CHAPTER 310: AUDIOLOGY, HEARING CONSERVATION, SPEECH-LANGUAGE PATHOLOGY, AND ENT CLINIC

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1 PURPOSE AND SCOPE

This chapter outlines space planning criteria for services and programs provided in the outpatient Audiology, Hearing Conservation, Speech-Language Pathology (SLP) and Ear, Nose and Throat (ENT) Clinic located within the Military Health System (MHS). Outpatient clinics include both freestanding community-based facilities, as well as ambulatory clinics in or directly adjacent to hospital-based services.

The focus of this clinic is to improve a patient's ability to communicate (language and speech), understand, and process what is communicated to them (hearing). The objective is to prevent, reduce or remediate communication or swallow disorders. The services provided include assessment, treatment, consultation, and education.

This space planning criteria applies to all Military Medical Treatment Facilities (MTFs). Policies and directives, DoD's Subject Matter Experts (SMEs), established and/or anticipated best practice guidelines / standards, and TRICARE Management Activity (TMA) provides the foundation for the workload based space criteria and Net Square Footages (NSF) for each space. The latest version of DoD's *UFC-4-510-01*, *Appendix B* cites all Room Codes identified in this chapter.

2 **DEFINITIONS**

- A. <u>Automated External Defibrillator (AED)</u>: An AED or automated external defibrillator is a computerized medical device which can check a person's heart rhythm. It can recognize a rhythm that requires a shock, and it can advise the rescuer when a shock is needed. AEDs are typically placed in targeted public areas such as outpatient clinics, doctor's offices, office complexes, sports arenas, gated communities, shopping malls, and many others. They are wall-mounted, highly visible, and accessible to everyone. The Americans with Disabilities Act requires that objects not protrude more than 4 inches into foot traffic areas of open aisles and walkways (hallways) unless the object's bottom edge is no higher than 27 inches from the ground.
- B. <u>Assessment</u>: The patient is formally assessed using standardized assessment tools by a speech-language pathologist or audiologist. Verbal responses to queries are evaluated. Audiologists use equipment to assess level of hearing impairment.
- C. <u>Audiology</u>: Audiology services in military treatment facilities provide the following types of services: evaluation of the auditory system to include pure tone air and bone conduction, speech threshold and recognition testing, electrophysiological testing, vestibular evaluations, pre and post operative exams, dispensing and fitting of hearing aids and hearing protection, and hearing conservation services.
- D. <u>Audiometric Booth</u>: This space provides a self-contained environment for hearing conservation programs. Testing booths are offered with a range of acoustical performance levels, variations in floor plans, and numerous options.
- E. 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.

- F. <u>Bariatrics</u>: Bariatrics is the branch of medicine that deals with the causes, prevention, and treatment of obesity. A bariatric patient is one that is severely obese, overweight by 100 to 200 lbs, or having a body weight of greater than 300 lbs. A Body Mass Index (BMI) of greater than 40 is considered bariatric. FGI Guidelines for Healthcare Facilities provides guidelines for the design of bariatric care units.
- G. <u>Clean Utility Room</u>: This room is used for the storage and holding of clean and sterile supplies. Additionally it may provide space to prepare patient care items. 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.
- H. <u>Consultation</u>: Speech-language pathologists and audiologists consult with family members, spouses and community stakeholders.
- I. <u>Consult Room</u>: This is a consultation room for family members to meet with physicians or other providers privately and is ideally located near the waiting room.
- J. <u>Education</u>: Emphasis is upon the education and training of patients and caregivers to implement remediation strategies or "next steps" in the prevention or treatment plan.
- K. <u>Electrophysiology</u>: Special diagnostic tests involving the measurement of auditory evoked potentials from the cochlea, auditory nerve, or brain including electrocochleography, auditory brainstem response (ABR), middle latency potentials (MLR), late potentials, and other specialized evoked potential techniques.
- L. <u>Ear, Nose and Throat (ENT)</u>: Also known as Otolaryngology or ENT, this is the branch of medicine and surgery that specializes in the diagnosis and treatment of disorders of the head and neck.
- M. <u>Full-Time Equivalent (FTE)</u>: A staffing parameter equal to the amount of time assigned to one full-time employee. It may be composed of several part-time employees whose total time commitment equals that of a full-time employee. One FTE equals a 40-hour a week workload.
- N. <u>Functional Area</u>: 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.
- O. <u>Graduate Medical Education (GME)</u>: After a physician completes 4 years of medical school, they must then complete an internship (also called PGY1 or Post Graduate Year 1) and then a residency (also termed GME or Graduate Medical Education). An internship typically lasts one year, and a residency can last from three to seven years depending on the specialty that is chosen.
- P. <u>Group Therapy</u>: A patient may participate in group therapy led by a Speech-Language Pathologist (SLP). This provides an opportunity for a patient to practice conversation skills and communicate in real-life situations. The SLP may lead the group through structured discussions, focusing on improving initiation of conversation, turn-taking, and repairing conversational breakdowns. Group therapy is also provided for children, typically in small groups of no more than four children.
- Q. <u>Hearing Aid Fitting/Modification Room</u>: This room accommodates the special equipment used to program and fit digital hearing aids and bioelectric implants. Modifications to the fit may be made based on feedback from the patient.

- R. <u>Hearing Conservation</u>: These services are provided separately from Clinical Audiology Services. Hearing Conservation will provide the following services: hearing testing for the determination of temporary or permanent threshold shift (TTS/PTS), fitting of appropriate hearing protection, and health education.
- S. <u>Hearing Protection Fit Test</u>: Fit testing provides a formal metric from which one can determine whether patients are receiving optimal protection for their noise environment, require additional training on how to fit their ear plugs, or need to try a different model. Fit-testing of earplugs provides immediate feedback to wearers. Users know right away whether their fit is acceptable or not and can make immediate adjustments.
- T. <u>Input Data Statement</u>: 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 chapter. Input Data Statements could be mission related, based on the project's Concept of Operations; and they could be workload or staffing related, based on projections for the facility.
- U. <u>Net-to-Department Gross Factor (NTDG)</u>: This number, when multiplied by the programmed net square foot (NSF) area, determines the departmental gross square feet (DGSF).

V. Office:

- Private Office: Generally speaking, a private office is needed for the supervisory and/or managerial role. It may be justified for a provider or a non-provider, depending upon the nature of their work. Private offices are needed where confidential communication in person or on the telephone takes place. When private offices are justified, they are typically 120 NSF.
- 2. <u>Shared Office</u>: Staff may be assigned to share an office space of 120 NSF, which amounts up to 60 NSF per person. This can be a good solution for staff for whom a quiet office environment is important for conducting confidential communication in person or on the telephone.
- 3. <u>Cubicle</u>: A cubicle is provided in an open room. Managers and other staff with no direct reports as well as part-time, seasonal and job-sharing staff may qualify for a cubicle environment. Cubicle environments can have the benefit of being more open, airy and light, and can make more efficient use of space. Such environments are particularly conducive to team-oriented office groupings. Cubicle environments work best when they contain adequate numbers of conference and small group meeting spaces, for confidential conversations and/or group tasks. A 60 square foot cubicle is the preferred size.
- W. <u>Outpatient Clinic</u>: A clinic providing outpatient services in both freestanding community-based facilities, as well as ambulatory clinics in or directly adjacent to hospital-based services.
- X. <u>Otoscopy</u>: An examination that involves looking into the ear with an instrument called an otoscope. This is performed in order to examine the 'external auditory canal' the tunnel that leads from the outer ear (pinna) to the eardrum.
- Y. <u>Personal Property Lockers</u>: This is a small-sized locker, commonly called purse or cell phone locker, and is generally used to secure purses and smaller valuables. Staff

- members who do not have an office or cubicle space where they can safely store belongings will be assigned these lockers.
- Z. Posturography: A 20-minute computerized clinical test used to assess balance function. Muscles and nerves in the legs (somato-sensory system), inner ear balance (vestibular system), and vision are three components the human uses to maintain balance. Posturography tests isolate each of these components to assess where the deficit may be. The test also evaluates the automatic motor system's ability to recover after sudden, unexpected movements.
- AA. <u>Program for Design (PFD)</u>: A listing of all of the spaces and rooms included within a service and the corresponding net square foot area of each space and room. This listing of spaces and rooms is based on criteria set forth in this chapter and specific information about mission, workload projections and staffing levels authorized.
- BB. <u>Provider</u>: 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.
- CC. <u>Rotary Chair Room</u>: Used for analyzing horizontal canal vestibuloocular reflex (VOR). Rotation of the chair is performed with the assumption that the stimulus applied to the whole body is the same as the stimulus that is applied to the head. A Rotary Chair test typically takes 15 minutes.
- DD. <u>SEPS</u>: 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 a Project Room Contents list (PRC) for a DoD healthcare project based on specific information entered in response to Input Data Statements.
- EE. <u>Soiled Utility Room</u>: 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 accessible from the main corridor.
- FF. <u>Speech-Language Pathology</u>: This service in military treatment facilities provides diagnosis and treatment of speech, language, voice, and swallowing disorders. Patients with such communication disorders often have hearing deficiencies.
- GG. <u>Team Collaboration Room</u>: This space provides staff with an environment conducive to collaboration. Room contains touchdown computer workstations for documentation and a table with chairs to hold meetings.
- HH. <u>Telehealth</u>: The use of technology, such as computers and mobile devices, to manage healthcare remotely. It includes a variety of health care services, including but not limited to online support groups, online health information and self-management tools, email and online communication with health care providers, remote monitoring of vital signs, video or online doctor visits. Depending on the concept of operations for this space, it may be equipped as an exam room or as a consult room with video / camera capability.
- II. <u>Treatment</u>: Speech-language pathologists use evidence based treatments to remediate communication and swallowing impairments. The Audiologist uses a hearing booth to evaluate impairment and to make treatment recommendations.

- JJ. <u>Vestibular Testing</u>: This consists of a number of tests that help determine if there is something wrong with the vestibular (balance) portion of the inner ear. These tests can help isolate dizziness symptoms to a specific cause that can often be treated.
- KK. <u>Vestibulography</u>: Vestibulography is a general class of special balance tests including Electronystagmography (ENG), videonystagmography (VNG), and sinusoidal vertical axis rotational testing (Rotary Chair). These tests record nystagmus and eye movements to diagnosis peripheral and central vestibular disorders.
- LL. <u>Voice Analysis Laboratory</u>: This is a room to evaluate the patient's voice signal in terms of pitch, loudness, and quality, as well as to measure the aerodynamic parameters and breathing dynamics.
- MM. <u>Workload</u>: The anticipated number of encounters or procedures processed through a clinic. The projected Audiology, Hearing Conservation, Speech-Language Pathology, and ENT Clinic workload for a given location determines the number of Exam and Treatment Rooms in the Program for Design.

3 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 Audiology, Hearing Conservation, Speech-Language Pathology, and ENT Clinic 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 heath 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. The area for each room (NSF) in this chapter has been provided by the Military Health System (MHS) Space Template Board.
- E. Calculation of the Exam Rooms in Functional Area 2: Audiology / Hearing Conservation Patient Area, Functional Area 3: Speech-Language Pathology Patient Area; and Functional Area 4: ENT Patient Area is derived from workload projections via the workload Input Data Statements as outlined below. Most of the remaining rooms in this functional area and in Functional Area 1: Reception Area and Functional Area 5: Support Area are determined based on the number of Exam Rooms generated by workload. Mission, Staffing and Miscellaneous Input Data Questions drive the rest of the spaces in this chapter.
- F. Section 4: Input Data Questions and Section 5: Space Planning Criteria have been implemented and tested in SEPS II.
- G. Exam room capacity calculation is based on the following formula / parameters:

Formula:

Operating Days per Year x Hours of Operation per Day

X Utilization Factor

Average Length of Encounter (ALOE) in Minutes / 60 Minutes

User-defined Value:

- 1. Operating Days per Year: 232, 240 or 250. (default in SEPS: 240)
- 2. Hours of Operation per Day: 6, 7, or 8 (default in SEPS: 8)

Fixed Value:

1. Utilization Factor: 80%

Calculation: Annual Workload for one Exam Room (Auditory Electrophysiology):

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

- H. Workload based room calculation examples:
 - Room Criteria Statement (Room 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. <u>Input Data Statement 1, Answer 1</u>:

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.

Two additional rooms generated

Step 3: Multiply the whole value ("2" in the previous step) by the increment. $2 \times 1,536 = 3,072$

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 is less than 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 = 13,464One room generated

Step 2: Divide the resulting value by the increment.

13,464 / 1,536 = 8.76

Eight additional rooms generated

Step 3: Multiply the whole value ("8" in the previous step) by the increment. $8 \times 1,536 = 12,288$

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 is greater than 307

One additional room generated.

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

2. Room Criteria Statement (Room 2):

Minimum two if the projected annual encounters is between 614 and 6,144; provide an additional one for every increment of 3,072 projected annual encounters greater than 6,144; the minimum workload to generate an additional room is 614.

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 one" condition.

 $12,500 - 6,144 (3,072 \times 2) = 6,356$

Two rooms generated

Step 2: Divide the resulting value by the increment.

6,356 / 3,072 = 2.06

Two additional rooms generated

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

 $2 \times 3,072 = 6,144$

Step 4: Subtract Step 3 from Step 1.

6,356 - 6,144 = 212

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

212 is less than 614

No additional rooms generated.

Total number of rooms generated by 12,500 annual encounters: 4

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 one" condition.

18,000 – 6,144 (3,072 x 2) = 11,856

Two rooms generated

Step 2: Divide the resulting value by the increment. 11,856 / 3,072 = 3.85 Three additional rooms generated

Step 3: Multiply the whole value ("3" in the previous step) by the increment. $3 \times 3,072 = 9,216$

Step 4: Subtract Step 3 from Step 1. 11,856 – 9,216 = 2,640

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

2,640 is greater than 614

One additional room generated.

Total number of rooms generated by 18,000 annual encounters: 6

310: AUDIOLOGY HEARING CONSERVATION SPEECH-LANGUAGE

TABLE 1: WORKLOAD PARAMETER CALCULATION

PATHOLOGY AND ENT CLINIC								
CLINICAL ENCOUNTERS / PROCEDURES	AVERAGE LENGTH OF CLINIC ENCOUNTER (minutes)	UTILIZATION RATE	ANNUAL WORKLOAD PER EXAM / PROCEDURE ROOM (*)	MINIMUM ANNUAL WORKLOAD TO GENERATE ONE ROOM (20%)				
Auditory								
Electrophysiology	60	80%	1,536	307				
Posturography	180	80%	512	102				
Vestibulography	120	80%	768	154				
Diagnostic								
Audiology	60	80%	1,536	307				
Hearing								
Conservation								
Screening	60 (8 pts)	80%	12,288	2,458				
Speech-Language								
Pathology	60	80%	1,536	307				
ENT Exam Room	30	80%	3,072	614				

(*) Values in this column are representative and are based on an 8-hour per day and a 240-day per year default value. SEPS calculates this value dynamically based on answers to the following Input Data Statements:

For The Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic: (1) Is The Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic authorized to operate outside the standard 8-hour per day shift? (Misc); if not:

- (2) Is The Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic authorized to operate a 6-hour per day shift? (Misc) (If not, a 7-hour per day shift will be used to calculate workload driven spaces), and
- (3) Is The Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic authorized to operate outside the standard 240 days per year? (Misc); if not:
 - (4) Is The Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic authorized to operate 232 days per year? (Misc) (If not, 250 days per year will be used to calculate workload driven spaces)

4 PROGRAM DATA REQUIRED (Input Data Questions)

A. Mission Input Data Statements

- 1. Is an Auditory Electrophysiology Room authorized? (M)
 - a. How many annual Auditory Electrophysiology encounters are projected? (W)
- 2. Is a Posturography Room authorized? (M)
 - a. How many annual Posturography encounters are projected? (W)
- 3. Is a Rotary Chair authorized? (M)
- 4. Is an Audiology, Hearing Conservation, Speech-Language Pathology and ENT
 - a. How many Audiology, Hearing Conservation, and Speech-Language Pathology Clinic resident / student FTE positions are authorized? (S)
 - b. How many ENT Resident FTE positions are authorized? (S)
- 5. Is Speech-Language Pathology authorized? (M)
 - a. How many annual Speech-Language Pathology encounters are projected?
 (W)
- 6. Is a Bone Dissection Laboratory authorized? (M)

B. Workload Input Data Statements

- 1. How many annual Vestibulography encounters are projected? (W)
- 2. How many annual Diagnostic Audiology encounters are projected? (W)
- How many annual Hearing Conservation Screening encounters are projected?
 (W)
- 4. How many annual ENT encounters are projected? (W)

C. Staffing Input Data Statements

- 1. How many Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic provider FTE positions are authorized? (S)
 - a. How many Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic provider FTE positions are authorized to have a private office? (Misc)
 - How many Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic provider FTE positions are authorized to have a shared office? (Misc)
 - How many Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic provider FTE positions are authorized to have a cubicle? (Misc)
- 2. How many Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic non-provider FTE positions are authorized? (S)
 - How many Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic non-provider FTE positions are authorized to have a private office? (Misc)

- How many Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic non-provider FTE positions are authorized to have a shared office? (Misc)
- c. How many Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic non-provider FTE positions are authorized to have a cubicle? (Misc)

D. Miscellaneous Input Data Statements

- 1. Is a Sub-Waiting in the Staff and Administrative Area authorized? (Misc)
- Is a Patient Records Storage in the Staff and Administrative Area authorized? (Misc)
- 3. How many Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic FTEs will work on peak shift? (Misc)
- 4. (1) Is the Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic authorized to operate outside the standard 8-hour per day shift? (Misc)
 - a. (2) Is the Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic authorized to operate a 7-hour per day shift? (Misc) (If not, a 6-hour per day shift will be used to calculate workload driven spaces)
- 5. (3) Is the Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic authorized to operate outside the standard 240 days per year? (Misc)
 - a. (4) Is the Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic authorized to operate 250 days per year? (Misc) (If not, 232 days per year will be used to calculate workload driven spaces)

5 SPACE PLANNING CRITERIA

For calculation of the number of Vending Machine areas, Public Toilets, Communication Closets, and Janitors Closets for this Chapter, please refer to DoD Space Planning Criteria Chapter 6.1: Common Areas.

A. FA 1: Reception Area:

Minimum allocated NSF accommodates three standard seats at 16 NSF plus one wheelchair space at 25 NSF and one bariatric bench seat at 36 NSF and circulation area. Depending on the concept of operations for this chapter, waiting space across all units may be combined or dispersed.

This space is provided to accommodate children's play activities; it shall be outfitted with appropriate furniture and accessories. It can be an open or enclosed area included in or adjacent to General Waiting.

Auditory Electrophysiology, Posturography, Vestibulography, Rotary Chair, Hearing Aid Fitting / Modification Rooms; Single-Patient and Multi-Patient Audiometric Booths; Otoscopy Exam, Multipurpose Exam Room, Voice Analysis Laboratory, Adult and Pediatric Group Therapy, Special Procedures, Speech-Language Pathology Exam Room, ENT Exam Room, ENT Procedure Room and Vestibular Exam greater than twelve.

Allocated NSF accommodates up to four receptionists and circulation.

Room used for one-on-one patient education and includes space for family to accompany the patient.

B. FA 2: Audiology / Hearing Conservation Patient Area:

This room accommodates the specialized equipment utilized in measuring auditory evoked potentials, such as brainstem auditory evoked potentials (ABR) or electrocochleography (ECOG) for diagnostic purposes.

Allocated NSF accommodates space for performing special balance tests including electronystagmography (ENG), and videonystagmography (VNG).

Room used to perform Rotary Chair Testing; must accommodate chair, size, vibration and rotation.

6.	Hearing Aid Fitting / Modification Room (HAFR1)180 NSF Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
	Waiting, Audiometry (WRC01)
	Allocated NSF provides space for eight seats plus circulation.
	Audiometric Booth, Single-Patient (PEHS3)
	This space shall accommodate screening and diagnostic testing.
	Audiometric Booth, Multi-Patient (PEHS2)
	than 12,288; the minimum workload to generate an additional Multi-Patient Audiometric Booth is 2,458. (Refer to Section 3)
9.	Audiometric Booth is 2,458. (Refer to Section 3) Allocated NSF accommodates 4-person, 6-person or 8-person audiometric
9.	Audiometric Booth is 2,458. (Refer to Section 3) Allocated NSF accommodates 4-person, 6-person or 8-person audiometric booths. Exam, Otoscopy (EXEN1)
9. 10.	Audiometric Booth is 2,458. (Refer to Section 3) Allocated NSF accommodates 4-person, 6-person or 8-person audiometric booths. Exam, Otoscopy (EXEN1)
9. 10.	Audiometric Booth is 2,458. (Refer to Section 3) Allocated NSF accommodates 4-person, 6-person or 8-person audiometric booths. Exam, Otoscopy (EXEN1)
9. 10. 11.	Audiometric Booth is 2,458. (Refer to Section 3) Allocated NSF accommodates 4-person, 6-person or 8-person audiometric booths. Exam, Otoscopy (EXEN1)
9. 10.	Audiometric Booth is 2,458. (Refer to Section 3) Allocated NSF accommodates 4-person, 6-person or 8-person audiometric booths. Exam, Otoscopy (EXEN1)
9. 10. 11. C. <u>FA</u> 1.	Audiometric Booth is 2,458. (Refer to Section 3) Allocated NSF accommodates 4-person, 6-person or 8-person audiometric booths. Exam, Otoscopy (EXEN1)
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9. 10. 11. C. <u>FA</u> 1.	Audiometric Booth is 2,458. (Refer to Section 3) Allocated NSF accommodates 4-person, 6-person or 8-person audiometric booths. Exam, Otoscopy (EXEN1)

		Allocated NSF provides space for small group therapy sessions led by a Speech- Language Pathologist. This room includes closed circuit TV.
	4.	Special Procedures (TREN1)
		This is a multi-function room. Allocated NSF provides space for swallowing evaluations, video stroboscopy, video endoscopy, laryngeal exams, and an ENT chair.
	5.	Exam, Speech-Language Pathology (EXOS1)
D.	FA	4: ENT Patient Area:
	1.	Exam, ENT (EXEN1)
	2.	Procedure Room, ENT (TREN1)
		Allocated NSF includes space for laser units.
	3.	Laboratory, Bone Dissection (LBDS1)
		This is a Temporal Bone Dissection Lab, a skills lab for residents to gain a thorough knowledge of temporal bone anatomy. Consider locating in GME Area.
	4.	Exam, Vestibular (EXVE1)
		Exam room provides space for ear or vestibular examination with associated equipment.
E.	<u>FA</u>	5: Support Area:
	1.	Decontamination / Scope Wash (USCL2)
		This room is part of a two-room suite; this first room is for initial decontamination with a pass-through to the Utility, Clean Scope for instrument washing / high level disinfecting.
	2.	Utility, Clean Scope (UCCL2)

and ENT Clinic.

This room is part of a two-room suite; it should have a pass-through from Decontamination / Scope Wash.

3. **Medication Room (MEDP1)......120 NSF**Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.

Allocated NSF provides space for a work counter, sink, refrigerator and locked storage for biological or drugs. Accommodates space for automated medication dispensing machine.

Allocated NSF provides space for a work counter, a handwashing station and storage facilities for clean and sterile supplies such as shelving and automated dispensing machines.

Allocated NSF provides space for a handwashing station, a work counter, space for waste receptacles and soiled linen receptacles and provisions for disposal of liquid waste.

- 7. Alcove, AED (RCA01)......30 NSF Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.

F. FA 6: Staff and Administrative Area:

1. Office, Department / Clinic Chief (OFA04)......120 NSF Provide one for Audiology, Hearing Conservation, Speech-Language Pathology

	and ENT Clinic.
2.	Office, Executive Assistant (OFA04)
3.	Sub-Waiting (WRC03)
	Allocated NSF provides space for minimum of two seats plus circulation.
4.	Office, NCOIC / LCPO / LPO (OFA04)
5.	Team Collaboration Room (WRCH1)
	Allocated NSF provides space for staff collaboration with touchdown computer stations for documentation and a table with chairs.
6.	Office, Private (OFA04)
7.	Office, Shared (OFA05)
8.	Cubicle (OFA03)
	These cubicles may be collocated in a shared space or dispersed as required.
9.	Storage, Patient Records (MRS01)
	The Military Health System is moving towards an integrated electronic medical record. If required, space for paper medical records for patients will be planned.
10	Conference Room (CRA01)
	Planner must determine adequacy and availability of existing Conference Room space and the ability to optimize resources by sharing Conference Room space

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with other departments.

This is a room for the copier/printer/scanner. It may be located directly adjacent to the reception area or in the clinic staff support area.

Allocated NSF provides space for office supplies, patient forms and literature.

- 14. Lockers, Personal Property (LR001)......30 NSF Minimum NSF, provide an additional 3 NSF per each FTE position not assigned a private office, shared office or cubicle greater than ten.

G. FA 7: GME Education / Training Area:

This room will contain one cubicle per Resident / Student at 60 NSF. In addition to the cubicles, a table with chairs for collaboration space and bookcases will be provided.

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

6 PLANNING AND DESIGN CONSIDERATIONS

The following design considerations are intended to provide planners and designers with guidance on how to follow world-class and evidence-based design strategies for new and renovation of existing healthcare facilities. For a more comprehensive list, refer to the latest version of the *World Class Checklist* (https://facilities.health.mil/home/). Also refer to Section 1.2 – 6, Design Considerations and Requirements of the latest version of *Guidelines for Design and Construction of Health Care Facilities of the Facility Guidelines Institute (FGI).*

A. Net-to-Department Gross Factor

1. The net-to-department gross factor (NTDG) for Audiology, Hearing Conservation, Speech-Language Pathology, and ENT Clinic is 1.35. This number when multiplied by the programmed net square foot (NSF) area determines the departmental gross square feet. This factor accounts for the space occupied by internal department circulation and interior partitions and other construction elements not defined by the net square foot area.

B. Reception Areas

- 1. Where possible, centralized intake should be considered where multiple clinics are co-located.
- 2. Consider designing clinic areas such that walking distances from intake to exam are kept to a minimum.
- 3. Visual and auditory privacy is required at intake, vitals collection, and scheduling activities.
- 4. Consideration should be given to special needs of specific patient groups in a shared/general waiting area. For example, adolescent and geriatric patients may require different seating options and environments.
- 5. The Playroom shall be constructed of surfaces and materials that are easy to clean and durable (nonporous and smooth).

C. Patient Areas

- 1. Exam rooms should be designed with dedicated patient, provider, and family zones where appropriate.
- 2. Patient care areas should be located near the front of the clinic to minimize patient walking distances and to maximize the "on-stage / off stage" flow.
- 3. Consider placing high volume, quick turn encounters near the front of the Patient Care area.
- 4. Provide same-handed patient care and treatment rooms where appropriate.
- 5. Complete visual privacy for patients in examination, treatment and procedure areas is a critical design consideration.
- 6. Control of sound transmission between examination, treatment and procedure rooms is a critical design consideration.
- 7. The audiology assessment and treatment space should not be adjacent to mechanical systems or other noisy or vibration inducing components.
- 8. Sound booths should be located in interior space for isolation from external noise sources.
- 9. Consider adopting the same NSF for rooms with similar functions, such as treatment and exam rooms, to achieve standardization.
- 10. Provisions for bariatric patients should be included where applicable.
- 11. Consider efficiency of operations and a layout such that walking distances of the routes staff repeatedly take from consult room to the exam rooms, to the work areas (e.g. charting, supplies, medications), back to exam rooms are kept to a minimum.

D. Support Areas

 Medication preparation areas should be enclosed to minimize distractions. A glass wall or window may be provided to observation of patients and clinic activities.

E. Other Design Considerations

- 1. Provide flexible, standardized and modular blocks of clinic space that include dedicated zones (e.g. intake/waiting, exam room, support core, administrative core, procedure and diagnostic core, etc.)
- 2. Functional areas should be designed to provide flexibility in order to accommodate a variety of patient visit types and specialties. Standardized modules should be configured so that clinics can use available adjacent space as demand fluctuates from one clinic to the next.
- 3. Where possible, clinic modules should include internal connecting corridors to allow circulation of staff, materials and sometimes patients in off-stage areas.
- 4. Design for flexibility and adaptability to accommodate future expansion.
- 5. Clearly define patient flows and facilitate wayfinding.
- 6. Design space to foster effective team collaboration, especially important in innovative care delivery models like the patient-centered medical home model (PCMH). Central location of circulating corridors and visually open workstations will increase the quality and probability of unplanned interactions. Informal meeting spaces along hallways with flexibly arranged furniture and small niches with surfaces that allow stand-up work will encourage informal collaboration. Locating the team collaboration rooms and conference rooms close to individual spaces will promote problem solving.
- 7. Create separate paths of travel where possible between patients and staff ("on stage" and "off stage") to support privacy, safety and patient/staff satisfaction.
- 8. Consider physical layouts and design features which minimize institutional and maximize non-institutional aspects in order to provide a more therapeutic healing environment that promotes quicker recovery.
- 9. Create welcoming environments for patients and families by reducing environmental stressors. Daylighting, window views of nature, gardens, indoor plants, and nature photography may alleviate patient anxiety, and provide positive distractions in waiting areas and treatment rooms.
- 10. Where possible, locate clinics proximate to public parking and the main outpatient building entry to improve access and minimize travel distance.
- 11. Consider convenient access to both the Outpatient Pharmacy and Lab and Diagnostic and Treatment services as needed.
- 12. Collocate clinics and inpatient units with the same specialty when possible.

7 FUNCTIONAL RELATIONSHIPS

Relationship of DoD 310: Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic to services listed below:

TABLE 2: FUNCTIONAL RELATIONSHIP MATRIX

Services	Relationship	Reasons	
Primary Care	1, 2	A, B, C	
Pediatrics	1, 2, 3	A, B, G, H, I	
Emergency Services	1, 2, 3	A, B, C, H	
Tele-Health Programs	3	A, G, H	
Physical Medicine and Rehabilitation	3	В	
Pharmacy Services	2, 3	A,B,G,H	

Legend:

Relationship:

- 1. Adjacent
- 2. Close / Same Floor
- 3. Close / Different Floor Acceptable
- 4. Limited Traffic

Reasons:

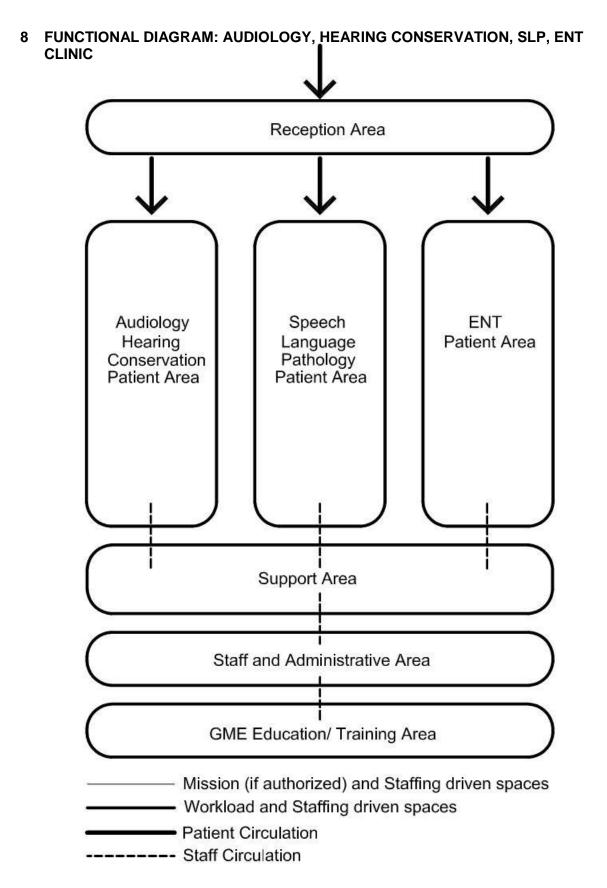
(Use as many as appropriate)

- A. Common use of resources
- B. Accessibility of supplies
- C. Urgency of contact
- D. Noise or vibration
- E. Presence of odors or fumes
- F. Contamination hazard
- G. Sequence of work
- H. Patient's convenience
- I. Frequent contact
- J. Need for security
- K. Others (specify)

8 FUNCTIONAL DIAGRAM

Functional Diagrams show the relationship of each functional area to the whole department. In some instances it shows important spaces within a functional area and how staff and patients may flow through the department. This diagram is not intended to serve as a "bubble diagram" that the planner / designer will create for an individual project. Size and shapes of spaces do not reflect actual configuration or square footage of spaces / rooms.

Refer to Functional Diagram(s) on next page(s)



9 Appendix A: SPACE PLANNING CRITERIA SUMMARY

FA 1: Reception Area:

FA 1: Reception Area:			
Room Name	Room Code	NSF	Space Criteria
Waiting	WRC01	120	Minimum NSF; provide an additional 60 NSF for every increment of four Auditory Electrophysiology, Posturography, Vestibulography, Rotary Chair, Hearing Aid Fitting / Modification Rooms; Single-Patient and Multi-Patient Audiometric Booths; Otoscopy Exam, Multipurpose Exam Room, Voice Analysis Laboratory, Adult and Pediatric Group Therapy, Special Procedures, Speech-Language Pathology, ENT Exam Room, ENT Procedure Room and Vestibular Exam greater than four.
Playroom	PLAY1	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
Reception	RECP1	120	Minimum NSF; provide an additional 30 NSF for every increment of twelve Auditory Electrophysiology, Posturography, Vestibulography, Rotary Chair, Hearing Aid Fitting / Modification Rooms; Single-Patient and Multi-Patient Audiometric Booths; Otoscopy Exam, Multipurpose Exam Room, Voice Analysis Laboratory, Adult and Pediatric Group Therapy, Special Procedures, Speech-Language Pathology Exam Room, ENT Exam Room, ENT Procedure Room and Vestibular Exam greater than twelve.
Kiosk, Patient Check-in	CLSC1	30	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
Patient Education	CLSC3	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
Consult Room	OFDC2	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.

			Provide one for Audiology, Hearing Conservation, Speech-Language
Alcove, Wheelchair	SRLW1	30	Pathology and ENT Clinic.

FA2: Audiology / Hearing Conservation Patient Area:

1 Az. Addiology / Hear			
Room Name	Room Code	NSF	Space Criteria
			Provide one for every increment of 1,536 projected annual Auditory
			Electrophysiology encounters, the
			minimum workload to generate a
			room is 307 if an Auditory
Auditory			Electrophysiology Room is
Electrophysiology Room	OPAE1	120	authorized. (Refer to Table 1)
Posturography Room	OPAP1	120	Provide one for every increment of 512 projected annual Posturography encounters, the minimum workload to generate a room is 102 if a Posturography Room is authorized. (Refer to Table 1)
			,
			Provide one for every increment of 768 projected annual
			Vestibulography encounters, the
			minimum workload to generate a
Vestibulography Room	EXVE1	120	room is 154. (Refer to Table 1)
Rotary Chair Room	OPAR1	180	Provide one if a Rotary Chair is authorized.
Trotary Criaii (100iii	<u> </u>	100	Provide one for Audiology, Hearing
Hearing Aid Fitting /			Conservation, Speech-Language
Modification Room	HAFR1	180	Pathology and ENT Clinic.
Sub-Waiting,			Provide one if an Audiometric Booth
Audiometry	WRC01	180	(Single or Multi-Person) is generated.
Audiometric Booth, Single-Patient	PEHS3	120	Minimum one; provide an additional one for every increment of 1,536 projected annual Audiology Diagnostic encounters; the minimum workload to generate a room is 307.
Audiometric Booth, Multi-Patient	PEHS2	360	Minimum one; provide an additional one for every increment of 12,288 projected annual Hearing Conservation Screening encounters; the minimum workload to generate a room is 2,458. (Refer to Table 1)

Exam, Otoscopy	EXEN1	120	Provide two for Audiology / Hearing Conservation
Exam, Multipurpose	EXEN1	120	Minimum two; provide an additional two per each Multi-Patient Audiometric Booth greater than one.
Hearing Protection Fit Test	HAFR1	120	Provide one for Audiology / Hearing Conservation.

FA3: Speech-Language Pathology Patient Area:

ras. Speech-Language rathology ratient Area.				
Room Name	Room Code	NSF	Space Criteria	
Voice Analysis Lab	TREN2	120	Provide one if Speech-Language Pathology is authorized.	
Group Therapy Room, Adult	OPMH1	240	Provide one if Speech-Language Pathology is authorized.	
Speech Therapy Group Room, Pediatric	OPMP1	240	Provide one if Speech-Language Pathology is authorized.	
Special Procedures	TREN1	180	Provide one if Speech-Language Pathology is authorized.	
Exam, Speech-			Provide one for every increment of 1,536 projected annual Speech-Language Pathology encounters, the minimum workload to generate a room is 307 if Speech-Language Pathology is authorized. (Refer to	
Language Pathology	EXOS1	120	Table 1)	

FA4: ENT Patient Area:

Room Name	Room Code	NSF	Space Criteria
Exam, ENT	EXEN1	120	Minimum two; provide an additional one for every increment of 3,072 projected annual ENT encounters greater than 6,144; the minimum workload to generate a room is 614. (Refer to Table 1)
Procedure Room, ENT	TREN1	180	Minimum one; provide an additional one for every increment of ten ENT Exam Rooms greater than ten.

Laboratory, Bone Dissection	LBDS1	600	Minimum NSF; provide one if a Graduate Medical Education program for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic is authorized; provide an additional 60 NSF per each ENT Resident FTE authorized greater than ten.
			Minimum one; provide an additional one for every increment of ten ENT
Exam, Vestibular	EXVE1	120	Exam Rooms greater than ten.

FA5: Support Area:

Room Name	Room Code	NSF	Space Criteria
Decontamination / Scope Wash	USCL2	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
Utility, Clean Scope	UCCL2	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
Medication Room	MEDP1	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
Litility Poom, Cloop	LICCI 1	120	Minimum NSF; provide an additional 30 NSF for every increment of twelve Auditory Electrophysiology, Posturography, Vestibulography, Rotary Chair, Hearing Aid Fitting / Modification Rooms; Single-Patient and Multi-Patient Audiometric Booths; Otoscopy Exam, Multipurpose Exam Room, Voice Analysis Laboratory, Adult and Pediatric Group Therapy, Special Procedures, Speech-Language Pathology, ENT Exam Room, ENT Procedure Room and
Utility Room, Clean	UCCL1	120	Vestibular Exam greater than twelve.

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Utility Room, Soiled	USCL1	120	Minimum NSF; provide an additional 30 NSF for every increment of twelve Auditory Electrophysiology, Posturography, Vestibulography, Rotary Chair, Hearing Aid Fitting / Modification Rooms; Single-Patient and Multi-Patient Audiometric Booths; Otoscopy Exam, Multipurpose Exam Room, Voice Analysis Laboratory, Adult and Pediatric Group Therapy, Special Procedures, Speech-Language Pathology, ENT Exam Room, ENT Procedure Room and Vestibular Exam greater than twelve.
Storage, Equipment	SRSE1	120	Minimum NSF; provide an additional 30 NSF for every increment of twelve Auditory Electrophysiology, Posturography, Vestibulography, Rotary Chair, Hearing Aid Fitting / Modification Rooms; Single-Patient and Multi-Patient Audiometric Booths; Otoscopy Exam, Multipurpose Exam Room, Voice Analysis Laboratory, Adult and Pediatric Group Therapy, Special Procedures, Speech-Language Pathology, ENT Exam Room, ENT Procedure Room and Vestibular Exam greater than twelve.
7			Provide one for Audiology, Hearing
7 Alassa AED	DCAGA	200	Conservation, Speech-Language
7. Alcove, AED	RCA01	30	Pathology and ENT Clinic.

FA6: Staff and Administrative Area:

Room Name	Room Code	NSF	Space Criteria
Office, Department / Clinic Chief	OFA04	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
Office, Executive Assistant	OFA04	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.

			T 1
Sub-Waiting	WRC01	60	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic if authorized.
Office, NCOIC / LCPO / LPO	OFA04	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
Team Collaboration Room	WRCH1 OFA04	120	Minimum one; provide an additional one for every increment of eight Auditory Electrophysiology, Posturography, Vestibulography, Rotary Chair, Hearing Aid Fitting / Modification Rooms; Single-Patient and Multi-Patient Audiometric Booths; Otoscopy Exam, Multipurpose Exam Room, Voice Analysis Laboratory, Adult and Pediatric Group Therapy, Special Procedures, Speech-Language Pathology, ENT Exam Room, ENT Procedure Room and Vestibular Exam greater than eight. Provide one per each Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic provider and non-provider FTE position authorized to have a private office.
Office, Shared	OFA05	120	Provide one for every increment of two Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic provider and non-provider FTE positions authorized to have a shared office.
Cubicle	OFA03	60	Provide one per each Audiology, Hearing Conservation, Speech- Language Pathology and ENT Clinic provider and non-provider FTE position authorized to have a cubicle.
Storage, Patient Records	MRS01	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic if authorized.
Conference Room	CRA01	240	Minimum NSF; provide an additional 60 NSF if the total number of FTE positions authorized is greater than ten.

Copier	RPR01	120	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
Storage, Office Supplies	SRS01	60	Provide one for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic.
Lounge, Staff	SL001	120	Minimum NSF, provide an additional 60 NSF for every increment of ten FTEs working on peak shift greater than ten; maximum 360 NSF.
Lockers, Personal Property	LR001	30	Minimum NSF, provide an additional 3 NSF per each FTE position not assigned a private office, shared office or cubicle greater than ten.

FA7: GME Education / Training Area:

Room Name	Room Code	NSF	Space Criteria
Office, Residency Program Director	OFA04	120	Provide one if an Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic Graduate Medical Education program is authorized.
Resident Collaboration Room	WKTM1	240	Minimum NSF; provide an additional 60 NSF per each Resident / Student FTE position authorized greater than two if a Graduate Medical Education program for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic is authorized.
Classroom / Conference Room	CLR01	240	Provide one if the total number of Resident / Student FTE positions is greater than five if a Graduate Medical Education program for Audiology, Hearing Conservation, Speech-Language Pathology and ENT Clinic is authorized.