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Innovation Management on Indian Healthcare Sector

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Abstract

Innovation is the way of unfolding new arenas in different sectors and plays a prominent role for the development. It has a greater significance in the healthcare sector especially in a developing country like India with a huge population and meager resources. Innovation in the healthcare sector can happen at 3 different levels and in 3 different modes which have revolutionized the medical sector over the years. They paved a new way of addressing healthcare issues curing incurable medical conditions making them affordable and accessible facilities. Apart from the major innovations that resulted in a sustainable, portable, compact and efficient technology like smart cards there are also some frugal innovations in India. Medical tourism is another rapidly growing sector with a greater scope of development in future. Innovation has not only simplified the processes, operations, techniques, methods of treatment but also increased the lifespan of people, made various treatments accessible to a

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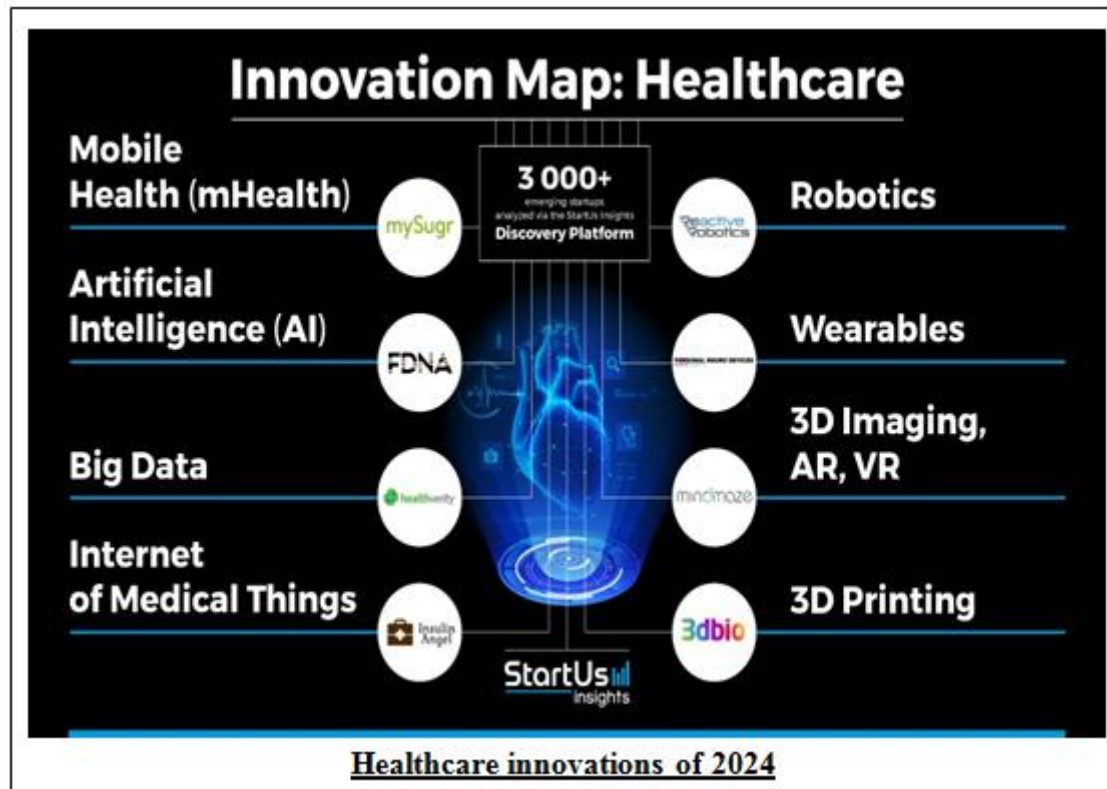
large population, aided people with disabilities and enabled the hope of people to walk, speak, read and perform regular functions despite severe medical conditions.

Keywords: *Introduction, levels of innovation in healthcare sector, Types of innovation in healthcare sector, Jugaad innovation, Medical tourism and Smartcard, Conclusion.*

Introduction

"Innovation is implementation of something new that enhances the wellbeing and improves the quality of life."

The Healthcare sector is one of the prominent and fastest growing areas in the world both in terms of revenue and technology. The Indian healthcare system is vast with varied branches, departments, segments. It values around 200 billion USD with an annual growth of 22.9%. There was always a gap between availability, accessibility and affordability of healthcare services in India. This gap eventually provided an opportunity for innovations which are feasible and frugal, realizing unrealistic and unimaginable medical technology. Nearly 70% of health expenditure is spent by citizens of the country of which 70% is being spent on medicines. Owing to the huge population and low resources in terms of equipments, facilities, manpower and affordability of people, innovation in healthcare sector played a crucial role in bringing down the prices, expanding the scope of life in many serious medical conditions, increasing the accessibility to remote areas, speed of medical test results and simplifying various medical procedures.
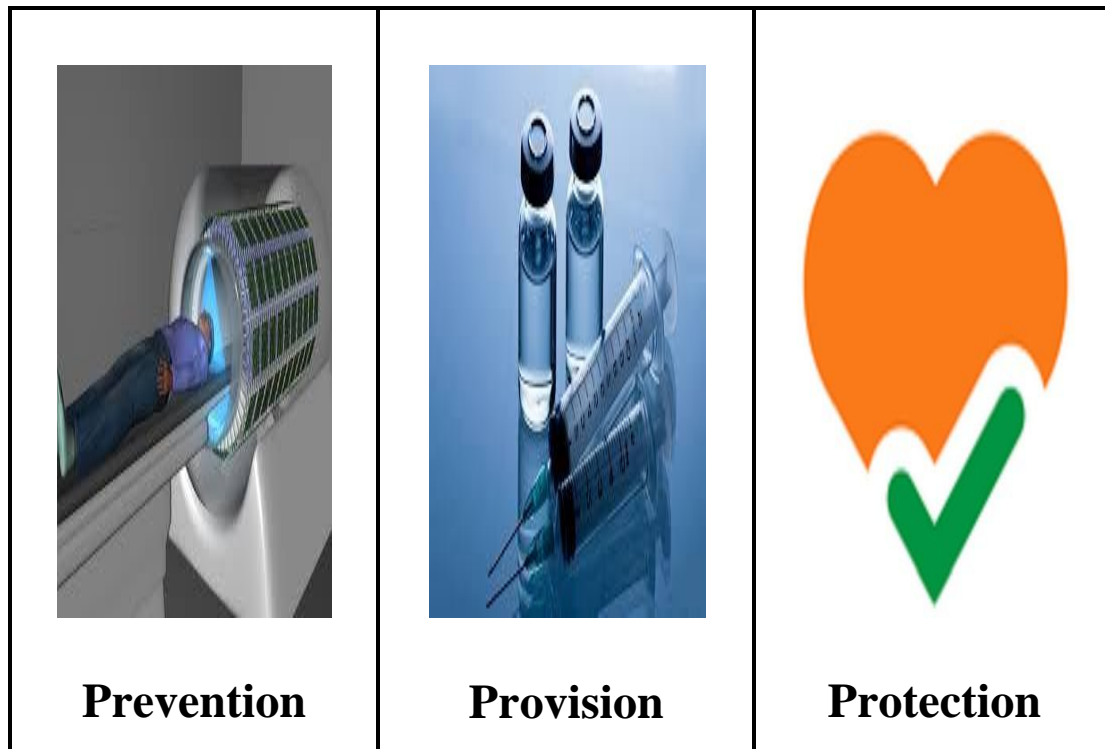
Healthcare innovations of 2024

Levels of Innovation in Indian Healthcare Sector

Innovation in healthcare sector can happen at any of the following 3 levels:

1. **Prevention:** Innovation at this level is concerned with screening of diseases - medical equipment such as MRI, CT scans, blood and urine test kits, ECG, EEG machines, etc. spreading health awareness and education - through various software and mobile applications.

2. **Provision:** Innovation here is concerned with diagnostic and treatment services such as vaccines, medicines, intravenous treatments, stents etc.
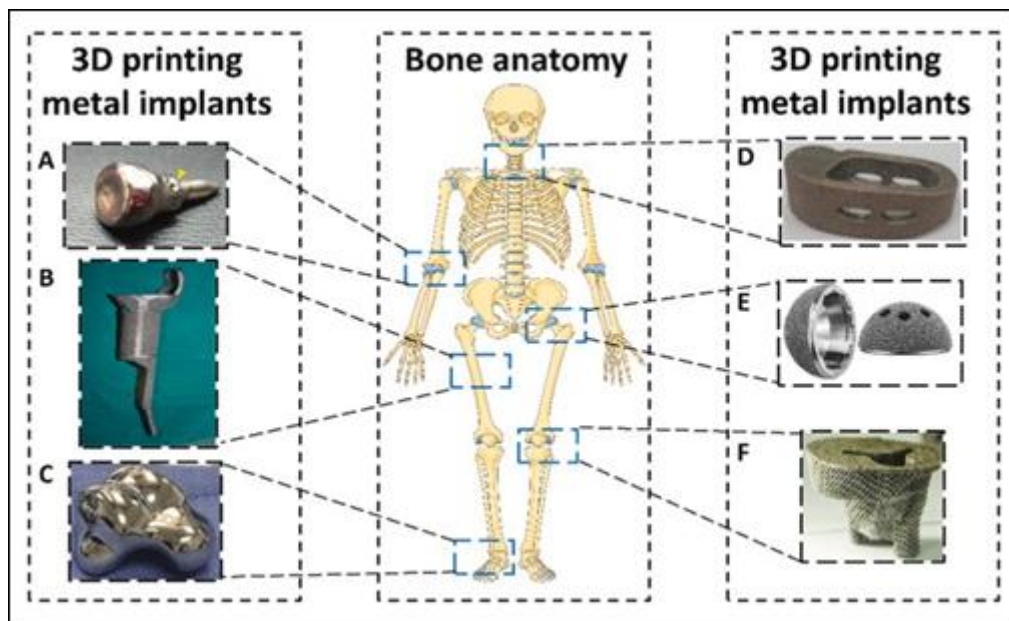
3. **Protection:** Innovation here is more concerned with long term follow-ups, monitoring and check-ups. This is achieved using mobile applications such as Arogya Setu and physical check-ups.
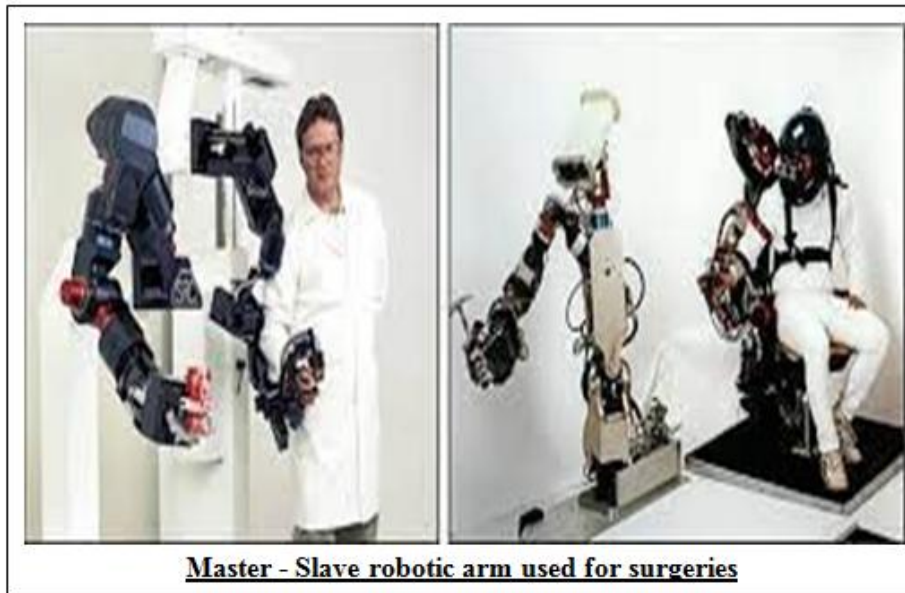

| **Prevention** | **Provision** | **Protection** |

Types of Innovation in Indian Healthcare Sector

1. **Product Innovation:** It includes innovation of new diagnostic tools, medical services and healthcare delivery. It is the prime form of innovation observed in any sector. Point of care testing (POCT) services which are compact diagnostic services fall under this category. Some of the new technology like - wearable health technologies, mHealth apps, assistive technology such as prosthetic arms and limbs, 3D printed parts like- artificial bio organs, skin, dental and bone implants, innovations for visually impaired people, etc. comes into this category. Mobile applications

such as 'Swasth Bharat' (by the Ministry of Health & Family Welfare) are highly informative on diseases, symptoms and many more are the software innovations that help to track and maintain digital medical records. Vaccine tracers, pregnancy care reports also fall into this category. Some of the state governments in India display splendid performance by using the product innovation to achieve Universal Health Coverage(UHC). Assam is one such state which runs mobile clinics under the name of 'Akha boat'. Similarly primary HMRI's mobile health vans are run by Andhra Pradesh.

2. **Process Innovation:** This innovation either improvises or disrupts the processes. These are designed for the betterment of healthcare processes and thus people associated with it. Online medical consultation, tele education, usage of space technology to deliver healthcare services, robots to perform surgeries, etc are some of its examples.

Master - Slave robotic arm used for surgeries

3. **Paradigm Innovation:** It includes a policy, process or a product that influences the internal and external trends of an organization. Social insurance schemes like Rashtrya Swasthya Bima Yojana, Rashtriya Arogya Nidhi and Yeshasvini Health insurance scheme which aids the poor, women and people below poverty line financially, laboratories run by Non-Government organizations, Public-Private Partnerships, Ayushman Bharat initiative which aims to achieve UHC through health and wellness centers are some of its examples.

4. **Jugaad Innovation:** Jugaad innovation or frugal innovation is a new low cost, sustainable, affordable product or process that aims to deliver services of high quality, high volume, low cost and temporary to permanent solution to the current issue. There are different driving factors in the Indian healthcare sector that gave birth to this kind of innovation. Some of them include:

- Low public investment in preventive healthcare
- Poor health awareness and education
- Weak public healthcare infrastructure
- Lack of advanced laboratory facilities and equipment
- Low penetration of health insurance
- Unaffordability of treatment
- Inadequate health workforce
- Poor healthcare delivery mechanism

Some of such Jugaad innovations made in India are - homemade Covid19 masks, inexpensive exoskeleton of lower limb used by gat trainers to treat lower limb issues, technique

to save preterm lives through skin-to-skin contact and cloth wrapping where incubators are rare.

Old age person relying on exoskeleton to walk

Medical Tourism and Smartcard

Medical Tourism is a rapidly growing sector in india. Owing to factors such as cheap medical expenditure while providing high quality treatment on par with international standards Indian hospitals are like hotbeds of medical tourism.

Smart Cards are biometric enabled that provides all public and private health care services. It's an information technology platform delivering paperless, cashless benefits, post-treatment details and monitoring programs like Directly Observed Treatment short-Course (DOTS).

Conclusion

The Indian healthcare sector is one of the fastest growing sectors with most of the medical innovation occurring in the pharmaceutical industry. With many Foreign direct

investments (FDIs), disruptive healthcare models, frugal innovations and digital revolution acting as its contributing factors this field is yet to see greater changes in the near future. At the same time it's also important to look for patterns of failures, efficiency and then offer a feasible solution.

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