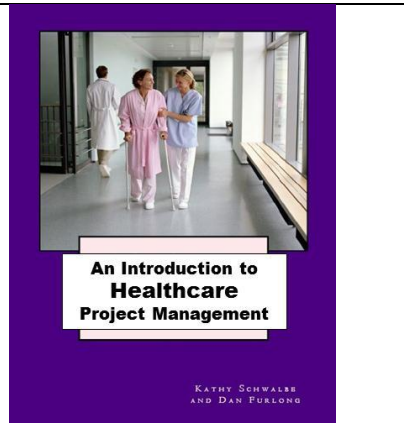# Coming June 1, 2013

An Introduction to
Healthcare
Project Management
by
Kathy Schwalbe
and Dan Furlong

April 20, 2013

Dear readers/instructors:

This updated preview provides information about my upcoming text book, *An Introduction to Healthcare Project Management,* with co-author Dan Furlong. We plan to have it finished before June 1, 2013. Special thanks to Cindy LeRouge for her inputs on Chapter 1.

We used my other book, *An Introduction to Project Management, Fourth Edition*, as the foundation for this book, adding new information related to the healthcare field and replacing the main running case with a healthcare project to reduce incidences of ventilator associated pneumonia. The basic structure and information will be the same, with the following nine chapters and two appendices:

- Chapter 1: An Introduction to Project, Program, and Portfolio Management in Healthcare
- Chapter 2: Project, Program, and Portfolio Selection
- Chapter 3: Initiating Projects
- Chapter 4: Planning Projects, Part I (Project Integration, Scope, Time, and Cost Management)
- Chapter 5: Planning Projects, Part II (Project Quality, Human Resource, Communications, Stakeholder, Risk, and Procurement Management)
- Chapter 6: Executing Projects
- Chapter 7: Monitoring and Controlling Projects
- Chapter 8: Closing Projects
- Chapter 9: Best Practices in Project Management
- Appendix A: Brief Guide to Microsoft Project 2013
- Appendix B: Resources

I will post updates from ***www.intropm.com*** and **at *www.healthcarepm.com***. If you'd like to get on a list for a desk copy, please email me at schwalbe@augsburg.edu. The contents of this preview include the almost final version of Chapter 1!   Kathy Schwalbe, Ph.D., PMP

Chapter 1

An Introduction to Project, Program, and Portfolio Management in Healthcare

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LEARNING OBJECTIVES

After reading this chapter, you will be able to:

- Understand the growing need for better project, program, and portfolio management in the healthcare industry
- Investigate the context of healthcare projects, including a brief history of the U.S. healthcare industry, the nature of healthcare projects, characteristics of project team members, and recent trends in healthcare that can affect project management
- Explain what a project is, provide examples of healthcare projects, list various attributes of projects, and describe project constraints
- Describe project management and discuss key elements of the project management framework, including project stakeholders, the project management knowledge areas, common tools and techniques, and project success factors
- Discuss the relationship between project, program, and portfolio management and their contribution to enterprise success
- Describe the project management profession, including suggested skills for project, program, and portfolio managers, the role of professional organizations like the Project Management Institute, the importance of certification and ethics, and the growth of project and portfolio management software

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OPENING CASE

Casey Goodman, the Chief Executive Officer (CEO) of America's Best Healthcare, Inc., was discussing strategic plans with the board of directors. "Healthcare is currently in an environment of change that seems to be moving at the speed of light. Health information technology, policy changes, cost containment, re-admit penalties, meaningful use, evidence -based medicine, and forming health networks is bearing down on us, and hard. Not to mention our desire to improve quality measures, explore the medical home concept, improve our patient experience, and reach rural communities. Managing a healthcare organization as it existed a few years ago is no longer an option, and at times it is overwhelming."

Everyone in the room took an extra breath as Casey went through the list of strategic initiatives. One of the board members commended Casey on the success of the electronic health records (EHR) implementation completed the prior year as well as the rising success of the new telemedicine service line helping to address emergency department stroke care needs by providing specialist access across their network. Casey responded that the "big guns' were pulled out for those projects, but several new initiatives had not gone so well.

Dr. Kaheed had been on the board for the last ten years, and he understood the climate changes Casey was mentioning as well as the various levels of project success. He asked Casey what was so different about these two major projects, particularly since similar projects seem to be struggling at some other organizations.

Casey thought for a few seconds, and then replied, "Excellent question. What has really helped us the last two years is that we have embraced project management and are working to make it a core competency. We now have a project management office staffed with professionals to assist our organization on major projects. We assigned a full-time project manager to work with each of those projects. Don't get me wrong, these projects had major challenges, but we were able to get ahead of the issues to make things work out in the end. "

Casey went on to explain that using good project management ensured that the projects had clear goals, a good plan to follow in order to meet those goals, and a good path for integrating the projects into the organization's regular operations and workflow. "Board members, we need to realize that we need to increasing become a more project-based organization. And believe me, it will not be easy. It's never easy to implement changes. These skills and methodologies need to not just stay with a couple of project managers and selected projects. We need increased capability to successfully manage and execute projects across the organization. We already have the talent and skills to provide quality medical care and maintain operations. If we invest what it takes to further develop the skills and talent to plan and execute projects across America's Best Healthcare, I am very confident that we will be able to navigate the rapid change opportunities and challenges in the current healthcare climate and have continued success in years to come."

INTRODUCTION

The opening case highlights the fact that healthcare organizations have a growing interest in project management. In the past, project management primarily focused on providing schedule and resource data to top management in just a few industries, such as the military and construction industries. Today's project management involves much more, and people in every industry and every country manage projects. The facts below demonstrate the significance of project management:

- In 2011, the average annual salary (excluding bonuses, in U.S. dollars) for someone in the project management profession was $160,409 in Switzerland (the highest-paid country), $139,497 in Australia, $105,000 in the United States, and $23,207 in China (the lowest-paid country). This Project Management Institute (PMI) survey was based on self-reported data from more than 30,000 practitioners in 29 countries.[1]
- CareerBuilder.com found that 44% of U.S. employers listed project management as a skill they looked for in new college graduates, behind only communication and technical skills.[2] Employers throughout the world, especially in Australia and Canada, echo the same request.
- Project management certification continues to be one of the most popular certifications throughout the world, and pay is often higher for project managers who hold PMI's Project Management Professional (PMP) certification.
- The U.S. spends $2.3 trillion on projects every year, and the world as a whole spends nearly $10 trillion on projects of all kinds. Projects, therefore, account for about one fourth of the U.S. and the world's gross domestic product (GDP).[3]
- Projects in the healthcare industry continue to grow, and the global healthcare market for just information technology (IT) projects is expected to read $162.2 billion by 2015, growing at a compound annual rate of over ten percent from 2010 to 2015.[4]
- Project management is also a vital skill for personal success. Managing a family budget, planning a wedding, remodeling a house, completing a college degree, and many other personal projects can benefit from good project management.

  Organizations claim that using project management provides advantages, such as:
  - Better control of financial, physical, and human resources
  - Improved customer relations
  - Shorter development times
  - Lower costs
  - Higher quality and increased reliability
  - Higher profit margins
  - Improved productivity
  - Better internal coordination
  - Higher worker morale
  - Reduced stress

What Went Wrong?

In 2010, the American Health Information Management Association (AHIMA) worked with the American Medical Informatics Association to publish "H.I.T or Miss: Lessons Learned from Health Information Technology Implementations". This collection of 17 vignettes documents real-life situations of health IT projects that did not go well. An important lesson learned in these tales from the trenches is the need to use sound project management principles in health IT projects.

The Standish Group first published an often-quoted study entitled "CHAOS" in 1995 which reported that the overall success rate of IT application development projects in the U.S. was only 16.2 percent. The researchers defined success as meeting project goals on time and on budget. The study also found that more than 31 percent of IT projects were canceled before completion, costing U.S. companies and government agencies more than $81 billion. The authors of this study were adamant about the need for better project management in the IT industry. They explained, "Software development projects are in chaos, and we can no longer imitate the three monkeys—hear no failures, see no failures, speak no failures." [5]

In another large study, PricewaterhouseCoopers surveyed 200 companies from 30 different countries about their project management maturity and found that over half of all projects (not just IT projects) fail, including those in healthcare. They also found that only 2.5 percent of corporations consistently meet their targets for scope, time, and cost goals for all types of projects. [6]

The healthcare industry has been engaged in projects for a long time, but not necessarily using formal project management techniques. New technologies, health reform, evidence-based medicine, health networks, patient-centered care, medical homes, and improved patient experience are some of the many forces that are radically changing the healthcare environment. And where there is change, there are projects! This rate of change as well as increasing interest in applying business best practices from other industries to healthcare has prompted the healthcare industry to examine their practices in managing projects. Healthcare organizations are realizing that to remain competitive, they must develop skills to effectively select and manage the projects they undertake. They need to be conversant with and use modern project management techniques and embrace program and portfolio management to address enterprise-level needs.

The main emphasis of this book is to help people in the healthcare industry to improve the success rate of their projects, from adding new hospital wings to preventing hospital acquired conditions to introducing new technologies. This chapter introduces projects and project management, summarizes the context of healthcare project management, describes the differences between project, program, and portfolio management, discusses the role of the project, program, and portfolio manager, and provides important background information on these growing professions in the healthcare sector.

Video Highlights

The Yale School of Management and Change Observer created a Web site and several videos about the Mayo Clinic in Rochester, Minnesota, an organization known worldwide for its excellence in healthcare and innovation. One of the videos about project management includes interviews with key members of the Center for Innovation. Barbara Spurrier, Administrative Director, describes how much project management has taken off at Mayo. They prepare project charters, status reports, and other documents to help manage projects and improve communications. Barbara indicates that it is crucial to be very clear regarding project deliverables while also being flexible with stakeholders in executing projects. The project management team uses disciplined processes to co-create. Dan O'Neil, a project manager, explains that project managers are part of a triad with designers and physicians to develop realistic plans that guide the execution of projects.[7]

See *www.healthcarepm.com* for links to this and other videos. You can also learn about the history of project management by watching a series of videos on youtube.com by Mark Kozak-Holland, author of a book on the subject.

THE HEALTHCARE PROJECT MANAGEMENT CONTEXT

Projects are not run in isolation. They are part of a bigger system, and in order to be successful, project managers must understand that system. The U.S. healthcare system is extremely complex, and many books and articles are available to attempt to explain it. For this text, it is important to understand basic information about the context of healthcare projects, including a brief history of the U.S. healthcare industry, healthcare costs, the nature of healthcare projects, and recent trends in healthcare that can impact project management.

Brief History of the U.S. Healthcare Industry

For most of American history, the maternal figure was responsible for the health needs of the family, performing the duties today traditionally performed by nurses, physicians, and other healthcare professionals. However, the mother-as-caregiver health model gradually dissipated with the rise of the American physician, which was based on the English model. The physician was promoted as a profession of learned individuals specializing in medical treatment. The maternal figure in the family or the physician could approach each case of short-term illness or injury as a project.

The model for the current, expansive healthcare industry was partially the result of one hospital's reaction to declining revenue during the Great Depression in 1929. American households faced difficult financial choices during the Depression and many people chose to forgo healthcare. As a result, Baylor University's hospital in Dallas, Texas offered schoolteachers up to 21 days of compensated hospital care for $6 per year. Baylor's modest plan would grow into Blue Cross, one of the most well-known health insurance plans in the industry, which would later merge with Blue Shield in 1982. Adjusting administrative systems to meet changing rules, regulations, and reporting requirements of third-party payers is a classic driving force for healthcare projects.

The creation of "the Blues" is an important part of the healthcare industry because the pair served as the basis for arguably one of the most important pieces of federal healthcare legislation – Medicare. Medicare provides healthcare coverage for U.S. citizens 65 years of age and older as well as and other special populations. The same day President Lyndon B. Johnson signed Medicare into law in 1965, he also signed Medicaid, which is a joint venture between federal and state governments to provide health coverage for low-income and disabled individuals. The Medicare and Medicaid systems were designed largely after WWII to treat episodes requiring short-term or acute medical care. Today, the vast majority of expenditures are associated with long-term or chronic care, which requires a more integrated care system between hospitals, providers, patients, and community services. This difference between acute and chronic care health services and meeting the respective needs of each situation is one of the root drivers behind a good number of process-oriented projects today.

Medicare and Medicaid represent the most significant federal legislation to impact the industry, although not for lack of effort. Presidents Theodore Roosevelt, Franklin D. Roosevelt, Harry Truman, and Bill Clinton proposed some form of national healthcare. However, it was not until March 2010 that the Patient Protection and Affordable Care Act PPACA or ACA) proved to be the most impactful federal legislation on the healthcare industry since Medicare and Medicaid. This Act has resulted in incentives and enablers for the implementation of EHRs, associated meaningful use, resultant procedural changes, and Health Information Exchanges. All of these initiatives coupled with movements to patient-centered care, evidence-based medicine, centers of excellence, and other forces bearing down on the healthcare industry have spawned a current climate of what may be an unsurpassed number of healthcare projects going on within the US and globally.

These initiatives operate in an environment of cost control propelled by rising costs and anticipated increasing reductions to Medicare and Medicaid as well as third-party payer reimbursements. To meet these challenges, public health and healthcare leaders need to do the following:

- Ensure they are working on the right projects
- Get the most bang for every buck
- Make investments in IT, infrastructure, and quality changes that will allow them to reduce costs.

Healthcare Costs

Today, government spending in U.S. healthcare accounts for almost 45% of total expenses. How is this money spent, and where does the money come from? Health expenditures were distributed as follows in 2010 (in billions of dollars):

- Hospital care: $814.0
- Physician/clinical services: $515.5
- Prescription drugs: $259.1
- Nursing care facilities & continuing care retirement communities: $143.1
- Home healthcare: $70.2
- Other personal healthcare: $384.2
- Other health spending: $407.6

Historically, healthcare spending largely originated from private sources, but government spending has increasingly constituted a higher percentage. The source of funds for national health expenditures were as follows

- Private health insurance 32.7%
- Medicare: 20.2%
- Medicaid: 15.5%
- Out-of-pocket: 11.6%
- Other third party payers/public health: 10.6%
- Investment: 5.7%
- Other public insurance programs: 3.7%

The following statistics from the 2012 Henry J. Kaiser Family Foundation demonstrate that the spending level in the US may not taper off any time soon.

- Healthcare spending accounted for 17.9% of U.S. GDP in 2010, an average of $8,402 per person.
- The Centers for Medicare and Medicaid Services (CMS) estimates that healthcare spending will grow to about 19.8% of GDP by 2020.
- Compared to other Organisation for Economic Co-operation and Development (OECD) countries, the U.S. spends 48% more on healthcare compared to the next highest country, Switzerland.
- Increases in health insurance premiums continue to outpace inflation and the growth in workers' earnings.
- Hospital care ($814 billion) and physician/clinical services ($515.5 billion) are the top two categories of healthcare expenditures in the U.S. [8]

The Nature of Healthcare Projects

So, what if anything makes healthcare projects stand out from other types of projects? In addition to the diversity of projects, some frequent attributes of healthcare projects include the following:

- *Care quality, cost containment, and external review are key characteristics*: Unlike many other types of projects, healthcare projects normally include these three hallmarks.
- *Quality of care for the patient is crucial*: Many healthcare projects are initiated to help people prevent, improve, or deal with a health concern. The successful execution of some healthcare projects can mean the difference between life and death. This creates a risk adverse nature in approaching those healthcare projects that directly affect patient care. It also means that quality will very often "win" over time and cost and other constraints, described later in this chapter. For example, the use of electronic health records continues to grow, modifying workflow and changing the way healthcare is practiced. First and foremost in managing these projects, however, should be the goal to improve the quality of patient care or, at minimum, not to compromise the existing levels of quality.

- *Government and regulatory agencies often plays a big role*: The government is often the sponsor or reason for a healthcare project (i.e. Medicaid reform, public health campaigns, or meaningful use incentive design) or it creates laws or standards that must be followed in private healthcare projects. For example, International Classification of Diseases (ICD) changes or surveillance of reportable disease projects cannot be ignored. Part of the challenge of this regulatory environment is that changes regularly occur and can impact projects mid-stream.
- *Finances are complex*: In many healthcare organizations it is difficult to easily predict the financial value of projects or calculate projected return on investment for several reasons:
    - Revenues are difficult to estimate. Many healthcare organizations cannot estimate their revenues because of the complex insurance system in the U.S. For example, emergency rooms cannot turn away patients who cannot pay, and most patients honestly do not know how much of their care will be paid for by their insurance companies.
    - Project budgets may be subject to fluctuating conditions. Donations can be a major source of funding: As demonstrated by the Media Snapshot example, many public or community health projects are prompted by donations or rely on them for their continuation. Furthermore, one never knows what regulation is suddenly going to mandate a project or change the scope of a project.
    - Many hospital organizations are not-for-profit and must strive to fulfill their mission in tandem with return on investment. Community assessments and a demonstration of benefits to the communities they serve are often required for this type of organization to retain their not-for-profit status.

Media Snapshot

Many people can't wait to see the famous singer, actress, writer, director, and producer, Barbara Streisand. Although she admits that she is shy and likes to stay out of the limelight, Barbara appeared on Katie Couric's new talk show, Katie, on September 25, 2012. Viewers may have been expecting to hear a lot of singing, but Barbara and Katie spent most of the time talking about the new Barbara Streisand Women's Heart Center at the Cedars-Sinai Heart Institute in Los Angeles, California.

Barbara is passionate about her latest project – leading the revolution in women's heart health. She was shocked when she discovered that *heart disease kills more women than all cancers combined.* Heart disease kills 30% of the population in the United States, and starting in 1984, more women than men died of heart disease. Barbara and her colleagues at the Women's Heart Center are on a mission to reverse the gender discrimination in research about women's heart disease. You can find more information about this project at www.streisandwomensheartcenter.org.

- *Healthcare is very personal*: People have very different attitudes about healthcare, such as how private or open they are about discussing it, how much they are willing to spend on it, what types of services they will use, and so on. Regulations such as the Health Insurance Portability and Accountability Act of 1996 (HIPAA) seek to protect privacy and maintain confidentiality. Working through HIPAA and generally preserving patient confidentiality and privacy can be particularly challenging constraints and create a high degree of risk for any project that will access, use, or transfer patient information.
- *Deliverables and metrics are different*: The end goal cannot always be quantified in a healthcare project. The health of a human is not always measureable in terms of any value metric. In light of this, healthcare generally looks to two types of metrics for healthcare projects – outcomes and process, particularly for quality improvement projects. For example, did your project result in an increase in the percentage of patients who got a certain test on an annual basis (process) and did this result in fewer patients developing a particular complication (outcomes).
- *Collaboration across entities is required:* Projects in the modern healthcare context are requiring increasing degrees of intra (within the organization) and inter (across organization) collaboration. For example, adding a new telemedicine service line (e.g., distance-based speech pathology encounters) may require the IT department, healthcare providers, and hospital administrators at both the hub (specialty care provider – speech pathologist) and spoke (patient location) sites to work together. This may be especially challenging when the hub and spoke sites are not in the same health network or even the same type of organization, such as a speech pathologist providing services remotely to a child in a special classroom set up at a school.

Recent Trends in Healthcare

At a 2012 conference panel on "Transforming from Healthcare to Health," senior leaders of various healthcare organizations and academic programs discussed some of the changes happening in the industry. Three executives shared their views of the future.[9]

- Kenneth Paulus, President and CEO of Allina Hospital and Clinics: The healthcare industry is at a proverbial crossroads and needs to change. In five years things will look very different as organizations become more customer-focused. The new generation wants choices and lower costs, and safety and quality will be a commodity like it is for the airline industry. Healthcare organizations will need to attract customers and keep them loyal. A new kind of leader is needed who understands insurance principles, risk management, and population health. Organizations must become lean to reduce costs. They must embrace information technology and make decisions based on data. Healthcare organizations must learn how to do marketing and become patient service oriented.
- Ronald Smith, Principle and Co-founder of Frauenshuh Healthcare Real Estate Solutions: Mr. Smith explained that his company's products keep people out of the hospital. Ambulatory facilities are growing in popularity as patients receive treatment on an outpatient basis. Hospital and physician integration is accelerating, and organizations must use standardized clinical and business models. Important

strategies for success include an optimal care environment, brand loyalty, collaborative care models, and partnerships,

- Scott Kozicki, Entrepreneur and Market Manager of mHealth at Verizon Wireless: Entrepreneur and technologists see huge opportunities for healthcare projects. It's a big business and growing every year. About half of healthcare dollars are spent on chronic diseases such as diabetes, heart disease, and lung disease. People wait too long to see a primary care physician – almost twenty days on average. Better primary care can lower healthcare costs. Healthcare must be more preventive and proactive. Cell phones apps are available to track weight, blood pressure, and other data, and patients can have video chats with nurses or other medical professionals. The industry needs to embrace new technologies and a different type of customer.

Healthcare Perspective

Berwick, Nolan, and Whittington asserted in a HealthAffairs article that "Improving the U.S. health care system requires simultaneous pursuit of three aims: improving the experience of care, improving the health of populations, and reducing per capita costs of health care. Preconditions for this include the enrollment of an identified population, a commitment to universality for its members, and the existence of an organization (an "integrator") that accepts responsibility for all three aims for that population. The integrator's role includes at least five components: partnership with individuals and families, redesign of primary care, population health management, financial management, and macro system integration."[10]

The triple aim and views of the future of U.S. healthcare are further discussed in a video by Barry Bittman , M.D. available on www.healthcarepm.com.

Healthcare organizations are also realizing that they have to learn from other industries and use proven practices to identify and manage the many projects they face today and in the future. They also have to understand how to group projects into programs and use portfolio management, as described later in this chapter. However, leaders in this area realize that healthcare has its own unique elements that require a certain level of specification or customization to suit best practices in the healthcare context. There is a lot at stake, which is creating a rising need for the specific study of healthcare project management.

WHAT IS A PROJECT?

To discuss project management, it is important to understand the concept of a project. A **project** is "a temporary endeavor undertaken to create a unique product, service, or result."[11] Operations, on the other hand, is work done in organizations to sustain the business. In the case of healthcare, operations may include such things as admitting patients to a hospital or performing annual patient wellness exams for a primary care provider. An organization that is new to project management may zealously describe all activities as a project and create a lot of organizational confusion and potentially extra work. Projects are different from operations in that they end when their objectives have been reached or the

project has been terminated. Operations represent routine activities that are part of the recurring day-to-day routine.

Examples of Public Health and Healthcare Projects

Projects in the healthcare sector can be large or small and involve one person or thousands of people. They can be done in one day or take years to complete. They also can occur in various types of healthcare related entities. Examples of healthcare entities and related projects in various contexts include the following:

Patient/Health Consumer Level:

- A family makes modifications to their home including a ramp to allow entry into the house and remodeling the bathroom to accommodate a wheelchair-bound family member

- A diabetic designs how she will initiate a structured self-management program using monitoring devices that electronically send her blood sugar level and blood pressure directly to her physician. (Once the program is in place it will hopefully become part of the routine operations in her life).

Sole Providers and Physician Groups

- A physician's office implements an electronic health record (EHR) system

- A physician group modifies it billing system to meet revised International Classification of Diseases (ICD) code sets used to report diagnoses and inpatient procedures

Community Clinics

- A community health center brings federally certified moderate complexity lab testing in house to expedite access to test results and minimize the cost of lab testing for uninsured patients

Assisted Living/ Long-term Care:

- A long-term care organization servicing an elderly population remodels their oldest wing in response in response to a consumer quality index evaluation of experiences of residents.

Hospital/ Hospital Departments:

- A community hospital launches a women's health initiative.

- A university hospital designs and constructs a new neurology clinic

- A hospital develops a physician evaluation program to comply with new standards issued by a regulatory agency, such as The Joint Commission

- An emergency department develops a formal process for notifying patients of sexually transmitted disease test results in advance of Department of Health notification

- A hospital develops a program to reduce readmission rates by identifying and monitoring high-risk patient discharges

Health Networks

- A collection of healthcare providers form an accountable care organization

- A hospital network begins a telemedicine service line for stroke patients

Health Research:

- A research team performs an evaluation of a state health information exchange

- A cancer center develops an internship program for pre-med students to assist with research studies

- A research team develops a smart phone application to assist diabetics with self-management and performs usability and field testing

- A team of medical researchers conducts a clinical trial of a new medical device

Payers

- A health insurance company establishes a medical call center and web site to help subscribers make decisions regarding medical care options

Government and Public Health

- A developing country's health department launches a maternal and child wellness program

- The state public health department develops and launches an immunization campaign

- A local health agency works with the public health department to develop an educational course to train the public health workforce and other first responders to improve their capacity to respond and provide essential services for natural disasters and bio-terrorists situations

Not for Profit/Community Health

- A medically supervised camp program for overweight adolescents creates a summer program

- A not-for-profit hospital conducts a community assessment to determine how to target community benefit activities

- A tobacco control charity designs and executes a smoking cessation campaign

- A kidney disease foundation holds a 10K race event

- A health research-funding agency designs and launches a new grant program

Healthcare Vendor/Consulting/Auditing

- A consulting company designs and implements a dashboard for hospital executives to monitor key operational indicators for the facility.

- A medical supply and distribution company installs new distribution software that will facilitate just in time inventory levels

- An audit team conducts an audit of a health organization

- A healthcare consulting company develops a workforce needs assessment tool that hospitals use to optimize and plan for clinical workforce needs

As shown in the examples of healthcare projects, there are many types of projects done by many types of healthcare entities. An individual patient can develop a project, as can an entire health network or federal agency.

Project Attributes

As you can see, projects come in all shapes and sizes. The following attributes help to define a project further:

- *A project has a unique purpose.* Every project should have a well-defined objective. As described in the next chapter, it is important to work on projects for the right reasons, and to manage them well. It should not be difficult to explain the goals or purpose of a project. For example, a long-term care facility may choose to renovate a wing to improve patient experience and attract a market segment capable of paying higher fees. Let's call this project the Expanding Wings Project. Though the long-term care facility may have performed upgrade projects in the past, each renovation project is unique. Remodeling of this wing may involve activities (e.g., adding small social circle spaces), materials (e.g., installation of intelligent device technology to monitor and communicate with residents and their families), a section of the facility, or a magnitude (an entire wing as opposed to a one-room renovation) not previously undertaken as a single initiative.

- *A project is temporary.* A project has a definite beginning and a definite end. For the Expanding Wing Project, senior management of the long-term care facility will usually have a date in mind when they'd like the renovations to be complete.

- *A project is developed using progressive elaboration or in an iterative fashion.* Project leaders often define projects broadly when they begin and provide greater specificity as time passes and more information is known and the details become clearer. For example, there are many decisions that must be made in planning and remodeling the wing of a long-term care facility. It works best to draft preliminary plans for management to approve before more detailed plans are developed.

- *A project requires resources, often from various areas.* Resources include people, hardware, software, or other assets. The Expanding Wing project will engage many different types of people, skill sets, and resources.

- *A project should have a primary customer or sponsor.* Most projects have many interested parties or stakeholders, but someone must take the primary role of sponsorship. The **project sponsor** usually provides the general direction for the project as well as funding for the project. In the case of the Expanding Wing Project, the operations manager or chief operating officer might serve as the project sponsor.

- *A project involves uncertainty.* Because every project is unique, it is sometimes difficult to define the project's objectives clearly, estimate exactly how long it will take to complete, or determine how much it will cost. External factors also cause uncertainty. Such things as weather conditions, a supplier going out of business, or a key project team member taking unplanned time off could affect the Expanding Wing Project,. Uncertainty is one of the main reasons project management is so challenging, because uncertainty invokes risk.

Projects will also have informal or formally designated project managers. **Project managers** work with the project sponsors, the project team, and the other people involved in a project to define, communicate, and meet project goals. A good project manager contributes to a project's success. For the Expanding Wings project, the facilities manager may be a strong possible choice to serve as project manager to provide detailed project planning and monitor and control the project day-to-day during project execution.

Unfortunately, a surgeon cannot implant a device, as shown in Figure 1-1, to make you a great project manager. You'll have to work at it, or wait until someone completes a project to make this type of surgery an option!
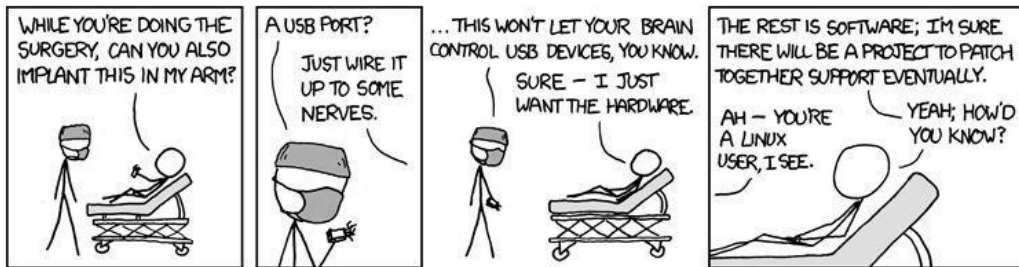

Figure 1-1. Surgery won't help (www.xkcd.com)

Project Constraints

Every project is constrained in different ways. To create a successful project, project managers must consider scope, time, and cost (to name a few) as defined below.

- *Scope*: What work will be done as part of the project? What unique product, service, or result does the customer or sponsor expect from the project?
- *Time*: How long should it take to complete the project? What is the project's schedule?
- *Cost*: What should it cost to complete the project? What is the project's budget? What resources are needed?

These limitations are sometimes referred to in project management as the **triple constraint**, (or the project management or iron triangle) as shown in the first diagram in Figure 1-2. Project managers must balance these three often-competing goals. The act of balancing these goals often results in trade-offs. For example to increase scope, the project's time and/or cost will also increase. To reduce the time, cost may need to increase or scope must decrease. To reduce the cost, scope may need to decrease or time must increase.
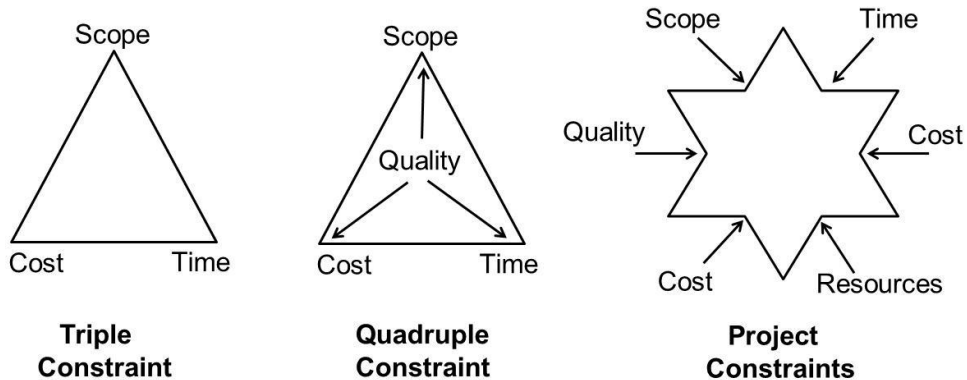
Figure 1-2. Project Constraints

Other people focus on the **quadruple constraint**, which adds quality as a fourth constraint to the model, as shown in the second diagram in Figure 1-2. For example, how good does the quality of the products or services need to be? What do we need to do to satisfy the customer? As described earlier, quality has a special place in healthcare projects. Almost all healthcare projects either directly or indirectly affect the improvement or decrement of the lives of health consumers. If a software developer provides poor coding in an electronic health record system, it could permanently impact an individual's life in a negative way. This high-risk environment creates a constraint and often a lot of bureaucratic processes for healthcare projects given the foremost concern for patient and health consumer safety. If an individual's life could be in danger because of a lack of quality, other constraints may need to be adjusted to support higher quality. In a healthcare project, if you don't take the time to do it right, you may have to do it over to maintain patient quality standards.

The *PMBOK® Guide, Fifth Edition* has expanded the quadruple constraint model to suggest a six point star model that includes the addition of risk and resources, but recognizes that there may be others as well, depending on the project. The last diagram in Figure 1-2 shows these six project constraints.

The triple constraint goals—scope, time, and cost—often have a specific target at the beginning of the project. For example, the sponsor and other stakeholders for the Expanding Wing Project might initially define the scope of the project to include adding new social spaces, visitor amenities, minor decorating changes, and moderate upgrades to existing furniture and bathroom fixtures in patient rooms. They might set a goal of completing the renovation in five months and spending about $300,000 on the entire project. The project team will have to make many decisions along the way that may affect meeting those goals. The project leaders might need to increase the budget to meet scope and time goals or decrease the scope to meet time and budget goals. The other three constraints—quality, risk, and resources—affect the ability to meet scope, time, and cost goals. Projects by definition involve uncertainty and resources, and the customer defines quality. No one can predict with one hundred percent accuracy what risks might occur on a project. Resources (people) working on a project might produce different results than originally expected, and material resources may vary as well. It is very difficult, if not impossible for project planners to define their quality expectations in detail during project

initiation when the project details and resource availability may be a bit fuzzy. Quality, risk, and resource constraints often affect each other as well as the scope, time, and cost goals of a project.

To illustrate the interrelationship among the constraints, assume the project budget included replacing the current bathtubs in the facility with new tubs with similar features (e.g., railing, hand shower, and room for a bath chair). The American Disability Act (ADA) Certified contractor may provide a compelling case for an alternatively designed ADA walk-in tub to reduce the potential for injury to either the patient or healthcare worker. The project manager and sponsor can see the potential benefit to increasing the quality of the bathtub. First, it can be a selling point to potential residents and their families. Second, it can increase patient and medical staff safety. The project sponsor and manager will need to make some decisions that can involve project constraint tradeoffs in response to this new information. Changing the planned type of bathtub in favor of an ADA walk-in tub may affect both the cost of the project, the schedule (if more time is required to the purchase process or installation), and the scope of the project (if additional build out is required to accommodate the ADA bathtub). In addition, the project sponsor, manager, and team may encounter other options and issues that could affect project plans.

It is because of such situations and uncertainties that projects rarely finish according to the discrete scope, time, and cost goals originally planned. Instead of discrete target goals for scope, time, and cost, it is often more realistic to set a range of goals that allow for uncertainties. Early Expanding Wing Project plans may best serve the organization by targeting spending between $250,000 and $350,000 and having the renovation completed within five to eight months. These goals allow for inevitable changes due to risk, resources, and quality considerations.

Experienced project managers know that due to the tradeoff that is inherently part of many project decisions, project leaders should decide which constraints are most important on each particular project very early in the project's life. These priorities will guide planning activities as well as decisions made as the project is executed. If time is most important, you may have to change the initial scope and/or cost goals to meet the schedule. Project leaders might have to accept more risk and lower quality expectations in a tight time constraint situation. If scope goals are most important, project leaders may need to adjust time and/or cost goals, decrease risk, and increase quality expectations.

Other constraints may come into play. Understanding and awareness is a critical factor for many healthcare projects. Adhering to a strong communications plan may be a constraint that may cause some schedule delays or introduce some additional costs, such as public awareness campaign materials for a project affecting the community. Procurement constraints (i.e. Food and Drug Administration or American with Disabilities Act guidelines) might be key concerns on a project. Likewise, healthcare projects in the U.S. invariably must recognize the Health Insurance Portability and Accountability Act (HIPAA), Joint Commission on Accreditation of Healthcare Organizations (JCAHO) and American Medical Association (AMA) guidelines.

Though unknowns exist as projects are conceived, sponsors must provide some type of target goals for a project's scope, time, and cost and define other key constraints for a project. How can you avoid the problems that occur when you meet scope, time, cost, and other goals, but lose sight of customer satisfaction? The answer is *good project management, which includes more than meeting project constraints*.

WHAT IS PROJECT MANAGEMENT?

Project management is "the application of knowledge, skills, tools and techniques to project activities to meet the project requirements."[12] Project managers must not only strive to meet specific goals of projects, they must also facilitate the entire process to meet the needs and expectations of the people involved in or affected by project activities.

Figure 1-3 illustrates a framework to help you understand project management. Key elements of this framework include the project stakeholders, project management process groups, knowledge areas, tools and techniques, project success, and the contribution of a portfolio of projects to the success of the entire enterprise. Each of these elements of project management is discussed in more detail in the following sections.

Figure 1-3. Project management framework

Project Stakeholders

Stakeholders are the people involved in or affected by project activities and include the project sponsor, project team, support staff, customers, users, suppliers, and even opponents to the project. These stakeholders often have very different needs and expectations. For example, there are several stakeholders involved in the Expanding Wing Project to renovate the long-term care facility.

- The project sponsor might be the divisional director of operations. The Operations Division would be the organizational unit funding the renovation to the long-term care facility and could be on a very tight budget. The project sponsor would have to make important decisions to keep the costs of the project within the budget approved by the CEO and CFO. As a result, the sponsor would expect the contractor to provide accurate estimates of the costs involved in renovating the wing. The sponsor would also need a realistic idea of when the remodeled wing will be ready for occupancy. Current residents of the wing would need to be either temporarily or permanently relocated.
- The project manager in this example might be the facilities manager, who is responsible for the maintenance and upgrade of the long-term care facility's

structure, furniture, and fixtures. He or she needs to work with all the project stakeholders to meet their needs and expectations. If necessary, an assistant may be required to take over some of the operational work normally done by the facilities manager.

- The project team for the Expanding Wing Project would include an ADA certified general contractor, several construction workers, electricians, carpenters, and so on to perform the actual remodeling. The administrative side of the team would include, but may not be limited to, a purchasing manager (to work with quotes and purchasing), a marketing manager (to brand and market the new facilities), the medical director (to provide patient care guidelines and needs for the new facility), and the director of nursing (to coordinate patient transition and relocation from the current facility to temporary or permanent new locations). Both the administration and construction stakeholders would need to know exactly what work they must do and when they need to do it. Each project team member's work would need to be coordinated with other team members' activities because there are many interrelated factors involved in remodeling the wing.

- Current and proposed long-term care facility residents are very important stakeholders in this project. The renovation design and project decisions need to consider their needs, physical conditions, and financial capabilities. The project team should use timely and well-crafted communications to explain how the renovation project may temporarily (e.g. relocation and noise) and permanently (e.g. upgraded room) affect existing residents. In the spirit of patient-centered care, project team members may seek feedback from targeted residents of the new facility at various points during the progress of the project as a factor in various project decisions.

- Support staff might include the regular maintenance staff, the general contractor's administrative assistant, and other people who support other stakeholders. The general contractor's administrative assistant would support the project by coordinating meetings between the buyers, the contractor, suppliers, and other stakeholders. The facilities manager might expect maintenance staff to focus on their routine operations work but allow some flexibility so they can visit the new wing site and provide their thoughts on progress or future maintenance needs.

- Renovating a long-term care facility wing will likely require many suppliers. The Expanding Wing Project suppliers may provide the furniture for new social spaces, materials for the bathroom (floor and wall tiles, bathtub, toilet, sink, lighting, etc.), and electronic monitoring equipment and software. Suppliers would expect exact details on what items they need to provide, where and when to deliver those items, and similar information.

- Healthcare is a regulated industry. A long-term care facility that holds a very high rating from the Centers of Medicare and Medicaid (CMS) would want to maintain this rating. As such, team members may communicate with a CMS regulatory auditor on the details of this project that involve increasing and maintaining resident care quality and the patient experience. They may also consult with patient experience and quality experts.

- Additional stakeholders might include the healthcare providers that serve residents, payers (insurance companies or Medicare), and medical device safety officials. The providers would use any proposed communication or monitoring equipment, and their skill level and past experiences in working with patients could provide valuable information. In addition, there may be regulations to ensure the safety of the items installed as part of the renovation project that could affect equipment choices. The local housing inspector would also be a stakeholder, concerned with ensuring that everything meets specific codes and regulations.
- There may or may not be opponents to a project. In this example, there might be a neighbor who opposes the project because the workers are making so much noise that she cannot concentrate on her work at home, or the noise might awaken her sleeping children. She might interrupt the workers to voice her complaints or even file a formal complaint. Alternatively, some existing residents of the wing may not be able to afford occupancy in the new remodeled wing and their families might ban together to oppose the project to assure their family member currently residing in the long-term care facility is not displaced.

As you can see from the Expanding Wing Project example, there are many different stakeholders on projects, and they all have different interests. The following example describe a national public health project situation that demonstrates stakeholders' needs and expectations are important in the beginning and throughout the life of a project. Successful project managers develop good relationships with key project stakeholders to understand and meet their needs and expectations.

What Went Right?

The Center for Disease Control's (CDC's) Biosense project was jokingly referred to as Biononsense in some public health circles. Introduced in 2003, the CDC did not hold the first project stakeholder meeting until 2005. But the government agency has been working hard to improve on their hard lessons learned from this project. The Center revisited the struggling effort in 2010 and incorporated concepts from project management to promote open collaboration between stakeholders with the ultimate goal of delivering a more useful product. To date, the CDC has been largely successful in its efforts.

     The CDC noted two key concepts as effective in redesigning the Biosense 2.0 program. First, stakeholder engagement involving input from federal, state, and local public health officials at the outset clarified what pertinent changes were required to add value for all stakeholders. And secondly, improved internal contract management allowed the government agency to reduce the program's operating costs and redistribute these savings to support state and local public health agencies.

     Biosense 2.0 is an example of revisiting a failed project from a fresh perspective, salvaging useful components, and adopting relevant project management concepts to journey toward a better solution. By engaging stakeholder feedback from the outset and encouraging transparent collaboration, Biosense 2.0 will likely arrive at a satisfactory conclusion for all engaged parties[13].

Characteristic of Healthcare Project Team Members

A special group of project stakeholders are the team members that actually drive, plan, and execute the project. Instead of just one leader, different people, who play very important, yet very distinct roles, might lead projects:

- A designer/ idea generator provides creative ideas to improve current processes, address a requirement, or seize and opportunity. These designers are often viewed as being very optimistic and freethinking, yet often unaffected directly by the results of projects that are implemented. Aside from idea generator this initial project leader may be instrumental in creating initial project momentum and interest. In some cases, the designer/ idea generator (particularly if in a management position) may evolve to become the project sponsor.

- A project manager works with all of the various stakeholders to develop a realistic scope, schedule, and budget for the project and facilitates its completion. In many healthcare environments, project managers must be especially sensitive to the needs of other team members and share the leadership role. The project manager should communicate with the sponsor throughout the project to make sure the project meets his or her expectations.

- A physician, nurse, or other medical expert is required on many healthcare projects to make sure the project follows sound medical practices and will not cause harm to patients. Healthcare providers may feel overworked and overwhelmed by the many changes facing their field. If a project requires a physician leader (and those involving patient care often do), it is up to the project sponsor and project manager to make a clear connection and case for patient and/or physician benefit and the importance of physician involvement in the project process.

Other team members who might be assigned to a project on an on-going or temporary basis might include:

- administrators, such as a hospital director
- a head nurse and nursing staff
- a lab manager, staff managers, and marketing managers
- information technology experts, such as systems analysts or programmers;
- other physicians
- patient advocates and patient representatives
- community relations or benefits staff
- a quality officer
- a medical informatics officer
- legal counselors
- accounting, purchasing, or operations staff
- equipment technologists, etc.

There is also often a need for multiple champions representing different roles (e.g. physician champion) or different units (e.g., champions from both a hospital and a clinic in a health network that a project may affect) to help healthcare projects succeed. Project champions may use their experience, resources, organizational rank, charisma, or reputation to facilitate the success of the project. These champions may have either a formal or informal role on the project team.

Conflicts often arise as project team members and other stakeholders disagree on what should be done, when, and how. Given the diversity of stakeholders in most healthcare projects, project managers must be especially sensitive to the perspectives and needs of various stakeholders to create an environment where people can work together to achieve common goals. Skilled project managers working in the healthcare domain know when to hand off control, enlist a champion that a particular group may favor, and negotiate differences among various factions to direct the project towards success. They also understand the five project management process groups and ten knowledge areas, as described in the next section.

Best Practice

The Center for Innovation (CFI), established in 2008, serves a liaison between medical practice and human-centered design thinking. CFI uses a design thinking model inspired by the IDEO design consultancy firm philosophies. According to Tim Brown, CEO of IDEO, "Design thinking can be described as a discipline that uses the designer's sensibility and methods to match people's needs with what is technologically feasible and what a viable business strategy can convert into customer value and market opportunity." [14]

A major challenge for healthcare projects is ensuring the team operates as a cohesive unit to achieve its stated goal.   The Center's interdisciplinary teams exemplify a design thinking (or creative problem solving) task force where team members come together to connect, prototype, adapt, explore, and solve in a Design Research Studio. Teams provide "sensibility to a problem" through empathy, creativity, ambidextrous thinking, and systems thinking. These teams may involve clinical professionals, non-clinical professionals (e.g., communications and user-centered design specialists), clerical staff, support staff, administrators, or external stakeholders, like a non-patient community member. A prime example of engaging internal and external stakeholders to achieve a stated goal is the Center's collaboration with primary care physicians, the payer, and patients to provide telemedicine consults for patients in remote areas of Minnesota.

Project Management Process Groups and Knowledge Areas

The five **project management process groups** include initiating, planning, executing, monitoring and controlling, and closing activities. Chapter 3 provides more information on the process groups and how they relate to the ten project management knowledge areas. **Project management knowledge areas** describe the key competencies that project managers must develop. The center of Figure 1-3 shows the ten knowledge areas of project management. Project managers must have knowledge and skills in all ten of these areas, briefly described as follows:

- Project integration management is an overarching function that coordinates the work of all other knowledge areas. It affects and is affected by all of the other knowledge areas.
- Project scope management involves working with all appropriate stakeholders to define, gain written agreement for, and manage all the work required to complete the project successfully.

- Project time management includes estimating how long it will take to complete the work, developing an acceptable project schedule given cost-effective use of available resources, and ensuring timely completion of the project.
- Project cost management consists of preparing and managing the project budget.
- Project quality management ensures that the project will satisfy the stated or implied needs for which it was undertaken.
- Project human resource management is concerned with making effective use of the people involved with the project.
- Project communications management involves generating, collecting, disseminating, and storing project information.
- Project risk management includes identifying, analyzing, and responding to risks related to the project.
- Project procurement management involves acquiring or procuring goods and services for a project from outside the performing organization.
- Project stakeholder management focuses on identifying project stakeholders, understanding their needs and expectations, and engaging them appropriately throughout the project. Note that PMI added stakeholder management as a tenth knowledge area to the *PMBOK® Guide, Fifth Edition* in 2013.

Project Management Tools and Techniques

Thomas Carlyle, a famous historian and author, stated, "Man is a tool-using animal. Without tools he is nothing, with tools he is all." As the world continues to become more complex, it is even more important for people to develop and use tools, especially for managing important projects. **Project management tools and techniques** assist project managers and their teams in carrying out work in all ten knowledge areas. For example, some popular time-management tools and techniques include Gantt charts, project network diagrams, and critical path analysis. Figure 1-4 lists some commonly used tools and techniques by knowledge area. You will learn more about these and other tools and techniques throughout this text. Note that the *PMBOK® Guide* refers to some of these items as outputs.

A sample of project managers directed respondents to rate tools on a scale of 1–5 (low to high) based on the extent of their use of the tool and the potential of the tool to help them improve project success. "Super tools" were defined as those with high use and high potential for improving project success. The tools defined as "super tools" included:

1. project management software
2. scope statements
3. work breakdown structures
4. requirement analyses
5. lessons-learned reports
6. status and progress reports
7. well-planned kick-off meetings
8. Gantt charts
9. change requests

The last four items have long been found to improve project performance, while the others need to become more common. You will learn how to use all of these super tools plus several others throughout this text. The super tools are bolded in Figure 1-4.[15]

Knowledge Area/Category	Tools and Techniques
Integration management	Project selection methods, project management methodologies, project charters, project management plans, **project management software, change requests**, change control boards, project review meetings, **lessons-learned reports**
Scope management	**Scope statements, work breakdown structures**, mind maps, statements of work, **requirements analyses**, scope management plans, scope verification techniques, and scope change controls
Time management	**Gantt charts**, project network diagrams, critical-path analyses, crashing, fast tracking, schedule performance measurements
Cost management	Net present value, return on investment, payback analyses, earned value management, project portfolio management, cost estimates, cost management plans, cost baselines
Quality management	Quality metrics, checklists, quality control charts, Pareto diagrams, fishbone diagrams, maturity models, statistical methods
Human resource management	Motivation techniques, empathic listening, responsibility assignment matrices, project organizational charts, resource histograms, team building exercises
Communications management	Communications management plans, **kickoff meetings**, conflict management, communications media selection, **status and progress reports**, virtual communications, templates, project Web sites
Risk management	Risk management plans, risk registers, probability/impact matrices, risk rankings
Procurement management	Make-or-buy analyses, contracts, requests for proposals or quotes, source selections, supplier evaluation matrices
Stakeholder management	Stakeholder registers, stakeholder analyses, issue logs, interpersonal skills, reporting systems

Figure 1-4. Common project management tools and techniques by knowledge area

Project management best practices and tools may be new or just emerging in some healthcare industry contexts. In these contexts, project managers may want to introduce project management structure incrementally and focus on "super tools" that align with project needs and circumstances. As with any tool, there has to be a fit to the situation. Some tools may be better suited or have more of an impact in some situations than others. It is crucial for project managers and their team members to determine which tools will be most useful for their particular projects.

Despite its advantages, project management is not a "cure-all" that guarantees success on all projects. Some projects, such as those involving new technologies, have a higher degree of uncertainty, so it is more difficult to meet their scope, time, and cost goals.

Project management is a very broad, often complex discipline. What works on one project may not work on another, so it is essential for project managers to continue to develop their knowledge and skills. It is also important to learn from the mistakes and successes of others.

Project Success

How do you define the success or failure of a project? There are several ways to define project success. The list that follows outlines a few common criteria for measuring project success as applied to the example Expanding Wing Project for remodeling the long-term care facility wing:

- *The project met scope, time, and cost goals.* If the planned renovation work was completed within five months and cost under $300,000, we could call it a successful project based on these criteria.
- *The project satisfied the customer/sponsor.* Even if the project met initial scope, time, and cost goals, the divisional director of operations sponsoring and funding the renovation might not be satisfied. Perhaps the project manager made important decisions without the sponsor's approval. Perhaps the quality of some of the construction or materials was not acceptable. If the targeted residents to occupy the remodeled wing were not happy about important aspects of the project, it would be deemed a failure based on this criterion. Many organizations implement a customer/user satisfaction rating system for projects to measure project success.
- *The results of the project met its main business objective.* Business objectives in this example could include improving patient experience ratings or providing a good return on investment through increased occupancy or increased fees for rooms in the new wing. Scores on customer assessments of healthcare providers and systems are becoming increasingly important for healthcare organizations to maintain market share and avoid losing payer reimbursement. If the long-term care facility gained greater market share and increased its patient satisfaction scores as a result of the renovation, even if it cost more or took longer to build, it would be a successful project based on this criterion. As another example, suppose the owners of the long-term care facility wanted to sell the facility in the next three to four years and for a good return on investment (ROI). If that happened, the owners would deem the project a success, regardless of other factors involved.

Measuring the success of projects based on business objectives may be delayed. For many projects with ROI objectives, financial success cannot be determined until well after the project is completed. It is also true that success cannot be measured for many healthcare projects targeted to improve health outcomes until well after the project is complete.

Project managers play a vital role in helping projects succeed. Project managers work with the project sponsors, the project team, and the other people involved in a project to meet project goals. They also work with the sponsor to define success for that particular project. Good project managers do not assume their definition of success is the same as the sponsors' definition. They take the time to understand their sponsors'

expectations. For example, if you are in charge of renovating a long-term care facility wing, find out what is most important:

- meeting scope, time, and cost goals of the project to renovate the wing
- satisfying other needs, such as target customer approval
- being sure the project delivers a certain result, such as increased occupancy or improved patient satisfaction scores

The success criteria should help you to develop key performance indicators needed to track project progress. It is important to document this information in enough detail to eliminate ambiguity.

PROGRAM AND PROJECT PORTFOLIO MANAGEMENT

As mentioned earlier, about one-quarter of the world's gross domestic product is spent on projects. Projects make up a significant portion of work in most business organizations or enterprises, and successfully managing those projects is crucial to enterprise success. Two important concepts that help projects meet enterprise goals are the use of programs and project portfolio management. Both of these extensions of project management have a place in the healthcare industry.

Programs

A **program** is "a group of related projects, subprograms, and program activities managed in a coordinated way to obtain benefits not available from managing them individually."[16] As you can imagine, it is often more economical to group projects together to help streamline management, staffing, purchasing, and other work. The following are examples of programs in healthcare:

- A government agency has a program for children's services, which includes a project to provide pre-natal care for expectant mothers, a project to immunize newborns and young children, and a project for developmental testing for pre-school children, to name a few. Figure 1-5 illustrates the program structure.
- A health network is expanding its telehealth services. It will create a teledermatology service line, a telestroke service line, and a telepsychology service line. Each telemedicine service line is a separate project involving potentially different sets of providers and locations, but each service line is part of a program. There would be several benefits to managing these projects under one telehealth program. For example, the program manager could advertise the comprehensive telehealth services together and purchase equipment with functionality that could be used across the telemedicine service lines to save money.
- A healthcare consulting firm has a program to analyze healthcare customer-buying patterns for plastic surgery. Projects under this program might include one to send out and analyze electronic surveys, one to conduct several focus groups in different geographic locations with different types of buyers, and a project to develop an information system to help collect and analyze current healthcare customers' buying patterns.
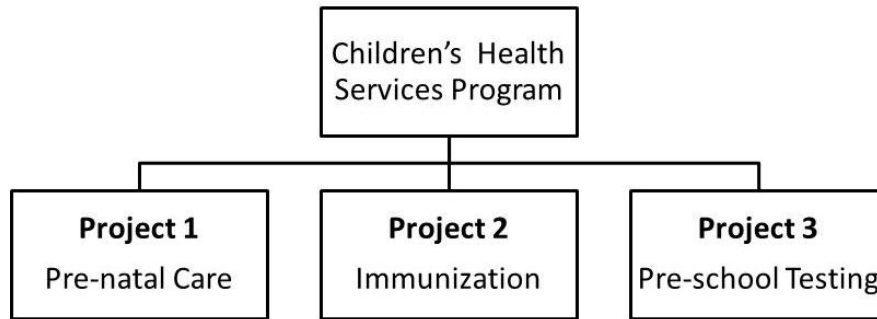
Figure 1-5. Example programs

     A **program manager** provides leadership and direction for the project managers heading the projects within the program. Program managers also coordinate the efforts of project teams, functional groups, suppliers, and operations staff supporting the projects to ensure that project products and processes are implemented to maximize benefits. Program managers are responsible for more than the delivery of project results; they are change agents responsible for the success of products and processes produced by those projects.

     Program managers often have review meetings with all their project managers to share important information and coordinate important aspects of each project. Many program managers worked as project managers earlier in their careers, and they enjoy sharing their wisdom and expertise with their project managers. Effective program managers recognize that managing a program is much more complex than managing a single project. They recognize that technical and project management skills are not enough. In addition to skills required for project managers, program managers must also possess strong business knowledge, leadership capability, and communication skills.

Project Portfolio Management

In many organizations, project managers also support an emerging business strategy of **project portfolio management** (also called just **portfolio management** in this text), in which organizations group and manage projects and programs as a portfolio of investments that contribute to the entire enterprise's success. Pacific Edge Software's product manager, Eric Burke, defines project portfolio management as "the continuous process of selecting and managing the optimum set of project initiatives that deliver maximum business value."[17]

     PMI published the *Standard for Portfolio Management, Third Edition*, in 2013. PMI members can download this and other standards, such as the PMBOK® Guide, for free from www.pmi.org. Topics included in this standard include:

- Understanding the role of portfolio management in relation to an organization's structure and strategy
- Streamlining operations through portfolio management
- Improving the implementation and maintenance of corporate governance initiatives

- Designing and implementing metrics to demonstrate and improve return on investment through portfolio management.
- Reporting information to make the most of an organization's projects and programs

Portfolio managers need to understand how projects fit into the bigger picture of the organization, especially in terms of organizational strategy, finances, and business risks. Portfolio managers create portfolios based on meeting specific organizational goals, such as maximizing the value of the portfolio or making effective use of limited resources. In the case of a healthcare organization, the organization's mission and regulatory mandates would also influence the composition of the portfolio. Portfolio managers may or may not have previous experience as project or program managers. It is most important that they have strong financial and analytical skills and understand how projects and programs can contribute to meeting strategic goals.

The main distinction between project or program management and portfolio management is that project and program managers are focused on meeting tactical versus strategic goals. Individual projects and programs often address tactical goals, whereas portfolio management addresses strategic goals. Tactical goals are generally more specific and short-term than strategic goals, which emphasize long-term goals or mission of an organization. Project and program management address questions like:

- o Are we carrying out projects well?

- o Are projects on time and budget?

- o Do project stakeholders know what they should be doing?

Portfolio management addresses questions like:

- o Are we working on the right projects?

- o Are we investing in the right areas?

- o Do we have the right resources to be competitive?

- o Are we doing projects that help to fulfill our organizational mission?

There can be portfolios for all types of projects. For example:

- A government agency for children's services could group projects into a portfolio based on key strategies such as improving health, providing education, and so on to help make decisions on the best way to use available funds and resources.

- In a healthcare consulting firm, strategic goals might include increasing profit margins on large projects, decreasing travel costs, and improving skill levels of key workers. Projects could be grouped into these three categories for portfolio management purposes.

- In a hospital, strategic goals might include expanding to rural communities, improving patient experience, decreasing costs, and being recognized as a center of excellence for primary areas of specialty care. These might be the main categories for their portfolio of projects.

Organizations group projects into portfolios to help them make better investment decisions, such as increasing, decreasing, discontinuing, or changing specific projects or programs based on their financial performance, risks, resource utilization, quality impact, and similar factors that affect business value. For example, if an electronic health record vendor has much higher profit margins with private hospitals than university hospitals, for example, it might choose to pursue more private hospitals. The firm might also create a new project to investigate ways to increase profits for university hospital projects. On the other hand, if the organization has too many projects focused on financial performance and not enough focused on improving its work force, the portfolio manager might suggest initiating more projects to support the strategic goal to improve its workforce. As with a personal financial portfolio, a project portfolio should be diversified to account for risk and balance the organization.

Project and portfolio management work hand-in-hand. By grouping projects into portfolios, organizations can better tie their projects to meeting strategic goals both before the project launches as well as during project execution. Portfolio management can also help organizations do a better job of managing its human resources by hiring, training, and retaining workers to support the projects in the organization's portfolio. For example, if the healthcare consulting firm needs more people with experience with health IT, they can make necessary adjustments by hiring or training current workers in the necessary skills.

THE PROJECT MANAGEMENT PROFESSION

As you can imagine, good project managers should have a variety of skills. Good program and portfolio managers often need additional skills and experience in managing projects and understanding organizational strategies. This section describes some of the skills that help you manage projects, and you will learn many more throughout this text. If you are serious about considering a career in project management, you should consider earning one or more project management certifications, as described later in this section. You should also be familiar with some of the project management software products available on the market today.

Suggested Skills for Project, Program, and Portfolio Managers

Project managers and their teams must develop knowledge and skills in the following areas:

- All ten project management knowledge areas
- The application area (domain, industry, market, etc.)
- The project environment (politics, culture, change management, etc.)
- General management (financial management, strategic planning, etc.)
- Human relations (leadership, motivation, negotiations, etc.)

An earlier section of this chapter introduced the ten project management knowledge areas, as well as some tools and techniques that project managers use. The application area refers to the application to which project management is applied. For example, a project manager responsible for building houses or apartment buildings should understand the construction industry, including standards and regulations important to that industry and those types of construction projects. A project manager leading a large software development project must know a lot about that application area. A project

manager in education, entertainment, the government, healthcare, and other fields must understand those application areas.

The project environment differs from organization to organization and project to project, but there are some skills that will help in most project environments. These skills include understanding change, and understanding how organizations work within their social, political, and physical environments. Project managers must be comfortable leading and handling change, since most projects introduce changes in organizations and involve changes within the projects themselves. Project managers need to understand the organizations they work in and how products are developed and services are provided. Furthermore, healthcare is a field with its own terminology and acronyms. Health IT projects further complicates the potential for language barriers by adding host of computer terminology and acronyms to the communication mix. If you plan to work on a lot of projects in the healthcare field, you should make sure you understand the language and culture of healthcare and potentially basic IT terminology as well.

Project managers should also possess general management knowledge and skills. They should understand important topics related to financial management, accounting, procurement, sales, marketing, contracts, manufacturing, distribution, logistics, the supply chain, strategic planning, tactical planning, operations management, organizational structures and behavior, personnel administration, compensation, benefits, career paths, and health and safety practices. On some projects, it will be critical for project managers to have substantial experience in one or several of these general management areas. On other projects, project managers can delegate detailed responsibility for some of these areas to a team member, support staff, or even a supplier. Even so, the project managers must be intelligent and experienced enough to know which of these areas are most important and who is qualified to do the work. They must also make and/or take responsibility for all key project decisions.

Achieving high performance on projects requires human relations skills, also known as soft skills. Some of these soft skills include effective communication, influencing the organization to get things done, leadership, motivation, negotiation, conflict management, and problem solving. Healthcare is uniquely filled with very distinct silos of subspecialized clinicians, administrators, others that must come together for a common purpose, the patient. However, they often do not initially come together easily and it is the job of the project manager to bring everyone together. This is the only way projects succeed and are well implemented in health care is with good communication. Project managers must lead their project teams by providing vision, delegating work, creating an energetic and positive environment, and setting an example of appropriate and effective behavior. Project managers must focus on teamwork skills in order to use their people effectively. They need to be able to motivate different types of people and develop *esprit de corps* within the project team and with other project stakeholders.

Importance of Leadership Skills

In a popular study, one hundred project managers listed the characteristics they believed were critical for effective project management and the characteristics that made project managers ineffective. Figure 1-6 lists the results. The study found that effective project managers provide leadership by example, are visionary, technically competent, decisive, good communicators, and good motivators. They also stand up to top management when

necessary, support team members, and encourage new ideas. The study also found that respondents believed *positive leadership contributes the most to project success.*[18]

Effective Project Managers	Ineffective Project Managers
Lead by example	Set bad examples
Are visionaries	Are not self-assured
Are technically competent	Lack technical expertise
Are decisive	Avoid or delay making decisions
Are good communicators	Are poor communicators
Are good motivators	Are poor motivators

Figure 1-6. Most significant characteristics of effective and ineffective project managers

Leadership and *management* are terms often used interchangeably, although there are differences. Generally, a **leader** focuses on long-term goals and big-picture objectives, while inspiring people to reach those goals. A **manager** often deals with the day-to-day details of meeting specific goals. Some people say that, "Managers do things right, and leaders do the right things." "Leaders determine the vision, and managers achieve the vision." "You lead people and manage things."

Project managers often take on the role of both leader and manager. Good project managers know that people make or break projects, so they must set a good example to lead their team to success. They are aware of the greater needs of their stakeholders and organizations, so they are visionary in guiding their current projects and in suggesting future ones.

As mentioned earlier, program managers need the same skills as project managers. They often rely on their past experience as project managers, strong business knowledge, leadership capability, and communication skills to handle the responsibility of overseeing the multiple projects that make up their programs. It is most important that portfolio managers have strong financial and analytical skills and understand how projects and programs can contribute to meeting strategic goals.

Organizations that excel in project, program, and portfolio management grow project leaders, emphasizing development of business and communication skills. Instead of thinking of leaders and managers as specific people, it is better to think of people as having leadership skills, such as being visionary and inspiring, and management skills, such as being organized and effective. Therefore, the best project, program, and portfolio managers have leadership and management characteristics; they are visionary yet focused on the bottom line. Above all else, they focus on achieving positive results!

Ethics in Project Management

Ethics, loosely defined, is a set of principles that guide our decision making based on personal values of what is "right" and "wrong." Making ethical decisions is an important part of our personal and professional lives because it generates trust and respect with other people. Project managers often face ethical dilemmas, as do medical professionals. For example, several projects involve different payment methods. If a project manager can make more money by doing a job poorly, should he or she do the job poorly? No! If a project manager is personally opposed to certain types of life support, should he or she refuse to manage a project that promotes extended life support measures? Yes! Ethics guide us in making these types of decisions.

PMI approved a new Code of Ethics and Professional Conduct effective January 1, 2007. This new code applies not only to PMPs, but also to all PMI members and individuals who hold a PMI certification, apply for a PMI certification, or serve PMI in a volunteer capacity. It is vital for project management practitioners to conduct their work in an ethical manner. Even if you are not affiliated with PMI, these guidelines can help you conduct your work in an ethical manner, which helps the profession earn the confidence of the public, employers, employees, and all project stakeholders. The PMI Code of Ethics and Professional Conduct includes short chapters addressing vision and applicability, responsibility, respect, fairness, and honesty. A few excerpts from this document include the following:

"As <u>practitioners</u> in the global project management community:

2.2.1	We make decisions and take actions based on the best interests of society, public safety, and the environment.
2.2.2	We accept only those assignments that are consistent with our background, experience, skills, and qualifications.
2.2.3.	We fulfill the commitments that we undertake—we do what we say we will do.
3.2.1	We inform ourselves about the norms and customs of others and avoid engaging in behaviors they might consider disrespectful.
3.2.2	We listen to others' points of view, seeking to understand them.
3.2.3	We approach directly those persons with whom we have a conflict or disagreement.
4.2.1	We demonstrate transparency in our decision-making process.
4.2.2	We constantly reexamine our impartiality and objectivity, taking corrective action as appropriate.
4.3.1	We proactively and fully disclose any real or potential conflicts of interest to appropriate stakeholders.
5.2.1	We earnestly seek to understand the truth.
5.2.2	We are truthful in our communications and in our conduct."[19]

In addition, PMI added a new series of questions to the PMP certification exam in March 2002 to emphasize the importance of ethics and professional responsibility.

The topic of ethics may be more comprehensive for those the work in the healthcare sector. Medical doctors take oaths that assign moral, psychological, social, and cultural responsibilities to protect patients from harm and injustice. Healthcare projects that involved patient care must acknowledge this ethical bond. Projects should be vetted based on whether or not they are ethically appropriate for patient care, in addition to profitability. If projects are unethical but produce a high profit margin, the organization is likely not being true to its mission to care for patients. Issues of patient privacy and quality of care are not always readily identifiable and clear. It is well worth the effort of those who wish to engage in healthcare projects to review the words of the Hippocratic Oath as well as the World Medical Association's Physician's Oath to use as an ethical pillar for guiding ethically challenging healthcare project decisions.

Project Management and Related Certifications

Professional certification is an important factor in recognizing and ensuring quality in a profession. The **Project Management Institute (PMI)** is a global professional society for project and program managers. PMI has a Healthcare Community of Practice (www.healthcare.vc.pmi.org) with over 2,500 members, which demonstrates the growing interest in project management in the healthcare community.

PMI provides certification as a **Project Management Professional (PMP)**—someone who has documented sufficient project experience, agreed to follow the PMI code of professional conduct, and demonstrated knowledge of the field of project management by passing a comprehensive examination. The number of people earning PMP certification continues to increase. In 1993, there were about 1,000 certified project management professionals. By the end of December, 2012 there were 510,434 active certified project management professionals. There were also over 20,157 CAPMs (Certified Associate in Project Management.[20]

Figure 1-8 shows the rapid growth in the number of people earning project management professional certification from 1993 through 2012. Although most PMPs are in the U.S. and Canada, the PMP credential is growing in popularity in several countries, such as Japan, China, and India.

Project management certification is also enabling professionals throughout the world to share a common base of knowledge. For example, any person with PMP certification can list, describe, and use the ten project management knowledge areas, as described in PMI's Guide to the Project Management Body of Knowledge (*PMBOK® Guide*). Sharing a common base of knowledge is important because it helps advance the theory and practice of project management. Some organizations require that all project managers be PMP certified. "When Western companies come into China they are more likely to hire individuals who have PMP certification as an additional verification of their skills. In our salary survey, the salary differences in IT, for example, was dramatic. A person with certification could make five to six times as much salary, so there is a terrific incentive to get certified and work for these Western companies."[21]
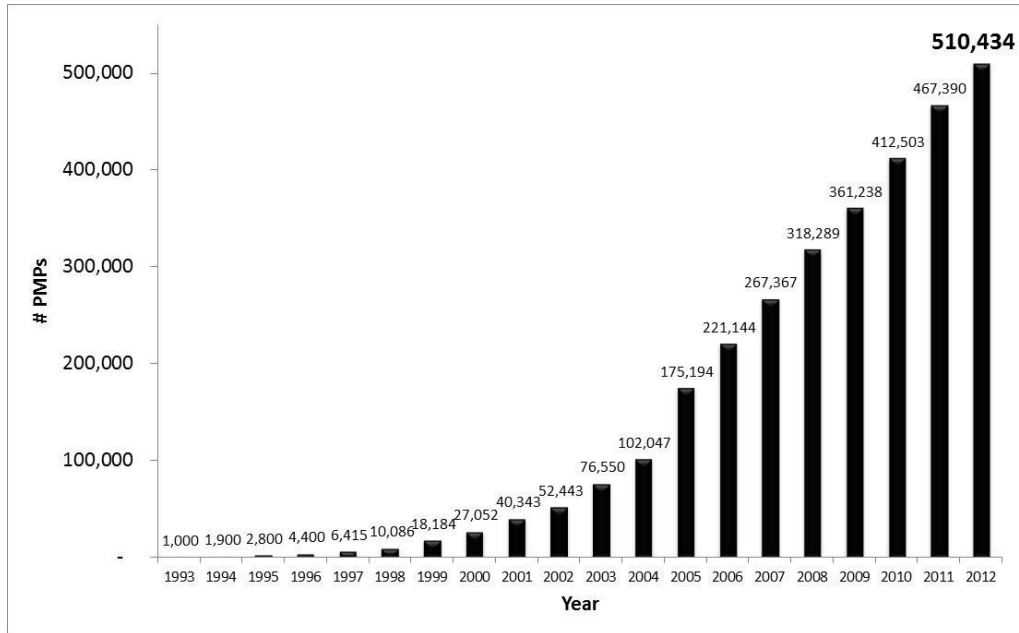
Figure 1-8. Growth in PMP certification, 1993–2012

Many colleges, universities, and organizations around the world now offer courses related to various aspects of project management and specialized courses, such as healthcare project management. You can even earn bachelors, masters, and doctoral degrees in project management. See the companion Web site for links to sites describing various programs.

There are also several other certifications unique to professionals in healthcare management. For example, HIMMS is a not-for-profit organization focused on providing global leadership for improving health care by the optimal use of information technology and management systems. HIMMS provides two certification programs:

- Certified Professional in Healthcare Information and Management Systems (CPHIMS): In addition to a minimum of three years of work experience (for people with a graduate degree; five years with a Baccalaureate), candidates for this certification must also pass an exam that covers several topics, including one called "Manage projects and/or resources."
- Certified Associate in Health Information & Management Systems (CAHIMS): This newer certification is designed for emerging professionals with less than five years of experience in the field and is a career pathway to the CPHIMS credential.

Other certifications include the following:

- Registered Health Information Administrator (RHIA): The American Health Information Management Association provides this certification, among others.
- Certified Professional in Healthcare Quality (CPHQ): The National Association for Healthcare Quality provides this credential.

PMI Student Membership and Certification Information

As a student, you can join PMI for a reduced fee ($40 vs. $129 in 2013). Consult PMI's Web site (*www.pmi.org*) for more information. You can network with other students studying project management by joining the New Practitioners Community of Practice. There are many other communities of practice, include one for healthcare professionals. Also check to see about a local chapter. Many welcome students to attend free events, including job networking. You can also volunteer to help develop your skills and serve your community.

Also consider earning the Certified Associate in Project Management (CAPM) credential from PMI or the Project+ certification from CompTIA. See the last section of Appendix B for more details. If you complete a bachelor's degree, you do not need any work experience to earn either of these two certifications.

Project Management Software

The project management and software development communities have definitely responded to the need to provide more software to assist in managing projects. Gartner estimates the size of the project and portfolio management (PPM) solutions market to be about $1 billion, and they created a magic quadrant showing cloud-based PPM providers categorized as leaders, visionaries, niche players, and challengers. For example, they list Innotas, Instantis, AtTask, Daptiv, and PowerSteering as market leaders.[22]

In 2013, TopTenReviews ranked Clarizen as the number one online or cloud-based tool, followed by Genius Project, as shown in Figure 1-9. A few features of PPM tools include:

- Team management
- Issue tracking
- Request management
- Budgeting
- Risk analysis
- Customized reports
- Interactive Gantt charts
- Baseline comparisons
- Critical path method[23]

Figure 1-9. Top ten online project management product comparisons

Note that both the Gartner and TopTenReviews information were published before Microsoft released their new version of Project 2013. Microsoft is a key player in the project management software market, and Project 2013 can be used totally online along with other familiar Office applications. Microsoft, along with many other software companies, are developing and tailoring products to the large healthcare market.

There are hundreds of PPM tools available, ranging from free online or smart phone apps to enterprise tools costing thousands of dollars to implement and high monthly fees per user. Deciding which project management software to use has become a project in itself. Software does not take the place of strong project management skills and processes. The software is a tool that can make certain project management tasks and communications easier or more efficient in the hands of a skilled project manager and project team members. Inexperienced project managers who try to let the software "manage their projects" may be very disappointed in the project results.

Project needs and the project management culture and sophistication of the organization should drive the selection and adoption of project management software. A requirements list suited to the organization should be the guiding light to seeking suitable project management software. In a market space of hundreds of options, it is very easy to let the sizzle of bells and whistles or the attractiveness of low costs lure the purchaser into a sale. Organizations should not use technology for technology's sake; they should select technology that can drive productivity.

In Appendix A, you will learn how to use Microsoft Project 2013, the most widely used project management software tool today. Figure 1-10 shows a Gantt chart you can

create using the instructions in Appendix A. You will also see screen shots of a few other tools throughout the text.
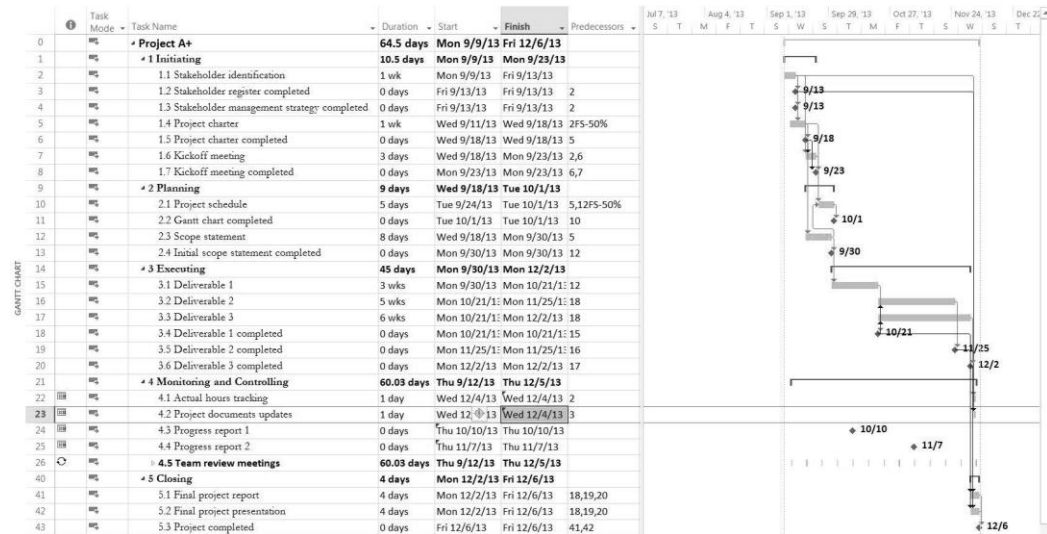

Figure 1-10. Gantt chart created in Microsoft Project 2013

Free Trials and Information on Using Project 2013

A 60-day evaluation copy of Microsoft Project is available from Microsoft's Web site at *www.microsoft.com/project*. See Appendix A of this text, Brief Guide to Microsoft Project 2013, for more information so you can develop hands-on skills using this popular product.

By the end of the twentieth century, people in virtually every industry around the globe began to investigate and apply different aspects of project, program, and portfolio management. The sophistication and effectiveness with which organizations use these concepts and tools today is influencing the way they do business, use resources, and respond to market needs with speed and accuracy. Many colleges, universities, and organizations now offer courses related to various aspects of project, program, and portfolio management, including healthcare project management courses. The growing number of projects and the evidence that good project management really can make a difference continue to contribute to the growth of this field.

CASE WRAP-UP

Another board member asked Casey, the CEO of America's Best Healthcare, to describe specific actions they could take to help their organization become more successful at managing projects. Casey began to explain his vision. "Overall, we have to dramatically improve our ability to quickly select and implement projects that help us succeed and cancel or redirect others. We have to respond quickly to market changes and take advantage of new technologies. Health systems that are not able to do this simply will not last."

Casey went on to explain how he would like to formalize a corporate Project Management Office (PMO), with a strong person at the VP level. The new VP would oversee the many smaller PMOs currently dispersed throughout the organization. Casey said this new group could be formed at no additional cost by consolidating and reorganizing the current PMOs, and he got board approval to move forward with creating this new group.

"We also need to set goals and then develop timelines with deliverables and people committed to getting things done. Three key initiatives of the corporate PMO should include education, incentives, and tools. First, we need to educate employees in project management and develop a mentoring program for part-time or full-time project managers. For example, a head nurse is leading a major phase of a project at one of our academic hospitals to reduce the occurrence of ventilator-acquired pneumonia. She is being mentored by a senior PMO member, and the project is going great. Second, we also need to develop project-based reward systems to get everyone fully engaged in changing our approach to projects. Third, we need to find and implement a user-friendly, web-based PPM tool across the enterprise."

After a review of on-going and completed major projects over the last two years, board members were convinced that effectively selecting and managing projects was crucial to their future. The board and the organization's shareholders were ready to move forward with Casey's ideas and extending project management best practices throughout the organization.

CHAPTER SUMMARY

There are many reasons to study project, program, and portfolio management, especially in the healthcare field. The number of projects continues to grow, the complexity of these projects continues to increase, and the profession of project management continues to expand and mature. Using a more disciplined approach to managing all types of projects can help organizations succeed. The healthcare industry has to make changes to meet government and markets demands as well as seize opportunities to increase the quality of patient care and decrease costs; applying good project management is an important step in meeting the many challenges ahead.

The context of healthcare project management has unique characteristics. It is important to understand the healthcare environment, the nature of healthcare projects, and recent trends in healthcare that can affect project management for project management practices to achieve the greatest impact in advancing healthcare projects towards success.

A project is a temporary endeavor undertaken to create a unique product, service, or result. Projects are developed incrementally; they require resources, have a sponsor, and involve uncertainty. The triple constraint of project management refers to managing the scope, time, and cost dimensions of a project. The quadruple constraint adds quality, and additional constraints include risk and resources.

Project management is the application of knowledge, skills, tools, and techniques to project activities to meet the project requirements. Stakeholders are the people involved in or affected by project activities. A framework for project management includes the project stakeholders, project management knowledge areas, and project management tools and techniques. The ten knowledge areas are project integration management, scope, time, cost, quality, human resource, communications, risk, procurement, and stakeholder management.

A program is a group of related projects, subprograms, or program activities managed in a coordinated way to obtain benefits not available from managing them individually. Project portfolio management involves organizing and managing projects and programs as a portfolio of investments that contribute to the entire enterprise's success. Portfolio management emphasizes meeting strategic goals while project management focuses on tactical goals.

The profession of project management continues to grow and mature. Project, program, and portfolio managers play key roles in helping projects and organizations succeed. They must perform various duties, possess many skills, and continue to develop skills in project management, general management, and their application area, such as healthcare. Soft skills, especially leadership, are particularly important for project, program, and portfolio managers. The Project Management Institute (PMI) is an international professional society that provides certification as a Project Management Professional (PMP), upholds a code of ethics, and has a recognized community of practice in healthcare. Today, hundreds of project management software products are available to assist people in managing projects.

QUICK QUIZ

1.   Approximately what percentage of the world's gross domestic product is spent on projects?
        A.   10%
        B.   25%
        C.   50%
        D.   75%

2.   Healthcare spending accounted for 17.9% of U.S. GDP in 2010, an average of over _____ per person.
        A. $10,000
        B. $5,000
        C. $8,000
        D. $3,000

3.   Which of the following is not a potential advantage of using good project management?
        A.   Shorter development times
        B.   Higher worker morale
        C.   Lower cost of capital
        D.   Higher profit margins

4.   A _____ is a temporary endeavor undertaken to create a unique product, service, or result.
        A.   program
        B.   process
        C.   project
        D.   portfolio

5.   Which of the following is not an attribute of a project?
        A.   projects are unique
        B.   projects are developed using progressive elaboration
        C.   projects have a primary customer or sponsor
        D.   projects involve no uncertainty

6.   Which of the following is not part of the triple constraint of project management?
        A.   meeting scope goals
        B.   meeting time goals
        C.   meeting quality goals
        D.   meeting cost goals

7.   _____ is the application of knowledge, skills, tools and techniques to project activities to meet project requirements.
   A.   Project management
   B.   Program management
   C.   Project portfolio management
   D.   Requirements management

8.   Project portfolio management addresses _____ goals of an organization, while project management addresses _____ goals.
   A.   strategic, tactical
   B.   tactical, strategic
   C.   internal, external
   D.   external, internal

9.   What is the most significant characteristic or attribute of an effective project manager?
   A.   is a strong communicator
   B.   is decisive
   C.   is visionary
   D.   leads by example

10.   What is the certification program called that the Project Management Institute provides?
   A.   Microsoft Certified Project Manager (MCPM)
   B.   Project Management Professional (PMP)
   C.   Project Management Expert (PME)
   D.   Project Management Mentor (PMM)

Quick Quiz Answers

1. B, 2. C, 3. D, 4. C, 5. D, 6. C, 7. A, 8. A, 9. D, 10. B

DISCUSSION QUESTIONS

1.   Why is there a new or renewed interest in the field of project management, especially in the healthcare industry?
2.   What is a project, and what are its main attributes? How is a healthcare project different from routine operational activities in a healthcare organization?
3.   What is the triple constraint? What is the quadruple constraint? What are other project constraints? Which of these constraints seems to have special meaning for the healthcare context?
4.   What is project management? Briefly describe the project management framework, providing examples of stakeholders, knowledge areas, tools and techniques, and project success factors that are often found in the healthcare setting.
5.   Describe the context of project management in the healthcare industry. How do things like history, costs, or recent trends affect healthcare project management?
6.   Discuss the relationship between project, program, and portfolio management and their contribution to enterprise success.
7.   What are the roles of the project, program, and portfolio managers? What are suggested skills for project managers? What additional skills do program and portfolio managers need to be successful in the healthcare industry?
8.   What role does the Project Management Institute (PMI) play in advancing the profession? What role can PMI's Healthcare Community of Practice play in advancing project management in the healthcare industry?
9.   What are some of the features of project and portfolio management (PPM) software? What are some of the popular and recommended tools on the market?

EXERCISES

Note: These exercises can be done individually or in teams, in-class, as homework, or in a virtual environment. Learners can either write their results in a paper or prepare a short presentation or video to show their results.

1.   Find at least three Web sites that provide interesting information about project management in general and in the healthcare industry, including the Project Management Institute's Web site (*www.pmi.org*). Summarize key information about these three Web sites, including articles on the sites. See the companion Web site for some suggested sites to visit.
2.   Find an example of a real project with a real project manager in the healthcare industry. Describe the project in terms of its scope, time, and cost goals and each of the project's attributes. Try to include information describing what went right and wrong on the project and the role of the project manager and sponsor. Also describe whether you consider the project to be a success or not and why. Include at least one reference and proper citations.
3.   Review information from.toptenreviews.com about online project management software. Read at least four reviews and visit the supplier Web sites for their products. Also investigate examples of how healthcare organizations are using project management software, and summarize your findings.

4.   Watch the videos mentioned in the Video Highlights. The direct links are available on the companion Web site. Summarize key points from the videos. How does May Clinic use project management? What are some famous projects in the history of project management? Summarize your responses and impressions of the videos.

TEAM PROJECTS

Note: These team projects can be done in-class, as homework, or in a virtual environment. Learners can either write their results in a paper or prepare a short presentation or video to show their results.

1.   Interview people who work as project managers or team members on at least two different project teams in a healthcare environment. Use the following interview guidelines, and then ask the questions in person, via the phone, or via the Internet. Discuss the results with your team, and then prepare a paper, presentation, or video to summarize and compare your findings.

Project Manager Interview Guidelines
Please note that these are guidelines and sample questions only. Use only the questions that seem appropriate, and feel free to add your own.

Note: If the interviewee wants to remain anonymous, that's fine. If not, please include his/her name and place of employment as a project manager in your paper. Let him/her know that you are doing this interview for a class assignment and that the information may be shared with others.

The main purpose of these interviews is for students to gain more insight into what project managers really do, what challenges they face, what lessons they've learned, what concepts/tools you're learning about that they really use, and what suggestions they have for you and other students as future team members and project managers. People often like to tell stories or relate particular situations they were in to get their points across. To this end, here are a few sample questions.

1) How did you get into project management or on a project team?
2) If you had to rate the job of project manager on a scale of 1-10, with 10 being the highest, how would you rate it?
3) Briefly explain the reason for your rating. What do you or would you enjoy most and what do you or would you like least about being a project manager?
4) Did you have any training or special talents or experiences that qualified you to be a project manager or team member? Are you certified or have you thought about becoming certified as a PMP?
5) What do you feel is the most important thing project managers do in the healthcare industry? On what task do you spend the most time each day?
6) What are some of the opportunities and risks you have encountered on projects? Please describe any notable successes and failures and what you have learned from them.
7) What are some of the tools, software or otherwise, that you use, and what is your opinion of those tools?

8) How have you introduced project management skills, tools, and techniques to healthcare stakeholders?
9) What are some steps a project manager can take to improve the effectiveness and efficiency of a team? How does a new project manager gain the respect and loyalty of team members? Can you share any examples of situations you faced related to this topic?
10) What suggestions do you have for working with sponsors and senior managers? Can you share any examples of situations you faced related to this topic?
11) What suggestions do you have for working with clinical providers? Can you share any examples of situations you faced related to this topic?
12) Do you have any suggestions for someone who may manage future healthcare projects, such as any specific preparations they should make, skills they should learn, etc.?

2. Go to *www.monster.com* or a similar site and search for jobs as a "project manager" or "program manager" in three geographic regions of your choice. If possible, focus on jobs in the healthcare industry. Summarize what you found, especially related to position in healthcare organizations.
3. As a team, discuss projects that you are currently working on or would like to work on to benefit yourself, your employers, your family, or the broader community. Come up with at least ten projects, and then determine if they could be grouped into programs. Summarize your results.
4. Review information on project management certification. As a team, discuss your findings and opinions on earning PMP, CAPM, or other certification for someone intending to work in the healthcare industry. Document your findings, citing your references.

KEY TERMS

ethics — A set of principles that guide our decision making based on personal values of what is "right" and "wrong".

leader — A person who focuses on long-term goals and big-picture objectives, while inspiring people to reach those goals.

manager — A person who deals with the day-to-day details of meeting specific goals.

portfolio — A collection of projects or programs and other work that are grouped together to facilitate effective management of that work to meet strategic business objectives.

program — A group of projects, subprograms, or program activities managed in a coordinated way to obtain benefits not available from managing them individually.

program manager — A person who provides leadership and direction for the project managers heading the projects within the program.

project — A temporary endeavor undertaken to create a unique product, service, or result.

project management — The application of knowledge, skills, tools, and techniques to project activities to meet the project requirements.

project management process groups — Initiating, planning, monitoring and controlling, and closing.

project manager — The person responsible for working with the project sponsor, the project team, and the other people involved in a project to meet project goals.

Project Management Institute (PMI) — International professional society for project managers.

project management knowledge areas — Project integration management, scope, time, cost, quality, human resource, communications, risk, and procurement management.

Project Management Professional (PMP) — Certification provided by PMI that requires documenting project experience, agreeing to follow the PMI code of ethics, and passing a comprehensive exam.

project management tools and techniques — Methods available to assist project managers and their teams; some popular tools in the time management knowledge area include Gantt charts, network diagrams, critical path analysis, and project management software.

project portfolio management — The grouping and managing of projects and programs as a portfolio of investments that contribute to the entire enterprise's success.

project sponsor — The person who provides the direction and funding for a project.

stakeholders — People involved in or affected by project activities.

triple constraint — Balancing scope, time, and cost goals.

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