

**CHAPTER 212: VETERANS HEALTH ADMINISTRATION  
PULMONARY MEDICINE SERVICE**

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## 1 PURPOSE AND SCOPE

This document outlines Space Planning Criteria for Chapter 212: Pulmonary Medicine. It applies to all medical facilities in Department of Veterans Affairs (VA).

## 2 DEFINITIONS

- A. Blood Gas Analysis: A test which analyzes arterial blood for oxygen, carbon dioxide and bicarbonate content in addition to blood pH. It is used to test the effectiveness of respiration.
- B. Bronchoscopy: A procedure that involves placement of a viewing instrument into the trachea (windpipe) and bronchi (airways) to diagnose or treat lung and airway problems. This procedure is typically performed to investigate abnormal chest x-rays, to collect or biopsy bronchial or lung secretions, or to help diagnose and evaluate upper respiratory issues.
- C. Clinic Stop: A clinic stop is one encounter of a patient with a healthcare provider. Per these criteria, the clinic stop is the workload unit of measure for space planning. One individual patient can have multiple Clinic Stops in a single visit or in one day.
- D. 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 40 hours per week.
- E. Functional Area: The grouping of rooms and spaces based on their function within a clinical service. Typical Functional Areas within VA Space Criteria are: Reception Area, Patient Area, Support Area, Staff and Administrative Area, and Education Area.
- F. Healthcare Planning Module: Methodology used to create a VISN Strategic Plan which defines how and where high-cost services should be delivered in each market.
- G. Input Data Statements: A set of questions designed to elicit information about the healthcare project in order to create a Program For Design (PFD) based on the criteria parameters set forth in this document. Input Data Statements could be Mission, Workload, or Staffing related, based on projections and data provided by the VHA or the VISN about the estimated model of operation for the facility. This information is processed through mathematical and logical operations in VA-SEPS.
- H. Picture Archiving and Communication System (PACS): The digital capture, transfer, and storage of diagnostic images. A PACS system consists of: workstations for interpretation, image/data producing modalities, a web server for distribution, printers for file records, image servers for information transfer and holding, and an archive of off-line information. A computer network is needed to support digital imaging devices.
- I. Polysomnography / Sleep Study: The collective process of monitoring and recording physiologic data during sleep.
- J. Program For Design (PFD): A space program generated either manually or by VA-SEPS based on criteria set forth in this document and specific information entered about mission, workload projections, and staffing levels authorized.

- K. Provider: An individual who examines, diagnoses, treats, prescribes medication and manages the care of patients within his or her scope of practice as established by the governing body of a healthcare organization.
- L. Pulmonary Medicine: The branch of medicine that deals with the causes, diagnoses, prevention, and treatment of diseases affecting the lungs.
- M. Pulmonary Function Test (PFT): Procedure used for measuring how well the lungs are working. The most common tests measure the ability of lungs to move air into and out of the lung.
- N. Respiratory Therapy (RT): The treatment or management of acute and chronic breathing disorders, using respirators, supplemental oxygen, mechanical or noninvasive ventilation, or the administration of medication in aerosol form, including exercises and treatments that help patients recover lung function, such as after surgery.
- O. Room Efficiency Factor: A factor that provides flexibility in the utilization of a room to account for patient delays, scheduling conflicts, and equipment maintenance. Common factors are in the 75% to 85% range. A room with 80% room efficiency provides a buffer to assume that this room would be available 20% of the time beyond the planned operational practices for this room. This factor may be adjusted based on the actual and/or anticipated operations and processes of the room/department at any particular facility.
- P. SEPS (VA-SEPS): Acronym for Space and Equipment Planning System, a digital tool developed by the Department of Defense (DOD) and the Department of Veterans Affairs to generate a Program For Design (PFD) and an Equipment List for a VA healthcare project based on specific information entered in response to Input Data Questions. VA-SEPS incorporates the propositions set forth in all VA space planning criteria chapters. VA-SEPS has been designed to aid healthcare planners in creating a space plan based on a standardized set of criteria parameters.
- Q. Spirometry: Measurement of volume of air inhaled or exhaled by the lung.
- R. Workload: Workload is the anticipated number of clinic stops that is processed through a department/service area. The total workload applied to departmental operational assumptions will determine overall room requirements by modality.

### 3 OPERATING RATIONALE AND BASIS OF CRITERIA

- A. Workload projections or planned services/modalities for a specific VA project are provided by the VA Office of Policy and Planning and the VISN Support Services Center (VSSC). These utilization projections are generated by a methodology based upon the expected veteran population in the respective market/service area. Healthcare planners working on VA projects will utilize and apply the workload based criteria set forth herein for identified services and modalities to determine room requirements for each facility.
- B. Space planning criteria have been developed on the basis of an understanding of the activities involved in the functional areas of the Pulmonary Medicine Service 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 veterans.
- C. These criteria are subject to modification relative to development in equipment, medical practice, vendor requirements, and planning and design. The selection of the size and type Pulmonary Medicine Service equipment is determined by anticipated medical needs.
- D. Room Capacity should be based on:

Formula 1:

$$\frac{\text{Operating days per year X Hours of operation per day}}{\text{Minutes per clinic stop / 60 minutes}} = \text{Number of annual clinic stops}$$

The general planning model for VA facilities assumes 250 Operating Days per Year and 8 Hours of Operation per Day. Room capacity will fluctuate as operating days per year and/or hours of operation are modified. For example, additional capacity may be generated by extending the hours of operation per day within the same physical setting.

The Room Efficiency Factor applied to Pulmonary Medicine Service is 80%.

Example: Annual Clinic Stops for Pulmonary Function (Stop Code 104) based upon an average 30 minutes per clinic stop, including set-up, testing time, and clean-up:

$$\frac{250 \text{ operating days per year} \times 8 \text{ hours per day}}{30 \text{ minutes per clinic stop} / 60 \text{ minutes}} = 4,000 \text{ annual clinic stops}$$

At 100% utilization, this results in a maximum capacity of 4,000 clinic stops per year. However, 100% utilization is not realistic to achieve and is not a design standard. Apply the Room Efficiency Factor:

$$4,000 \times 80\% = 3,200 \text{ annual clinic stops.}$$

**TABLE 1: WORKLOAD PARAMETER CALCULATION**

CLINIC STOP CODE DESIGNATION	AVERAGE LENGTH OF CLINIC STOP (minutes)	ROOM EFFICIENCY FACTOR	ANNUAL WORKLOAD CAPACITY OF ONE ROOM*	MINIMUM ANNUAL WORKLOAD TO GENERATE A ROOM**
Stop Code 104 Pulmonary Function	30	80%	3,200	960
Stop Code 312 *** Pulmonary / Chest	120	80%	800	240
Stop Code 349 Sleep Medicine	480	80%	200	60

\* Based on Operating Criteria assumed in Item D above.

\*\* Minimum annual workload to generate a room is equal to 30% of the annual workload capacity of one room.

\*\*\* Stop Code 312 is assumed to refer to Bronchoscopy procedures.

The number of annual clinic stops per room will be used as a criterion parameter to calculate the number of Exam Rooms required, rounded up to the nearest whole number, as follows:

Formula 2:

Total Number of Pulmonary Function Testing Lab Calculation

$$\frac{\text{Projected Annual Workload}}{\text{Average Workload Capacity One Room}} = \text{Number of Pulmonary Function Testing Labs}$$

Example: Pulmonary Function Testing Labs based upon a workload of 4,000 annual Pulmonary Function clinic stops.

$$\frac{4,000 \text{ Projected Annual clinic stops}}{3,200 \text{ (Min Workload to Generate One Room)}} = 1.25 \text{ Pulmonary Function Testing Labs}$$

One Pulmonary Function testing Lab is required to satisfy the workload.

#### **4 PROGRAM DATA REQUIRED (Input Data Statements)**

##### **A. Mission Input Data Statements**

1. Is a Patient Education / Resource Room authorized?
2. Is an Extended Pulmonary Function Testing Lab authorized?
3. Is a Pulmonary Exercise Physiology Lab authorized?
4. Is a Bronchoscopy Procedure Room authorized?
5. Is a Bronchoscopy Patient Prep / Recovery Cubicle authorized? If answer is "NO", then Bronchoscopy Patient Prep / Recovery Rooms will be provided.
6. Is a Conference Room / Group Room authorized?
7. Is a Pulmonary Medicine Service Education Area Conference / Classroom authorized?
8. Is a Pulmonary Medicine Service Residency Program authorized?

##### **B. Workload Input Data Statements**

1. How many annual Pulmonary Function Clinic Stops (Stop Code 104) are projected?
2. How many annual Pulmonary / Chest Clinic Stops (Stop Code 312) are projected?
3. How many annual Sleep Medicine Clinic Stops (Stop Code 349) are projected?

##### **C. Staffing Input Data Statements**

1. How many Receptionist FTE positions are authorized?
2. How many Nurse FTE positions are authorized?
3. How many Secretary FTE positions are authorized?
4. How many Physician FTE positions are authorized?
5. How many Nurse Manager FTE positions are authorized?
6. How many Chief Technician FTE positions are authorized?
7. How many Home Care Coordinator FTE positions are authorized?
8. How many Polysomnographer FTE positions are authorized?
9. How many Respiratory Therapist FTE positions are authorized?
10. How many Administrative FTE positions are authorized?
11. How many Intern FTE positions are authorized?
12. How many Resident FTE positions are authorized?
13. How many Fellow FTE positions are authorized?
14. How many FTEs will work on peak shift?

##### **D. Miscellaneous Input Data Statements**

1. How many ventilators are authorized?

## 5 SPACE CRITERIA

For functional descriptions of key spaces refer to the Design Guide for Pulmonary Medicine Service.

### A. FA 1: Reception Area:

1. **Waiting (WRC01)**..... **120 NSF (11.1 NSM)**  
*Minimum NSF; provide an additional 60 NSF per each Pulmonary Function and Extended Pulmonary Function Testing Lab, Pulmonary Exercise Physiology Lab, Bronchoscopy Procedure Room, and Sleep Study Room greater than one.*

Allocated minimum NSF provides area for four standard seats and two wheelchair accessible seats. Additional 60 NSF provides area for two standard seats and one wheelchair accessible seat

2. **Toilet, Family (TLTF3)** ..... **75 NSF (7.0 NSM)**  
*Provide one per Pulmonary Medicine Service.*

This space may be shared with an adjacent service / clinic.

3. **Toilet, Public (TLTU1)**..... **60 NSF (5.6 NSM)**  
*Provide one if the total number of Pulmonary Function Testing and Extended Pulmonary Function Testing Labs, Pulmonary Exercise Physiology Labs, Bronchoscopy Procedure Rooms, and Sleep Study Rooms is greater than four.*

4. **Reception / Check-In (RECP1)**..... **60 NSF (5.6 NSM)**  
*Minimum NSF; provide an additional 60 NSF per each Receptionist FTE position authorized greater than one.*

5. **Patient Education / Resource Kiosk (CLSC1)**..... **30 NSF (2.8 NSM)**  
*Provide one per Pulmonary Medicine Service.*

Used as a medical information resource for patients and visitors. Locate accessible to Waiting.

6. **Patient Education / Resource Room (CLSC3)** ..... **60 NSF (5.6 NSM)**  
*Minimum NSF if authorized; provide an additional 30 NSF per each Pulmonary Function and Extended Pulmonary Function Testing Lab, Pulmonary Exercise Physiology Lab, Bronchoscopy Procedure Room, and Sleep Study Room greater than one.*

Patient Education/Resource Room to be used for private patient education needs and also as a medical information resource, which may include electronic and hard copy material, for patients and visitors. Locate accessible to Waiting.

### B. FA 2: Pulmonary Medicine / Respiratory Care Patient Area:

1. **Testing Lab, Pulmonary Function (OPPF1)** ..... **120 NSF (11.1 NSM)**  
*Provide one for every increment of 3,200 annual Pulmonary Function clinic stops (Stop Code 104); minimum workload to provide a room is 960 annual clinic stops.*

2. **Testing Lab, Extended Pulmonary Function (OPPF2) ..... 120 NSF (11.1 NSM)**  
*Provide one per each Extended Pulmonary Function Testing Lab authorized.*
  3. **Physiology Lab, Pulmonary Exercise (OPPF5) ..... 240 NSF (22.3 NSM)**  
*Provide one per each Pulmonary Exercise Physiology Lab authorized.*
  4. **Consult Room (OFDC2) ..... 120 NSF (11.1 NSM)**  
*Minimum one; provide an additional one if the total number of Pulmonary Function and Extended Pulmonary Function Testing Labs, Pulmonary Exercise Physiology Labs, Bronchoscopy Procedure Rooms, and Sleep Study Rooms is greater than eight.*
  5. **Toilet, Patient (TLTU1) ..... 60 NSF (5.6 NSM)**  
*Minimum one; provide an additional one if the total number of Pulmonary Function and Extended Pulmonary Function Testing Labs, Pulmonary Exercise Physiology Labs, Bronchoscopy Procedure Rooms, and Sleep Study Rooms is greater than four.*
  6. **Toilet / Shower, Patient (TLTS1)..... 75 NSF (7.0 NSM)**  
*Provide one per Pulmonary Medicine Service.*
- C. FA 3: Bronchoscopy Patient Area:
1. **Procedure Room, Bronchoscopy (TRPE2) ..... 300 NSF (27.9 NSM)**  
*Provide one for every increment of 800 Pulmonary / Chest annual clinic stops (Stop Code 312); minimum workload to provide a room is 240 annual clinic stops.*
  2. **Equipment Cleaning (CSSS1)..... 80 NSF (7.4 NSM)**  
*Minimum NSF; provide an additional 20 NSF if the total number of Bronchoscopy Procedure Rooms is greater than four.*
  3. **Toilet, Patient (TLTU1) ..... 60 NSF (5.6 NSM)**  
*Minimum one; provide an additional one if the total number of Bronchoscopy Procedure Rooms is greater than four.*
- D. FA 4: Sleep Study Patient Area:
1. **Sleep Study Room (OPPF6)..... 210 NSF (19.5 NSM)**  
*Provide one for every increment of 200 Sleep Medicine annual clinic stops (Stop Code 349); minimum workload to provide a room is 60 annual clinic stops.*
  2. **Toilet / Shower, Patient (TLTS1)..... 75 NSF (7.0 NSM)**  
*Provide one per each Sleep Study Room.*

This room should be directly accessible from the Sleep Study Room.



3. **Monitoring Room, Sleep Study (OPPF7)** ..... 150 NSF (13.9 NSM)  
*Provide one if between one and four Sleep Study Rooms are generated; provide an additional one per each increment of four Sleep Study Rooms greater than four.*
4. **Prep Room, Sleep Study (OPPF8)**..... 150 NSF (13.9 NSM)  
*Provide one if one or more Sleep Study Rooms is generated.*
5. **Nourishment Station (NCWD2)**..... 60 NSF (5.6 NSM)  
*Provide one if one or more Sleep Study Rooms is generated.*
6. **Storage, Clean Linen Sleep Study (LCCL1)** ..... 40 NSF (3.8 NSM)  
*Minimum NSF if one or more Sleep Study Rooms are generated; provide an additional 10 NSF per each increment of two Sleep Study Rooms greater than two.*
7. **Housekeeping Aides Closet - HAC (JANC1)** ..... 60 NSF (5.6 NSM)  
*Provide one if one or more Sleep Study Rooms is generated.*
8. **Toilet, Staff (TLTU1)** ..... 60 NSF (5.6 NSM)  
*Provide one if one or more Sleep Study Rooms is generated.*

E. FA 5: Support Area:

1. **Respiratory Therapy Room (OPRT1)** ..... 120 NSF (11.1 NSM)  
*Provide one for Pulmonary Medicine Service.*
2. **Storage, Medical Gas (SRGC2)** ..... 50 NSF (4.6 NSM)  
*Provide two for Pulmonary Medicine Service.*  
  
Provide one room for full gas cylinders and one room for empty gas cylinders.
3. **Storage, Ventilator (SRVE1)** ..... 100 NSF (9.3 NSM)  
*Minimum NSF; provide an additional 10 NSF for every ventilator authorized greater than ten.*
4. **Storage, Argon Plasma Coagulation (SRSE3)** ..... 120 NSF (11.1 NSM)  
*Provide one for Pulmonary Medicine Service if authorized*
5. **Storage, C-Arm Equipment (XRMO2)** ..... 80 NSF (7.4 NSM)  
*Provide one for Pulmonary Medicine Service if authorized*
6. **Utility Room, Clean (UCCL1)** ..... 80 NSF (7.4 NSM)  
*Minimum NSF; provide an additional 40 NSF if the total number of Pulmonary Function Testing and Extended Pulmonary Function Testing Labs, Pulmonary Exercise Physiology Labs, Bronchoscopy Procedure Rooms, and Sleep Study Rooms is greater than eight.*

Allocated NSF can be decentralized to reduce travel distances for staff.

7. **Utility Room, Soiled (USCL1)** ..... 100 NSF (9.3 NSM)  
*Minimum NSF; provide an additional 40 NSF if the total number of Pulmonary*

*Function Testing and Extended Pulmonary Function Testing Labs, Pulmonary Exercise Physiology Labs, Bronchoscopy Procedure Rooms, and Sleep Study Rooms is greater than eight.*

This room provides an area for cleanup of medical equipment, instruments, and for disposal of waste material. Allocated NSF can be decentralized to reduce travel distances for staff.

8. **Storage, Equipment (SRE01)..... 160 NSF (15.8 NSM)**  
*Minimum NSF; provide an additional 40 NSF if the total number of Pulmonary Function Testing and Extended Pulmonary Function Testing Labs, Pulmonary Exercise Physiology Labs, Bronchoscopy Procedure Rooms, and Sleep Study Rooms is greater than four.*
  9. **Alcove, Crash Cart (RCA01) ..... 20 NSF (1.9 NSM)**  
*Provide one per Pulmonary Medicine Service.*
  10. **Alcove, Wheelchair/Stretcher (SRLW1)..... 60 NSF (5.6 NSM)**  
*Minimum NSF; provide an additional 60 NSF if the total number of Pulmonary Function Testing Labs, Extended Pulmonary Function Testing Labs, Pulmonary Exercise Physiology Labs, Bronchoscopy Procedure Rooms, and Sleep Study Rooms is greater than four.*
  11. **Housekeeping Aides Closet - HAC (JANC1) ..... 60 NSF (5.6 NSM)**  
*Provide one per Pulmonary Medicine Service.*
- F. FA 6: Prep and Recovery Area:
1. **Recovery Cubicle, Patient Prep (RRSS1) ..... 120 NSF (11.1 NSM)**  
*Provide three per each Bronchoscopy Procedure Room if Prep / Recovery Rooms are not authorized.*  
  
Prep / Recovery Cubicles can be combined with Prep / Recovery services of other departments as appropriate.
  2. **Recovery Room, Patient Prep (RRSS1)..... 120 NSF (11.1 NSM)**  
*Provide three per each Bronchoscopy Procedure Room if authorized.*  
  
Prep / Recovery Rooms can be combined with Prep / Recovery services of other departments as appropriate.
  3. **Toilet, Prep / Recovery Patient (TLTU1) ..... 60 NSF (5.6 NSM)**  
*Minimum one; provide an additional one for every increment of nine Prep / Recovery Cubicles or Prep / Recovery Rooms greater than nine.*  
  
This room must be directly accessible from the Patient Prep / Recovery Area.
  4. **Nurse Station (NSTA3) ..... 60 NSF (9.3 NSM)**  
*Minimum NSF; provide an additional 60 NSF per each Nurse FTE authorized greater than two.*
  5. **Medication Area (MEDP2) ..... 80 NSF (7.4 NSM)**

*Minimum NSF; provide an additional 40 NSF for every increment of nine Prep / Recovery Cubicles or Prep / Recovery Rooms greater than nine.*

Allocated NSF can be decentralized to reduce travel distances for staff.

6. **Nourishment Station (NCWD2)**..... **60 NSF (5.6 NSM)**  
*Minimum NSF; provide an additional 60 NSF for every increment of nine Prep / Recovery Cubicles or Prep / Recovery Rooms greater than nine.*

Allocated NSF can be decentralized to reduce travel distances for staff.

7. **Utility Room, Clean (UCCL1)** ..... **80 NSF (7.4 NSM)**  
*Minimum NSF; provide an additional 40 NSF for every increment of nine Prep / Recovery Cubicles or Prep / Recovery Rooms greater than nine.*

Allocated NSF can be decentralized to reduce travel distances for staff.

8. **Utility Room, Soiled (USCL1)** ..... **100 NSF (9.3 NSM)**  
*Minimum NSF; provide an additional 40 NSF for every increment of nine Prep / Recovery Cubicles or Prep / Recovery Rooms greater than nine.*

This room provides an area for cleanup of medical equipment, instruments, and for disposal of waste material. Allocated NSF can be decentralized to reduce travel distances for staff.

9. **Alcove, Crash Cart (RCA01)** ..... **20 NSF (1.9 NSM)**  
*Minimum one; provide an additional one for every increment of nine Prep / Recovery Cubicles or Prep / Recovery Rooms greater than nine.*

10. **Alcove, Wheelchair/Stretcher (SRLW1)**..... **60 NSF (5.6 NSM)**  
*Minimum NSF; provide an additional 60 NSF for every increment of nine Prep / Recovery Cubicles or Prep / Recovery Rooms greater than nine.*

11. **Storage, Clean Linen (LCCL1)**..... **40 NSF (3.7 NSM)**  
*Minimum NSF; provide an additional 40 NSF for every increment of nine Prep / Recovery Cubicles or Prep / Recovery Rooms greater than nine.*

12. **Housekeeping Aides Closet - HAC (JANC1)** ..... **60 NSF (5.6 NSM)**  
*Provide one if three or more Prep / Recovery Cubicles or Prep / Recovery Rooms are generated.*

G. FA 7: Staff and Administrative Area:

1. **Office, Director of Respiratory Therapy (OFC01)** ..... **120 NSF (11.1 NSM)**  
*Provide one per Pulmonary Medicine Service.*

2. **Secretary / Waiting (SEC01)** ..... **120 NSF (11.1 NSM)**  
*Provide one per Pulmonary Medicine Service.*

3. **Office, Physician (OFD04)**..... **120 NSF (11.1 NSM)**  
*Provide one per each Physician FTE position authorized.*

4. **Office, Nurse Manager (OFA01 / OFA02)**..... **120 NSF (11.1 NSM)**  
*Provide one per each Nurse Manager FTE position authorized; provide OFA01 if standard furniture is authorized or OFA02 if systems furniture is authorized.*
5. **Office, Chief Technician (OFA01 / OFA02)** ..... **120 NSF (11.1 NSM)**  
*Provide one per each Chief Technician FTE position authorized; provide OFA01 if standard furniture is authorized or OFA02 if systems furniture is authorized.*
6. **Cubicle, Home Care Coordinator (OFA03)** ..... **60 NSF (5.6 NSM)**  
*Provide one per each Home Care Coordinator FTE position authorized.*
7. **Cubicle, Polysomnographer (OFA03)**..... **60 NSF (5.6 NSM)**  
*Provide one per each Polysomnographer FTE position authorized.*
8. **Cubicle, Respiratory Therapist (OFA03)** ..... **60 NSF (5.6 NSM)**  
*Provide one per each Respiratory Therapist FTE position authorized.*
9. **Cubicle, Administration (OFA03)** ..... **60 NSF (5.6 NSM)**  
*Provide one per each Administration FTE position authorized.*
10. **Copier / Printer Room (RPR01)** ..... **80 NSF (7.4 NSM)**  
*Provide one per Pulmonary Medicine Service.*
11. **Conference Room / Group Room (CRA01)** ..... **240 NSF (22.3 NSM)**  
*Provide one per Pulmonary Medicine Service if authorized.*
12. **Lounge, Staff (SL001)**..... **100 NSF (7.4 NSM)**  
*Minimum NSF; provide an additional 15 NSF per each FTE position working on peak shift greater than five; maximum 210 NSF.*
13. **Locker Room, Staff (LR002)** ..... **60 NSF (7.4 NSM)**  
*Minimum NSF; provide an additional 6 NSF per FTE position authorized, for whom private office spaces is not authorized, greater than five.*
14. **Toilet, Staff (TLTU1)** ..... **60 NSF (5.6 NSM)**  
*Minimum one; provide an additional one for every increment of ten FTE positions authorized greater than ten.*

H. FA 8: Education Area:

The spaces below provide programming of educational spaces at department / service / chapter level. Alternatively, sum all departments/services data for Residency Program, and program space in Chapter 402 - Educational Facilities. Either / or – do not duplicate space.

1. **Office, Residency Program Director (OFA01)**..... **120 NSF (11.1 NSM)**  
*Provide one per Pulmonary Medicine Service if Residency Program.*

2. **Cubicle, Intern / Resident / Fellow (OFA03) ..... 60 NSF (3.7 NSM)**  
*Provide one per each Intern, Resident, and Fellow FTE position authorized.*

Combine cubicles into one room for staff and organizational efficiency.

3. **Conference / Classroom (CLR01) ..... 240 NSF (22.3 NSM)**  
*Provide one per Pulmonary Medicine Service if authorized.*

## 6 DESIGN CONSIDERATIONS

- A. Net-to-Department Gross factor (NTDG) for Pulmonary Medicine Service is **1.50**. This number, when multiplied by the programmed Net Square Feet (NSF) area, determines the Departmental Gross Square Feet (DGSF).
- B. Pulmonary Medicine Service may be integrated with Non-Invasive Cardiology, Respiratory Care, Digestive Diseases – Endoscopy, or Ambulatory Surgery for patient convenience and for staff cross training opportunities.
- C. Separation of inpatient and outpatient traffic should be considered to the greatest extent possible. Provide outpatient Reception Area separate from inpatient circulation when both patient types utilize the same departmental facilities.
- D. Standardization of rooms and modular design should be considered to allow flexibility to adapt to new technologies and respond to changes in patient volumes.
- E. Connection to ancillary services, such as lab and pharmacy, should be considered.
- F. The waiting room should be connected to the patient entrance corridor and be under the visual control of the receptionist. This space can be shared between adjacent services where appropriate.
- G. Design should accommodate patient privacy and confidentiality in all areas, and in reception and patient care areas in particular. This includes visual and auditory considerations.
- H. Where possible, the department should be configured to limit the mix of patient and service functions, and to maintain clear separation of clean and dirty functions to avoid cross contamination. For example, Clean and Soiled Utility rooms can be located at alternate ends of a department.
- I. Corridors should be designed to a minimum of 8 feet clear width to accommodate passage of equipment or beds and two stretchers and/or wheelchairs. In non-patient areas and outpatient clinical spaces, corridors may be a minimum of 5 feet in clear width.
- J. Administration and support areas should be located and designed to maximize staff and space efficiency, and reduce staff travel distances.
- K. Plan for locating high volume services closer to patient waiting or building access points to decrease patient travel time/distance and increase staff responsiveness. Services with longer duration procedure times or low volume generation can be less centrally located.
- L. Sharing of patient and staff support areas among adjacent services should be considered for efficient utilization of staff. For example, centralized check-in/check-out can reduce the total number of FTE's required to provide this function over multiple service lines.
- M. During design, NSF for Staff Lounge and Lockers may be combined with an adjacent department(s).

- N. Verify room sizes and equipment layouts with equipment vendors prior to finalizing room layouts.
- O. Refer to Department of Veterans Affairs (VA) Office of Construction and Facilities Management Technical Information Library ([www.cfm.va.gov/til/](http://www.cfm.va.gov/til/)) for additional technical criteria.
- P. Refer to Design Guide for Pulmonary Medicine Service for a detailed discussion of functional and design considerations.

## 7 FUNCTIONAL RELATIONSHIPS

Relationship of Electroencephalography Laboratory to services listed below:

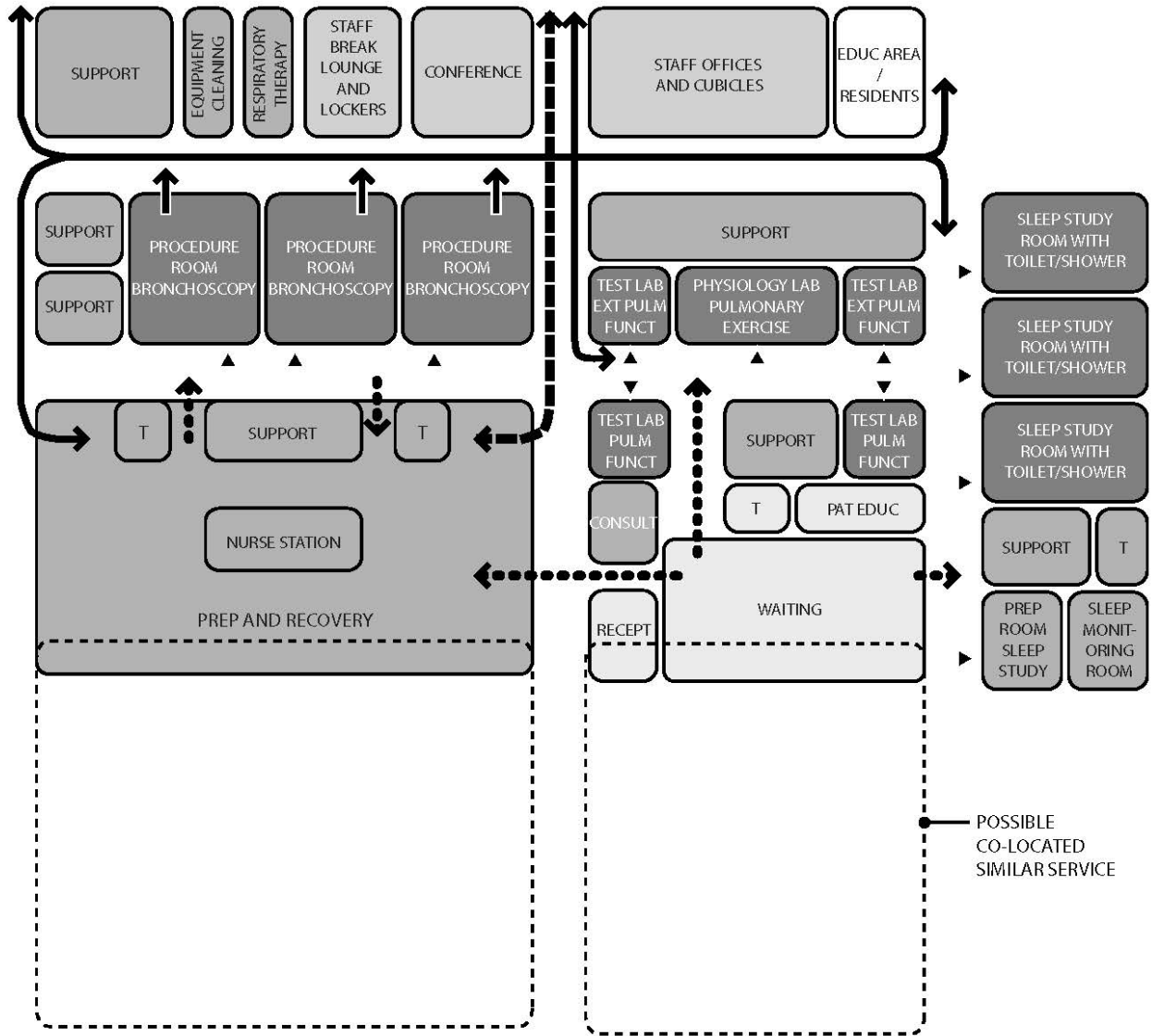
**TABLE 2: FUNCTIONAL RELATIONSHIP MATRIX**

SERVICES	RELATIONSHIP	REASON
ICU	3	C
MS&N Patient Care Units	3	C
Patient Prep and Recovery	N	
Emergency Department	4	C
Main Entrance	3	H
Cardiovascular Labs	4	H
Endoscopy	2	H
Ambulatory Surgery/ Minor Procedure	2	H
Radiology	4	G
Diagnostic Testing	3	H
Pulmonary Clinic / Testing	N	
Cardiology Clinic / Testing	3	A, G, H
Digestive Disease Clinic/Testing	4	H
Neurology Clinic/Testing	4	H
Ventilator Storage	1	B, G
Respiratory Therapy	1, 3	G, H
Pharmacy	5	B
Laboratory	4	G
Social Work / Case Management	4	H
PT/OT	N	
Food Service / Kitchen	N	
Sterile Processing Department (SPD)	3	A, K
Staff On-Call Rooms	N	
Linen Storage	5	B
Waste Management	5, X	B, E, F
Loading Dock	5, X	B, D

LEGEND	
Relationship:	Reasons: (Use as many as appropriate)
1. Adjacent	A. Common use of resources
2. Close / Same Floor	B. Accessibility of supplies
3. Close / Different Floor Acceptable	C. Urgency of contact
4. Limited Traffic	D. Noise or vibration
5. Connection Needed	E. Presence of odors or fumes
N. Not Applicable	F. Contamination hazard
X. Separation Desirable	G. Sequence of work
	H. Patient's convenience
	I. Frequent contact
	J. Need for security
	K. Closeness inappropriate
	L. Interference



### 8 FUNCTIONAL DIAGRAM



**LEGEND**

- |  |                               |  |                |
|--|-------------------------------|--|----------------|
|  | EXAM/ TESTING/ PROCEDURE      |  | STAFF/ SERVICE |
|  | PREP/ RECOVERY/ SUPPORT       |  | OUTPATIENT     |
|  | STAFF AND ADMINISTRATIVE AREA |  | INPATIENT      |
|  | RECEPTION AREA                |  | PATIENT ENTRY  |
|  | EDUCATION AREA                |  |                |