What was the research about?
The aortic valve controls the flow of blood from the heart to the rest of the body. With aortic valve disease, the aortic valve doesn't work well to control blood flow. Patients can experience fatigue, chest pressure, and shortness of breath. Aortic valve disease can also cause heart failure and other life-threatening problems.

Two common treatments for aortic valve disease are

- **Transcatheter aortic valve replacement, or TAVR.** In TAVR, doctors wedge a catheter, or replacement valve, into the aortic valve's location. TAVR doesn't involve major surgery.

- **Surgical aortic valve replacement, or SAVR.** In SAVR, doctors remove the damaged aortic valve and replace it with a new valve, most often through open-heart surgery.

In this study, the research team compared patients with aortic valve disease who had either TAVR or SAVR. The team looked at health records to see where patients received care after treatment, the number of days patients spent at home without going back to the hospital, and the risk for stroke and death.

What were the results?
Compared with patients who received SAVR, patients who received TAVR were

- More likely to go directly home. Of patients who received TAVR, 70 percent went directly home compared with 41 percent of patients who received SAVR.

- Less likely to go somewhere else for care, like a rehab center. Of patients who received TAVR, 21 percent went somewhere else compared with 41 percent of patients who received SAVR.

Up to one year after their treatment, patients who received TAVR and patients who received SAVR didn't differ in the number of days they spent at home without going back to the hospital. Patients also didn't differ in the risk for stroke and death.

Who was in the study?
The study included health records for 9,464 patients who had either TAVR or SAVR to treat aortic valve disease. Patients were ages 77 to 85 and lived across the United States. Before treatment, patients were at medium or high risk of needing surgical valve replacement. The average age was 82, and 52 percent were men.

What did the research team do?
The research team compared health records of patients who had TAVR from 2014 to 2015 with health records of patients who had SAVR from 2011 to 2013. The team looked at how well the patients were doing one year after their treatment.

Patients who received TAVR or SAVR and their caregivers were involved in all parts of the study.
What were the limits of the study?
The study looked at data in patients’ health records for one year after treatment. Results may differ if the study looked at patients for a longer time period. Factors other than the type of treatment, such as support from family and friends, may affect study results. Also, the study included patients ages 77 to 85. Results may differ for younger patients.

Future research could look at patients’ health for longer than one year after treatment.

How can people use the results?
Doctors and patients with aortic valve disease can use these results when considering treatments.

To learn more about this project, visit www.pcori.org/Brennan284.