

# SpaceMed Case Study

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## Planning Clinic Space: Considering Two Different Approaches



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### Background

University Hospital (UH) planned to replace several outpatient clinics in a new freestanding building. Although the current number of annual visits (30,000) was not expected to grow significantly in the near future, three different locations were currently in operation which was perceived to result in operational as well as space inefficiencies. There was considerable debate among the physician leadership regarding the planning of the new facility. Some wished to maintain the status quo regarding their current productivity and wanted to simply replace the three separate clinics in new construction. Others wanted to consolidate the clinics into a single, efficient ambulatory care space — recognizing that reducing their staff and facility costs would make them more profitable while potentially improving customer service with more streamlined and better coordinated processes. The physician leadership agreed to evaluate the impact on overall space need (and resulting construction cost) of planning a “lean” facility versus a more “generous” facility.

### Planning Approach

A number of factors were identified that would ultimately impact the overall size of the new clinic facility as follows:

- **Annual visits per exam room.** Currently, the three clinics averaged only 1,000 annual visits per exam room. By extending clinic hours into the early evening (and possibly Saturday) and leveling out the scheduling of physician and resident clinic sessions during the week, a target of 1,650 annual visits per exam room was deemed appropriate.
- **Number of exam rooms.** A total of 30 exam rooms were currently used within the three locations; only 18 exam rooms would be needed if annual visits per exam room were increased.
- **Exam rooms per module.** Two modules of nine exam rooms each — versus the current clinic configuration of four modules with six to eight exam rooms per module — was considered for the new facility. Using two modules in lieu of the current four, results in a reduction of the overall department net square feet (NSF) by providing shared patient intake/reception space, staff amenities, and other support space.
- **NSF per exam room.** Alternate exam room layouts were considered as the clinic “standard” ranging from a more compact exam room with 95 net square feet (NSF) to a more spacious exam room at 120 NSF.
- **NSF to DGSF factor.** Alternate clinic layouts were evaluated that resulted in varying amounts of department gross square feet (DGSF) to accommodate the projected NSF; the higher factor includes additional internal corridors to accommodate the three separate clinics.
- **DGSF to BGSF factor.** Alternate architectural designs were evaluated that resulted in varying amounts of total building gross square feet (BGSF) — the overall building “footprint” — to accommodate the DGSF; the higher factor assumed an atrium, expanded lobby space, and

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additional space for shared public corridors, elevators/stairs, and mechanical/electrical equipment.

- **Annual visits per BGSF.** The resulting annual visits per total BGSF varied from 3.1 in the lean model to only 1.4 in the generous model.

### Calculation of Clinic Space for 30,000 Annual Visits

The comparison of the "lean" versus more "generous" approach to planning the clinic space is shown below:

	Lean	vs.	Generous
<b>Annual Visits</b>	<b>30,000</b>		<b>30,000</b>
Annual Visits Per Exam Room	1,650		1,000
Number of Exam Rooms	18		30
Exam Rooms Per Module	8 to 12		6 to 8
NSF Per Exam Room	95		120
Total Department Net Square Feet	6,200		11,400
NSF to DGSF Factor	1.30		1.45
Department Gross Square Feet (DGSF)	8,100		16,500
DGSF to BGSF Factor	1.20		1.30
<b>Building Gross Square Feet (BGSF)</b>	<b>9,700</b>	vs.	<b>21,500</b>
Annual Visits Per BGSF	3.1		1.4

### Conclusion

Using the lean approach, operational processes would be reengineered to improve exam room utilization thus increasing the average annual visits per exam room. By combining three distinct clinics into a single flexible space, only 18 exam rooms would be required in lieu of the 30 at present. The current exam room size of 95 NSF was used in the lean model versus planning all the new exam rooms at 120 NSF. The more generous space layout required additional internal corridors to accommodate the three separate clinics resulting in a larger NSF to DGSF factor. A larger DGSF to BGSF factor was required with the more generous approach to accommodate an atrium, expanded lobby space, and additional space for shared public corridors, elevators/stairs, and mechanical space due to the larger footprint.

Assuming an overall project cost of approximately \$200 per BGSF, the generous approach would require \$2.4 million more (over two times as much) to construct the new clinic building than with the lean approach. Ultimately, the physician leadership decided to consolidate the three clinics using the lean approach which they felt would both increase their profitability and improve customer service. They decided, however, to increase the size of the exam rooms to 110 NSF to accommodate a desktop computer workstation as they transitioned to electronic data entry.

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