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New age devices to manage heart failure

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Left Ventricular Assist Device (LVAD) is one of the most potentially impactful therapies for advanced heart failure



The Indian cardiovascular devices market had an estimated value of $2.2 billion in 2024, and it is projected to reach $4.1 billion by 2033, with the growth transitioning into a CAGR of 6.8% during 2025–2033. This growth represents a major opportunity for innovation and access to the cardiovascular market. Some of the factors favouring this growth include-

- **New Burden of Disease:** Given that there are many patients suffering from the chronic condition of heart failure in India, there is a need or rather the demand for advanced cardiac care has increased.
- **Launch of Government Schemes**: As health insurance programmes expand (with Ayushman Bharat, for example), the cost of high-cost procedures and devices are available to a major patient population.
- **Advances in Technology**: The shift towards minimally invasive procedures, and the digital health phenomenon, are transforming the delivery of patient care in both metropolitan areas and small cities.

New Age Devices and Market Trends

In India, the heart failure device market has many sub-categories; each one is driven by its own unique drivers and opportunities to grow, some of which are-

- **Implantable Devices:** These devices continue to hold a dominant market position traditionally in implantable cardioverter-defibrillator (ICDs), pacemakers and other mechanical circulatory support systems. There are actions being taken to make these devices more accessible and affordable to the patients in India, and the growth of domestic manufacturers is helping to decrease pricing.
- **Mechanical Circulatory Support**: This segment is fast growing, particularly in advanced heart failure. Devices such as Left Ventricular Assist Devices (LVADs) and Total Artificial Hearts (TAHs) are becoming more durable from a temporary support device to a long-term use, representing significant market growth opportunities.
- **Digital Health and Remote Monitoring**: An evolving and disruptive space, there is a revolution in cardiac care shifting to proactive management and away from reactive management with the help of digital health tools. Remote monitoring platforms, mHealth applications, and AI-driven analytics provide the ability to assess risk in real time, assess the risks of complications manifesting, and re-evaluate the plan of care to the clinicians. By changing the approach to cardiac care, patient outcomes improve as potential hospitalizations decrease, and care costs reduce.

Among these rapidly advancing technologies, LVADs exemplify how innovation in mechanical circulatory support is redefining patient outcomes and creating new standards of care

LVADs' Outcomes: Bridge to a Better Quality of Life

A Left Ventricular Assist Device (LVAD) is one of the most potentially impactful therapies for advanced heart failure. Reports indicate that across several clinical trials, LVADs demonstrate its efficacy and safety in patients awaiting heart transplantation. While traditional treatments demonstrate efficacy via symptom relief or laboratory markers, LVADs, by nature, provide a supportive role through mechanical movement of blood leading to a more normalised circulation.

In the case of patients awaiting heart transplantation viability via donors, LVAD therapy can be lifesaving. The therapy leads to stabilisation of the patient’s clinical condition, improvement in disability-associated symptoms, and enhanced organ viability and function. This transition to compensated symptoms not only improves patient quality of life but more extends the opportunity for patient eligibility for a successful heart transplant. LVADs serve as a bridge, providing patients on the waiting list an opportunity for an improved quality of life, whilst simultaneously waiting for the definitive treatment and opportunity for a fresh start.

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