



Section 2

Narrative

	Page
General Considerations	2-1
OPC Ambulatory Surgery	2-5
OPC Functional Considerations	2-11
Special Considerations for CBOCs.....	2-15
Special Considerations for SOPCs.....	2-16
Technical Considerations	2-17

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General Considerations

Patient Care Concepts

Following general trends in healthcare, VA continues to provide more and more services in outpatient settings. VA uses two principal settings to deliver outpatient care to Veterans: Hospital-based Ambulatory Care facilities (Ambulatory Care Design Guide) and freestanding Outpatient Clinics. Ambulatory care within both settings typically evolves around the following clinical services:

- Examination / Treatment Primary Care Clinic Modules
- Specialty Clinics
- Other Patient-Service Programs

Examination/Treatment Primary Care Clinic Modules are grouped into groups of examination rooms and ancillary support services (refer to Section 3 for a typical Primary Care Module spatial configuration). Services are provided by physicians, nurse practitioners, and physician assistants specifically trained in first point contact with patients with an undiagnosed sign, symptom, or health concern.

Specialty Care Clinics support Exam/Treatment Primary Care when such specialized needs are prescribed by the provider. Specialty Care Clinics within the Outpatient Clinic setting include such specialties as Cardiology, Dermatology, Gastroenterology, Pulmonary, Urology, and Oncology Clinics. Spatial definition of these clinic functions can be found in the VA [Space Planning Criteria, Chapter 265](#), Outpatient Clinic (Satellite OPC / Community Based OPC).

Other Patient-Service Programs are provided as required to supplement Primary and Specialty Clinic services. Service Programs include Canteen services, Educational facilities, Clinical Laboratory, Pharmacy, Radiology and Home Care services.

Outpatient Clinics are associated administratively with a Medical Center but are located off-site. Facility types include the Community Based Outpatient Clinic (CBOC) and Satellite Outpatient Clinic (SOPC). CBOCs are generally simple freestanding clinics on the order of 10,000 gsf located within a community setting to effectively provide convenient primary care. In addition to the primary care mission, they may include very basic Laboratory, Pharmacy, and Radiology functions. CBOCs typically refer patients to hospital based Ambulatory Care facilities for special care and diagnosis. SOPCs can vary significantly in size and scope of services. They may range from approximately 25,000 to over 200,000 gsf. Depending on the medical program, SOPC's may include a number of specialty clinics and extensive Laboratory, Pharmacy, and Radiology functions.

This Design Guide addresses Outpatient Clinics that are remotely located from VA Medical Centers (The Ambulatory Care Design Guide addresses hospital-based facilities). Unless noted, the information in this Guide applies to both CBOCs and SOPCs. When there are special considerations, they are identified by facility type. This Guide includes material for functions or spaces listed in VA [Space Planning Criteria, Chapter 265](#) for Outpatient Clinic (Satellite OPC/Community Based OPC). If the project-specific program includes functions or services not addressed in this Design Guide, refer to appropriate Guides or Manuals in the VA Hospital series for the service in question.

General Trends In Outpatient Care

During the last quarter century the provision of health care to Veterans has changed dramatically. In the past, care for Veterans was episodic and inpatient oriented. VA has moved from a centralized medical center bed service operation to regional outpatient care clinics closer to where patients live. To support the present trend toward localized treatment, there continues to be an increased need for conveniently located outpatient clinics providing primary, secondary, and some tertiary care services.

The primary goal of the Outpatient Clinic should be to provide high quality, comprehensive, cost effective outpatient care in a dignified manner to Veterans at a convenient location. Accordingly, Outpatient Clinics should be located close to the Veteran population. There are no criteria relating to the proximity to the parent Medical Center. Centralized hospital based ambulatory care services will remain available when required for highly specialized referral clinics and technologies, however primary care services will continue to move towards the Outpatient Clinic setting, convenient to patient access.

VA Trends

VA evaluation of how patients should be served and how they should participate in their own care is on-going. The VA health care system will continue to maintain a significant focus on physical therapy, prosthetics, and rehabilitation services. New initiatives include tele-medicine programs.

VA has increased focus on women's medicine in response to the increase in population of Veterans who are women.

Physical Security has become a prominent and growing concern with VA, for new construction as well as existing facilities. Levels of security for Leased Space identified by Homeland Security may not directly apply to VA-owned property and facilities. Refer to VA [Physical Security Design Manual](#) for criteria applicable to VA owned and leased facilities.

Other trends that have been observed within the VA outpatient clinic environment include:

Electronics within the OPC environment:

- Extensive use of hand-held and portable computers by Providers, requiring greater attention to data outlet locations and ergonomics.
- "Paperless" medical records management systems, resulting in less file storage space needs for future facilities.
- Digital equipment/processing such as radiology and dental, requiring intra-system software compatibility.
- Tele-medical services for expert resource consultation and education. This will continue to advance as a significant movement in medicine tied closely with integrated technology.

Facility Design features:

- Patient privacy conforming to HIPAA privacy regulations, typically occurring at intake and patient information transfer locations.
- Equipment alcoves adjacent to work areas, for medical supplies, weigh stations, crash carts, and other equipment.

- Patient Call Centers, relieving the Provider to focus more directly and efficiently on patient care.
- Patient Education centers at waiting areas and central lobbies, in the form of kiosks brochure displays, and handouts.
- “Hands-free” infection control operational systems, such as infra-red activated lavatory faucets and paper towel dispensers.

Level Of Care

Community Based outpatient clinics (CBOCs) are full time/part time ambulatory care facilities physically separate, but administratively attached to a VA Medical Center (parent facility). A CBOC may be thought of as a simple physician's office that provides primary care. Typically this care would consist of:

- Initial assessment of patient needs;
- Acute and chronic basic care of biopsychosocial needs;
- Health promotion and disease prevention; and
- Referral for other levels of care.

Satellite outpatient clinics (SOPCs) are offsite centers that deliver primary, secondary and some tertiary services in an outpatient setting. These clinics may have a wide range of tertiary health care services similar to ambulatory care services available in hospital-based outpatient clinics. SOPCs are physically separated from the parent VA Medical Center site but are administratively attached to them.

Market Segment

In the past the vast majority of Veterans served at VA Ambulatory Care facilities were older, retired males with multiple, chronic conditions. While a large percentage of the population served by the VA system will remain the retired Veterans, recent trends suggest continued increases in participation by women and younger Veterans. Significant increases may be expected from Gulf War and Operation Iraqi Freedom/Operation Enduring Freedom (OIF/OEF) Veterans. The special needs of these Veteran groups may be the impetus for new developments in VA programs and facilities.

While the Veteran will remain the primary concern, other user groups may also be served. Under managed care, the Veteran may choose their health program which can be extended to the spouse and other family members. VA is actively seeking sharing agreements with private-sector (University) and DoD (Army, Navy and Air Force). Sharing agreements, joint ventures, and referrals will sometimes include active-duty military, dependents, and members from the general public.

Operational Concepts

The Outpatient Clinic spaces represented in the Guide Plates in this Design Guide provide flexibility to accommodate changing patient care concepts. Aspects of patient participation, patient-focused care, and other concepts need to be addressed by specific projects.

Site selection and design are important aspects in the overall success of the outpatient clinic. The clinic site should be in a neighborhood with prime commercial or medical office space, or with research, clinical or technology space that is suitable for medical uses. The neighborhood should present a professional image and offer a feeling of security for patients and personnel.

The site must accommodate the proposed building and provide the required amount of appropriately located parking with vehicular circulation, loading dock and service vehicle access, emergency vehicle (ambulance) access and entry, safe ways of passage for pedestrians, barrier free access to public entrances, and adequate open space with landscaping to complement the architecture and create a pleasing outdoor environment.

- Topography should be without steep grades and shall not be affected by either the 100-year or 500-year flood plains, rock outcroppings, or adverse subsurface conditions.
- The site must be free of environmental hazards or restrictions.
- The site should provide prominent visibility of the facility from major public thoroughfares.
- Main ingress/egress for on-site pedestrian and vehicular circulation needs to be easily accessible from major public thoroughfares.
- Regularly scheduled public transportation should be conveniently available to the OPC site.

Contemporary Advancements / Evidence-Based Design

Contemporary advancements in health care design and practices need to be considered within every design solution, as well as those design features and practices that improve patient confidentiality (HIPAA). Contemporary “state-of-the-art” design solutions in both private and institutional health facilities should be considered whenever and wherever advancements warrant and can be justified.

Evidence-based design, another contemporary design concept, offers potential advancements in both patient and staff health, safety, and welfare, and should result in demonstrated improvements in outcomes, economic performance, productivity, customer satisfaction, and cultural enlightenment. Evidence-based design components include:

- Accessibility / ease of access
- Infection control / operational protocol
- Daylighting / natural light potential
- Air quality / natural ventilation
- Noise abatement (possibly utilizing “White Noise” medium)
- Application of color, textures, and finishes
- Environmental / use of artwork, music, and plants

OPC Ambulatory Surgery

Current Trends

With the current trend towards greater volumes and types of surgical procedures taking place in the outpatient clinic, there is a need for increased awareness of the programming, design, and cost implications associated with new clinic planning and decision making. The outpatient clinic was originally the result of strategic decision making to decentralize ambulatory care needs, operating within a low-cost “Business Occupancy” setting. Primary medical services when required were typically referred back to the parent medical center facility. Today, the trend is towards “one-stop” medical services including full service ambulatory surgery, stretching the OPC “Business Occupancy” envelope beyond its limits. This is resulting in mixed-use “Institutional (Health Care) Occupancy” design components, adding to the complexity and cost of construction and maintenance.

Current thinking is to limit Health Care Occupancy requirements within the outpatient clinic setting wherever possible, primarily from a cost containment perspective but as well from an operational, maintenance, and regulatory requirement perspective.

Business Versus Health Care Occupancy Considerations

Occupancy types are building code designations intended to identify the primary function taking place within. From a design and building code perspective, “Business” occupancies have much less stringent code and regulatory requirements than “Health Care” occupancies.

Occupancy type impacted design / operational issues:

- Area (square footage) requirements and accessory support needs.
- Procedural protocol and JCAHO oversight.
- Need for maintaining sterile environment.
- Contingencies for patient coding / complications.
- Life-Safety controls.
- HVAC / control system requirements
- Fire Protection.
- Emergency / critical lighting and power systems.

Based on these considerations, it is important to understand occupancy type impact during the programming/decision making process when planning a new outpatient clinic. This is particularly true with respect to ambulatory surgery and the types and volumes of procedures that are anticipated.

Surgery Classifications

The American College of Surgeons has defined surgical procedures as occurring within 3 facility classifications: Classes A, B, and C. These classifications have been summarized in the 2006 AIA Guidelines for Design and Construction of Health Care Facilities (hereto referred to as AIA Guidelines) and constitute the basis for defining surgical procedures as they relate to occupancy classification for this Design Guide.

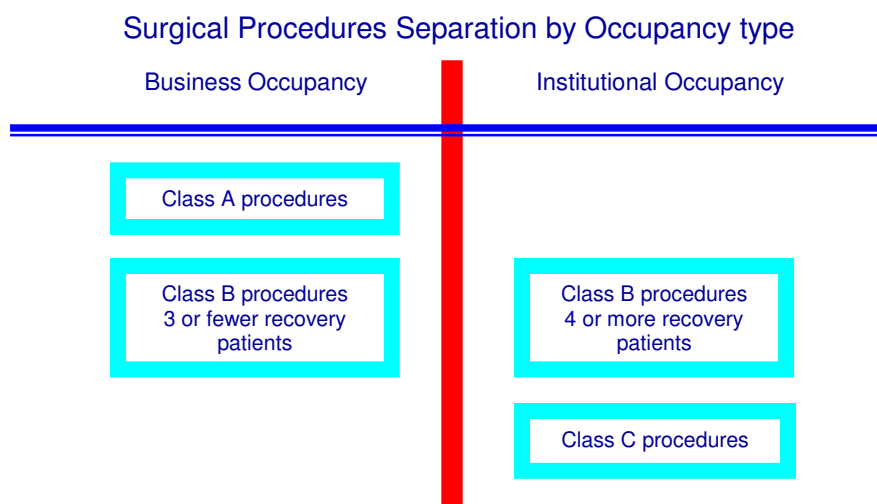
Class A: Class A facilities are defined as “minor” in nature- often referred to as “lumps and bumps” minor procedures. They are the least invasive of all three classes, and can occur within a Business Occupancy clinic environment with no volume limitations. Per AIA Guidelines, “procedures are performed under topical and local infiltration blocks with or without oral or intramuscular preoperative sedation”.

Class B: Class B facilities cover a group of procedures that can be defined as “intermediate” in nature. Depending on type of procedure and number of recovery patients, these procedures could occur within either a Business or Health Care occupancy. With four or more recovery patients, these facilities would default to a Health Care occupancy environment. Per AIA Guidelines, these procedures provide for “minor or major procedures performed in conjunction with oral, parenteral, or intravenous sedation or under analgesic or dissociative drugs”.

Class C: Class C facilities encompass major surgical procedures that always occur within a Health Care Occupancy environment. Per AIA Guidelines, this class provides for “major surgical procedures that require general or regional block anesthesia and support of vital bodily functions”.

It should be noted that Class A procedures can occur within Class B or C procedure facilities; however, the opposite is not permissible.

The following diagram graphically depicts the relationship of surgical classifications as a function of Occupancy Types and number of recovery patients. The red line depicts the separation of classifications by restricted sterile environment.



Based on AIA 2006 Guidelines, Section A2.3.1 American College of Surgeons Surgical Facility Classes

Operating Rooms

Ambulatory Surgery is identified within the VA [Space Planning Criteria, Chapter 265](#), Outpatient Clinic (Satellite OPC/Community Based OPC). Under this Chapter, Functional Area: OPC Surgery identifies three types of operating rooms:

- General Operating Room – OR (ORGS1)
- Cystoscopy Room – (ORCS1)
- Minor Procedure / Operating Room – OR (TRGS1)

Under Chapter 265, Functional Area 10: Digestive Diseases Program, Endoscopy (EGD)/Colonoscopy Procedure Rooms often occur within the Ambulatory Surgical Suite as well, allowing for shared ancillary support functions within the same sterile environment. Other Functional Area Clinical Sub-Specialty procedure rooms generally do not share space within the Surgical Suite, and are located within their respective clinical service areas.

Within a Hospital/Hospital-Based Ambulatory Care setting, General Operating Rooms are governed by a separate VA [Surgical Service Design Guide](#) and [Chapter 286 – Surgical Service](#). Spatial, ancillary, and infrastructural systems are defined within the more restrictive Health Care Occupancy, and are typically aligned with hospital/inpatient functional needs.

OPC General Operating Room – OR (ORGS1): When permitted as a function of facility programming needs, General Operating Rooms are provided in pairs, with a common shared scrub area/sterile utility space. Typically located within a Surgical Suite, each room has a floor area of 450 nsf (41.8 nsm). OPC General Operating Rooms can accommodate all surgical procedure classifications, however, due to heavy work loads, are generally limited to Class C and certain Class B procedures where appropriate. These operating rooms are located within a restricted (sterile) area limiting access, and requiring special protocol for maintaining a sterile environment. Ceiling height is a minimum 9'-6" to accommodate overhead OR lights and medical gas columns.

Ancillary support/space needs are typically required, and can include the following:

- Post-op / Recovery area(s)
- Doctor and staff break area / Lockers / Toilets / Showers (LLTS)
- Scrub area
- Anesthesia and Staff Workrooms / Drug distribution
- Clean / Soiled Utility
- SPD / Sterilizing facilities
- Equipment Storage, including stretcher and wheelchair
- Control / Nurse support functions
- Housekeeping Aids Closet (HAC)

Cystoscopy Room (ORCS1): Cystoscopy Rooms may be programmed within an OR Suite, or separately. Cysto Rooms, when provided, are limited to one per Suite with a floor area same as General Operation Rooms, 450 nsf (41.8 nsm). These rooms, when not a part of a larger OR Suite, may or may not be located within a restricted area; however, sterile protocol measures

are maintained within the space. Similar to OR's, ceiling height is a minimum 9'-6" to accommodate overhead OR lights and medical gas columns. Ancillary support needs are shared with the Operating Room suite when occurring, or when separate, are provided as required for programmed procedural needs.

Minor Procedure / Operating Room – OR (TRGS1): Minor Procedure Rooms are utilized for Class A and certain types of Class B surgical procedures. When occurring within a Minor Surgery Center, they are provided two per suite. Room size is 250 nsf (23.3 nsm). Typically, the Minor Procedure Room is not located within a restricted area; however, sterile protocol measures are maintained. When part of a surgical unit, it is preferably adjacent to the restricted sterile surgical suite. Ceiling height is typically 9'-0" where portable surgical lighting is used, or 9'-6" to accommodate overhead fixed OR lighting.

OPC Ambulatory Surgery Design Issues

Architectural Finishes: Floor, wall, and ceiling finishes within the ambulatory surgery environment are typically selected with infection control in mind, and to resist bacterial growth. Hard, seamless, non-absorbent, scrubbable surfaces are recommended and considered mandatory.

Medical Equipment: Equipment should be identified, along with service utility requirements, i.e., water/drain, power (emergency/normal), heat output, vacuum, air, etc. Equipment sizes should be identified to ensure adequate space is accommodated in the planning process. Door sizes should be double checked to ensure adequate width for the movement of equipment in and out for servicing/replacement.

Medical Gases: Medical gases are normally provided within operating room environments. Gases provided generally include vacuum, medical air, and oxygen. Depending on facility size, medical gases can be supplied via portable tank, or pipe/manifold system from centralized tank storage. Medical air and vacuum are typically piped systems from a central equipment room. When piped systems are utilized, zone shut-off valves are typically installed adjacent to the central control station. Flammable anesthetic gases are not allowed.

Mechanical HVAC Systems: Generally speaking, HVAC systems within ambulatory surgery centers are designed to a positive air pressure relationship with that of adjacent areas, and include filtration systems for infection control. Minor Surgery Centers operating within a Business Occupancy typically do not have a dedicated HVAC system; however, special filtration is provided with emergency power backup. For Surgery Centers with Class B and C operating room procedures, a dedicated air supply system equipped for emergency power is required, with its own air handler and ductwork distribution system.

Mechanical design criteria for ambulatory surgery spaces is identified in this Design Guide under Section 4 Design Standards. For further information concerning mechanical systems within the surgical environment, refer to the VA [HVAC Design Manual](#) for Hospital Projects.

Electrical Systems: Both normal and emergency power are required within the OPC ambulatory surgery environment. Special power systems are often required for equipment and should be coordinated with procedural needs. Power is typically provided at wall locations as

well as surgical power columns often shared with medical gases. Electrical design criteria for ambulatory surgery spaces are identified in this Design Guide under Section 4 Design Standards. For further information concerning electrical systems, refer to the VA [Electrical and Telecommunication's Design Manual](#).

Auxiliary Systems: Computers and computerized equipment have become standard equipment components. The number of jack outlets should be adequate to cover anticipated needs, with ergonomic consideration given to location. Tele-medicine services are becoming more prominent as well within the clinic environment, and should be given due consideration when planning surgical services.

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OPC Functional Considerations

Space Planning & Design / Space Allocation

Program Levels: Net square footage shown in this Design Guide are coordinated with VA Space Planning Criteria Chapter 265-Outpatient Clinic. The drawings illustrate the basic net area for each space or functional area. The space program for a specific project may vary according to workload projections and the medical program for the clinic. The design A/E is responsible for accommodating project specific space program and functional requirements.

Flexibility: The design of health facilities must respond to changing workloads, business objectives and technologies. To ensure continuing adaptability to changing workloads and technologies, designers should maximize the use of standard or universal spaces that are designed to accommodate a range of related functions. Use of a standard planning module (grid) throughout the entire clinic is encouraged. Spaces with special requirements, equipment, or of non-modular sizes should be grouped where possible and designed to accommodate change.

Efficiency: VA is committed to the efficient use of resources (including energy, materials, equipment, and staff). Factors to consider in the design of Outpatient Care Facilities include:

- Efficient, or sustainable, use of resources in construction, operation, and maintenance
 - Group or combine functions with similar system requirements. Refer to [Sustainable Design and Energy Reduction Manual](#) on VA Technical Information Library (TIL).
- Efficiency in space and function
 - Share support spaces where possible,
 - Minimize duplication of facilities,
 - Accommodate inpatients and outpatients in the same setting.

Human Needs

Patient dignity and self-determination must be accommodated while considering operational efficiencies. Patients' vulnerability to stress from noise, lack of privacy, poor lighting and other causes, and the subsequent harmful effects it can have on the healing process is a well known and documented phenomenon.

An inherent opportunity exists in the design of Outpatient Clinics to address the above issues and to put forth creative solutions that enhance patient comfort and contribute to positive outcomes. A prime architectural objective should be to de-emphasize the institutional image of health care facilities and to surround the patient (and family members) with finishes and furnishings that are familiar and non-threatening. Good planning and design appeal to the spirit and sensibilities of patients and care providers alike.

Outpatient Clinics should be healing environments that allow the building itself to become part of the therapy.

Patient privacy is accommodated without sacrificing facility utilization, incorporating features to reflect compliance with Department of Health and Human Services [HIPAA regulations](#).

Physical Security

Physical security is addressed by planning, design, and detail considerations; refer to VA [Physical Security Design Manual](#). Outpatient Clinic facilities are generally classified as Life-Safety Protected; however, consideration is being given to adopt Mission Critical status.

Accessibility (ADA)

Accessibility is accommodated by the application of [PG 18-13, VA Barrier Free Design Guide; Architectural Barriers Act Accessibility Standards \(ABAAS\)](#), Appendices C and D to 36 CFR Part 1191 (adopted by GSA and supersedes Uniform Federal Accessibility Standards, UFAS); and [ADA Standards for Accessible Design \(28 CFR Part 36\)](#) to space and fixed equipment layouts.

Functional Areas

A Functional Area is the grouping of rooms and spaces based on their function within a clinical service. The organization of services in this Guide follows the categories established in VA [Space Planning Criteria, Chapter 265](#). There are a total of 28 specific Functional Areas identified in Chapter, and cover such areas as follows:

Reception Areas—Health Administration Service (HAS): Accommodates the initial processing (eligibility, admissions, etc.) of all unscheduled outpatients. It is composed of all activities necessary to accomplish the tasks associated with medical evaluation and treatment. For the purposes of this Guide, HAS (formerly MAS) denotes spaces for integral administrative functions of Ambulatory Care, and may have different administrative designations throughout VA facilities. Spaces within this functional area may include the following:

- General Waiting
- Public Restroom Facilities
- Patient Educational Services (kiosk, education conference room)
- Escort / Messenger Service
- Reception / Clerical space

Emergency Care / Urgent Care: Accommodates the examination and treatment of all outpatients determined to be in need of immediate medical care. The major function of Emergency/Urgent Care at most VA Hospitals is to assess conditions of walk-in and ambulance patients and to provide immediate treatment for stabilization, admission, or referral as required. The level of emergency services will depend upon analysis of community needs and other services to be provided by the specific facility. The facilities demonstrated in the Guide Plates provide for elementary emergency treatment including patient examination and stabilization but do not reflect the requirements to accommodate major trauma or surgical procedures. Spaces within this functional area may include the following:

- General Waiting (including separate Isolation wait area)
- Public Restrooms
- Nurse / Communication Station
- General storage for equipment (including secure medications)
- Examination / Treatment Rooms

- Provider Office space
- Clean / Soiled Utility Space
- Support services (staff restrooms, lockers, lounge)

Patient Areas: Accommodates the examination and treatment of all non-emergency outpatients, scheduled and unscheduled, and inpatients in a variety of medical/surgical disciplines. Examination/Treatment Modules are generic clinical examination and treatment facilities which accommodate scheduled and unscheduled outpatient visits with variable assignment capability based on schedule and workload needs of the using departments. Modules are further subdivided in Core Space, Support Space, and Specialty Clinic Space. Spaces within this functional area may include the following:

- Reception / Waiting Space
- Public Restrooms
- Nurse / Communication Station(s)
- Examination / Treatment Rooms (by Module)
- Procedure / Specialty Rooms
- Consultation Room(s)
- Multi-purpose Room(s)
- Provider Office Space
- Clean / Soiled Utility
- Support services (staff restrooms, lockers, lounge)

Employee Health: Accommodates any examination, testing and treatment of VA employees. In addition to the treatment of on-the-job illnesses and injuries, this unit accommodates pre-employment physicals, annual screening tests (TB, hepatitis, etc.) and storage/administration of employees' personal medications (allergy shots, insulin injections, etc.) for all the Department of Veterans Affairs (VA) medical center employees or other Department of Veterans Affairs (VA) facilities (regional office, data processing center, etc.) that may be served by the Medical Center. Space for Employee Health is incorporated into a clinic exam module. Spaces within this functional area may include the following:

- Nurse / Support Clerk Offices
- Record Storage Space

Disposition Area: Accommodates activities such as travel pay, pharmacy, etc., for scheduled and unscheduled outpatients. Patients typically visit this area last before leaving Ambulatory Care. Spaces within this functional area may include the following:

- General Waiting Space
- HAS (formerly MAS) Clerk Offices (including Agent Cashier)

Support Areas: Accommodates diagnostic support functions such as satellite X-ray, blood specimen collection, etc. Typically these support services are provided within the larger hospital setting, and therefore not included in Ambulatory Care. Other support spaces may include;

- Clean / Soiled Utility Rooms
- General Storage
- Housekeeping Aids Closets

Staff and Administrative Areas: Accommodates administrative staff and professional staff whose primary responsibilities lie in emergency care and examination/treatment. Spaces within this functional area include:

- Provider and administrative offices
- Conference room(s)
- Restroom, locker and lounge facilities

Residency Program: Accommodates medical education functions in affiliated VA facilities. Spaces within this functional area may include:

- Study / Library space
- Conference Room
- Consultation space

Special Requirements: Special requirements must be evaluated and applied on a project basis. Such requirements may include teaching, program mission and coordination of hospital, clinical and support services.

Functional Relationships

Work Flow: The Functional Diagrams in Section 3 reflect function, organization, flow, and operational issues. They should not be interpreted as preconceived floor plans, as the diagrams do not correlate exactly to all the rooms and functions available in Space Planning Criteria, or required for every project.

VA patient triage, induction, and protocol require the following:

- Triage is located between Emergency and Clinic Facilities
- Walk-in Patients arrive at Triage / HAS interview.

Organizational Concepts: The Guide Plates (Section 4) and Functional Diagrams (Section 3) address modular construction including 10 foot (3000 mm) deep exam zones, 12 foot (3600 mm) deep special/treatment/support zones, and 6 foot (1800 mm) corridor widths.

A Modular Clinic Concept utilizes functional layering which includes spaces such as Waiting, Reception, Exam, Special and Support Zones. Overlapping zones of control are provided in both planning and communications to accommodate variable assignment of partial clinic modules, exam, and treatment facilities.

Utilization of modular concepts and functional layering assists in facilitating wayfinding and subsequent patient ease.

Operations: Services

An Outpatient Clinic is a medical service that provides healthcare to scheduled and unscheduled outpatients in a freestanding setting. Emergency and in-patient services are not provided. Outpatient Clinics are typically Business Occupancies with no more than 3 patients incapable of self-preservation in the facility at the same time. Where ambulatory surgery occurs

with 4 or more recovery patients, that portion of the facility falls under Health Care (Institutional) Occupancy. The organization of services in this Guide follows the categories established in [VA Space Planning Criteria, \(formerly Handbook 7610\), Chapter 265](#).

Special Requirements must be evaluated and applied on a project basis. Such requirements may include teaching, program mission, and coordination with hospital, clinical and support services.

Special Considerations For CBOC's

Community Based Outpatient Clinics (CBOC's) are generally simple freestanding clinics on the order of 10,000 gsf located within a community setting to effectively provide convenient primary care. In addition to the primary care mission, they may include very basic Laboratory, Pharmacy, and Radiology functions. CBOC's typically refer patients to hospital based Ambulatory Care facilities for special care and diagnosis.

Leasing: Because of their limited size and complexity, Community Based clinics are most often located in leased space. GSA delegated authority for leasing space to VA in 1996. It is recommended that users unfamiliar with the leasing process read the [Lease Handbook](#) available from VA Office of Asset Enterprise Management for an understanding of the VA leasing authority. The limited size and complexity of most CBOCs will allow them to qualify for use of Simplified Lease Acquisition Procedures (SLAP). The Functional diagrams in Section 3 and Guide Plates in Section 4 may be used to communicate VA requirements to potential lessors. When space in an existing building is offered for lease, the VA team will have to evaluate the compliance with functional and technical criteria. Existing space will have been developed to local commercial standards and, unlike build-to-suit space, may not incorporate all criteria unique to VA. Compliance with Life Safety, Seismic, and Accessibility criteria is mandatory. To expedite the acquisition process, it may be in the best interest of the Government to waive other technical criteria that are in excess of prevailing local practice; provided that the space offered meets the minimum functional requirements of the program.

VA has a [Design Guide for Lease Based Outpatient Clinics](#). This Design Guide is intended for use in assisting the VA team in the leased acquisition of a new freestanding outpatient clinic space. In addition to an overview of the lease process, this Guide contains checklists and template documents to assist the team during the planning and preparation of the solicitation documents. These documents are intended to alert VA staff and consultants to the choices and issues to be addressed during the process and to provide a uniform basis for soliciting offers for all new outpatient clinics.

Pharmacy: Prescriptions generated by the CBOC may be provided in a number of ways. Each clinic should be supported by a Medical Center or a Consolidated Mail Outpatient Pharmacy (CMOP) and establishment of contract relationships with community pharmacies. VA pharmacies will have the ability to share prescription data on patients treated at medical facilities throughout the VA health care system. The basic (small) clinic will provide a consultation room for the pharmacist and minimal storage for initial supplies of pharmaceuticals. After providing patient consultation on new prescriptions, the pharmacist will enter prescription data into a DHCP terminal for transmission to the parent medical facility or CMOP. The pharmacist may provide an initial supply of medications to the patient or direct the patient to a

contracted pharmacy for medications required immediately. Expanded clinics will have a satellite pharmacy to provide a greater number of services. In addition to the required patient consultation on new prescriptions, the expanded pharmacy should be capable of providing the initial supply of medications. In both cases, refills should be handled by mail from the Medical Center or CMOP.

Radiology: Cost benefit analysis must be performed to determine the feasibility of providing in-house diagnostic radiological services versus contracting for these services in the community and/or referral to other VA facilities. Comparisons of availability of services, initial cost of space, equipment, equipment maintenance, and recurring costs of staff, supplies and utilities should be considered. If in-house diagnostic radiological services are justified, use of teleradiology with transmission of images to the parent Medical Center should be considered to reduce or eliminate the need for an on-site radiologist.

Laboratory: The basic clinic will provide space (blood draw room, specimen toilet) for collection, labeling, and storage of specimens. Specimens should be transported to the parent Medical Center or a contracted facility for processing. Expanded clinics may include on-site laboratory facilities for limited testing for basic chemistry, hematology, coagulation toxicology, and urinalysis testing most often needed for daily patient monitoring and STAT use.

Special Considerations For SOPC's

Satellite Outpatient Clinics (SOPC's) vary significantly in size and scope of services. They may range from approximately 25,000 to over 200,000 gsf. Depending on the medical program, SOPC's may include a number of specialty clinics and extensive Laboratory, Pharmacy, and Radiology functions.

Leasing: Leasing may be the most cost-effective means of obtaining space for a Satellite clinic. In most cases, use of the Simplified Lease Acquisition Procedures will not be applicable to SOPCs for one or more of the following reasons: the estimated average base (unserviced) annual rent is greater than \$100,000 or the technical complexity of the space is such that only a fully developed Solicitation For Offers (SFO) can provide sufficient detail to allow bidders to understand the requirements to ensure adequate competition for the bid. Further, the pertinent GSA Regional or local official has been contacted and it has been determined that existing GSA controlled space cannot readily meet VA's need within the time frame required.

Similar to CBOC leasing, the VA has a [Design Guide for Lease Based Outpatient Clinics](#). This Design Guide is intended for use in assisting the VA team in the leased acquisition of a new freestanding outpatient clinic space. In addition to an overview of the lease process, this Guide contains checklists and template documents to assist the team during the planning and preparation of the solicitation documents. These documents are intended to alert VA staff and consultants to the choices and issues to be addressed during the process and to provide a uniform basis for soliciting offers for all new outpatient clinics.

Technical Considerations

Natural Disasters

Hurricanes, tornados, earthquakes, and floods are natural phenomena that occur within regional areas of designated probability. Design solutions should address these probabilities where they occur, to mitigate building damage and loss of life wherever possible. Selection of building sites should avoid flood plane or flood prone areas. Regional areas susceptible to hurricanes should incorporate design features that mitigate damage associated with high winds, wind-driven rain and projectiles. Tornado design mitigation is similar to hurricanes, however much more localized and intensive in nature. Buildings in areas with probability of earthquakes need to be seismically restrained in accordance with [H-18-8 Seismic Design Requirements](#).

Architectural

Exterior Construction: Selection of building envelope and enclosure systems shall follow guidance in PG-18-10, [Architectural Design Manual](#) for New Hospitals, Replacement Hospitals, Ambulatory Care, Clinical Additions, Energy Centers, and Outpatient Clinics.

Interior materials and finishes and doors shall follow guidance in PG 18-10, [Architectural Design Manual](#) and PG 18-14, [Room Finishes, Door, and Hardware Schedule](#). The Guide Plate for each space includes a listing of design criteria applicable to that space. Where a specific guide plate is not provided for a space or function, refer to PG 18-14 and the general design information below. Coordinate selections with Interior Design and Wayfinding.

Interior Design: The goal of the design is to provide a supportive interior environment that is conducive to healing both the patient's mind and body, is respectful of the public monies, promotes staff performance, and expresses progressive high quality design. The design must offer a distinctive and clear lead for the planning and selecting of interior furnishings and art. Designs that narrow choices of procurement furnishings are inappropriate. Designs that use "life-time-of-the-building" materials in colors, patterns and designs that transcend time are endorsed. Trendy colors and patterns are to be restricted to cycle replacement materials, such as paint and wall coverings. Refer to PG 18-10, [Interior Design Manual](#) For Hospital/ Ambulatory Care/Clinical Addition/Satellite Outpatient Clinic/Domiciliary/Nursing Home Projects for additional information.

Wayfinding: A "wayfinding" process needs to be designed into every project. Patients, visitors and staff need to know where they are, what their destination is, how to get there and have the ability to return. Identification, personalization of occupied spaces and orientation are all to be addressed in the design. Wayfinding is to be thought of broadly as building elements, color, texture and pattern cues, as well as a coordinated concept established for signage and artwork. Refer to [Interior Design Manual](#) and VA [Signage Design Guide](#).

Partitions should primarily be gypsum wallboard on 4 inch metal studs. Provide sound attenuation in accordance with PG 18-3, VA [Design and Construction Procedures, Topic 11: "Noise Transmission Control"](#). Provide wall and corner guards in corridors and other areas where wall damage from cart traffic is anticipated.



Floors in most spaces, including exam rooms, treatment rooms, corridors, and supply/storage spaces should be vinyl composition tile with a 4 inch (100 mm) high rubber base. Floors in procedure rooms, surgery, etc., should be welded sheet vinyl with integral coved base. Floors in offices, conference rooms and waiting areas should be carpet with a 4 inch (100 mm) high rubber base. Floors in toilet rooms should be ceramic tile with a ceramic tile base.

Ceilings in most spaces, including toilet rooms, are lay-in acoustic ceiling tile. Where required for sanitation or moisture resistance, acoustical ceiling tile shall have a washable plastic (mylar) finish.

Interior doors should be 1-3/4 inches (44 mm) thick, solid core, flush wood doors or hollow metal doors in hollow metal frames. Door jambs should have hospital type sanitary stops which do not extend to the floor, to facilitate mopping. Hollow metal doors should be used where high impact is a concern and where fire rated doors are required. Kick/mop plates should generally be applied to both sides of the doors. Increased door width is appropriate for extra-wide bariatric wheelchairs 42 inches (1050 mm) recommended.

Hardware: Accessible type should be used throughout. Refer to VA Program Guide PG 18-14, "[Room Finishes, Door and Hardware Schedule](#)" and PG 18-4, [National CAD Standards and Details](#) Detail 08 00 00-1.dwg for additional information.

Security: Partitions, doors, and hardware for Agent Cashier, Pharmacy, and other sensitive spaces have special security requirements. Refer to PG 18-3, VA [Design and Construction Procedures, Topic 14: "Security."](#)

Structural

Structural design of VA facilities shall comply with the latest editions of the following:

- Reinforced concrete design - *Building Code Requirements for Reinforced Concrete* (ACI Standard 318-02) and Commentary (ACI-318R-02), American Concrete Institute.
- Structural steel design - *Manual of Steel Construction, Load and Resistance Factor Design*, Specifications for Structural Steel Buildings, American Institute of Steel Construction, Second Edition.
- *International Building Code* (IBC), International Conference of Building Officials.
- VA [Seismic Design Requirements \(H-18-8\)](#)

In compliance with Executive Order (EO) 12699, and EO 12941, all new and existing buildings constructed or leased by the Federal Government must be seismically safe.

Equipment

Equipment Lists are provided with the Guide Plates in Section 4. Additional general information and guidance is available on the VA [Technical Information Library](#) (TIL). Refer to [Equipment Guide List \(PG-7610\)](#) for list of equipment, furnishings, and utility requirements for each space in a functional area. Refer to [Equipment Reference Manual \(PG-18-6\)](#) for graphic representations of each piece of equipment to be purchased and installed by the construction contractor. Refer to equipment manufacturers' data for information specific to a particular equipment item.

Casework: For planning and utilization concerns, casework systems should be chosen for their flexibility. Casework systems should incorporate components dimensioned for ease of multiple re-use installation applications. Casework systems should be planned avoiding corner installations and filler panels.

Information Management Systems

Information Management Systems shall include elements of patient registration, patient charges, Physician's order entry, and patient/staff movement.

These system elements will require access to the main facility's "*information backbone*" as well as the departmental Local Area Network (LAN). All components should be planned for compatibility.

Headwall Equipment Management Systems

Equipment Management Systems should facilitate a generic setting for all similar treatment spaces to organize diagnostic equipment, support equipment, and supplies.

Heating, Ventilation and Air Conditioning

Operation: Air conditioning systems should be provided to heat, cool and ventilate the individual space, as required to satisfy the VA design criteria. Follow criteria in PG-18-10, [HVAC Design Manual](#) for New Hospitals, Replacement Hospitals, Ambulatory Care, Clinical Additions, Energy Centers, Outpatient Clinics, Animal Research Facilities, and Laboratory Buildings.

The air conditioning systems serving the Outpatient Clinic should be designed to operate at occupied/unoccupied capacity to suit applicable schedule.

Capacities: The number of occupants and the air conditioning load noted on the room design standard sheets in the Guide Plates (Section 4) are for the purpose of establishing general planning parameters. The design A/E shall verify the actual occupant and air conditioning load for each specific project. Verify equipment loads for actual equipment to be furnished for a project.

The percent of outside air should 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 to exhaust/return air from rooms. Corridor air may be used to ventilate bathrooms, 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 100 CFM (2.8m³/min) per undercut door.

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

Negative pressurization is required at all locations where invasive procedures occur, as well as filtration of air supplied to the space. Filtration efficiency becomes more critical when provided at surgical procedure rooms.

Exhaust System: Follow criteria in PG-18-10, [HVAC Design Manual](#) for Hospital Projects for hoods located in the Outpatient Clinic. Locate supply air diffusers as far away from the hood sash opening as possible, and sized to eliminate draft conditions and for proper air flow at the hood.

Energy Conservation: The need to conserve energy is mandated by the Federal Government by both Executive Order and Federal Law. In addition, 19 Federal Agencies have signed a Memorandum of Understanding (MOU) outlining specific goals and targets for energy conservation and sustainable design. The VA is one of the signatory agencies. The following references apply, with more detailed information found within the [HVAC Design Manual](#) for Hospital Projects:

- DOE Final Rule, and Energy Policy Act (EPACT 2005)
- Energy Conservation Executive Order No. 13423 Dated January 24, 2007

Center for Disease Control (CDC): CDC requirements for design of public areas within the building to accommodate Microbacterium Tuberculosis patients must be addressed by architectural and mechanical disciplines. Check current requirements for transmission of *mycobacterium tuberculosis* and TB Criteria in the [HVAC Design Manual](#) for Hospital Projects.

Seismic: Where required, install HVAC systems with seismic provisions as outlined in the PG-18-10, [HVAC Design Manual](#) for Hospital Projects and [Master Construction Specifications](#) MCS Section 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS.

Noise Class: Select HVAC equipment, ductwork and listed distribution devices to achieve noise levels listed in the PG-18-10 [HVAC Design Manual](#) for Hospital Projects and [Master Construction Specifications](#) Section 23 05 41, NOISE AND VIBRATION CONTROL FOR HVAC PIPING AND EQUIPMENT.

Inside Design Conditions:

Commonly Used Inside Design Temperatures and Humidity Ranges: 70 F to 75 F [21 C to 24 C] and 30% to 50% RH have different implications depending upon the application and system configuration, as shown below:

Year Around Conditions: 70 F to 75 F [21 C to 24 C] and 30% to 50% RH as defined in 2007 ASHRAE Handbook of Applications, the system shall be capable of maintaining temperatures within the range during normal working conditions. The cooling load for these spaces shall be calculated to maintain 70 F [20 C] at 50% RH and the heating load shall be calculated to maintain 75 F [24 C] at 30% RH. The year around conditions can be used for variable air volume (VAV) or constant volume (CV) systems. Year around design conditions shall be used for all patient areas.

Variable Air Volume (VAV) with Dead-Band: 70 F to 75 F [21 C to 24 C] and 30% to 50% RH as defined in ASHRAE Standard 90.1 – 2007, the space thermostat shall be capable of providing the above range and a dead-band of 5 F [2.8 C] within which the supply of cooling and heating energy to the space is shut off or reduced to a minimum. See [HVAC Design Manual](#) for room applicability.

Constant Volume (CV) System: 70 F [21 C] to 75 F [24 C] and 30% to 50% RH

- The cooling capacity shall be based on 75 F [24 C] and 50% RH and the heating capacity shall be based on 70 F [21 C] and 30% RH.
- Cooling Mode: Generally, the space relative humidity is uncontrolled in cooling season. Specific applications may require high-humidity limiting control.
- Heating Mode: 30% RH shall be controlled and maintained at the zone (air-handling unit) level by providing a central humidifier, installed either in the air-handling unit or in the main supply air duct.
- The suggested set point is 75 F [24 C] + 0 F/- 3 F [+ 0 C/- 2 C]. The space temperature is allowed to drop to 72 F [22 C] before the reheat is activated. To ensure maximum energy conservation, the maximum offset can be selected as 5 F [2.8 C], where the maximum offset is defined as the difference between the summer and winter set points. Offset is not same as the dead-band which is defined in ASHRAE Standard 90.1 – 2007. See [HVAC Design Manual](#) for room applicability.

Individual Room Temperature Control: A space is defined as individually controlled only when a dedicated air terminal unit (with reheat) and a room temperature sensor/controller serve it. Individual room temperature control is required for all patient treatment and examination rooms, and other healthcare functions and other spaces so identified in the [HVAC Design Manual](#). Listed below are applications where group control can be provided in lieu of dedicated room temperature control:

Office Perimeter Spaces (Group): A single terminal unit can serve as many as three perimeter office rooms located on the same exposure and with identical functions and load characteristics. Exception: A corner office room with multiple exposures shall have its individual room temperature control.

Interior Spaces (Group): A single terminal unit can serve as many as four interior office or patient examination rooms that have identical functions and load characteristics.

Open spaces: Open spaces with exterior perimeter exposure and interior areas shall be zoned such that one dedicated air terminal unit serves the exterior perimeter exposure and another serves interior zones. The exterior perimeter exposure zone is defined as an area enclosing perimeter exposure length and 12 to 15 Feet [3.7 to 4.6 Meters] width. An interior zone does not have perimeter exposure walls.

Plumbing

Water and Waste Systems: Comply with PG-18-10, [Plumbing Design Manual](#) for New Hospitals, Replacement Hospitals, Ambulatory Care, Clinical Additions, Energy Centers, and Outpatient Clinics. Domestic cold and hot water should be piped to all plumbing fixtures and equipment requiring these utilities. A hot water return system should be provided to ensure the design temperature at the farthest fixture.

Plumbing fixtures and drains should be drained by gravity through soil, waste and vent stacks. Special waste should be drained through corrosion-resistant, flame-retardant piping into either a local or centralized acid dilution tank.

Medical Gas Systems: The Guide Plates (Section 4) indicate typical locations and quantities of medical gas outlets to establish the general planning parameters. The design A/E shall verify the medical gas locations and quantities for individual projects.

Seismic: Where required, the plumbing and medical gas systems should be installed with seismic provisions as outlined in the PG-18-10, [Plumbing Design Manual](#) for Hospital Projects and [Master Construction Specifications](#) MCS Section 13 05 41, SEISMIC RESTRAINT REQUIREMENTS FOR NON-STRUCTURAL COMPONENTS.

Electrical

Comply with the requirements of PG 18-10, [Electrical and Telecommunication's Design Manual](#) New Hospitals, Replacement Hospitals, Ambulatory Care, Clinical Additions, Energy Centers, and Outpatient Clinics.

Illumination is typically provided utilizing recessed fluorescent luminaires with acrylic prismatic lenses. Recessed fluorescent fixtures with parabolic louvers may be used at the nurse/communication station or offices to control glare on monitor screens. Undershelf fluorescent downlights may be provided above the counter work surface for task lighting. The fixtures typically use F32T8 lamps in compliance with the Energy Policy Act (EPACT 2005). Lamps shall not be high output and shall have a minimum color rendering index (CRI) of 70 and a color temperature of 3500 degrees Kelvin (K), for optimum color rendering in most cases. Color corrected lamps having a CRI of 85 and correlated color temperature between 5000 degrees K and 6000 degrees K shall be used for selected areas such as surgery rooms. Low mercury fluorescent lamps should be used. Leachable mercury may form when fluorescent lamps are disposed of causing pollution of landfills and groundwater. The Environmental Protection Agency (EPA) has established a maximum mercury concentration level. Fluorescent lamps that meet the EPA criteria are known as Toxicity Characteristic Leaching Procedure (TCLP) compliant. Attention needs to be given to illumination as a function of reflectance off walls and ceilings, particularly with color applied, to ensure lighting levels comply with criteria.

VA building lighting energy expenditures are a significant component of overall building energy usage. The lighting systems shall comply with Federal energy policy, the VA Energy Conservation Policy, and [Sustainable Design and Energy Reduction Manual](#).

Lighting intensities shall conform to the VA design criteria, the IES Lighting Handbook and IES publication RP-29-06, "Lighting for Hospitals and Health Care Facilities". Reducing patient illumination levels below established levels is not recommended.

Lighting energy consumption can be reduced in several ways such as reducing lighting fixture count, using highly efficient fixtures, managing when lighting is used and the amount of illumination delivered, using task lighting, and selecting fixtures, lamps, and controls that best meet the needs of the staff and patient occupants. Fluorescent lamp lumen output can be increased by raising the CRI level without increasing lamp wattage. Specific methods may be used to reduce energy consumption including using occupancy sensors, time-clocks, photocells, daylight dimming, building-wide lighting control systems and replacing incandescent dimming with fluorescent dimming. 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.

- Use wet location light fixtures due to the high moisture and humidity of rooms with showers or tubs for bathing.
- Lighting load densities should be verified for the actual design, as they may vary depending on the room configuration, fixture types, lamps and ballasts used.
- Serve selected light fixtures from the critical branch of the emergency power system to allow for continued operation during a power outage. For facilities that do not require emergency generators provide selected light fixtures with battery ballast.

Power: General purpose duplex receptacles are typically provided on each wall of a room or a space where power is required. Refer to Guide Plates in Section 4. Dedicated duplex or special receptacles are provided for selected pieces of equipment such as refrigerators. Workstations with personal 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.

Provide prefabricated bedside patient units (PBPU's) in designated observation and treatment rooms, and post-anesthesia recovery areas. The PBPU's house receptacles for other electrical devices. The number of receptacles, the layout, and the wiring requirements should be coordinated with the specifications (PG-18-1, [Master Construction Specifications](#)).

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

Emergency power requirements are addressed in PG 18-10, [Electrical and Telecommunication's Design Manual](#) and the Guide Plates in Section 4. UPS systems should be provided by hospital and should not be specified in construction documents.

Per VHA Directive 2008-011, operating rooms and cardiac catheterization rooms within VHA facilities are no longer designated as wet locations for electrical safety purposes; therefore, isolated power systems are not required.

Life Safety and Fire Protection

As stated in the VA [Fire Protection Design Manual](#), the Public Buildings Amendment Act (PL 100-678) requires all Federal agencies to follow the latest editions of nationally recognized fire and life safety codes. VA has adopted the National Fire Codes (NFC), except NFPA 5000, published by the National Fire Protection Association (NFPA). Life safety requirements are specifically addressed in the Life Safety Code, NFPA 101. Fire protection features not addressed by the NFC should be designed to comply with requirements of the latest edition of the International Building Code (IBC). For guidance on compliance with other Codes and Standards, refer to PG-18-3 [Design and Construction Procedures, Topic 1](#).

Occupancy classifications are defined in NFPA 101 and as follows:

Outpatient Clinic	New Business Occupancy, Chapter 38
Administrative Offices	New Business Occupancy, Chapter 38
Ambulatory Surgery	New Ambulatory Health Care, Chapter 20
Mixed Occupancies:	Buildings containing mixed occupancies which are not incidental to the primary occupancy shall comply with the most restrictive requirement of the occupancies involved, unless separated by barriers having fire resistance ratings for the occupancies involved as required by NFPA 101.

When Ambulatory Surgery facilities have 4 or more patients incapable of taking action for self-preservation under emergency conditions as defined in NFPA 101, then all or part of the facility must be classified as an Ambulatory Health Care Occupancy. Examples of Ambulatory Health Care Occupancies include surgery centers, dialysis centers, imaging centers, and cardiac catheterization centers. Multiple occupancies in the same building shall be considered as mixed, or shall be separated as required by NFPA 101.

Energy Conservation and Sustainable Design

The need to conserve energy is mandated by the Federal Government by both Executive Order and Federal Law. In addition, 19 Federal Agencies have signed a Memorandum of Understanding (MOU) outlining specific goals and targets for energy conservation and sustainable design. The VA is one of the signatory agencies. Refer to [Sustainable Design and Energy Reduction Manual](#) on VA Technical Information Library (TIL), and [HVAC Design Manual for Hospital Projects](#) for detailed information and requirements.

Communications / Special Equipment

Follow criteria in PG-18-10, [Electrical and Telecommunication’s Design Manual](#) for communications and special systems.

Telephone outlets are typically provided at each workstation or in each room.

Automatic Data Processing (ADP) or computer outlets are typically provided at each workstation with a personal computer (PC) and/or a printer.

Nurse call and code one system is provided for the ambulatory care department, and is PC based consisting of patient call stations, staff stations, duty stations, dome lights and head-end equipment located in signal closet. The actual system configuration is dependent on the overall layout of the department and should be coordinated with the functional design.

Television outlets are provided at selected areas such as waiting rooms and the chemotherapy treatment cubicles.

Physiological Monitoring: Outlets for physiological monitoring are provided at selected locations such as observation and treatment cubicles, and post-anesthesia recovery.

Public Address: Provide a system in accordance with [Master Construction Specifications](#) MCS Section 27 51 16, PUBLIC ADDRESS AND MASS NOTIFICATION SYSTEMS. Public address system is typically part of the telephone system. Speakers are typically located in corridors and public spaces. The actual system configuration will depend on the overall design layout and functional requirements.

Security Duress Alarms: Duress alarm systems are typically provided where staff comes in contact with a patient and are designed to provide emergency assistance, control, and monitoring.

Waste Management

Medical waste is generated in exam and treatment spaces where it is bagged, collected and transported to the soiled utility rooms. There it is held in separate containers pending transport to the medical waste handling facility or disposal by contract.

General waste is generated in all spaces and is held in containers for collection and/or sorting. Disposal is usually by contract.

Recycling: Methods for sorting, collecting, transporting and disposing of recyclable products must be specifically analyzed for each facility and location. The optional use of disposable and reusable products is an important consideration in recycling and waste disposal alternatives.

Soiled linen: Soiled reusable linens may be generated in exam rooms, treatment spaces and patient and staff gowning areas. Soiled linens are collected in carts or hampers (depending on volume) in the soiled utility rooms or soiled linen rooms pending transport to the laundry facility. Disposable linens are included with general recyclable waste or medical waste as appropriate.

Utensils: Reusable utensils include bed pans, urinals, emesis basins and other stainless steel items which are used in exam and treatment areas and then transported to the soiled utility room. There they are reprocessed if steam washers are available or collected for transport to the Sterile Processing Department for reprocessing.

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 Space Planning Criteria 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

Patients arrive at their appointed clinic via private or public transportation. Convenient access from patient parking and primary care entrance should be provided. Parking demand for number of spaces, both standard and handicapped, is governed by VA criteria. Consult appropriate VA management personnel for guidelines in this regard.

Wayfinding:

- Clear site and facility organization and directional signage assist in directing the patients to their destination.
- If Pulmonary Medicine facilities are located on other than main entrance levels, direct access from public elevators should be provided.
- Techniques such as clear access routes, public spaces, landmarks and signage to facilitate wayfinding should be used.

Staff access should be separated from patient entries, waiting, and holding areas. Staff lounge and locker areas should be located away from patient traffic.

Records are centrally maintained and may be distributed by an automated distribution or electronic retrieval system to be selected on a project basis. Ambulatory Care volumes are determined by sub department and specialty clinic. In larger facilities pneumatic tube or automated box transport system for the distribution of medical records and work orders may be appropriate. These transport modes should be located where shared use is possible in order to provide economical access for all clinics.

Specimens are collected within the clinics and/or at a central Lab Collection Area and are transported to the Pathology Labs. The most effective means for maintaining specimen quality and providing efficient access must be incorporated.

Pharmaceuticals including narcotics are transported by pharmacy personnel to the individual clinics in locked carts. Narcotics are delivered to a narcotics locker, which is usually located in a clean supply or patient prep area, and is remotely alarmed to the nearest nursing station.

Materials are transported by service elevators and through corridors separated from patient traffic where possible.

- Clean supplies are transported by exchange carts which are stored in the Clean Supply Room.
- Deliveries are normally scheduled during hours when patient visits are not scheduled.

Linen: Disposable linens are delivered as part of clean supplies.

Sterile supplies are accommodated by prepackaged or disposable items that are delivered with clean supplies.

Food: Nutrition and Food Service (Dietetics) deliveries to Ambulatory Surgery are limited to nourishments provided at post anesthesia recovery and areas where patients are held for observation and/or recovery.

Unless the program includes Canteen Service, food service is not provided at Outpatient Clinics. In most cases, food service should be limited to vending facilities. Vending machines are replenished with pre-packaged food and beverage items by Canteen Service or contract provider from carts or hand trucks.

When expanded food service is included in the functional program; determine the food service methodology to be used by Canteen Service or the contract provider. Typically, food should be transported from the dock area to a receiving/breakdown area, then to dry, refrigerated, or frozen storage as appropriate. Analyze waste generated at receiving, preparation, serving, dining, and ware washing areas to determine appropriate transport and holding areas pending final disposal.

Waste from food service is collected by housekeeping staff and transported to the Soiled Utility Rooms and trash collection areas where it is disposed of as indicated by the Waste Management narrative.

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