Implantable Medical Devices

US medical implant demand to increase 8.3% annually through 2014

US demand for implantable medical devices will increase 8.3 percent annually to $48 billion in 2014. Although weakened in the past few years by product recalls and safety controversies, especially in the cardiac implant segment, growth will remain strong. The development of next generation devices based on new technologies and improved materials will rectify recent performance problems experienced by implantable cardiac rhythm devices and lessen the thrombosis risk of drug-eluting coronary stents. Shortcomings in existing drug therapies will promote the increasing use of implantable devices in the treatment and management of cardiovascular, orthopedic, neurological, ophthalmic and various other chronic disorders.

Orthopedic implants to remain dominant segment

US demand for orthopedic implants will increase 8.8 percent annually to nearly $26 billion in 2014, with the four major product segments -- reconstructive joint replacements, spinal implants, orthobiologics and trauma implants -- all providing strong growth opportunities. The market for reconstructive joint replacements, which is forecast to reach $10.5 billion in 2014, will gain upward momentum from an aging population and the widespread prevalence of physically active lifestyles. These trends will expand the number of persons suffering from degenerative and injured joints, especially deteriorated knees and hips.

Computing devices to be fastest growing cardiac implant

Demand for cardiac implants in the US is projected to increase 7.3 percent annually to $16.7 billion in 2014. Based on breadth of indications served, pacing devices will remain the top-selling group of cardiac implants. Cardiac resynchronization therapy (CRT) devices will post the fastest growth among pacing devices as they greatly improve therapeutic outcomes in patients afflicted with congestive heart failure. Advantages over anti-arrhythmia drugs will keep implantable cardioverter defibrillators (ICDs) the preferred treatment for tachycardia. Improvements in safety and performance properties will enable ICDs to recapture growth opportunities lost over the past year to product recalls. The lack of effective pharmaceuticals for bradycardia will continue to create a sizeable market for implantable cardiac pacemakers.

Breast implants to exhibit strong growth

Other implantable medical devices are forecast to post demand of $5.7 billion in 2014, up 9.0 percent annually from 2009. Growth will be led by implantable stimulators for neurological conditions, brachytherapy for prostate cancer indications, cochlear devices for restoring hearing loss, and gastric bands for obesity intervention. These products offer significant performance and outcome advantages over alternative treatments. Among other implantable medical devices, silicone gel-filled breast implants and dermal and tissue implants for cosmetic surgery will fare the best in the marketplace, reflecting widening popularity among the appearance-conscious population.

Study coverage

This new Freedonia industry study, Implanted Medical Devices, is priced at $4800. It presents historical demand data (1999, 2004 and 2009) plus forecasts for the years 2014 and 2019 for orthopedic, cardiac and other medical implants by type. The market environment section reviews trends in health insurance, health expenditures, medical conditions, medical providers and patient activity. The industry structure section evaluates company market shares and profiles major US industry competitors, including Abbott Laboratories, Boston Scientific, Johnson & Johnson, Smith & Nephew, Stryker, and Zimmer.

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Knee Replacements

In total reconstructive knee replacement procedures, deteriorated bone and cartilage are removed from the thighbone (femur), shinbone (tibia) and kneecap (patella). The surgically altered bone ends are then covered by artificial implants. Specifically, the lower end of the femur is capped with a polished, strong metal or ceramic shell. The upper portion of the tibia fits into a ceramic or metal tray with a polymer covering. The underside of the patella is replaced with a polymer component.

Since their introduction in the mid-1970s, reconstructive knee implants have evolved from crude hinged devices to sophisticated, multiple component configurations that replicate the activity of the natural knee. On average, implants make up about 12.5% of all knee replacement surgery. Unit prices of available configurations range from $2,000 for partial reconstructive systems to over $10,000 for total reconstructive systems. Based on increasing preferences for one-component knee replacement and constrained or non-constrained fixation.

Available types of knee reconstructions are divided into three major categories — fixed-bearing, rotating platform and unicondylar. Each type offers additional options such as cement or cementless implantation and constrained or non-constrained fixation.

Bearing Implants. The most widely employed models of reconstructive knee replacements are fixed-bearing implants. In a fixed bearing implant, the tibia is capped with a flat metal component that holds a plastic spacer (or bearing) securely in place. Based on well established performance features, especially in elderly individuals, demand for fixed bearing reconstructive knee replacements is projected to increase steadily over the long term. Increasing preferences for high value-added models, the average price paid for reconstructive systems to over $10,000 for total rotating platform systems. Based on forecasts in nearly 90% of knee replacement procedures.

Implantable Cardioverter Defibrillators (ICDs) Demand by Type

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<thead>
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<th>Item</th>
<th>1999</th>
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<th>2009</th>
<th>2014</th>
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<td>Heart Rhythm Disorders (million) ICDs/000 conditions</td>
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<td>% ICDs Pacing Devices Demand (mil $)</td>
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An increasing number of chronic heart conditions complicated by tachycardia, heart failure and arrhythmias, valued at nearly $4 billion, have expanded to include thousands of defibrillation centers for Medicare and Medicaid Services. An increasing number of chronic heart conditions complicated by tachycardia, heart failure and arrhythmias, valued at nearly $4 billion, have expanded to include thousands of defibrillation centers for Medicare and Medicaid Services. An increasing number of chronic heart conditions complicated by tachycardia, heart failure and arrhythmias, valued at nearly $4 billion, have expanded to include thousands of defibrillation centers for Medicare and Medicaid Services. An increasing number of chronic heart conditions complicated by tachycardia, heart failure and arrhythmias, valued at nearly $4 billion, have expanded to include thousands of defibrillation centers.
Other Titles from The Freedonia Group

**Nanotechnology in Health Care**
This study examines the emerging US market for health care products based on nanotechnology. It analyzes growth opportunities for pharmaceuticals, drug delivery systems, in vitro and in vivo diagnostics, and medical devices composed of nanosized ingredients or materials. Provides historical data (1999, 2004, 2009) and forecasts for 2014 and 2019 for nanotechnology health care product demand by type and application. Also reviews technological advances and new product introductions in the industry and profiles key competitors.
#2622........... 04/2010................. $4800

**Cardiac Implants**
US demand for cardiac implants will grow 8.8% yearly through 2012, rebounding from a slowdown caused by product recalls and safety controversies. Pacing devices will remain the top-selling group, with gains led by CRT devices. Stents and accessories will be the fastest growing segment, driven by improved designs with reduced risk of complications. This study analyzes the $10.7 billion US cardiac implant industry, with forecasts for 2012 and 2017 by type and indication. It also evaluates market share and profiles industry players.
#2398............. 09/2008................. $4500

**Disposable Medical Supplies**
US demand for disposable medical supplies will rise 4.6% yearly through 2013. The best opportunities are expected in intermittent urinary catheters; dry powder inhalers, prefilled syringes and transdermal patches; blood glucose test strips; polymer and biological wound closures; and daily contact lenses. This study analyzes the $47 billion US disposable medical supplies industry, with forecasts for 2013 and 2018 by raw material, product and market. It also evaluates company market share and profiles industry players.
#2476............... 07/2009............... $4800

**Cosmetic Surgery Products**
US cosmetic surgery product demand will grow 8.4% yearly through 2012, driven by an aging population and an ongoing desire for a youthful appearance. Less invasive procedures (e.g., injections, laser dermal resurfacing) will grow the fastest. Implants and other surgical products will do well where there are no alternatives. This study analyzes the $1.9 billion US cosmetic surgery product industry, with forecasts for 2012 and 2017 by procedure, product and raw material. It also evaluates market share and profiles industry players.
#2389............. 09/2008............... $4600

**Home Medical Equipment**
US demand for home medical equipment will grow 5.5% annually through 2012. Cost-saving products such as CPAP machines, peritoneal dialysis equipment, IV pumps, ventilators and BP monitors will lead gains. Mobility devices, medical furniture and home safety equipment will continue to form sizeable markets. This study analyzes the $7.7 billion US home medical equipment industry, with forecasts for 2012 and 2017 by equipment type. It also evaluates market share and profiles industry players.
#2447............... 01/2009............... $4600

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