Dialysis Facility Design—Part I: Developing a Strategic and Financial Plan

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Developing a dialysis clinic is a multistep process that must be approached methodically and with focused attention to project needs and requirements. This article is the first installment in a series of four articles that will outline a plan of action for the development and design needs of a dialysis clinic—whether you’re developing a clinic from the ground up or outfitting and upgrading an existing unit. This installment focuses on the first steps involved in developing a plan of action for new facility construction, including determining staffing and space needs and financial options, and navigating contract options for assembling a team.

As with the establishment of any medical facility, the initial planning stage is an essential part of the development of a dialysis clinic. What makes the design of a dialysis facility distinct is that patients spend 3–4 hours, 3 to 5 times a week in the clinic undergoing treatment. People of all ages with different degrees of kidney failure undergo dialysis. A warm, comfortable, homelike, and flexible environment is a key part of the design philosophy, for both patients and staff.

A strategic plan is an essential component of the development of a successful dialysis clinic. Every owner or manager who has thought about how to provide the ideal patient care environment has already started the planning process. The organization of a strategic plan starts with a list of the owner’s goals and objectives in facility services, number of dialysis chairs, level of care, staffing needs, and general space requirements. These decisions may seem simple at first glance, but each answer is dependent upon another, and they can become surprisingly complex.

Survey the Demographics
Understanding the demographics of the region in which the clinic will be located is fundamental to defining the number of patients, staff, size of the clinic, and type of services provided, as well as to pinpointing a specific location. Some specific points to think about:

- How many potential patients are within a comfortable driving distance, and what is the competition within the geographic area?
- Are there distinct services to be provided that will set your clinic apart from others in that geographic area?
- Is there a current waiting list for patients in need of treatment?
- What is the availability of quality staff in the local area?
- What are the financial capabilities of the patients and staff?

In some areas, the number of lower-income patients mixed with high-income staff creates a potential imbalance for a typical cost model. Remote or rural areas may have a difficult time finding the number of quality staff needed to support a large or specialized clinic. A highly specialized clinic may need to be in a larger metropolitan area and near high-tech hospitals in order to find quality medical staff and to help provide backup services. The demographic study will answer many of these questions or at least provide guidance toward defining the recommendations within the strategic plan. In addition, the demographic study will provide the supporting documentation required for a loan from a financial institution.

Determine Staffing Needs
The Joint Commission on Accreditation of Healthcare Organization mandates that to receive dialysis accreditation, a facility provides an adequate number and mix of staff and licensed independent practitioners consistent with its staffing plan (Standard HR.1.10) and meet the care, treatment, and service needs of the patients (Elements of Performance for HR.1.10). Although no specific ratio is required, most states will set the actual staffing levels. The number of staff per patient and the level of care will define the total number of staff members necessary to run and

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manage the clinic. Using a ratio of 6–8 patients per staff member will help to define the overall number of staff needed. For example, if you use a ratio of 6 to 1, then you can specify patient levels in increments of 6, such as 12, 18, 24, and so forth, to test the cost model. Planning for 20 beds instead of 24 may increase the number of staff to that needed for treating 24 patients, even though the clinic would only be treating a maximum of 20 patients.

**Occupancy Rate**
The number of patients you choose should take into account an assumed occupancy rate. Occupancy rates of 85%–90% are typically considered cost effective. Most facilities will be hard-pressed to run at more than 95% of capacity annually because of cancellations, illness, staff shortages, and power outages.

The number of occupants is the foundation for determining the overall size of the new clinic, as patients will occupy approximately 65%–70% of the total space needed and are the basis for programming the other 30%–35%.

Staff, medical supplies, and daily costs encompass approximately 80% of the operating costs of a dialysis facility, whereas the actual cost of the facility typically accounts for less than 20% of the total cost of providing services. Therefore, a small addition to the actual facility may be well spent if it helps to reduce staff time and costs. Some state healthcare plans even have cost review guidelines that will require information such as how much space per patient and how much cost per patient or patient service the facility charge. These factors should be considered in the financial model to determine project viability.

**Space Needs**
Once the number of patients and a reasonable occupancy rate are defined, a space program should be outlined to determine spatial needs; indicating patient and staff areas, support spaces, business offices, mechanical systems, and any other patient care spaces that are part of the facility’s goals and objectives. The space program is usually a written list of rooms, room sizes, functions, equipment, and utility needs within each room, many of which are defined by code. Diagrams may also be part of a space program to help define the general layout of the facility and to determine the circulation of patients, staff, and supplies.

**Hiring the Team**

**The Architect**
With a strategic plan clearly defined you will be amply prepared to describe the project in your mind and to the professionals who will design, finance, and construct the project. Architects are trained to evaluate numerous factors that affect a project based on the goals outlined in the strategic plan and to create a design for a space that meets all the defined requirements. By the time a strategic plan is developed, the architect should be in the picture. The architect will work with the owner to develop a facility plan and a plan of action that meets all the goals of the strategic plan by specifically defining the square footage (space program), reviewing zoning ordinances, and evaluating potential project sites. An architect should be hired before selecting a broker or financial institution, as both the latter two will ask questions best answered by the architect and the drawings he or she creates.

Evaluating a site or existing building to be used as a dialysis clinic is best accomplished by an architect, who has firsthand experience with local regulations, codes, zoning ordinances, and review boards such as historic preservation and neighborhood boards that will have comments on the design. Most owners are more comfortable having an architect present the project drawings to the numerous agencies and groups that grant project approval.

Each site should be evaluated for items such as zoning restrictions, planning covenants, future master plan changes, private transportation, public transportation, adjacent property zoning, site amenities, and environmental conditions like wetlands, endangered species, soil capacity, buried tanks, contaminated soils, rocks, and so forth. Each of these issues can have an economic impact on the project cost and timeline. An architect’s site evaluation provides an overview of the usability of all potential locations on the basis of the priorities in the strategic plan. This analysis should be part of the facility plan.

**Financial Institutions and Brokers**
Financial institutions will require an information package that answers questions such as:

- Why should this project be built?
- What makes this project financially viable?
- Where is the facility located?
● How big is the project and how many will it serve?
● What is the value of the surrounding neighborhood?

The answers to these questions will be considered in determining the risk involved in the loan, the value of the finished product and, ultimately, whether to finance the project. These answers should be found in the strategic and facility plan.

Brokers are concerned with size of land needed, use classification, zoning, and location—all of which should be included in the facility plan.

Many owners find a broker first and purchase a piece of land or an existing building that is not always suitable to house the project that they have in mind. The role of the architect in the project-planning process is to take the owner’s ideas, incorporate the technical constraints, and create a clear set of documents on which to build the project.

With this information in place, the owner is prepared to hire professionals to build the project.

**Contract Type**

There are three traditional forms of contracts: owner/architect/contractor, design/build, and turnkey or fee-for-development. Determining which contract type is right for you is a direct reflection of how much control you wish to have over the decisions made during the project development process.

**Owner/Architect/Contractor**

The traditional contract is based on an owner/architect/contractor triad, which entails a contract between the owner and the architect, called the owner/architect agreement (B141), and another between the owner and the contractor, called the owner/contractor agreement (A101). The owner provides strategic direction and financing and makes most of the major decisions about the project and construction process. The owner will make most of the key decisions. These decisions will be documented by the architect, who then submits drawings for approval and construction by the contractor.

During the design and development process, issues arise that need to be resolved by the owner. The architect will meet with the owner and present the most viable options, from which the owner will choose or will offer a different solution under the counsel of the architect.

Depending on the nature of the owner/architect agreement, the architect could also provide services to facilitate different neighborhood and historic association review boards that would need to approve the project design in order to process the building permits that the contractor needs to begin construction. The contractor plans the construction process, researching products, procuring material, and hiring subcontractors. The subcontractors specialize in specific trades, such as electric wiring or carpentry, and are managed by the general contractor. This process is the most challenging of the three contract types because decisions are made often, and the owner is the key decision maker. The end result is a project that has been tailored specifically to the goals of the owner and is the most rewarding from an owner’s perspective. The owner must be prepared to take the time and have the patience necessary to be the leader of the triad.

**Design-Build Agreement**

The second type of contract is a design-build agreement, which entails an agreement between the owner and a single entity that provides both design and construction services, either in-house or as a joint venture. The project cost covers all design fees, as well as the cost of construction. The owner still provides the strategic plan and financing; however, the delivery is through a single contract. The owner also still makes decisions, but the choices can be limited to options prepared by the design-build firm according to the strategic plan and budget.

The owner is not involved in troubleshooting in the field during construction or in approving product substitutions. The owner is relieved of most day-to-day decision making but is focused on a clear understanding of the costs and the expected product. This process relieves the owner of the responsibility of constantly making decisions.

In this process, cost control and schedule control are key issues, with quality defined by the cost parameters. The project quality is defined at the project inception. This can be a very cost-effective process, as the architect, consultants, and contractor work hand in hand to design and build the project in the most time-efficient manner, without continual direction from the owner. The owner pays for the project costs as they occur throughout the design and building of the project.

**Fee-for-Development**

The third type of contract is the turnkey or fee-for-development contract, which further removes the owner from the detailed decision-making process. In a turnkey contract, the project is defined by the owner by the space program and the budget. The developer defines the cost and timeline for project execution in a contract, which is signed by the developer and the owner. The developer plans, designs, obtains jurisdictional approval, obtains financing, and builds the project. The project is then delivered 100% completed and ready to move in by an agreed-upon date. The owner then purchases the 100%-completed project, as defined by the contract. This is a good way to minimize the time and up-front money the owner expends in the two other delivery formats.
The turnkey entity will include managing fees and provide professional service fees, construction costs, and interest expenses during the design, approval, and construction of the project. Much like purchasing a home, you go to closing to obtain final financing and move in.

One step further in the fee-for-development contract is the provision for permanent financing based on a long-term lease, usually for 25–50 years. In this case, the owner never takes on long-term debt as the project is leased. In some cases, this has tax advantages for certain corporate entities, because operating costs can be written off as expenses, much like leasing a car. If structured properly, the project can be turned over to the owner at the end of the lease, usually for a very minimal payment, because debt and services will have been paid off over the life of the lease.

**Benefits of Planning**

When developing a project, preparing ahead of time leads to a better-quality product. The facility plan provides answers to the initial questions a broker or financial institution will ask. By providing this information up front, you provide clear guidance that will dramatically shorten the development schedule and reduce the number of misunderstandings. Anything you can do to define the project first in your own mind will help others understand what and how you are attempting to accomplish the goals outlined in the strategic plan.

Following a strategic plan in the development process is a very efficient approach to project execution. Building any project can be stressful, but your level of experience and the level of decision making you wish to undertake should be your choice. In consciously choosing your level of responsibility, you increase the chance that developing your dialysis clinic will be an extremely rewarding process.

**Next month:** Learn how to address challenges that traditionally occur during the process of project inception, and how to approach decisions that will influence the cost, building quality, and completion date of the project.