CHAPTER 222: VETERANS HEALTH ADMINISTRATION – DENTAL SERVICE

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1 PURPOSE AND SCOPE

This document outlines space planning criteria for Space Planning Criteria for Chapter 222: Dental Service. It applies to all medical facilities at the Department of Veterans Affairs (VA).

2 **DEFINITIONS**

- A. <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 procedure / suite stops in a single visit or in one day.
- A. <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 services to be provided in the new or remodeled space.
- B. <u>Dental Hygienist</u>: Dental professional specializing in cleaning teeth and educating patients in proper oral hygiene.
- C. <u>Dentist</u>: A medical professional trained in the evaluation, diagnosis, prevention and treatment of diseases and conditions of the teeth and associated oral structures.
- D. <u>Dental Laboratories: Maxillo-Facial, Dental Prosthetic, Oral Pathology</u>: The Maxillo-Facial Laboratory is equipped to fabricate maxillo-facial prostheses. The Dental Prosthetics laboratory is equipped to fabricate oral prostheses. An Oral Pathology Laboratory is for training Oral Pathology residents in the applied science of oral pathology.
- E. <u>Dental X-Ray: Intra-oral, Panoramic, Cephalometric:</u> Cephalometric X-Rays capture a radiographic image of the entire head, usually in profile. Intra-oral X-Rays provide an image of several teeth at a time, and panoramic X-Rays generate a "wrap-around" image of the patient's mouth.
- F. <u>Endodontics</u>: The dental specialty concerned with the morphology, physiology and pathology of the dental pulp and associated tissues.
- G. <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.
- H. <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, and Residency Program.
- I. <u>General Practice Dental Resident (1 yr, 2 yr)</u>: A dentist participating in an accredited post doctoral dental training program that provides experience in a comprehensive range of dental care. Residency programs may be 1 or 2 years in duration.
- J. <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.

- K. <u>Maxillo-Facial Treatment Room</u>: This room is used for prosthetic treatment of patients with abnormal conditions of the face and oral structures.
- L. <u>Net-to-department gross factor (NTDG)</u>: A factor that, when multiplied by the programmed Net Square Foot (NSF) area, determines the Departmental Gross Square Feet (DGSF). The NTDG factor adopted for Dental Service is 1.55.
- M. <u>Oral Surgeon</u>: A dentist who specializes in surgery of the mouth and removal of teeth.
- N. <u>Periodontics</u>: The dental specialty that includes the prevention, diagnosis and treatment of diseases of the gums and supporting structures of the teeth, and the maintenance of the health of these tissues and structures.
- O. <u>Program for Design (PFD)</u>: A space program generated by SEPS II based on criteria set forth in this document and specific information about Concept of Operations, Workload projections and Staffing levels authorized.
- P. <u>Prosthodontics</u>: The dental specialty that involves the use of artificial replacements for missing or deficient teeth or oral and maxillo-facial tissues.
- Q. <u>Room Efficiency Factor</u>: 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.
- R. <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 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.
- S. <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. These workload projections are generated by methodology based upon the expected veteran population in the respective market / service area. Space planners working on new or renovation projects for VA medical centers, hospitals or outpatient clinics, shall use those projections in conjunction with the criteria parameters set forth herein to generate a space program.

- B. Space Planning Criteria have been developed on the basis of an understanding of the activities involved in the functional areas of Dental Service and their relationship with other services of a medical facility. These criteria are based 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 based on established and anticipated standards, which are subject to modification relative to development in the standards of practice, equipment, vendor requirements, and healthcare planning and design developments.
- D. Planning methodology for determining number of operatories and treatment rooms will be based on staffing, including number of dentist, resident and dental hygienist positions authorized and the presence of specific residency programs.
- E. Space planners shall collaborate with the Dental Service Chief, in order to accommodate site-specific program considerations in the space planning process.

4 PROGRAM DATA REQUIRED (Input Data Questions)

- A. <u>MISSION</u>
 - 1. Is a Cephalometric X-Ray or a Cone Beam CT Scanner authorized? (M)
 - 2. Is Oral Surgery authorized? (M)
 - a. Is a FT Oral Surgeon FTE position authorized? (M)
 - b. Is an Oral Surgery Residency Room authorized? (M)
 - 3. Is Maxillo-Facial Treatment authorized? (M)
 - a. How many Maxillo-Facial Treatment Rooms are authorized? (Misc)
 - 4. Are Dental Laboratories authorized? (M)
 - a. Is a Dental Prosthetic Laboratory authorized? (M)
 - b. Is a Maxillo Facial Laboratory authorized? (M)
 - c. Is a Ceramics Room authorized? (M)
 - d. Is an Oral Pathology Laboratory authorized? (M)
 - 5. Is an Instrument Preparation and Sterilization Room authorized? (M)
 - 6. Is an X-Ray Film Processing Room authorized? (M)
 - 7. Is a Conference Room / Library authorized? (M)
 - 8. Is a Dental Residency Program authorized? (M)
 - a. Is a Conference / Classroom for the Residency Program authorized? (M)
 - b. Is a Dental Auxiliary Training Coordinator FTE position authorized? (M)
 - c. Are Cubicles for Residents authorized? (M)
 - d. How many Student FTE positions are authorized? (Misc)
 - e. How many Dental Resident FTE positions are authorized? (S)
 - f. What is the projected off service rotation time for Dental Residents? (Misc) Range 0 to 100, Default Value: 25
- B. WORKLOAD
 - 1. How many annual Dental Patients are projected? (W)

- C. <u>STAFFING</u>
 - 1. How many Assistant Chief FTE positions are authorized? (S)
 - 2. How many Secretary FTE positions are authorized? (S)
- D. MISCELLANEOUS
 - 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)
 - 3. How many Staff Dentists are identified as Oral Surgeons? (Misc)
 - 4. What is the projected Dental Service Chief direct patient care percentage time? (Misc)

Range 0 to 100, Default Value: 50

5. What is the projected Staff Dentist direct patient care average percentage time? (Misc)

Range 0 to 100, Default Value: 88

6. What is the projected Dental Hygienist direct patient care average percentage time? (Misc)

Range 0 to 100, Default Value: 88

- 7. What is the projected annual Staff Dentist RVU target? (Misc) Range 70,000 to 225,000, Default Value: 125,000
- 8. What is the projected annual Dental Hygienist RVU target? (Misc) Range 40,000 to 150,000, Default Value: 75,000
- 9. What is the Patient RVU Annual target? (Misc) Range 200 to 400, Default Value: 240
- 10. What percent of workload will be performed by Dental Hygienists? (Misc) Range 0 to 50, Default Value: 18
- 11. What is the projected Dental Assistant to Staff Dentist ratio? (Misc) Range 0.5 to 2, Default Value: 1.5
- 12. What is the projected Dental Assistant to Dental Resident ratio? (Misc) Range 0.5 to 2, Default Value: 1
- 13. What is the projected Dental Assistant to Dental Hygienist ratio? (Misc) Range 0 to 1, Default Value: 0
- 14. What is the projected Dental Lab Technician to Staff Dentist ratio? (Misc) Range 0 to 1, Default Value: 0.3
- 15. What is the projected Administrative / Clerical staff/ to Dental patient ratio? (Misc) Range 500 to 2000, Default Value: 1200
- 16. How many Treatment Rooms per Staff Dentist FTE are authorized? (Misc) Range 0.5 to 2, Default Value: 2
- 17. How many Treatment Rooms per Dental Resident FTE are authorized? (Misc) Range 0.5 to 2, Default Value: 1
- 18. How many Treatment Rooms per Dental Hygienist FTE are authorized? (Misc) *Range 0.5 to 2, Default Value: 1*
- E. <u>COMPUTED</u>
 - 1. Total RVU workload (Computer calculated value, no user input required) [What is the Patient RVU annual target? (Misc)]*[How many annual Dental Patients are projected? (W)]
 - 2. Total Dental Hygienist RVU workload (Computer calculated value, no user input required)

([What percent of workload will be performed by Dental Hygienists? (Misc)]/100)*[Total RVU workload (Computer calculated value, no user input required)] 3. Total Staff Dentist RVU workload (Computer calculated value, no user input required)

[Total RVU workload (Computer calculated value, no user input required)]-[Total Dental Hygienist RVU workload (Computer calculated value, no user input required)]

4. Total number of Staff Dentist FTE positions needed (based on workload) (Computer calculated value, no user input required)

[Total Staff Dentist RVU workload (Computer calculated value, no user input required)]/(([What is the projected Staff Dentist direct patient care average percentage time? (Misc)]/100)*[What is the projected annual Staff Dentist RVU target? (Misc)])

5. Total number of Dental Hygienist FTE positions needed (based on workload) (Computer calculated value, no user input required)

[Total Dental Hygienist RVU workload (Computer calculated value, no user input required)]/(([What is the projected Dental Hygienist direct patient care average percentage time? (Misc)]/100)*[What is the projected annual Dental Hygienist RVU target? (Misc)])

6. Total number of Dental Assistant FTE positions needed (based on workload) (Computer calculated value, no user input required)

(1*([What is the projected Dental Service Chief direct patient care percentage time? (Misc)]/100)*[What is the projected Dental Assistant to Staff Dentist ratio? (Misc)])+([Total number of Staff Dentist FTE positions needed (based on workload) (Computer calculated value, no user input required)]*([What is the projected Staff Dentist direct patient care average percentage time? (Misc)]/100)*[What is the projected Dental Assistant to Staff Dentist ratio? (Misc)])+([How many Dental Resident FTE positions are authorized? (S)]*[What is the projected Dental Assistant to Dental Resident ratio? (Misc)]*((100-[What is the projected off service rotation time for Dental Residents? (Misc)])/100))+([Total number of Dental Hygienist FTE positions needed (based on workload) (Computer calculated value, no user input required)]*([What is the projected Dental Hygienist direct patient care average percentage time? (Misc)]/100)*[What is the projected Dental Hygienist to Dental Hygienist ratio? (Misc)])

- 7. Total number of Laboratory Technician FTE positions needed (based on workload) (Computer calculated value, no user input required) ([What is the projected Dental Lab Technician to Staff Dentist ratio? (Misc)]*([What is the projected Dental Service Chief direct patient care percentage time? (Misc)]/100))+(([Total number of Staff Dentist FTE positions needed (based on workload) (Computer calculated value, no user input required)]-1)*[What is the projected Dental Lab Technician to Staff Dentist ratio? (Misc)]*([What is the projected Dental Lab Technician to Staff Dentist required)]-1)*[What is the projected Staff Dentist direct patient care average percentage time? (Misc)]/100))+([How many Dental Resident FTE positions are authorized? (S)]*[What is the projected Dental Lab Technician to Staff
- Total number of Administrative / Clerical FTE positions needed (based on workload) (Computer calculated value, no user input required) [How many annual Dental Patients are projected? (W)] /[What is the projected Administrative / Clerical staff/ to Dental patient ratio? (Misc)]
- 9. Total number of General Treatment Operatories needed (based on workload) (Computer calculated value, no user input required)

Dentist ratio? (Misc)]*0.5)

([How many Treatment Rooms per Staff Dentist FTE are authorized? (Misc)]*([What is the projected Dental Service Chief direct patient care percentage time? (Misc)]/100))+([Total number of Staff Dentist FTE positions needed (based on workload) (Computer calculated value, no user input required)]*[How many Treatment Rooms per Staff Dentist FTE are authorized? (Misc)]*([What is the projected Staff Dentist direct patient care average percentage time? (Misc)]/100))+([How many Dental Resident FTE positions are authorized? (S)]*[How many Treatment Rooms per Dental Resident FTE are authorized? (Misc)]*((100 - [What is the projected off service rotation time for Dental Residents? (Misc)])/100))

10. Total number of Dental Hygiene Operatories needed (based on workload) (Computer calculated value, no user input required)

[Total number of Dental Hygienist FTE positions needed (based on workload) (Computer calculated value, no user input required)]*[How many Treatment Rooms per Dental Hygienist FTE are authorized? (Misc)]*([What is the projected Dental Hygienist direct patient care average percentage time? (Misc)]/100)

11. Total number of General Treatment, Dental Hygiene Operatories, and Oral Surgery Rooms (Computer calculated value, no user input required)

[Total number of General Treatment Operatories needed (based on workload) (Computer calculated value, no user input required)]+[Total number of Dental Hygiene Operatories needed (based on workload) (Computer calculated value, no user input required)]+[DNTS1 - Oral Surgery Room]

5 SPACE CRITERIA

A. Reception Areas

Minimum NSF provides for two standard seats, one wheelchair accessible seat and lighting / table / planting. Additional 55 NSF allocates 25 NSF for one accessible seat and 30 NSF for two standard seats. This area provides circulation and seating area for patients and visitors. The Waiting Room should be connected to the patient entrance corridor and be under visual control of the receptionist.

B. Patient Areas

1. **Operatory, General Treatment (DNTG1)**.....**120 NSF (11.2 NSM)** Provide one per each calculated General Treatment Operatory. See Section 4: Program Data Required (Input Data Questions)

Used for general treatment procedures.

2. **Operatory, Dental Hygiene (DNTG2)**.....**120 NSF (11.2 NSM)** *Minimum one or provide one per each calculated Dental Hygiene Operatory. See Section 4: Program Data Required (Input Data Questions)*

Used for oral prophylaxis.

In some facilities, depending on level of patient sedation, this function may be accommodated in a General Treatment Operatory.

Used for oral surgery; this room larger than a standard room to accommodate teaching function.

This room will accommodate the litter for a dental patient who is recovering from ambulatory anesthesia. In some facilities, depending on scope and proximity of surgical services provided, this function may be accommodated in the Post-Anesthesia Care Unit.

7. **Treatment Room, Maxillo-Facial (DNTG1)......150 NSF (14.0 NSM)** Provide one per Maxillo-Facial Treatment Room authorized if in Concept of Operations.

This room is for prosthetic treatment of patients with abnormal conditions of the face and oral structures.

8. **Toilet, Patient (TLTU1)**.....**50 NSF (4.7 NSM)** *Minimum one; provide an additional one per each increment of 20 General Treatment and Dental Hygiene Operatories, Oral Surgery Rooms.*

C. Support Areas

This room is for cleaning of instruments, prep for sterilization, sterilization and storage. In some facilities, this function may be accommodated in the SPD department.

For expendable supplies and back-up equipment.

D. Staff and Administrative Areas

- 1. Office, Dental Service Chief (OFC01)......150 NSF (14.0 NSM) Provide one per Dental Service.

Alternatively, this function may be accommodated by Dental Residents and Trainees Study/Classroom, or may be combined with a staff lounge.

7. Copy Room (RPR01)......100 NSF (9.3 NSM) Provide one per Dental Service.

E. Staff Lounge, Lockers 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.

F. Residency Program

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 / OFA02)...... 150 NSF (14.0 NSM) Provide one if authorized in Concept of Operations; provide OFA01 if standard furniture is authorized; or, OFA02 if systems furniture is authorized.

- G. Dental Laboratories

- 3. Laboratory, Oral Pathology (LMHC1)......100 NSF (9.3 NSM) Minimum NSF if authorized in Concept of Operations; provide an additional 50 NSF per each Dental Resident FTE position authorized.

6 PLANNING AND DESIGN CONSIDERATIONS

- A. Net-to-department gross factor (NTDG) for Dental Service is 1.55. This number when multiplied by the programmed net square foot (NSF) area determines the departmental gross square feet.
- B. Locate Dental Service near the building main entrance to minimize length of travel for patients and visitors.
- C. The physical design of the suite must meet patient privacy and patient rights requirements as well as employee safety and ergonomics standards.
- D. For Dental Services with two (2) or more Oral Surgery Rooms, locate these rooms adjacent to each other.
- E. 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, corridors may be 6 feet in clear width.
- F. It is assumed that Intra-oral X-Ray capability will be provided in the General Treatment Operatories, and a dedicated X-Ray room will be provided only for Panoramic / Cephalometric unit.
- G. Shielding design for rooms containing dental radiographic equipment does not necessarily require lead-lined walls. Normal building materials may be sufficient in most cases. National Council for Radiation Protection (NCRP) requires that shielding design be provided by a qualified expert for all new or remodeled dental facilities. When a conventional building structure does not provide adequate shielding, the shielding must be increased by providing a greater thickness of building materials or by adding lead. Adequacy of shielding is determined by a radiation physicist through calculations and checked by survey measurements. These determinations should be made in the design phase.
- H. The areas required for all dental diagnostic and treatment areas are based on a minimum room depth of 11' 6" (3.50 M).
- I. Provide staff break area convenient to staff work areas but separate from patient area.
- J. Centralized staff administration and support should be considered to maximize staff and space efficiency. Office space for residents should be grouped in one area close to staff dentists. The Conference Room (when provided) should be near the administrative offices. Space should be allocated for the maximum number of residents, students/trainees typically on duty at one time.

K. Refer to Department of Veterans Affairs (VA) Office of Facilities Management Handbooks, Standards, Standard Details, and Design Guides for technical criteria.

7 FUNCTIONAL RELATIONSHIPS

Relationship of Dental Service to Services Listed Below:

TABLE 1: FUNCTIONAL RELATIONSHIP MATRIX

SERVICE	RELATIONSHIP	REASONS
Ambulatory Care	3	Н
Engineering Service – Admin. Off.	3	G
Business Office	3	Н
Nursing Service Administration	3	G
MS&N Nursing Units	3	Н
Spinal Cord Injury Center (SCI)	3	Н
Supply Processing & Distribution	3	B,G,I
Hospital Director's Suite	4	G
Env. Mgmt. – Central Storage	4	G,I
Engineering Support – Biomed. Rep.	4	G,I
ENT Clinic	4	Н
Dialysis Center	4	Н
Library Service	4	G
Medical Media Service	4	G
Mental Health & Behavioral Patient Care Units	4	Н
Nursing Home Care Units	4	Н
Pharmacy Service	4	Н
Prosthetic & Sensory Service	4	Н
Veterans Assistance Unit	4	Н
Laboratory – E.M. Suite	4	G,I

Relationship:

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

C. Urgency of contact

- D. Noise or vibration
- E. Presence of odors or fumes
- F. Contamination hazard
- G. Sequence of work
- H. Patient convenience
- I. Frequent contact
- J. Need for security
- K. Closeness inappropriate

Reasons:

- A. Common use of resources
- B. Accessibility of supplies

8 FUNCTIONAL DIAGRAM

