DoD Space Planning Criteria

Chapter 316: Cardiology / Pulmonary Services / Sleep Disorders Center
August 31, 2015

Originating Component: Defense Health Agency Facilities Division

Effective: August 31, 2015

Releasability: No Restrictions

Purpose: This issuance: To provide space planning criteria guidance in support of planning, programming and budgeting for DoD Military Health System (MHS) facilities.

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SECTION 1: PURPOSE AND SCOPE

1.1. PURPOSE AND SCOPE This chapter outlines space planning criteria for services and programs provided in Cardiology/ Pulmonary Services and a Sleep Disorders Center within the Military Health System (MHS). These services are provided for both inpatients and outpatients. Outpatient clinics include both freestanding community-based facilities, as well as ambulatory clinics in or directly adjacent to hospital-based services.

The Cardiology Clinic and the Pulmonary Clinic are sometimes collocated to provide efficient and effective patient care, as these services have a close working relationship. However, they typically function as separate clinics at larger facilities.

This chapter includes space planning criteria for non-invasive diagnostic testing for Cardiology and Pulmonary Services.

Space planning criteria for invasive diagnostic testing such as Bronchoscopy and Cardiac Catheterization is contained within Chapter 440: Surgical / Interventional Services, within the Functional Area called Interventional Services Procedure. As well, space planning criteria for the Transesophageal Echocardiogram (TEE) Room is located in Chapter 440. The TEE may be performed in the clinic or within the hospital setting; therefore, the planner must coordinate with Cardiology Services to determine its proper location.

Space planning criteria for Cardiopulmonary Rehabilitation is also included in this chapter. Cardiopulmonary Rehabilitation may exist as a freestanding facility or it may be a component of a medical facility's total rehabilitation programs. Consideration should be made for sharing space with other therapies, such as Physical Therapy. If a Wellness Center is authorized, it provides an opportunity for sharing space.

The Sleep Disorders Center is also part of this chapter. It is comprehensive in nature and incorporates both clinic spaces and laboratory sleep study space. It may accommodate both children and adults.

The space planning criteria in this chapter apply to all Military Medical Treatment Facilities (MTFs) and are based on current DoD policies and directives, established and/or anticipated best practices, industry guidelines and standards, and input from DoD Subject Matter Experts (SME) and Defense Health Agency (DHA) Service contacts. 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 DoD's UFC 4-510-01, Appendix B.

SECTION 2: OPERATING RATIONALE AND BASIS OF CRITERIA

2.1. OPERATING RATIONALE AND BASIS OF CRITERIA.

A. Workload projections and planned services / modalities for a specific MHS facility project shall be sought by the planner in order to develop a project based on these Criteria. Healthcare and clinical planners working on military hospitals, medical centers and clinics shall utilize and apply the workload based criteria set forth herein for identified services and modalities to determine space requirements for the project.

B. Space planning criteria have been developed on the basis of an understanding of the activities involved in the functional areas required for the Cardiology / Pulmonary Services / Sleep Disorders Center and its relationship with other services of a medical facility. 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.

C. These criteria are subject to modification relative to equipment, medical practice, vendor requirements, and subsequent planning and design. The final selection of the size and type of medical equipment is determined during the design process.

D. Calculation of the number and -in some cases- the area (NSF) of rooms is performed in one of the following methods:

1. Directly workload-driven

2. Indirectly workload-driven

3. Mission or Staffing-driven

The directly workload-driven rooms are based on workload projections entered in response to the Workload Input Data Statements (IDSs) in included in Section 4. The following are the directly workload driven rooms in this chapter:

1. Cardiology Exam Room
2. Echocardiograph Room
3. Stress Echocardiograph Room
4. Ultrasound Room
5. Treadmill Room
6. Pulmonary Exam Room
7. Treadmill Room Pulmonary Function
8. Sleep Disorders Exam Room

The indirectly workload-driven rooms are derived from the preceding group. They are typically in the Reception and Support Functional Areas. Examples are Waiting, or the number of clean or soiled utility rooms.

The mission / staffing-driven rooms are created based on Boolean 'yes/no' or numeric responses to the Mission and Staffing Input Data Statements (IDSs).

E. The Net Square Feet (NSF) and Room Code (RC) for each room in Section 5: Space Planning Criteria of this chapter was provided by or approved by the Defense Health Agency (DHA) Template Board.

F. Calculation of each of the directly workload-driven room types is implemented in SEPS based on the following formulae:

Formula 1:

$$\frac{(\text{Operating Days per year})(\text{Hours of Operation per Day})}{\text{Average Length of Encounter (ALOE) in Minutes} \div 60 \text{ Minutes}} \text{ (Utilization Factor)}$$

Fixed Values:

a. Average Length of Encounter (ALOE)

b. Operating Days per Year: 240

c. Hours of Operation per Day: 8

d. Utilization Factor: 80%

Average Length of Encounter (ALOE): 60 Minutes:

$$\frac{(240 \text{ Operating Days per Year})(8 \text{ Hours of Operation per Day})}{60 \text{ Minutes} \div 60 \text{ Minutes}}(0.80) = 1{,}536$$

Minimum Annual Workload to generate an additional Exam Room: 20% of Annual Workload.

Workload based room calculation examples:

Exam Room Criteria Statement 1:

Minimum one if the projected annual clinic encounters is between 307 and 1,536; provide an additional one for every increment of 1,536 projected annual clinic encounters greater than 1,536; the minimum workload to generate an additional room is 307.

a. Input Data Statement 1, Answer 1:

How many annual clinic encounters are projected? (W) = 4,700

Step 1: Subtract the increment from the projected annual encounters to account for the "Minimum one" condition.

$$4{,}700 - 1{,}536 = 3{,}164$$

One room generated

Step 2: Divide the resulting value by the increment.

$$\frac{3{,}164}{1{,}536} = 2.05$$

Two additional rooms generated

Step 3: Multiply the whole value ("2" in the previous step) by the increment.

$$(2)(1{,}536) = 3{,}072$$

Step 4: Subtract Step 3 from Step 1.

$$3{,}164 - 3{,}072 = 92$$

Step 5: Compare Step 4 with the "minimum workload to generate an additional room" value; if higher, provide an additional room.

$$92 < 307$$

No additional rooms generated.

Total number of rooms generated by 4,700 annual encounters: 3

b. Input Data Statement 1, Answer 2:

How many annual clinic encounters are projected? (W) = 15,000

Step 1: Subtract the increment from the projected annual encounters to account for the "Minimum one" condition.

$$15{,}000 - 1{,}536 = 13{,}464$$

One room generated

Step 2: Divide the resulting value by the increment.

$$\frac{13{,}464}{1{,}536} = 8.76$$

Eight additional rooms generated

Step 3: Multiply the whole value ("8" in the previous step) by the increment.

$$(8)(1{,}536) = 12{,}288$$

Step 4: Subtract Step 3 from Step 1.

$$13{,}464 - 12{,}288 = 1{,}176$$

Step 5: Compare Step 4 with the "minimum workload to generate an additional room" value; if higher, provide an additional room.

$$1{,}176 > 307$$

One additional room generated.

Total number of rooms generated by 15,000 annual encounters: 10

2. Exam Room Criteria Statement 2:

Minimum two if the projected number of encounters is between 307 and 3,072; provide an additional one for every increment of 1,536 projected encounters greater than 3,072; the minimum annual workload to generate a room is 307.

a. Input Data Statement 2, Answer 1:

How many annual clinic encounters are projected? (W) = 12,500

Step 1: Subtract the increment from the projected annual encounters to account for the "Minimum two" condition.

$$12{,}500 - 3{,}072\ (1{,}536\ x\ 2) = 9{,}428$$

Two rooms generated (the minimum)

Step 2: Divide the resulting value by the increment.

$$9{,}428 \div 1{,}536 = 6.13$$

Six additional rooms generated

Step 3: Multiply the whole value ("6" in the previous step) by the increment.

$$(6)(1{,}536) = 9{,}216$$

Step 4: Subtract Step 3 from Step 1.

$$9{,}428 - 9{,}216 = 212$$

Step 5: Compare Step 4 with the "minimum workload to generate an additional room" value; if higher, provide an additional room.

$$212 < 614$$

No additional rooms generated.

Total number of rooms generated by 12,500 annual encounters: 8

b. Input Data Statement 2, Answer 2:

How many annual clinic encounters are projected? (W) = 18,000

Step 1: Subtract the increment from the projected annual encounters to account for the "Minimum two" condition.

$$18{,}000 - 3{,}072\ ((1{,}536)(2)) = 14{,}928$$

Two rooms generated (the minimum)

Step 2: Divide the resulting value by the increment.

$$\frac{14{,}928}{1{,}536} = 9.71$$

Nine additional rooms generated

Step 3: Multiply the whole value ("9" in the previous step) by the increment.

$$(9)(1{,}536) = 13{,}824$$

Step 4: Subtract Step 3 from Step 1.

$$14{,}928 - 13{,}824 = 1{,}104$$

Step 5: Compare Step 4 with the "minimum workload to generate an additional room" value; if higher, provide an additional room.

$$1{,}104 > 307$$

One additional room generated.

Total number of rooms generated by 18,000 annual encounters: 12

TABLE 1: WORKLOAD PARAMETER CALCULATION

PATIENT ROOM	AVERAGE LENGTH OF ENCOUNTER (ALOE) (minutes)	UTILIZATION RATE NO GME (WITH GME)	ANNUAL WORKLOAD PER EXAM / PROCEDURE ROOM	MINIMUM ANNUAL WORKLOAD TO GENERATE ONE ROOM
Cardiology Exam Room	30	80%	3,072	614
Echocardiograph Room	40	80%	2,304	461
Stress Echocardiograph Room	75	80%	1,229	246
Ultrasound Room	30	80%	3,072	614
Treadmill Room	60	80%	1,536	307
Pulmonary Exam Room	30	80%	3,072	614
Treadmill Room Pulmonary Function	60	80%	1,536	307
Sleep Disorders Exam Room	30	80%	3,072	614

TABLE 2: CARDIOPULMONARY REHABILITATION EXERCISE AREA CALC.

EQUIPMENT MODALITY	NSF
Free Weight Cart	10
Stair Climber	80
Stairmaster	40
Treadmill, Regular	40
Exercise Bicycle	20
Floor Mat	45
Mat Platform	90
Anti-Gravity Treadmill	40

SECTION 3: PROGRAM DATA REQUIRED

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

1. Is Cardiology authorized? (M)
    a. How many annual Cardiology encounters are projected? (W)
    b. How many annual Echocardiograph encounters are projected? (W)
    c. How many annual Stress Echocardiograph encounters are projected? (W)
    d. How many Ultrasound annual encounters are projected? (W)
    e. How many annual Treadmill encounters are projected? (W)
    f. How many Airborne Infection Isolation (AII) Exam Rooms for Cardiology, greater than one, are authorized by the Infection Control Risk Assessment (ICRA)? (Misc)
    g. How many Telehealth Rooms for Cardiology, greater than one, are authorized? (Misc)
    h. How many EKG Rooms for Cardiology, greater than one, are authorized? (Misc)
    i. Is a Point of Care Laboratory for Cardiology authorized? (M)
    j. Is a Phlebotomy Station for Cardiology authorized? (M)
2. Is Sub-waiting for Cardiology Staff and Administration authorized?)Misc)
3. Is a Conference Room for Cardiology authorized? (Misc)
4. Is a Patient Records Storage for Cardiology authorized? (Misc)
5. How many Cardiology FTE positions are authorized? (S)
    a. How many Cardiology FTE positions are authorized to have a private office? (Misc)
    b. How many Cardiology FTE positions are authorized to have a shared office? (Misc)
    c. How many Cardiology FTE positions are authorized to have a cubicle office? (Misc)
    d. How many Cardiology FTEs will work on peak shift? (Misc)
6. Is a Cardiology GME / Training Program authorized? (M)
    a. How many Cardiology Resident / Student FTE positions are authorized? (S)

3.2. INPUT DATA STATEMENTS: CARDIOPULMONARY REHABILITATION

1. Is Cardiopulmonary Rehabilitation authorized? (M)
    a. How many free weight carts (10 NSF), greater than one, are authorized in Cardiopulmonary Rehabilitation? (Misc)
    b. How many stair climbers (80 NSF), greater than one, are authorized in Cardiopulmonary Rehabilitation? (Misc)
    c. How many stairmasters (40 NSF), greater than one, are authorized in Cardiopulmonary Rehabilitation? (Misc)
    d. How many regular treadmills (40 NSF), greater than one, are authorized in Cardiopulmonary Rehabilitation? (Misc)

   e. How many exercise bicycles (20 NSF), greater than one, are authorized in Cardiopulmonary Rehabilitation? (Misc)
   f. How many floor mats (45 NSF), greater than one, are authorized in Cardiopulmonary Rehabilitation? (Misc)
   g. How many Mat Platforms (90 NSF), greater than one, are authorized in Cardiopulmonary Rehabilitation? (Misc)
   h. How many Anti-Gravity Treadmills (40 NSF), greater than one, are authorized in Cardiopulmonary Rehabilitation? (Misc)
   i. Is a dedicated Gym Equipment Storage for Cardiopulmonary Rehabilitation authorized? (Misc)
2. How many Cardiopulmonary Rehabilitation FTE positions are authorized? (S)
   a. How many Cardiopulmonary Rehabilitation FTE positions are authorized to have a private office? (Misc)
   b. How many Cardiopulmonary Rehabilitation FTE positions are authorized to have a shared office? (Misc)
   c. How many Cardiopulmonary Rehabilitation FTE positions are authorized to have a cubicle? (Misc)
   d. How many Cardiopulmonary Rehabilitation FTEs will work on peak shift? (Misc)
   e. How many Cardiopulmonary Rehabilitation Technician FTE positions are authorized? (S)

3.3. INPUT DATA STATEMENTS: PULMONARY SERVICES

1. Are Pulmonary Services authorized? (M)
   a. How many annual Pulmonary encounters are projected? (W)
   b. How many Pulmonary Airborne Infection Isolation (AII) Exam Rooms, greater than one, are authorized by the Infection Risk Control Assessment (ICRA)? (Misc)
   c. How many Pulmonary Telehealth Rooms, greater than one, are authorized? (Misc)
   d. Is a Point of Care Laboratory for Pulmonary authorized? (M)
   e. Is a Phlebotomy Station for Pulmonary authorized? (M)
   f. Is a Function Lab for Pulmonary authorized? (M)
   g. How many annual Pulmonary Function Treadmill encounters are projected? (W)
2. Is Sub-waiting for Pulmonary Staff and Administration authorized?)Misc)
3. Is a Patient Records Storage for Pulmonary authorized? (Misc)
4. Is a Conference Room for Pulmonary Staff and Administration authorized? (Misc)
5. How many Pulmonary FTE positions are authorized? (S)
   a. How many Pulmonary FTE positions are authorized to have a private office? (Misc)
   b. How many Pulmonary FTE positions are authorized to have a shared office? (Misc)
   c. How many Pulmonary FTE positions are authorized to have a cubicle? (Misc)
   d. How many Pulmonary FTEs will work on peak shift? (Misc)
6. Is a GME / Training Program for Pulmonary authorized? (M)
   a. How many Pulmonary Resident / Student FTE positions are authorized? (S)

3.4. INPUT DATA STATEMENTS: SLEEP DISORDERS CENTER

1. Is a Sleep Disorders Center authorized? (M)
    a. How many annual Sleep Disorders encounters are projected? (W)
    b. How many Sleep Disorders Center Telehealth Exam Rooms, greater than one, are authorized? (Misc)
2. Is a Sleep Lab authorized? (M)
    a. How many annual night time Sleep Studies are projected? (W)
3. Is Sub-waiting for the Sleep Disorders Center Staff and Administration authorized?)Misc)
4. Is a Conference Room for the Sleep Disorders Center authorized? (Misc)
5. Is a Patient Records Storage for the Sleep Disorders Center authorized? (Misc)
6. How many Sleep Disorders Center FTE positions are authorized? (S)
    a. How many Sleep Disorders Center FTE positions are authorized to have a private office? (Misc)
    b. How many Sleep Disorders Center FTE positions are authorized to have a shared office? (Misc)
    c. How many Sleep Disorders Center FTE positions are authorized to have a cubicle? (Misc)
    d. How many Sleep Disorders Center FTEs will work on peak shift? (Misc)

SECTION 4: SPACE PLANNING CRITERIA

For calculation of the number of Vending Machine areas, Public Toilets, Communication Closets, and Janitor Closets for this Chapter, please refer to DoD Space Planning Criteria Chapter 610: Common Areas.

4.1. FA1: CARDIOLOGY RECEPTION.

1. **Waiting (WRC01)** **120 NSF**
   Minimum NSF if Cardiology is authorized; provide an additional 60 NSF for every increment of four Exam Rooms, of all types, greater than four.

2. **Playroom (PLAY1)** **120 NSF**
   Provide one if Cardiology is authorized.

   This space is provided to accommodate children's play activities, may be an open or enclosed area, and should be included within or adjacent to Waiting.

3. **Reception (RECP1)** **120 NSF**
   Provide one if Cardiology is authorized.

   Allocated NSF accommodates two FTEs.

4. **Kiosk, Patient Check-in (CLSC1)** **30 NSF**
   Provide one if Cardiology is authorized.

5. **Patient Education (CLSC3)** **120 NSF**
   Provide one if Cardiology is authorized.

4.2. FA2: CARDIOLOGY PATIENT AREA.

1. **Screening (EXRG4)** **120 NSF**
   Minimum one if Cardiology is authorized; provide an additional one for every increment of eight Exam Rooms, of all types, greater than eight.

2. **Alcove, Height / Weight (EXR11)** **30 NSF**
   Provide one if Cardiology is authorized.

3. **Exam Room, Cardiology (EXRG1)** **120 NSF**
   Minimum one if Cardiology is authorized; provide an additional one for every increment of 3,072 annual Cardiology encounters projected greater than 3,072; minimum workload to generate a room is 614. (Refer to Table 1)

4. **Exam Room, Cardiology Airborne Infection Isolation (AII) (EXRG6)** **180 NSF**
   Minimum one if Cardiology is authorized; provide an additional one per each Airborne Infection Isolation (AII) Exam Room, greater than one, authorized by the MTF's Infection Control Risk Assessment (ICRA).

   This room is part of the total number of workload driven exam rooms.

5. **Toilet, Cardiology Airborne Infection Isolation (AII) Patient (TLTU1)** **60 NSF**
   Provide one per each Airborne Infection Isolation (AII) Exam Room.

6. **Exam Room, Bariatric (EXB01)** **150 NSF**
   Provide one if Cardiology is authorized.

   This room is part of the total number of workload driven exam rooms.

7. **Toilet, Bariatric (TLTB1)** **75 NSF**
   Provide one if Cardiology is authorized.

8. **Telehealth Room, Cardiology (EXTH1)** **120 NSF**
   Minimum one if Cardiology is authorized; provide an additional one per each Telehealth Exam Room, greater than one, authorized.

   This room is part of the total number of workload driven exam rooms.

9. **Exam / Consult (EXR10)** **120 NSF**
   Minimum one; provide an additional one for every increment of sixteen Exam Rooms, of all types, greater than sixteen.

10. **Toilet, Patient (TLTU1)** **60 NSF**
    Minimum one; provide an additional one for every increment of eight Cardiology Exam rooms, of all types, greater than eight.

11. **Laboratory, Point of Care (LBSP1)** **120 NSF**
    Provide one if a Point of Care Laboratory for Cardiology is authorized.

12. **Phlebotomy Station (LBVP1)** **120 NSF**
    Provide one if a Phlebotomy Station for Cardiology is authorized.

4.3. FA3: CARDIOLOGY DIAGNOSTICS / TESTING.

1. **EKG Room (OPEC1)** **120 NSF**
   Minimum one if Cardiology is authorized; provide an additional one per each EKG Room, greater than one, authorized.

EKGs may also be performed in Exam Rooms.

2. **Echocardiograph Room (OPPE1)** **120 NSF**
Minimum one if Cardiology is authorized; provide an additional one for every increment of 2,304 Echocardiograph annual encounters projected greater than 2,304; minimum workload to generate a room is 461. (Refer to Table 1)

3. **Stress Echocardiograph Room (OPPE2)** **240 NSF**
Minimum one if Cardiology is authorized; provide an additional one for every increment of 1,229 Stress Echocardiograph annual encounters projected greater than 1,229; minimum workload to generate a room is 246. (Refer to Table 1)

4. **Echocardiograph Viewing Room (XVC01)** **120 NSF**
Provide one if Cardiology is authorized.

5. **Ultrasound Room (XDUS1)** **120 NSF**
Minimum one if Cardiology is authorized; provide an additional one for every increment of 3,072 Ultrasound encounters projected greater than 3,072; minimum workload to generate a room is 614.(Refer to Table 1)

6. **Tilt Table Testing (OPTM2)** **120 NSF**
Provide one if Cardiology is authorized.

7. **Pacemaker, ICD Interrogation (OPPM1)** **120 NSF**
Provide one if Cardiology is authorized.

8. **Storage, Pacemaker Equipment (SRE01)** **60 NSF**
Provide one if Cardiology is authorized.

9. **Treadmill Room (OPTM1)** **300 NSF**
Minimum one if Cardiology is authorized; provide an additional one for every increment of 1,536 Treadmill annual encounters projected greater than 1,536; minimum workload to generate a room is 307. (Refer to Table 1)

10. **Holter Monitor Room (OPHM1)** **120 NSF**
Provide one if Cardiology is authorized.

4.4. FA4: CARDIOLOGY SUPPORT.

1. **Medication Room (MEDP1)** **120 NSF**
Provide one if Cardiology is authorized.

2. **Utility Room, Clean (UCCL1)** **120 NSF**
Minimum one if Cardiology is authorized; provide an additional one for every increment of sixteen Exam Rooms, of all types, greater than sixteen.

3. **Utility Room, Soiled (USCL1)** **90 NSF**
   Minimum one if Cardiology is authorized; provide an additional one for every increment of sixteen Exam Rooms, of all types, greater than sixteen.

4. **Storage, Equipment (SRE01)** **120 NSF**
   Minimum one if Cardiology is authorized; provide an additional one for every increment of eight Exam Rooms, of all types, greater than eight.

5. **Alcove, Crash Cart (RCA01)** **30 NSF**
   Provide one if Cardiology is authorized.

6. **Alcove, Wheelchair (SRLW1)** **30 NSF**
   Provide one if Cardiology is authorized.

4.5. FA5: CARDIOLOGY STAFF AND ADMINISTRATION.

1. **Office, Department / Clinic Chief (OFA04)** **120 NSF**
   Provide one if Cardiology is authorized.

2. **Sub-Waiting (WRC03)** **60 NSF**
   Provide one if Sub-waiting for Cardiology Staff and Administration is authorized.

3. **Office, NCOIC / LCPO / LPO (OFA04)** **120 NSF**
   Provide one if Cardiology is authorized.

4. **Team Collaboration Room (WRCH1)** **120 NSF**
   Minimum one if Cardiology is authorized; provide an additional one for every increment of four Cardiology FTE positions authorized greater than eight.

5. **Office, Private (OFA04)** **120 NSF**
   Provide one per each Cardiology FTE position authorized to have a private office.

6. **Office, Shared (OFA05)** **120 NSF**
   Provide one for every increment of two Cardiology FTE positions authorized to have a shared office.

7. **Cubicle (OFA03)** **60 NSF**
   Provide one per each Cardiology FTE position authorized to have a cubicle.

   These cubicles may be collocated in a shared space or dispersed as required.

8. **Storage, Patient Records (FILE1)** **120 NSF**
   Provide one if Cardiology Patient Records storage is authorized.

9. **Conference Room (CRA01)** **240 NSF**
   Minimum NSF if a Conference Room for the Cardiology Staff and Administrative Area is authorized; provide an additional 60 NSF if the total number of FTE positions authorized is greater than ten.

   Planner must determine adequacy and availability of existing Conference Room space and the ability to optimize resources by sharing Conference Room space with other departments.

10. **Copy / Office Supply (RPR01)** **120 NSF**
    Provide one if Cardiology is authorized.

11. **Lounge, Staff (SL001)** **120 NSF**
    Minimum NSF if the number of Cardiology FTEs working on peak shift is ten; provide an additional 60 NSF for every increment of five Cardiology FTEs working on peak shift greater than ten; maximum 360 NSF.

12. **Toilet, Staff (TLTU1)** **60 NSF**
    Minimum one Provide an additional one for every increment of fifteen Cardiology FTE positions working on peak shift greater than fifteen.

13. **Lockers, Personal Property (LR001)** **30 NSF**
    Minimum NSF; provide an additional 30 NSF for every increment of four Cardiology FTE positions not assigned a private office, a shared office or a cubicle greater than eight.

4.6. FA6: CARDIOLOGY GME / TRAINING.

14. **Office, Residency Program Director (OFA04)** **120 NSF**
    Provide one if a Cardiology Graduate Medical Education (GME) is authorized.

15. **Resident Collaboration Room (WKTM1)** **240 NSF**
    Minimum NSF if a Cardiology Graduate Medical Education (GME) is authorized; provide an additional 60 NSF per each Resident / Student FTE position authorized greater than two.

    Minimum NSF accommodates two residents, and a collaboration / reference area.

16. **Conference / Classroom / Room (CRA01)** **240 NSF**
    Provide one if a Cardiology Graduate Medical Education (GME) is authorized and if the number of Resident / Student FTE positions authorized is greater than five.

4.7. FA7: CARDIOPULMONARY REHABILITATION.

1. **Waiting (WRC01)** **120 NSF**
   Provide one if Cardiopulmonary Rehabilitation is authorized.

2. **Playroom (PLAY1)** **120 NSF**
   Provide one if Cardiopulmonary Rehabilitation is authorized.

   This space is provided to accommodate children's play activities, may be an open or enclosed area, and should be included within or adjacent to Waiting.

3. **Reception (RECP3)** **60 NSF**
   Provide one if Cardiopulmonary Rehabilitation is authorized.

4. **Kiosk, Patient Check-in (CLSC1)** **30 NSF**
   Provide one if Cardiopulmonary Rehabilitation is authorized.

5. **Alcove, Wheelchair (SRLW1)** **30 NSF**
   Provide one if Cardiopulmonary Rehabilitation is authorized.

6. **Conference / Classroom (CRA01)** **240 NSF**
   Provide one if Cardiopulmonary Rehabilitation is authorized.

7. **Exam / EKG Room (OPEC1)** **120 NSF**
   Provide one if Cardiopulmonary Rehabilitation is authorized.

8. **Consult Room (OFDC2)** **120 NSF**
   Provide one if Cardiopulmonary Rehabilitation is authorized.

9. **Monitoring Station, Physiological (NSTA3)** **60 NSF**
   Provide one if Cardiopulmonary Rehabilitation is authorized.

   This station supports line of sight to monitored patients.

10. **Open Gym Area (PTEA1)** **360 NSF**
    Provide one if Cardiopulmonary Rehabilitation is authorized.

    For warm up, stretching, structured group exercise classes such as Aerobics, Yoga, Tai Chi, Flexibility Training.

11. **Exercise Area (PTES1)** **420 NSF**
    Minimum NSF if Cardiopulmonary Rehabilitation is authorized; provide additional NSF per each equipment modality authorized greater than one. (Refer to Table 2)

    This is an open area that includes space to accommodate exercise machines (equipment modalities such as balance trainers, bicycles, bicycle ergometer, exercise

system, Stairmaster, treadmill, etc.). Minimum allocated NSF accommodates one cart with free weights (10 NSF), one stair climber (80 NSF), one Stairmaster (40 NSF), one treadmill (40 NSF), one exercise bicycle (20 NSF), one floor mat (45 NSF), one mat platform (90 NSF), and one anti-gravity treadmill (40 NSF)

12. **Toilet, Patient (TLTU1)** **60 NSF**
    Provide one if Cardiopulmonary Rehabilitation is authorized.

13. **Toilet, Bariatric (TLTB1)** **75 NSF**
    Provide one if Cardiopulmonary Rehabilitation is authorized.

14. **Workstation, Rehab Technician (PTCW1)** **30 NSF**
    Provide one per each Cardiopulmonary Rehabilitation Technician FTE position authorized.

    This space is for the technician who supports the cardiopulmonary rehabilitation area located in line of sight to exercise area.

15. **Storage, Gym Equipment (SRE01)** **120 NSF**
    Provide one if dedicated Cardiopulmonary Rehabilitation Gym Equipment Storage is authorized.

16. **Team Collaboration Room (WRCH1)** **120 NSF**
    Minimum one; provide an additional one for every increment of four Cardiopulmonary Rehabilitation FTE positions authorized greater than eight.

17. **Locker / Changing Room, Male Patient (LR002)** **120 NSF**
    Provide one if Cardiopulmonary Rehabilitation is authorized.

18. **Locker / Changing Room, Female Patient (LR002)** **120 NSF**
    Provide one if Cardiopulmonary Rehabilitation is authorized.

19. **Toilet / Shower, Male Patient (TLTS2)** **60 NSF**
    Provide one if Cardiopulmonary Rehabilitation is authorized.

20. **Toilet / Shower, Female Patient (TLTS2)** **60 NSF**
    Provide one if Cardiopulmonary Rehabilitation is authorized.

21. **Alcove, Clean Linen (LCCL3)** **30 NSF**
    Provide one if Cardiopulmonary Rehabilitation is authorized.

22. **Alcove, Soiled Linen (LCSL3)** **30 NSF**
    Provide one if Cardiopulmonary Rehabilitation is authorized.

23. **Alcove, Crash Cart (RCA01)** **30 NSF**
    Provide one if Cardiopulmonary Rehabilitation is authorized.

24. **Office, Private (OFA04)** **120 NSF**
Provide one per each Cardiopulmonary Rehabilitation FTE position authorized to have a private office.

25. **Office, Shared (OFA05)** **120 NSF**
Provide one for every increment of two Cardiopulmonary Rehabilitation FTE positions authorized to have a shared office.

26. **Office, Cubicle (OFA03)** **60 NSF**
Provide one per each Cardiopulmonary Rehabilitation FTE position authorized to have a cubicle.

These cubicles may be collocated in a shared space or dispersed as required.

27. **Copy / Office Supply (RPR01)** **120 NSF**
Provide one if Cardiopulmonary Rehabilitation is authorized.

28. **Lounge, Staff (SL001)** **120 NSF**
Minimum NSF if the number of Cardiopulmonary Rehabilitation FTEs working on peak shift is ten; provide an additional 60 NSF for every increment of five Cardiopulmonary Rehabilitation FTEs working on peak shift greater than ten; maximum 360 NSF.

29. **Toilet, Staff (TLTU1)** **60 NSF**
Minimum one; provide an additional one for every increment of fifteen Cardiopulmonary Rehabilitation FTE positions working on peak shift greater than fifteen.

30. **Lockers, Personal Property (LR001)** **30 NSF**
Minimum NSF; provide an additional 30 NSF for every increment of four Cardiopulmonary Rehabilitation FTE positions not assigned a private office, a shared office or a cubicle greater than eight.

4.8. FA8: PULMONARY RECEPTION.

1. **Waiting (WRC01)** **120 NSF**
Minimum NSF if Pulmonary is authorized; provide an additional 60 NSF for every increment of four Exam Rooms, of all types, greater than eight.

2. **Playroom (PLAY1)** **120 NSF**
Provide one if Pulmonary is authorized.

This space is provided to accommodate children's play activities, may be an open or enclosed area, and should be included within or adjacent to Waiting.

3. **Reception (RECP1)** **120 NSF**
   Provide one if Pulmonary is authorized.

   Allocated NSF accommodates two FTEs.

4. **Kiosk, Patient Check-in (CLSC1)** **30 NSF**
   Provide one if Pulmonary is authorized.

5. **Patient Education (CLSC3)** **120 NSF**
   Provide one if Pulmonary is authorized.

4.9. FA9: PULMONARY PATIENT AREA.

1. **Screening (EXRG4)** **120 NSF**
   Minimum one if Pulmonary is authorized; provide an additional one for every increment of eight Exam Rooms, of all types, greater than eight.

2. **Alcove, Height / Weight (EXR11)** **30 NSF**
   Provide one if Pulmonary is authorized.

3. **Exam Room, Pulmonary (EXRG1)** **120 NSF**
   Minimum one if Pulmonary is authorized; provide an additional one for every increment to 3,072 annual Pulmonary encounters projected greater than 3,072; minimum workload to generate a room is 614. (Refer to Table 1)

4. **Exam Room, Pulmonary Airborne Infection Isolation (AII) (EXRG6)** **180 NSF**
   Minimum one; provide an additional one per each Pulmonary Airborne Infection Isolation (AII) Exam Room, greater than one, authorized by the MTF's Infection Control Risk Assessment (ICRA).

   This room is part of the total number of workload driven exam rooms.

5. **Toilet, Pulmonary Airborne Infection Isolation (AII) Patient (TLTU1)** **60 NSF**
   Provide one per each Airborne Infection Isolation (AII) Exam Room.

6. **Telehealth Room, Pulmonary (EXTH1)** **120 NSF**
   Minimum one; provide an additional Pulmonary Telehealth Room if authorized.

   This room is part of the total number of workload driven exam rooms.

7. **Procedure Room (TRGM1)** **180 NSF**
   Provide one if Pulmonary is authorized.

8. **Laboratory, Point of Care (LBSP1)** **120 NSF**
   Provide one if a Point of Care Laboratory for Pulmonary is authorized.

9. **Phlebotomy Station (LBVP1)** **120 NSF**
   Provide one if a Phlebotomy Station for Pulmonary is authorized.

4.10. FA10: PULMONARY FUNCTION LAB.

1. **Screening (OPPS1)** **120 NSF**
   Provide one if a Pulmonary Function Lab is authorized.

2. **Testing Room, Pulmonary Function (OPPF4)** **120 NSF**
   Minimum NSF; provide an additional 60 NSF for every increment of three Pulmonary Exam Rooms greater than six.

3. **Treadmill Room, Pulmonary Function (OPPF5)** **120 NSF**
   Minimum one if Pulmonary is authorized; provide an additional one for every increment to 1,536 annual Pulmonary Function Treadmill encounters projected greater than 1,536; minimum workload to generate a room is 307. (Refer to Table 1)

4. **Storage, Gas Cylinders (SRGC2)** **60 NSF**
   Provide one if a Pulmonary Function Lab is authorized.

5. **Storage, Equipment (SRE01)** **120 NSF**
   Provide one if a Pulmonary Function Lab is authorized.

4.10. FA10: PULMONARY SUPPORT.

6. **Medication Room (MEDP1)** **120 NSF**
   Provide one if Pulmonary is authorized.

7. **Utility Room, Clean (USCL1)** **120 NSF**
   Provide one if Pulmonary is authorized.

8. **Utility Room, Soiled (UCCL1)** **90 NSF**
   Provide one if Pulmonary is authorized.

9. **Storage, Equipment (SRE01)** **120 NSF**
   Provide one if Pulmonary is authorized.

10. **Alcove, Crash Cart (RCA01)** **30 NSF**
    Provide one if Pulmonary is authorized.

11. **Alcove, Wheelchair (SRLW1)** **30 NSF**
    Provide one if Pulmonary is authorized.

4.10. FA10: PULMONARY STAFF AND ADMINISTRATION.

1. **Office, Department / Clinic Chief (OFA04)** **120 NSF**
   Provide one if Pulmonary is authorized.

2. **Sub-Waiting (WRC03)** **60 NSF**
   Provide one if Sub-waiting for Pulmonary Staff and Administration is authorized.

3. **Office, NCOIC / LCPO / LPO (OFA04)** **120 NSF**
   Provide one if Pulmonary is authorized.

4. **Team Collaboration Room (WRCH1)** **120 NSF**
   Minimum one; provide an additional one for every increment of four Pulmonary FTE positions authorized greater than eight.

5. **Office, Private (OFA04)** **120 NSF**
   Provide one per each Pulmonary FTE position authorized to have a private office.

6. **Office, Shared (OFA05)** **120 NSF**
   Provide one for every increment of two Pulmonary FTE positions authorized to have a shared office.

7. **Cubicle (OFA03)** **60 NSF**
   Provide one per each Pulmonary FTE position authorized to have a cubicle.

   These cubicles may be collocated in a shared space or dispersed as required.

8. **Storage, Patient Records (FILE1)** **120 NSF**
   Provide one if Pulmonary Patient Records storage is authorized.

9. **Conference Room (CRA01)** **240 NSF**
   Minimum NSF if a Conference Room for Pulmonary Staff and Administration is authorized; provide an additional 60 NSF if the total number of Pulmonary FTE positions authorized is greater than ten.

   Planner must determine adequacy and availability of existing Conference Room space and the ability to optimize resources by sharing Conference Room space with other departments.

10. **Copy / Office Supply (RPR01)** **120 NSF**
    Provide one if Pulmonary is authorized.

11. **Lounge, Staff (SL001)** **120 NSF**
    Minimum NSF if the number of Pulmonary FTEs working on peak shift is ten; provide an additional 60 NSF for every increment of five Pulmonary FTEs working on peak shift greater than ten; maximum 360 NSF.

12. **Toilet, Staff (TLTU1)** **60 NSF**
Minimum one; provide an additional one for every increment of fifteen Pulmonary FTE positions working on peak shift greater than fifteen.

13. **Lockers, Personal Property (LR001)** **30 NSF**
Minimum NSF; provide an additional 30 NSF for every increment of four Pulmonary FTE positions not assigned a private office, a shared office or a cubicle greater than eight Provide one if Pulmonary is authorized.

4.11. FA11: PULMONARY GME / TRAINING.

1. **Office, Residency Program Director (OFA04)** **120 NSF**
Provide one if a Pulmonary GME Program is authorized.

2. **Resident Collaboration Room (WKTM1)** **240 NSF**
Minimum NSF if a Pulmonary GME Program is authorized; provide an additional 60 NSF per each Resident / Student FTE position authorized greater than two.

   Minimum NSF accommodates two residents, and a collaboration / reference area.

3. **Conference / Classroom / (CRA01)** **240 NSF**
Provide one if a Pulmonary GME Program is authorized and if the number of Resident / Student FTE positions authorized is greater than five.

4.12. FA12: SLEEP DISORDERS CENTER RECEPTION.

1. **Waiting (WRC01)** **120 NSF**
Minimum NSF if a Sleep Disorders Center is authorized; provide an additional 60 NSF for every increment of four Exam Rooms, of all types, greater than eight.

2. **Playroom (PLAY1)** **120 NSF**
Provide one if a Sleep Disorders Center is authorized.

   This space is provided to accommodate children's play activities, may be an open or enclosed area, and should be included within or adjacent to Waiting.

3. **Reception (RECP3)** **60 NSF**
Provide one if a Sleep Disorders Center is authorized.

4. **Kiosk, Patient Check-in (CLSC1)** **30 NSF**
Provide one if a Sleep Disorders Center is authorized.

5. **Patient Education (CLSC3)** **120 NSF**
Provide one if a Sleep Disorders Center is authorized.

4.13. FA13: SLEEP DISORDERS CENTER.

1. **Screening (EXRG4)** **120 NSF**
   Minimum one; provide an additional one for every increment of eight Exam Rooms, of all types, greater than eight.

2. **Alcove, Height / Weight (EXR11)** **30 NSF**
   Provide one if a Sleep Disorders Center is authorized.

3. **Exam Room, Sleep Disorders (EXRG1)** **120 NSF**
   Minimum one if Sleep Disorders Center is authorized; provide an additional one for every increment to 3,072 annual Sleep Disorders encounters projected greater than 3,072; minimum workload to generate a room is 614. (Refer to Table 1)

4. **Telehealth Room, Sleep Disorders (EXTH1)** **120 NSF**
   Minimum one; provide an additional one per each Sleep Disorders Center Telehealth Exam Room greater than one authorized.

   This room is part of the total number of workload driven exam rooms.

5. **Exam / Consult Room (EXR10)** **120 NSF**
   Provide one if a Sleep Disorders Center is authorized.

4.14. FA14: SLEEP LAB.

1. **Bedroom, Sleep Lab (OPPF6)** **180 NSF**
   Minimum four if a Sleep Lab is authorized; provide an additional two for every increment of 600 annual night time Sleep Studies projected greater than 1,200.

2. **Toilet / Shower, Sleep Lab (TLTS2)** **60 NSF**
   Provide one per each Sleep Lab Bedroom.

3. **Monitoring Room (OPPF7)** **120 NSF**
   Minimum NSF; provide an additional 30 NSF per each Sleep Lab Bedroom greater than four.

   This is a central control room where the technologist monitors the patient's sleep and general condition. One Sleep Tech for two Sleep Lab Bedrooms.

4. **Storage, Equipment (SRE01)** **120 NSF**
   Provide one for Sleep Lab.

4.15. FA15: SLEEP DISORDERS CENTER SUPPORT.

1. **Utility Room, Clean (UCCL1)** **120 NSF**
   Minimum one; provide an additional one for every increment of sixteen Exam Rooms, of all types, greater than sixteen.

2. **Utility Room, Soiled (USCL1)** **90 NSF**
   Minimum one; provide an additional one for every increment of sixteen Exam Rooms, of all types, greater than sixteen.

3. **Decontamination, Sleep Lab Equipment (OPRS1)** **120 NSF**
   Provide one if a Sleep Disorders Center is authorized.

   Provide a separation for Dirty and Clean workflow within this room. This room is used to clean, hang and dry the sleep lab equipment.

4. **Storage, Equipment (SRE01)** **120 NSF**
   Minimum one; provide an additional one for every increment of eight Exam Rooms, of all types, greater than eight.

5. **Alcove, Crash Cart (RCA01)** **30 NSF**
   Provide one if a Sleep Disorders Center is authorized.

6. **Alcove, Wheelchair (SRLW1)** **30 NSF**
   Provide one if a Sleep Disorders Center is authorized.

4.16. FA16: SLEEP DISORDERS CENTER STAFF AND ADMINISTRATION.

1. **Office, Department / Clinic Chief (OFA04)** **120 NSF**
   Provide one if a Sleep Disorders Center is authorized.

2. **Sub-Waiting (WRC03)** **60 NSF**
   Provide one if a Sub-waiting for the Sleep Disorders Center is authorized.

3. **Office, NCOIC / LCPO / LPO (OFA04)** **120 NSF**
   Provide one if a Sleep Disorders Center is authorized.

4. **Team Collaboration Room (WRCH1)** **120 NSF**
   Minimum one; provide an additional one for every increment of four Sleep Disorders Center FTE positions authorized greater than eight.

5. **Office, Private (OFA04)** **120 NSF**
   Provide one per each Sleep Disorders Center FTE position authorized to have a private office.

6. **Office, Shared (OFA05)** **120 NSF**
   Provide one for every increment of two Sleep Disorders Center FTE positions authorized to have a shared office.

7. **Cubicle (OFA03)** **60 NSF**
   Provide one per each Sleep Disorders Center FTE position authorized to have a cubicle.

   These cubicles may be collocated in a shared space or dispersed as required.

8. **Storage, Patient Records (FILE1)** **120 NSF**
   Provide one if Sleep Disorders Center Patient Records storage is authorized.

9. **Conference Room (CRA01)** **240 NSF**
   Minimum one if a Sleep Disorders Center Staff and Administrative Area Conference Room is authorized; provide an additional 60 NSF if the total number of FTE positions authorized is greater than ten.

   Planner must determine adequacy and availability of existing Conference Room space and the ability to optimize resources by sharing Conference Room space with other departments.

10. **Copy / Office Supply (RPR01)** **120 NSF**
    Provide one for the Sleep Disorders Center.

11. **Lounge, Staff (SL001)** **120 NSF**
    Minimum NSF if the number of Sleep Disorders Center FTEs working on peak shift is ten; provide an additional 60 NSF for every increment of five Sleep Disorders Center FTEs working on peak shift greater than ten; maximum 360 NSF.

12. **Toilet, Staff (TLTU1)** **60 NSF**
    Minimum one; provide an additional one for every increment of fifteen Sleep Disorders Center FTE positions working on peak shift greater than fifteen.

13. **Lockers, Personal Property (LR001)** **30 NSF**
    Minimum NSF; provide an additional 30 NSF for every increment of four Sleep Disorders Center FTE positions not assigned a private office, a shared office or a cubicle greater than eight.

SECTION 5: PLANNING AND DESIGN CONSIDERATIONS

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

5.1. NET-TO-DEPARTMENT GROSS FACTOR. The net-to-department gross factor (NTDG) for Cardiology / Pulmonary Services / Sleep Disorders Center 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 as well as other construction elements not defined by the net square foot area. Refer to UFC 4-510-01, Section 2-3.4.2.2 and DoD Space Planning Criteria Chapter 130: Net to Gross Conversion Factors.

5.2. RECEPTION (ALL CLINICS).

a. Consider sharing reception and waiting between the cardiology pulmonary clinics and the sleep disorders center when possible.

5.3. CARDIOLOGY (EXAM AREA).

a. When possible locate Cardiology in the outpatient clinic directly linked to the hospital for access to ICU/CCU, Cath Lab/EP Lab, Radiology, ED, and Nuclear Medicine.

b. When Cardiology is located within a freestanding outpatient clinic, locate near radiology and the laboratory.

c. For a small Cardiology Clinic (4 providers or less), consider collocating with primary care or other specialty medicine providers.

5.4. CARDIOPULMONARY REHABILITATION.

a. The size of the Exercise Area is heavily dependent on the number and type of equipment that will be used. The planner must work closely with the cardiopulmonary rehab department to determine equipment needs early on in planning.

b. Exercise areas should be adjacent to the nurse station for monitoring.

5.5. PULMONARY (EXAM AREA).

a. See “Planning and Design Considerations” for Cardiology Patient area. The same principles apply.

5.6. SLEEP DISORDERS CENTER.

a. The Sleep Disorders Center is primarily an outpatient service. There is a clinic function and an overnight studies function. Overnight studies may be conducted on-site at the Sleep Lab or they may be conducted via in-home monitoring.

    a. Sleep Lab

        i. Sleep Study Bedroom:

        ii. Bedrooms should be located in an area that is supported by 24/7 operations versus a clinic that operates only during daytime hours.

        iii. There will always be an even number of sleep study beds as there will be one technician per two rooms. Each bed will have its own monitoring station in the tech workroom.

        iv. There will be no windows in the bedroom. This will be a quiet, dark room to mimic the home sleeping environment. Consider hotel-like amenities, and soothing music.

        v. There will be a two-way communication system between the patient bedroom and technician.

        vi. There will be a mechanism for visual monitoring and recording (i.e., video) of patients during testing.

        vii. A toilet and shower will be accessible from within the bedroom).

5.7. SUPPORT (ALL CLINICS).

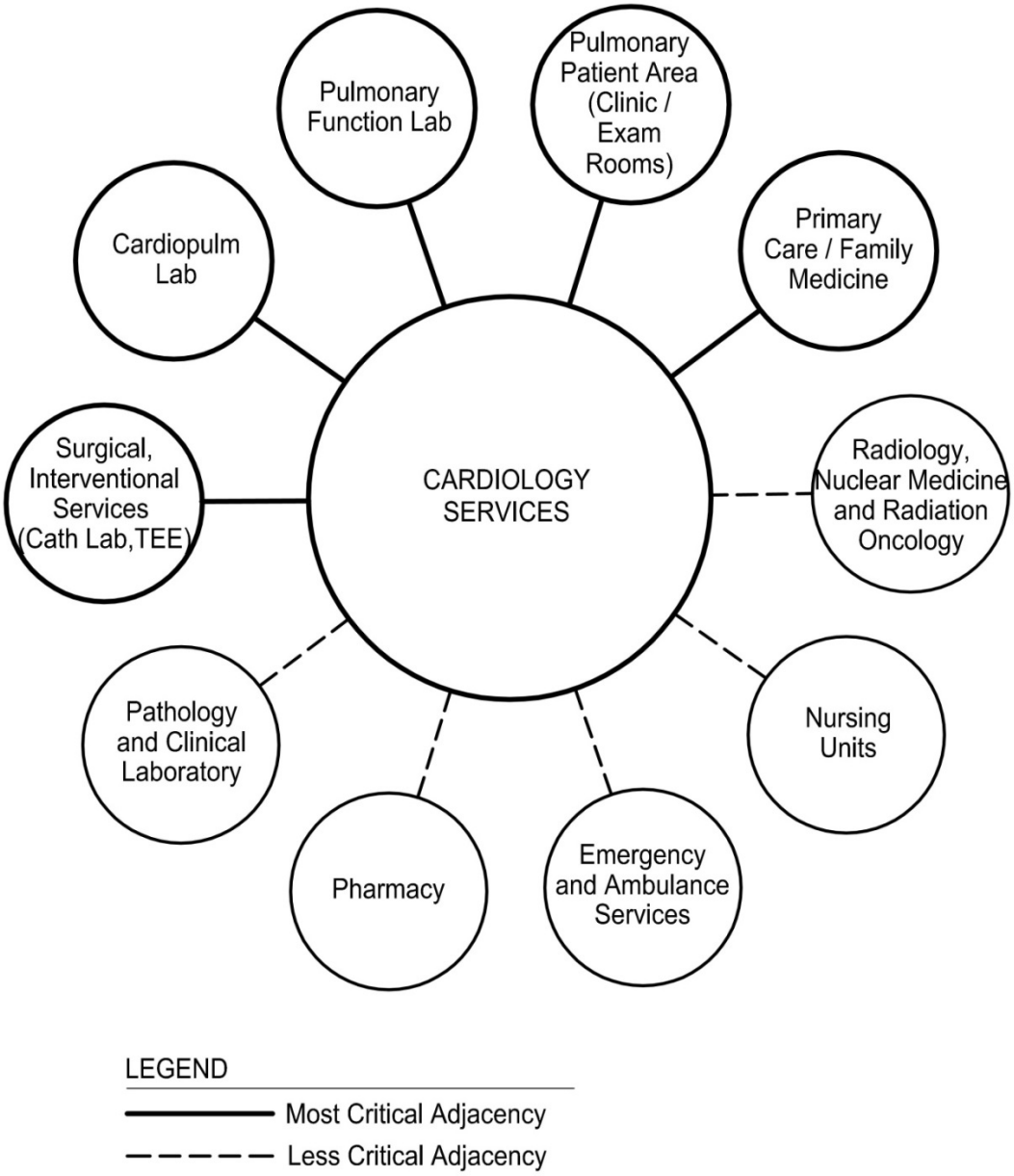
a. Optimize staff efficiency and performance by providing decentralized support spaces (e.g. charting, supplies, medications and equipment). Keep staff travel distances to a minimum.

b. In all equipment storage rooms, assure adequate electrical outlets are provided for all equipment housed within these rooms.

c. 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.

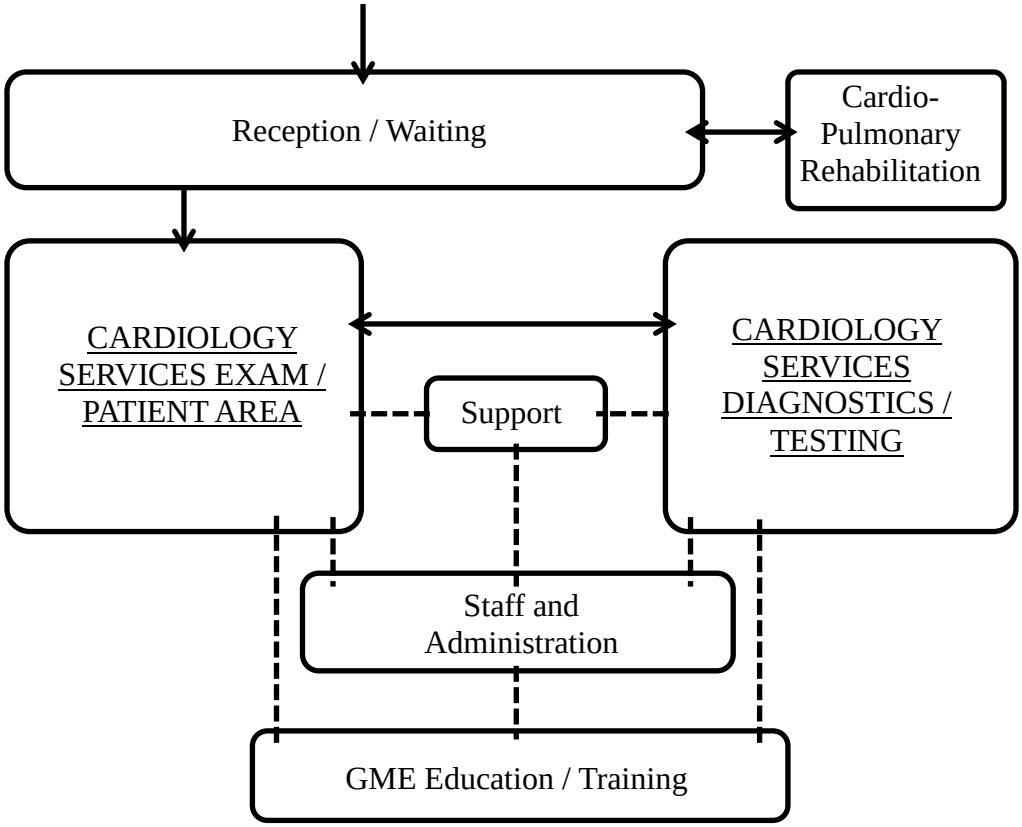
SECTION 6: FUNCTIONAL RELATIONSHIPS (INTERDEPARTMENTAL): CARDIOLOGY SERVICES

6.1. FUNCTIONAL RELATIONSHIPS. Cardiology 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): CARDIOLOGY SERVICES

7.1. FUNCTIONAL DIAGRAM. The diagram below illustrates intradepartmental relationships among key areas / spaces. 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.



LEGEND

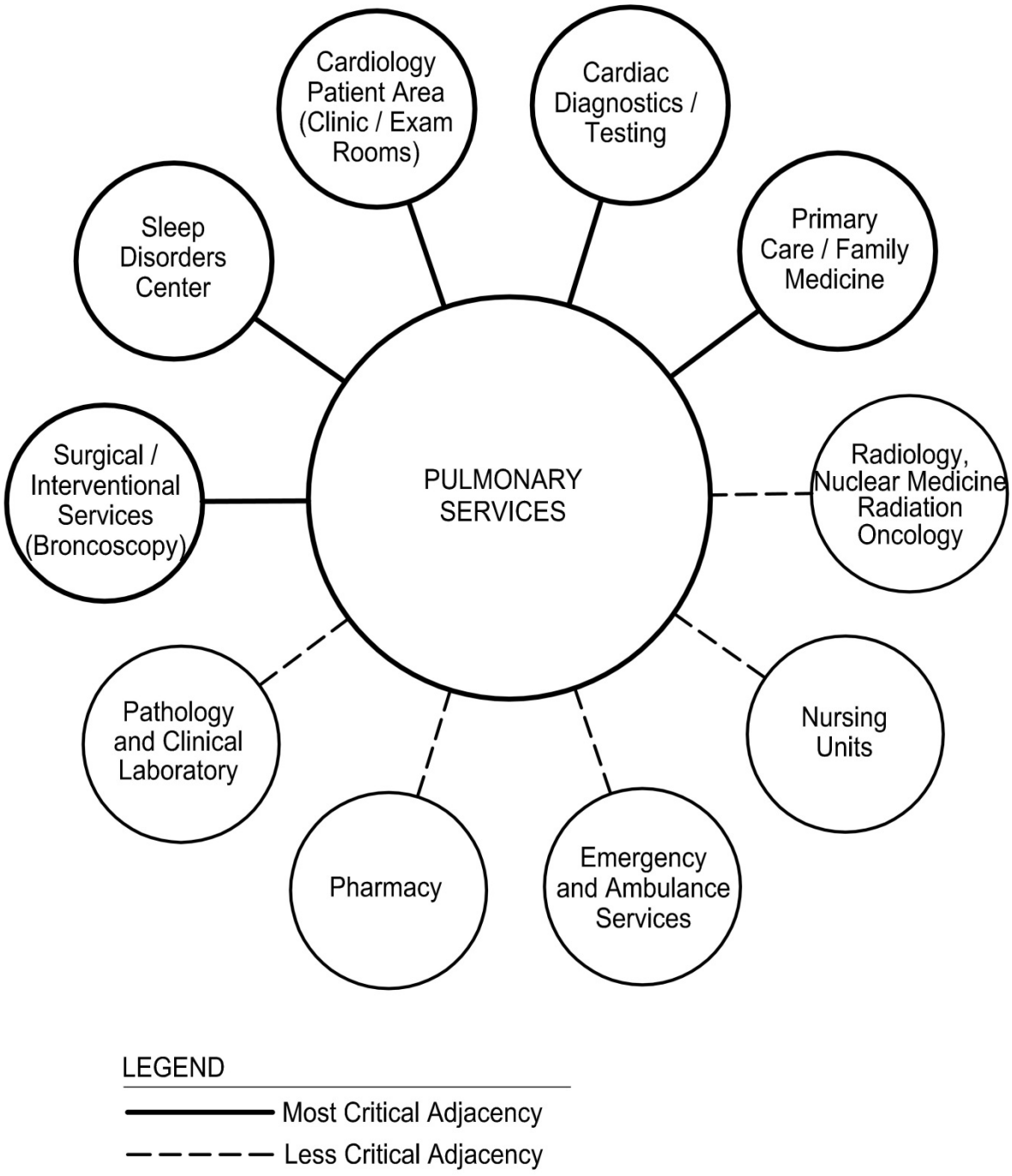
CARDIOLOGY SERVICES

Patient Circulation

Staff Circulation

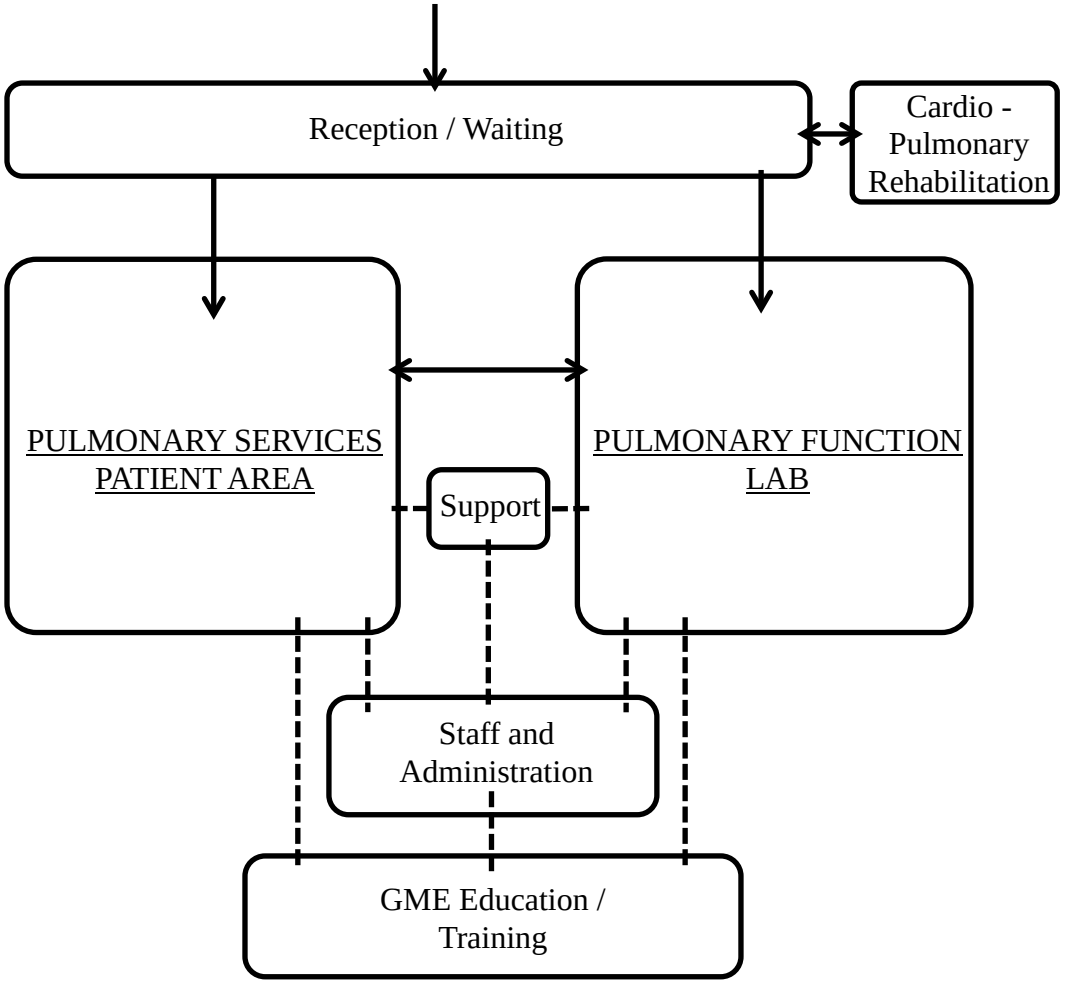
SECTION 8: FUNCTIONAL RELATIONSHIPS (INTERDEPARTMENTAL): PULMONARY SERVICES

8.1. FUNCTIONAL DIAGRAM. Pulmonary 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 9: FUNCTIONAL DIAGRAM (INTRADEPARTMENTAL): PULMONARY SERVICES

9.1. FUNCTIONAL DIAGRAM. The diagram below illustrates intradepartmental relationships among key areas / spaces. 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.



LEGEND

PULMONARY SERVICES

Patient Circulation

Staff Circulation

GLOSSARY

G.1. DEFINITIONS.

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.

Authorized: This document uses the term "authorized" to indicate that, during a project's space plan development, a planner shall seek approval from the appropriate official in the chain of command to activate certain spaces or certain groups of spaces. Typical components that may require authorization are certain programs or services that activate Functional Areas (e.g., GME); office spaces (e.g., FTE position); specialized rooms (e.g., Hybrid OR) or other spaces (e.g., On-Call Room). Typically, Mission, Staffing and Miscellaneous Input Data Statements require authorization, while directly and indirectly workload driven rooms / spaces do not.

Average Length of Encounter (ALOE): In these space criteria, an encounter is defined as a face-to-face professional contact between a patient and a provider vested with responsibility for diagnosing, evaluating, and treating the patient's condition. The Length of Encounter is the time between set-up and clean-up of the Exam Room. The Average Length of Encounter is used to capture variations in Length of Encounter among similar clinical encounters that will take place in an Exam Room.

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 Exam / Treatment Room; however, it is not solely dedicated to the bariatric patient. It may be used by other patients for added flexibility.

Bariatrics: 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.

Cardiopulmonary Rehabilitation: A service that provides a comprehensive approach to cardiac and pulmonary rehabilitation. It consists of exercise and education designed to improve the health and quality of life of people who have heart, lung and vascular disease. It is important for the planner to be aware that Cardiac Rehabilitation and Pulmonary Rehabilitation may be collocated as part of a more comprehensive multidisciplinary rehabilitation clinic or they may exist separately. As well, Cardiopulmonary Rehabilitation may be located together with Physical Therapy. Space planning criteria for Physical Therapy is provided in Chapter 390.

Cardiac Rehabilitation: Designed to help a patient recover from a heart attack, other forms of heart disease or surgery to treat heart disease. Cardiac Rehabilitation is often divided into the following four phases that involve monitored exercise, nutritional counseling, emotional support, and support and education about lifestyle changes to reduce your risks of heart problems:

Phase I: Begins in the hospital as an inpatient.

Phase II: The initial outpatient phase of the program. All patients in Phase II are monitored on telemetry monitors for the duration of their individual program. Phase II includes exercise sessions as well as group and individual education about the cardiovascular risk factors.

Phase III: Also called the maintenance program. This is a supervised but non-monitored program that also takes place within the Cardiac Rehabilitation department. When patients complete Phase III, they are given home exercise guidelines to follow.

Phase IV: The final phase of cardiac rehabilitation is the patient's own independent and ongoing conditioning.

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.

Cubicle: A cubicle is a partially enclosed workspace, separated from neighboring workspaces by partitions. Managers and other staff with no supervisory responsibilities as well as part-time, seasonal, and job-sharing staff may qualify for a cubicle.

Echocardiograph Room: This is a room where the echocardiogram or "echo" test is performed. The echo is a type of ultrasound test that uses high-pitched sound waves sent through a transducer. The transducer picks-up generated echoes that are turned into moving pictures of the heart and can be displayed on a video screen. There are different types of echoes, e.g., stress echocardiograms, transesophageal echocardiograms (TEE), and 3-D echocardiograms.

EKG Room: This is the room where the Electrocardiogram (EKG) is performed. EKG is a test that records the electrical activity of the heart, shows abnormal rhythms (arrhythmias or dysrhythmias), and detects heart muscle damage.

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 may take place in a clinic, by telephone, computer, or in other treatment or observation areas. Encounter volume used to generate exam room requirements should not include telephone encounters.

Exam / Consult Room: This is a consultation room for family members to meet with physicians or other providers privately and is ideally located near the waiting room.

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 per 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 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 Area, Patient Area, Support Area, Staff and Administrative Area, and Education Area.

Holter Monitor Room: A space used to issue to and receive the Holter Monitor from the patient. This device measures the heart rhythm during a 24-hour period while the patient records their symptoms and activities in a diary. A small portable EKG device is worn by the patient. After the test is complete, a correlation is made between the symptoms (or activities) recorded and the EKG pattern that was obtained simultaneously.

Hours of Operation per Day: These are the hours of operation within a department. For example, a hospital nursing unit and an emergency department will operate 24 hours per day; whereas a clinic may be operational 8 hours or more, depending on the clinic.

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 4) set forth in this document. Input Data Statements are defined as Mission, Workload, Staffing or Miscellaneous.

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 confidential communication.

Office, Shared: An office that accommodates two workstations.

Operating Days per Year: The number of days per calendar year a facility is operational for patient care (refer to Section 2).

Program for Design (PFD): A listing of all of the rooms / spaces generated based on answers to the Input Data Statements (see Section 3) and the space planning criteria outlined in this document (Section 4) 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.

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.

Pacemaker, ICD Interrogation: Room where the pacemaker representative or physician will perform a device evaluation called an "interrogation". This device interrogation will assess if the pacemaker lead wires going into the heart are functioning normally, that the battery level is okay, and will assess if there have been any abnormal heart rhythms detected by the pacemaker.

Pulmonary Function Testing Room: A room that accommodates pulmonary function testing.

Pulmonary Function Test (PFT): Pulmonary Function Tests (PFTs) measure how well the lungs inhale and exhale air, and how well they transfer oxygen into the blood. PFTs include a range of tests.

Pulmonary Function Treadmill Room: In this room, the patient will exercise on a treadmill to see if it causes trouble breathing. Numerous spirometry measurements will be made after exercise.

Pulmonary Rehabilitation: A program of exercises and education that helps improve the well-being of people who have chronic breathing problems.

Satellite 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 is to provide rapid point-of-care tests and improve turnaround time for critical tests.

Sleep Disorders Center: Provides a comprehensive program specifically designed to evaluate and treat all types of sleep-related disorders. The center includes the Sleep Disorders Clinic and the Sleep Lab. The American Academy of Sleep Medicine (AASM) developed Standards for Accreditation that includes space standards.

Sleep Lab Bedroom: A quiet, dark room provided in the Sleep Lab of the Sleep Disorders Center, designed to mimic home sleeping environment. Must include a two-way communication system between the patient bedroom and technician as well as a mechanism for visual monitoring and recording (i.e., video) of patients during testing. Includes attached bathroom with toilet and shower. No windows are included and may include hotel-like amenities, TV with DVD player, and soothing music.

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 similar service. It should be readily accessible to staff.

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 healthcare 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).

Stress Echocardiograph Room: This is the room where the stress echocardiogram or stress "echo" test is performed. The echo is done both before and after the heart is stressed either by exercise on a treadmill or by injecting a medicine that makes the heart beat harder and faster. A stress echo is usually done to find out if there is decreased blood flow to the heart. This test takes about 1½ hours.

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

Tilt Table Testing: A test which involves placing the patient on a table with a foot-support. The table is tilted in various directions and the blood pressure and pulse are measured and symptoms are recorded with the patient in diverse positions.

Treadmill Room: This is where the exercise stress test -- also called a stress test, exercise electrocardiogram, treadmill test, graded exercise test, or stress EKG -- is used to provide information about how the heart responds to exertion. It usually involves walking on a treadmill or pedaling a stationary bike at increasing levels of difficulty, while the electrocardiogram (EKG), heart rate, and blood pressure are monitored. It usually takes approximately 30 minutes, including 6-9 minutes of treadmill walking. Electrodes are placed on the chest so that the EKG is monitored during the entire test, while the physician monitors the patient's blood pressure.

Ultrasound Room: This room is for the Vascular Ultrasound, a diagnostic test sometimes referred to as Venous, Arterial or Carotid Doppler study. This test utilizes sound-waves to image the blood vessels in the arms, legs and neck. Patient will lay on a table to be scanned. A transducer will be moved back and forth across the area of interest, and a series of images will be made of the area in question.

Utilization Factor: Also known as capacity utilization rate, this factor provides flexibility in the utilization of a room to account for patient delays, scheduling conflicts and equipment maintenance. A room with an 80% utilization factor provides a buffer to assume that this room would be available 20% of the time beyond the planned operational practices for this room.

Workload: Space Planning Criteria per DHA Policy shall be workload driven. Workload projections divided by the throughput determined in this document for each workload driven room determines the quantity of rooms needed to satisfy the projected workload demand.