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Navjot Singh has diverse experience in the healthcare industry across various business verticals. With a proven track record of business expansion in new territories, he is a seasoned international business leader. An experienced coach with a history of high-performing teams, he has deep product knowledge and leadership qualities to drive new and running businesses with strong management skills.

The Evolution of the Indian Medical Imaging Industry

From the pioneering days of X-rays to cutting-edge molecular radiology, the journey of medical imaging in India reflects a blend of innovation, accessibility, and progress

The medical imaging sector in India is undergoing a transformative journey, marked by significant shifts in development, affordability, accessibility, and awareness. With a predicted CAGR of 12-15% over the next 5 years, the Indian medical imaging industry is expected to grow significantly, surpassing the 5% global CAGR. The driving factors being an increasing number of elderly population, the rising incidence of chronic illnesses cancer, genetic mutations, bone-related diseases, cardiovascular disorders, accidental injuries, and the increasing adoption of modern diagnostic imaging technique. As the sector witness's structural changes and technological advancements, radiologists find themselves at the link of a rapidly evolving healthcare ecosystem.

Technological Advancement

From the pioneering days of X-rays to cutting-edge molecular radiology, the journey of medical imaging in India reflects a blend of innovation, accessibility, and progress. X-rays have been the foundation of medical imaging in India. The discovery of X-rays in 1895 marked a turning point in medical diagnostics globally. In India, this breakthrough paved the way for the use of X-ray technology in diagnosing a myriad of medical conditions, from fractures to pulmonary diseases. The widespread adoption of X-rays in Indian hospitals and clinics facilitated quicker and more accurate diagnoses, revolutionizing patient care.

The development of plastic surgery techniques has accelerated the advancement of medical imaging.

Plastic surgeons relied heavily on imaging modalities to plan and carry out complex reconstructive procedures, which improved both aesthetic outcomes and functional restoration for patients. Imaging technologies were critical in developing surgical strategies that ensured precision and optimal outcomes.

The introduction of Flat Panel Digital C-Arm technology transformed the medical sector, providing healthcare providers with unprecedented

capabilities. From orthopaedic surgeries to cardiac interventions, the versatility of the Flat Panel Digital C-Arm has triggered a standard shift in medical practice, particularly in resource-constrained settings. orthopaedic surgeries to cardiac interventions, the versatility of the Flat Panel Digital C-Arm has triggered a standard shift in medical practice, particularly in resource-constrained settings.

Then comes into play Dual-energy X-ray absorptiometry (DEXA) in assessing bone health and diagnosing conditions such as osteoporosis. By measuring bone mineral density, DEXA scans helped identify individuals at risk of fractures and

guided therapeutic interventions to mitigate bone loss. The integration of DEXA technology into routine clinical practice has contributed to the prevention and management of skeletal disorders.

Introduction of Mammography played a crucial role in detecting breast cancer in both males and females.



Computed Tomography (CT) and Magnetic Resonance Imaging (MRI) have

standardized diagnostic precision. CT scans provide detailed cross-sectional images of the body, aiding in the detection and characterization of various pathologies, including tumours, vascular anomalies, and traumatic injuries. MRI, with its superior soft tissue contrast, became indispensable in neuroimaging, musculoskeletal assessment, and oncological diagnosis.

In recent years, molecular radiology has emerged as a frontier area in medical imaging research. Molecular imaging holds immense promise for early disease detection, personalized treatment strategies, and therapeutic monitoring across a spectrum of

medical conditions, including cancer, cardiovascular diseases, and neurological disorders. Techniques such as positron emission tomography (PET) and single-photon emission computed tomography (SPECT) enable the visualization and characterization of biological processes at the molecular level.

Structural Changes

The dominance of the private sector in secondary and tertiary care underlines the ongoing corporatization and decentralization trends. As healthcare moves closer to communities, the rise of national and regional chains signifies a shift towards standardized care delivery. This consolidation not only enhances operational efficiency but also redefines the role of radiologists as clinical partners, nurturing interdisciplinary collaboration and patient-centric care models.

Teleradiology and Telemedicine

Advancements in networking and bandwidths are composed to revolutionize remote diagnostics through teleradiology and telemedicine. By bridging geographical barriers, these modalities promise to extend quality healthcare services to remote areas, where the shortage of skilled radiologists remains a significant bottleneck. Moreover, the proliferation of cross-border

teleradiology holds immense potential for global collaborations and knowledge exchange.

Patient Awareness and Regulatory Framework

Empowered by information access, patients are increasingly proactive in their healthcare decisions, demanding transparency and accountability from radiologists. Consequently, there's a growing imperative for radiologists to engage in patient education and communication, fostering trust and compliance. Moreover, impending regulatory reforms, including licensing and accreditation requirements, signal a paradigm shift towards standardized practices and quality assurance.

India's mission to promote the domestic medical imaging industry has catalyzed its growth and innovation. Government initiatives such as "Make in India" have incentivized local manufacturing, research, and development of imaging technologies, fostering self-reliance and economic resilience. Collaborations between academia, industry, and healthcare providers have facilitated knowledge exchange and skill development, driving continuous advancements in medical imaging.

While the journey ahead is filled with challenges, it presents unprecedented opportunities for radiologists and MedTech to redefine their roles, embrace interdisciplinary collaboration, and spearhead innovation in patient care. ■