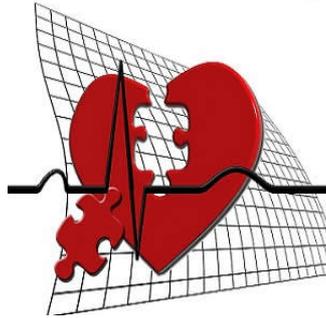


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## Closing the heart disease mortality gap between men and women



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Cardiovascular disease is the leading cause of death in women. Previous studies have shown that women with STEMI (ST elevation myocardial infarction, caused by an abrupt and prolonged blockage of the blood supply to the heart) have worse clinical outcomes, including higher mortality and higher rates of in-hospital adverse events. The differences in care and outcomes in women with STEMI have been attributed to their being older and higher risk patients than men.

A new four-step protocol for STEMI patients developed by Cleveland Clinic researchers is effective in improving outcomes and reducing disparities in care between men and women. When the protocol was followed, women survived longer, had fewer complications, received faster intervention and more medication, according to a new study presented at the American College of Cardiology's 67th Annual Scientific Session and published in the Journal of the American College of Cardiology.

In the study, researchers implemented a four-step STEMI protocol that included: (1) standardised emergency department (ED) cardiac catheterisation lab activation criteria, (2) a STEMI Safe Handoff Checklist, (3) immediate transfer to an available catheterisation lab, and (4) using the radial artery in the wrist as the first option for percutaneous (under the skin) coronary intervention, like stenting. This approach has been shown to have fewer bleeding complications and improved survival when compared to using the femoral artery.

The study looked at 1,272 consecutive STEMI patients at Cleveland Clinic, of which 868 were men and 404 were women. The STEMI protocol was put into place 15 July 2014. Consecutive patients were studied from 15 July 2014, through 31 December 2016. Patients treated from 1 January 2011 through 14 July 2014 were studied as a control group. Patients were assessed for guideline-directed medical therapy prior to percutaneous coronary intervention, mean door-to-balloon time (i.e., time from when they arrived at the hospital to when they received a coronary intervention like stenting), in-hospital adverse events, and 30-day mortality.

Overall, improved outcomes in both genders and substantial reductions in care disparities between men and women were observed after implementation of the protocol:

- 30-day mortality rates for both men and women were reduced, from 10.7 to 6.5 percent and from 4.6 to 3.3 percent, respectively
- In-hospital deaths of women with STEMI were reduced by about 50 percent
- No difference in rates of major adverse events such as in-hospital stroke, bleeding, vascular complication and transfusions after implementation
- Equal rates of guideline-directed medical therapy in women

In addition, mean door-to-balloon times were equal between men and women; prior to implementation, the time for women was an average of 20 minutes longer compared to men.

"It's long been known that the gender gap for these types of critical heart attacks is a real issue. However, there is very little data demonstrating successful strategies and no formal recommendation on how a system should be designed to provide the best possible care for women," said senior author Umesh Khot, MD, vice chairman of Cardiovascular Medicine at Cleveland Clinic. "Our research shows that putting into place a system that minimises care variability raises the level of care for everyone and could be the first step to resolving the long-standing gender disparities."

Source: [Cleveland Clinic](#)  
Image Credit: Pixabay

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