

Bright prospects for medical devices industry

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Medical devices have made significant contributions to health and quality of human life and they have undoubtedly changed the mainstream practice of medicine. These devices extend the ability of physicians to diagnose and treat diseases in an enhanced way.

The five largest global markets for medical devices are U.S., Japan, Germany, France, and Italy. They account for 13.1 per cent of global population and 76 per cent of global medical device use. The U.S. has a share of 50 per cent in recent years of the world medical device market. Conversely, the five most populous countries in the world China, India, Indonesia, Brazil and Pakistan account for nearly half of the global population. But they account for only 4.4 per cent of global medical device use.

Global devices market – Geography-wise

The medical device market is quite diverse; it includes medical and diagnostic equipment; medical implants and plastic disposables. Medical devices segment also includes analytical techniques like Chromatography, Nuclear Magnetic Resonance (NMR), Polymerase Chain Reaction (PCR) in addition to medical imaging and diagnostic devices.

The medical devices industry is being constantly challenged by a host of factors such as:

- Increasing regulatory implications
- Interoperability of devices
- Need for advanced electronic records and
- Portability of devices

The major factors that drive the global medical devices market are:

- Innovation in the treatment and diagnosis front;
- Growing aging population and
- Shifting disease pattern which needs long term medical care and diagnosis

There has been a technological revolution in the medical device industry in recent years. The pace of medical invention is accelerating with the convergence of many scientific and technology breakthroughs. These medical technology innovations are bound to fundamentally transform the above scenario by providing new solutions that will challenge the existing paradigms. This naturally inspires hope for better clinical outcomes with less invasive procedures and shorter recovery times, all in lower cost settings.

Developments in the medical device industry are affected by many different trends in society, health care policies, regulatory decisions and new technologies. There are very clear trends that are visible in the medical devices market and they can be broadly classified as:

Interoperability — the ability of diverse information technology (IT) systems and medical devices to inter-operate (work together). Currently, in the vast majority of hospitals, the healthcare environment is crowded with disparate, self-contained devices, technologies, and IT systems that do not communicate with each other.

Advanced RFID systems - Through the combined technologies of the new healthcare supply chain: wireless networks, radio frequency identification (RFID), and medical device/instrument connectivity. These technologies are laying the infrastructure for the 21st century medical delivery system.

Wireless Support – the presence of wireless communication within healthcare is escalating. Though radio technology is being used today, wireless is a growing technology within this sector. The rapid growth of the technologies extends the potential for exploitation of wireless medical application market. Nowadays, thanks to the large-scale wireless network and mobile computing solutions, such as cellular 3G and beyond, WiFi mesh and WiMAX, caregivers can access vital information anywhere and at any time within the healthcare networks. The presence of pervasive computing, consisting of RFID, Bluetooth, ZigBee and wireless sensor network gives innovative medium for data transmission for medical applications.

Zigbee is projected to be one of the leading wireless technologies of future medical devices. The areas where Zigbee is expected to dominate are:

- Implantable radio that communicates with devices implanted within the body of the patient (e.g.: cardio devices, artificial sight)
- High intensity transmission of still and video images (e.g.: point of care solutions, remote monitoring)
- Closed loop dosing (e.g.: Asthma inhaler, diabetes/glucose monitor)
- Self-treatment at home with monitoring by physician remotely.
- Smartphones and Healthcare Apps: As of 2010, 5805 health, medical and fitness applications are available with the Apple Appstore.

Medical iPhone Apps

With the increase incidences of lifestyle diseases and increasing general awareness, the handheld, simple, convenient, user- friendly devices for measuring and monitoring various healthcare parameters are on the rise.

Medical devices that offer less invasive treatment options, with better clinical outcomes and shorter recovery times, will create tremendous value in the next few years.

Indian scenario

The Indian market scenario is quite complex in many ways. Domestic manufacturers mainly dominate low value medical supplies and disposables whereas importers dominate the costly and high end medical equipment market. The local market is still dominated by either imports or large MNCs whereas the local manufacturers act as only small players in this market. Imports constitute over 50% of the market and most imported products have high gross margins. The main issues that cripple the Indian medical devices industry are India's dependency on imports for supply of medical devices, strict industry regulatory environment, low level of healthcare insurance and low levels of healthcare facilities and awareness especially in rural areas.

The primary challenges facing the local manufacturers are:

- Poor infrastructure for R&D and testing facility for efficacy and safety testing.
- Lack of trained personnel for serving in this industry with sufficient technical knowledge.

Majority of the Indian medical device market is dominated by the specialty medical dental and surgical instruments and appliances such as ophthalmic, dental and other physiological classes. This segment accounts for 55% of the total market and is followed by medical implants and disposable segments accounting for approximately 25% and 20%, respectively of the total market. Medical supplies (bandages and disposables like syringes, needles and catheters) constitute 20% of the total market largely met by local production. Diagnostic kits constitute a high growth segment in the medical devices market with a growth rate of 30% and Indian companies like Nicholas, Piramal, Orchid have significantly consolidated their market position in this segment. The fast growing segment is the largest medical equipment segment still largely dependent on imports.

European and USA medical devices manufacturers are actively considering outsourcing or relocating their manufacturing to Asia especially India and China to take advantage of its significantly lower costs for skilled labor that prevails in these countries. If India could provide these medical devices that meet quality requirements and international standards, then it would be highly attractive to an increasing number of healthcare providers in western countries who are presently struggling to contain costs and facing tightening budgetary restraints. With India being the preferred outsourcing destination for other services, it can attract more foreign companies for contract manufacturing of medical devices, once the above-mentioned constraints and apprehensions are addressed. Indian medical devices manufacturing industry is bound to benefit largely from the outsourcing activity of medical device manufacturing in future.

- The author is Practice Head – Life Sciences, Mindteck