

CHAPTER 316: DIALYSIS CENTER

1	PURPOSE AND SCOPE.....	316-2
2	DEFINITIONS.....	316-2
3	OPERATING RATIONALE AND BASIS OF CRITERIA.....	316-4
4	INPUT DATA STATEMENTS.....	316-5
5	SPACE CRITERIA	316-6
6	PLANNING AND DESIGN CONSIDERATIONS	316-13
7	FUNCTIONAL RELATIONSHIPS.....	316-15
8	FUNCTIONAL DIAGRAM.....	316-16

1 PURPOSE AND SCOPE

This document outlines Space Planning Criteria for Chapter 316: Dialysis Center. It applies to all medical facilities at the Department of Veterans Affairs (VA).

2 DEFINITIONS

Accessible: A site, building, facility, or portion thereof that complies with provisions outlined in the Architectural Barriers Act of 1968 (ABA).

Architectural Barriers Act (ABA): A set of standards developed to insure that all buildings financed with federal funds are designed and constructed to be fully accessible to everyone. This law requires all construction, renovation, or leasing of sites, facilities, buildings, and other elements, financed with federal funds, to comply with the Architectural Barriers Act Accessibility Standards (ABAAS). The ABAAS replaces the Uniform Federal Accessibility Standards (UFAS).

Clinic Stop: A clinic stop is one encounter of a patient with a healthcare provider. Per these criteria, the clinic stop is the workload unit of measure for space planning. One individual patient can have multiple Clinic Stops in a single visit or in one day.

Bariatrics: The branch of medicine which deals with the causes, prevention, and treatment of obesity. The Dialysis Center must accommodate, in its equipment and design, a high percentage of bariatric patients, many of whom are disabled or non-ambulatory.

Dialysate: A solution of water and chemicals used in dialysis. Dialysate shall be provided in both single-patient and multiple-patient mixtures as determined by the medical staff.

Dialysis: A type of renal replacement therapy which is used to provide an artificial replacement for lost kidney functions. There are two main forms of dialysis, Hemodialysis and Peritoneal Dialysis, both of which are life support treatments; but dialysis does not treat kidney diseases. Dialysis may be used for very sick patients who have recently lost kidney functions (acute renal failure) or for stable patients who have permanently lost kidney functions (chronic or end-stage renal failure).

Dialysis Center: A highly specialized program which provides facilities for the treatment of patients with irreversible renal insufficiencies. Treatment procedures require professional supervision by staff experienced in renal pathophysiology. The Dialysis Center may serve either or both inpatients and outpatients, depending upon the medical facility type, and may provide self-dialysis training for Peritoneal Dialysis in addition to on-site assisted dialysis, i.e., Hemodialysis. The Dialysis Center administers both single-patient and multi-patient Hemodialysis systems.

Full-Time Equivalent (FTE): A staffing parameter equal to the amount of time assigned to one full time employee. It may be composed of several part-time employees whose total time commitment equals that of a full-time employee. One FTE equals a 40 hours per week.

Functional Area: 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.

Hemodialysis (also Haemodialysis): The form of renal dialysis typically conducted in a Dialysis Center. Hemodialysis relies on convective transport of a dialysate and utilizes counter-current flow, where the dialysate is flowing in the opposite direction to blood flow in an extracorporeal circuit.

Input Data Statements: A set of questions designed to elicit information about the healthcare project in order to create a Program for Design (PFD) based on the criteria parameters set forth in this document. Input Data Statements could be Mission 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 for the facility. This information is processed through mathematical and logical operations in VA-SEPS.

Net-to-department gross factor (NTDG): This number, when multiplied by the programmed net square foot (NSF) area, determines the departmental gross square feet (DGSF).

Pathophysiology: The study of the disturbance of normal mechanical, physical, and biochemical functions which a disease causes or which cause a disease.

Peritoneal Dialysis (PD): A form of renal dialysis typically done in the patient's home and/or workplace. PD is based on the principle that the peritoneal membrane which surrounds the intestine can act as a natural semi permeable membrane and that, if a dialysate is instilled within the membrane through a catheter, intracorporeal dialysis can occur by diffusion.

Program for Design (PFD): A space program based on criteria set forth in this document and specific information about Concept of Operations, workload projections and staffing levels authorized.

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.

SEPS (VA-SEPS): Acronym for Space and Equipment Planning System, a digital tool developed by the Department of Defense (DoD) and the Department of Veterans Affairs to generate a Program for Design (PFD) and an Equipment List for a VA healthcare project based on specific information entered in response to Input Data Questions. VA-SEPS incorporates the propositions set forth in all VA Space Planning Criteria chapters. VA-SEPS has been designed to aid healthcare planners in creating a space plan based on a standardized set of criteria parameters.

Water Treatment: Dialysis water treatment implies various levels of pre-treatment and a final purification module prior to distribution of purified water through a hydraulic circuit.

- A. Deionization (DI) Water: Water which has been treated to remove contaminants. This system removes most mineral deposits, but microbial contaminants may remain.
- B. Feed Water: The untreated, potable water available throughout the facility through its water supply system.
- C. Permeate Water: Fully treated purified water, stored in a tank, which is used in the preparation of dialysate.
- D. Pre-treated Water: Partially treated water, sometimes available as feed water, which has had substantial reduction of mineral and/or microbial particles.
- E. Reverse Osmosis (RO) Water: Usually the final purification module in the treatment system, RO-based treatment modules produce water of optimal chemical and microbial quality.

Workload: 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 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 Dialysis Center and its relationship with other services of a medical facility. These criteria are predicated upon established and/or anticipated best practice standards, as adapted to provide environments supporting the highest quality health care for Veterans.
- C. These criteria are subject to modification relative to development in the equipment, medical practice, vendor requirements, and subsequent planning and design. The selection of the size and type of Dialysis Center equipment is determined by VACO and based upon Veterans Health Administration (VHA) anticipated medical needs.
- D. Dialysis Center capacity per year should be based on:

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

- 1. Although the general planning model for VA dialysis facilities assumes 365 Operating Days per Year and 24 Hours of Operation per Day to support Inpatient Programs, these criteria are based upon that Inpatient dialysis will occur in Inpatient Units rather than in the Dialysis Center; and the impact of such within the Dialysis Center will be on staffing, supplies, storage, and equipment processing rather than on the number of Dialysis Center Dialysis Stations.
- 2. For Outpatient Treatment, the Dialysis Center will operate on a different schedule, including only select days of the week and hours of the day. Dialysis Station capacity will fluctuate during hours of operation, i.e., peak hours generally will demonstrate a high utilization rate; and off-peak hours, generally the first and last operating hours per day, will generate a lower rate.
- 3. The basic Room Efficiency Factors for Dialysis Stations are 90% use during the peak hours of operation, including the time between patient use when staff members are preparing the space, and 80% use during the off-peak hours of operation. Use 85% use as the mean which indicates that, on average for each Outpatient Dialysis Station in the VA system through the course of all operating hours, a Dialysis Station is prepared and ready for use but unoccupied 10% of the available time. This is the basis for determining a system-wide design standard for calculating the number of Dialysis Stations required.

Example: Assume the operating averages for VA Dialysis Centers are 6 days a week and 10 hours a day. Also assume each Dialysis Station use averages 300 minutes (5 hours) per clinic stop, including clean-up and set-up:

6 operating days per week X 52 weeks per year = 312 operating days per year.

$$\frac{312 \text{ operating days per year} \times 10 \text{ hours of operation per day}}{300 \text{ minutes per clinic stop} / 60 \text{ minutes}} = 624 \text{ annual clinic stops}$$

This yields a maximum capacity of 624 clinic stops per year per Dialysis Station, assuming 100% utilization. However, 100% utilization is not realistic to achieve; thus, it is not realistic as a design standard. Apply the Room Efficiency Factor as follows:

$$624 \times 85\% = 530 \text{ annual clinic stops.}$$

TABLE 1: WORKLOAD PARAMETER CALCULATION

DIALYSIS CENTER	AVERAGE LENGTH OF CLINIC STOP (minutes)	UTILIZATION RATE	MINIMUM WORKLOAD TO GENERATE ONE DIALYSIS STATION
Dialysis Station	300	90%	530

The number of annual clinic stops per dialysis station will be used as a criteria parameter to calculate the number of Dialysis Stations.

4 INPUT DATA STATEMENTS

A. Mission Input Data Statements

1. Is a Single-Patient Dialyzer (Special Mix) System authorized? (M)
2. Is a Multi-Patient Dialyzer (Central Batch Delivery) System authorized? (M)
3. Is a Self-Dialysis Training Program authorized? (M)
4. Is a Peritoneal Dialysis Program authorized? (M)
5. Is a Transplant Follow-up Program authorized? (M)
6. Is the Dialysis Center authorized to provide mobile dialysis at remote locations within the medical facility? (M)
7. Is a Biochemistry Laboratory authorized? (M)
8. Is water-softening equipment authorized? (M)
9. Is a Dialysis Equipment Repair Shop authorized? (M)
10. Is an automated Medication Dispensing System authorized? (M)
11. Is Mobile Dialysis authorized? (M)
12. Is a Dialysis Residency Program authorized? (M)

B. Workload Input Data Statements

1. How many annual Renal Dialysis Center Clinic stops are projected? (W)
2. How many daily Self-dialysis / Peritoneal Dialysis consultation patients are projected? (W)
3. How many daily Transplant Follow-up consultation patients are projected? (W)

C. Staffing Input Data Statements

1. How many Assistant Chief of Service FTE positions are authorized? (S)
2. How many Physician FTE positions are authorized? (S)
3. How many PA / Resident / Intern FTE positions are authorized? (S)

4. How many Clerical FTE positions are authorized? (S)
5. How many Social Worker FTE positions are authorized? (S)
6. How many Chemist FTE positions are authorized? (S)
7. How many Assistant Chemist FTE positions are authorized? (S)
8. How many Chief Nurse FTE positions are authorized? (S)
9. How many Assistant Nurse FTE positions are authorized? (S)
10. How many Dietitian FTE positions are authorized? (S)
11. How many Assistant Dietitian FTE positions are authorized? (S)
12. How many Education Coordinator FTE positions are authorized? (S)
13. How many Assistant Education Coordinator FTE positions are authorized? (S)
14. How many Student / Trainee FTE positions are authorized? (S)
15. How many Dialysis Support Technician FTE positions are authorized? (S)
16. How many Lab Technician FTE positions are authorized? (S)
17. How many Dialysis Lead Technician FTE positions are authorized? (S)

D. Miscellaneous Input Data Statements

1. How many Negative Pressure Isolation Bed Stations are authorized? (Misc)
2. Is a Private Bed Station authorized? (Misc)
3. What is the percentage of all patients who will use reclining chairs rather than beds or stretchers? (Misc)
4. Are disposable filters authorized? (Misc)
5. Are clean and sterile supplies prepackaged and distributed from a Clean Supply Storage Room? (Misc)
6. Are patient lockers authorized? (Misc)
7. How many FTEs will work on peak shift? (Misc)
8. How many FTE positions are not authorized to have an office or work space? (Misc)

5 SPACE CRITERIA

A. FA 1: Reception Area:

- 1 Waiting (WTG03).....80 NSF (7.5 NSM)**
Provide one if the projected number of Dialysis Stations is three; provide WTG04 if the projected number of Dialysis Stations is four; provide WTG05 if the projected number of Dialysis Stations is five; provide WTG06 if the projected number of Dialysis Stations is six; provide WTG07 if the projected number of Dialysis Stations is seven; provide WTG08 if the projected number of Dialysis Stations is eight; provide WTG09 if the projected number of Dialysis Stations is nine; provide WTG10 if the projected number of Dialysis Stations is ten; provide WTG11 if the projected number of Dialysis Stations is eleven; provide WTG12 if the projected number of Dialysis Stations is twelve; provide WTG13 if the projected number of Dialysis Stations is thirteen; provide WTG14 if the projected number of Dialysis Stations is fourteen; provide WTG15 if the projected number of Dialysis Stations is fifteen; provide WTG16 if the projected number of Dialysis Stations is sixteen; provide WTG17 if the projected number of Dialysis Stations is seventeen; provide WTG18 if the projected number of Dialysis Stations is eighteen; provide WTG19 if the projected number of Dialysis Stations is nineteen; provide WTG20 if the projected number of Dialysis Stations is twenty.

WTG03: Allocated space accommodates one standard chair @ 9 NSF, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total three people.

WTG04: Allocated space accommodates two standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total four people.

WTG05: Allocated space accommodates three standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total five people.

WTG06: Allocated space accommodates four standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total six people.

WTG07: Allocated space accommodates five standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total seven people.

WTG08: Allocated space accommodates six standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total eight people.

WTG09: Allocated space accommodates seven standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total nine people.

WTG10: Allocated space accommodates eight standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total ten people.

WTG11: Allocated space accommodates nine standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total eleven people.

WTG12: Allocated space accommodates ten standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total twelve people.

WTG13: Allocated space accommodates eleven standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total thirteen people.

WTG14: Allocated space accommodates twelve standard chairs @ 9 NSF each, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total fourteen people.

WTG15: Allocated space accommodates eleven standard chairs @ 9 NSF each, two bariatric chairs @ 14 NSF each, two accessible spaces @ 10 NSF each, and circulation; total fifteen people.

WTG16: Allocated space accommodates twelve standard chairs @ 9 NSF each, two bariatric chairs @ 14 NSF each, two accessible spaces @ 10 NSF each, and circulation; total sixteen people.

WTG17: Allocated space accommodates thirteen standard chairs @ 9 NSF each, two bariatric chairs @ 14 NSF each, two accessible spaces @ 10 NSF each, and circulation; total seventeen people.

WTG18: Allocated space accommodates fourteen standard chairs @ 9 NSF each, two bariatric chairs @ 14 NSF each, two accessible spaces @ 10 NSF each, and circulation; total eighteen people.

WTG19: Allocated space accommodates fifteen standard chairs @ 9 NSF each, two bariatric chairs @ 14 NSF each, two accessible spaces @ 10 NSF each, and circulation; total nineteen people.

WTG20: Allocated space accommodates sixteen standard chairs @ 9 NSF each, two bariatric chairs @ 14 NSF each, two accessible spaces @ 10 NSF each, and circulation; total twenty people.

- 2 **Reception (RCP02).....260 NSF (24.2 NSM)**
Provide one for Dialysis Center.

Allocated NSF accommodates two Receptionist FTEs, patient privacy area, and circulation.

- 3 **Toilet, Public (TPG01)60 NSF (5.6 NSM)**
Provide two for Dialysis Center.

Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, ABA clearances, and circulation. One for male and one for female.

B. FA 2: Patient Area:

- 1 **Renal Dialysis, Private Bed Station (XXYYC)150 NSF (14.0 NSM)**
Provide one for Dialysis Center if use of Private Bed Stations is authorized.

Private Bed Stations are enclosed rooms, though still visually and audibly observable from the Nurse Station, for patients requiring singular privacy or blood borne infection isolation but not airborne infection isolation. These rooms accommodate patients who might agitate other patients, or be caused anxiety by others, or who are known to have blood borne pathogens.

- 2 **Renal Dialysis, Isolation Negative Pressure Bed Station (RDC02)150 NSF (14.0 NSM)**
Provide one per each Negative Pressure Isolation Bed Station if authorized.

These rooms isolate airborne contagious or infectious patients to protect other patients and should be allocated on a per-project basis.

- 3 **Renal Dialysis, Cubicle Chair Station (RDC01)80 NSF (7.5 NSM)**
Provide one for every increment of 530 annual Renal Dialysis clinic stops projected; deduct the number of Private and Isolation Bed Stations authorized.

Cubicle Chair Stations are the most common Dialysis Station. They include a mobile reclining chair and are not enclosed rooms.

- 4 **Renal Dialysis, Cubicle Bed Station (XXYYC)100 NSF (9.3 NSM)**
Provide one for every increment of 530 annual Renal Dialysis clinic stops projected; deduct the number of Private and Isolation Bed Stations authorized and the number of Cubicle Chair Stations.

Cubicle Bed Stations are usually open for patients who arrive stretcher- or bed-bound but do not require isolation or singular privacy. These are not enclosed rooms.

- 5 **Exam / Treatment Room (TRGM1)**..... 120 NSF (11.2 NSM)
Provide one for Dialysis Center.

This room is used for physical exams prior to treatment; to implant cannulas; to remove clots from shunts; and to perform special examinations, treatment, or kidney biopsies.
- 6 **Exam Room, Transplant Follow-up (EXRG3)**..... 120 NSF (11.2 NSM)
Provide one if a Transplant Follow-up Program is authorized; provide an additional one if the projected number of daily Transplant Follow-up consultation patients is fifteen or greater.
- 7 **Consult Room (OFDC2)** 120 NSF (11.2 NSM)
Provide one if a Dietitian or a Social Worker FTE position is authorized.
- 8 **Training Room, Dialysis (RDC01)**..... 100 NSF (9.3 NSM)
Provide one if a Self-Dialysis or Peritoneal Training Program is authorized; provide an additional one if the number of projected daily Self-Dialysis and / or Peritoneal consultation patients is ten or greater.
- 9 **Toilet, Patient (TPG01)** 60 NSF (5.6 NSM)
Provide one per each Nurse Station.

Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, ABA clearances, and circulation. If a Biochemistry Lab is authorized, patient toilets shall be used to pass specimens into the lab.
- 10 **Toilet, Private Bed Station Patient (TPG01)** 60 NSF (5.6 NSM)
Provide one per each Private Bed Station.

Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, ABA clearances, and circulation.
- 11 **Toilet, Patient, Isolation (TPG01)** 60 NSF (5.6 NSM)
Provide one per each Isolation Bed Station.

Allocated NSF accommodates one accessible toilet @ 25 NSF, one accessible wall-hung lavatory @ 13 NSF, ABA clearances, and circulation.
- 12 **Locker Room, Patient (LR001)**..... 50 NSF (4.7 NSM)
Minimum NSF; provide an additional 6 NSF per each Cubicle Bed or Chair Station.

C. FA 3: Support Area:

- 1 **Utility Room, Soiled (USCL1)** 80 NSF (7.5 NSM)
Minimum NSF; provide one for Dialysis Center; provide an additional 20 NSF per each Nurse Station greater than one.
- 2 **Utility Room, Clean (UCCL1)** 100 NSF (9.3 NSM)
Minimum NSF; provide one for Dialysis Center if prepackaged clean and sterile supplies are not authorized; provide an additional 10 NSF per each Nurse Station greater than one.
- 3 **Storage, Clean Supply (SRS01)**..... 80 NSF (7.5 NSM)
Minimum NSF; provide one for Dialysis Center; provide an additional 20 NSF per each Nurse Station greater than one; provide an additional 20 NSF if Mobile Dialysis is authorized.

This room accommodates one week's supply of disposable and non-sterile supplies such as, but not limited to: dialysate acid concentrate, dialysate bicarbonate, vinegar, bleach, dialyzers, blood lines, and plastic aprons. An additional two week's supply of such should be maintained in the Hospital / Medical Center Warehouse. See Chapter 291.

- 4 **Storage, Sterile Supply (SRSE1).....80 NSF (7.5 NSM)**
Minimum NSF; provide one for Dialysis Center if prepackaged sterile supplies are authorized; provide an additional 20 NSF per each Nurse Station greater than one; provide an additional 20 NSF if Mobile Dialysis is authorized.
- 5 **Storage, Clean Linen (LCCL1).....40 NSF (3.8 NSM)**
Minimum NSF; provide one for Dialysis Center; provide an additional 10 NSF per each Nurse Station greater than one.
- 6 **Storage, Equipment (SRSE1)100 NSF (9.3 NSM)**
Minimum NSF; provide one for Dialysis Center; provide an additional 20 NSF per each Nurse Station greater than one.
- 7 **Nourishment Station (NCWD1)120 NSF (11.2 NSM)**
Provide one for Dialysis Center.
- 8 **Medication Preparation Room (MEDP1).....110 NSF (10.3 NSM)**
Minimum NSF; provide one for Dialysis Center; provide an additional 10 NSF if an automated medication dispensing system is authorized.
- 9 **Alcove, Crash Cart (RCA01)20 NSF (1.9 NSM)**
Provide one for Dialysis Center.
- 10 **Laboratory, Biochemistry (LMCH1)180 NSF (16.8 NSM)**
Provide one if a Biochemistry Lab is authorized.

This area minimally includes urine and blood chemical analyzers and an undercounter refrigerator.
- 11 **Laboratory, Venipuncture (LBVP1).....80 NSF (7.5 NSM)**
Provide one if a Biochemistry Lab is authorized.

This room must be located adjacent to the lab and must be easily accessible to patients. The phlebotomy chair must be suitable for bariatric patients.
- 12 **Equipment Processing, Soiled Receiving (CSDE1)150 NSF (14.0 NSM)**
Minimum NSF; provide an additional 5 NSF per each Dialysis Station greater than ten; provide an additional 50 NSF if Mobile Dialysis is authorized; maximum 250 NSF.

This room is the first component of a threefold process in the one-way flow of re-usable materiel from soiled to clean and accommodates soiled holding, decontamination, and washing functions.
- 13 **Equipment Processing, Clean Preparation (CSSS1)200 NSF (18.6 NSM)**
Provide one for Dialysis Center; provide an additional 50 NSF if Mobile Dialysis is authorized.

This room is the second component of a threefold process in the one-way flow of re-usable materiel from soiled to clean and accommodates sorting, sterilizing, assembly, repackaging, and labeling functions.

14 Equipment Processing, Clean Storage (CSIA1)..... 200 NSF (18.6 NSM)

Minimum NSF; provide an additional 10 NSF per Dialysis Station greater than fifteen; provide an additional 50 NSF if Mobile Dialysis is authorized; provide an additional 20 NSF if disposable filters are used; maximum 300 NSF.

This room is the third component of a threefold process in the one-way flow of reusable material from soiled to clean and accommodates storage, including refrigerated storage and, if authorized, mobile dialysis equipment.

15 Equipment Processing, Repair Shop (BMER1)..... 150 NSF (14.0 NSM)

Provide one if a Repair Shop / Equipment Processing is authorized.

16 Dialysate Preparation Room (MEDP1)..... 150 NSF (14.0 NSM)

Minimum NSF; provide an additional 50 NSF if a Single-patient Dialyzer (Special Mix) System is authorized, provide an additional 100 NSF if a Multiple-patient Dialyzer (Central Batch Delivery) System is authorized; provide an additional 5 NSF per each projected Dialysis Station greater than ten; maximum 300 NSF.

17 Water Treatment Room (RDWT1)..... 200 NSF (18.6 NSM)

Minimum NSF; provide an additional 10 NSF if water-softening equipment is authorized; provide an additional 5 NSF per each Dialysis Station greater than ten; maximum 240 NSF if water softener is not authorized or maximum 250 NSF if water softener is authorized.

This room accommodates the equipment and supplies, including consumable products, for all dialysis-required forms of water treatment.

18 Alcove, Wheelchair / Stretcher (SRLW1)..... 50 NSF (4.7 NSM)

Minimum NSF; provide an additional 5 NSF per each Dialysis Station greater than ten; maximum of 100 NSF.

This space must accommodate non-folding bariatric type wheelchairs in addition to standard folding wheelchairs and, occasionally, a transport stretcher or a mobile dialysis chair which has been moved temporarily from a cubicle to accommodate a patient's bed or stretcher. Most patients who arrive stretcher- or bed-bound do not transfer to chairs or another stretcher or bed during their dialysis procedure.

19 Housekeeping Aids Closet (HAC) (JANC1)..... 60 NSF (5.6 NSM)

Minimum NSF; provide an additional 5 NSF for each projected Dialysis Station greater than ten; maximum of 100 NSF.

D. FA 4: Staff and Administrative Area:

1 Nurse Station (NSTA1)..... 110 NSF (10.3 NSM)

Minimum NSF; provide one per each increment of ten Dialysis Stations; provide an additional 15 NSF per each Dialysis Station greater than four; maximum 200 NSF.

2 Office, Dialysis Center Chief (OFA09)..... 100 NSF (9.3 NSM)

Provide one for Dialysis Center.

3 Office, Dialysis Center Assistant Chief (OFA09)..... 100 NSF (9.3 NSM)

Provide one per each Assistant Chief of Service FTE position authorized.

4 Waiting (WTG03)..... 80 NSF (7.5 NSM)

Provide one for Dialysis Center.

Allocated space accommodates one standard chair @ 9 NSF, one bariatric chair @ 14 NSF, one accessible space @ 10 NSF, and circulation; total three people.

- 5 **Workstation, Secretary (OFA07)**56 NSF (5.3 NSM)
Provide one for Dialysis Center.
- 6 **Workstation, Physician (OFA07)**.....56 NSF (5.3 NSM)
Provide one per each Physician FTE position authorized.
- 7 **Workstation, PA / Resident / Intern (OFA07)**56 NSF (5.3 NSM)
Provide one per each PA / Resident / Intern FTE position authorized.
- 8 **Office, Chief Nurse (OFA09)**100 NSF (9.3 NSM)
Provide one per each Chief Nurse FTE position authorized.
- 9 **Workstation, Chemist (OFA07)**56 NSF (5.3 NSM)
Provide one per each Chemist FTE position authorized.
- 10 **Workstation, Dietician (OFA07)**.....56 NSF (5.3 NSM)
Provide one per each Dietician FTE position authorized.
- 11 **Workstation, Social Worker (OFA07)**.....56 NSF (5.3 NSM)
Provide one per each Social Worker FTE position authorized.
- 12 **Workstation, Education Coordinator (OFA07)**.....56 NSF (5.3 NSM)
Provide one per each Education Coordinator FTE position authorized.
- 13 **Workstation, Clerical (OFA07)**.....56 NSF (5.3 NSM)
Provide one per each Clerical FTE position authorized.
- 14 **Workstation, Assistant Chemist (OFA07)**56 NSF (5.3 NSM)
Provide one per each Assistant Chemist FTE position authorized.
- 15 **Workstation, Assistant Dietician (OFA07)**56 NSF (5.3 NSM)
Provide one per each Assistant Dietician FTE position authorized.
- 16 **Workstation, Assistant Education Coordinator (OFA07)**56 NSF (5.3 NSM)
Provide one per each Assistant Education Coordinator FTE position authorized.
- 17 **Workstation, Dialysis Lead Technician (OFA07)**.....56 NSF (5.3 NSM)
Provide one per each Dialysis Lead Technician FTE position authorized.
- 18 **Workstation, Student / Trainee (OFA07)**56 NSF (5.3 NSM)
Provide one per each Student / Trainee position authorized.
- 19 **Workstation, Dialysis Support Technician (OFA07)**56 NSF (5.3 NSM)
Provide one for every increment of two Dialysis Support Technician FTE positions authorized; provide an additional one if a Dialysis Equipment Repair Shop is authorized.
- 20 **Workstation, Lab Technician (OFA07)**56 NSF (5.3 NSM)
Provide one for every increment of two Lab Technician FTE positions authorized.
- 21 **Training Room, Staff (CFR02)**300 NSF (27.9 NSM)
Provide one for Dialysis Center.

Allocated NSF accommodates ten conference chairs @ 7.5 NSF each, four 5'-0" x 2'-0" tables at 10 NSF each, one credenza @ 8 NSF, and circulation; total ten people.

- 22 **Lounge, Staff (SL001)**..... **80 NSF (7.5 NSM)**
Minimum NSF; provide an additional 15 NSF per each Dialysis Center FTE position working on peak shift greater than five; maximum 210 NSF.
- 23 **Locker Room, Staff (LR001)**..... **80 NSF (7.5 NSM)**
Minimum NSF if total number of Dialysis Center FTE positions not authorized to have office or work space is between five and thirteen; provide an additional 6 NSF per each Dialysis Center FTE position not authorized to have office or work space is greater than thirteen.
- Provide locker space only for those FTEs without assigned office or work space. For less than five FTE combine Locker Room facilities with adjacent department or sum in chapter 410.
- 24 **Toilet, Staff (TNPG1)**..... **60 NSF (5.6 NSM)**
Minimum one; provide an additional one for every increment of fifteen Dialysis Center FTE positions working on peak shift greater than fifteen.
- Allocated NSF accommodates one accessible toilet @ 25 NSF, one wall-hung lavatory @ 12 NSF, ABA clearances, and circulation.

E. FA 5: Education Area:

- 1 **Office, Residency Program Director (OFA09)**..... **100 NSF (9.3 NSM)**
Provide one if Residency Program is authorized.
- 2 **Team Room (SL002)** **240 NSF (22.3 NSM)**
Provide one if Residency Program is authorized.
- This space will be used by trainees and staff for patient charting and consultation. The area will accommodate seven workstations, a small conference table and personal property lockers for use by medical students.
- 3 **Training Room, Resident (CFR01)** **240 NSF (22.3 NSM)**
Provide one if Residency Program is authorized.
- Allocated NSF accommodates six conference chairs @ 7.5 NSF each, two 5'-0" x 2'-0" tables at 10 NSF each, one credenza @ 8 NSF, and circulation; total six people.

6 PLANNING AND DESIGN CONSIDERATIONS

- A. Net-to-department gross factor (NTDG) for Dialysis Center is **1.50**. This number, when multiplied by the programmed net square foot (NSF) area, determines the departmental gross square feet.
- B. Outpatients shall have convenient access to the Dialysis Center from parking areas and public transportation. Inpatients should have a secluded access which accommodates the passage of bariatric size patient transport devices.
- C. Refer to the latest edition of the *Guidelines for the Design and Construction of Health Care Facilities* published by and available from the American Institute of Architects, 1735 New York Avenue, NW, Washington DC 20006.
- D. The Nurse Station(s) must have a clear visual line of observation of each patient station and each patient toilet room entrance. Each Nurse Station shall observe no more than ten patient stations; and, when multiple Nurse Stations are required, they shall be arranged to each observe as equal a share of the Dialysis Stations as possible.

- E. Dialysis patients are highly susceptible to infections. Set the Dialysis Center in an area which will prevent cross-flow by other patients and staff; provide strategically placed and accessible hand washing stations throughout the patient treatment areas; and locate each dialysate return receptacle on the wall, centered at each patient station, and at a height such that it is easily accessible to clean repeatedly each day.
- F. Provide 4'-0" (1.22m) minimum clearance between beds or chairs and a headwall at each Dialysis Station at least 10'-9" (3.28m) wide.
- G. The height of the dialysate receptacle shall be coordinated with the equipment and the preceding parameter to inhibit an excessively long dialysate return hose; and any architectural systems used to conceal the gravity drain must be easily removable such as not to impede decontamination or modifications.
- H. Dialysis patients are highly sensitive to and adversely affected by unsteady ranges of temperature, pressure, and humidity. Environmental systems must provide stable, consistent conditions.
- I. If the Dialysis Center Biochemistry Laboratory is not authorized, the blood and urine analyses must be performed by the Clinical Laboratory of the Medical Facility, and proximity must be considered as shown in the Functional Relationships Matrix below.
- J. If the Dialysis Center Biochemistry Laboratory is authorized, locate patient toilets adjacent to the lab, and provide a pass-through into the lab.
- K. Patient confidentiality must be maintained when providing personal information to interview clerks and/or other staff. The physical design of the space shall not encumber this requirement.
- L. Locate staff areas to be convenient to staff and separate from patient areas, and segregate patient and staff circulations. Since the Dialysis Center operates 24 hours a day / 365 days a year, its Staff Lounge, Staff Lockers, Staff Toilets, and Staff Showers should not be collocated with those of adjacent departments unless they are in close proximity and always accessible to the Dialysis Center staff.
- M. Dialysis equipment may connect directly into patient data information systems to input recordings of the treatment process. The designer must coordinate the interface of the equipment and the information system.

7 FUNCTIONAL_RELATIONSHIPS

Relationship of Dialysis Center to services listed below:

TABLE 2: FUNCTIONAL RELATIONSHIP MATRIX

SERVICES	RELATIONSHIP	REASON
Ambulatory Care	3	H
Ambulatory Entrance	3	K
Cardiovascular Laboratories	3	H
Engineering Services	3	A
Biomedical Engineering Repair Shop	3	A
Pulmonary Medicine	3	H
Laboratory Service	3	A
Medical Administrative Service	3	A
Patient Care Units – CCU	3	H
Patient Care Units – MICU	3	H
Patient Care Units – General Medical	3	H
Patient Care Units – Respiratory Care	3	H
Parking Facilities	3	H
Pharmacy – Main	3	A
Supply Service (Sterile Processing Dept.)	3	A
Rehabilitation Medical Service	3	H

Legend:

Relationship:

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

Reasons:

- 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

