

FACILITIES CLASS 500 - HOSPITAL AND OTHER MEDICAL TREATMENT FACILITIES

Planning for hospital and medical treatment facilities shall be done with full consideration for the Department of Defense policy of joint utilization of military medical facilities. This policy provides that all Services in an area have their medical needs met with adequate facilities, but without inter-Service duplication. Examples of policy are: joint utilization of military medical facilities and services and recognition of medical resources available within the civilian community.

Space requirements generated using the criteria in this section will produce an adequate gross estimate of future requirements for planning purposes. However the criteria are not intended to replace sound judgment. As stated in Chapter I of this publication, an installation is entitled to the minimum facilities that it actually needs to accomplish its mission and perform efficiently all of the various tasks with which it is charged. Therefore, if an installation presently has the facilities it needs to perform its mission, it should not request approval of a larger requirement simply because the quantitative factors can be used to produce a larger requirement. Inflated requirements result in wasted man hours and dollars in master planning and other long range efforts to provide space for expansion that will never be approved.

The criteria in this section will be used for planning purposes. However, due to the dynamic nature of medical facility requirements and constraints imposed on medical facility planning, the ultimate size and scope of a facility shall be determined at the time a project programming decision is made; by coordinated efforts of the activity concerned, organizations in its chain of command, the Bureau of Medicine and Surgery, and the Assistant Secretary of Defense (Health Affairs).

Category Code groups described in this section include the following:

- Code 510 Hospital Buildings
- Code 530 Laboratories
- Code 540 Dental Clinics
- Code 550 Medical Clinics

The space allowances prescribed in this section includes provisions for all functions that are in direct support of the facility. In this context, direct support encompasses all those functions that would normally be incorporated in a single structure if new construction were planned. Some examples are as follows: library, administration, conference/classrooms, morgue, laboratory, exchange convenience outlets, exchange cafeteria, post office, and storage of operating supplies. Support facilities frequently associated with medical

facilities that are identified and planned separately -includes but are not limited to:

Code 111-20 Helicopter Land Pad
Code 143-10 Operational Vehicle Building
Code 219-XX Maintenance-Public Works
Code 400-XX Supply Facilities
Code 721-XX Unaccompanied Personnel Housing-Enlisted
Code 724-XX Unaccompanied_____

Interpolation. The gross area of certain category code statements may have to be determined by interpolation. The following example is provided as a guide.

Example : A medical clinic with a projected clinic workload of 133,842 outpatient visits (OPV) has a requirement for outpatient treatment space computed by interpolation as follows (See Table 550-10):

FORMULA

<u>Outpatient Visits</u>	<u>Gross Square Feet</u>
120,000 = A	53,900 = C
140,000 = B	57,200 = D

$$\frac{OPV-A}{B-A} \times D - C + C = \text{Square foot allowance}$$

$$\frac{133,842-120,000}{140,000-120,000} \times 57,200 - 53,900 + 53,900 =$$

$$\frac{13,842}{20,000} \times 3,300 + 53,900 = 56,184 \text{ GSP of Medical Clinic Required,}$$

510 HOSPITAL BUILDINGS

Hospital buildings provide comprehensive inpatient and outpatient medical services.

510 10 HOSPITAL - MEDICAL CENTER (BD)

A hospital is a health treatment facility capable of providing definitive inpatient care. It is staffed and equipped to provide diagnostic and therapeutic services in the field of general medicine and surgery, preventive medicine services, and has the supporting facilities to perform its assigned missions and functions. A hospital may, in addition, discharge the functions of a clinic. A medical center is a large hospital which has been so designated and appropriately staffed and equipped to provide health care, including a wide range of specialized and consultative support for all other medical facilities within the geographic area of responsibility. Additionally, a medical center, when designated, conducts post graduate education in health professions. The Bureau of Medicine and Surgery (BUMED), subject to approval of the Assistant Secretary of Defense (Health Affairs) (OASD (HA)), is responsible for making the ultimate determination of scope and size of a naval hospital or medical center to be planned, programmed, and constructed. The following steps are provided as a guideline to the hospital planning procedure:

- Step 1: The local planner, in coordination with Healthcare Support Office (HSO) 03/04 and BUMED 03, should identify the projected DOD Active Duty population and other eligible beneficiaries within the area.
- Step 2: The Medical Treatment Facility Commanding officer (MTF CO), in coordination with the lead agent, HSO, BUMED, and the Responsible Line Commander (RLC), should initiate a Business Plan/Concept of Operations including functions and staffing.
- Step 3: The MTF CO, in coordination with required HSO/Engineering Field Division (EFD) assistance, should initiate the application of DOD Medical Space Planning criteria to develop the Basic Facility Requirement (BFR) to support the business plan. The BFR must be approved. by BUMED.
- Step 4: The MTF CO should interface with the EFD to update the Facility Requirement Plan (FRP) and Master Plan.
- Step 5: The MTF CO, in coordination with BUMED and HSO, should conduct a facility study/economic analysis to develop the 1391. The level of study is typically complex and use of a medical facility consultant is recommended. Funding should be budgeted.
- Step 6: The MTF CO should forward the requirement to BUMED, via the appropriate EFD.
- Step 7: BUMED then forwards the requirement to OASD (HA).
- Step 8: OASD (HA) then funds a Health Care Delivery economic analysis.
- Step 9: DMFO then develops the Program For Design (PFD).

NOTE: Close coordination with HSO Medical Facility Planners is required through each step of this process.

530 LABORATORIES

530 20 LABORATORY (SF)

No criteria. Individual detailed justification required. This category code should be used only for a medical laboratory that is not a component of a hospital, clinic, or R&D command. Hospital laboratories should be planned under CCN 510-10; clinic laboratories should be planned under CCN 550-10; laboratories associated with R&D commands should be planned under the appropriate category code in facility group 300.

530 40 ANIMAL HOUSE, MEDICAL RESEARCH (SF)

No criteria. Individual detailed justification required. This category should be used only for a facility that is a component of a medical treatment facility. Animal houses associated with R&D commands should be planned under the appropriate category code in facility group 300.

530 45 ZONOSIS CONTROL CLINIC (SF)

This facility is used to prevent the spread of animal diseases to other animals and man. The Zoonosis Control Clinic treats certain diseases of animals and provides for immunizations to animals against those diseases of significant import and transmissibility to man. The facility may also be equipped to provide foot inspection services if required. Table 530-45 provides space allowance for individual components of a Zoonosis Control Clinic. It should be noted that not all components may be required for each clinic.

TABLE 530-45
Space Criteria for a Zoonosis Control Clinic

	<u>TYPE OF SPACE</u>	<u>NET SQUARE FEET</u>
I.	Clinical Spaces	
A.	Exam. Rms. (one per veterinarian + 1)	80 (ea)
B.	Surgical Suite	160
C.	Clean Utility Room	80
D.	Dirty Utility Room	80
E.	X-Ray (incl. processing space)	110
F.	Kennel (quarantine)	80
II.	Sanitation Spaces	
A.	Food Inspection Room	80
B.	Egg Candling Room	80
C.	Laboratory	160

TABLE 530-45 (Continued)
Space Criteria for a Zoonosis Control Clinic

<u>TYPE OF SPACE</u>	<u>NET SQUARE FEET</u>
III. Support Spaces	
A. Senior Veterinarian Office	140
B. Junior Veterinarian Offices	110 per person
C. Reception Area (average number in area)	14 per person
D. Storage Area	80
E. Technician Spaces	90 per person
F. Clerical Support	60 per person

Multiply total net square feet by a conversion factor of 1.25 to find total allowance in gross square feet.

530 50 ENVIRONMENTAL AND PREVENTIVE MEDICINE UNIT LABORATORY (SF)

This facility is used to provide expert and specialized consultation, advice and recommendations on matters of preventive medicine and environmental health to commands afloat and ashore. Further, the facility is used to provide epidemiological laboratory and technical services to assist in the detection and elimination of direct or potential health hazards to personnel in the naval service and their families, and in the training and indoctrination of personnel in the methods and techniques of preventive medicine. This category code is restricted for use only by numbered Environmental and Preventive Medicine Unit Laboratories (EPMU) and Navy Disease Vector Ecology and Control Centers. Space allowances are given in Table 530-50.

TABLE 530-50
Space Criteria for an Environmental and
Preventive Medicine Unit Laboratory

<u>TYPE OF SPACE</u>	<u>GROSS SQ FT</u>
1. Academic Instruction Section:	1,700
Classrooms (2 @ 500 SF each)	1,000
Projection Booth	100
Training Aids Room	200
Library/Conference Room	400
2. General Storage:	<u>1,100</u>
Flammable/Insecticides/Equipment Workshop	
3. Administrative Section:	<u>2,300</u>
Office space (O.I.C., Environmental Health Branch Br., Admin. Section, Admin. Ofc., Fiscal & Supply, Student and Crew Lounge	

TABLE 530-50 (Continued)
 Space Criteria for an Environmental and
 Preventive Medicine Unit Laboratory

<u>TYPE OF SPACE</u>	<u>GROSS SQ FT</u>
4. Epidemiology Department: Epidemiologist Ofc., Exam. Rm., Interviewer's Ofc.	<u>600</u>
5. Entomology Department: Entomology Lab, Insectary, Office	<u>1,000</u>
6. Microbiology Department: Bacteriology Lab, Infectious (virology, parisitology, mycology) Lab, Central Autoclave Section, Media Preparation Section, Glassware Section, Office, Storage	<u>3,500</u>
7. Industrial Hygiene Department Laboratory, Storage, Office (Hygienist)	<u>1,200</u>
8. Miscellaneous	360
Small Animal Lab	200
Bathrooms, Showers, Wash and Dryer	160
9. <u>Total Gross SQ FT</u>	<u>11,810</u>

A dental clinic is an oral health care service facility equipped and staffed to perform dental procedures for general practices, a specialty, or a grouping of specialties. A dental facility will normally include treatment areas, administrative, support and storage areas.

540 10 DENTAL CLINIC (sq.m./SF)

The Bureau of Medicine and Surgery (BUMED), subject to the approval of the Assistant Secretary of Defense (Health Affairs), is responsible for the determination of scope of dental clinics planned, programmed, and constructed. The following information is provided as a guide to be utilized for planning and preliminary programming purposes.

Step 1: Beneficiary Population. Determine the active duty beneficiary population. On average there will be 1 dental officer per 700 active duty beneficiaries. The authorized number of dentists and the specialty mix at an activity should be confirmed through the Regional Naval Dental Center.

Step 2: Staffing. Obtain staffing figures for the planning year from the Authorized Manpower documentation for the military personnel and the authorized positions for the civilian personnel. The planning documents must be submitted via the major Claimant for confirmation of support for any increased staffing, both military and civilian.

Step 3: Dental Treatment Rooms (DTR's). Determine the number of required DTR's from the following criteria.

- 1 DTR for each dentist in training.
- 1 1/2 DTR's for each general duty dentist assigned to clinical dentistry.
- 2 DTR's for each Prothsodontist, Periodontist, Endodontist, Oral Surgeon, Pedodontist, Orthodontist, and Comprehensive General Dentist assigned to clinical dentistry.

NOTE: When the total number of dentists is five (5) or less, use a DTR factor of 2 DTR's per dentist. Clinics with six (6) dentists will have a minimum of 10 DTR's.

- 1 Oral Hygiene Treatment Room (OHTR) for each oral hygienist or technician functioning as oral hygienist.

Step 4: Clinic Space Required. After calculating the number of DTR's required, consult table 540-10A to determine the gross area required. Interpolation is required. These figures include space allowance for all functions that are in direct support of the dental clinic, such as administration, locker rooms, conference rooms, limited prosthetic laboratory, storage of operating supplies, a central sterile, and dental X-ray. This also includes waiting rooms, mechanical spaces, restrooms, circulation, walls and partitions, and consultation rooms. Interpolation, as explained at the front of the 500 series, is necessary.

TABLE 540-10A
Space Allowances for Dental Clinics

Number of DTR's and OHTR's	Gross Area per DTR and OHTR	
	<u>sq. m.</u>	<u>SF</u>
2	88 sq.m.	950 GSF
3	88 sq.m.	950 GSF
4	79 sq.m.	850 GSF
6	70 sq.m.	750 GSF
8	68 sq.m.	730 GSF
10	68 sq.m.	730 GSF
12	68 sq.m.	730 GSF
18	68 sq.m.	750 GSF
25	65 sq.m.	700 GSF
30	65 sq.m.	700 GSF
40	65 sq.m.	700 GSF
50	65 sq.m.	700 GSF
100	56 sq.m.	600 GSF

step 5: Optional Functions: (must be specifically justified and documented)

- A. Naval Dental Centers. Naval Dental Centers have administrative personnel not normally associated with a branch dental clinic. Determine by Authorized Manpower Document the number of such personnel and calculate requirements at 15 sq.m. (162.5 GSF) for each full-time administrative person.
- B. Dental Equipment Repair. For clinics with equipment repair technicians assigned, determine the number of repair technicians from Manpower Authorization and consult table 540 10B to determine the gross area required.

TABLE 540-10B
Space Allowance for Dental Equipment Repair Technicians

Number of Repair Technicians	Gross Area	
	<u>sq. m.</u>	<u>SF</u>
1	25 sq.m.	270 GSF
2	46 sq.m.	500 GSF
3	60 sq.m.	650 GSF

Add 9 sq.m. (100 GSF) more for each additional repair technician.

- C. Special Education Functions. Where specifically justified, an education training room can be planned based upon documentation of course title, frequency and duration of courses, and average on board students. A space factor of 2.6 sq.m. (28 GSF) per student will be used to size the facility based upon the average monthly student population that can be justified. Routine classroom/conference room functions are already included in TABLE 540-10A
- D. Full Prosthetic Lab. If authorized and staffed with a full time prosthetic lab technician, additional space may added for a fill prosthetic lab. Consult Table 540 10C for the gross square area required.

TABLE 540-10C
Space Allowance for a Full Prosthetic Laboratory

	Gross Area	
	sq.m.	SF
Dental Prosthetic Lab	63 sq.m.	675 GSF
Each technician over 3	8 sq.m. each	85 GSF
If Required:		
Ceramic Room	19 sq.m.	200 GSF
Casting & Grinding	19 sq.m.	200 GSF
Model Storage	11 sq.m.	120 GSF

- E. Naval Dental Center. If the facility is serving as a Naval Dental Center additional space may be provided for regional storage for Branch Dental Clinics. Consult Table 540 10D for additional gross square area.

TABLE 540-10D
Space Allowance for Regional Storage

Number of Branch Clinics Served	Gross Area	
	sq.m.	SF
up to 5	19 sq.m.	200 GSF
6 to 10	65 sq.m.	700 GSF
11 to 20	93 sq.m. max	1000 GSF

- Step 6: Total Gross Square Footage Required. Add the gross square footage for the clinic obtained in step 4 to the gross square footage of the supported options obtained in step 5. The sum is the total space requirement for category code 540-10 and includes all functions that are normally associated with a Dental Clinic or Regional Dental Center.
- Step 7: Parking. Based on the 15 Oct 1991 MIL-HDBK-1191 (DOD Medical and Dental Treatment Facilities Design and Construction Criteria), for clinics with less than 30 DTR's, provide 3 parking spaces per DTR For larger clinics, 2.5 spaces per DTR should be planned. One space per organizational vehicle is also authorized.
- Step 8: Site Selection.
- Site facility convenient to active duty beneficiaries.
 - Collocation of Dental Clinics with Medical clinics is operationally efficient and desired.
 - In site selection provide a minimum of 25% expansion capability of the facility square meters, as calculated in step 6, & parking requirements, calculated in step 7.
 - Facility should be sited convenient to existing utility support.

A clinic is a free standing health care treatment facility primarily intended and appropriately staffed and equipped to provide urgent care and routine outpatient services. A clinic is also intended to perform certain non therapeutic activities related to the health of the personnel served such as examinations, immunizations, staff education and training, medical administration, and preventive medicine services necessary to support a primary military mission. A clinic will not normally be equipped with beds. The key planning factor for medical clinics is sizing the facility based upon data obtained in the approved clinic business plan/concept of operations. This document will be provided by the regional parent medical command.

550 10 MEDICAL CLINICS (sq.m./SF)

The Bureau of Medicine and Surgery (BUMED), subject to approval of the Assistant Secretary of Defense (Health Affairs), is responsible for the determination of scope and size of a naval medical clinic to be planned, programmed, and constructed. The following information is provided as a guide to be utilized for preliminary planning and programming purposes. The space allowance in Table 550-10 assumes the clinic will be staffed with physicians and nurses and provide X-Ray, pharmacy, laboratory, and other services normally associated with outpatient clinics.

Step 1: Population Supported/Projected Clinic Workload. In accordance with current DOD criteria, the population supported is defined as those eligible persons, regardless of service affiliation, who reside within a 40 mile radius of the medical facility. This population information is available in the approved Clinic Business Plan/Concept of Operation prepared by the parent medical command and approved by the regional lead agent. This business plan should contain the projected clinic workload for each beneficiary category for the planning year and consider what portion of each category will be served in the military treatment facility (MTF). The calculated Outpatient Clinic Visits (OPV's) is determined by the approved Business Plan's estimate of outpatient clinic visits per year in the MTF only.

Step 2: Space Requirement. Once the number of OPV's per year is determined, use Table 550-10A to determine the preliminary planning area required. Table 550-10A includes space allowance for all functions that are in direct support of the medical clinic such as administration, locker rooms, conference rooms, and management information. Space for waiting rooms, mechanical spaces, restrooms, circulation, wall and partitions, and supply storage is also included in the table. Interpolation, as explained at the front of the 500 series, is necessary.

TABLE 550-10A
Space Requirement - Medical Clinics

OPV's/yr.	Gross Area	
<=1000	46 sq.m.	500 GSF
2,500	167 sq.m.	1,800 GSF
3,500	353 sq.m.	3,800 GSF
5,000	511 sq.m.	5,500 GSF
10,000	883 sq.m.	9,500 GSF
15,000	1,301 sq.m.	14,000 GSF
20,000	1,719 sq.m.	18,500 GSF
30,000	2,044 sq.m.	22,000 GSF
40,000	2,601 sq.m.	28,000 GSF
60,000	3,716 sq.m.	40,000 GSF
80,000	4,274 sq.m.	46,000 GSF
100,000	4,831 sq.m.	52,000 GSF

Step 3: Medical Clinic Options: (must be specifically justified and documented)

- A. Administration. If a clinic command structure is present (the facility is not a branch clinic), determine by Authorized Manpower Document the number of such personnel and calculate the requirements at 15 sq.m. (162.5 GSF) for each administrative person.
- B. Occupational Health/Industrial Hygiene. If the clinic provides occupational health/industrial hygiene support to a Navy Industrial Activity (i.e. Shipyard, NADEP, etc.), use Table 550-10B to determine the additional space allowance.

TABLE 550-10B
Space Allowance for Occupational Health

				Gross Area
Each staff person	19	sq.m.	200	GSF
Audio Booth	33	sq.m.	350	GSF
Eye screening	16	sq.m.	170	GSF
Testing Lab	16	sq.m.	170	GSF
Pulmonary Function	16	sq.m.	170	GSF
Counseling	15	sq.m.	162.5	GSF
Records	1.1 sq.m. (12GSF) per file cabinet			

- C. Social Work. If full-time social workers are present in the medical clinic an additional 22 sq.m. (240 GSF) per social work staff may be provided.
 - D. Physical Therapy/Wellness. If the medical clinic will be equipped with physical therapy equipment and staff an additional 56 sq.m. (600 GSF) per therapist may be provided.
 - E. Holding Unit. For remotely isolated clinics, a 2 bed holding unit may be provided at an additional 65 sq.m. (700 GSF), when authorized by Parent Command.
- Step 4: Total Gross Square Footage Required. Add the gross square meters for the clinic obtained in step 2 to the space determined in the supported options. The sum is the total space requirement for category code 550-10 and includes all functions that are normally associated with a Medical Clinic or Regional Medical Center.

Step 5: Parking. The following formula, extracted from the 15 Oct 1991 MIL-HDBK-1191 (DOD Medical and Dental Treatment Facilities Design and Construction Criteria), may be used to estimate the required number of parking spaces

$$\# \text{ of parking spaces} = (.59)(X1) + (.21)(X2) + (X3) + (X4) + (X5)$$

- X1 = All personnel working in the Medical Treatment Facility on a full time basis, minus the Dental staff, plus an allowance for visitors and part-time staff. (List each category separately)
- X2 = Average daily outpatient workload for "peak month" using 21 workdays per month and 250 workdays per year as a basis for calculation.
- X3 = One space for each patient bed.
- X4 = See Category Code 540-10 for detailed Dental parking requirements.
- X5 = One space for each medical and dental organizational vehicle.

Please consult MIL-HDBK-1191 for further clarification of variables and updates.
Additional parking spaces beyond the above calculations shall be separately justified (i.e. pharmacy)

Step 6: Site Design. Provide an additional 25% of the total gross square meters required calculated in step 4 for expansion capability when siting the facility.