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Right-Sizing Your Outpatient Surgery Suite



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In the world of healthcare, change is constant. Creating a vision for a surgical department and using a methodology to ensure that space planning and budgets reflect the vision are key to successful facility remodels.

According to one healthcare executive, "We need to be able to define the space program in terms of our vision so that our budgets and pro-formas reflect the space needed to Implement the vision. But this needs to occur before we commit to the project design and prior to engaging our staff in a detailed programming and planning effort."

In developing a new ambulatory surgery program, the challenge for healthcare administrators is to define their vision before planning and probing occurs with enough specificity to establish space and cost budgets that can be adhered to as the project is developed. By defining the vision and its impact on each of the key-area space generators, the vision can be integrated into the planning guideline. The space baseline can then be modified, specific to the project's vision, to establish realistic space parameters for the project and budget development. The programmers and architects can communicate the vision to the departmental staff as the project is being developed. Finally, the vision-driven space guidelines will allow for a backcheck to permit the healthcare system's leadership to monitor the project development and avoid space increases due to "wish listing."

The intent of the method described is to give greater definition to the leadership's vision of the facility and enable that vision to be present throughout the programming and planning phases.

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It happens every day: hospitals and surgical centers make the commitment to redefine their outpatient surgery areas to meet new demands for surgical procedures and stay current with technological advances in equipment. In the world of health care, change is constant. The keys to successful facility remodels are to create a vision for a surgical department and choose a methodology that ensures space planning and budgets will reflect that vision.

An example: while discussing the status of an upcoming, free-standing, satellite ambulatory surgery project, a health care system executive expressed his frustration at the way the conceptual planning was developed: "We presented the plan the architect developed working with the surgery director to a group of senior management and they picked the plan apart. Each manager brought a bias to the discussion, criticizing the space allocated to various functions as well as the total space proposed." Furthermore, he explained, the managers focused on operational and patient-care planning issues in patient services and material management, which were not among the priorities set by the surgery staff charged with directing the design effort. As a result of the managers' review, additional consulting and design services were needed on the project, which meant delays and additional expenses. According to the executive:

"It was clear we lacked a unifying vision that could enable us to focus on the same effort. We need to all get on the same page and work toward the same goal. In the design process, we were seeking input and participation from hospital departments that may or may not operate the new satellite facility. Each department created its own space program and operational concept. The result was an overall facility program too big to afford and one that lacked a unified vision. We need to be able to define the space program in terms of our vision so that our budgets and pro-formas reflect the space needed to implement the vision, but this needs to occur before we commit to the project design and prior to engaging our staff in a detailed programming and planning effort."

In developing a new ambulatory surgery program, the challenge to health care administrators is to define their vision clearly before the planning and probing begins. Without a solid direction established early on, space planning and design development

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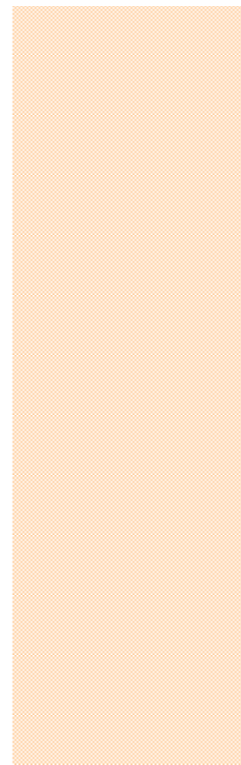
may be vulnerable to "creep" and a corresponding increase in project costs and time.

One quick way to verify the space requirements for an outpatient surgery program is to review the facility vision using the five major space-generating areas within an ambulatory surgery program as initial guides, determining space requirement baselines for each. These areas are: patient services (reception, registration, and waiting); patient preparation and recovery; operating suite; sterile processing and storage; and staff support areas.

By focusing on key areas within the surgery department, allowances for square footage per operating room (OR) can be refined to adapt a targeted space program to the overall vision. For example, if the vision for the ambulatory surgery program is that it have a resort-style character, an increase in the patient services area would be necessary. Conversely, if the surgery center is envisioned as low cost and function oriented, a baseline square footage ought to suffice.

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Adapting the Vision to the Baseline Space Estimate

Many components must be considered in developing a vision. Among them may be the population to be served, operational considerations, the environment, the patient focus, and the role of new technology.

By defining the vision and its impact on each of the key-area space generators, the vision can be integrated into the planning guideline. The key-area space baselines can then be modified, specific to the project's vision, to establish realistic parameters for space-allowance and budget development. The programmers and architects can communicate the vision to the departmental staff as the project is being developed. Finally, the vision-driven space guidelines permit the health care system's leadership to avoid the space increases that can result from wish-listing.

Baselines for Estimating Ambulatory Care Surgery Facility Space Programs

Preliminary area projections for an ambulatory surgery center can be easily estimated using rules of thumb for square footage per OR. Using the total square footage per OR from previous projects, for example, produces reliable estimates—but only if the new project is intended to duplicate the previous project. If the ambulatory surgery project is a first-time endeavor, or a part of a new strategic vision with different patient demographics, physician demands, or materials management requirements, our rules-of-thumb provide a good place to start.

A review of 10 successfully completed ambulatory surgery projects designed by our office revealed a range in the total facility square footage per OR from 2,240 to 3,200 square feet. The variation can be attributed to different emphases in the programs, operational considerations, and the sizes and locations of the facilities. Free-standing facilities' needs are different from those of programs attached to an inpatient surgery facility, and such facilities do not have the same ability to share services. Minimum core requirements mean that the total square footage for all areas required per OR for two-OR suites is higher than it is for suites with four to eight ORs. The number of ORs necessary in the suite is the first decision in the planning of an ambulatory surgery space program. All other space requirements are driven by that decision.

Our case study of successful outpatient surgery projects suggests that the baseline per OR is 2,500 square feet. Baseline square footage per OR for each of the five key areas is as follows:

- Patient services 285 square feet;
- Patient preparation and recovery 900 square feet;
- Operating suite 815 square feet;
- Sterile processing 250 square feet; and

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- Staff support 250 square feet.

These baseline estimates assume a facility limited to ambulatory surgery. If other services such as radiology, outpatient treatment, or endoscopy, are to be included, they will have key-area space generators of their own. Our rules of thumb also assumes a compact layout with tight circulation schemes.

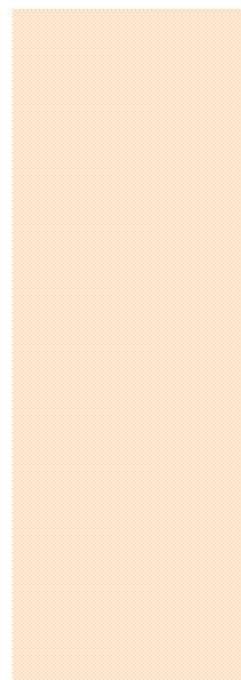


[Figure 1](#): In the baseline space estimate, circulation is minimized between functions.

If special relationships exist, such as circulation back to a remote department (radiology or lab) or centralized waiting, additional allowances must be made and should be included in early discussions of the facility vision.

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Patient Services

The baseline space estimate for patient services (reception, registration and waiting) includes the following:

- Waiting for five people per OR;
- One registration booth for every two ORs;
- A reception desk with a single workstation; and
- Support space, as required.



[Figure 2](#): Patient services include reception, patient- and family-waiting areas.

Considerations in adapting the patient services area to the vision include the following:

- If patient services are to be centralized to serve other programs, the space requirement is reduced;
- Population to be served and the location of the surgery center also affect the space requirements for this area (for example, if the center is to be integrated into a shopping mall, it is likely that less waiting space would be needed);
- If the vision calls for private interview rooms for registration, the patient services area will need to be increased; and
- If an area for medical records is planned, it will require an additional space allowance.

Patient Preparation and Recovery

The baseline space estimate for patient preparation and recovery includes the following components:

- Three positions per OR are needed to accommodate preparation and first- and second-stage recovery areas;
- Minimal spacing (4 feet) between beds, with curtain separators; and
- Required support space.

Considerations in adapting the patient preparation and recovery area to the vision are as follows:

- The ratio of preparation and recovery beds per patient is critical and must be determined;
- The concept for first- and second-stage recoveries must be established. Total area can be reduced if a second-stage recovery lounge is provided in lieu of beds;
- Will there be combined use of pre-op and recovery beds—this practice reduces the total number of beds required;

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- If private patient rooms for pre-op or recovery are envisioned, the area allowance will need to be increased;
- Separate, designated pediatric recovery and pre-op areas will require additional space; and
- Integrating short-stay recovery beds into the vision may allow reduction of the space allocated for patient preparation and recovery;



[Figure 3](#): Staggering patient bays is a space-efficient method to enhance patient privacy.

Clinical considerations, such as the anesthesia used and recovery times, will affect the number of beds. Frequently, the prep and recovery spaces can support other programs such as radiology, cardiac catheterization, and endoscopy. If the pre-op and recovery beds are to support other programs, the space allowed will need to be increased.

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Operating Suite

The baseline space estimate for operating suites is 400 square feet per OR. One substerile room and one scrub area for every two ORs is considered standard. Equipment storage is included at the rate of 70 square feet per OR.

Considerations in adapting the operating suite area to the vision are as follows:

- The type of surgical procedures planned have an impact on the operating suite space allowance;
- Contrary to the trend in other areas in health care facilities, the equipment space requirements in the OR are increasing (the use of monitors, microscopes, and video equipment all increase the space requirements);
- The use of ancillary services in the surgical suite will affect the area allowance. If a darkroom or daylight-processing area for radiology is to be included in the suite, or a pathology lab is needed for stat frozen sections, space must be added to the baseline allowance.



Figure 4: Technological Requirements may increase space required within the OR.

Sterile Processing and Storage

The baseline allowance for the sterile processing and storage area includes decontamination space, a sterilization and assembly area, and sterile storage space for supplies and instruments.

Considerations in adapting the sterile processing and storage area to the vision are as follows:

- This baseline estimate does not allow for a central core that services ORs and provides a circulation system separate from the patient and physician flow, a concept that can have a significant affect on space requirements and should be identified early; and
- Innovations in materials management such as "just-in-time" supply control and disposable supplies, if included in the operational concept of the processing area, can reduce the space requirement.

Staff Support

The baseline staff support area allowance provides for male and female staff lockers, toilet and shower facilities, a staff lounge, and offices for department managers, the medical director, and administration personnel. Separate dressing and lounge facilities for the medical staff are not included in the baseline estimate. The assumption is that all staff, nurses, physicians, and

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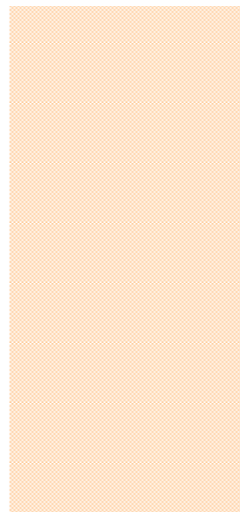
technicians share the same dressing and lounge facilities. If separation is a part of the facility vision, space allowances must be increased.

Sharing the Vision

By evaluating the department's vision using the square footage required for these key-area space generators, the space and cost impact of the vision concepts can be determined early and incorporated in project cost estimates and planning development. A clearly defined vision can be shared with departmental staff as the architect and programmer work, and it can become the common vision of the organization.

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Conclusion

With some early dialogue between health care system leadership and architect, a vision can be expressed in space requirements for the key area before detailed space and operational programming with departmental staff establish the total area required.

This goal of integrating the vision into the space planning can be achieved through the following steps:

1. Describe how the program will be differentiated in terms of operations, patient care and flow, staff support and materials management;
2. Document the variations that result from the vision and note space requirement variances from the baselines;
3. Adjust the baseline space requirement according to the project-specific vision; and
4. Communicate the vision clearly to the organization.

This method is not intended to bypass the detailed programming phase of project development, nor to deemphasize the importance of departmental staff input at the programming and design phase. Staff participation is essential to creating a design specific to your organization. The method is intended to give greater definition to leadership's vision of the facility and to integrate that vision into the project's programming and planning phases. Furthermore, use of this method produces accurate space estimates at a very early stage in project development, which can have the added benefit of improving the accuracy of cost projections.

The method's benefits for both facility owners and architects include the following:

- It offers a quick way to integrate project scope and vision;
- It providing an effective tool for pre-planning and budget development;
- It assists in the programming effort without replacing it; and
- It creates a good basic check to test project "creep" against the initial vision.

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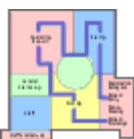
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[Figure 1](#)
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[Figure 2](#)
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[Figure 3](#)
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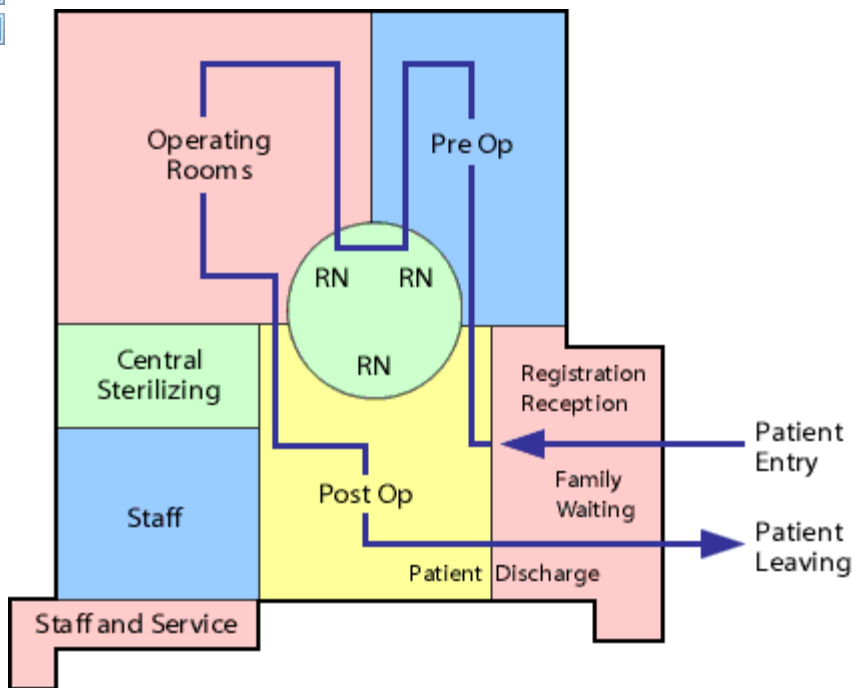


Figure 1: In the baseline space estimate, circulation is minimized between functions.

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Figure 2: Patient services include reception, patient- and family-waiting areas.

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Figure 3: Staggering patient bays is a space-efficient method to enhance patient privacy.

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Figure 4: Technological requirements may increase space within the OR.

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