

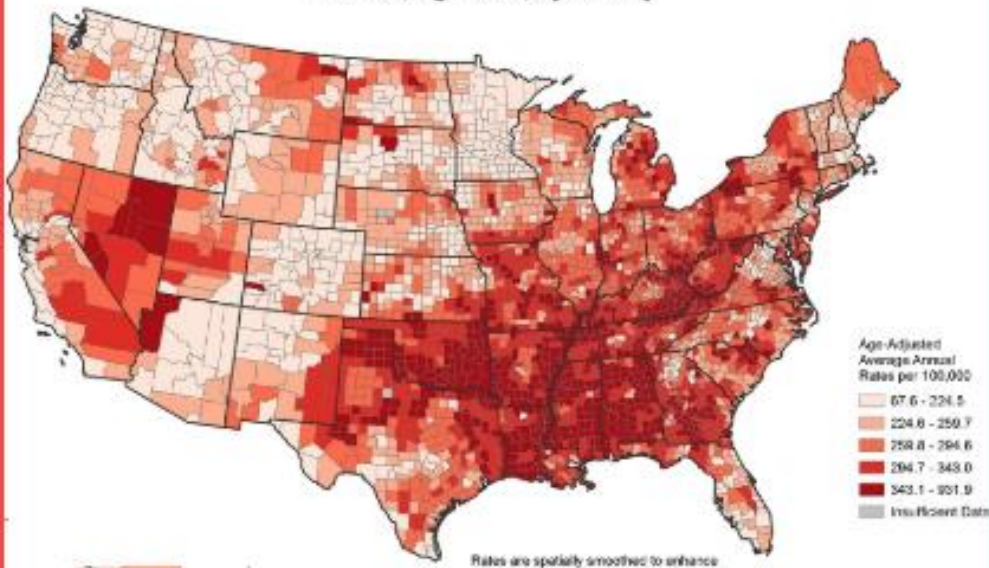
Women and Heart Disease: *Are we doing enough?*

Mariell Jessup MD

Emeritus Professor of Medicine, University of Pennsylvania

Chief Science and Medicine Officer, American Heart Association

Heart Disease Death Rates, 2011-2013
Women, Ages 35+, by County



Women & Heart Disease

Heart disease and stroke
kill **1 in 3** women...

...but

80%

of the deaths are
preventable.

Disclosure

I have no relationships with industry

Intellectual bias

I am a clinical investigator.


I worked at Penn as a heart failure/transplant cardiologist for over 25 years.

I served as the Chief Science Officer at Leducq Foundation prior
to coming to AHA

I have been a long-time AHA volunteer.

2020 Impact Goal

20% 2020



“By 2020, to improve the cardiovascular health of all Americans by 20% while reducing deaths from cardiovascular diseases and stroke by 20%.”

Mortality in the United States, 2017

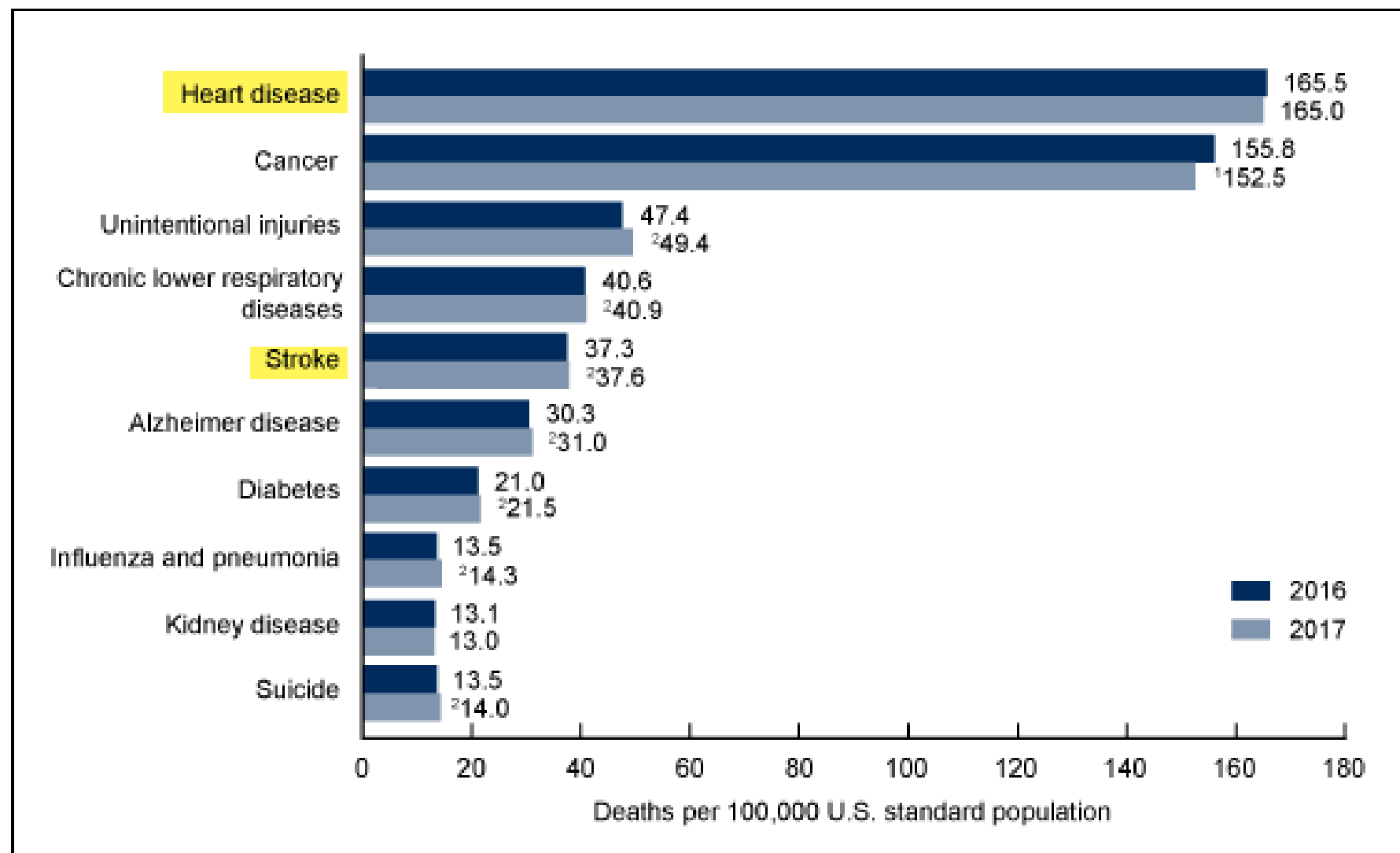
NCHS Data Brief No. 328, November 2018
Sherry L. Murphy, B.S., Jiaquan Xiang, M.S.

Key findings

Data from the National Vital Statistics System

- Life expectancy for the U.S. population increased from 76.4 in 2016 to 76.8 in 2017.
- The age-adjusted death rate decreased from 731.9 in 2016 to 717.9 in 2017.
- Age-specific death rates increased for the 5- to 14-year age group, and decreased for the 15- to 24-year age group.
- The 10 leading causes of death were:

Figure 4. Age-adjusted death rates for the 10 leading causes of death: United States, 2016 and 2017



Progress Towards Improving Cardiovascular Health: Race/Ethnicity

NHANES 2007-2010 vs 2013-2016

The overall change in cardiovascular health is **3.82%**

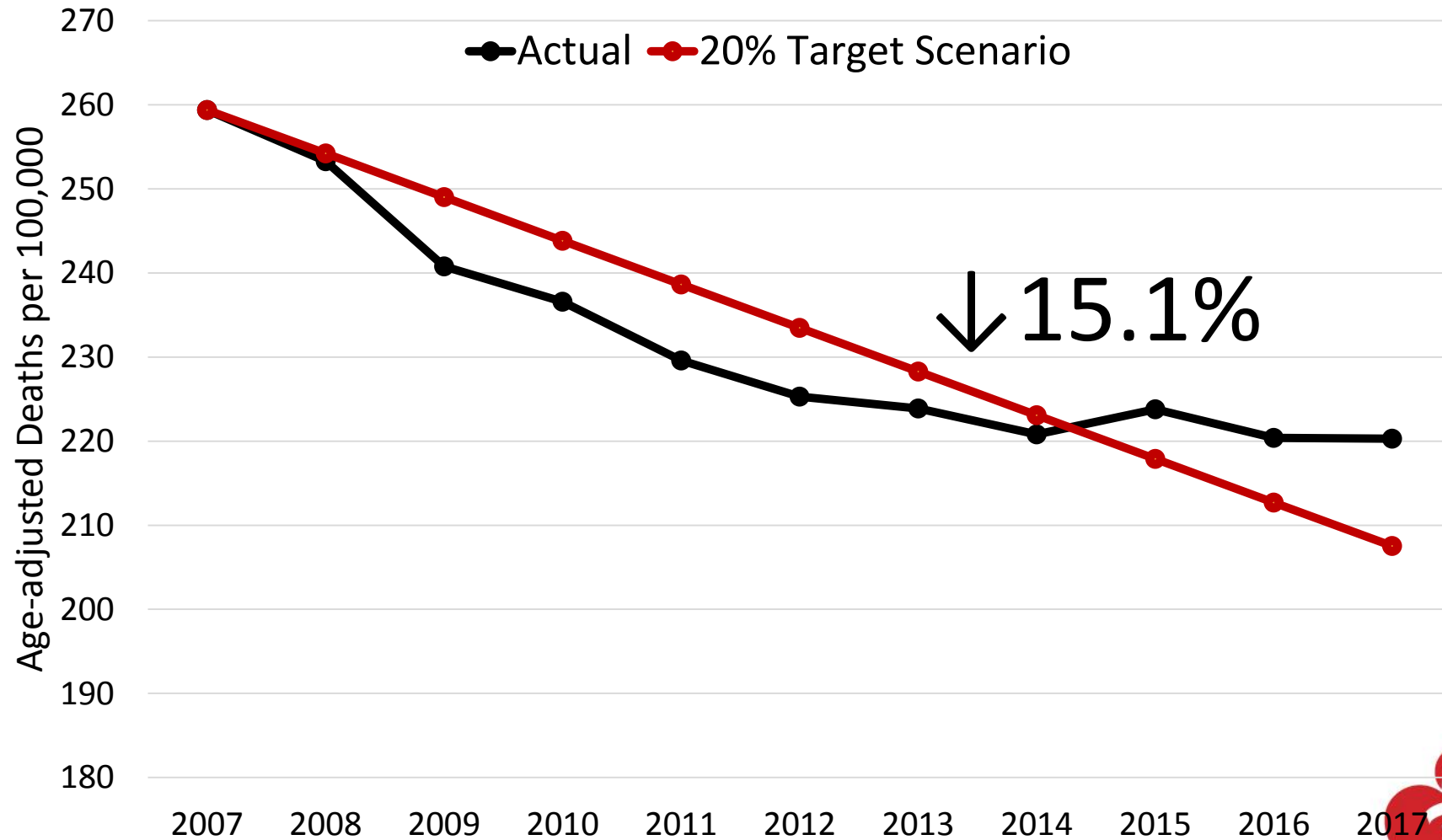
Non-Hispanic Whites: **-2.27%**

Non-Hispanic Blacks: **11.07%**

Hispanics: **2.15%**



Age-Adjusted Total CVD Mortality Rates 2007-2017 Actual vs. 20% Impact Goal Scenario



Source: NCHVS. ICD-10: I00-I99, Q20-28

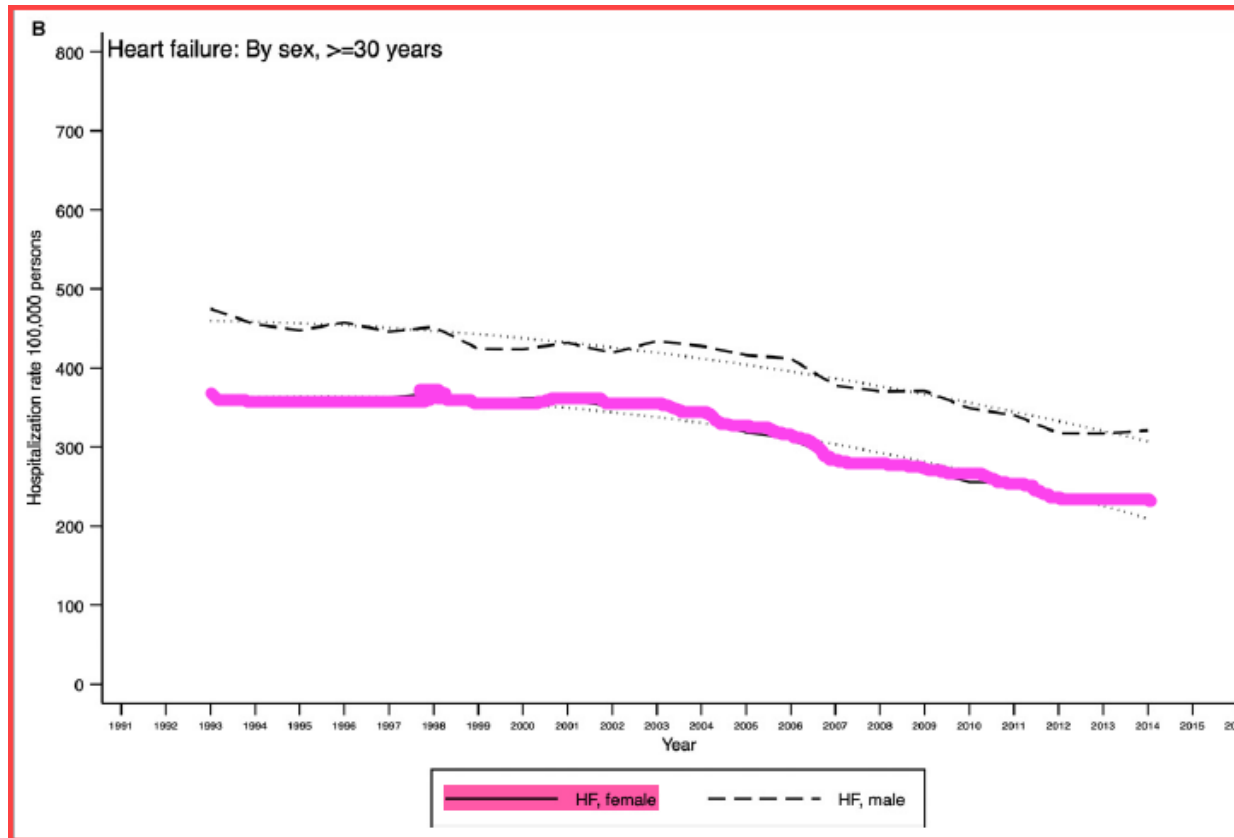


American
Heart
Association.

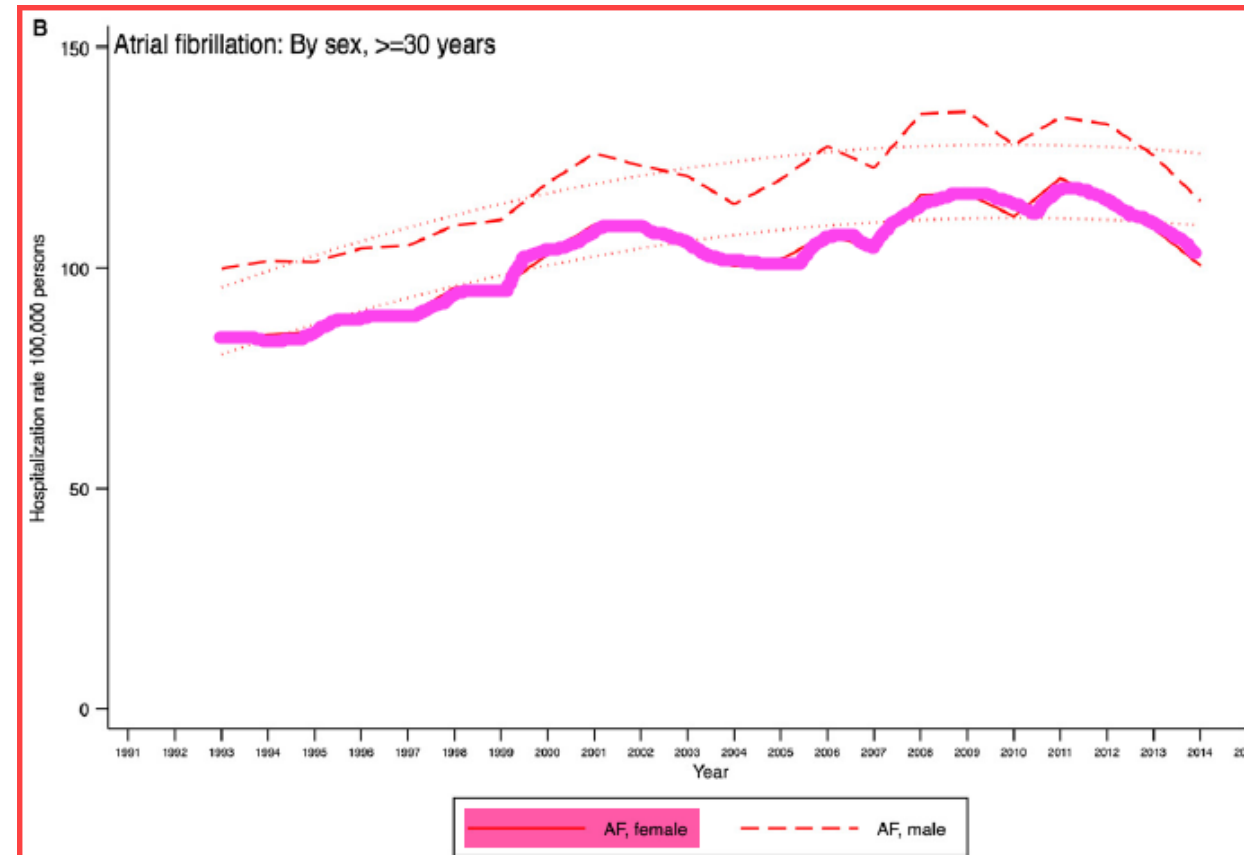
Divergent Temporal Trends in Morbidity and Mortality Related to Heart Failure and Atrial Fibrillation: Age, Sex, Race, and Geographic Differences in the United States, 1991–2015

Ramachandran S. Vasan, MD; Yi Zuo, MPH; Bindu Kalesan, PhD

J Am Heart Assoc. 2019;8



Heart Failure



Atrial fibrillation

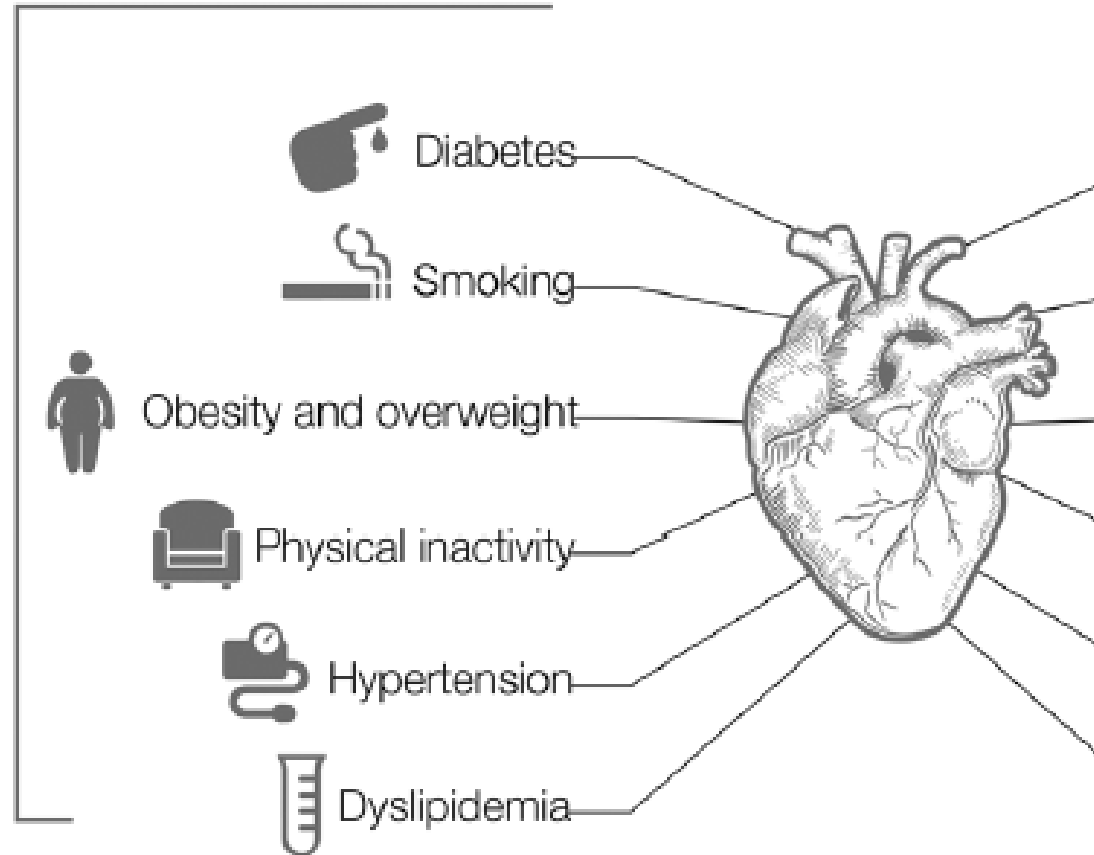
Cardiovascular Disease in Women

Clinical Perspectives

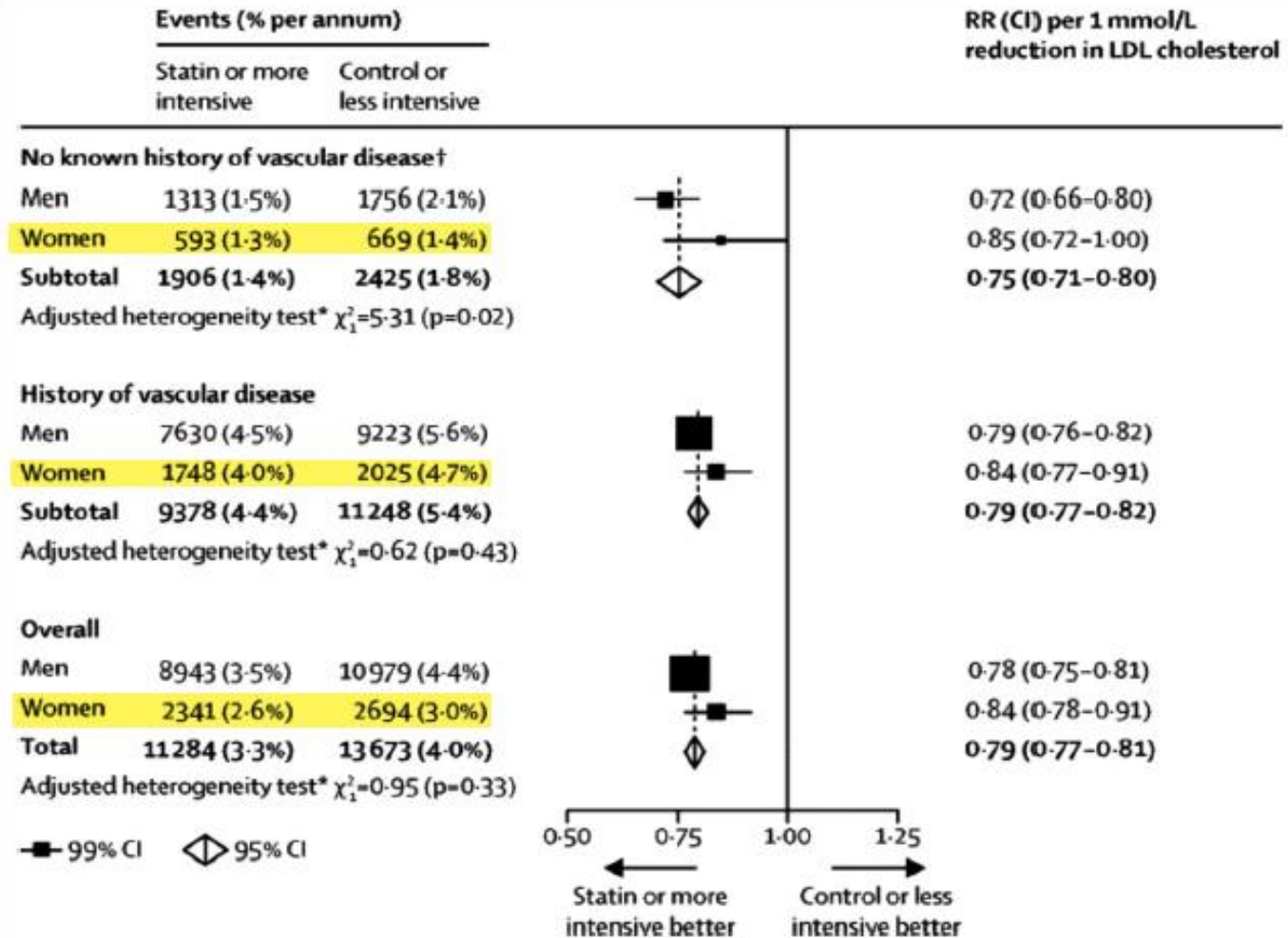
Circ Res. 2016;118:1273-1293.

Mariana Garcia, Sharon L. Mulvagh, C. Noel Bairey Merz, Julie E. Buring, JoAnn E. Manson

Traditional ASCVD Risk Factors



Em

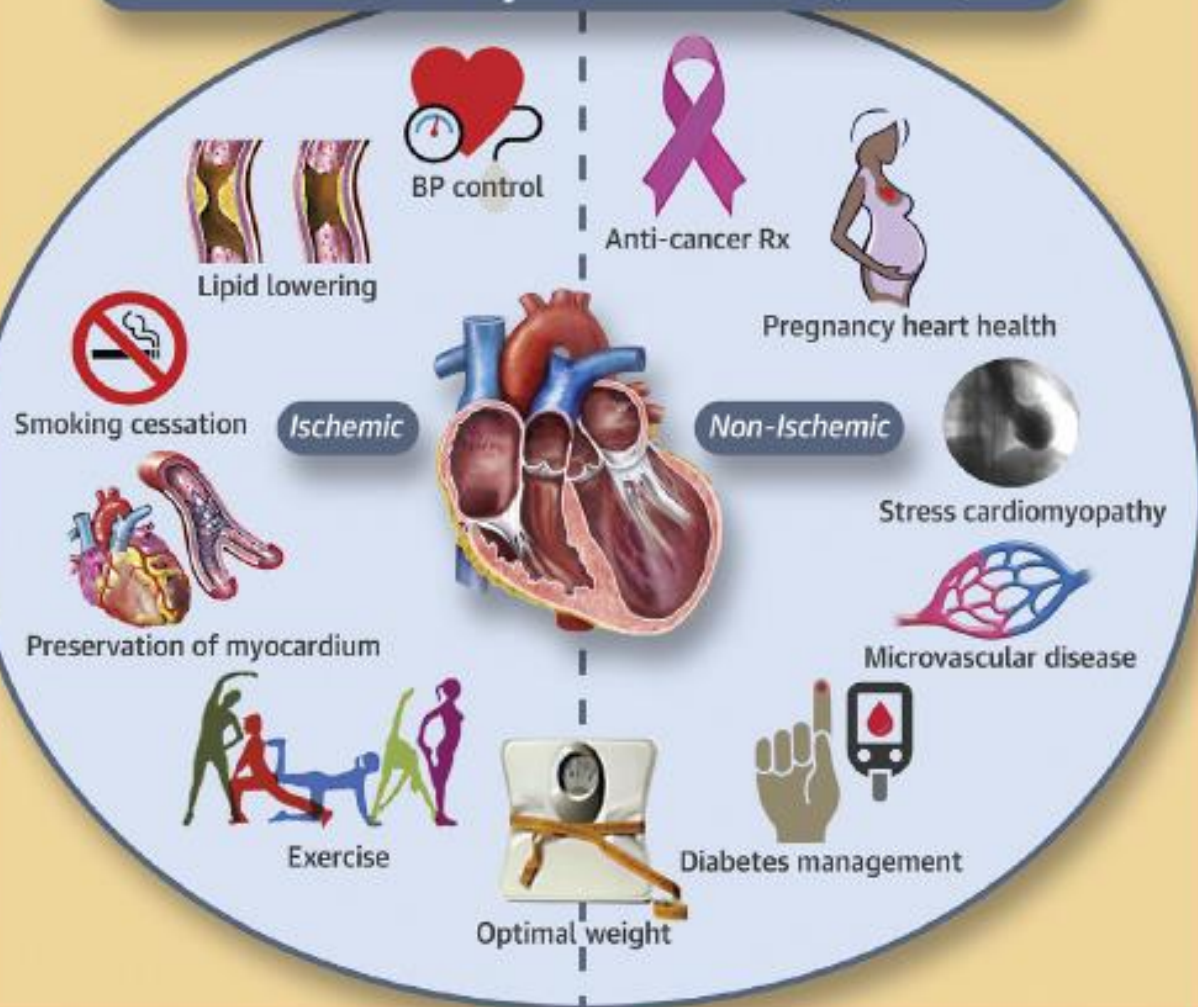


Primary Prevention of Heart Failure in Women

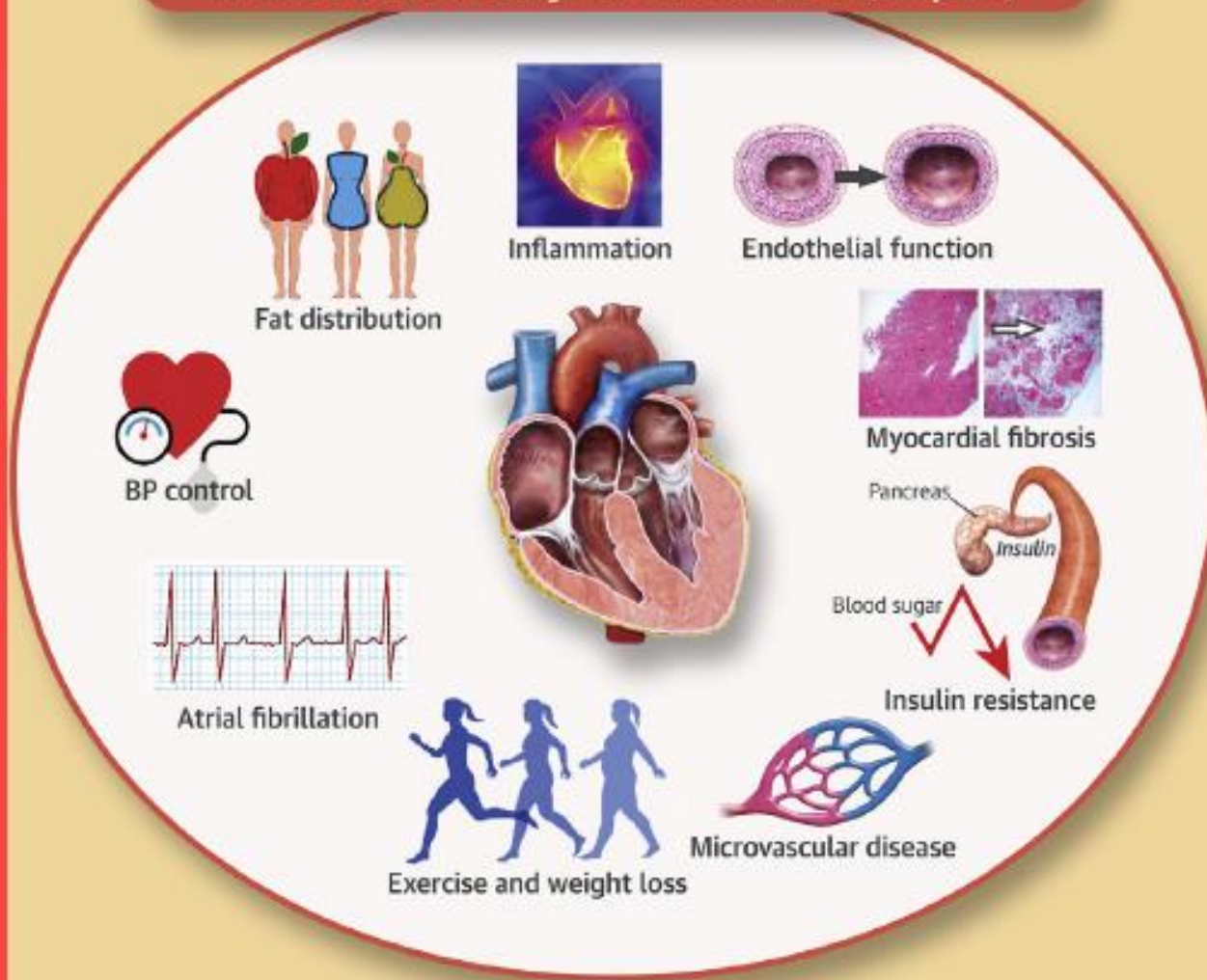
Melissa A. Daubert, MD, Pamela S. Douglas, MD

JACC HF 2019;7:181

Targets and Strategies to Prevent Heart Failure with *Reduced* Ejection Fraction (HFrEF)



Targets and Strategies to Prevent Heart Failure with *Preserved* Ejection Fraction (HFpEF)



Differential Impact of Heart Failure With Reduced Ejection Fraction on Men and Women

J Am Coll Cardiol 2019;73:29-40

Pooja Dewan, MBChB,^a Rasmus Rørth, MD,^{a,b} Pardeep S. Jhund, MBChB, PhD,^a Li Shen, MBChB, PhD,^a Valeria Raparelli, MD, PhD,^{c,d} Mark C. Petrie, MBChB,^a William T. Abraham, MD,^e Akshay S. Desai, MD,^f Kenneth Dickstein, MD, PhD,^g Lars Køber, MD, DMSc,^b Ulrik M. Mogensen, MD, PhD,^{a,b} Milton Packer, MD,^h Jean L. Rouleau, MD,ⁱ Scott D. Solomon, MD,^f Karl Swedberg, MD, PhD,^{i,k} Michael R. Zile, MD,^l John J.V. McMurray, MD^a

	Women (n = 3,357)	Men (n = 12,058)	p Value
Digitalis	1,089 (32.4)	3,692 (30.6)	0.048
Beta-blocker	3,075 (91.6)	11,168 (92.6)	0.049
MRA	1,555 (46.3)	5,718 (47.4)	0.2599
ACE inhibitor	2,842 (84.7)	10,697 (88.7)	<0.0001
ARB	551 (16.4)	1,434 (11.9)	<0.0001
CCB§	330 (9.8)	1,035 (8.6)	0.0245
Statins	1,598 (47.6)	6,787 (56.3)	<0.0001
Aspirin	1,557 (46.4)	6,393 (53.0)	<0.0001
Anticoagulants	897 (26.7)	3,906 (32.4)	<0.0001
In patients with atrial fibrillation on ECG	67.1	71.2	0.029
In patients with atrial fibrillation history	60.6	66.6	<0.001
CHA ₂ DS ₂ -VASc score ≥2	67.1	71.5	0.019
Pacemaker	310 (9.2)	1,490 (12.4)	<0.0001
ICD (including CRT-D)	290 (8.6)	2,001 (16.6)	<0.0001
ICD only	196 (5.8)	1,371 (11.4)	<0.0001
CRT-P or CRT-D	137 (4.1)	830 (6.9)	<0.0001

Although women with HFrEF live longer than men, their additional years of life are of poorer quality, with greater self-reported psychological and physical disability. Women continue to receive suboptimal treatment, compared with men, with no obvious explanation for this shortfall.

Public Perceptions on Why Women Receive Less Bystander Cardiopulmonary Resuscitation Than Men in Out-of-Hospital Cardiac Arrest

Perman et al. *Circulation*. 2019;139:1060-1068.

Members of the general public perceive fears about inappropriate touching, accusations of sexual assault, and fear of causing injury as inhibiting bystander CPR for women.

Sex Differences in Quality of Life in Patients With Atrial Fibrillation:
A Systematic Review

J Am Heart Assoc. 2019;8:

Linn Arvidsson Strømnes;* Helene Ree, MD;* Knut Gjesdal, MD, PhD; Inger Ariansen, MD, PhD

Conclusions—The available literature consistently describes poorer QoL in female AF patients but does *not clearly address* whether this is a reflection of sex differences seen in the general population or is related to AF per se. It is also questionable whether the relatively poorer QoL in women is large enough to be of clinical importance.

Womansplaining the Pay Gap

I asked the gender editor of The Times to walk us through the details.



By Maya Salam

April 2, 2019



New York Times

80 Cents

That's the median amount that American women who work full time, year-round in the United States are paid for every dollar their male counterparts earn, according to U.S. census data analyzed by the [American Association of University Women](#). When broken down by race and compared with white men, the numbers are:

- 85 cents: The amount for Asian women
- 77 cents: The amount for white women
- 61 cents: The amount for black women
- 58 cents: The amount for Native American women
- 53 cents: The amount for Hispanic women

Addressing the Gender Gap in Interventional Cardiology

Sonya Burgess, MBChB,^{a,b} Elizabeth Shaw, MBBS,^{c,d,e} Katherine Ellenberger, MBBS,^b Liza Thomas, MBBS, PhD,
Cindy Grines, MD,^g Sarah Zaman, MBBS, PhD^{h,i}

Women in Interventional Cardiology Practice in Australia

Gender distribution in the medical workforce:

42% of doctors are female



36% of specialists are female



15% of cardiologists are female



4.8% of interventional cardiologists are female



3.4% of cath lab directors are female



2% of TAVI accredited cardiologists are female



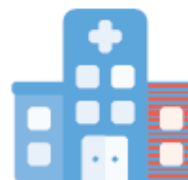
23% of doctors in the cardiology training program are female



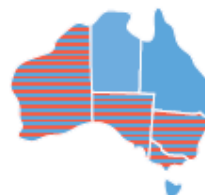
9% of interventional cardiology fellows are female



89% of female interventional cardiologists operate at a site as the sole female interventional cardiologist



73% of public hospitals have no female interventional cardiologists



In Australia 3/8 states have no female interventional cardiologist



In Australia, on average, female cardiologists earn 55% of what male cardiologists earn

Societies Take a Stand Against Harassment With New Initiative

Attendees Propose Actions to Make Science Safer and More Diverse

3 April 2019



At the AAAS meeting, Margaret Hamburg said scientists must address cultural shifts in their fields.

#MeToo in medicine: Women, harassed in hospitals and operating rooms, await reckoning





American
Heart
Association.

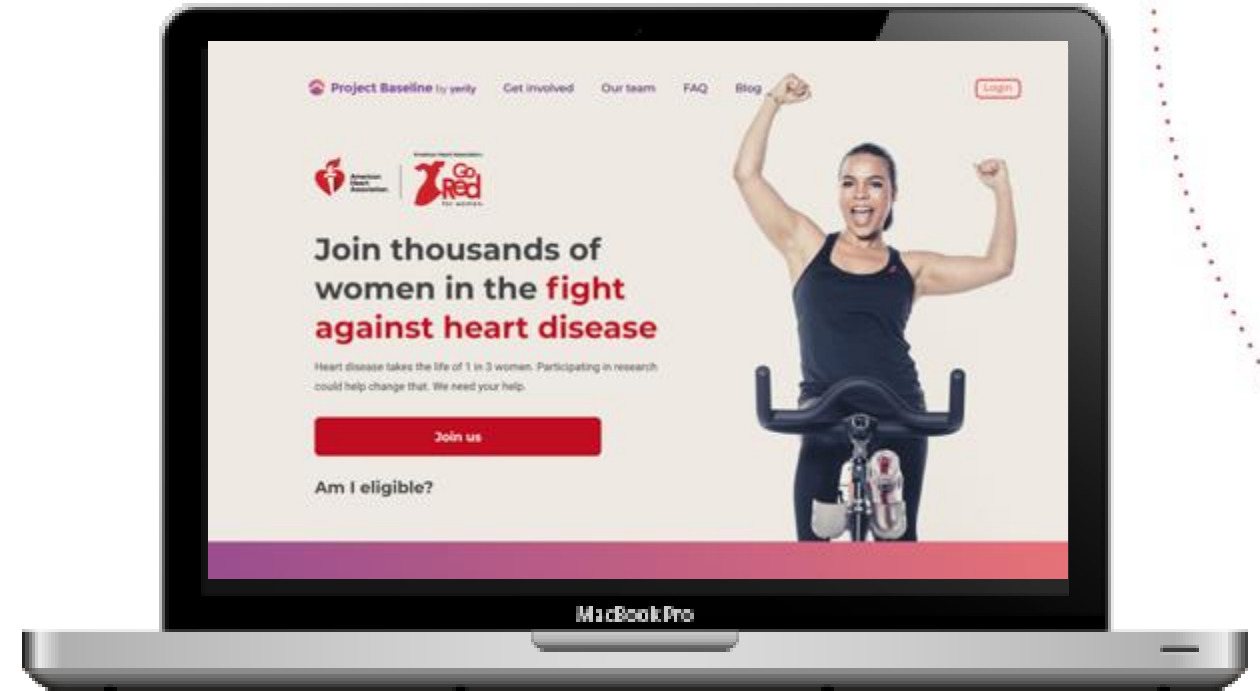
+ **verily**

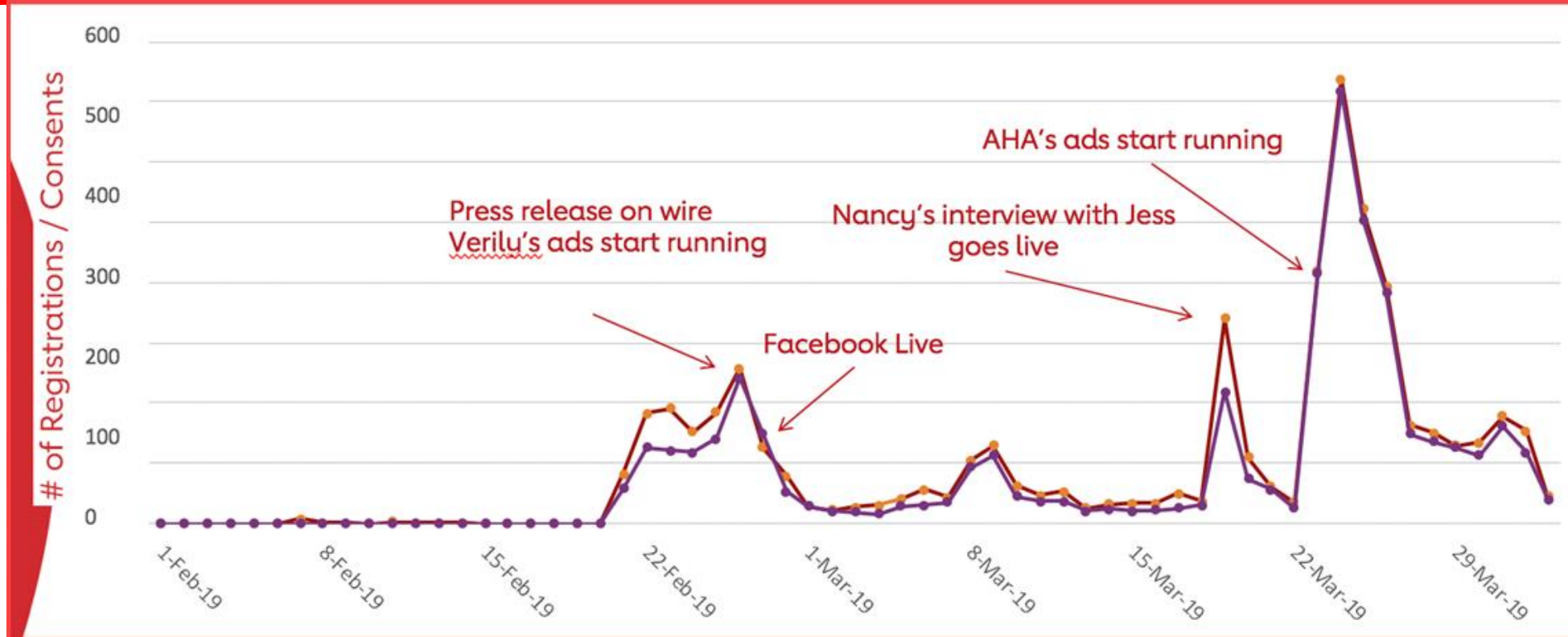
Our joint mission is to
make the
world's health data
useful so that
people can enjoy
longer, healthier lives.



THE SOLUTION: *RESEARCH GOES RED*

- **Empower** individuals to take an active role in their health and care and in the future of medicine
- **Enable** major scientific discovery grounded in a trusted brand
- **Build** a cohort of individuals who can be tapped for studies efficiently - alleviating costly recruitment for researchers and expediting time to market.





Updated Goal: Convert women to consent to Project Baseline registry.

Goal	Progress Against Goal	% to Goal	Conversion Rate
Achieve 50,000 unique visitors to co-branded website.	45,311	90.6%	-
Register 10,000 women into Research Goes Red.	11,395	114%	25.1%
Convert 5,000 women to active consent.	3,754	75.1%	32.9%

EDITORIAL COMMENT

Women With Heart Failure

Unheard, Untreated, and Unstudied*

Mary Norine Walsh, MD,^a Mariell Jessup, MD,^b JoAnn Lindenfeld, MD^c

Take Home Message:

Listen, Treat, Study



"Chaos isn't a pit. Chaos is a ladder." — Littlefinger