

Population Demographics Will Size Your Facility Sooner or Later

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Today's taxpayer demand results on how their money is being expended for construction on military healthcare facilities. In the ever-increasing demand for military healthcare services, the Navy must maintain acute awareness of shifting healthcare trends, optimization, mission readiness, force protection, and medical technological advances. Just as the civilian healthcare sector must plan accordingly to "rightsize" their facilities, so too must the Navy and every dollar must be justified to support congressional appropriations.

So how does the Navy plan such a behemoth undertaking? What are the intricacies of a Navy healthcare planner? It takes seasoned planners, strategic thinkers who can think "outside the box," planners committed to customer service, and those that understand the entire concept and mission of the healthcare facility, their medical equipment requirements, and can shift priorities on a moment's notice.

When was the last time you sat down with your board of directors to really examine your strategic plan? Your strategic plan could possibly drive the physical structure of your facility. Are you changing the mission statement of your facility? Have you noticed your aged facility isn't competing well against other healthcare systems? Is funding your backlog in maintenance and repair overcome by other events? If so, consider other alternatives to enhance the beautification, efficiency, with the ultimate goal to recruit new patients. Proper project planning will accomplish many benefits to your facility if taken seriously. Some values to consider include:

Reducing the cost of current operations

Enhancing access to care for beneficiaries

Providing improved training opportunities

Consolidating operations in a single location

Responding to changes in your mission and/or mission statement

Reducing staffing requirements

Correcting serious facility deficiencies elevating them to Life Safety compliance

Improving efficiency

Expanding services

Enhancing opportunities to conduct joint operations with other healthcare systems

Demographics Drive the Decision-Making Process

Population demographics, technology implications, environmental forces, complex system characteristics, and human dynamics, all point to a reassessment of our organizational, social, and health systems. There are tremendous implications for future health facilities if the facility/system does not continually focus on these issues and stay attuned to what is happening in their patient populations. When was the last time you conducted a Healthcare Requirements Analysis for your facility? It is vital to evaluate your population mix and evaluate who and what exactly is arriving at your facility's doorstep. Over the last three years did your facility see an increase in elderly care? Have you accurately forecasted the intensive drugs required for this population for the years to come? Have you noticed your OB patient census declining only to discover they are headed right down the road because the other facility delivers a state-of-the-art Labor, Delivery, Post Partum, and Recovery (LDRP) suite? These are basic examples of why it is paramount to evaluate your population mix.

The Healthcare Requirements Analysis (HCRA)

Every healthcare facility should have a documented Healthcare Requirements Analysis (HCRA) or some type of study of their population data. Without it, it's like driving around New York

without a map! You need to know what's coming through your door and why others are not. The purpose of the HCRA is to provide an assessment of the total demand for health care services generated by the population of eligible customers regardless of where they receive care. This includes eligible customers residing in the catchment area as well as those referred from other locations. The HCRA also describes the product lines and staffing necessary to meet demand at the medical facility. The workload and staffing assessment in the HCRA also allows the estimation of key facility spaces required in the facility. Common elements of the HCRA are listed below.

Population

Multiple factors contribute to estimating the patient population served by a medical facility. First, the geographic area supported by the facility must be defined. For ambulatory care facilities, the Navy catchment area includes a 20-mile radius around the facility, and typically is extended to 40 miles for inpatient facilities. The presence of overlapping catchment areas, geographic barriers, or significant referral patterns may also warrant evaluation.

The military's eligible population consists of all Department of Defense (DoD) beneficiaries identified by Title 10 of the United States Code. However, not all eligible beneficiaries choose to utilize the Navy facilities or their TRICARE insurance benefit. The user population includes those who have actually received care in the past. These may include enrolled beneficiaries as well as others who may be eligible, and sometimes even those who are not authorized to receive care at the facility.

Populations can be stratified by beneficiary category (active duty/retired etc) age, and gender. At many installations, large portions of the active duty population may consist of students or other members who frequently deploy to sea. Estimating potential population has been complicated for the Navy by passage of the National Defense Authorization Act of 2001, which extended

TRICARE insurance benefits to beneficiaries age 65 or greater which necessitates further healthcare planning for this new population group.

Examining the patient population from several perspectives will help determine the number and type of customers that use the facility now and can be expected to use the facility in the future. Typically this entails a review of the current population and the population projected for the year of occupancy. Projections of enrolled, user, and reliant populations may be modified to account for potential changes associated with a new or renovated facility. The future population estimates will drive facility size, staffing, and product lines. The reliant population can also be analyzed by types of services such as primary, specialty, inpatient, ambulatory surgery, or ancillary care. At facilities with overlapping catchment areas, the reliant population may vary with the type of service or product line. Whenever possible, projected populations are clearly summarized by service or product line as appropriate and should form the basis from which to estimate the demand for services.

Demand or Workload Forecasts

Demand for healthcare services are traditionally estimated by calculating historical utilization rates and applying them to projected population levels. These historical rates are modified to account for the effects of changes in clinical capabilities and clinical and business practices.

Normally, the current and two previous year workload data are analyzed to assess potential trends. Services provided through the civilian network are accessed by using DoD database systems as well as local information captured at the Navy facilities databases. Workload forecasts may be developed by service or product line included in the proposed project.

Workload may be forecasted through utilization rates specific to the product line for each beneficiary category (or pertinent age or sex stratification) when this level of detail more clearly illustrates the requirement of the proposed project. The source and reason for selecting a particular usage rate should be clearly documented. Requirements for Graduate Medical

Education and readiness training requirements are also taken into consideration as well in developing workload projections.

Staffing

Effective use of staffing represents one of the most significant opportunities to reduce costs of operating a medical treatment facility. For a proposed construction project, analysis of staffing requirements should include a summary of current and future staffing levels. Distinctions between military, civilian, contractor, provider, and support staff are delineated. Official staffing documents at the facility should be referenced with staffing standards. Private sector benchmarks also may be employed to determine clinical staffing requirements. Proposed changes in the practice patterns, and new facility configuration may also affect the requirement for staffing. Staffing requirements for ambulatory care may also be estimated through use of primary care and surgical panel size, annual productivity benchmarks by service, providers per unit of population, and provider-to-support staff ratios.

Defining Characteristics

A defining characteristic is the space(s) required to provide health care in an optimal manner. The defining characteristic can vary for each clinical unit. Examples include operating rooms, inpatient beds, LDR's or LDRP's, exam rooms, and emergency department treatment spaces. Analysis of population, utilization, staffing and productivity can provide a summary of expected throughput and the corresponding requirement for space. Also, statistical techniques such as the Poisson distribution can be used to establish the relationship between expected workload and the demand for space. Benchmarks, evolving best clinical practices, and results of business case analysis may provide useful insight into the demand for further defining characteristics. The techniques used to derive the defining characteristics and their relationship to the program for design should be explicitly detailed in the HCRA.

Total Costs of Health Care

Based on the workload forecasts generated in the HCRA, healthcare operating costs can be estimated by generating scenarios for providing care. Historical utilization and cost information are obtained through extensive official DoD information systems, augmented as necessary by local information sources available at the facility and the Managed Care Support Contractor.

Total workload (dispositions, outpatient visits, ambulatory surgeries, births, etc.) should remain the same in all scenarios. However, the workload volumes accommodated in the various military, federal, and civilian facilities will vary, as will their respective unit costs.

Revalidate the Results before Design Phase!

The purpose of the revalidation process is to ensure that original conclusions and recommendations of the economic analysis remain valid after the passage of time, attainment of design milestones, or significant change in circumstances. The military operates in a dynamic environment. Missions, staffing, clinical practices, technology, and market conditions are all subject to rapid and dramatic change. The revalidation provides the documentation necessary to ensure that these inevitable changes do not materially affect the rationale for proceeding with the project as originally envisioned.

Revalidations are not intended to serve as an exhaustive reconsideration of the project requiring contractor support. Instead, it is envisioned that medical planners in the Navy will be able to complete sufficiently comprehensive reassessments in very little time. Revalidations should be completed upon reaching the 35% and 100% design milestones. Authorization to proceed with final design or construction contract award will not occur until the 35% and 100% revalidations have been accepted. Additionally, if a project has not been awarded within one year of the 100% revalidation, it must be revalidated again prior to award. This ensures that every project will have current justification to proceed and that expenditure of construction resources can proceed with confidence.

Discovering healthcare costs and workload statistics on competing facilities can be challenging to say the least. While the military medical data is available to Navy planners and assigned contractors, civilian facilities are hard pressed to publicly announce their workload statistics and revenue to the rest of world.

Silence is golden for many of these facilities to avoid further competition of services, unique breakthrough programs and best business practices.

Keeping an Eye on the Competition

One of the most valuable keys to success is keeping an eye on your competition. Although most facilities are closed lip about their internal operations, many facilities have to report annual statistics to their state agency. Valuable statistics such as case loads for each specialty, length of stay figures, adjusted total charges per case, discharges, and staff bed percentages might add insight to your overall evaluation of your market competition.

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2. Title 10 USC, Section 1074.
3. 106th Congress of the United States. HR 4205 and 5408.