# CHAPTER 233: VETERANS HEALTH ADMINISTRATION: EYE CLINIC

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#### 1 PURPOSE AND SCOPE

This document outlines Space Planning Criteria for Chapter 233: Eye Clinic. It applies to all medical facilities at the Department of Veterans Affairs (VA).

#### 2 DEFINITIONS

- A. <u>Affiliated</u>: An arrangement whereby a school of medicine or optometry agrees to staff a VA facility with faculty physicians (ophthalmologists), optometrists, residents and interns / externs. In return, the VA provides the medical or optometry school with a venue to train new physicians / optometrists. In this arrangement, the VA retains responsibility for the care of its patients while the school of medicine or optometry retains responsibility for all graduate level education and training.
- B. <u>Clinic Stop</u>: 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.
- C. <u>Concept of Operations</u>: A user-developed guide to the functional operation of the VA healthcare facility. It defines the function of the facility and the scope of medical or optometric services to be provided in the new or remodeled space.
- D. <u>Eye Care Provider</u>: An Optometrist or Ophthalmologist who examines, diagnoses, treats, prescribes medication, and manages the care of patients within his or her clinical privileges as established by the governing body of a healthcare organization.
- E. <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 hours per week.
- F. <u>Functional Area</u>: The grouping of rooms and spaces based on their function within a clinical service. Typical Functional Areas are Reception Areas, Patient Areas, Support Areas, Staff and Administrative Areas, Residency and / or Internship / Externship Program Areas.
- G. <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 document. Input Data Statements could be Mission related, based in the project's Concept of Operations; and Workload or Staffing related, based on projections and data provided by the VHA or the VISN about the estimated model of operation. This information is processed through mathematical and logical operations in VA-SEPS.
- H. <u>Low Vision</u>: Vision considered being inferior to normal vision, as represented by accepted standards of acuity, field of vision, or motility, and uncorrectable by conventional lenses, or the branch of visual care identified with its correction or rehabilitation by special aids or techniques.
- I. <u>Low Vision Training</u>: Training an individual with low vision to use his or her residual vision. This may also include training in the use of low vision and other aids in everyday situations and activities of daily living. Low Vision Services including Basic, Intermediate, Poly-trauma Facility, Advanced, Visual Impairment Center to Optimize Remaining Sight (VICTORS), Poly-trauma Rehabilitation Network Site, as well as Poly-trauma Rehabilitation Center which may include Low Vision Services have

- separate staffing, space, and workload requirements based upon the level and intensity of vision rehabilitation care provided.
- J. Ophthalmologist: An ophthalmologist is a physician who specializes in the comprehensive care of the eyes and visual system. An ophthalmologist is medically trained and qualified to diagnose and treat all eye and visual system problems. An ophthalmologist can deliver total eye care as well as diagnose general diseases of the body. An ophthalmologist has completed 4 years of college premedical training, 4 or more years of medical school, 1 year of internship, and 3 years or more of specialized medical training and experience in eye care. An additional 1 to 3 years may be spent in sub-specialty training.

Source: VHA Handbook 1121 (July 5, 2002): VHA Eye Care.

K. Optometrist: Doctors of Optometry are independent primary health care providers who examine, diagnose, treat, and manage diseases and disorders of the visual system, the eye and associated structures, as well as diagnose related systemic conditions. An optometrist typically completes 4 years of baccalaureate training and 4 years of optometry training. Residency training is 1 year beyond attainment of the optometry degree.

Source: VHA Handbook 1121 (July 5, 2002): VHA Eye Care.

- L. <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) The NTDG factor adopted for Eye Clinic is 1.60.
- M. <u>Program for Design (PFD)</u>: A space program based on criteria set forth in this document and specific information about Concept of Operations, workload projections and staffing levels authorized.
- N. 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 80 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 of the room. This factor may be adjusted based on the actual and/or anticipated operations and processes of the room / department.
- O. <u>SEPS (VA-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 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.
- P. <u>Visual Fields</u>: The area or extent of physical space visible to an eye in a given position. Its average extent is approximately 65 degrees upward, 75 degrees downward, 60 degrees inward, and 95 degrees outward when the eye is in the straightforward position.
- Q. <u>Workload</u>: Workload is the anticipated number of procedures or suite 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 medical center, hospital or satellite outpatient clinic project are provided by the VA Central Office (VACO) / VISN CARES Capacity Projection Model. The workload projections are generated by methodology based upon the expected veteran population in the respective market / service area. Healthcare planners working on VA medical center, hospital or satellite outpatient clinic 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 Eye 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 Veterans.
- C. These criteria are subject to modification relative to development in the equipment, medical practice, vendor requirements, and subsequent planning and design. The selection of the size and type of Eye Clinic equipment is determined by VACO and upon Veterans Health Administration (VHA) anticipated medical needs.
- D. Room capacity per year should be based on:

Operating days per year x Hours of operation per day

= Number of

Minutes per clinic stop / 60 minutes annual clinic stops

- 1 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 hours of operation are modified, i.e., additional capacity may be generated by extending the daily hours of operation within the same physical setting.
- 2 The Basic Room Efficiency Factor for Optometry is 80% (affiliated/non-affiliated). The Efficiency Factor for Ophthalmology is 70% (affiliated/non-affiliated).
- 3 Average length of procedure for affiliated Optometry and Ophthalmology is 40 minutes, and for non-affiliated Optometry and Ophthalmology is 32 minutes.

Example: Assume an exam / treatment room for Optometry that averages 40 minutes per clinic stop:

250 operating days per year x 8 hours of operation per day
= 3,000 annual
40 minutes per clinic stop / 60 minutes clinic stops

A maximum capacity of 3,000 clinic stops per year, assuming 100% utilization. However, 100% utilization is not realistic to achieve, thus, it is not realistic as a design standard. Apply Room Efficiency Factor for an affiliated facility:

 $3.000 \times 80\% = 2.400$  annual clinic stops.

**TABLE 1: WORKLOAD PARAMETER CALCULATION** 

EYE CLINIC	AVERAGE LENGTH OF CLINIC STOP (minutes)	UTILIZATION RATE	MINIMUM WORKLOAD TO GENERATE ONE ROOM
Optometry			
Affiliated	40	80%	2,400
Non-Affiliated	32	80%	3,000
Ophthalmology			
Affiliated	40	70%	2,100
Non-Affiliated	32	70%	2,625

The number of annual clinic stops per room will be used as a criteria parameter to calculate the number of Exam / Treatment Rooms in the Space Criteria section of this document.

E. The recommendations of these criteria are based on workload / number of clinical stops at the Eye Clinic. An alternative staffing-generated method is based upon having 2.5 Exam / Treatment Rooms per 1.0 FTE eye care provider (Optometrist or Ophthalmologist), 1.0 FTE Eye Technician per 1.0 FTE eye care provider as well as adequate clerical and administrative support. For workload planning purposes, there are about two annual eye care provider visits per unique veteran. The number of unique veterans seen at any VA facility will vary dependent upon the prevalence and complexity of ocular disease conditions in the veteran population served. With a higher incidence of mental health disorders and/or long term care patients, there is expected to be fewer unique veterans receiving eye care services. The more ambulatory procedures performed, the potentially fewer unique veterans receiving care. For optometry, the majority of primary eye care services provided includes a comprehensive eye examination with refraction, so although there may be fewer visits, there will be a greater number of unique patients receiving care.

### 4 PROGRAM DATA REQUIRED (Input Data Questions)

- A. Mission Input Data Statements
  - 1 Is an affiliated Optometry program authorized? (M)
  - 2 Is an affiliated Ophthalmology program authorized? (M)
  - 3 Are an Eyeglass Fitting and Display and a Dispensing Room authorized? (M)
  - 4 Is Ultrasound / Optical Coherence Tomography authorized? (M)
  - 5 Is an Eye Procedure room authorized? (M)
  - 6 Is a Laser Room authorized? (M)
  - 7 Is an Electodiagnosis Room authorized? (M)
  - 8 Is a Patient Education / Contact Lens Dispensing Room authorized? (M)
  - 9 Is an Eyeglass Frame Storage Room authorized? (M)
  - 10 Are Intermediate Low Vision Services authorized? (M)
  - 11 Is a Poly-trauma Facility Rehabilitation Center authorized? (M)
  - 12 Are Advanced Low Vision Services authorized? (M)
  - 13 Are VICTORS Low Vision Services authorized? (M)
  - 14 Is a Poly-trauma Rehabilitation Network Site authorized? (M)
  - 15 Is a Consultation / Viewing Room authorized? (M)
  - 16 Is a Conference Room authorized? (M)

- 17 Is an Ophthalmology / Optometry Residency / Externship Program authorized? (M)
  - a. How many Ophthalmology / Optometry Residency Director FTE positions are authorized? (S)
  - b. How many Optometry Internship / Externship Director FTE positions are authorized? (S)
  - c. How many Ophthalmology / Optometry Coordinator FTE positions are authorized? (S)
  - d. How many Ophthalmology / Optometry Resident / Intern / Extern FTE positions are authorized? (S)
  - e. Is a Residency Research Technician authorized? (M)
  - f. Is an Exam Room for the Residency / Externship Program authorized? (M)
  - g. Is a Conference / Classroom for the Residency / Externship Program authorized? (M)
  - h. Is a Group Counseling Room for the Residency program authorized? (M)
  - i. Is a Library for the Residency / Externship Program authorized? (M)

## B. Workload Input Data Statements

- 1 How many annual Optometry clinic stops are projected? (W)
- 2 How many annual Ophthalmology clinic stops are projected? (W)

## C. Staffing Input Data Statements

- 1 How many Optometry Section Chief FTE positions are authorized? (S)
- 2 How many Ophthalmology Section Chief FTE positions are authorized? (S)
- 3 How many Clerical FTE positions are authorized? (S)
- 4 How many Optometrist FTE positions are authorized? (S)
- 5 How many Ophthalmologist FTE positions are authorized? (S)
- 6 How many Nurse Manager FTE positions are authorized? (S)
- 7 How many Administrative FTE positions are authorized? (S)

### D. Miscellaneous Input Data Statements

- 1 How many FTEs will work on peak shift? (Misc)
- 2 How many FTE positions are not authorized to have office or cubicle space? (Misc)

### **5 SPACE CRITERIA**

- A. Reception Areas

100 NSF provides for three standard seats, one wheelchair accessible seat and waiting space for one stretcher. 55 NSF additional allocates 25 NSF for one accessible seat and 30 NSF for two standard seats per Exam Room greater than one.

## B. Patient Areas

Refer to paragraph 3.E for alternative staffing-generated method for calculating Exam/Treatment Rooms.

Refer to paragraph 3.E for alternative staffing-generated method for calculating Exam/Treatment Rooms.

- 3. Waiting Area, Dilation (WRC01) ......100 NSF (9.3 NSM) Provide one per Eye Clinic.

The Visual Fields Room accommodates testing, evaluation, and monitoring of the visual fields of a patient who may or may not be ambulant. This room may also be used as a patient's darkroom adaptation. One room will be provided in smaller clinics and used for both manual and automated perimetry. A movable partition separating the equipment should be provided. In larger clinics, two separate rooms will be used for manual and automated perimetry.

The Pre-testing Room is used by the technician to assist in the performance of preliminary testing and preparation of the patient's profile with the supervision of the optometrist or ophthalmologist. In Eye Clinics with greater than five Optometry and Ophthalmology Exam / Treatment Rooms, space for a rotary screening center which provides visual field screening, visual acuity, auto-refractor, auto-lensometer, auto-tonometer, auto-keratometry, and auto-biometry instruments located on a single table may be provided.

7. Eyeglass Fitting and Display, and Dispensing Room (EYFD1)......140 NSF (13.1 NSM)

Provide one if authorized in Concept of Operations.

The Eyeglass Fitting and Display, and Dispensing Room is used by the technician to assist in the fitting, adjustment, repair, and dispensing of eyeglasses. An area for the display of eyeglasses should be included.

Diagnostic uses of the Ultrasound Room are for the location of unseen intraocular foreign bodies, for retinal detachment, and for internal view when the patient's eye lid can not be opened or the patient's eye is blocked by blood or cataracts impeding the examiner's view. The Ultrasound Room is provided with ultrasound equipment with diagnostic A and B modes, a calculation / computer for intraocular lens calculations, and a reclining patient chair. The Optical Coherence Tomography Room for ocular imaging may be combined within the Ultrasound Room space allocation.

9. Eye Procedure Room (EYOT2)......220 NSF (20.5 NSM) Provide one if authorized in Concept of Operations.

The Eye Procedures Room is designed for any treatment that requires surgical intervention that is deemed "an office procedure". Procedures commonly performed in this space are chalazion excisions, tarsorrhaphy, biopsy, eyelid tumors, suture external eyelid lacerations, and pterygium removal.

The Laser Room accommodates treatment of ocular problems including diabetic retinopathy, glaucoma, retinal detachment, occludable angles/ocular hypertension. Equipment commonly provided is laser instruments, a laser cart, a slit lamp delivery system, and safety equipment. The Laser Room may include more than one laser system.

The Electrodiagnosis Room accommodates visual digitized equipment for conducting electro-oculographic, electroretinographic, and visual evoked cortical potential testing of retina, optic nerve, and visual pathway functioning with analysis.

The Low Vision Examination / Training Room is used for the examination of low vision patients, storage of low vision devices, and for minor training and education for adult daily living skills.

13. Training Room, Low Vision / Poly-Trauma (EYOT2).......400 NSF (37.2 NSM) Provide one if Intermediate or Poly-trauma Facility Vision Rehabilitation Services are authorized in Concept of Operations.

The Low Vision / Poly-Trauma Training Room is used to provide vision rehabilitation care. Patient education and eye care counseling sessions are conducted so that patients can learn how to use prescribed low vision and other aids in order to perform everyday skills, activities of daily living, and to improve their overall functional independence. If Advanced, VICTORS, Poly-trauma Rehabilitation Network Site or Poly-trauma Rehabilitation Center Vision Rehabilitation Services are authorized, two rooms are recommended.

14. Patient Education /
Contact Lens Dispensing Room (EYCL1)......130 NSF (12.1 NSM)
Provide one if authorized in Concept of Operations.

The Patient Education / Contact Lens Dispensing Room is used to educate patients about their eye diseases and vision conditions, instruct them on the proper use and instillation of eye medications, provide training in the insertion and removal of contact lenses, and dispense contact lenses.

# C. Support Areas

1. Clean Supply Room (UCCL1) ......80 NSF (7.4 NSM) Provide one per Eye Clinic.

The Clean Supply Room provides storage for medical supplies used in the delivery of patient care. It should be accessible from the corridor and located near the Eye Procedure Room.

2. Soiled Utility Room (USCL1) ......80 NSF (7.5 NSM) Provide one per Eye Clinic.

The Soiled Utility Room provides an area for cleanup of equipment, utensils, and for disposal of waste material. It provides a temporary holding area for material that will be picked up by Supply, Processing, and Distribution (SPD). It should be accessible from the main corridor and located near the Eye Procedure Room.

3. Medication Preparation Room (MEDP1).....80 NSF (7.5 NSM) Provide one per Eye Clinic.

The Medication Preparation Room should be secured and provide storage for medication. It should be accessible only from within the staff area.

- 4. Storage, Equipment (SRE01)......120 NSF (11.2 NSM) Provide one per Eye Clinic.
- 5. Storage Alcove, Medical Equipment (RCA01)......15 NSF (1.4 NSM) Provide one per Eye Clinic.

The Medical Equipment Storage Alcove is reserved for storage of equipment, such as a crash cart, requiring monitoring by the eye clinic staff. The alcove should be located in the clinic area but out of the main traffic flow.

- 6. Storage Alcove, Wheelchair (SRLW1)......40 NSF (3.8 NSM) Provide one per Eye Clinic.
- 7. Storage, Eyeglass Frame (SRS01)......80 NSF (7.5 NSM) Provide one if authorized in Concept of Operations.
- 8. Housekeeping Aides Closet HAC (JANC1).......40 NSF (3.8 NSM) Minimum one; provide an additional 40 NSF per each additional increment of five Exam / Treatment rooms greater than five.

# D. Staff and Administrative Areas

- 3. Office, Optometry Section Chief (OFC02)......120 NSF (11.2 NSM) Provide one per Optometry Section Chief FTE position authorized.
- 4. Office, Secretary / Waiting (SEC01)...... 120 NSF (11.2 NSM) Provide one per Eye Clinic.
- 5. Office, Clerical (OFA03)......80 NSF (7.5 NSM) Provide one per Clerical FTE position authorized.
- 6. Office, Eye Care Provider (OFD03)......120 NSF (11.2 NSM) Provide one per Ophthalmologist and Optometrist FTE position authorized.
- 8. Nurse Work Room (WRCH1) ......120 NSF (11.2 NSM) Provide one per Eye Clinic.
- 9. Office Support Equipment Area (SRE01) .......40 NSF (3.8 NSM) Provide one per Eye Clinic.

The Consultation / Viewing room will provide staff, residents, and extern / intern students an area to review specific case information as it relates to patient examination and treatment. The confidential nature of this information should be considered when planning this area.

If Conference Room is programmed or available in potentially adjacent clinic space, program only one space for maximum of two adjacent clinics

## E. Staff Lockers, Lounge, and Toilets

The spaces below provide programming of Lounge, Lockers, and Toilets at department/service/chapter level. Alternatively, sum all departments/services data for Lockers, Lounges and Toilets, and program space in Chapter 410-EMS Lockers, Lounges, Toilets and Showers. Either/or – do not duplicate space. Provide locker space only for those FTEs without office or cubicle space.

For less than five FTE combine Lounge facilities with adjacent department or sum in chapter 410.

Provide locker space only for those FTEs without assigned office or cubicle space. For less than five FTE combine Locker Room facilities with adjacent department or sum in chapter 410.

### E. Residency and/or Externship Program(s)

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

of Operations.

1.	Office, Director of Ophthalmology / Optometry Residency (OFD03)
2.	Office, Director of Optometry Internship / Externship Program (OFD03) 120 NSF (11.2 NSM) Provide one per Optometry Internship / Externship Director FTE position authorized and if in Concept of Operations.
3.	Office, Secretary to the Director (SEC01)
4.	Office, Ophthalmology / Optometry Coordinator (OFD03)
5.	Cubicle, Resident / Intern / Extern (OFA03)
6.	Office, Residency Research Technician (OFA01 / OFA02)100 NSF (9.3 NSM) Provide one if in Concept of Operations; provide OFA01 if standard furniture is authorized; or OFA02 if systems furniture is authorized.
7.	Exam / Treatment Room (EYOT2)
9.	Group Counseling Room (OFDC2)
	Alternatively, add other small programs in Chapter 402: Educational Facilities; do not duplicate space.
8.	Conference / Classroom (CRA01)
	For less than 5 participants provide Group Counseling Room below or sum with other small programs in chapter 402. Do not duplicate space.
10	Library, Ophthalmology / Optometry (LIBB1)240 NSF (22.3 NSM)  Provide one if Clinic is remote from central library facility or in authorized Concept

### **6 PLANNING AND DESIGN CONSIDERATIONS**

- A. Net-to-department gross factor (NTDG) for Eye Clinic is 1.60. This number when multiplied by the programmed net square foot (NSF) area determines the departmental gross square feet.
- B. The Eye Clinic should be located adjacent to the Ambulatory Care Clinic (Hospital based).
- C. Patient corridors should be a minimum of 8'-0" wide, to accommodate wheelchairs, motorized scooters, or gurneys.
- D. Consideration should be given to the effects of building vibration, as building vibration could interfere with the accuracy of patient testing.
- E. Exam / Treatment Rooms should be designed to accommodate the specialized equipment required for eye testing. Windows to the exterior may be provided but total room darkening capability should be able to be attained. Each Exam / Treatment and Low Vision Examination / Training room should be provided with a hand washing sink, paper towel dispenser, and waste receptacle. The sink needs to be provided with either wrist blades or motion sensors for infection control purposes. Light dimming should be available. The rooms should be designed to accommodate the specialized equipment required for eye testing that includes special ophthalmic equipment stand arms and ability to move / glide the patient examination chair necessary for wheelchair, scooter, or gurneys patients.
- F. Patient corridors should be a minimum of 8'-0" wide, to accommodate wheelchairs, motorized scooters, or gurneys.
- G. Consideration should be given to the effects of building vibration, as building vibration could interfere with the accuracy of patient testing.

### 7 FUNCTIONAL RELATIONSHIPS

Relationship of Eye Clinic to services listed below:

**TABLE 2: FUNCTIONAL RELATIONSHIP MATRIX** 

Ambulatory Care	1	H,I
Pharmacy-Outpatient Satellite	2	G,H,I
Radiology-Outpatient Satellite	2	G,H,I
Pharmacy-Inpatient	3	G,H
Prosthetics Service	3	G,H
Supply Service-SPD	3	В

# Legend:

# Relationship

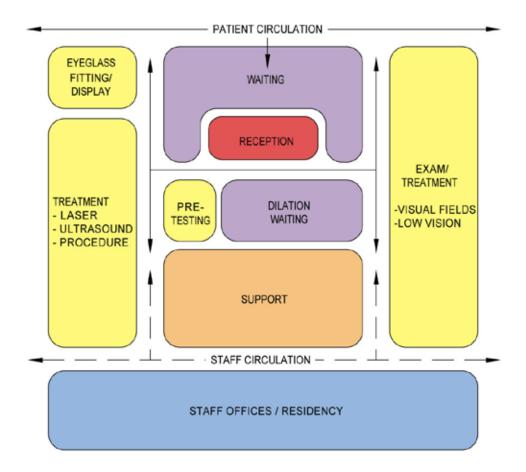
- 1. Adjacent
- 2. Close / Same Floor
- 3. Close / Different Floor Acceptable
- 4. Limited Traffic
- X. Separation Desirable

#### 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)
- L. Closeness inappropriate

## **8 FUNCTIONAL DIAGRAM**



FUNCTIONAL DIAGRAM 1 - EYE CLINIC