DoD Space Planning Criteria

Chapter 350: Emergency And Ambulance Services
April 5, 2022

Originating Component: Defense Health Agency Facilities Division

Effective: April 5, 2022

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 April 5, 2022 includes the following:

- Converted to SEPS compatible format.
- Sections renamed and numbered; design considerations moved to the front of the document.
- Reduced the NSF on select clinical and administrative spaces throughout the chapter.
- Removed workload driven formula example; now located in Chapter 110.
- Workload driven defaults are now fixed values for this chapter.
- Added space criteria to support Low-Acuity Treatment Stations in Section 4.
- Minimum sized ED was reduced from six rooms to five rooms, and includes one Trauma / Resuscitation room versus two.
- Removed space criteria for a dedicated Sexual Assault Forensic Exam suite and added programming guidance in Section 1.
- Removed space criteria for a dedicated Pharmacy within the Emergency department and provided space for a Medication Preparation room if ED staff will be calculating medication dosages, preparing the medication, and administering it to the patient.
- Removed space criteria for imaging rooms within the Emergency department and added programming guidance in Section 1.
- Removed space criteria for a Clinical Decision / Observation Unit and added programming guidance in Section 1.
- The following spaces have been moved to Chapter 610 Common Areas: staff toilets, lockers, lounges, lactation rooms and conference rooms.
- Moved Graduate Medical Education resident administrative spaces to Chapter 230 Education and Training.
- Added new definition of Low-Acuity Treatment Station, Room Utilization Factor and Office, Private in Glossary.

TABLE OF CONTENTS

SECTION 1: PURPOSE AND SCOPE

This chapter outlines space planning criteria as it applies to all eligible beneficiaries / populations receiving Emergency services at an MTF that supports inpatient care, tertiary specialty services, or full scope ancillary departments. Ambulance services may be located inside or immediately adjacent to the MTF.

The minimum sized Emergency service will include the following five rooms:

A. Three ED Exam / Treatment Rooms

B. One ED Airborne Infection Isolation (AII) Exam / Treatment Room

C. One Trauma / Resuscitation Room

The planner should refer to UFC 4 510 01 for cost guidance and space planning criteria for an Ambulance Garage or Ambulance Shelter. This chapter does not includes space planning criteria for the Ambulance service staff within the ED proper. Depending on the location of the MTF and the Military Department criteria that applies to the emergency medical dispatch and Emergency Medical Services, responsibility for these requirements may fall to the installation and will therefore, not be included in the footprint of the MTF.

The majority of Emergency department (ED) services provided in MTFs are Trauma Level II, III or IV per the American College of Surgeon (ASC) trauma system designation (*see Glossary for Trauma Level*). This chapter will focus on the minimum, viable planning and programming requirements for ED services provided at these Trauma Levels. The incorporation of MTF leadership and staff input on specific ED planning efforts can help identify those locations where the standard ED workload planning parameters may not be adequate, or to ensure the blend of ED treatment room types is appropriate for a specific MTF.

Where Level I Trauma care is provided at a an MTF, the planner must work closely with DHA and MHS Emergency Medicine Subject Matter Experts (SMEs) to evaluate the overall requirements for the MTF that may be driven by a Memorandum(s) of Agreement / Understanding (MOA/U) with the civilian community, other DoD agencies, or private sector healthcare systems.

Approximately half of the patients treated in an emergency department are often referred to as "horizontal" as they typically need to be lying down for assessment or treatment. The remaining percentage of patients can be treated in a chair or recliner; these types of patients are referred to as "vertical" as they typically remain in a seated position. This approach to patient care requires a blend of room types: the standard ED exam / treatment room and a low-acuity treatment station. Utilization of these two types of treatment spaces, both of which are included in this chapter, can improve ED staff efficiency, decrease waiting times, and improve access to care.

The incorporation of MTF leadership and staff input on specific ED planning efforts can help identify those locations where the standard ED workload planning parameters may not be adequate, or to ensure the blend of ED treatment room types is appropriate for a specific MTF.

This chapter does not include space planning criteria for imaging rooms (i.e., CT scanner) that will be embedded in the ED. The planner will consider the MTF Trauma level designation, applicable MOA/Us, and the annual radiology workload associated with ED patients, and engage with MTF leadership and staff prior to programming ED imaging rooms. Room codes for each type of imaging modality can be found in UFC 4-510-01, Appendix B.

This chapter does not include space planning criteria that supports Sexual Assault Medical Forensic Exam (SAMFE). At the time of publication of this chapter, a revised DODI 6310.09 was in coordination with DHA Office of General Council. Once signed, the new DODI will align the Forensic Healthcare program directly under the MTF Commander, and will not be part of the ED. The planner will need to coordinate the location of this function in the MTF footprint, with the MTF leadership and SAFME staff. Consideration for patient privacy, safety, and inclusion of other support staff and resources during the exam should be taken into consideration when determining the location. At a minimum, program a private office for the SAMFE that includes securable storage of patient files since forensic healthcare records cannot be stored with DoD patient healthcare records per the DoDI. The SAFME staff will require access to an exam room with photography equipment as part of the documentation and evidence collection process. The exam room may be a dedicated exam used solely by the SAFME staff, or it may be an exam room used as needed for this purpose, located within a specified clinical area of the MTF. An area that supports storage of clean, unused SAMFE evidence "kits" should be in close proximity of the exam room. A requirement for space to accommodate short term, secure storage of collected evidence should be validated with the SAFME staff. Room codes for each type of space to support this function can be found in UFC 4-510-01, Appendix B.

This chapter does not include space planning criteria for a Clinical Decision / Observation Unit (CDU). This unit is for patients requiring observation for less than 24 hours (e.g., Chest Pain Unit), and it may be located adjacent to the ED, or elsewhere in the MTF where 24/7 operations occur. The unit requires dedicated space, equipment, supplies and appropriate staffing. The planner must consult with MTF leadership and staff to ensure that the CDU will be fully utilized and that the spaces within this area will not be duplicated in other departments of the MTF. Often times, some of the support spaces can be shared between the CDU and an adjacent 24/7 clinical function. Room codes aligned to specific room functions that may be programmed in the CDU can be found in UFC 4-510-01, Appendix B.

Some MTFs will serve as receiving, triage and initial treatment centers in the event of infectious disease outbreaks; natural or man-made disasters; or nuclear, biological, or chemical (NBC) exposures. For any contingency situation, the planner must include in the Functional Program, any unclassified information regarding the operational plan for these situations, and identify the physical location or area that will be designated for Mass Casualty Decontamination, as this function is not located within the confines of the Emergency department and thus not included in this space planning criteria. Preparation of a Disaster, Emergency and Vulnerability Assessment (DEVA) as a component of the Safety Risk Assessment is a crucial component of planning and

programming for these types of events. More information can be obtained from the Facilities Guideline Institute at https://fgiguidelines.org/.

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 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. 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 requirements.

2. Space planning criteria have been developed on the basis of an understanding of the activities involved in the functional areas required for the Emergency and Ambulance Services and its relationship with other services of a MTF. These criteria are predicated on established and/or anticipated best practice standards, as adapted to provide environments supporting the highest quality health care for Service Members and their dependents.

3. At the time of publication of this chapter, there is no DHA policy for establishing an Inter-Facility Transport (IFT) Emergency Medical Services (EMS) transport program at every MTF. The planner must evaluate whether Market approval and funding has been provided for this program at a specific MTF. Space planning criteria for an Ambulance Service workroom and equipment storage room within the ED is included this chapter for MTFs with an approved IFT EMS program.

4. Space planning criteria for a two-room Decontamination Suite is included in this chapter. Based upon the location of the MTF and the installation mission, two additional rooms may be required to support decontamination requirements (NBCD4 and NBCD5). The planner will utilize this information to plan and program the appropriate number of rooms in the Decontamination Suite, and it will be incorporated it into the DEVA and SRA.

5. To enhance patient safety, provide a Medication Safety Zone for Emergency services. It can be a medication preparation room (MEDP1), or an area in the treatment/procedure room, as well as a self-contained medication dispensing unit, an automated medication dispensing station, or another system located in the clean utility (UCCL1). The planner should determine whether medications are prepared in the main pharmacy, and then administered to the patient by ED staff in single, unit doses. In this instance, no medication prep room is required in the ED area. If the ED staff are calculating dosages, preparing the medication and administering it to the patient, an enclosed Medication Preparation Room (MEDP1) will be programmed in the ED area.

6. The range of ED Exam / Treatment Room throughput is based upon a calculation that first quantifies the full capacity of that fixed space, then estimates how many annual encounters it should support, based on other variable resources such as availability of providers, skill level of providers, support staff, and acuity of patients.

7. Because ED services operate 24/7, 360 day per year, room default parameters do not apply to in this chapter. Workload utilized to generate the total number of ED Exam / Treatment Rooms (EXER1s) is based upon 1,800 annual ED encounters assessed at an Emergency Severity Index (ESI) of level of 1, 2, or 3 per room (*see Glossary for definition of Emergency Severity Index*).

8. Low-acuity patients may be accommodated in a "vertical" low-acuity treatment station (TRET5) as part of a fast track area. Workload used to generate the total number of low-acuity treatment stations is based upon 3,072 annual ED encounters assessed at an Emergency Severity Index (ESI) of level of 4 or 5 per station.

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

10. For space criteria requirements to support Graduate Medical Education in the MTF, refer to Chapter 230: Education and Training.

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 latest version of 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 the Emergency and Ambulance Services is **1.45**. 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, and DoD Space Planning Criteria Chapter 130: Net to Gross Conversion Factors.

3.2. GENERAL DESIGN CONSIDERATIONS.

1. Consider security requirements early on in design. This would include determination of dedicated security personnel, controlled access points and entrances, an ability to lock down the ED, video surveillance in strategic locations throughout the department, installation of silent alarms, Behavioral Health staff assist alarms, duress alarms and physical barriers such as doors to patient entry areas. These design considerations will be incorporated into the project Safety Risk Assessment. For additional security recommendations, refer to the latest version of the International Association for Healthcare Security & Safety (IAHSS) Security Design Guidelines for Healthcare Facilities.

2. Consider technology requirements early on in design. Technology can be leveraged for safety and efficiency.

3. Consider space (temporary or fixed) and IM/IT capabilities for all team members to be able to accomplish their required documentation.

4. The clinic design shall be zoned for patient, visitor, support, and staff areas to improve efficiency. A separate flow will be created between patients and visitors (on stage) and staff (off stage) to optimize privacy, safety, and overall satisfaction. "On Stage" is defined as the Public / Reception Zone and the Patient Care / Treatment Zone. "Off Stage" is defined as the Staff / Administration Zone, the Clinic Support Zone and staff/service corridors.

5. Give consideration to the path of travel for transportation of patients from the ED to other areas of the MTF such as radiology or surgical services, in order to provide the most direct, and fastest route possible.

3.3. RECEPTION & TRIAGE.

1. The ambulance and walk-in entrances should direct the patient flow towards the Reception and Triage areas.

2. Waiting shall be open and easily observed from Reception and Triage.

3. Ensure Waiting is easily accessible to vending machines and restrooms.

4. Seating in the waiting area should be comfortable with adequate space for patients with wheelchairs and walking aids. Consider arranging seats into separate, small clusters to accommodate social distancing and enhance physical separation patients.

5. To maximize speech privacy for patients at reception, provide open, clear floor area between the waiting seats and reception. Bedside registration in the ED is widely considered best practice in order to improve patient throughput.

6. Consider flexible seating options that can accommodate greater demands during peak service hours.

7. Security personnel should be located to maximize visibility of the walk-in entrance, waiting area, and triage area, and may be located next to Reception.

8. The triage area should be located proximate to reception, each triage room will have direct access from the main waiting area. After the patient is assessed in triage, they may take a seat in waiting or be escorted from a triage room via a door that flows directly into the patient exam / treatment area. Some patients may also wait in Results Sub-Waiting before going to the exam / treatment area. Some patients will bypass triage altogether and move straight to the appropriate part of the ED for care.

3.4. PATIENT EXAM / TREATMENT.

1. Where a four-room Decontamination Suite is required in the ED, it will have an anteroom that has a separate, independent, secured external entrance adjacent to the ambulance entrance. The patient moves from the anteroom and then to the prep room to remove clothing before entering the shower decon. The transition room offers an area for patient assessment after decon in the event there remains concern for potential contamination of surfaces or people and the patient should not be moved into other areas of the ED. The Decon Shower room must have at least two hand-held shower heads, be temperature-controlled; provide curtains or other devices to allow for visual privacy, to the fullest extent possible. A dedicated holding tank may be required to capture rinsate from the shower room floor drain.

2. Fast Track is a process. An area for this process can be integrated into the ED to accommodate low-acuity patients. In other words, the low-acuity treatment stations may be designated as the "Fast Track" area. By identifying the less complicated and easy-to-treat patients in Triage, it allows the ED to treat them more quickly. In some instances, the Fast Track is being replaced with a Rapid Assessment Zone (RAZ), Rapid Medical Exam (RME) area or a dedicated Rapid Admission Unit. This is where non-urgent, ESI acuity level 4 and 5 patients can be seen quickly by a provider and sent home (i.e., "See and Treat" or "Treat and Release"). The Fast Track area, located in or near Triage, may be designed as an enclosed room with open, multiple low-acuity treatment stations (TRET5), or be comprised of single-patient exam rooms (EXRG1). Each low-acuity treatment station will include a chair appropriate for patient consult, lounge chair, or recliner chair that accommodates examination, and a cubicle curtain between stations for visual privacy. Use of partitions with sound-absorbing panels and sound-masking devices between stations may improve speech privacy for these patients and staff. At least one hand-washing station shall be provided to support the treatment stations. The Results Sub-Waiting area is typically adjacent to the Fast Track area.

3.5. SECURE HOLDING.

1. The Secure Holding room is not meant for prolonged observation of patients. The main purpose is to provide a safe and appropriate space for crisis intervention and stabilization. This room provides physical separation of the patient from the rest of the ED until a reasonable assessment can be made regarding the patient's potential for physical harm or disruption from behaviors resulting from the patient's condition, including but not limited to behavioral health issues and substance abuse.

2. The Secure Holding room and the Secure Holding Anteroom shall be arranged together as a suite. Locate adjacent to patient toilet.

3. Locate the room to allow for discreet staff observation and monitoring of patients, either by direct observation through a view panel or window or via video monitoring. Consider locating the dedicated decentralized nurse station within view of the room.

4. Locate the room so that enough separation from adjacent patient care areas to provide both privacy for the patient in the room and protection of other patients from potential disturbance or violence.

5. Refer to the UFC 4-510-01, Appendix A for additional design requirements.

3.6. BEHAVIORAL HEALTH TREATMENT.

1. Depending on the requirements identified in the Behavioral Health component of the Safety Risk Assessment, some EDs may be designed with one or more of the ED Exam / Treatment rooms (EXER1) as dedicated behavioral health exam / treatment rooms to provide a non-threatening, soothing, and safe environment for individuals seeking assessment or treatment for behavioral health emergencies. This room is designed to be flexible for use of all patients when not in use by a behavioral health patient.

2. Consider locating the behavioral health exam / treatment room(s) in a more secluded, secure area. They may be collocated with the Secure Holding Room(s).

3. Design with securable doors, beds secured to the floor, consider roll down shutters or other design features that secure medical equipment behind them, and video surveillance which allows staff treating the patients to see them at all times.

4. Other BH design considerations include having a Behavioral Health Crisis Unit adjacent to or within the ED. This type of unit supports care of behavioral health emergencies that can be resolved within 24 hours, which in turn leads to more judicious use of available inpatient behavioral health beds, reduces delays in care for all emergency patients (behavioral and medical), allows for more effective turnover and availability of medical ED beds. For more information on this model of care and design approaches, please refer to the Facility Guidelines Institute White Paper, "*Design For Emergency Crisis Units Serving Behavioral And Mental Health Patients*"

5. Refer to the UFC 4-510-01, Appendix A for additional design requirements.

3.7. TRAUMA / RESUSCITATION PATIENT AREA.

1. Locate the Trauma / Resuscitation Room(s) next to the ambulance entrance.

2. Locate the Scrub area outside and adjacent to the Trauma / Resuscitation Room(s), out of main traffic areas.

3. Locate the Family Consult Room, which may also function as a grieving room, so that it is accessible from both the emergency treatment corridor and the emergency waiting area. This room should provide a comfortable and soothing environment for the bereaved family.

3.8. SUPPORT.

1. Locate the portable imaging alcove in proximity to the exam / treatment area.

2. Locate the support spaces in proximity to the exam / treatment area help keep staff travel distances to a minimum.

3. In all equipment storage rooms, assure adequate power is provided for all equipment housed within these rooms.

4. Locate the hand washing sinks and alcohol-based hand-rub dispensers in an area of the treatment room to facility ease of access and encourage utilization.

5. Team collaboration rooms and staff areas should be located so staff members may have conversations regarding patients and clinical matters without being heard by patients or visitors.

3.9. AMBULANCE SERVICE.

1. Where ambulance service will be included within the ED, locate the ambulance workroom and equipment storage room adjacent to the ambulance entrance to minimize staff travel time to the parked ambulance vehicles.

2. Consider locating the ambulance equipment storage room on the perimeter of the ED to allow direct, exterior access by the ambulance staff. Secured access control on the exterior door will be required. Assure adequate power is provided within the equipment storage room.

3.10. HELIPAD.

1. Although not part of this chapter, the planner must consider the location of the Helicopter landing area, if applicable, in relationship to the emergency department. Ideally, the transport route to and from the ED to the helipad should be the most direct, shortest path. The planner must identify the Authority Having Jurisdiction (AHJ) for the helipad, flight path, etc., and engage them early in the planning process as possible.

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. How many annual ED encounters assessed at an Emergency Severity Index (ESI) level of 1, 2, or 3 are projected? (W)
2. How many annual ED low-acuity encounters assessed at an Emergency Severity Index (ESI) level of 4 or 5 are projected? (W)
3. Will ED services be designated as Level I or II Care? (M)
4. Will the ED staff be calculating medication dosages, preparing the medication and administering it to the patient? (M)
5. Will the Mass Casualty Storage Room be located within the ED services area? (Misc) (Note: Do not duplicate this space if it is provided elsewhere in the MTF.)
6. Will the Ambulance service be supported by an Inter-Facility Transport (IFT) program and be located within the ED? (M)

    6.1. How many Ambulance Service FTE positions are projected per the authorized manning document? (S)

4.2. COMPUTED STATEMENTS.

1. Calculated number of ED Exam / Treatment rooms based on workload (Computed) (Default: Round Up From (.5, [How many annual ED encounters assessed at an Emergency Severity Index (ESI) level of 1, 2, or 3 are projected?] / 1,800))
2. Calculated number of ED Low-Acuity Treatment stations based on workload (Computed) (Default: Round Up From (.5, [How many annual ED low-acuity encounters assessed at an Emergency Severity Index (ESI) level of 4 or 5 are projected?] / 3,072))
3. Total number of ED treatment rooms (Computed) (Default: [ED Exam / Treatment Room (EXER1)], [ED Airborne Infection Isolation (AII) Exam / Treatment Room (EXER2)], [ED Low-Acuity Treatment Station (TRET5)], [Trauma / Resuscitation Room (Level I / II) (TRET3)], [Trauma / Resuscitation Room (Level III / IV) (TRET4)])

SECTION 5: SPACE PLANNING CRITERIA

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

5.1. FA1: AMBULANCE SERVICE.

FA Condition: [Total number of ED treatment rooms] is at least four

1. **Vestibule, Ambulance Entry (LOB05)** **100 NSF**
   a. Provide one
2. **Alcove, Ambulance Entry Wheelchair (SRLW1)** **15 NSF**
   a. Provide one
3. **Alcove, Stretcher (SRLW2)** **50 NSF**
   a. Provide one
4. **Workroom, Ambulance Service (WRCH1)** **100 NSF**
   a. Provide one if [Will the Ambulance service be supported by an Inter-Facility Transport (IFT) program and be located within the ED?]
   b. Provide an additional 30 NSF per each [How many Ambulance Service FTE positions are projected per the authorized manning document?] greater than two if [Will the Ambulance service be supported by an Inter-Facility Transport (IFT) program and be located within the ED?]
5. **Storage, Ambulance Equipment (SRSE1)** **100 NSF**
   a. Provide one if [Will the Ambulance service be supported by an Inter-Facility Transport (IFT) program and be located within the ED?]

5.2. FA2: RECEPTION & TRIAGE.

FA Condition: [Total number of ED treatment rooms] is at least four

1. **Vestibule, Walk-in ED Entry (LOB05)** **100 NSF**
   a. Provide one
2. **Alcove, Walk-in Entry Wheelchair (SRLW1)** **15 NSF**
   a. Provide one
3. **Security / Control Station (NSTA5)** **50 NSF**
   a. Provide one

4. Waiting (WRC01) 120 NSF

a. Provide one
b. Provide an additional 60 NSF for every increment of two [Total number of ED treatment rooms] greater than four

5. Kiosk, Patient Check-in (CLSC1) 15 NSF

a. Provide one
b. Provide an additional one for every increment of eight [Total number of ED treatment rooms] greater than sixteen

6. Reception (RECP1) 100 NSF

a. Provide one
b. Provide an additional 50 NSF for every increment of eight [Total number of ED treatment rooms] greater than sixteen

Minimum allocated NSF accommodates two FTEs.

7. Screening Room, Triage (EXRG4) 120 NSF

a. Provide two
b. Provide an additional one for every increment of eight [Total number of ED treatment rooms] greater than sixteen

5.3. FA3: EXAM & TREATMENT.

1. Anteroom, Decontamination Shower (NBCD3) 90 NSF

a. Provide one if [Total number of ED treatment rooms] is at least four

This secured external entrance leads into the Decontamination Shower.

2. Decontamination Shower Room (NBCD2) 120 NSF

a. Provide one if [Total number of ED treatment rooms] is at least four

Patient will access via the Anteroom.

3. ED Exam / Treatment Room (EXER1) 150 NSF

a. Provide one per each [Calculated number of ED Exam / Treatment rooms based on workload]
b. Deduct the total number of [ED Airborne Infection Isolation (AII) Exam / Treatment Room (EXER2)]

The planner must assess the requirement for a Bariatric Exam / Treatment room (EXEB1) based on the population served at the MTF. If a Bariatric Exam / Treatment room is programmed, it will be included as one of the total number of calculated ED Exam / Treatment rooms (EXER1s). Also program a Bariatric Toilet (TLTB1) to replace one Patient Toilet in the Treatment Area.

4. ED Airborne Infection Isolation (AII) Exam / Treatment Room (EXER2) 170 NSF

a. Provide one if [Calculated number of ED Exam / Treatment rooms based on workload] is at least one

The number of Airborne Infection Isolation (AII) ED treatment rooms shall be determined by the Infection Control Risk Assessment (ICRA), which shall be conducted during the early planning phase of the project. This room is part of the total number of workload driven ED Exam / Treatment rooms.

5. Toilet, ED Airborne Infection Isolation (AII) (TLTU1) 60 NSF

a. Provide one per each [ED Airborne Infection Isolation (AII) Exam / Treatment Room (EXER2)]

6. Anteroom, Secure Holding (BRNP6) 60 NSF

a. Provide one if [Secure Holding (OPMH4)] is at least one

7. Secure Holding (OPMH4) 120 NSF

a. Provide one if [Total number of ED treatment rooms] is at least four
b. Provide an additional one if [Total number of ED treatment rooms] is greater than eight

Programming more than two Secure Holding rooms should be based on the requirements of the Behavioral Health component of the Safety Risk Assessment.

8. Toilet, Secure Holding (TLTP2) 40 NSF

a. Provide one if [Secure Holding (OPMH4)] is at least one

9. Nurse Station, ED Behavioral Health (NSTA4) 50 NSF

a. Provide one if [Secure Holding (OPMH4)] is at least one

10. ED Low-Acuity Treatment Station (TRET5) 50 NSF

a. Provide one per each [Calculated number of ED Low-Acuity Treatment stations based on workload] (Maximum eight)

Staff will require access to a handwashing sink, a computer a documentation station, which may be located at the Nurse Station, or be on a mobile cart.

11. Toilet, Unisex (TLTU1) 60 NSF

a. Provide one if [Total number of ED treatment rooms] is at least four
b. Provide an additional one for every increment of eight [Total number of ED treatment rooms] greater than eight

12. Family Consult Room (OFDC2) 120 NSF

a. Provide one if [Total number of ED treatment rooms] is at least four

13. Sub-Waiting, Results (WRC03) 60 NSF

a. Provide one if [Calculated number of ED Low-Acuity Treatment stations based on workload] is at least four
b. Provide an additional 30 NSF per each [ED Low-Acuity Treatment Station (TRET5)] greater than four

This is an area for the observation of patients awaiting test results and / or discharge. Located adjacent to Triage or the Fast Track area.

5.4. FA4: TRAUMA / RESUSCITATION.

1. Trauma / Resuscitation Room (Level I / II) (TRET3) 420 NSF

a. Provide one if [Will ED services be designated as Level I or II Care?]

2. Trauma / Resuscitation Room (Level III / IV) (TRET4) 360 NSF

a. Provide one if not [Will ED services be designated as Level I or II Care?]

3. Scrub Area (ORSA1) 50 NSF

a. Provide one

4. Storage, Trauma / Resuscitation (SRSE1) 100 NSF

a. Provide one
b. Provide an additional 50 NSF if [Will ED services be designated as Level I or II Care?]

5.5. FA5: SUPPORT.

FA Condition: [Total number of ED treatment rooms] is at least four

1. Nurse Station (NSTA1) 100 NSF

a. Provide one
b. Provide an additional 50 NSF for every increment of six [Total number of ED treatment rooms] greater than four

The nurse station may be centralized or decentralized per individual project design.

2. Dispatch, Ambulance (COM02) 90 NSF

a. Provide one

Locate the dispatch in proximity to the Nurse Station.

3. Medication Room (MEDP1) 100 NSF

a. Provide one if [Will the ED staff be calculating medication dosages, preparing the medication and administering it to the patient?]
b. Provide an additional 50 NSF for every increment of sixteen [Total number of ED treatment rooms] greater than sixteen

4. Alcove, Nourishment (NCWD4) 40 NSF

a. Provide one
b. Provide an additional one for every increment of sixteen [Total number of ED treatment rooms] greater than sixteen

5. Laboratory, Point of Care (LBPC1) 60 NSF

a. Provide one

6. Utility Room, Clean (UCCL1) 100 NSF

a. Provide one

7. Utility Room, Soiled (USCL1) 90 NSF

a. Provide one

8. Storage, Equipment (SRSE1) 100 NSF

a. Provide one
b. Provide an additional 25 NSF for every increment of sixteen [Total number of ED treatment rooms] greater than sixteen

9. Alcove, Crash Cart (RCA01) 15 NSF

a. Provide one
b. Provide an additional one if [Total number of ED treatment rooms] is greater than 24

10. Alcove, Portable Imaging (XRM01) 30 NSF

a. Provide one

11. Alcove, Blanket Warmer (RCA04) 15 NSF

a. Provide one
b. Provide an additional one for every increment of sixteen [Total number of ED treatment rooms] greater than sixteen

12. Storage, Gas Cylinder (SRGC2) 60 NSF

a. Provide one

13. Storage, Medical Supplies (SRS01) 100 NSF

a. Provide one
b. Provide an additional 50 NSF for every increment of eight [Total number of ED treatment rooms] greater than sixteen

14. Alcove, Clean Linen (LCCL3) 15 NSF

a. Provide one
b. Provide an additional one for every increment of sixteen [Total number of ED treatment rooms] greater than sixteen

15. Storage, Mass Casualty (SRS01) 100 NSF

a. Provide one if [Will the Mass Casualty Storage Room be located within the ED services area?]

The size of the Mass Casualty storage room may need to be increased based on the MTF mission requirements. Location and type of storage will depend on the MTF requirements. For example, it may contain inflatable decontamination shelter, pre and post decontamination showers, contamination clothing bins, etc.

5.6. FA6: STAFF AND ADMINISTRATION.

1. Office, ED Supervisor (OFA04) 100 NSF

a. Provide one if [Total number of ED treatment rooms] is at least four

2. Team Collaboration Room (WKTM1) 200 NSF

a. Provide one if [Total number of ED treatment rooms] is at least four
b. Provide an additional 50 NSF for every increment of six [Total number of ED treatment rooms] greater than four

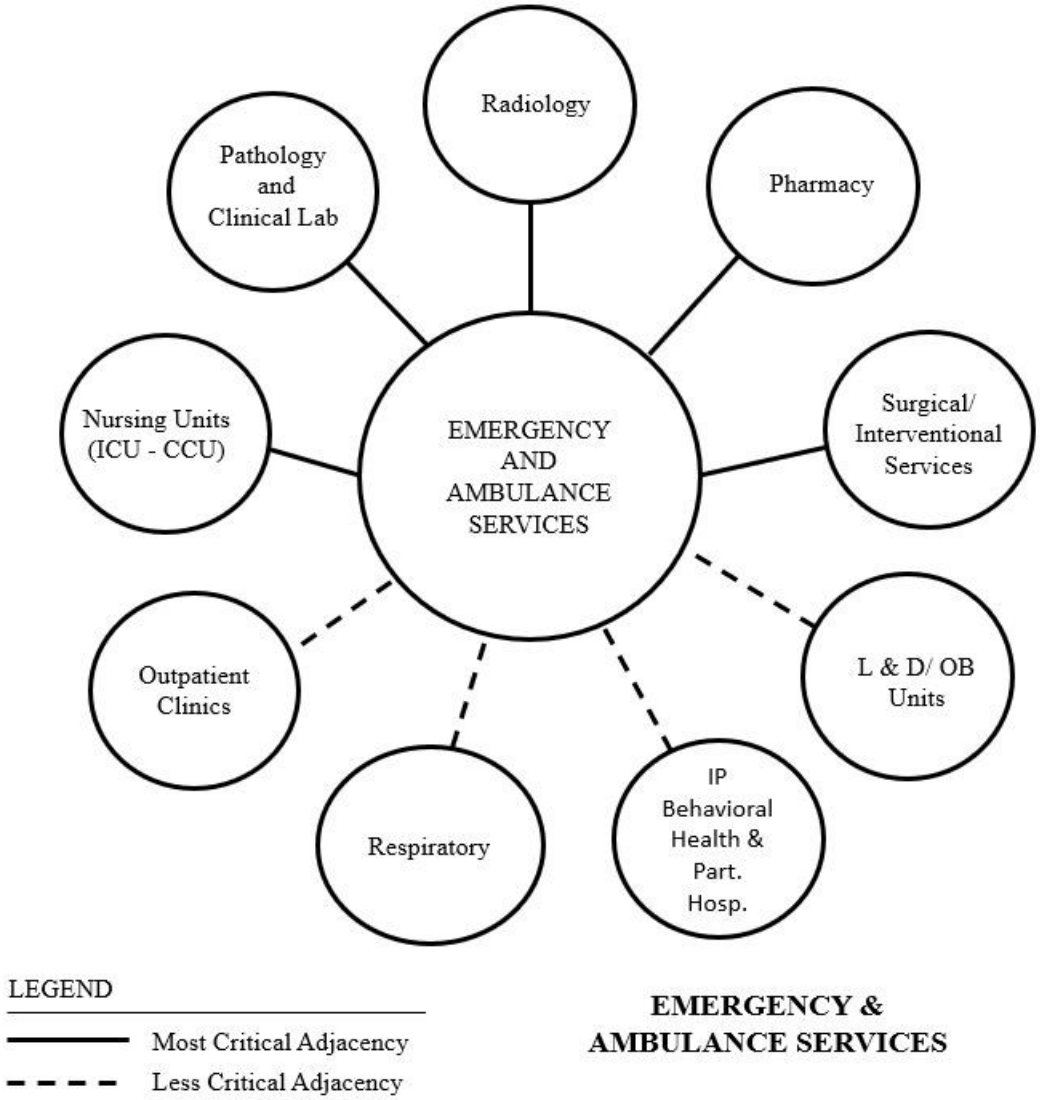
Minimum NSF accommodates five computer documentation stations at 30 NSF each and a collaboration area.

3. Copy / Office Supply (RPR01) 50 NSF

a. Provide one if [Total number of ED treatment rooms] is at least four

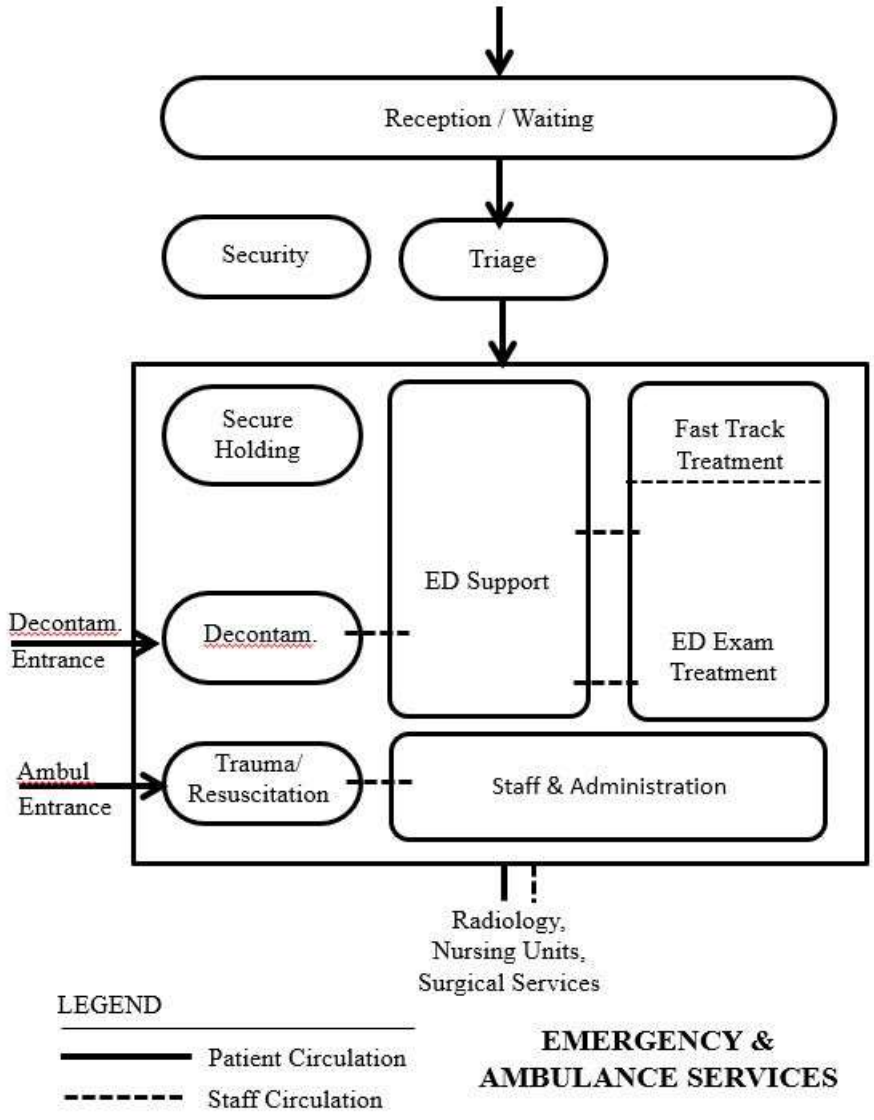
SECTION 6: FUNCTIONAL RELATIONSHIPS (INTERDEPARTMENTAL)

The Emergency and Ambulance Services will rely on a number of other services in a Military Treatment Facility (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 the Emergency and Ambulance Services. The diagram is necessarily generic. The planner shall use this as a basis for design only and shall consider project-specific requirements for each Military Treatment Facility.



GLOSSARY

Airborne Infection Isolation (AII) Room: Formerly called negative pressure isolation room, an AII Room is a single-occupancy patient-care room used to isolate persons with certain suspected or confirmed infections. Examples are tuberculosis, measles, and chicken pox. Environmental factors are controlled in AII Rooms to minimize the transmission of infectious agents that are usually spread from person-to-person by droplet nuclei associated with coughing or aerosolization of contaminated fluids.

Ambulatory Care Center: A Medical Treatment Facility (MTF) providing outpatient care services in both a freestanding building, as well as within or directly adjacent to an MTF that provides inpatient care services.

Ambulance Dispatch: Supports all Emergency Department radio communications, grid maps of installation and the area supported by the regional emergency response network.

Ambulance Service: A type of an emergency service dedicated to responding to emergency calls on a military installation, to associated military family housing areas, and to other designated locations; it is usually established in conjunction with the Emergency Department. Generally, a 24-hour ambulance service is established to support Levels I, II, and III care, while Level IV care facilities may have either 24-hour, limited hours, or no ambulance service. Typically, the ambulance service is also used to transport patients to referral facilities for more definitive care and for selected treatments or diagnostic procedures. The ambulance service may also have specific responsibilities associated with regional emergency response plans.

Bariatrics: Bariatrics is the branch of medicine that deals with the causes, prevention, and treatment of obesity. A bariatric patient is one that is severely obese, overweight by 100 to 200 lbs., or having a body weight of greater than 300 lbs. A Body Mass Index (BMI) of greater than 40 is considered bariatric.

Bariatric Patient Treatment Room: This room is sized and equipped to accommodate the bariatric patient and their family member(s). It is sized for easier access. Minimum door width should be 4’ to accommodate bariatric wheelchairs, and a minimum of a 6’ turning radius should be provided. When provided, these rooms should be located towards the front (entrance) of the Patient Exam and Treatment areas.

Bariatric Patient Toilet: This space is the bathroom for the bariatric patient. Planner should refer to the FGI Guidelines for the preferred bariatric design solutions for this room. This bathroom should be located proximate to the Bariatric Patient Treatment Room; however, it is not solely dedicated to the bariatric patient. It may be used by other patients for added flexibility.

Behavioral Health Treatment Room: This is a specialty room for the Behavioral Health Patient (in addition to the Secure Holding Room). This room is built with safety and security in mind, e.g., safety glass, hardened ceilings, and no protruding medical equipment, and other ligature resistant features. Medical gas outlets will be covered with panels that are lockable or are attached with tamper resistant screws. This room is intended to be flexible enough to be used by any ED patient when not in use by the behavioral health patient.

Clean Utility Room: This room is used for the storage and holding of clean and sterile supplies. Clean linen may be stored in a designated area in the clean utility room if space is not provided in a separate room or in an alcove.

Decontamination Shower Room: This room is used to decontaminate, prior to treatment, a patient who has been exposed to chemical or biological hazardous substances as a result of an industrial or other accident.

Emergency Department (ED): An emergency department is generally part of a hospital or medical center. It specializes in the acute care of patients who arrive unscheduled and is open 24 hours a day, 7 days a week, 365 days a year.

Emergency Services: Healthcare services provided to evaluate and treat medical conditions of recent onset and severity that would lead a prudent layperson, possessing an average knowledge of medicine and health, to believe that urgent and/or unscheduled medical care is required.

Emergency Services Levels of Care: Emergency departments (EDs) are categorized into four levels of care with Level I being the highest and Level IV being the lowest. All emergency departments must be able to provide for the initial evaluation and stabilizing treatment of trauma patients.

Level I Care: "A Level I emergency department or service offers comprehensive emergency care 24 hours a day, with at least one physician experienced in emergency care on duty in the emergency care area. There must be in-hospital physician coverage by members of the medical staff or by senior-level residents for at least medical, surgical, orthopedic, obstetric, gynecological, pediatric, and anesthesiology services. When such coverage can be demonstrated to be met suitably through another mechanism, an equivalency will be considered to exist for purposes of compliance with the requirement. Other specialty consultation must be available within approximately 30 minutes. Initial consultation through two-way voice communication is acceptable (from DoD 6015.1-M)."

Level II Care: "A Level II emergency department or service offers emergency care 24 hours a day, with at least one physician experienced in emergency care on duty in the emergency care area. There must be specialty consultation available within approximately 30 minutes by members of the medical staff or by senior-level residents. Initial consultation through two-way voice communication is acceptable. The hospital's scope of services must include in-house capabilities for managing physical and related emotional problems, with provision for patient transfer to another facility when needed (DoD 6015.1-M)."

Level III Care: "A Level III emergency department or service offers emergency care 24 hours a day, with at least one physician available to the emergency care area from within the hospital, who is available immediately through two-way voice communication and in person within approximately 30 minutes through a medical staff call roster. Specialty consultation must be available by request of the attending medical staff member or by transfer to a designated hospital where definitive care can be provided (DoD 6015.1-M)."

Level IV Care: "A Level IV emergency department or service offers reasonable care in determining whether an emergency exists, renders lifesaving first aid, and makes appropriate referral to the nearest organizations that are capable of providing needed services, with at least one physician available immediately through two-way voice communication and in person within 30 minutes through a medical staff call roster. A Level IV emergency service may not necessarily operate 24 hours a day, and may not have a dedicated ambulance service supporting it. A Level IV facility may also operate as a walk-in acute care clinic."

Additionally, an emergency department may be part of a trauma system with a Level I–IV designation. Trauma system level designations are awarded based on the services provided by the hospital. The American College of Surgeons (ACS) provides detailed descriptions of Level I–Level IV trauma centers. The ACS will rank hospitals as Level 1 – IV but does not officially designate hospitals as trauma centers. Most states have legislation which determines the process for designation of Trauma Centers within their state.

Emergency Severity Index (ESI): A five-level emergency department triage algorithm based on the acuity of patients' health care problems and the number of resources their care is anticipated to require. The concept of a "resource" in ESI means types of complex interventions or diagnostic tools, above and beyond physical examination. Examples of resources include X-ray, blood tests, sutures, and intravenous or intramuscular medications. Oral medications and prescriptions are specifically not considered resources by the ESI algorithm. The ESI levels are numbered one through five, with level one indicating the greatest urgency due to the need for immediate, life-saving intervention required without delay.

Encounter: A contact between an eligible beneficiary and a credentialed provider. An encounter may consist of examination, diagnosis, treatment, evaluation, consultation or counseling or a combination of the above. The encounter will take place in an exam room, or in other treatment or observation areas. Encounter volume used to generate exam room or other workload driven rooms will not include telephone encounters.

Family Consult Room: A private, quiet room where a patient's family will meet with the provider(s) to discuss sensitive information. Sudden unexpected death occurs more frequently in the emergency department than in any other part of the hospital, and this room is a place where providers can deliver the difficult message and provide support to the grieving family. Additionally, information may be needed from family members, such as the patient's wishes or their wishes with regard to organ donation or autopsy.

Fast Track: Fast Track is a process or approach to moving easy-to-treat, lower acuity patients, who require few resources, through the system efficiently. In some emergency departments, the Fast Track patients may be located in a dedicated area or sub-unit in or next to the ED.

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 clinical service. Typical Functional Areas are Reception, Patient Exam and Treatment Area, Clinic Support, Staff and Administration.

Infection Control Risk Assessment (ICRA): An ICRA is a multidisciplinary, organizational, documented process that considers the medical facility's patient population and mission to reduce the risk of infection based on knowledge about infection, infectious agents, and the care environment, permitting the facility to anticipate potential impact.

Input Data Statement: A set of questions designed to elicit information about the healthcare project in order 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.

Low-Acuity Patient Treatment Station: A patient care station that accommodates a treatment chair or recliner rather than a gurney or exam table because the patient typically will remain in a seated position and is referred to as "vertical."

Net Square Feet (NSF): The area of a room or space derived by multiplying measurements of the room or space taken from the inside surface of one wall to the inside surface of the opposite wall.

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 DoD Chapter 130 for the NTDG factors for all Space Planning Criteria chapters.

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 work day, 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.

Program for Design (PFD): A listing of all of 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 and 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.

Provider: A medical professional, such as a physician, nurse practitioner, or physician assistant, who examines, diagnoses, treats, prescribes medications, and manages the care of patients within the scope of their practice as established by the governing body of a healthcare organization.

Quick Triage: A form of patient triage known by various names such as "abbreviated triage process," "quick triage," "see and treat," and "rapid assessment." Typically, the intake process is shortened to 90 seconds or less and information collection is simplified (single phrase chief complaint, allergies, pain scale, vital signs). Usually high volume, these patients (some ESI 3s, 4s and 5s) are not acutely ill nor require a stretcher. Hospitals often use this system at peak times of day only.

Results Waiting: Typically a visible space near Triage and Fast Track where patients can wait for Radiology and Lab results without occupying an ED Treatment Room.

Sexual Assault Forensic Medical Exam (SAFME): The examination and collection of evidence by specially trained staff during the provision of care for sexual assault victims.

Point of Care Laboratory: A laboratory that is located permanently away from the central laboratory, with one or several analyzers operated by either laboratory or non-laboratory personnel. The objective of creating a satellite laboratory in the ED is to provide rapid point-of-care tests and improve turnaround time for critical tests in emergency situations.

Secure Holding: This room is for the short-term observation and assessment of the patient who is actively at risk for injuring himself or others. This room provides physical separation of the patient from the rest of the emergency department until a reasonable assessment can be made regarding the patient's potential for physical harm or disruption from behaviors resulting from the patient's condition, including but not limited to behavioral health issues and substance abuse. This room should provide ease of staff observation and monitoring, preventing unauthorized patient elopement, and safety of the patient. It is part of a suite that consists of an anteroom and a patient toilet.

Security / Control Station: This space provides a secure entry / control point into the Emergency department.

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).

Soiled Utility Room: This space provides an area for cleanup of medical equipment and instruments, and for disposal of medical waste material. It provides temporary holding for material that will be picked up by Central Sterile or Environmental Services.

Team Workroom: This space provides staff with an environment conducive to collaboration. Room contains computer workstations for documentation and a table with chairs to hold meetings.

Triage: A process of identifying incoming patients who cannot wait to be seen. The triage nurse performs a brief, focused assessment and assigns the patient a triage acuity level, which is a proxy measure of how long an individual patient can safely wait for a medical screening examination and treatment. Depending upon the concept of operations, the patient will initially be assessed in the Triage Area and then taken to another area of the ED.

Trauma / Resuscitation Room: This room in the emergency department is for the highest acuity patient and is located next to the ambulance entrance. It is shielded to accommodate overhead radiographic capability; includes surgical lights, integrated imaging as appropriate, monitors, medical gases and automated medication dispensing stations.

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.