



Effective Health Care

Left Ventricular Assist Devices (LVADs) for End-Stage Heart Failure

Nomination Summary Document

Results of Topic Selection Process & Next Steps

- The topic, *Left Ventricular Assist Devices (LVADs) for End-Stage Heart Failure*, was found to be addressed by the recent evidence-based clinical guideline from the American College of Cardiology Foundation/American Heart Association Task Force: *Guideline for the Management of Heart Failure* (June 2013). Given that the guideline covers the evidence available to-date on this nomination, no further activity will be undertaken on this topic.
 - Yancy CW, Mariell J, Bozkurt B, Masoudi FA, et al., 2013 ACCF/AHA Guideline for the Management of Heart Failure. *J Am Coll Cardiol.* 2013. doi:10.1016/j.jacc.2013.05.019. <http://circ.ahajournals.org/content/early/2013/06/03/CIR.0b013e31829e8776>

Topic Description

Nominator(s): Organization

Nomination

Summary:

The topic was determined to be a priority for future systematic reviews on cardiovascular disease by a panel of stakeholders. The nominator asserts the real-world effectiveness of LVADs in improving survival and quality of life is unknown. AHRQ products on this topic may be used to inform clinical practice and guidelines.

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Population(s): Patients with end-stage heart failure (New York Heart Association classification III-IV)

Intervention(s): Continuous flow and pulsatile left ventricular assist devices (LVAD)

Comparator(s): Those listed above (i.e. compared to each other), orthotopic heart transplantation, chronic inotropes, and contemporary optimal medical regimens (e.g. spironolactone, beta-blockers, cardiac resynchronization, pacemakers)

Outcome(s): Morbidity, mortality, patient quality of life, hospitalizations, drive line infections

Key Questions from Nominator: What are the comparative safety and effectiveness of LVADs for individuals with end-stage heart failure?

Considerations

- The topic meets EHC Program appropriateness and importance criteria. (For more information, see [http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/.](http://effectivehealthcare.ahrq.gov/index.cfm/submit-a-suggestion-for-research/how-are-research-topics-chosen/))

- Approximately 5.7 million individuals in the US have heart failure and approximately 10% of this population has advanced or “end-stage” heart failure, which is characterized by server cardiac disease that results in discomfort and immobility.
- A ventricular assist device (VAD) is a mechanical pump that supports heart function and blood flow. The device may be used to support the heart while an individual is waiting for a transplant (bridge to transplant) or as long-term solution for heart failure (destination therapy). A device placed in the left ventricle is termed LVAD. LVADs may be continuous flow or pulsatile (i.e., mimicking a natural, pulsing action).
- The real-world effectiveness of LVADs in improving health outcomes, particularly when compared to alternative interventions for end-stage heart failure (e.g., chronic inotropes, heart transplantation, and medical and device management), maybe unclear.
- The topic was found to be addressed the recent evidence-based clinical guideline on heart failure from the American College of Cardiology Foundation/American Heart Association Task Force: *Guideline for the Management of Heart Failure* (June 2013).
 - The guideline covers available evidence to-date on the use of LVADs in end-stage heart failure as it was based on an extensive evidence review conducted through October 2011 and included additional references through April 2013.
 - The guideline provides guidance regarding what individuals should be considered for LVADs, but acknowledges that patient selection remains an active area of investigation and requires a multidisciplinary team.