Project management supports the change process

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Despite being expected to act as change agents and leaders of both small and large projects, many nurse managers aren't instructed in the formal practice of project management. Gaining a greater understanding of project management may streamline or facilitate more effective change at all levels of nursing and healthcare, allowing nurse managers to play a greater part in initiating change projects and manage them with confidence and competence.

Project management 101

Defined as, "a temporary endeavour undertaken to create a unique product, service, or result," projects are commonly a way of handling activities that can't be addressed within an organization's normal operating limits.[1] Every project has a beginning and end—when the project objectives have been reached or it's clear that they won't be. However, temporary doesn't necessarily denote a short duration; some projects can span many years. A key attribute of a project is that it's progressive, advancing in steps. Each project is characteristically unique in terms of factors such as time frame, location, budget, suppliers, and so on.[2]

Project management is the application of knowledge, skills, tools, and techniques to meet a project's requirements.[1] Often closely associated with engineering projects, which typically have complex components that need to be completed and assembled in a set fashion to create a functioning product, project management is a methodical approach to planning and guiding project processes from start to finish.[1,2] The processes are guided through five stages: definition, initiation (or selecting), planning, executing (or controlling), and closing.[1] (See Table 1.) Project management can be applied to almost any type of project and is widely used to control (manage) the complex processes involved in any developmental project.

Another view is that project management is an endeavor in which human, machine, material, or financial resources are arranged in a unique way within the constraints of cost, time, or resources to deliver beneficial quantitative and/or qualitative change.[2,3] Project management uses specific techniques to plan and control the scope of work to deliver a product that satisfies the clients' and stakeholders' needs and expectations. As such, it involves the planning and arrangement of an organization's resources to move a specific task, event, or duty toward completion.[1] This typically involves a one-time project rather than an ongoing activity and the resources managed include both human and financial capital.

The project manager helps define the goals and objectives of the project, determine when the various project components are to be completed and by whom, and create quality control checks to ensure that completed components meet a certain standard.[4] He or she is responsible for identifying resources and establishing effective lines of communication, as well as balancing the competing demands for quality, scope, time, and cost, and the needs of various stakeholders, adapting the plans as required. These responsibilities may be shared with a project team, so it's essential that clear roles within the project team are identified.[2]

Structure basics

Figure 1 outlines the typical sequence of phases in a projects' lifecycle, which begins with an
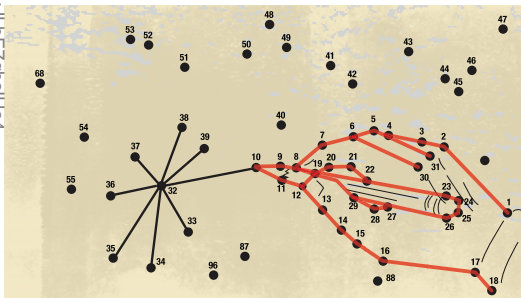
Figure 1: Phases of a project plan

Inputs	Idea							
	↓	Project management team						
Phases		Initial		Intermediate			Final	
Outputs	Charter	Scope statement	Plan	Baseline	Progress	Acceptance	Approval	Handover
Project deliverables								Product

idea or suggestion, such as a plan to change a handover system; initiate a new staffing model, workload plan, shift management system, clinical ladder program, or clinical service; or build a new hospital. Any initiative can be supported by project management.

Phase 1: The initial phase

The initial phase starts with "inputs" or a general outline that something needs to be developed, built, or changed. Developing these inputs requires the establishment of a project management team. The initial phase also requires a number of "outputs," such as time, money, scope, and the establishment of the project charter as a scoping exercise.

Team building. The project management team usually includes several individuals led by the project leader. Having the right team members can enhance the overall competencies of the team, improve team engagement, and heighten project performance.[1,5,6] Team building should start with establishing team ground rules, encouraging participation, fostering team cohesion, and maintaining confidentiality. Managing misunderstandings and handling conflict appropriately so that trust is built and upheld are vital.[7] In addition, project leaders need to effectively

manage meetings, establish team roles, maintain timelines and team focus, and make decisions promptly. These actions make up the inputs for the initial phase of the project.

Time, money, and scope. The initial outputs relate to the establishment of a charter and scope statement. Frequently, project management is referred to as having three components: time, money, and scope.[8] Reducing or increasing any one of the three has an impact on the other two. If an organization reduces the amount of time it can spend on a project, the scope, or what can be included in the project, is affected and additional people or resources may be required to meet the abbreviated schedule. All three of these components have an impact on the initial phase of the project.[2]

Charter. This step is about establishing a formal agreement on project responsibilities, setting up the business case, and linking the project with the work of the organization and parties involved. The charter sets out contracts, if required, and defines the project statement and organizational or individual responsibilities.[1] The scoping statement outlines the project's deliverable requirements; in other words, what will be achieved or delivered and when. This may

involve project boundaries, methods, and, if various multilevel projects are involved, how they'll relate to each other and the scope of each project level. Issues surrounding the general project scope need to be discussed and agreed to from the outset.[1,2] Then, project teams commonly use a SMART (specific, measurable, achievable, relevant, time-bound) framework to help establish specific goals. Having achieved these steps, the project can move on to the next phase. Developing the scoping statement requires the involvement of the project leader, project team, and significant stakeholders, resulting in a set of clear objectives for each stage of the project.

Phase 2: The intermediate phase

Representing the principal and most significant part of the project, this phase is made up only of outputs. It's in this phase that the project is brought to life and, eventually, fruition. The outputs involve an action plan, baseline, progress (executing), and acceptance (controlling).[2]

Action plan. In this step, the project manager defines what the project is and what the users hope to achieve by undertaking it. It also includes a list of project deliverables—the proposed outcome of a specific set of activities. The project manager works with the business sponsor or nurse manager who wants the

project implemented and with other stakeholders who have a vested interest in the project's outcome.[9] For example, if the project is setting up a new mobile public health service, the project manager needs to clearly define what's to be achieved, by when, and with what resources. Additionally, all of the project's activities are defined at this time. The project manager lists all tasks, how the tasks are related, how long each task will take, and how each task is tied to a specific deadline.

Models exist to support these processes, such as the Systems Development Life Cycle, the Waterfall Model, Rapid Application Development, Joint Application Development, the Fountain Model, the Spiral Model, the Build-and-Fix Model, and the Synchronize-and-Stabilize Approach.[1] Applying one or more of these models allows the project manager to define relationships between tasks so that if one task is late, the project tasks related to it will also reflect a comparable delay. Likewise, the project manager can set milestones, or dates by which important aspects of the project need to be met.

Baseline. Here, the minimum requirements for completing the

project are defined and the project manager identifies how many people (often referred to as resources) and how much expense (cost) are involved, as well as any other requirements that are necessary for project completion. The project leader manages assumptions and risks related to the project and identifies constraints (typically relate to schedule, resources, budget, and scope). A change in one constraint typically affects the other constraints. For example, if the project involves new staffing levels for an ED and this implies that additional resources are needed, these features are added as part of the project scope, possibly impacting scheduling, other resources, and the budget.

Progress. Once the project team is established and the project manager knows what resources are available and how much is in the budget, he or she then assigns those resources and allocates money to various tasks in the project. Key to this is the act of delegation and the manager's communication skills.[6] For example, if the project involves the introduction of new medical equipment, the project manager may allocate

the required testing or training to project team members. This step is putting the plan into practice.[2]

Acceptance. The project manager is in charge of updating the project plans to reflect the actual time elapsed for each task. By keeping up with the details, the project manager is able to understand how well the project is progressing overall. Gone are the days of pen and paper mapping exercises; with the advent of information technology and computer software programs, nurse managers and other healthcare professionals are able to lead projects of increasing size and complexity.[3] Specific products can be used to facilitate the administrative aspects of project management; however, basic spreadsheets can offer a suitable tool for less complex projects.

Phase 3: The final phase
This phase is where the project is concluded and, if required, the product or service is handed over. Before the handover, a formal approval, or "signoff," has to be implemented. Formal reports are exchanged, responsibilities are handed over, and the project team is closed down.

Closure. In this step, the project manager and business owner (or other levels of management) bring together the project team and stakeholders to analyze the project's final outcome and successes, and consider if things may have been improved or done differently.[10] Successful project implementation is dependent on solid planning, effective communication with everyone involved in the project, understanding and anticipating risks, and putting plans in place to manage them. Once the project is complete, celebrating success and acknowledging those who contributed to the project encourages them to participate in future projects.

Table 1: Project management components

1. Scope: What does the project cover? What work needs to be done?
2. Objectives: What are your specific goals (using a SMART framework)?
3. Strategy: How will you meet your objectives?
4. Budget: What are the anticipated costs? What can you afford to spend?
5. Schedule: What's the timeline for the project?
6. Customer or client: For whom are you working?
7. Stakeholders: Who else is involved in the project or is impacted by it?
8. Methodology: What are your plans for effectively designing and executing the project?
9. Quality: What are your standards or criteria for success?
10. Environment: How will the internal and external environment impact the project?
11. Risks: What could go wrong? How will you foresee risks and plan to avoid them?
12. Resources: What's available? What do you need? Can you afford it?
13. Organizational culture: Are people ready to accept the change? What may motivate them to implement change? Who's central to leading and championing the project to its closure?
14. The end: How will you measure success?

Organizations typically work on multiple projects, each resulting in potentially differing amounts of return or value. The organization may decide to eliminate those projects with a lower return to dedicate greater resources to the remaining projects or preserve the projects with the highest return or value.

Knowledge is power

Project management is a valid and well-known approach to dealing with change in a structured way, yet it remains peripheral to nursing education.[11] We propose that instruction in the application of project management tools be introduced into nursing education programs, with a specific recommendation to include project management as a fundamental component of nurse manager education. If nurse managers are able to gain a greater insight into project management, it may facilitate an increase in their capacity to engage with more significant change projects. This may help bring the voice and values of nursing to a wider range of projects, innovative change activities, and healthcare initiatives. **NM**

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