

## *Healthcare and Project Management*<sup>1</sup>

### **An Industry Perspective**<sup>2</sup>

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#### **Abstract**

Mary\*, a computer science graduate, was at a crossroads in choosing her career path in project management. She was recently certified as a Project Management Professional (PMP®) by the Project Management Institute (PMI). Mary approached the author to learn about the healthcare industry's specifics that would influence her career as a project manager for healthcare projects.

The healthcare industry, one of the world's largest industries, is at the center of global intelligence and operational radars. As one of the fastest-growing industries, healthcare witnessed an unprecedented emergency in the Covid-19 pandemic that swept the world over the last couple of years. This disrupted the healthcare of the world's workforce a big time. As a result, the world riveted its attention to the healthcare industry as a messiah of economic recovery and global population health.

While the healthcare industry is about hospitals, supply chains, information technology enablement, patient data privacy and security, partnerships with pharmaceutical and medical devices industries, medical tourism, and more, the patient care delivery processes are at the center of this universe. Therefore, it is paramount to envision "patient care delivery" as a project/program to conceptualize and plan consummate healthcare processes and organizations around this. As a keeper of "life," healthcare has specific dimensions. These specifics create a compelling reason for healthcare project management to differ from other industries.

PMI's Project Management (PM) framework, as per Project Management Body of Knowledge (PMBOK®), is a state-of-the-art framework for projects and programs across domains. The framework ensures that the project managers have the tools and techniques to increase the chances of a successful project outcome.

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<sup>1</sup> Editor's note: This is the first in a new series of articles about project management in healthcare by Dr. Deepa Bhide, a pediatrician with additional experience in information technology and project management. Being a physician herself, she has recently experienced healthcare from a patient's perspective while recovering from a broken ankle. In this series, Dr. Bhide will reflect on programs, projects, and project management in various aspects of healthcare from industry, provider, and human patient perspectives. Learn more about Dr. Bhide in her author profile at the end of this article.

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In this article, the author would like to elaborate on a few fundamental concepts related to the healthcare industry and project management. Keeping in mind these concepts of the healthcare industry, for those already existing project managers in the healthcare industry or those aspiring to make a career in this industry, the author would like to advocate understanding the finer nuances of project landscape and tailored approach while using the existing PM framework in healthcare projects.

**Key terms:** healthcare industry; uniqueness; project management principles; project management career

Mary: Hello, doctor. I hope you are well. Thank you for your time for this conversation. In roles as a patient or a caregiver, so far, I have been a consumer of the healthcare industry. However, as I now consider healthcare project management as one of my career choices, with your deep experience, can you throw some light on the healthcare industry? That will help me with deciding between the career choices that I have.

Author: Thanks for approaching me, Mary. I appreciate your interest in learning more about the healthcare industry. Gaining insights about the sector is critical to making the right choice. Let's start with a few project scenarios from the healthcare industry. Let's focus on an overview of the industry in this session. In our subsequent conversations, we can dive into a few more general and specific aspects.

### **Scenario 1**

A reputed hospital switched to electronic patient health records from paper-based records. The project began with reviewing the cost of this transformation and its impact on patient care and hospital operations. The hospital leadership created a cost-effective plan to move with the Information Technology (IT) team's and PM's help with this transformation. The group contracted a consulting firm with the hospital's IT team and planned a phased approach to procure IT systems, train hospital staff, and liaise with the local healthcare authorities for regulatory clearances. The project manager tracked the positive outcome of the project.

For this project, a few specific aspects to keep in mind from a healthcare industry standpoint are the risk of breach of patient safety and privacy, utmost compliance with regulations, training, and use of IT applications by healthcare professionals, and the need for timely access to patient information for healthcare professionals.

### **Scenario 2**

A multi-specialty practice wanted to re-engineer its operational processes to suit its patient base. The patients often complained about long wait times to see the physicians. The physician group worked with a project management consultancy to discuss their requirements and develop a project plan. The project meant creating a process for a faster turnaround of the patients to ensure timely care, physician satisfaction, and, most importantly, patient satisfaction. The project management team reviewed the existing

patient intake processes and focused on learning and uncovering the gaps. It was noted that a hybrid approach (agile and waterfall methodologies) would be most suitable for the project. Both teams reviewed the plans, and the project was triggered.

In this project, it was vital to ensure operational efficiency, timely access to care, patient satisfaction, staff training, and conformance of the IT applications to the new processes. Therefore, this project is an example of a hybrid project management methodology.

### **Scenario 3**

A 42-year-old patient with chronic conditions such as diabetes mellitus (a metabolic disease of the body with increased blood sugar levels) and hypertension (high blood pressure) was admitted to the Emergency Room (ER) for inability to use his right hand and leg. The patient was the only earning member of the family of four. A CT scan revealed changes in the brain, corroborating the diagnosis of a paralytic stroke. The hospital care team drew up a detailed care plan for execution. The patient was discharged at the end of 7 days of hospital stay. A project of patient care delivery was conceived to take care of this long-term treatment to stabilize his neurological status, control his chronic conditions, and prevent further stroke attacks. Losing employment would devastate the family, so the goal was to get him to return to his work soon. A case manager and the patient's caregiver monitored the situation.

Envisioning the patient care delivery process (including recovery/recuperation from injuries and infectious diseases) is essential. Every patient is unique, and so is the project management around his care. Principles of quality, risk, tailoring project management methodologies, stewardship, adaptation/agility, and more need to be used judiciously for the planning and execution of the patient care project.

### **Introduction**

The healthcare industry is one of the world's largest industries, with fast-paced changes and growth in its share of impact on the global economy and the welfare of the people. Healthcare involves medical care (preventive and therapeutic) and the systems supporting the delivery of medical care. According to the World Health Organization (WHO), "a health system consists of all organizations, people and actions whose primary intent is to promote, restore or maintain health."

A 2020 report by WHO<sup>2</sup> on global healthcare spending for 190 countries from 2000 to 2018 shows a continual rise in global healthcare spending. The figures stand at a staggering US\$ 8.3 trillion or 10% of the worldwide GDP. Yet, according to WHO, there could be a shortfall of 10 million health workers by 2030, mostly in low- and lower-middle-income countries.

According to the Census Bureau's 2019 American Community Survey (ACS)<sup>3</sup>, the healthcare industry is growing faster in the US, accounting for 14% of all US workforce. Furthermore, as per the Bureau of Labor Statistics<sup>4</sup>, employment in healthcare

occupations is projected to grow 13 percent from 2021 to 2031, much faster than the average for all occupations.

Mary: Oh, thank you for that insight. I wasn't aware of the healthcare industry's magnitude and projected growth scale. Can we talk about the dimensions of projects in the healthcare industry? How is the healthcare industry reacting to the concept of project economy?

Author: Sure. The healthcare industry is in flux<sup>5</sup>, witnessing changes around patient consumerism, personalization of care, digital acceleration, invasion of information technology along with Artificial Intelligence (AI) and Machine Learning (ML), workforce diversity, mergers, and integrations, to name a few, as you know. The industry was at the forefront of the Covid-19-related disruptions of unprecedented nature. The pandemic unearthed many gaps in the existing public health system and other operational entities. The gaps then called for new projects and programs to be created. The Covid-19 vaccination program is just one example of such needs.

Let's dive deep into the dimensions of projects in this industry.

## **Projects and Industries**

Projects in the healthcare industry can be of varied types. The three scenarios mentioned above are just a couple of examples of projects from the healthcare industry. The first scenario is about the hospital's technology enablement, the second is about business process reengineering a clinic's operational processes, and the third is about patient care delivery processes. These projects outline specific aspects of healthcare that are important to consider for healthcare project management.

Every domain is unique, and the differences relate to how it delivers value to its stakeholders—created by Michael. E. Porter from the Harvard Business School, Porter's Five Forces, a framework for analyzing industries, helps business managers to plan their strategy to increase competitive advantage. It helps evaluate competitive forces that influence the scale and profitability of an enterprise. An essential drawback of the model is a tendency to use the framework for a company versus the industry. Of the five forces that the framework identifies, the author would like to believe the power of customers and suppliers to be relevant to healthcare as an industry to drive profitability.

The healthcare industry is about delivering positive patient and population health – aligning with the concept of project economy, which delivers value (financial, societal) to the stakeholders through completing the projects. In addition, industries are trying to realize the benefits of economies of scale, namely, cost savings. Though challenging, the healthcare industry is trying to borrow and adapt the concept to derive financial rewards while maintaining the quality of patient outcomes.

Mary: That's impressive but, at the same time, challenging. The industry seems caught between its critical processes of quality patient care and realizing profits. In addition, the

complexity of this sector must rub on the type of projects. Is there a guide for project managers to execute such complex and varied tasks in the healthcare sector?

Author: Oh yes, the industry has some domain-specific global and national frameworks such as ISO 27001 for managing information security, Joint Commission International (JCI) standards for healthcare quality and performance, National Quality Forum (NQF) in the US, National Accreditation Board of Hospitals and Healthcare Providers (NABH) a framework for quality assurance and quality improvement for hospitals in India to name a few. Project management methodologies such as Six Sigma and Scrum could also be used in a few project situations. However, to get started, I recommend that you review the project management framework by PMI for use in healthcare projects. Let's discuss some more details of the relevance of this framework.

### **Healthcare Industry Goals and Project Management Framework**

Healthcare projects are often tied to the strategic objectives and goals of the healthcare organization. For example, Institute for Healthcare Improvement (IHI)<sup>6</sup>, a private, non-profit organization founded in 1991 to improve healthcare across the globe, focuses on optimizing healthcare delivery systems, improving patient safety, and fostering innovation and best practices. As a "Triple Aim" framework, IHI advocates preventive healthcare tenets such as better healthcare for individuals, better population health, and lower per capita costs. Worded differently, healthcare goals are to help organizations run smoothly to deliver efficient and effective patient care (both curative and preventative). The objectives also encompass creating an ecosystem for healthcare professionals to demonstrate their expertise in providing optimal care.

The Project Management framework illustrated in the PMBOK Guide® by the Project Management Institute offers a structure and discipline to execute a project from an idea to its final state. In addition, the framework provides tools and techniques for problem-solving and driving results, such as controlling costs, reducing risks, and improving project outcomes. Project management has emerged as a critical skill for businesses across various industries, and the healthcare industry is no different.

Details of project management and healthcare industry processes are out of the scope of the article. Instead, this article identifies the healthcare industry's specific aspects relating to project management principles. The project management framework cuts across industries. In the author's opinion, it is important to avoid copy-paste or force-fit the same to healthcare projects. In other words, the specific nuances of the healthcare industry need to be acknowledged and adequately analyzed to tailor the framework for use in healthcare project management.

Mary: I agree with you on understanding an industry's fundamental and specific dimensions in managing projects. I am curious to know these aspects of the healthcare industry from a project management framework.

Author: Let's get there in a second. Life is a precious gift, and the healthcare industry is a keeper of life. This makes the healthcare industry unique. The Covid-19 pandemic taught the healthcare industry efficient methods of managing healthcare processes that helped physicians, other healthcare professionals, and patients. To keep a focus on the "Triple Aim" goals of healthcare, the stakes are high as healthcare takes the complexity, quality, and risk to a whole new orbital. I think an excellent way to know these specifics is to know them about the project management principles per the PMBOK® guide.

## **Project Management Principles and Healthcare Dimensions**

As per PMBOK® Guide – Seventh Edition, project management principles are strategy, decision-making, and problem-solving guidelines. They guide effective project management. A few unique dimensions of the healthcare industry tied to Project Management Principles are as follows.

1. **Value delivery** – delivery of the worth of the project.
  - a. Creating optimal patient care outcomes that support the everyday life of a patient (personal, community, etc.) to discharge his duties.
  - b. Trust as a value that develops between healthcare professionals and patients.
  - c. Patient safety - deals with patient treatment modalities choices. Patient safety breaches can endanger a patient's life.
2. **Team and Leadership** – individuals with diverse skills and experience who work collaboratively to deliver value/shared objectives. Patient care processes exist in a state of flux.
  - a. An increased requirement for team collaboration to drive efficiency in care and positive results/outcomes.
  - b. Along with clinical, soft, and leadership skills, there is an increased need for special skills such as motivating staff when faced with challenging situations during patient care, empathy, compassion, communication, and problem-solving amidst pressure/time constraints. In addition, it's essential to recognize the need for quick and correct decision-making the very first time.
  - c. Strategic thinking - calls for its workforce to develop strategic thinking at an all-new level for envisioning comprehensive care of the patient versus care for their ongoing problem.
  - d. Need of a trained and dedicated team on life-saving skills.
3. **Stakeholders** – individuals, groups, or organizations who can affect or be affected by the project objective.
  - a. Presence of stakeholders with varied interests in patient care, ranging from treating physicians to the community. Essential to recognize critical stakeholders, directly and indirectly, influencing patient care processes.
  - b. Engagement-centered shared decision-making with active interdependence on stakeholders for hospital management, including

driving profitability and utilization, managing competition, IT transformation, and ensuring quality in patient care activities.

4. **Adaptation and resilience** – project skill; ability to respond to changes
  - a. Healthcare resilience opportunities towards challenging aspects around the prevalence of chronic diseases, access to quality healthcare, social and economic inequalities, and physical and mental health.
  - b. Adapting to quick landslide events/health emergencies such as Covid-19 that threatened a negative global impact on population health.
  - c. With each patient and their care being unique, adaptation is one of the inbuilt tenets of this industry.
  - d. High flexibility needs of healthcare processes that can be well supported by agile project management methodology.
5. **Quality** – creating outcomes that align with the project objectives in healthcare operations or patient care processes.
  - a. Patient safety is the utmost priority for all professionals in medical facilities. Institute of Medicine (IOM)<sup>7</sup> has included safe, effective, patient-centered, timely, efficient, and equitable care as six quality domains in healthcare. Virtual healthcare/home healthcare delivery has the highest reliance on efficiency of IT system efficiency.
  - b. Learning from mistakes, avoiding potential errors, and demonstrating a quality culture. For example, hospital-associated infections and adverse drug events are preventable errors requiring quality assurance.
6. **Risk** – uncertain events (e.g., clinical, regulatory, environmental, privacy and confidentiality related) have the potential for both positive or negative effects on the industry's reputation, earnings, and outcomes.
  - a. Healthcare is a highly regulated industry with strict patient safety and confidentiality regulations such as HIPAA, Joint Commission International, and others. Also, a litigation-prone industry with medical malpractice as a well-known civil lawsuit.
  - b. Need to practice enterprise risk management involving the entire organization in shared responsibility for risk management, turning risks into opportunities.
  - c. Healthcare collects more personal data on people than any other industry, making it a prime target for cybercrime.
  - d. High turnover of trained healthcare staff with employee disruptions impacting the quality of healthcare processes (organizational and patient care).
  - e. Sequelae<sup>7</sup> (after effects of medical or surgical therapeutic interventions), if negative, can damage the credibility of the hospital and healthcare professional. Hence critical to be aware of this concept for risk management and comprehensive scope management.
7. **Tailoring** – an adaptation of the approach and governance to meet the unique project requirements/achieving desired outcomes.

- a. Optimizing value delivery and positive patient outcomes, satisfying diverse stakeholder interests, and providing compliance with regulatory standards for care delivery and supporting services.
  - b. Fine-tuning/tailoring processes against the pressures of rising costs, maximizing resources, and delivery of efficient care needs of the healthcare industry.
  - c. Need for tailoring project management methodologies such as i) tailoring agile, waterfall, or similar methodologies developed for other industries (e.g., six sigma, scrum, etc.) for specific healthcare needs ii) use of agile, waterfall, or hybrid methodologies in a single project or ii).
8. **Complexity** – ambiguity and human or system behaviors that complicate the project environment. Complexity in the healthcare industry<sup>9</sup> can be due to the following (indicative list only).
- a. Diversity of tasks and activities involved in individual patient care.
  - b. Scope of subjectivity with the experience of healthcare professionals despite standard medical education. Any form of subjectivity enhances process complexity. Dynamic and constantly changing treatment guidelines or clinical pathways add to the complexity.
  - c. Variation in clinical care delivery settings, including telemedicine/medical tourism complicating quality care delivery.
  - d. Implementation of newer technologies to manage hospital/patient care.
  - e. Complex vendor management in healthcare for optimizing costs, minimizing risks, and ensuring high service levels (e.g., supply chain challenges around the procurement of life-saving medical supplies such as Personal Protective Equipment (PPE) kits, medications, ventilators, vaccines, and so on).

Stewardship, another vital project management principle, involves project delivery with utmost integrity, care, and trust, ensuring compliance. As per World Health Organization (WHO), <sup>10</sup> stewardship is the careful and responsible management of the population's well-being. Stewardship in healthcare project management involves satisfying unique ethical dilemmas and ethics-backed medical decision-making during patient care.



Fig 1: Project Management Principles as per PMBOK® Guide – Seventh Edition and Healthcare dimensions. (Template: Courtesy Canva)

## Conclusion

Mary: This is awesome. I can now visualize the healthcare industry and the various aspects that make it and its component projects so different. I also see how the project management framework could be relevant to healthcare projects. Can we talk about what's in store for the industry in the immediate future?

Author: Oh, sure. A word of caution! Though the project management framework cuts across industries, there is no one-size-fits-all approach to its application for various industries. Project managers need to know the big picture and the finer nuances of each industry that makes it unique. This will help you assess the blend of your skills and inclination to take roles in healthcare project management.

As for 2023, there is a lot in store as healthcare looks at the continued and fast-paced transformation. A few areas of growth<sup>11</sup> are digital health, data science and the use of artificial intelligence (AI) and machine learning (ML) technologies, telemedicine, smart medical devices, preventive care, new public health programs, personalized healthcare, and more. We can talk about a few of these in the subsequent sessions.

It may be of interest to you that PMI's 2021 Talent Gap Report<sup>12</sup> hints at a staggering 25 million new project professionals by 2023, and the healthcare industry drives a large part of this. Exciting.

Mary: Thank you, doctor. I appreciate you taking the time and effort to walk me through these details and scenarios of the healthcare industry. As an aspiring project manager in the healthcare industry, I am curious to know its universe of projects. The discussion will add to my information, help me think through my choices, and make a decision that suits my skills and interests.

I look forward to talking to you again.

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\* - Name changed to protect privacy

## Glossary

- ACS: American Community Survey
- AI: Artificial Intelligence
- ER: Emergency Room
- HIPAA: Health Insurance Portability and Accountability Act
- IT: Information Technology
- JCI: Joint Commission International
- ML: Machine Learning
- NABH: National Accreditation Board of Hospitals and Healthcare Providers
- NQF: National Quality Forum
- PM: Project Management
- PMBOK®: Project Management Body of Knowledge
- PMI: Project Management Institute
- PMP®: Project Management Professional
- PPE: Personal Protective Equipment
- WHO: World Health Organization

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## About the Author



### **Dr. Deepa Bhide**

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**Dr. Deepa Bhide**, MBBS, DCH, PMP, has over 20 years of professional experience where she has blended medical practice and research with IT and Project Management. She juggles consulting, training, and operations and is proficient in clinical medicine, project management, and healthcare information technology. Starting her career as a medical practitioner, she has worked with varied organizations before her current stint as director and clinical expert for Inventurus Knowledge Solutions.

Her passion for IT and Project Management was born from her day-to-day patient interactions. Deepa's growing interest and work in these areas helped her view Project Management as a backbone of progressive healthcare. Her paper on "Patient Care - A Project Management Perspective" has received global recognition and acclaim. Deepa is an active contributor to PMI with her articles on a cross-domain confluence of Healthcare and Project Management. With a physician background as a solid foundation to leverage IT/PM skills and knowledge, Deepa has blended her broad-based experience and learnings to present a unified, holistic, wholesome view of Project Management and Healthcare. Through various webinars, events, talks, and writings across platforms, Deepa has been an evangelist in championing global project management during the Covid-19 pandemic.

A Gold medalist from Osmania University for standing First in the MBBS course and also for Human Physiology, she went ahead to pursue her DCH in Pediatrics and Child health. Deepa is an active member of their volunteer initiatives. Deepa has served a variety of roles in local and global PMI regions. The part of Council Lead for PMI's Healthcare Community of Practice for two years (2013-15) involved identifying and mentoring volunteers and collaborating across geographies for knowledge assets. Deepa is currently a part of PMI's Ethics Insight Team, a global team of 7 volunteers advocating PMI's Code of Ethics and Professional Conduct.

Deepa lives in Hyderabad, India, and loves to travel, sing and experiment with global cuisine. She can be contacted at [deepabhide@gmail.com](mailto:deepabhide@gmail.com).