DoD Space Planning Criteria

Chapter 230: Education And Training
November 19, 2024

Originating Component: Defense Health Agency Facilities Enterprise

Effective: November 19, 2024

Releasability: No Restrictions

Purpose: This issuance: To provide space planning criteria guidance in support of planning, programming, and budgeting for military Medical Treatment Facilities (MTFs) that fall under the authority of the Defense Health Agency (DHA).

SUMMARY of CHANGE

This revision, dated November 19, 2024, includes the following:

- Sections renamed and numbered: design considerations moved to the front of the document.
- The following spaces have been moved to Chapter 610 Common Areas: staff toilets, lockers, lounges, and conference rooms.
- Added a new Functional Area for Graduate Medical Education resident administrative spaces.
- Updated definitions in Glossary.

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SECTION 1: PURPOSE AND SCOPE

This chapter outlines space planning criteria for Education and Training, to include Graduate Medical Education administrative spaces, as it applies to a military Medical Treatment Facility (MTF) or other type of facility that supports medical education. Specialty (Cadaveric, Trauma, etc.) Simulation Centers require special study and authorization by the Defense Medical Modeling and Simulation Office (DMMSO).

The space planning criteria in this chapter apply to all DHA MTFs and are based on current DHA policies and directives, established and/or anticipated best practices, industry guidelines and standards, and input from Military Health System (MHS) Subject Matter Experts (SME) and DHA Directorates. As directed by the DHA, these space criteria are primarily workload driven; additional drivers are staffing and mission. Room Codes (RCs) in this document are based on the latest version of UFC 4-510-01, Design: Military Medical Facilities, Appendix B, Architectural and Engineering Design Requirements.

SECTION 2: PLANNING AND PROGRAMMING REQUIREMENTS

1. The MHS provides various types of education and training including training for Clinical and Non-clinical staff. Clinical staff include patient care providers and non-providers. Non-clinical staff includes staff from the support functions of the MTF. Training includes continuing education, training for new hires, and training for certification maintenance.

2. Collaborative Learning / Training may be used as a method for education and training. This method uses technology to allow both facilitators and learners to become active participants in the educational process. Knowledge is developed by the group, not transferred from teacher to student. The hierarchy between facilitators and learners is eliminated creating a sense of a learning community.

3. Planners will consider local workload projections, staffing, and anticipated services to develop a project based on these criteria. The staffing projections used by planners to program requirements must be validated and aligned with the authorized manning document for the project. When no official guidance, policy or directive exists to validate space or program requirements, the planner will consult with their supervisor, and at their supervisor's discretion, the issue(s) may be elevated to senior leadership for the determination of the final project requirement.

4. Space planning criteria have been developed based on an understanding of the activities involved in the functional areas required for Education and Training and Graduate Medical Education resident administration spaces, and their relationships with other services of a medical facility.

5. Planners should contact the DMMSO for guidance when developing the training and simulation spaces for all hospital facilities and ambulatory surgical centers. The DMMSO will provide the Simulation Space and Manning (SimSAM) Guideline Memo for consideration in determining simulation space and manpower requirements. There are multiple factors to consider when programming formal simulation space to determine the optimal type, quantity, and size of the spaces. These factors include:

    a. Expected student throughput

    b. Number and type of courses that will be supported with simulation technology

    c. Accreditation/certifications requirements

    DMMSO will be able to assist in the selection of spaces based upon the project needs. Health clinics should be evaluated for simulation spaces based on the type of care rendered at the clinic, need for ongoing sustainment training, and military mission unique support requirements. This level of planning detail will directly impact the extent of equipment and supply storage requirements.

6. For calculation of the number of building support spaces (Vestibules, Lobbies, Multi-fixture Public and Staff Toilets, Staff Lounges and Locker Rooms, Conference Rooms, Communication Closets, and Janitor Closets), please refer to Chapter 610: Common Areas.

SECTION 3: DESIGN CONSIDERATIONS

The following design considerations are intended to provide planners and designers with guidance on how to follow world-class and evidence-based design strategies for new and renovation of existing healthcare facilities. For a more comprehensive list, refer to the World Class Checklist (https://facilities.health.mil/home/). Also refer to the Facility Guidelines Institute (FGI) Guidelines for Design and Construction of Hospitals and Guidelines for Design and Construction of Outpatient Facilities for additional information.

3.1. NET-TO-DEPARTMENT GROSS FACTOR.

The net-to-department gross factor (NTDG) for Education and Training is **1.35**. This number, when multiplied by the programmed net square foot (NSF) area, determines the departmental gross square feet. This factor accounts for the space occupied by internal department circulation and interior partitions and other construction elements not defined by the net square foot area. Refer to UFC 4-510-01 Design: Military Medical Facilities, and DoD Space Planning Criteria Chapter 130: Net to Gross Conversion Factors.

3.2. GENERAL DESIGN CONSIDERATIONS.

1. Didactic and practical classrooms can be designed to accommodate an Interactive Teaching Media Center (ITMC) allowing instructor-students interaction in real time. It may incorporate two-way connectivity and have the appropriate connectivity, technology, software, cameras, audio, etc. to allow real-time interaction, and support remote learning.

2. Consider the locations of columns and other building components when designing classrooms and other group spaces to provide optimal sight lines.

3. Consider combining single use toilets for classrooms to minimize space allocations and utilization.

4. In equipment storage rooms, ensure adequate power receptacles are provided to support charging of battery-operated equipment housed within these rooms. Locate storage spaces near the training spaces for ease of access.

5. The location and number of recessed or semi-recessed Automatic External Defibrillator (AED) cabinets will be determined during project design. The Designer of Record (DOR) is responsible to ensure quantity, placement, and all appropriate markings (signage) are shown in the final design solution. The DOR will coordinate with the design and construction Agent and Project Sponsor clinical representative to ensure adequate placement and facility coverage.

SECTION 4: PROGRAM DATA REQUIRED

4.1. INPUT DATA STATEMENTS. Input Data Statements are based on questions about Workload (W), Mission (M), Staffing (S) and Miscellaneous (Misc) information.

1. Is the MTF a Medical Center? (M)

2. Is the MTF a Hospital? (M)

3. Is the MTF an Ambulatory Surgery Center? (M)

4. What is the total NSF for the MTF? (W) (Note: Used to calculate the number of various Classrooms in Functional Area 2.)

5. Is a Multifunctional Simulation Lab Classroom projected to support resident or staff education? (Misc)

6. Is a Graduate Medical Education (GME) Program projected for the MTF? (M)
   6.1. Is an FTE Graduate Medical Education Residency Coordinator authorized per the official manning document? (Misc)
   6.2. How many Resident FTE positions are projected for the GME Education / Training program? (S)

4.2. COMPUTED STATEMENTS.

1. Total number of classrooms (Computed) (Default: [Classroom, Practical Training (CLR08)], [Classroom, Tables with Chairs (CLR01)], [Classroom, Bedroom Mock-up (CLR04)], [Classroom, Multifunctional Simulation Lab (CLR07)])

SECTION 5: SPACE PLANNING CRITERIA

For calculation of the number of building support spaces (Vestibules, Lobbies, Multi-fixture Public and Staff Toilets, Staff Lounges and Locker Rooms, Conference Rooms, Communication Closets, and Janitor Closets), please refer to Chapter 610: Common Areas.

5.1. FA1: STAFF AND ADMINISTRATION.

If additional administrative spaces (instructors, program managers, general administrative) other than those listed in this Functional Area are required to support Education and Training, consider adding shared offices or cubicles, and include comments with justification in the PFD. Refer to Chapter 210: General Administration for administrative space criteria.

1. Office, Department Head / Chief Education and Training (OFA04) 100 NSF

a. Provide one

Provide one for the individual with overall responsibility for the service. If there are other staff positions not accounted for anywhere else, consider adding shared offices and include comments with justification.

2. Storage, Training Records (FILE1) 50 NSF

a. Provide one

3. Copy / Office Supply (RPR01) 50 NSF

a. Provide one

5.2. FA2: STAFF TRAINING AREAS.

1. Classroom, Tables with Chairs (CLR01) 500 NSF

a. Provide one
b. Provide an additional one for every increment of 250,000 [What is the total NSF for the MTF?] greater than 250,000

2. Classroom, Practical Training (CLR08) 400 NSF

a. Provide one if [Is the MTF a Medical Center?] or [Is the MTF a Hospital] or [Is the MTF an Ambulatory Surgery Center] and [What is the total NSF for the MTF?] is at least 100,000
b. Provide an additional one for every increment of 250,000 [What is the total NSF for the MTF?] greater than 250,000

This space is provided for general training including ACLS and BLS. Classrooms can be outfitted as Interactive Teaching Media Centers (ITMCs).

3. Staff Workroom (WKTM1) 200 NSF

a. Provide one

Minimum NSF accommodates two staff workstations, a collaboration and reference area.

4. Classroom, Bedroom Mock-up (CLR04) 250 NSF

a. Provide one if ([Is the MTF a Medical Center?] or [Is the MTF a Hospital?])
b. Provide an additional one if [What is the total NSF for the MTF?] is greater than 500,000

Minimum NSF accommodates two patient beds for use in staff training. Additional training spaces may be required based on the type of formal inpatient bedrooms in the facility. Additional justification may be required. This room is equipped with standardized simulation equipment, supplies and all the necessary clinical features to create a realistic patient care setting. The spaces are intended to represent an exact replica of hospital patient bedroom.

5. Simulation Control Room (CLR06) 80 NSF

a. Provide one per each [Classroom, Multifunctional Simulation Lab (CLR07)]

This room is used for controlling the simulation occurring in the Simulation Lab Classroom and to provide an area for observation of the simulation. The control room allows for direct visual access through a one-way glass solution or indirect observation of a scenario through audio-visual technology and/or learning management systems.

6. Classroom, Multifunctional Simulation Lab (CLR07) 400 NSF

a. Provide one if [Is the MTF a Medical Center?] or [Is the MTF a Hospital?] and [Is a Multifunctional Simulation Lab Classroom projected to support resident or staff education?]

Simulation technology and space requirements can vary widely based on training programs offered, size and frequency of the training, accreditation and/or certifications required. Currently there is no clear evidence for the absolute amount of space required. Planner will coordinate with the DMMSO to ensure requirements align with DHA simulation space and manning guidelines. Depending on the size of the facility, training programs offered, size and frequency of the training, one or more rooms may be required.

7. Simulation Debriefing Room (CRA01) 240 NSF

a. Provide one if [Classroom, Multifunctional Simulation Lab (CLR07)] is at least one

Room where instructors/facilitators and students can review and reflect on their actions during a simulation training event through video review and critiques. Debriefing offers a way to improve future performance.

8. Storage, Simulation Equipment (SRE01) 200 NSF

a. Provide one if [Classroom, Bedroom Mock-up (CLR04)], [Classroom, Multifunctional Simulation Lab (CLR07)] is at least one
b. Provide an additional 50 NSF per each [Classroom, Practical Training (CLR08)], [Classroom, Tables with Chairs (CLR01)], [Classroom, Bedroom Mock-up (CLR04)], [Classroom, Multifunctional Simulation Lab (CLR07)] greater than four

The required size for Simulation Equipment Storage will depend upon the overall size and number of simulation labs in each facility, the number of learners or groups supported, and the different simulation educational tools used. The room must be large enough to accommodate moveable carts, clinical equipment, such as intravenous (IV) poles and ventilators, simulation manikins, and moulage materials for simulation-based activities. Location of this storage space should be proximal to the areas conducting simulation.

9. Storage, General (SRS01) 100 NSF

a. Provide one if [Total number of classrooms] is at least one
b. Provide an additional 30 NSF for every increment of four [Total number of classrooms] is greater than four

Space is intended for consumable supply storage.

10. Lockers, Personal Property (LR001) 30 NSF

a. Provide one if [Total number of classrooms] is at least one
b. Provide an additional 30 NSF for every increment of four [Total number of classrooms] is greater than four

5.3. FA3: GRADUATE MEDICAL EDUCATION (GME) ADMINISTRATION.

Provide the following GME spaces in the individual clinical service area that will support GME training, or the dedicated spaces may be collocated in a centralized area of the MTF. If additional administrative spaces (instructors, program managers, general administrative) other than those listed in this Functional Area are required to support GME, consider adding shared offices or cubicles, and include comments with justification in the PFD.

1. Office, Residency Program Director (OFA04) 100 NSF

a. Provide one if [Is a Graduate Medical Education (GME) Program projected for the MTF?]

2. Office, Residency Coordinator (OFA04) 100 NSF

a. Provide one if [Is a Graduate Medical Education (GME) Program projected for the MTF?] and [Is an FTE Graduate Medical Education Residency Coordinator authorized per the official manning document?]

3. Storage, Residency Records (FILE1) 50 NSF

a. Provide one if [Is a Graduate Medical Education (GME) Program projected for the MTF?]

4. Office, Preceptor (OFA04) 100 NSF

a. Provide one if [Is a Graduate Medical Education (GME) Program projected for the MTF?]

5. Resident Collaboration Room (WKTM1) 200 NSF

a. Provide one if [Is a Graduate Medical Education (GME) Program projected for the MTF?]
b. Provide an additional 50 NSF per each [How many Resident FTE positions are projected for the GME Education / Training program?] greater than two

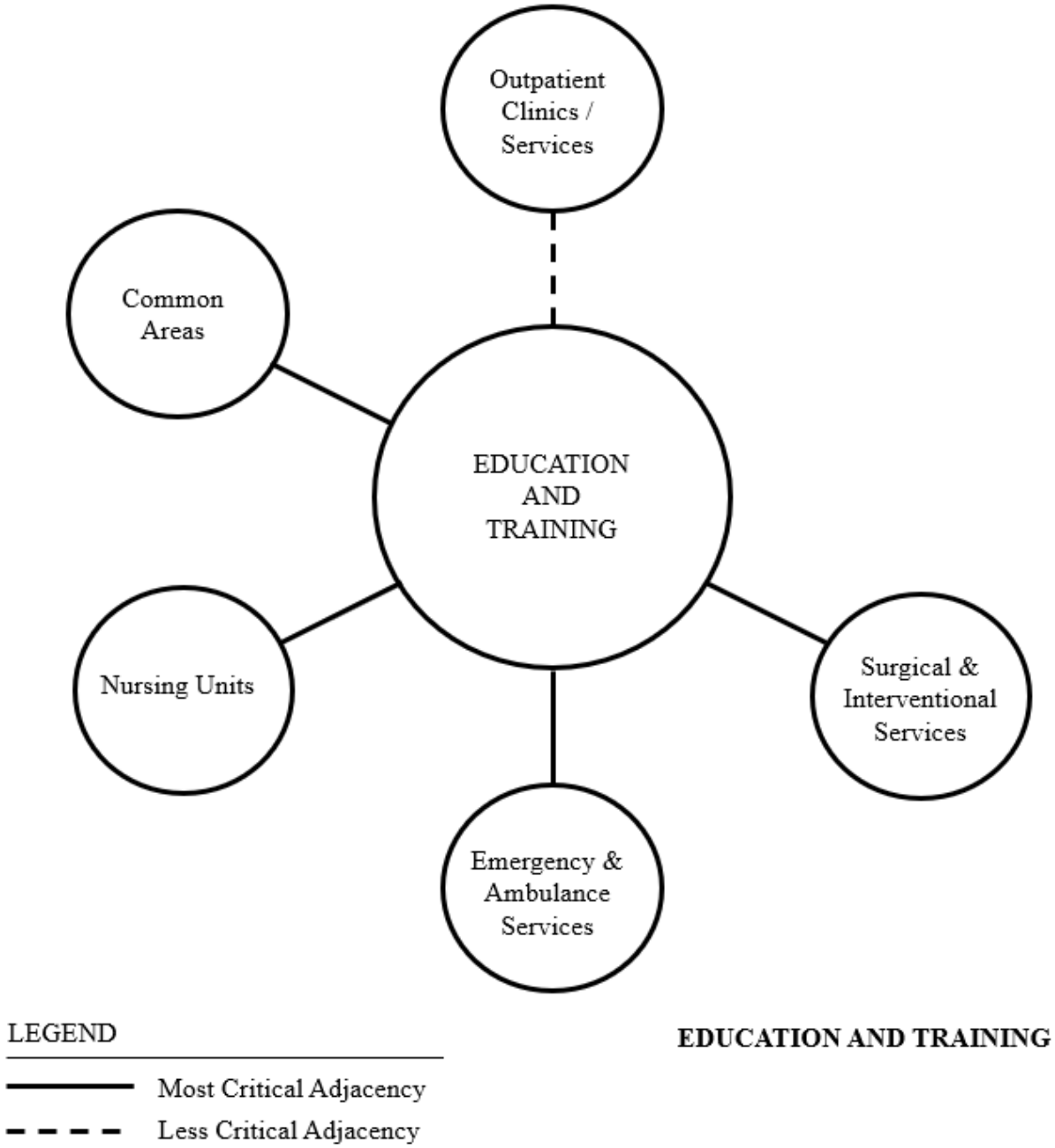
Minimum NSF accommodates two Residents, and a Collaboration / Reference area.

6. Conference /Classroom (CRA01) 240 NSF

a. Provide one if [Is a Graduate Medical Education (GME) Program projected for the MTF?] and [How many Resident FTE positions are projected for the GME Education / Training program?] greater than five

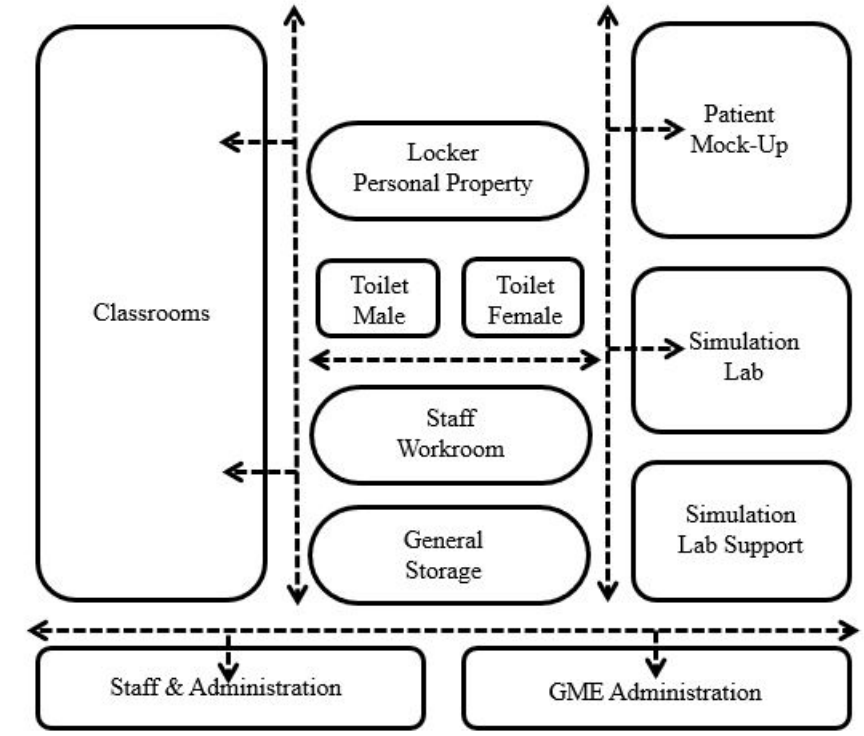
SECTION 6: FUNCTIONAL RELATIONSHIPS (INTERDEPARTMENTAL)

Education and Training will rely on several other services in the MTF for patient care and support functions. The diagram below represents desirable relationships based on efficiency and functional considerations.



SECTION 7: FUNCTIONAL DIAGRAM (INTRADEPARTMENTAL)

The diagram below illustrates intradepartmental relationships among key areas / spaces within Education and Training. The diagram is necessarily generic. The planner shall use this as a basis for design only and shall consider project-specific requirements for each MTF.



LEGEND

Patient Circulation

Staff Circulation

EDUCATION AND TRAINING

NOTE: Size and shapes of spaces do not reflect actual configuration or square foot area of departments.

GLOSSARY

Administrative Personnel: Personnel who perform work that is essential to the success of the missions assigned to a medical treatment facility (MTF). They do not counsel, diagnose, examine, or treat patients. Administrative Personnel include military who are either assigned or borrowed, contract personnel, and civilian personnel. Volunteers are not considered Administrative Personnel.

Cubicle: A cubicle is a partially enclosed workspace, separated from neighboring workspaces by partitions. Staff with no supervisory responsibilities, or who do not deal with confidential information for 75% or more of their workday, as well as part-time, seasonal, and job-sharing staff will be assigned a cubicle.

Full-Time Equivalent (FTE): A staffing parameter equal to the amount of time assigned to one full time employee. It may be composed of several part-time employees whose total time commitment equals that of a full-time employee. One FTE equals a 40-hour a week workload. The FTE measure may also be used for specific workload staffing parameters such as a clinical FTE; the amount of time assigned to an employee providing clinical care. For example, a 0.5 clinical FTE for a healthcare worker would indicate that the healthcare worker provides clinical care half of the time per a 40-hour work week.

Functional Area (FA): The grouping of rooms and spaces based on their function within a service. Typical Functional Areas in clinical services are Reception, Patient Exam and Treatment Area, Clinic Support, Staff and Administration.

Graduate Medical Education (GME): After a physician completes 4 years of medical school, they must then complete an internship (also called PGY1 or Post Graduate Year 1) and then a residency (also termed GME or Graduate Medical Education). An internship typically lasts one year, and a residency can last from three to seven years depending on the specialty that is chosen.

Input Data Statement: A set of questions designed to elicit information about the healthcare project to create a Program for Design (PFD) (see definition below); based on the space criteria parameters (refer to Section 5) set forth in this document. Input Data Statements are defined as Mission, Workload, Staffing or Miscellaneous.

Interactive Teaching Media Center (ITMC): A space that incorporates technology to provide a real-time interaction between the teacher and student. An example of the use of ITMC is the Surgical Service. In the past, surgery students observed surgical procedures in a gallery located within the operation room. As an alternative, using ITMC technology, students can be in a remote facility and have access to direct communication with surgeons who are operating on a patient, in real-time. Expanding on this idea is the possibility for students to observe procedures being performed in other locations outside of the MTF.

Net-to-Department Gross Factor (NTDG): A parameter used to calculate the Department Gross Square Foot (DGSF) area based on the programmed Net Square Foot (NSF) area. Refer to Section 3.

Office, Private: A single occupancy office provided for an FTE Tier 1 Supervisor who per DHA guidance, typically oversees 7-10 staff members and performs supervisory functions at least 50% of the time, or other FTE positions that directly interacts with patients for 50% or more of their workday or require a private room for confidentiality based on their job duties. Union documents must specifically state that a specific FTE is required to have a private space.

Office, Shared: An office that accommodates two workstations for FTE positions who do not meet the requirement for a private, single office, but do require a quiet work environment that reduces distractions and promotes concentration.

Patient Mock-up Room: The Patient Mock-up Room is used to train healthcare staff and other support personnel at a MTF in the methods and operations to deliver the desired standard of patient care. This space may be an exact replica of a Patient Room and typically includes the associated private bathroom. Utilities, such as plumbing, electrical, and medical gasses are fully functional to provide a realistic training experience.

Program for Design (PFD): A listing of all the rooms / spaces generated based on answers to the Input Data Statements (see Section 4) and the space planning criteria outlined in this document (Section 5) in SEPS. The list is organized by Functional Area and includes the Room Quantity, Room Code, Room Name, generated Net Square Feet (NSF), Construction Phase and Construction Type.

Project Room Contents (PRC): A listing of the assigned contents (medical equipment, FF&E, etc.) for each room in a PFD generated by SEPS.

Simulation Lab: The Simulation Lab is a type of training space that employs technology to create a safe environment where medical professionals can practice patient care prior to treating actual human patients. This is also useful in the training of anatomy and physiology. Some examples of simulation labs may include replicas of an emergency room, ICU bedroom, a labor and delivery room, and/or an exam room. These labs may also accommodate a surgical robot, a trauma room bay, or other medical technologies.

Space and Equipment Planning System (SEPS): A digital tool developed by the Department of Defense (DoD) and the Department of Veterans Affairs to generate a Program for Design (PFD) and a Project Room Contents list (PRC) for a DoD project based on approved Space Planning Criteria, the chapter and specific project-related Mission, Workload and Staffing information entered in response to the Program Data Required - Input Data Statements (IDSs).

Workload: Space Planning Criteria per DHA Policy takes projected workload into account. In-person patient encounter projections divided by the throughput range included in this document for each exam room assists planners with estimating the quantity of rooms needed to satisfy the projected workload demand.