

**Section 2**

**Narrative**

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# Narrative

## General Considerations

### **Current Direction**

The pharmacy department serves both the inpatient and outpatient environments.

The inpatient component usually consists of a large centralized facility.

VA Hospitals usually have separate outpatient pharmacies.

Ambulatory Care Center pharmacies are often leased and operated by a separate entity in the private sector, VA maintains direct control of their hospital based inpatient and outpatient pharmacies as a component of managed care.

### **Trends**

More "just in time" deliveries from the vendor resulting in less need for long-term storage.

More enhanced communications systems throughout the hospital with faster response to needs.

Better automated delivery systems will be available for transporting medications.

Decentralized clinical "product-line" pharmacies will be considered where volumes and activities warrant.

Inpatient satellite pharmacies within Cardiac Services, Oncology, Neurology, Intensive Care, and other departments will be considered.

NHCU or Long Term Care Facility needs may be served as a satellite to a hospital pharmacy.

Automated medications dispensing machines will be utilized for routine medications, and may provide automatic inventory control/benchmarking billing.

Pharmaceutical research may result in the need for fewer procedures in a number of patient care areas, including surgery.

Off-site mail prescription services will become more common reducing on-site pharmacy storage requirements and goals of face-to-face interaction between pharmacist and patient will be compromised.

At the present time there are two schools of thought about how Pharmacy Service should deal with patients. Some facilities are very concerned with security and deal with users through a secure dispensing area. Other facilities prefer face-to-face relationships with their patients with no barriers similar to a local drug store. The final decision should be determined by the user - the medical center.

Data may be compiled for drug efficacy testing and establishment of treatment protocols.

## Functional Considerations

### **Operations: Services**

Pharmacy service is responsible for the controlled dispensing of all drugs required in the delivery of health care. Service includes the total drug utilization review process.

Pharmacy services are coordinated with clinical services and organized into the Outpatient Pharmacy and the Inpatient Pharmacy.

Inpatient and outpatient pharmacies may be combined in one facility where justified by workloads and adjacencies of outpatient and inpatient services and staffing.

### **Patient Care Concepts**

Patient Participation concepts educate and inform the patient of their options to insure their participation in the decision and healing process.

Patient Focused Care decentralized pharmacy services where practical to bring these services closer to the patient.

Incorporating a Pharmacist in the Patient Care Team helps to implement patient participation and patient focused care and is in itself a goal of the VA to improve the quality and effectiveness of Pharmacy Services.

### **Level of Care**

Education and Research programs which increase space demands and effect functional requirements will be identified on a project basis.

Program Missions may result in centers of excellence which require special facilities.

Hospital and outpatient service levels, specialized services and off-site Primary Care Clinics will effect requirements.

Alternatives for service delivery should be considered on a project basis.

### **Patient Base**

The Veteran is and will remain the priority of the VA healthcare system.

The Family of the veteran is a critical consideration in creating and maintaining veteran loyalty to the VA system.

## **Space Planning Issues**

### **Flexibility**

Flexibility is a critical aspect in the design of Pharmacy services which require an Open Plan and Flexible Systems which can adapt to technology and automation.

### **Efficiency**

Process and work flow issues include the outpatient dispensing process, unit dose cart stock, IV packaging process, and bulk supply, storage, and retrieval.

### **Security**

Security issues must be balanced with patient needs to allow Patient Consultation and access to pharmacist, while limiting access to Controlled Substances.

Security requirements for narcotics storage are governed by the Federal Drug Enforcement Agency Code of Federal Regulations Section 1300. These regulations cover off-site clinics where there may not be a walk-in vault.

## **Space Relationships**

### **Functional Diagrams**

Functional organization and work flow are addressed by Inpatient Pharmacy and Outpatient Pharmacy functional diagrams which address Outpatient and Ambulatory patient, Hospital Material Distribution, Stat Service, and Staff and Delivery access.

### **Organizational Concepts**

The concepts indicated by the Guide Plates closely follow the operational organization of Inpatient Pharmacy, and Outpatient Pharmacy.

Satellite Pharmacies are not included in the Guide Plates as they are specialized and pose unique protocol and security requirements. See Community Based Outpatient Clinics and Satellite Outpatient Clinics Design Guides.

## **Space Allocation**

### **Program Levels**

Office of Infrastructure Policy and Development Criteria Division of the Department of Veteran Affairs will set the size of the Pharmacy on an individual basis according to the estimated workloads in appropriate categories for each facility.

The net areas of spaces included in the Guide Plates is representative of the examples given. Actual net area space requirements will vary according to workloads.

## **Technical Considerations**

### **Architectural**

#### **Interior Materials and Finishes: Partitions**

Interior partition should be primarily painted gypsum wallboard on metal studs. Partitions around consultation rooms and conference rooms should have sound attenuation batts between the studs in accordance with VA Construction Standard H-18-3, 34-1, "Noise Transmission Control".

The partitions around prescription receiving, drug breakdown and verification, and dispensing areas have special security requirements. Vault construction is required for controlled substance storage. See VA Construction Standard H-18-3, CD-49.

**Interior Materials and Finishes: Floors**

Floors in offices, conference rooms and waiting areas should be carpet with a 100mm (4 inch ) high resilient base.

Floors in areas such as prepackaging, unit dose and dispensing should also be carpeted.

Floors in toilet rooms shall be ceramic tile with a ceramic tile base.

Floors in most other spaces should be vinyl composition tile with a 100mm (4 inch) high resilient base.

**Interior Materials and Finishes: Ceilings**

Ceilings should be primarily lay-in acoustic ceiling tile.

Refer to VA Construction Standard PG-18-3, CD-49, "Physical Security Requirements for additional concerns.

**Interior Materials and Finishes: Protection**

Wall and corner guards shall be used in corridors and other areas which wall damage from cart traffic is anticipated.

**Interior Doors and Hardware**

**Doors and Frames**

Interior doors should be 45mm (1 3/4") thick solid core flush panel wood doors or hollow metal doors in hollow metal frames.

Door jambs should have hospital type sanitary stops that stop 205mm (8 inches) from the floor to facilitate mopping. Hollow metal doors should be used where high impact is a concern and where fire rated doors are required.

The main doors leading to drug receiving area, Outpatient Pharmacy and Inpatient Pharmacy are required to be steel security doors.

Doors in the Type II Vaults for controlled substance storage are required to meet GSA Class 5 criteria and have a day gate.

**Hardware**

Kick/mop plates should generally be applied to both sides of the doors. Handicapped accessible hardware should be used throughout.

**References**

Refer to VA Handbook PG-18-14, "Room Finishes, Door and Hardware Schedule" and VA Construction Standard H-18-3, CD-49 "Physical Security Requirements and Options" for additional information.

**Equipment**

**Casework**

Casework systems can be either fixed or modular and are usually decided on a project by project basis.

Modular systems are usually installed by a subcontractor who may or may not have a connection to the general contractor. This can be a problem when utility connections have to be made. Modular systems have a wide range of colors, fabrics and materials and can be quickly installed.

The general contractor has more control over the subcontractor with built-in or fixed casework this sometimes can give a high quality end product, but may take longer to complete than factory made units.

Casework system should be chosen that provide flexibility for planning and utilization purposes.

Casework systems should incorporate components dimensioned for ease of multiple re-use installation applications.

Casework systems should be used that incorporate self supporting assemblies eliminating the need for wall reinforcing.

Casework systems should be planned avoiding corner installations and filler panel instances.

The final decision on casework should be made by the user - the medical center.

**Automated Systems**

Automated Systems shall include elements of material handling, dispensing, inventory and patient billing.

These systems elements will require access to the main facility's "information backbone" as well as the departmental local area network. All components should be planned for compatibility.

**Safety Cabinets and Laminar Flow Hoods**

All occurrences of these items will require a confirmation of the materials, chemicals and/or solvents to be used.

All occurrences of these items will require a confirmation of the Hood or Cabinet Classification and Type in order to determine room air and ventilation performance requirements.

**Heating, Ventilation and Air Conditioning Operation**

Air conditioning systems should be provided to heat, cool and ventilate the individual space, as required by VA design criteria.

The air conditioning systems serving the Pharmacy Service should be designed to operate at full capacity to suite Pharmacy schedule.

**Capacities**

The number of people and the air conditioning load noted on the room design standard sheet is for purpose of establishing the basis of design guide and its use in planning. The engineers/designers shall verify the actual number of people and the air conditioning load to agree with the project requirements.

Verify equipment A.C. loads shown as per actual equipment furnished on a project.

The percent of outside air shall be based on the space total supply air quantities.

**Air Quality and Distribution**

In general, clean areas shall have positive air pressure and soiled areas should have negative air flow with respect to the adjoining areas.

Corridors should not be used to supply or exhaust/return air from rooms. Corridor air may be used to ventilate toilet rooms, hacs and small electrical or telephone closets opening directly on corridors. Exfiltration/Infiltration from positive/negative pressure rooms adjacent to a corridor should be considered in balancing air flow.

The transfer air, should not be more than 2.8 m<sup>3</sup>/min. (100 CFM) per undercut door.

Care should be taken to minimize the short circuiting of air between supply and exhaust/return openings in rooms.

**Exhaust System**

A dedicated exhaust system should be provided for the biological safety cabinet located in the pharmacy. Locate supply air diffusers as far away from the hood sash opening as possible, and size to eliminate draft conditions and for proper air flow at the hood.

**Seismic**

Where required, install HVAC systems with seismic provisions as outlined in the VA HVAC Design Manual for Hospital Projects.

Refer to VA Handbook H-18-03, CD-54, "Natural Disaster Resistant Design Non-Structural" for additional information.

**Noise Level**

Select HVAC equipment, ductwork and air distribution devices to achieve noise levels listed in the HVAC Design Manual for Hospital Projects and Master Construction Specification Section 15200.

**Plumbing**

**Water and Waste Systems**

The plumbing systems should be provided to satisfy the departmental plumbing needs.

The department domestic cold water should be piped to all plumbing fixtures and equipment requiring this utility.

The department domestic hot water should be piped to all plumbing fixtures and equipment requiring this utility. A hot water return system should be provided to ensure the design temperature at the farthest outlet.

The department plumbing fixtures and drains should be drained by gravity through soil, waste and vent stacks. In addition, the department special waste should be drained through corrosion resistance flame retardant piping into either a local or centralized acid dilution tank.

### **Medical Gas Systems**

The department medical gases outlets are shown to establish the basis of design guide and its use in planning. The engineers/designers shall verify the medical gases location and quantities for individual projects.

Where required, the plumbing and medical gases systems should be installed with seismic provisions as outlined in the VA Plumbing Design Manual for Hospital Projects.

Refer to VA Handbook H-18-3, CD-54, "Natural Disaster Resistant Design Non-Structural" for additional information.

### **Electrical**

#### **Illumination**

Illumination is typically provided utilizing recessed fluorescent luminaires with acrylic prismatic lenses. The fixtures typically use F32T8 lamps in compliance with the National Energy Policy Act of 1992. Lamps have a minimum color rendering index (CRI) of 85 and a color temperature of 4100 degrees Kelvin (K), which is close to the "cool white" color temperature of 4150 degrees K.

Lighting intensities conform to the VA design criteria, the IES Lighting Handbook and IES publication CP-29, "Lighting for Health Care Facilities". IES CP-29 is currently being updated and will be replaced by IES Recommended Practice RP-29 in the future.

Lighting is typically controlled by wall mounted switches located at the entrance to the room. Larger spaces may utilize multiple switching by separate switches for lighting of individual zones or areas.

Power load densities for lighting are listed for use by the mechanical HVAC load calculation purposes. Load densities should be verified for the actual design, as they may vary depending on the room configuration, fixture types, lamps and ballasts used.

#### **Power**

General purpose duplex receptacles are typically provided on each wall of a room or space.

Dedicated duplex or special receptacles are provided for selected pieces of equipment such as refrigerators.

Workstations with personal computer computers (PC's) are typically provided with quadruplex receptacles for the PC, monitor and printer.

Junction boxes are provided for equipment requiring a hardwired connection.

Certain modular casework units are provided with a utility access module with surface mounted electrical strip mold and also provides a chase for wiring. Conduits and junction boxes are provided to connect to the utility access module for power wiring.

Duplex receptacles on the critical branch of the emergency power system are provided for selected pieces of equipment such as refrigerators to allow for limited operation during a power outage.

Emergency Power requirements are addressed in VA Construction Standards H-18-3, #800-3

### **Security**

#### **Physical Security**

A vault with a day gate has been provided in the controlled substance area for secured storage.

Doors for inpatient and outpatient pharmacies are the steel security door type.

#### **Electronic Security**

Conduit and junction boxes have been provided in the controlled substances vault and secured dispensing room for an electronic access security system

### **Life Safety**

#### **Purpose**

The life safety program shall be developed to provide a reliable system to protect the building occupants, firefighting personnel, building contents, building structure and continuity of building function. Its intent should be to provide a reasonable level of fire safety by reducing the probability of injury, loss of life or building function changes due to a fire. This can be accomplished by limiting the development and spread of a fire emergency to the area of origin and reducing the need for total occupant evacuation.

### **Components**

The design aspects of the facility which relate to the fire and life safety include:

- Structural fire resistance;
- Building compartmentation;
- Fire detection, alarm and suppression;
- Smoke control and exhaust;
- Firefighter access and facilities; and
- Emergency power.

### **Fire Suppression**

New hospital construction and renovated areas of existing facilities are required to be fully protected by an automatic fire suppression system.

### **Egress**

The minimum width of corridors and passageways in non patient areas of Pharmacy areas is 1120 mm (44"). However, for patient areas and cart movement 1800 mm (72") or 2400 mm (96") corridors and passageways are required.

Waiting areas are permitted to be open to the corridors.

### **References**

Refer to the latest editions of NFPA 1010 "Life Safety Code", the Uniform Building Code and additional standards published by the National Fire Protection Association (NFPA).

### **Energy Conservation**

Refer to VA HVAC Design Manual for Hospital Projects for information.

### **Communications**

#### **Telephone**

Telephone outlets are typically provided at each workstation or in each room. Desk outlets are 450 mm (18") AFF and wall phone outlets are 1200 mm (48") AFF.

Certain modular casework units are provided with a utility access module that house communication outlets and provide a chase for cabling. Conduits and junction boxes are provided to connect to the utility access module for telephone service.

### **Automatic Data Processing (ADP)**

ADP or computer outlets are typically provided at each workstation with a personal computer (PC) and or printer. Desk outlets are 450 mm (18") AFF.

Certain modular casework units are provided with a utility access module that house communication outlets and provide a chase for cabling. Conduits and junction boxes are provided to connect to the utility access module for ADP service.

### **Public Address**

The Pharmacy Service will not have an independent public address (PA) system. The department will be included as part of the hospital-wide PA system. Speakers are typically located in corridors and public spaces. The actual system configuration will depend on the overall design layout and functional requirements.

### **Waste Management**

#### **Medical Waste**

Medical waste is generated in the form of refused medications and expired drugs which are discarded through waste grinders to sanitary drains, or otherwise destroyed or maintained for secure disposal as required.

#### **General Waste**

General waste is generated in all spaces and is held in containers for collection and sorting into carts or bins as required at scheduled times or it is bagged and transported to the waste handling facility by a waste chute where available.

#### **Recycling**

Bulk containers are removed and collected at the receiving area where breakout occurs.

Methods for sorting, collecting, transporting and disposing of recyclable products must be specifically analyzed for each facility and location.

The net area requirements of soiled utility rooms and waste holding and collection areas will be determined after the appropriate process of sorting, collecting, segregation and recycling have been determined on a facility basis.

The optional use of disposable or reusable products is an important consideration in recycling and waste disposal alternatives.

### **Space Requirements**

Space requirements will vary with the selection of waste collection and recycling methods and systems, and space requirements need to be analyzed for each optional method or system considered for new and existing facilities.

While space needs are determined by VA Handbook 7610 on a departmental basis space provisions for waste collection needs to be distributed and dedicated to a variety of uses to accommodate the implementation of the system and method selected.

### **Transportation**

#### **Patient: Outpatient**

Provide convenient access to The Outpatient Pharmacy from patient parking and the primary care entrance.

Patient volumes for Outpatient Pharmacies generally justify a ground floor location to facilitate wayfinding and to decrease passenger elevator traffic.

Use techniques including clear access routes, public spaces, landmarks and signage to facilitate wayfinding.

Provide passenger elevator access to Outpatient facilities located off main entrance levels.

#### **Patient: Inpatient**

The need for patient access to Inpatient Pharmacies and convenient pharmacist access to patient areas while maintaining base contact will be established on a project basis.

Separate Inpatient and Outpatient traffic where possible.

Convenient service access for unit dose and bulk supply cart delivery from hospital service elevators is required.

Unit Dose and Bulk supply carts require securable deliveries due to transport of narcotics and dedicated keyed access to elevators should be considered on a project basis.

Automated cart delivery systems are not generally acceptable for assurance of secure delivery.

Pharmacy deliveries are generally accompanied by pharmacy personnel with verification of delivery documented.

Pharmacy distribution routes to nursing units are planned to minimize conflict with public and patient traffic.

For outpatients mail out prescriptions are now being used throughout the system and are increasingly popular.

### **Staff**

Provide staff access separated from patient waiting and public areas.

Staff access is limited to one point where it can be visually and/or electronically monitored.

Locate staff lounge and locker areas away from inpatient and outpatient traffic, convenient to the pharmacy, but outside of the secure area.

### **Records**

Both the Inpatient and Outpatient Pharmacy depend heavily on bar coding and electronic data transfer for patient prescription, billing information, and inventory.

Pharmacy records record the administration or refusal of each unit dose and the resulting documentation is made part of the patients' consolidated medical records.

Automated prescription filling and automated transport systems are utilized within the pharmacy requiring flexible space to accommodate new and changing systems.

Pharmacy Medical Record and prescription order volumes frequently justify pneumatic tube or automated box transport access to Medical Records and the units served. These transport modes may be located where shared use with stat delivery is possible.

### **Stat Orders**

Stat prescriptions are filled and transported to the ordering unit by pneumatic tube or automated box conveyor systems.

**Bulk Delivery of Pharmaceuticals**

Bulk Pharmaceuticals, including narcotics and all controlled substances, are delivered directly to the pharmacy where they are received signed for by the pharmacist.

Direct access to outside deliveries or the hospital receiving area is required.

**Materials**

Clean supplies are transported by exchange carts which are stored in the Bulk Supply Area.

**Sterile Supplies**

The use of sterile supplies is minimal and is accommodated by prepackaging or disposable items delivered with clean supplies.

**Waste**

Waste is collected by housekeeping staff and disposed of as indicated above under "Waste Management" (see page 2-6).