

CHAPTER 550: PHARMACY (INPATIENT AND OUTPATIENT)

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1 PURPOSE AND SCOPE

This chapter outlines space planning criteria for all inpatient and outpatient pharmacies that are located within the Military Health System (MHS). It provides for inpatient hospital pharmacy services and outpatient pharmacy services associated with a hospital based clinic or a freestanding ambulatory facility.

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. Automated Dispensing Units (ADU): A device designed for the secure and accurate dispensing of oral medications. The technology provides inventory control, security, accountability and effective patient medication management. ADUs are deployed within medication rooms in a variety of patient care settings, including inpatient nursing units, emergency department, surgical services, clinics, and other departments as determined by the MTF.
- B. Automated Queueing System: An integrated system provided in Outpatient Pharmacies that ensures the patient does not have to stand in line (or queue) at reception. With this system, the patient arrives and gets a number or ticket at a self-service kiosk. This system can provide estimated waiting time and improve the patient experience. It also provides tracking capabilities. The clinician can see appointments arrive and who is next in the queue.
- C. Biological Safety Cabinet (BSC): A containment unit suitable for the preparation of low to moderate risk agents when there is a need for protection of the preparation, personnel and environment, according to ISO 14644-1.
- D. Compounded Sterile Preparations (CSPs): The mixing of one or more sterile products using aseptic technique; subject to extensive USP <797> guidelines for determining the risk levels and appropriate procedures related to their preparation. The risk are designated as low, medium and high.
- E. Cytotoxic: A pharmaceutical that has the capability of killing living cells. These agents shall include, but are not limited to, agents classified as cancer chemotherapeutic, carcinogenic, mutagenic and antineoplastic.
- F. Drug Information Service: Documentation in hard copy or digital formats that offers complete drug information, upon request, to physicians and other medical staff members. This function may be facilitated through subscribing to an authorized drug information service, and disseminated electronically via computer terminals, hand-held devices, or written text.
- G. Extemporaneous Compounding: The art or science of assembling individual chemical components into a usable drug. Typically, this is done by an individual physician seeking a drug that is otherwise unavailable from commercial pharmaceutical manufacturers.
- H. 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-hour a week workload.

- I. Functional Area: The grouping of rooms and spaces based on their function within the Pharmacy. Typical functional areas are receiving, storage, dispensing, assembly, verification, staff, administrative, and education area.
- J. Inpatient Beds: Defined as all hospital beds including acute care medical, acute care surgical, intensive care, labor and delivery, obstetrics, behavioral health, short-stay observation and other beds that may be authorized for the MTF.
- K. Input Data Statement: 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.
- L. Laminar Airflow Hood: An apparatus designed to provide a Class 5, 6 or 7 environment, as spelled out in ISO 14644-1 for preparation of sterile products using air circulation in a defined direction that passes through a HEPA filter to remove the initial particles and particles generated within the controlled environment.
- M. 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).
- N. Open Concept Pharmacy Design: Flexibility is a critical design aspect for the Pharmacy which requires an open floor plan and flexible systems which can adapt to changes in technology and workflows. An open design concept minimizes fixed walls, provides good lines of sight, and optimizes travel between functional areas.
- O. Open vs Closed Dispensing Concepts: Relates to how the Outpatient Pharmacy windows are designed. An "Open Concept" aka "bank teller" provides a direct, unobstructed interface between the pharmacists and the patient, with the line of security (walls, windows, doors) behind the dispensing pharmacists. A "Closed Concept", aka "ticket window", places a secure, bullet-proof barrier between the dispensing pharmacist and the patient.
- P. Program for Design (PFD): 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 program mission, workload projections and staffing levels authorized.
- Q. Robotics: Mechanical devices that perform programmed, complex, and repetitive manipulations which mimic human behavior without continuous input from an operator. Increasingly, more pharmacies are becoming automated, using robotic technology and electronics to prepare and track medications with the goal of improving patient safety. Examples of types of robots are medication dispensing robots, IV robotics and delivery robots. For instance, robotics systems will pick, package, and dispense individual doses of pills. As well, they can compound sterile preparations of chemotherapy and non-chemotherapy doses and fill IV syringes or bags with the medications. Planner must carefully consider space requirements based on types of automation / robotics selected.

- R. Satellite Pharmacy: Decentralized pharmacy locations that supplement and support the main inpatient and/or outpatient pharmacies, by placing appropriate resources closer to critical patient care area that requires a higher level of service, thereby facilitating improved work flow and ultimately better patient care.
- S. 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 a Project Room Contents list (PRC) for a DoD healthcare project based on specific information entered in response to Input Data Statements.
- T. Sterile Preparations Compounding: Also called sterile compounding, it involves the dilution, mixing, and injection of various medication products using aseptic technique.
- U. Team Collaboration Room: 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.
- V. Unit Dose: A medication that is purchased or re-packaged in unit-of-use format, typically utilizing barcode technology to facilitate medication management. Unit dose medications can be dispensed directly to patients in an ambulatory setting, or to inpatients via a unit dose cassette system, and/or using ADU technology.
- W. USP 797: Chapter <797> of the United States Pharmacopeia, more commonly known as USP 797, sets practice standards regarding the preparation of sterile compounds.
- X. Workload: Workload is the anticipated number of procedures, visits or clinic stops that is processed through a department/service area. The total workload applied to departmental operational assumptions will determine overall room requirements for a service.

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 Pharmacy and its relationship with other services of a medical facility. These criteria are predicated on established and/or anticipated best practice standards, as adapted to provide environments supporting the highest quality health care for 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 Inpatient Pharmacy (IP) Receiving, Storage and Work Areas in Functional Area 2: IP Pharmacy Work Area, is derived from workload projections expressed in the number of patient beds in the MTF that the Pharmacy is expected to serve via the workload Input Data Statements as outlined below. Most of the remaining rooms in this functional area and in Functional Area 1: IP Pharmacy

Reception Area and Functional Area 3: IP Pharmacy Support Area are determined based on the number and NSF of the spaces in Functional Area 2, generated from workload inputs. Mission, Staffing and Miscellaneous Input Data Questions drive the rest of the spaces in Inpatient Pharmacy component of this chapter.

- F. Calculation of the Outpatient Pharmacy (OP) Receiving, Storage and Work Areas in Functional Area 2: OP Pharmacy Work Area, is derived from workload projections expressed in the projected number of prescriptions dispensed via the workload Input Data Statements as outlined below. Most of the remaining rooms in this functional area and in Functional Area 1: OP Pharmacy Reception Area and Functional Area 3: OP Pharmacy Support Area are determined based on the number and NSF of the spaces in Functional Area 2, generated from workload inputs. Mission, Staffing and Miscellaneous Input Data Questions drive the rest of the spaces in Inpatient Pharmacy component of this chapter.
- G. Section 4: Input Data Questions and Section 5: Space Planning Criteria have been implemented and tested in SEPS II.

4 PROGRAM DATA REQUIRED (Input Data Questions): INPATIENT PHARMACY (IP)

A. Mission Input Data Statements

- 1. Is an Inpatient Pharmacy authorized? (M)
- 2. Is a sterile compounding authorized? (M)
 - a. How many Inpatient Pharmacy Laminar Flow Hoods, greater than one, are authorized? (Misc)
- 3. Is the Inpatient Pharmacy authorized to conduct Clinical Trials? (M)
- 4. Is a Robotics system for the Inpatient Pharmacy authorized? (M)
- 5. Is a Pneumatic Tube Transport System for the Inpatient Pharmacy authorized? (M)
- 6. Is compounding of chemotherapeutics in the Inpatient Pharmacy authorized? (M)

B. Workload Input Data Statements

- 1. How many Medical – Surgical patient beds are projected for this facility? (W)
- 2. How many ICU / CCU patient beds are projected for this facility? (W)
- 3. How many Pediatrics patient beds are projected for this facility? (W)
- 4. How many LDR / LDRP / Antepartum / Postpartum patient beds are projected for this facility? (W)
- 5. How many Behavioral Health patient beds are projected for this facility? (W)

C. Staffing Input Data Statements

- 1. How many Inpatient Pharmacy Technician FTE positions are authorized? (S)
- 2. How many Inpatient Pharmacy provider FTE positions are authorized? (S)
 - a. How many Inpatient Pharmacy provider FTE positions are authorized to have a private office? (Misc)
 - b. How many Inpatient Pharmacy provider FTE positions are authorized to have a shared office? (Misc)
 - c. How many Inpatient Pharmacy provider FTE positions are authorized to have a cubicle? (Misc)
- 3. How many Inpatient Pharmacy non-provider FTE positions are authorized? (S)
 - a. How many Inpatient Pharmacy non-provider FTE positions are authorized to have a private office? (Misc)
 - b. How many Inpatient Pharmacy non-provider FTE positions are authorized to have a shared office? (Misc)

- c. How many Inpatient Pharmacy non-provider FTE positions are authorized to have a cubicle? (Misc)

D. Miscellaneous Input Data Statements

- 1. How many unit dose, medication transfer or crash carts are authorized to be held / staged in the Inpatient Pharmacy? (Misc)
- 2. How many Biological Safety Cabinets for the Inpatient Pharmacy are authorized? (Misc)
- 3. How many Inpatient Pharmacy Automated Dispensing Units (ADUs) are authorized? (Misc)
- 4. Is a Inpatient Pharmacy Patient Records Storage Room authorized? (Misc)
- 5. Is Storage of Bulk Non-Injectables in the Inpatient Pharmacy Support Area authorized? (Misc)
- 6. Is Storage of Bulk IV Fluids / Supplies in the Inpatient Pharmacy Support Area authorized? (Misc)
- 7. Is Storage of Bulk items in Walk-in Refrigerator in the Inpatient Pharmacy Support Area authorized? (M)
- 8. Is Storage of Bulk items in Walk-in Freezer in the Inpatient Pharmacy Support Area authorized? (M)
- 9. Is a Sub-Waiting in the Inpatient Pharmacy Staff and Administrative Area authorized? (Misc)
- 10. How many Inpatient Pharmacy FTEs will work on peak shift? (Misc)

5 PROGRAM DATA REQUIRED (Input Data Questions): COMMON PHARMACY

A. Mission Input Data Statements

- 1. Is a Common Graduate Medical Education program for Pharmacy authorized (M)
 - a. How many Pharmacy resident / student FTE positions are authorized? (S)

B. Miscellaneous Input Data Statements

- 1. Is a Sub-Waiting in the Common Pharmacy Staff and Administrative Area authorized? (Misc)

6 SPACE PLANNING CRITERIA: INPATIENT PHARMACY (IP)

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: IP Pharmacy Reception Area:

- 1. **Vestibule (PHVS1)**..... **120 NSF**
Provide one per Inpatient Pharmacy Reception Area.
- 2. **Medication Dispensing Pick-Up Window (PHOD1)**..... **60 NSF**
Minimum one; provide an additional one for every increment of one hundred patient beds, of all types, greater than eighty.

Includes Staff Issue / Transaction Window.

B. FA 2: IP Pharmacy Work Area:

- 1. **Receiving, Breakdown Room (PHBS1)** **180 NSF**
Minimum NSF; provide an additional 40 NSF if the total number of patient beds, of all types, is between 201 and 400; provide an additional 80 NSF if the total number of patient beds, of all types, is greater than 400.

2. **Receiving, Documentation Station (PHEV1)**60 NSF
Provide one for Inpatient Pharmacy.
3. **Receiving, Trash Holding (UTC01)**..... 120 NSF
Minimum NSF; provide an additional 30 NSF for every increment of one hundred patient beds, of all types, greater than one hundred.
4. **Receiving, Inventory Control Workstation (PHEV1)**60 NSF
Minimum NSF; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.
5. **Working Inventory, Non-Injectables (PHBS1)**240 NSF
Minimum NSF; provide an additional 60 NSF for every increment of one hundred patient beds, of all types, greater than two hundred.
6. **Working Inventory, IV Fluids / Supplies (PHBS1)** 120 NSF
Minimum NSF if the total number of patient beds, of all types, is between ten and one hundred; provide an additional 120 NSF if the total number of patient beds, of all types, is between one hundred and two hundred; provide an additional 240 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 380 if the total number of patient beds, of all types, is greater than three hundred.
7. **Storage, Controlled Substance Vault (SSV01)**240 NSF
Minimum NSF; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.
8. **Storage, Investigational Drugs / Research (PHBS1)**..... 120 NSF
Minimum NSF; provide an additional 30 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred and if the Inpatient MTF is authorized to conduct Clinical Trials.
9. **Storage, Refrigerated (SRR02)**60 NSF
Minimum NSF; provide an additional 30 NSF for every increment of one hundred patient beds, of all types, greater than one hundred.

Locate in an alcove adjacent to Freezer Storage. If the total number of patient beds, of all types, is greater than two hundred, a walk-in refrigerator shall be provided.
10. **Storage, Freezer (SRF02)**.....60 NSF
Minimum NSF; provide an additional 30 NSF for every increment of one hundred patient beds, of all types, greater than three hundred.

Minimum NSF accommodates a free standing double-door freezer. Locate in an alcove adjacent to Refrigerator Storage.
11. **Storage, Flammable (SRHM1)**60 NSF
Provide one for Inpatient Pharmacy.

Allocated NSF provides space to store corrosive materials in a separate container.
12. **Preparation Work Area, Repackaging (PHMP1)** 120 NSF
Minimum NSF; provide an additional 30 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.

13. **Preparation Work Area,
Extemporaneous Compounding (PHIV1) 120 NSF**
Minimum NSF; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.

Includes work area, 6 linear feet of counter top plus the sink and associated base cabinets and overhead cabinets for storing vials, bottles, caps, labels, and related working stock.
14. **Workstation, Order Entry and Validation (PHOD1)..... 60 NSF**
Minimum two; provide an additional two for every increment of one hundred patient beds greater than two hundred, maximum six.
15. **Workstation, Dispensing Pharmacist (PHOD1) 60 NSF**
Minimum two; provide an additional one for every increment of one hundred patient beds greater than two hundred.
16. **Workstation, Pharmacy Technician (PHEV1)..... 60 NSF**
Provide one per each Pharmacy Technician FTE position authorized.
17. **Prescription Assembly Area, Manual Pick Station (PHUD1)..... 120 NSF**
Minimum NSF; provide an additional 60 NSF for every increment of one hundred patient beds, of all types, greater than eighty.

Stand up Work Area. Can be combined with STAT / Special Orders
18. **Prescription Assembly Area, STAT / Special Orders (PHUD1)..... 120 NSF**
Provide one for Inpatient Pharmacy.

Function maybe combined with Manual Pick Station.
19. **Prescription Assembly Area, Robotics / Automation (PHR01)..... 120 NSF**
Provide one if a Robotics system for the Inpatient Pharmacy is authorized.
20. **Workstation, Prescription Validation / Check (PHEV1) 60 NSF**
Minimum one; provide an additional one for every increment of one hundred patient beds greater than two hundred.
21. **Dispensing Area,
Cart Holding / Staging (MMCR2)..... 30 NSF**
Minimum NSF; provide an additional thirty NSF per each increment of three unit dose, medication transfer or crash carts authorized to be held / staged in the Inpatient Pharmacy greater than three.
22. **Pneumatic Tube Transport Station (NT001)..... 30 NSF**
Minimum NSF; provide an additional 30 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred and if a Tube Transport System for the Inpatient Pharmacy is authorized.

Provides space for staff to don personal protective equipment and handwash (sink w/ emergency eyewash) before entering the anteroom work zone and/or clean room. This may also be a zone within the Anteroom. Combine with Chemotherapeutics Compounding Area Anteroom and the Aseptic Transfer Clean Room.
23. **Anteroom,
Chemotherapeutics Compounding Area (PHAR1) 180 NSF**

Minimum NSF; provide an additional 60 NSF if two Biological Safety Cabinets are authorized and if compounding of chemotherapeutic in the Inpatient Pharmacy is authorized.

Physically isolated and separate from the clean room, the anteroom provides an environment for non-sterile compounding activities such as hand washing, storage and measuring / weighing /mixing of non-sterile substances. It also includes a zone for staff to don personal protective equipment and handwash. Includes an eyewash station, and a full-height storage cabinet for cleaning supplies, disinfecting solutions, and related items.

24. Clean Room, Chemotherapeutics Compounding Area (PHC01) 120 NSF

Minimum NSF; provide an additional 60 NSF per each Biological Safety Cabinet authorized if compounding of chemotherapeutic in the Inpatient Pharmacy is authorized.

This is the Clean Room for the sterile compounding or preparation of Chemotherapeutics. It accommodates the laminar airflow hood (LAF), barrier isolation chamber or BSC and provides storage of drugs and supplies under appropriate conditions of temperature, light, moisture, sanitation, ventilation and security.

25. Anteroom, Compounded Sterile Preparations (CSP) Clean Room (PHAR1) 120 NSF

Provide one for Inpatient Pharmacy if sterile compounding is authorized; provide an additional 120 NSF per each Laminar Flowhood authorized greater than one.

Physically isolated and separate from the clean room, the anteroom provides an environment for non-sterile compounding activities such as hand washing, storage and measuring / weighing / mixing of non-sterile substances. It also includes a zone for staff to don personal protective equipment and handwash. Includes an eyewash station, and a full-height storage cabinet for cleaning supplies, disinfecting solutions, and related items.

26. Clean Room, Compounded Sterile Preparations (CSP) (PHIV1) 120 NSF

Provide one for Inpatient Pharmacy if sterile compounding is authorized; provide an additional 120 NSF per each Laminar Flowhood authorized greater than one.

Designated area for preparing compounded sterile preparations (CSPs). The Clean Room accommodates the laminar airflow hood (LAF), barrier isolation chamber or BSC and provides storage of drugs and supplies under appropriate conditions of temperature, light, moisture, sanitation, ventilation and security.

27. Storage, Hazardous Material (SRHM1) 120 NSF

Provide one for Inpatient Pharmacy.

28. Storage, Patient Records (MRS01)..... 120 NSF

Minimum NSF if Patient Records Storage is authorized; provide an additional 30 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.

29. Storage, General (SRS01)..... 120 NSF

Minimum NSF; provide an additional 120 NSF if the total number of patient beds,

of all types, is between two hundred and three hundred; provide an additional 240 NSF if the total number of patient beds, of all types, is greater than three hundred.

Includes storage space for labels, vials, etc.

- 30. **Cart, Holding (CHC01)** **120 NSF**
Minimum NSF; provide an additional 30 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.
 To accommodate a number of carts which are part of the internal working activities of the Pharmacy.
- 31. **Janitor Closet (JANC1)**..... **60 NSF**
Provide one for Inpatient Pharmacy.
- 32. **Toilet, Male Staff (TLTU1)**..... **60 NSF**
Provide one for Inpatient Pharmacy.
- 33. **Toilet, Female Staff (TLTU1)** **60 NSF**
Provide one for Inpatient Pharmacy.

C. FA 3: IP Pharmacy Support Area:

The rooms in this Functional Areas should be co-located with the Pharmacy Work Area; please refer to the Concept of Operations for your Project.

- 1. **Storage, Bulk Non-Injectables (PHBS1)** **360 NSF**
Provide one if Storage of Bulk Non-Injectables in the Pharmacy Support Area is authorized.
- 2. **Storage Bulk, IV Fluids / Supplies (PHBS1)**..... **360 NSF**
Minimum NSF; provide an additional 480 NSF if the Inpatient Pharmacy is authorized to store Bulk IV Fluids / Supplies in the Pharmacy Support Area.
- 3. **Storage Bulk, Walk-In Refrigerator (SRR01)**..... **120 NSF**
Provide one if storage of bulk items in Walk-in Refrigerator in the Pharmacy Support Area is authorized.
 Locate in an alcove adjacent to Freezer Storage. If the total number of annual prescriptions is greater than 200,000, a walk-in refrigerator shall be provided.
- 4. **Storage Bulk, Walk-In Freezer (SRF01)**..... **120 NSF**
Provide one if storage of bulk items in Walk-in Freezer in the Pharmacy Support Area is authorized.
 Minimum NSF accommodates a free standing double-door freezer. Locate in an alcove adjacent to Refrigerator Storage.
- 5. **Storage, Hazardous Waste Holding (SRHM1)**..... **120 NSF**
Provide one for Inpatient Pharmacy.
- 6. **Automated Dispensing Unit, Set-up and Maintenance Area (PHUD1)** **120 NSF**
Minimum NSF; provide an additional 30 NSF if the total number of Automated Dispensing Units (ADUs) is greater than four.
- 7. **Automated Dispensing Unit Control Center, PC / Printer (PHUD1)** **60 NSF**
Provide one for Inpatient Pharmacy.

D. FA 4: IP Pharmacy Staff and Administrative Area:

1. **Office, Department / Clinic Chief (OFA04)** 120 NSF
Provide one for Inpatient Pharmacy.
2. **Office, Executive Assistant (OFA04)**..... 120 NSF
Provide one for Inpatient Pharmacy.
3. **Sub-Waiting (WRC03)**60 NSF
Provide one if a Sub-Waiting in the Inpatient Pharmacy Staff and Administrative Area is authorized.

Allocated NSF provides space for minimum of two seats plus circulation.
4. **Office, NCOIC / LCPO / LPO (OFA04)**..... 120 NSF
Provide one for Inpatient Pharmacy.
5. **Team Collaboration Room (WRCH1)** 120 NSF
Provide one for Inpatient Pharmacy.

Allocated NSF provides space for staff collaboration with touchdown computer stations for documentation and a table with chairs.
6. **Office, Private (OFA04)** 120 NSF
Provide one per each Inpatient Pharmacy provider and non-provider FTE position authorized to have a private office.

Office space for Operation Manager, Pharmacy Info Systems / Automation Manager, etc
7. **Office, Shared (OFA05)**..... 120 NSF
Provide one for every increment of two Inpatient Pharmacy provider and non-provider FTE positions authorized to have a shared office.
8. **Cubicle (OFA03)**60 NSF
Provide one per each Inpatient Pharmacy provider and non-provider FTE position authorized to have a cubicle.

May be utilized by Clinical Pharmacist, Pharmacist / Other, Administrative Staff. These cubicles may be collocated in a shared space or dispersed as required.
9. **Conference Room (CRA01)**240 NSF
Minimum NSF; provide an additional 60 NSF if the total number of FTE positions authorized is greater than ten.

Planner must determine adequacy and availability of existing Conference Room space and the ability to optimize resources by sharing Conference Room space with other departments.
10. **Copier (RPR01)**..... 120 NSF
Provide one for Inpatient Pharmacy.

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.
11. **Storage, Office Supplies (SRS01)**60 NSF
Provide one for Inpatient Pharmacy.

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

12. **Lounge, Staff (SL001)** **120 NSF**
Minimum NSF, provide an additional 60 NSF for every increment of five FTEs working on peak shift greater than ten; maximum 360 NSF.

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

7 PROGRAM DATA REQUIRED (Input Data Questions): OUTPATIENT PHARMACY (OP)

A. Mission Input Data Statements

1. Is an Outpatient Pharmacy authorized? (M)
2. Is the Outpatient Pharmacy Open Concept authorized? (M)
3. Is Outpatient Pharmacy IV Fluids / Supplies daily replenishment authorized? (M)
4. Is the Outpatient Pharmacy authorized to conduct Clinical Trials? (M)
5. Is Outpatient Pharmacy Sterile Preparations Compounding authorized? (M)
6. Is a Pneumatic Tube Transport System for the Outpatient Pharmacy authorized? (M)
7. Is a Robotics system for the Outpatient Pharmacy authorized? (M)
 - a. How many Outpatient Pharmacy robotic prescription preparation units are authorized (greater than one)? (Misc)
8. Is Chemotherapeutics Compounding authorized for the Outpatient Pharmacy? (M)
 - a. How many Outpatient Pharmacy Laminar Flow Hoods, greater than one, are authorized? (Misc)

B. Workload Input Data Statements

1. How many Outpatient Pharmacy annual prescriptions are projected? (W)

C. Staffing Input Data Statements

1. How many Outpatient Pharmacy Technician FTE positions are authorized? (S)
2. How many Outpatient Pharmacy provider FTE positions are authorized? (S)
 - a. How many Outpatient Pharmacy provider FTEs are authorized to have a private office? (Misc)
 - b. How many Outpatient Pharmacy provider FTEs are authorized to have a shared office? (Misc)
 - c. How many Outpatient Pharmacy provider FTEs are authorized to have a cubicle? (Misc)
3. How many Outpatient Pharmacy non-provider FTE positions are authorized? (S)
 - a. How many Outpatient Pharmacy non-provider FTEs are authorized to have a private office? (Misc)
 - b. How many Outpatient Pharmacy non-provider FTEs are authorized to have a shared office? (Misc)
 - c. How many Outpatient Pharmacy non-provider FTEs are authorized to have a cubicle? (Misc)

D. Miscellaneous Input Data Statements

1. How many Outpatient Pharmacy Biological Safety Cabinets are authorized? (Misc)
2. Is Medications and OTC Bulk Storage in the Outpatient Pharmacy authorized? (Misc)
3. Is IV Fluids / Supplies Bulk Storage in the Outpatient Pharmacy authorized? (Misc)

4. Is Walk-in Refrigerator Bulk Storage in the Outpatient Pharmacy authorized? (Misc)
5. Is Walk-in Freezer Bulk Storage in the Outpatient Pharmacy authorized? (Misc)
6. Are Outpatient Pharmacy Automated Dispensing Units (ADUs) authorized? (Misc)
 - a. How many Outpatient Pharmacy Automated Dispensing Units (ADUs) are authorized? (Misc)
7. Is a Sub-Waiting in the Outpatient Pharmacy Staff and Administrative Area authorized? (Misc)
8. Is a Patient Records Storage Room in the Outpatient Pharmacy Staff and Administrative Area authorized? (Misc)
9. How many Outpatient Pharmacy FTEs will work on peak shift? (Misc)

8 SPACE PLANNING CRITERIA: OUTPATIENT PHARMACY (OP)

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 5: OP Pharmacy Reception Area:

1. **Waiting (WRC01)****480 NSF**
Minimum NSF; provide an additional 60 NSF per each Dispensing Window greater than two.

 Minimum allocated NSF accommodates nine standard seats at 16 NSF plus three wheelchair space at 25 NSF and three Bariatric bench seats at 36 NSF and circulation area.
2. **Playroom (PLAY1)**.....**120 NSF**
Provide one for Outpatient Pharmacy.

 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.
3. **Reception (RECP1)****120 NSF**
Minimum NSF; provide an additional 30 NSF for every dispensing window greater than 12.

 Allocated NSF accommodates up to four receptionists and circulation
4. **Kiosk, Patient Check-in (CLSC1)****30 NSF**
Provide one for Outpatient Pharmacy.

 Can accommodate the Q-Flow or Q-Matic automated queuing systems.
5. **Patient Education (CLSC3)**.....**120 NSF**
Provide one for Outpatient Pharmacy.

 Room used for one-on-one patient education and includes space for family to accompany the patient.
6. **Medication Dispensing Pick-up Window (PHOD1)****80 NSF**
Minimum one; provide an additional one for every increment of 50,000 projected annual prescriptions dispensed greater than 100,000 if the Open Concept is not authorized; provide an additional 40 NSF per Pick-up Window if the Open Concept is authorized.

7. **Medication Drop-off Window (PHUD1)** 60 NSF
Minimum one; provide an additional one for every increment of 20,000 projected annual prescriptions dispensed greater than 50,000.
8. **Alcove, Wheelchair (SRLW1)** 60 NSF
Provide one for Outpatient Pharmacy.

B. FA 6: OP Pharmacy Work Area:

1. **Receiving, Breakdown Room (PHBS1)** 180 NSF
Minimum NSF; provide an additional 60 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
2. **Receiving, Documentation Station (PHEV1)** 60 NSF
Provide one for Outpatient Pharmacy.
3. **Receiving, Trash Holding (UTC01)** 120 NSF
Provide one for Outpatient Pharmacy.
4. **Receiving Workstation, Inventory Control (PHEV1)** 60 NSF
Minimum NSF; provide an additional 60 NSF for every increment of 200,000 annual prescriptions dispensed greater than 200,000.
5. **Storage, Non-Injectables (PHBS1)** 120 NSF
Minimum NSF; provide an additional 60 NSF for every increment of 200,000 annual prescriptions dispensed greater than 200,000.
6. **Storage, IV Fluids / Supplies (PHBS1)** 120 NSF
Minimum NSF; provide an additional 120 NSF if daily replenishment from Bulk Storage is not authorized.
7. **Storage, Controlled Substance Vault (SSV01)** 120 NSF
Minimum NSF; provide an additional 60 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
8. **Storage, Investigational Drugs / Research (PHBS1)** 120 NSF
Provide one if the Outpatient MTF is authorized to conduct Clinical Trials.
9. **Storage, Refrigerated (SRR02)** 60 NSF
Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
10. **Storage, Freezer (SRF02)** 60 NSF
Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
11. **Storage, Flammable (SRHM1)** 60 NSF
Provide one for Outpatient Pharmacy.

Allocated NSF provides space to store corrosive materials in a separate container.
12. **Preparation Work Area, Repackaging (PHMP1)** 120 NSF
Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
13. **Preparation Work Area, Extemporaneous Compounding (PHIV1)** 120 NSF
Minimum NSF; provide an additional 30 NSF for every increment of 100,000

annual prescriptions dispensed greater than 100,000.

Includes work area, 6 linear feet of counter top plus the sink and associated base cabinets and overhead cabinets for storing vials, bottles, caps, lables, and related working stock.

14. **Workstation, Order Entry and Validation (PHOD1).....60 NSF**
Minimum two; provide an additional one for every increment of two dispensing windows greater than two.

Included if not completed at Reception / Drop-Off
15. **Workstation, Dispensing Pharmacist (PHOD1).....60 NSF**
Minimum two; provide an additional one for every increment of two dispensing windows greater than two.
16. **Workstation, Pharmacy Technician (PHEV1).....60 NSF**
Provide one per each Pharmacy Technician FTE position authorized.
17. **Prescription Assembly Area, Manual Pick Station (PHUD1).....120 NSF**
Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.

Stand up Work Area. Can be combined with STAT / Special Orders
18. **Robotics Footprint (PHR01)120 NSF**
Minimum NSF; provide an additional 120 NSF per each robotic prescription preparation unit.
19. **Prescription Order Collation Area,
Robotics / Automation (PHR01)120 NSF**
Provide one if a Robotics system for the Outpatient Pharmacy is authorized.
20. **Workstation, Prescription Validation / Check (PHEV1)60 NSF**
Minimum two; provide an additional one for every increment of 100,000 projected annual prescriptions dispensed greater than 100,000.
21. **Dispensing Area,
Staff Issue / Transaction Window (PHOD1).....60 NSF**
Minimum two; provide an additional one for every increment of 100,000 projected annual prescriptions dispensed greater than 100,000.
22. **Dispensing Area,
Prescription Holding and Staging (PHOD1)60 NSF**
Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
23. **Pneumatic Tube Transport Station (NT001).....30 NSF**
Provide one if a Tube Transport System for the Outpatient Pharmacy is authorized.
24. **Anteroom,
Chemotherapeutics Compounding Area (PHAR1).....120 NSF**
Minimum NSF; provide an additional 60 NSF if two Biological Safety Cabinets are authorized and if compounding of chemotherapeutics is authorized for the Outpatient Pharmacy.

Physically isolated and separate from the clean room, the anteroom provides an environment for non-sterile compounding activities such as hand washing,

storage and measuring / weighing / mixing of non-sterile substances. It also includes a zone for staff to don personal protective equipment and handwash. Includes an eyewash station, and a full-height storage cabinet for cleaning supplies, disinfecting solutions, and related items.

- 25. **Clean Room, Chemotherapeutics Compounding Area (PHC01)..... 120 NSF**
Minimum NSF; provide an additional 60 NSF per each Biological Safety Cabinet authorized and if compounding of chemotherapeutics is authorized for the Outpatient Pharmacy.

This is the Clean Room for the sterile compounding or preparation of Chemotherapeutics. It accommodates the laminar airflow hood (LAF), barrier isolation chamber or BSC and provides storage of drugs and supplies under appropriate conditions of temperature, light, moisture, sanitation, ventilation and security.

- 26. **Anteroom, Compounded Sterile Preparations (CSP) Clean Room (PHAR1)..... 120 NSF**
Provide one for Outpatient Pharmacy if sterile compounding is authorized; provide an additional 120 NSF per each Laminar Flowhood authorized greater than one.

Physically isolated and separate from the clean room, the anteroom provides an environment for non-sterile compounding activities such as hand washing, storage and measuring / weighing / mixing of non-sterile substances. It also includes a zone for staff to don personal protective equipment and handwash. Includes an eyewash station, and a full-height storage cabinet for cleaning supplies, disinfecting solutions, and related items.

- 27. **Clean Room, Compounded Sterile Preparations (CSP) (PHIV1)..... 120 NSF**
Provide one for Outpatient Pharmacy if sterile compounding is authorized; provide an additional 120 NSF per each Laminar Flowhood authorized greater than one.

Designated area for preparing compounded sterile preparations (CSPs). The Clean Room accommodates the laminar airflow hood (LAF), barrier isolation chamber or BSC and provides storage of drugs and supplies under appropriate conditions of temperature, light, moisture, sanitation, ventilation and security.

- 28. **Janitor Closet (JANC1)..... 60 NSF**
Provide one for the Outpatient Pharmacy Work Area.

- 29. **Toilet, Male Staff (TLTU1)..... 60 NSF**
Provide one for the Outpatient Pharmacy Work Area.

- 30. **Toilet, Female Staff (TLTU1) 60 NSF**
Provide one for the Outpatient Pharmacy Work Area.

C. FA 7: OP Pharmacy Support Area:

The rooms in this Functional Areas should be co-located with the Pharmacy Work Area: please refer to the Concept of Operations for your project.

- 1. **Storage Bulk, Medications and OTC (PHBS1) 360 NSF**
Minimum NSF; provide an additional 120 NSF for every increment of 100,000

annual prescriptions dispensed greater than 100,000 if Medications and OTC Bulk Storage is authorized.

2. **Storage Bulk, IV Fluids / Supplies (PHBS1)360 NSF**
Minimum NSF; provide an additional 120 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000 if IV Fluids / Supplies Bulk Storage is authorized.
3. **Storage Bulk, Walk-In Refrigerator (SRR01)120 NSF**
Minimum NSF; provide an additional 60 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000 if Walk-in Refrigerator Bulk Storage is authorized.
4. **Storage Bulk, Walk-In Freezer (SRF01)120 NSF**
Minimum NSF; provide an additional 60 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000 if Walk-in Freezer Bulk Storage is authorized.
5. **Storage, Hazardous Waste Holding (SRHM1)120 NSF**
Provide one for Outpatient Pharmacy.
6. **Automated Dispensing Unit, Set-up and Maintenance Area (PHUD1).....120 NSF**
Minimum NSF; provide an additional 30 NSF if use of Automated Dispensing Units (ADUs) is authorized and the total number of Automated Dispensing Units (ADUs) is greater than four.
7. **Automated Dispensing Unit Control Center, PC / Printer (PHUD1).....60 NSF**
Provide one for Outpatient Pharmacy if use of Automated Dispensing Units (ADUs) is authorized.

D. FA 8: OP Pharmacy Staff and Administrative Area:

1. **Office, Department / Clinic Chief (OFA04)120 NSF**
Provide one for Outpatient Pharmacy.
2. **Office, Executive Assistant (OFA04).....120 NSF**
Provide one for Outpatient Pharmacy.
3. **Sub-Waiting (WRC03)60 NSF**
Provide one if a Sub-Waiting in the Outpatient Pharmacy Staff and Administrative Area authorized is authorized.
 Allocated NSF provides space for minimum of two seats plus circulation.
4. **Office, NCOIC / LCPO / LPO (OFA04).....120 NSF**
Provide one for Outpatient Pharmacy.
5. **Team Collaboration Room (WRCH1)120 NSF**
Provide one for Outpatient Pharmacy.
 Allocated NSF provides space for staff collaboration with touchdown computer stations for documentation and a table with chairs.
6. **Office, Private (OFA04)120 NSF**
Provide one per each Outpatient Pharmacy provider and non-provider FTE position authorized to have a private office.

7. **Office, Shared (OFA05)**..... **120 NSF**
Provide one for every increment of two Outpatient Pharmacy provider and non-provider FTE positions authorized to have a shared office.
8. **Cubicle (OFA03)**..... **60 NSF**
Provide one per each Outpatient Pharmacy provider and non-provider FTE position authorized to have a cubicle.
These cubicles may be collocated in a shared space or dispersed as required.
9. **Storage, Patient Records (MRS01)** **120 NSF**
Provide one for Outpatient Pharmacy if authorized.
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)**..... **240 NSF**
Minimum NSF; provide and additional 60 NSF if the total number of FTE positions authorized is greater than ten.
Planner must determine adequacy and availability of existing Conference Room space and the ability to optimize resources by sharing Conference Room space with other departments.
11. **Copier (RPR01)** **120 NSF**
Provide one for Outpatient Pharmacy.
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.
12. **Storage, Office Supplies (SRS01)**..... **60 NSF**
Provide one for Outpatient Pharmacy.
Allocated NSF provides space for office supplies, patient forms and literature.
13. **Lounge, Staff (SL001)**..... **120 NSF**
Minimum NSF, provide an additional 60 NSF for every increment of five FTEs working on peak shift greater than ten; maximum 360 NSF.
14. **Lockers, Personal Property (LR001)** **30 NSF**
Minimum NSF, provide an additional 3 NSF per each FTE not assigned a private office, shared office or cubicle greater than ten.

E. FA 9 Common Pharmacy Staff and Administrative Area:

1. **Office, Department Head / Chief (OFA04)**..... **120 NSF**
Provide one if an Inpatient or Outpatient Pharmacy is authorized.
2. **Office, Executive Assistant (OFA04)** **120 NSF**
Provide one if an Inpatient or Outpatient Pharmacy is authorized.
3. **Office, Clinical Director (OFA04)** **120 NSF**
Provide one if an Inpatient or Outpatient Pharmacy is authorized.
4. **Sub-Waiting (WRC03)**..... **60 NSF**
Provide one if a Sub-Waiting in the Common Pharmacy Staff and Administrative Area and an Inpatient or Outpatient Pharmacy is authorized.
Allocated NSF provides space for minimum of two seats plus circulation.

5. **Office, NCOIC / LCPO / LPO (OFA04)**.....120 NSF
Provide one if an Inpatient or Outpatient Pharmacy is authorized.

6. **Conference Room (CRA01)**240 NSF
Minimum NSF; provide and additional 60 NSF if the total number of FTE positions authorized is greater than ten if an Inpatient or Outpatient Pharmacy is authorized.

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

7. **Copier (RPR01)**.....120 NSF
Provide one if an Inpatient or Outpatient Pharmacy is authorized.

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.

8. **Storage, Financial Documentation (SRSE1)**.....60 NSF
Provide one if an Inpatient or Outpatient Pharmacy is authorized.

This room will serve both Inpatient & Outpatient Pharmacy.

9. **Storage, Office Supplies (SRS01)**60 NSF
Provide one if an Inpatient or Outpatient Pharmacy is authorized.

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

F. FA 10 Common GME Education / Training Area:

1. **Office, Residency Program Director (OFA04)** 120 NSF
Provide one if an Pharmacy Graduate Medical Education program is authorized.

2. **Resident Collaboration Room (WKTM1)**.....240 NSF
Minimum NSF; provide an additional 60 NSF per each Pharmacy Resident / Student FTE position authorized greater than two if an Pharmacy Graduate Medical Education program is authorized.

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.

3. **Classroom / Conference Room (CLR01)** 240 NSF
Provide one if the total number of Pharmacy Resident / Student FTE positions is greater than five if an Pharmacy Graduate Medical Education program is authorized.

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.

9 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).

General

- A. The Net-to-department gross factor (NTDG) for Pharmacy is **1.25**. 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. The Pharmacy will administer comprehensive pharmaceutical care and cognitive clinical services. The pharmacy program will ensure that the principles of: “right drug, right dose, right route, right time, and right patient” can be achieved consistently across all clinical areas.
- C. Pharmacy will provide the following services and functions:
 - 1. Automated drug packaging, storage, dispensing and distribution system;
 - 2. Centralized IV admixture, chemotherapy preparation; and TPN service, performed in a compliant USP 797 environment
 - 3. Management of clinical trials;
 - 4. Sterile product preparation;
 - 5. Extemporaneous compounding/prepackaging;
 - 6. Stock medications to specialized areas;
 - 7. Purchasing/inventory of all pharmaceuticals;
 - 8. Drug use evaluation (DUE) service;
 - 9. Drug information service; (computer-based)
 - 10. Clinical services/pharmaceutical care at the point of care;
 - 11. Outpatient dispensing, preparation and mail-out services for medications and select patient care supplies;
 - 12. Pharmacy system computer support;
 - 13. Patient / student / resident education service and
 - 14. Outpatient waiting environment designed to support calm and comfortable seating arrangements

Location

- A. IP Pharmacy should be located in close proximity to the nursing units, emergency department, and the procedures/interventional suite in order to optimize support and minimize the requirement for satellite pharmacies
- B. The OP Pharmacy should be in an easily accessible area that is directly adjacent to the outpatient clinics.
- C. When possible, the preferred arrangement would be to co-locate the IP and OP pharmacies to drive operational and inventory efficiencies.

Design Principles

Consider the following environmental design principles that can enhance safety in the pharmacy:

- 1. Reduce noise with utilization of materials (e.g., flooring, ceilings and systems furniture) that are acoustically absorbent and readily maintainable.

2. Design so that pharmacists entering orders are shielded from surrounding noise and interruptions, while maintaining a sightline to the order fill and check areas.
3. Provide adequate illumination to improve accuracy and efficiency.
4. Create medication safety zones: Organize areas so that everything needed is within arm's reach. Consider standardization of spaces as much as possible.
5. Incorporate ergonomic principles: Consider appropriate heights for work counters and use of adjustable fixtures. Counter and shelf heights affect visibility and clutter.

Organization of Space

- A. An open floor design is best suited for the department. Most fixtures will be of modular design; thus enabling easy movement and reconfiguration as the needs change.
- B. Order entry stations will have a private work surface space, with access to resource information and to the department's pneumatic tube system station. All workstations need to be well lighted and have sufficient panels or sound attenuation to allow a pharmacist or technician to enter medication orders in an uninterrupted manner.
- C. Adequate pick stations to supplement automated picking technology will be used to fill patient drug orders. The pick stations should be configured to support multiple functions in addition to refills, individual and STAT medication orders, etc. Space should be provided for a label printer within the large pick station.
- D. The pick stations should have close access to bulk storage, including freezer(s) and refrigerator(s).
- E. Counter space should be provided for packaging tablet and liquid medications, manufacturing extemporaneous solutions, ointments, creams and some packaging of unit dose medications. Work surfaces will also be required for labeling pre-packaged purchased medications.
- F. A sink is required for cleaning glassware, bottles and other manufacturing equipment.
- G. Ample work surfaces and casework storage for supplies and packaging materials should be provided within the area.
- H. The sterile compounding area must be in a separate, but easily accessed area of the Pharmacy and be designed to meet all aspects of the current USP 797 guidelines.
- I. An anteroom is required with a hand wash sink and gowning area, with storage for gowns/scrub suits, a workstation with computer terminal and printer, staging/storage area for a cart with IV solutions and supply and waste receptacles. A separate vestibule may be provided to facilitate the transition of staff into the anteroom.
- J. The sterile preparation room will require laminar flow hoods. The hood area will have adjacent work surfaces to accommodate production into and out of the hoods. A pass-thru design will support forward workflow so that products will move efficiently from sterile compounding to dispensing, while maintaining good workflow and traffic separation.
- K. A space for purchasing and receiving should be located in the same area as inventory storage and near the rear entrance / exit to the Pharmacy. Inventory will be stored on mobile / high density shelving.

- L. A vault room will be provided to supplement an automated safe for narcotics and clinical trial drugs. Clinical trials storage should be physically separate from all other medications.
- M. Security measures such as surveillance cameras will be required to monitor entry to the department. The controlled substance storage must conform to regulations for security levels.
- N. Two primary entrances are required, a front entrance to serve as the main reception to the department and for medication window pick-ups. Adjacent to the front entrance will be administrative offices conference room, and the resource drug information room.
- O. The OP Pharmacy shall have confidential patient counseling room(s), adjacent to the dispensing window(s).
- P. Dispensing positions in the OP Pharmacy should be designed open to allow for direct communication of staff with patients without compromising necessary security provisions (as opposed to the traditional bank teller design). All counseling positions should be visually accessible, but physically separated from each other and the reception area for patient privacy.
- Q. A secondary entrance will serve as a material handling portal for staff circulation, cart distribution, receiving vendor orders and for the pickup of trash and packaging materials.
- R. Consider creation of a continuous circular workflow path from receiving, storage, distribution, assembly, and checking through to direct dispensing, automated dispensing, holding, and mail-out programs, resulting in minimized traffic paths and reduced staff fatigue.

Ensure that clinical staff can have access to pharmacy staff and dispensing without intruding on patient-focused activities.

10 FUNCTIONAL RELATIONSHIPS

Relationship of DoD 550: Inpatient and Outpatient Pharmacy to services listed below:

TABLE 1: FUNCTIONAL RELATIONSHIP MATRIX INPATIENT PHARMACY

Services	Relationship	Reasons
Nursing Units	3	C, H, I
Labor & Delivery / Obstetric Units	3	C, H, I
Psychiatric Units	3	C, H, I
Emergency and Ambulance Services	3	C, H, I
Surgery (Inpatient)	3	C, H, I
Logistics	3	A, B,G

TABLE 2: FUNCTIONAL RELATIONSHIP MATRIX OUTPATIENT PHARMACY

Services	Relationship	Reasons
Public Circulation	1,2	H
Main Entry	1,2	H
Laboratory (and other high volume depts.)	1,2	G,H,I
Radiology (and other high volume depts.)	1,2	G,H,I
Specialty Medical Clinics (Infusion Clinic)	1,2,3	C,H,I
Outpatient Clinics (All)	3	H,I
Surgery (Outpatient)	3	C,H,I
Logistics	3	A, B,G

Legend:

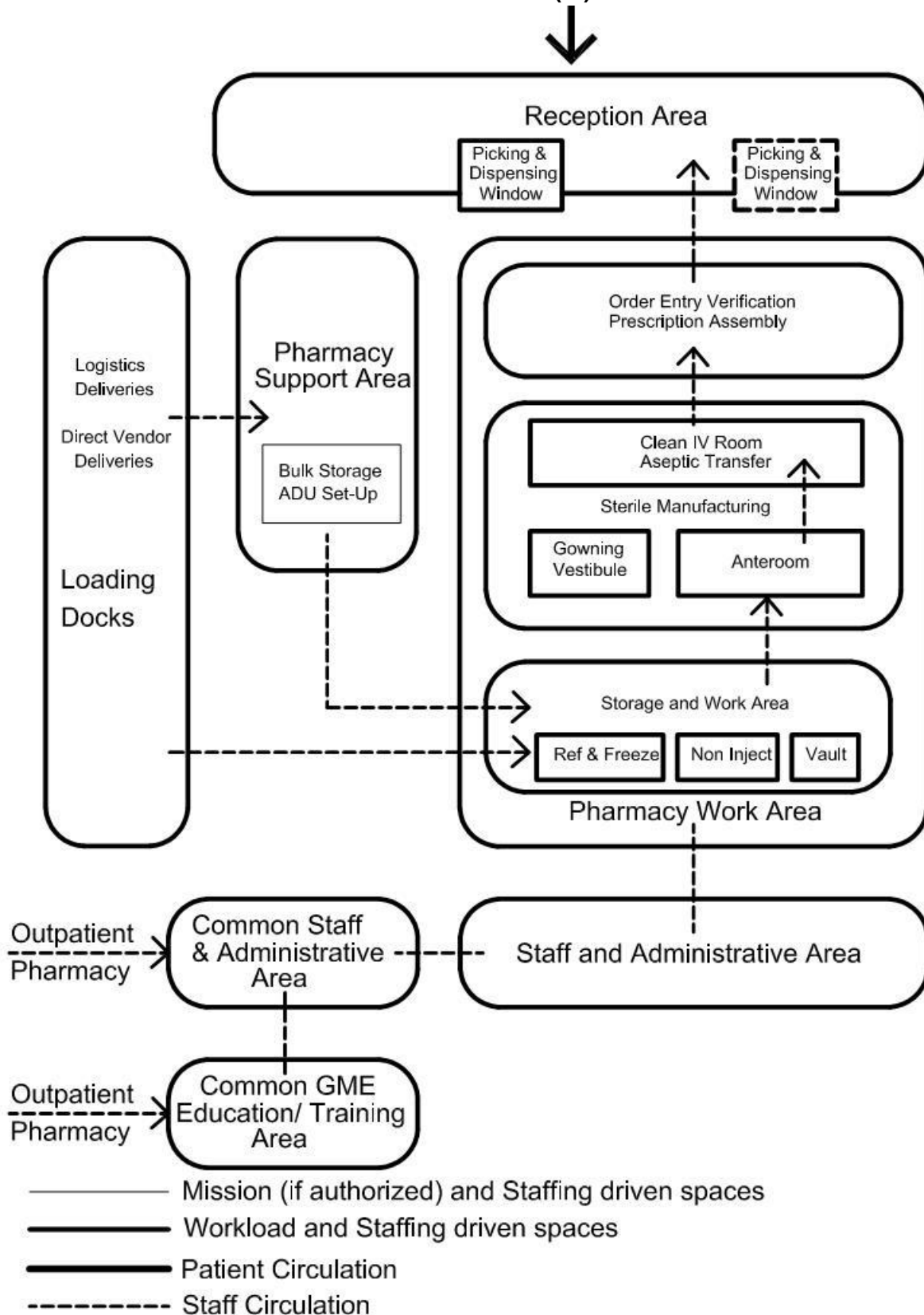
Relationship:

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

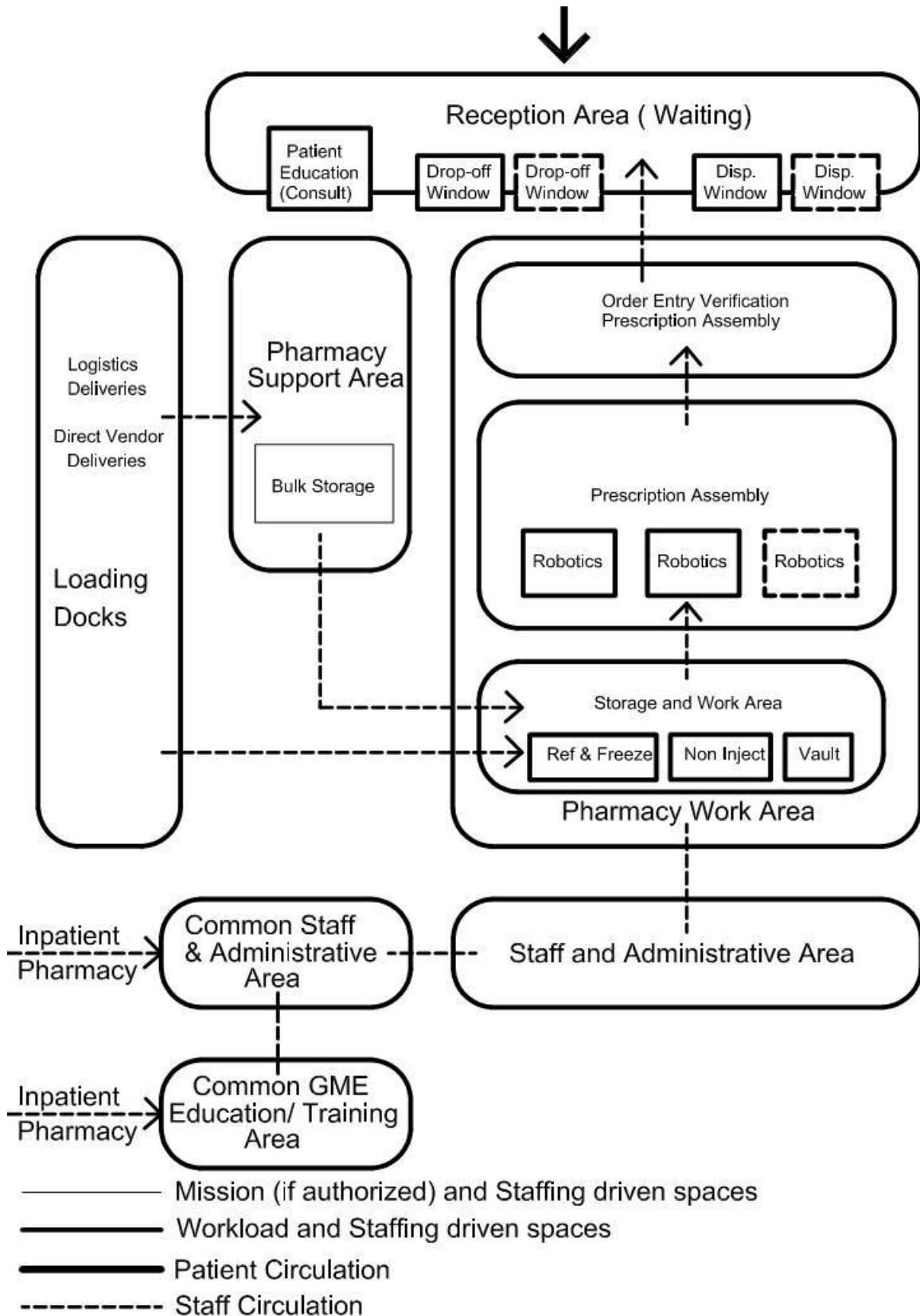
Reasons:

- (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)

11 FUNCTIONAL DIAGRAM: INPATIENT PHARMACY (IP)



12 FUNCTIONAL DIAGRAM: OUTPATIENT PHARMACY (OP)



13 Appendix A: SPACE PLANNING CRITERIA SUMMARY

FA 1:IP Pharmacy Reception Area:

Room Name	Room Code	NSF	Space Criteria
Vestibule	PHVS1	120	Provide one per Inpatient Pharmacy Reception Area.
Medication Dispensing Pick-Up Window	PHOD1	60	Minimum one; provide an additional one for every increment of one hundred patient beds, of all types, greater than eighty.

FA 2:IP Pharmacy Work Area:

Room Name	Room Code	NSF	Space Criteria
Receiving, Breakdown Room	PHBS1	180	Minimum NSF; provide an additional 40 NSF if the total number of patient beds, of all types, is between 201 and 400; provide an additional 80 NSF if the total number of patient beds, of all types, is greater than 400.
Receiving, Documentation Station	PHEV1	60	Provide one for Inpatient Pharmacy.
Receiving, Trash Holding	UTC01	120	Minimum NSF; provide an additional 30 NSF for every increment of one hundred patient beds, of all types, greater than one hundred.
Receiving, Inventory Control Workstation	PHEV1	60	Minimum NSF; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.
Working Inventory, Non-Injectables	PHBS1	240	Minimum NSF; provide an additional 60 NSF for every increment of one hundred patient beds, of all types, greater than two hundred.

Working Inventory, IV Fluids / Supplies	PHBS1	120	Minimum NSF if the total number of patient beds, of all types, is between ten and one hundred; provide an additional 120 NSF if the total number of patient beds, of all types, is between one hundred and two hundred; provide an additional 240 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 380 if the total number of patient beds, of all types, is greater than three hundred.
Storage, Controlled Substance Vault	SSV01	240	Minimum NSF; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.
Storage, Investigational Drugs / Research	PHBS1	120	Minimum NSF; provide an additional 30 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred and if the Inpatient MTF is authorized to conduct Clinical Trials.
Storage, Refrigerated	SRR02	60	Minimum NSF; provide an additional 30 NSF for every increment of one hundred patient beds, of all types, greater than one hundred.
Storage, Freezer	SRF02	60	Minimum NSF; provide an additional 30 NSF for every increment of one hundred patient beds, of all types, greater than three hundred.
Storage, Flammable	SRHM1	60	Provide one for Inpatient Pharmacy.
Preparation Work Area, Repackaging	PHMP1	120	Minimum NSF; provide an additional 30 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three

			hundred.
Preparation Work Area, Extemporaneous Compounding	PHIV1	120	Minimum NSF; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.
Workstation, Order Entry and Validation	PHOD1	60	Minimum two; provide an additional two for every increment of one hundred patient beds greater than two hundred, maximum six.
Workstation, Dispensing Pharmacist	PHOD1	60	Minimum two; provide an additional one for every increment of one hundred patient beds greater than two hundred.
Workstation, Pharmacy Technician	PHEV1	60	Provide one per each Pharmacy Technician FTE position authorized.
Prescription Assembly Area, Manual Pick Station	PHUD1	120	Minimum NSF; provide an additional 60 NSF for every increment of one hundred patient beds, of all types, greater than eighty.
Prescription Assembly Area, STAT / Special Orders	PHUD1	120	Provide one for Inpatient Pharmacy.
Prescription Assembly Area, Robotics / Automation	PHR01	120	Provide one if a Robotics system for the Inpatient Pharmacy is authorized.
Workstation, Prescription Validation / Check	PHEV1	60	Minimum one; provide an additional one for every increment of one hundred patient beds greater than two hundred.
Dispensing Area, Cart Holding / Staging	MMCR2	30	Minimum NSF; provide an additional thirty NSF per each increment of three unit dose, medication transfer or crash carts authorized to be held / staged in the Inpatient Pharmacy greater than three.

Pneumatic Tube Station	NT001	30	Minimum NSF; provide an additional 30 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred and if a Tube Transport System for the Inpatient Pharmacy is authorized.
Anteroom, Chemotherapeutics Compounding Area	PHAR1	180	Minimum NSF; provide an additional 60 NSF if two Biological Safety Cabinets are authorized and if compounding of chemotherapeutic in the Inpatient Pharmacy is authorized
Clean Room, Chemotherapeutics Compounding Area	PHC01	120	Minimum NSF; provide an additional 60 NSF per each Biological Safety Cabinet authorized if compounding of chemotherapeutic in the Inpatient Pharmacy is authorized.
Anteroom, Compounded Sterile Preparations (CSP) Clean Room	PHAR1	120	Provide one for Inpatient Pharmacy if sterile compounding is authorized; provide an additional 120 NSF per each Laminar Flowhood authorized greater than one.
Clean Room, Compounded Sterile Preparations (CSP)	PHIV1	120	Provide one for Inpatient Pharmacy if sterile compounding is authorized; provide an additional 120 NSF per each Laminar Flowhood authorized greater than one.
Storage, Hazardous Material	SRHM1	120	Provide one for Inpatient Pharmacy.
Storage, Patient Records	MRS01	120	Minimum NSF if Patient Records Storage is authorized; provide an additional 30 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.

Storage, General	SRS01	120	Minimum NSF; provide an additional 120 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 240 NSF if the total number of patient beds, of all types, is greater than three hundred.
Cart, Holding	CHC01	120	Minimum NSF; provide an additional 30 NSF if the total number of patient beds, of all types, is between two hundred and three hundred; provide an additional 60 NSF if the total number of patient beds, of all types, is greater than three hundred.
Janitor Closet	JANC1	60	Provide one for Inpatient Pharmacy.
Toilet, Male Staff	TLTU1	60	Provide one for Inpatient Pharmacy.
Toilet, Female Staff	TLTU1	60	Provide one for Inpatient Pharmacy.

FA3:IP Pharmacy Support Area:

Room Name	Room Code	NSF	Space Criteria
Storage, Bulk Non-Injectables	PHBS1	360	Provide one if Storage of Bulk Non-Injectables in the Pharmacy Support Area is authorized.
Storage Bulk, IV Fluids / Supplies	PHBS1	360	Minimum NSF; provide an additional 480 NSF if the Inpatient Pharmacy is authorized to store Bulk IV Fluids / Supplies in the Pharmacy Support Area.
Storage Bulk, Walk-In Refrigerator	SRR01	120	Provide one if storage of bulk items in Walk-in Refrigerator in the Pharmacy Support Area is authorized.
Storage Bulk, Walk-In Freezer	SRF01	120	Provide one if storage of bulk items in Walk-in Freezer in the Pharmacy Support Area is authorized.
Storage, Hazardous Waste Holding	SRHM1	120	Provide one for Inpatient Pharmacy.

Automated Dispensing Unit, Set-up and Maintenance Area	PHUD1	120	Minimum NSF; provide an additional 30 NSF if the total number of Automated Dispensing Units (ADUs) is greater than four.
Automated Dispensing Unit Control Center, PC / Printer	PHUD1	60	Provide one for Inpatient Pharmacy.

FA4:IP Pharmacy Staff and Administrative Area:

Room Name	Room Code	NSF	Space Criteria
Office, Department / Clinic Chief	OFA04	120	Provide one for Inpatient Pharmacy.
Office, Executive Assistant	OFA04	120	Provide one for Inpatient Pharmacy.
Sub-Waiting	WRC03	60	Provide one if a Sub-Waiting in the Inpatient Pharmacy Staff and Administrative Area is authorized.
Office, NCOIC / LCPO / LPO	OFA04	120	Provide one for Inpatient Pharmacy.
Team Collaboration Room	WRCH1	120	Provide one for Inpatient Pharmacy.
Office, Private	OFA04	120	Provide one per each Inpatient Pharmacy provider and non-provider FTE position authorized to have a private office.
Office, Shared	OFA05	120	Provide one for every increment of two Inpatient Pharmacy provider and non-provider FTE positions authorized to have a shared office.
Cubicle	OFA03	60	Provide one per each Inpatient Pharmacy provider and non-provider FTE position authorized to have a cubicle.
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 Inpatient Pharmacy.
Storage, Office Supplies	SRS01	60	Provide one for Inpatient Pharmacy.

Lounge, Staff	SL001	120	Minimum NSF, provide an additional 60 NSF for every increment of five 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 not assigned a private office, shared office or cubicle greater than ten.

FA5:OP Pharmacy Reception Area:

Room Name	Room Code	NSF	Space Criteria
Waiting	WRC01	480	Minimum NSF; provide an additional 60 NSF per each Dispensing Window greater than two.
Playroom	PLAY1	120	Provide one for Outpatient Pharmacy.
Reception	RECP1	120	Minimum NSF; provide an additional 30 NSF for every dispensing window greater than 12.
Kiosk, Patient Check-in	CLSC1	30	Provide one for Outpatient Pharmacy.
Patient Education	CLSC3	120	Provide one for Outpatient Pharmacy.
Medication Dispensing Pick-up Window	PHOD1	80	Minimum one; provide an additional one for every increment of 50,000 projected annual prescriptions dispensed greater than 100,000 if the Open Concept is not authorized; provide an additional 40 NSF per Pick-up Window if the Open Concept is authorized.
Medication Drop-off Window	PHUD1	60	Minimum one; provide an additional one for every increment of 20,000 projected annual prescriptions dispensed greater than 50,000.
Alcove, Wheelchair	SRLW1	60	Provide one for Outpatient Pharmacy.

FA6:OP Pharmacy Work Area:

Room Name	Room Code	NSF	Space Criteria
Receiving, Breakdown Room	PHBS1	180	Minimum NSF; provide an additional 60 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
Receiving, Documentation Station	PHEV1	60	Provide one for Outpatient Pharmacy.
Receiving, Trash Holding	UTC01	120	Provide one for Outpatient Pharmacy.
Receiving Workstation, Inventory Control	PHEV1	60	Minimum NSF; provide an additional 60 NSF for every increment of 200,000 annual prescriptions dispensed greater than 200,000.
Storage, Non-Injectables	PHBS1	120	Minimum NSF; provide an additional 60 NSF for every increment of 200,000 annual prescriptions dispensed greater than 200,000.
Storage, IV Fluids / Supplies	PHBS1	120	Minimum NSF; provide an additional 120 NSF if daily replenishment from Bulk Storage is not authorized.
Storage, Controlled Substance Vault	SSV01	120	Minimum NSF; provide an additional 60 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
Storage, Investigational Drugs / Research	PHBS1	120	Provide one if the Outpatient MTF is authorized to conduct Clinical Trials.
Storage, Refrigerated	SRR02	60	Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
Storage, Freezer	SRF02	60	Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
Storage, Flammable	SRHM1	60	Provide one for Outpatient Pharmacy.

Preparation Work Area, Repackaging	PHMP1	120	Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
Preparation Work Area, Extemporaneous Compounding	PHIV1	120	Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
Workstation, Order Entry and Validation	PHOD1	60	Minimum two; provide an additional one for every increment of two dispensing windows greater than two
Workstation, Dispensing Pharmacist	PHOD1	60	Minimum two; provide an additional one for every increment of two dispensing windows greater than two.
Workstation, Pharmacy Technician	PHEV1	60	Provide one per each Pharmacy Technician FTE position authorized.
Prescription Assembly Area, Manual Pick Station	PHUD1	120	Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.
Robotics Footprint	PHR01	120	Minimum NSF; provide an additional 120 NSF per each robotic prescription preparation unit.
Prescription Order Collation Area, Robotics / Automation	PHR01	120	Provide one if a Robotics system for the Outpatient Pharmacy is authorized.
Workstation, Prescription Validation / Check	PHEV1	60	Minimum two; provide an additional one for every increment of 100,000 projected annual prescriptions dispensed greater than 100,000.
Dispensing Area, Staff Issue / Transaction Window	PHOD1	60	Minimum two; provide an additional one for every increment of 100,000 projected annual prescriptions dispensed greater than 100,000.
Dispensing Area, Prescription Holding and Staging	PHOD1	60	Minimum NSF; provide an additional 30 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000.

Pneumatic Tube Station	NT001	30	Provide one if a Tube Transport System for the Outpatient Pharmacy is authorized
Anteroom, Chemotherapeutics Compounding Area	PHAR1	120	Minimum NSF; provide an additional 60 NSF if two Biological Safety Cabinets are authorized and if compounding of chemotherapeutics is authorized for the Outpatient Pharmacy.
Clean Room, Chemotherapeutics Compounding Area	PHC01	120	Minimum NSF; provide an additional 60 NSF per each Biological Safety Cabinet authorized and if compounding of chemotherapeutics is authorized for the Outpatient Pharmacy.
Anteroom, Compounded Sterile Preparations (CSP) Clean Room	PHAR1	120	Provide one for Outpatient Pharmacy if sterile compounding is authorized; provide an additional 120 NSF per each Laminar Flowhood authorized greater than one.
Clean Room, Compounded Sterile Preparations (CSP)	PHIV1	120	Provide one for Outpatient Pharmacy if sterile compounding is authorized; provide an additional 120 NSF per each Laminar Flowhood authorized greater than one.
Janitor Closet	JANC1	60	Provide one for the Outpatient Pharmacy Work Area.
Toilet, Male Staff	TLTU1	60	Provide one for the Outpatient Pharmacy Work Area.
Toilet, Female Staff	TLTU1	60	Provide one for the Outpatient Pharmacy Work Area.

FA7: OP Pharmacy Support Area:

Room Name	Room Code	NSF	Space Criteria
Storage Bulk, Medications and OTC	PHBS1	360	Minimum NSF; provide an additional 120 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000 if Medications and OTC Bulk Storage is authorized

Storage Bulk, IV Fluids / Supplies	PHBS1	360	Minimum NSF; provide an additional 120 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000 if IV Fluids / Supplies Bulk Storage is authorized.
Storage Bulk, Walk-In Refrigerator	SRR01	120	Minimum NSF; provide an additional 60 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000 if Walk-in Refrigerator Bulk Storage is authorized.
Storage Bulk, Walk-In Freezer	SRF01	120	Minimum NSF; provide an additional 60 NSF for every increment of 100,000 annual prescriptions dispensed greater than 100,000 if Walk-in Freezer Bulk Storage is authorized.
Storage, Hazardous Waste Holding	SRHM1	120	Provide one for Outpatient Pharmacy.
Automated Dispensing Unit, Set-up and Maintenance Area	PHUD1	120	Minimum NSF; provide an additional 30 NSF if use of Automated Dispensing Units (ADUs) is authorized and the total number of Automated Dispensing Units (ADUs) is greater than four.
Automated Dispensing Unit Control Center, PC / Printer	PHUD1	60	Provide one for Outpatient Pharmacy if use of Automated Dispensing Units (ADUs) is authorized.

FA8:OP Pharmacy Staff and Administrative Area:

Room Name	Room Code	NSF	Space Criteria
Office, Department / Clinic Chief	OFA04	120	Provide one for Outpatient Pharmacy.
Office, Executive Assistan	OFA04	120	Provide one for Outpatient Pharmacy.
Sub-Waiting	WRC03	60	Provide one if a Sub-Waiting in the Outpatient Pharmacy Staff and Administrative Area authorized is authorized.
Office, NCOIC / LCPO / LPO	OFA04	120	Provide one for Outpatient Pharmacy.
Team Collaboration Room	WRCH1	120	Provide one for Outpatient Pharmacy.

Office, Private	OFA04	120	Provide one per each Outpatient Pharmacy provider and non-provider FTE position authorized to have a private office.
Office, Shared	OFA05	120	Provide one for every increment of two Outpatient Pharmacy provider and non-provider FTE positions authorized to have a shared office.
Cubicle	OFA03	60	Provide one per each Outpatient Pharmacy provider and non-provider FTE position authorized to have a cubicle.
Storage, Patient Records	MRS01	120	Provide one for Outpatient Pharmacy if authorized.
Conference Room	CRA01	240	Minimum NSF; provide and additional 60 NSF if the total number of FTE positions authorized is greater than ten.
Copier	RPR01	120	Provide one for Outpatient Pharmacy.
Storage, Office Supplies	SRS01	60	Provide one for Outpatient Pharmacy.
Lounge, Staff	SL001	120	Minimum NSF, provide an additional 60 NSF for every increment of five 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 not assigned a private office, shared office or cubicle greater than ten.

FA9: Common Pharmacy Staff and Administrative Area:

Room Name	Room Code	NSF	Space Criteria
Office, Department Head / Chief	OFA04	120	Provide one if an Inpatient or Outpatient Pharmacy is authorized.
Office, Executive Assistant	OFA04	120	Provide one if an Inpatient or Outpatient Pharmacy is authorized.
Office, Clinical Director	OFA04	120	Provide one if an Inpatient or Outpatient Pharmacy is authorized.
Sub-Waiting	WRC03	60	Provide one if a Sub-Waiting in the Common Pharmacy Staff and Administrative Area and an Inpatient or Outpatient Pharmacy is authorized.

Office, NCOIC / LCPO / LPO	OFA04	120	Provide one if an Inpatient or Outpatient Pharmacy is authorized.
Conference Room	CRA01	240	Minimum NSF; provide and additional 60 NSF if the total number of FTE positions authorized is greater than ten if an Inpatient or Outpatient Pharmacy is authorized.
Copier	RPR01	120	Provide one if an Inpatient or Outpatient Pharmacy is authorized.
Storage, Financial Documentation	SRSE1	60	Provide one if an Inpatient or Outpatient Pharmacy is authorized.
Storage, Office Supplies	SRS01	60	Provide one if an Inpatient or Outpatient Pharmacy is authorized.

FA10:Common GME Education / Training Area:

Room Name	Room Code	NSF	Space Criteria
Office, Residency Program Director	OFA04	120	Provide one if an Pharmacy Graduate Medical Education program is authorized.
Resident Collaboration Room	WKTM1	240	Minimum NSF; provide an additional 60 NSF per each Pharmacy Resident / Student FTE position authorized greater than two if an Pharmacy Graduate Medical Education program is authorized.
Classroom / Conference Room	CLR01	240	Provide one if the total number of Pharmacy Resident / Student FTE positions is greater than five if an Pharmacy Graduate Medical Education program is authorized.