sexual orientation disparities in cardiovascular biomarkers among young adults. *Am J Prev Med*. 2013;44(6):612-621. doi:10.1016/j.amepre.2013.01.027

References

41.Corliss HL, VanKim NA, Jun H-J, et al. Risk of type 2 diabetes among lesbian, bisexual, and heterosexual women: Findings from the Nurses' Health Study II. *Diabetes Care*. 2018;41(7):1448-1454. doi:10.2337/dc17-2656

42.Wierckx K, Elaut E, Declercq E, et al. Prevalence of cardiovascular disease and cancer during cross-sex hormone therapy in a large cohort of trans persons: A case-control study. *Eur J Endocrinol*. 2013;169(4):471-478. doi:10.1530/EJE-13-0493

43.Dragon CN, Guerino P, Ewald E, Laffan AM. Transgender medicare beneficiaries and chronic conditions: Exploring fee-for-service claims data. *LGBT Heal*. 2017;4(6):404-411. doi:10.1089/lgbt.2016.0208

44.Maraka S, Singh Ospina N, Rodriguez-Gutierrez R, et al. Sex steroids and cardiovascular outcomes in transgender Individuals: A systematic review and meta-analysis. *J Clin Endocrinol Metab*. 2017;102(11):3914-3923. doi:10.1210/jc.2017-01643

45.St-Onge M-P, Grandner MA, Brown D, et al. Sleep duration and quality: Impact on lifestyle behaviors and cardiometabolic health: A scientific statement from the American Heart Association. *Circulation*. 2016;134(18):e367-e386. doi:10.1161/CIR.0000000000000444

46.Butler ES, McGlinchey E, Juster R-P. Sexual and gender minority sleep: A narrative review and suggestions for future research. *J Sleep Res*. 2020;29(1):e12928. doi:10.1111/jsr.12928

47.Getahun D, Nash R, Flanders WD, et al. Cross-sex hormones and acute cardiovascular events in transgender persons: A cohort study. *Ann Intern Med*. July 2018:1-10. doi:10.7326/M17-2785

48.Lamda Legal. *When Health Care Isn't Caring Lambda Legal's Survey on Discrimination Against LGBT People and People Living with HIV*. New York, NY; 2010.

49.Roberts SJ, Stuart-Shor EM, Oppenheimer RA. Lesbians' attitudes and beliefs regarding overweight and weight reduction. *J Clin Nurs*. 2010;19(13-14):1986-1994. doi:10.1111/j.1365-2702.2009.03182.x

50.Ylioja T, Cochran G, Woodford MR, Renn KA. Frequent experience of LGBQ microaggression on campus associated with smoking among sexual minority college students. *Nicotine Tob Res*. 2018;20(3):340-346. doi:10.1093/ntr/ntw305

51.Caceres BA, Veldhuis CB, Hickey KT, Hughes TL. Lifetime trauma and cardiometabolic risk in sexual minority women. *J Women's Heal*. 2019;28(9):1200-1217. doi:10.1089/jwh.2018.7381

52.Goldberg SK, Conron KJ, Halpern CT. Metabolic syndrome and economic strain among sexual minority young adults. *LGBT Heal*. 2019;6(1):1-8. doi:10.1089/lgbt.2018.0053

53.VanKim NA, Porta CM, Eisenberg ME, Neumark-Sztainer D, Laska MN. Lesbian, gay and bisexual college student perspectives on disparities in weight-related behaviours and body image: A qualitative analysis. *J Clin Nurs*. 2016;25(23-24):3676-3686. doi:10.1111/jocn.13106

54.Streed CG, McCarthy EP, Haas JS. Self-reported physical and mental health of gender nonconforming transgender adults in the United States. *LGBT Heal*. 2018;5(7):443-448. doi:10.1089/lgbt.2017.0275

55.Office of the National Coordinator for Health Information Technology. ONC fact sheet: 2015 edition Health Information Technology (Health IT) certification criteria, base electronic health record (EHR) definition, and ONC health IT certification program modifications final rule. https://www.healthit.gov/topic/certification-ehrs/2015-edition. Published 2015. Accessed April 12, 2020.

56.Streed CG, Davis JA. Improving clinical education and training on sexual and gender minority health. *Curr Sex Heal Reports*. 2018;10(4):273-280.

57.Lim F, Johnson M, Eliason M. A national survey of faculty knowledge, experience, and readiness for teaching lesbian, gay, bisexual, and transgender health in baccalaureate nursing programs. *Nurs Educ Perspect*. 2015;36:144-152. doi:10.5480/14-1355

58.Streed CG, Hedian HF, Bertram A, Sisson SD. Assessment of internal medicine resident preparedness to care for lesbian, gay, bisexual, transgender, and queer/questioning patients. *J Gen Intern Med*. 2019;34(6):893-898. doi:10.1007/s11606-019-04855-5

59.Seaborne LA, Prince RJ, Kushner DM. Sexual health education in U.S. physician assistant programs. *J Sex Med*. 2015;12(5):1158-1164. doi:10.1111/jsm.12879

60.Talan AJ, Drake CB, Glick JL, Claiborn CS, Seal D. Sexual and gender minority health curricula and institutional support services at U.S. schools of public health. *J Homosex*. 2017;64(10):1350-1367. doi:10.1080/00918369.2017.1321365

61.Zelin NS, Hastings C, Beaulieu-Jones BR, et al. Sexual and gender minority health in medical curricula in new England: A pilot study of medical student comfort, competence and perception of curricula. *Med Educ Online*. 2018;23(1):1461513. doi:10.1080/10872981.2018.1461513

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