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Key Skills & Salary Trends in Healthcare & Pharma for 2025 |Healthcare's Tech Transformation: Reshaping Skillsets for a Digital Future

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Indiaâ??s healthcare and pharmaceutical sectors have witnessed tremendous growth in the last decade, with cutting-edge technology being widely integrated into operations. Currently, the healthcare and pharma industries are valued at a colossal $372 billion and $50 billion, respectively. As one of the largest employers, employing around 7.5 million people, the healthcare sector is undeniably the countryâ??s economic backbone. Amid this competitive landscape, itâ??s imperative for existing professionals and those aspiring to build a career in the healthcare/pharma industry to upskill themselves regularly. Letâ??s delve into the skills and salary trends over the past five years in the healthcare and pharma sectors.



Evolving Skillsets

The healthcare and pharmaceutical industries are undergoing profound transformations, led by the adoption of artificial intelligence (AI), telemedicine, automation, and data analytics. These innovations are reshaping the workforce, creating demand for roles like data scientists, AI specialists, and platform engineers. A recent report forecasts that these technological shifts will generate 2.7 to 3.5 million new jobs by 2027, even as they replace about 23 per cent of existing positions.

The integration of advanced technologies requires professionals with robust digital literacy and problem-solving abilities. For instance, telemedicine platforms depend on developers and cybersecurity experts, while virtual health assistants demand proficiency in AI and natural language processing. Alongside technical skills, healthcare professionals must also refine soft skills like patient communication and cultural competence to navigate an increasingly globalised ecosystem.

Salary Trends

When it comes to salaries, the healthcare and pharma industries have shown steady growth in salaries over the past five years. Between 2020 and 2024, salaries for fresher roles in these sectors increased from Rs 1.7 lakh per annum to Rs 2.2 lakh per annum, while lateral roles saw stable compensation levels around Rs 9.9 lakh per annum. Technology-specific roles such as AI engineers, machine learning experts, and data scientists have witnessed higher growth in salaries, with entry-level positions starting at Rs 9.6 to 10.2 lakh per annum and senior positions commanding over Rs 24 lakh per annum.

However, despite a general salary increase of 9–10 per cent annually, disparities remain. Factors like company size, location, and specialisation play crucial roles in determining compensation. Urban hubs like Bengaluru and Hyderabad offer higher salaries, reflecting their status as tech-driven healthcare hubs.

Challenges in Talent Acquisition

While technological integration is advancing at an unprecedented pace, a notable skill gap poses significant challenges for organisations. Many professionals lack hands-on experience with advanced medical technologies, and communication gaps hinder seamless interactions in global settings. According to recent studies, there is an envisioned shortage of over 2.36 lakh medical technologists and nearly two lakh surgical professionals.

Bridging this gap means focused efforts from all sides. Healthcare institutions must collaborate with educational institutions to align curricula with industry needs. Furthermore, reskilling programmes targeting mid-career professionals can help fill critical gaps, ensuring a steady pipeline of talent capable of driving innovation.

Upskilling

Healthcare and pharma organisations are adopting multifaceted strategies to upskill their workforce. AI-driven learning platforms are personalising training modules, enabling professionals to acquire cutting-edge skills in data analytics and machine learning. Partnerships with EdTech companies like Coursera are expanding access to specialised training in areas such as robotic process automation and IoT.

Today, certification programmes addressing regulatory compliance are becoming standard, equipping employees to navigate complex data privacy frameworks. Moreover, companies are investing in employee-centric initiatives like flexible work arrangements and career growth pathways to attract top talent.

From Roadblocks to Opportunities

Technology adoption brings both challenges and opportunities. One of the primary concerns is data security. The rise of digital health records has increased vulnerability to breaches, necessitating robust cybersecurity frameworks. Meanwhile, regulatory complexities, especially in cross-border operations, demand agility and adaptability.

However, these roadblocks create ample opportunities. Enhanced data analytics capabilities empower healthcare providers to offer personalised care, while AI-driven diagnostics improve operational efficiency. Emerging technologies like quantum computing and 5G promise to revolutionise patient care, creating an interconnected Internet of Medical Things (IoMT) ecosystem.

A Tech-driven Future

Looking ahead, the demand for advanced technical skills is set to accelerate. Expertise in AI, genomics, telemedicine, and cybersecurity will be indispensable as the industry moves toward a digitally integrated model. With this shift, salaries for niche roles are projected to increase significantly, particularly in high-demand areas like automation and personalised medicine.

As the healthcare and pharma industries continue to adopt cutting-edge technology, candidates with an interdisciplinary skill set, combining technical acumen with empathy and strategic thinking, will thrive. The emphasis will not only be on individual expertise but also collaborative problem-solving within dynamic, tech-driven teams.

Healthcare and pharma are at the cusp of a tech revolution, presenting unparalleled opportunities and challenges. Addressing the skill gap, driving innovation, and creating inclusive workplaces are critical for sustaining growth. By prioritising upskilling, embracing digital transformation, and leveraging data-driven insights, these sectors are poised to redefine healthcare delivery and pave the way for a healthier, more connected future. Simply put, they are shaping the future of health and wellness, where technology and humanity meet to redefine the very essence of care.

The Outlook

The digital health market is expected to expand from $12.20 billion in 2023 to $25.64 billion by 2027. Medical devices and digital applications collectively contribute revenue of up to $4.9 and $5.2 billion to the overall digital health market. The setup of more medical colleges as planned in the Budget 2024-25 will boost the rise of ambitious youth in healthcare, it will also help transform the existing women workforce in healthcare as compared to any sector towards Digital health jobs and health tech segments.

The aim to increase the Tech Talent from the current 1 to 2 per cent in this sector is crucial. Heavy technology investments, better investments in devices and R&D schemes are awaited from the government to advance telemedicine, virtual assistants and data analytics that are expected to create 2.7-3.5 million new technology jobs with demand for talent like data scientists and AI specialists. Budget 2024-25 was also expected to impact the overall healthcare ecosystem that not only is core to delivery but disrupted by other facets such as hygiene, sanitation, water, environment & infrastructure gap, blended funding and financing models are needed to attack the rising chronic diseases, coverage for all income groups and accessibility to all.

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