

Closing the Gender Gap in Heart Attack Care:

If You Feel Something, Say Something

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Heart disease is the leading cause of death for women in the United States, causing about 1 in every 5 female deaths.¹ Perhaps the most well known and dramatic example of this is a heart attack, a true medical emergency that requires prompt and effective treatment. Although treatments for heart attack have improved dramatically, women are up to 2 times more likely to die from a heart attack compared to men.² As you will see below, there are many reasons for this. First, public health messaging around heart attacks focuses on men's symptoms, not women's, which can be different. This contributes to delays in care for women from diagnosis to treatment. There are also knowledge gaps and biases in the healthcare system that are harmful to women, and this leads women with heart attacks to get inferior care as compared to men at multiple points in the patient journey.



#1 Cause of Death

Heart disease is the **leading cause of death for women** in the United States¹

 **2x**

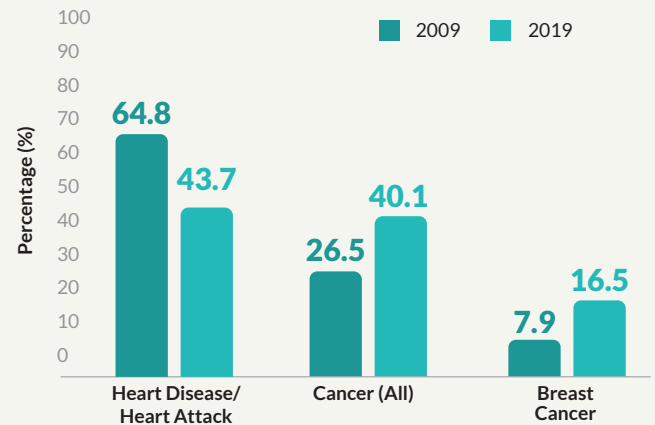
Women are up to **2 times more likely to die** from a heart attack compared to men²



We simply need to do more. We need to invest in educating the public, as well as providers, about women's heart attack symptoms and how they differ from men's. We need to raise awareness that heart disease is the number one killer of women, just like it is for men. Less than half of women say cardiovascular disease is their greatest health threat, and the level of awareness of this risk among women actually fell between 2009 and 2019.³ And when women do present with heart attack symptoms, we need to treat them as quickly and effectively as we do men, starting from the moment they make first medical contact and all the way through their ongoing care with an outpatient cardiologist. We need to empower women to get evaluated if they have symptoms:

Figure 1

Proportion of US women identifying heart disease/heart attack, cancer (all), or breast cancer as the leading cause of death among women: 2009 vs 2019³



**If you feel something,
say something!**

Digital health tools like Hello Heart can help women to be their own best advocates.





When it comes to heart attacks, timing is everything

To understand how differently women with heart attacks are treated compared to men, let's take a look at the ideal treatment for a heart attack. If a patient feels symptoms of a heart attack, he or she should call 911 as soon as symptoms begin.⁴ Upon arrival in the emergency room, he or she should be quickly assessed by a clinician, including a physical exam, electrocardiogram, and blood tests. If a heart attack is suspected and the patient meets clinical criteria, the next best step is an urgent cardiac catheterization. That's a procedure in which a thin and flexible tube is passed to the heart via one of the body's major blood vessels. At that point, doctors can identify if there is a blockage in one of the arteries that supply blood to the heart, and can even open the blockage with a procedure like an angioplasty or stenting.

When it comes to heart attacks, time is of the essence – the quicker you can open the blockage, the better. In fact, there is a concept called “door-to-balloon” time which indicates the amount of time it takes from a patient's arrival in the emergency room, to the time that the blockage causing the heart attack is opened. The goal is a door-to-balloon time that is less than 90 minutes, and studies show that shortening this time is associated with a significantly improved chance of survival.⁵ After the procedure, the patient is admitted to the hospital, where he or she can be monitored, started on appropriate medications, and eventually discharged to the care of an outpatient cardiologist.

When it comes to heart attacks, time is of the essence. **The goal for door-to-balloon time is:**





Women's patient journey differs from men's

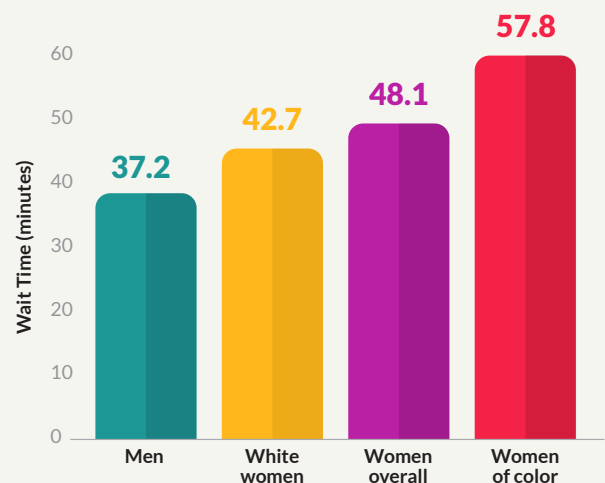
Now that we understand what the ideal patient journey looks like, let's follow a woman who is having a heart attack starting from symptom onset. Although the most common symptom of heart attack in both men and women is chest pain, women with heart attacks are more likely than men to experience no chest pain, and more likely to experience more "atypical" symptoms like nausea, shoulder pain, and upper back pain.⁶ Lack of awareness of heart attack symptoms is so problematic that in one study, more than half of women who were having a heart attack did not perceive their symptoms as being heart-related, and more than 20% thought their symptoms were related to stress or anxiety.⁷ Because of this, women with heart attacks waited 37 minutes longer than men to get evaluated, precious time during which heart muscle is dying and prognosis is worsening.⁸

If our patient had chest pain, recognized her symptoms, and arrived in the emergency room, she is likely to wait 11 minutes longer than a man with chest pain before being seen by a provider (48.1 vs. 37.2 minutes). The wait time is even worse for women of color, who waited 15 minutes longer than white women before being evaluated by a provider (57.8 vs. 42.7 minutes).⁹ According to the authors of the study, this extra difference in

wait time for women of color most likely reflects disparities within the health care system at both the organizational and community levels. For example, this may include differences in medical decision making by providers using tools that underestimate the risk of people of color, but also differences in the availability of resources among hospitals that serve a larger share of Black patients as compared to White patients.

Figure 2

Average Wait Time to See a Provider Among Patients with Chest Pain⁹



37:00

ADDITIONAL MINUTES

is the time women wait compared to men to call for help when having heart attack symptoms⁸



Women's treatment and outcomes differ from men's

When she is finally evaluated, we hope that the correct diagnosis is made, although this is not always the case. One study found that:

7x

women are seven times more likely than men to be misdiagnosed and sent home from the emergency department during a heart attack.¹⁰

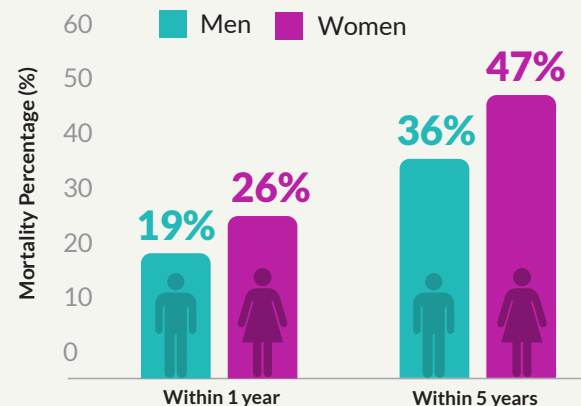
In another study of women with heart attack, among the women who had been evaluated for similar symptoms prior to the heart attack, more than half were told by their provider that the pain was not heart related.⁷ If the woman was correctly diagnosed with a heart attack, she is less likely to get the catheterization procedure that would allow for definitive diagnosis and treatment of the heart attack.¹¹ Even if she does get the procedure, she would have had a longer time pass before the procedure is completed (another 4.9 minute delay in door-to-balloon time if you are keeping track).² Now, before our patient leaves the hospital, it is crucial that she gets started on several medications to protect her heart and gets counseling on certain lifestyle changes like diet, exercise, and smoking cessation. You guessed it - women are less likely to receive potentially beneficial medications such as aspirin and cholesterol lowering medications.¹² This gap even persists after discharge from the hospital following a heart attack,

when it is strongly recommended that patients be referred for cardiac rehabilitation. Despite this recommendation, cardiac rehabilitation is highly underutilized, especially in women (only 23.7 % of women, compared to 31.9 % of men).¹³

Given all of this, perhaps it does not surprise you that women have nearly a two times higher risk of dying in the hospital after a heart attack as compared to men.² This increased mortality among women with heart attack is carried out to one year and then five years after having the heart attack.¹⁴

Figure 3

Mortality Rate After First Heart Attack





If you feel something, say something

The first step to closing the gender gap is to encourage women to be aware of the symptoms of heart attack, and to act if they feel those symptoms. In other words,

If you feel something, say something!

Various public health entities have created campaigns to improve awareness of heart attack symptoms, and to act fast. For example, per the American Heart Association: “Learn the signs of heart attack and, even if you’re not sure it’s a heart attack, have it checked out.”⁴

How do you know you might be having a heart attack?

- It feels like you just carried a huge box of books home, and have pain or soreness in your chest, shoulders, arms, upper back, or neck.
- It feels like you ate something that was left in the fridge for too long, and have stomach discomfort, nausea, vomiting or heartburn.
- It feels like you just climbed a mountain, and have shortness of breath, extreme fatigue, weakness, lightheadedness, or sweating.

These symptoms are especially worrisome if you have three or more, and if they are unusual for you.⁶

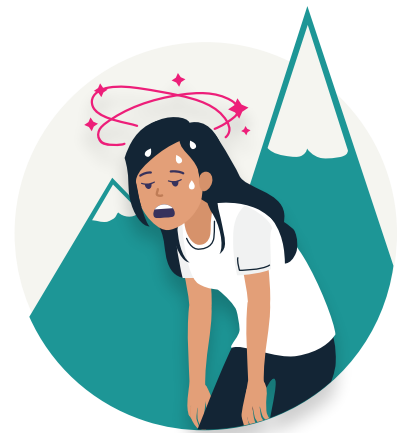
Signs of a heart attack in women



It feels like you just carried a huge box of books home, and have pain or soreness in your chest, shoulders, arms, upper back, or neck.



It feels like you ate something that was in the fridge too long, and have stomach discomfort, nausea, vomiting or heartburn.



It feels like you just climbed a mountain, and have shortness of breath, weakness, lightheadedness, or sweating.



Digital health tools can help close the gap

Digital health tools like Hello Heart can also help by empowering women when they are in front of their doctors, providing information they can use to advocate for their concerning signs or symptoms to be evaluated thoroughly. This begins by ensuring that the Hello Heart app take into account known, relevant born-gender differences. For example, a woman using Hello Heart will see a different symptom assessment (including those “atypical” symptoms) than a man would.

The Hello Heart feature that is perhaps the strongest tool to empower women is Hello Heart’s clinician report. Of course the report includes the basics, like trends for key heart metrics like blood pressure, heart rate, and cholesterol. This is important because most cardiac events can be prevented through steps like managing cholesterol and living a healthier lifestyle. But the clinician report also highlights when a woman has one of the “atypical” symptoms of heart attack mentioned above so that she could discuss it with her doctor, especially if those symptoms corresponded to a spike in blood pressure or heart rate.⁶ The reports are also full of other insights, like our [Dot-to-Dot](#) coaching that makes it easy to see how everyday choices, such as taking medication or increasing activity, may correlate with heart health markers. Lastly but perhaps most importantly, the report is meant to summarize information about a woman’s heart health - from blood pressure and cholesterol

trends, to medication tracking, and even activity – and highlight key items for her to raise with her physician.

Nearly half of women in the U.S. are living with some form of cardiovascular disease, and cardiovascular disease kills more women than all forms of cancer combined.¹⁵ When it comes to treatment of heart attacks, our knowledge of and treatments for heart attacks have seen tremendous improvement in the last several decades. However women have not enjoyed these improvements in the same way men have, and women are at a serious disadvantage as compared to men when it comes to treating heart attack. Because of that, there is an urgent need to close the gap that women with heart attack face. The first step to closing these gaps and driving health equity for women is to encourage women to get checked out if they have worrying symptoms:

If you feel something, say something!

Digital health tools like Hello Heart can help by empowering women to be their own best advocates.



53%

of women who had a heart attack reported that their provider did not think their symptoms were heart related⁷

Over Half

of women who had a heart attack did not think their symptoms were heart related⁷

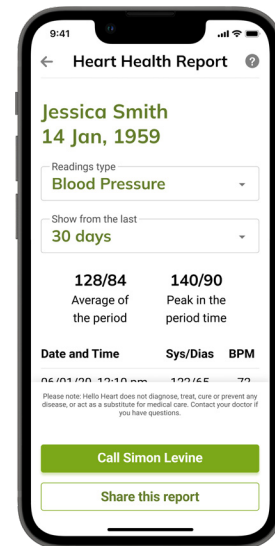




About Hello Heart

Hello Heart is the only digital therapeutics company to focus exclusively on heart disease, the #1 cause of death for men and women in the U.S. Through a connected mobile app that uses AI, behavioral science, and personalized digital coaching to drive lifestyle changes, Hello Heart empowers people to embrace healthier behavior, which can reduce the risks of heart disease. Hello Heart is a Member of American Heart Association's Innovation Network.

www.helloheart.com



About the American Heart Association



American
Heart
Association.

The American Heart Association's mission is to be a relentless force for a world of longer, healthier lives. As the nation's oldest and largest voluntary health organization, its purpose is to help Americans live heart healthy and prevent America's No. 1 and No. 5 killers, heart disease and stroke.

www.heart.org

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