OUTPATIENT SERVICES IN A HOSPITAL

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OUTPATIENT SERVICES

Hospitals are very distinctly divided into a well defined hierarchy of spaces. A functional design can promote skill, economy, conveniences, and comforts; a non-functional design can impede activities of all types, detract from quality of care, and raise costs to intolerable levels. Hospitals are the most complex of building types. Each hospital is comprised of a wide range of services and functional units. These include diagnostic and treatment functions, such as clinical laboratories, imaging, emergency rooms, and surgery; hospitality functions, such as food service and housekeeping; and the fundamental inpatient care or bed-related function. This diversity is reflected in the breadth and specificity of regulations, codes, and oversight that govern hospital construction and operations. Each of the wide-ranging and constantly evolving functions of a hospital, including highly complicated mechanical, electrical, and telecommunications systems, requires specialized knowledge and expertise. Idealized scenarios and strongly-held individual preferences must be balanced against mandatory requirements, actual functional needs (internal traffic and relationship to other departments), and the financial status of the organization.

In addition to the wide range of services that must be accommodated, hospitals must serve and support many different users and stakeholders. Ideally, the design process incorporates direct input from the owner and from key hospital staff early on in the process. The designer also has to be an advocate for the patients, visitors, support staff, volunteers, and suppliers who do not generally have direct input into the design. Good hospital design integrates functional requirements with the human needs of its varied users.

The basic form of a hospital is, ideally, based on its functions:

- bed-related inpatient functions
- outpatient-related functions
- diagnostic and treatment functions
- administrative functions
- service functions (food, supply)
- research and teaching functions

Hospitals can be classified into five zones:

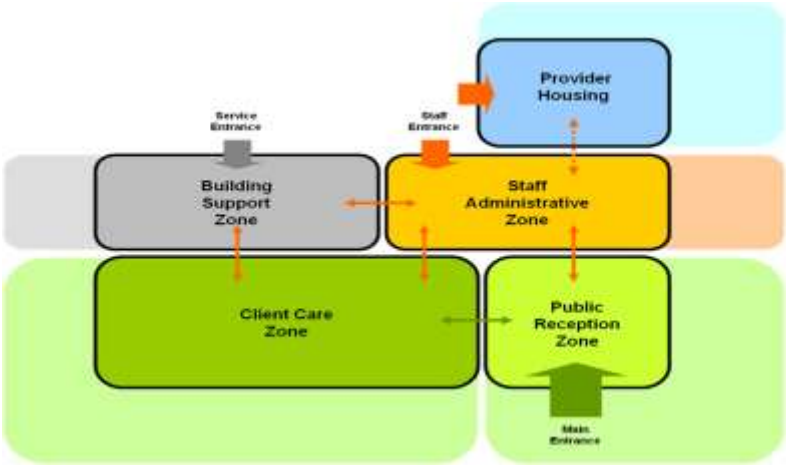
The first zone – It consists of the OPD, emergency department, administration, main lobby with front and back offices.

The second zone - It consists of the diagnostic services, laboratories.

The third zone – This would be out of reach of the general public and would compromise the core of the healthcare facility. It includes the OT suites, intensive care units, labour/delivery department.

The nursing zone – This will have all the in-patient beds with its associated nurse stations, and support areas.

The service zone – The actual backbone of any successful healthcare facility. It consists of the electrical, fire, medical gas, plumbing, and other engineering areas. It also includes the location of the kitchen/dietary, housekeeping units.



With the advancement of technology, the pressures of managing staff and costs, improvement of systems, the average length of stay in hospitals has considerably decreased. Hospitals are now more prone to admit acute patients for in-patient care. As a result the pressures on the outpatient department or the simple day-care hospitals have increased. Today we have simple ambulatory care hospitals which cater to a quick examination, or procedure leading to bigger turn around. Many a time these ambulatory units are combined with diagnostic or therapeutic procedures.

Types of Outpatient Services

Two types of OP Services

- Centralized Outpatient Services :
  All services are provided in a compact area which includes all diagnostic and therapeutics facilities being provided in the same place.
- Decentralized Outpatient Services :
  Services are provided in the respective departments.

More and more medical procedures are being offered in qualified outpatient service centers. Outpatient services are offered in many settings. For instance, medical schools often provide various types of outpatient services, such as pain clinics or rehabilitation centers. Other types of outpatient facilities include:

- Polyclinic and Referral Clinic
- Outpatient clinics at hospitals or other medical facilities
- Surgery centers
- Imaging centers
- Cardiac catheterization centers
- Mental or behavioral health centers, which may provide substance abuse treatment services and mental health services for adults or children.
- Medical group practices.

- Lab centers.
- Gastrointestinal centers, which may provide screening or other services such as colonoscopy and endoscopy.
- Durable medical equipment rental facilities.
- Physical therapy centers.
- Chemotherapy and radiation therapy centers.

Many outpatient service centers specialize in a specific area of medicine, such as orthopedics (bone and joint), cardiac sciences, neurosciences, hepatobiliary & pancreatic diseases, endocrinology, lifestyle diseases, urology/nephrology centres, etc. These centers, like many hospitals, have advanced equipment and highly trained staff.

Important Considerations

There are many benefits to outpatient services, depending on the type of medical procedure you need and on what you prefer.

- Outpatient services can be cost-effective. Often, the procedure that you need may cost less at an outpatient service center than at a hospital, especially since you are not billed for separate hospital services. Outpatient service centers do not require an overnight stay. This can reduce costs.
- Outpatient service centers usually specialize in one type of treatment or procedure. And the staff usually has a lot of experience that is focused on the procedure you need. Also, the equipment and techniques used may be the most advanced.
- Outpatient services may be more convenient for you. All of the care that you need before, during, and after the procedure, surgery, or test may be conveniently provided in one place.

When choosing an outpatient facility, consider:

- The reputation and quality of the center. What do you know about the care offered by the facility? Learning about the particular center before the procedure may prevent you from receiving poor care. For more information about finding out the quality of an outpatient facility.
- The center's ability to access emergency equipment. Does the center have all of the possible equipment and knowledge it needs to treat you in case of an emergency during your procedure, test, or surgery—such as problems with anesthesia during surgery or your newborn needing intensive care after delivery? If you have other health conditions, you may be at higher risk for needing emergency care.
- The center's connection to a major hospital, in case you need emergency care, and how far away the hospital is.
- The center's level of follow-up care. Find out if the center offers follow-up care or designates someone to care for you after the procedure, surgery, or test—even after the center is closed. Will you receive clear, written instructions on how to care for yourself after your visit? Follow-up care can be an important part of appropriate health care.

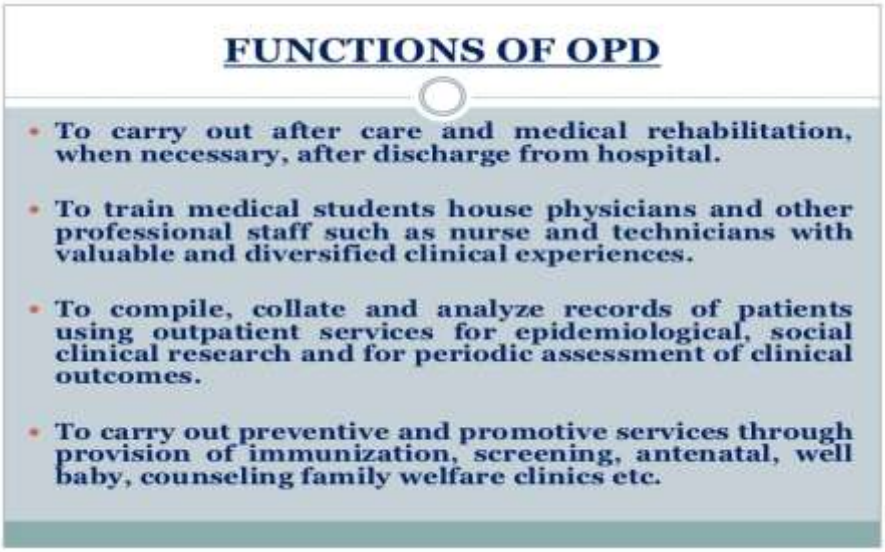
- The center's location. Is the facility close enough that if you need to return for additional care, you can get there without too much inconvenience? Is there a center located closer to you that offers the same service?
- The type of communication that will be available to your doctor. Will the facility send all test results and reports to your doctor? If a center does not communicate well, it will be a struggle to get helpful information to your doctor. Talk with your doctor and others who have used the center to find out whether the staff will communicate well with you and your doctor.

Scope of OPD

- First point of contact
- It is the shop window of hospital
- Makes or mars the hospital image
- A good OPD service can reduce the load on in-patient services
- It is a place for implementing preventive & promotive health activities.
- Facilitates teaching
- About twice the in-patients attend OPD every day

Functions of OPD

Early diagnosis, curative, preventive & rehabilitative care on ambulatory basis
Effective treatment on ambulatory basis
Screening for admission to hospital
Follow up care & care after discharge
Promotion of health by health education
Rendering of preventive health care
Promotion of health through health education
Training of medical / nursing students
Keeping upto date records for future treatment, medical education, epidemiological and socialresearch



Location

- Separate entrance
- Easily accessible
- Should have approach from main road
- Adjacent to supportive facilities, x-ray and laboratory
- Amenable for Expansion

Planning:

- Patient flow should move in one direction to avoid undue back traffic.
- Sharing with the IPD, all Diagnostic facilities, such as X-Ray & pathology laboratory.
- Should be amenable for expansion without serious dislocation of work.

Layout:

- Double loaded single corridor with rooms on each side of the corridor.
- Double corridor for entry from the opposite sides of the room.
- Triple corridor which provides two rooms of examination treatmentrooms on each side of a staff corridor

Size

- Type and number of specialist clinics
- Timings of OPD
- Number of daily OPD patients
- Number of attendants accompanying the patient
- Availability of space
- Plans for future expansion

Some Recommendations according to BIS (Bureau of Indian Standards):

- Entrance Zone - 2sq.meter/bed.
- Ambulatory Zone - 10sq.meter/bed.
- Diagnostic Zone - 6sq.meter/bed.
- Total hospital area - 60sq.meter/bed

Physical facilities categorized into 4 groups:

- Public Areas(Entrance zone)
- Clinical Areas(Ambulatory zone and Diagnostic zone)
- Administrative Areas
- Circulation Areas includes corridors, stairs, lifts etc. Occupies about 30% of total building area, easy accessibility of elevator especially for obstetrics and cardiac patient. Corridor should be 1.8 meter wide. Security check post at strategic location.

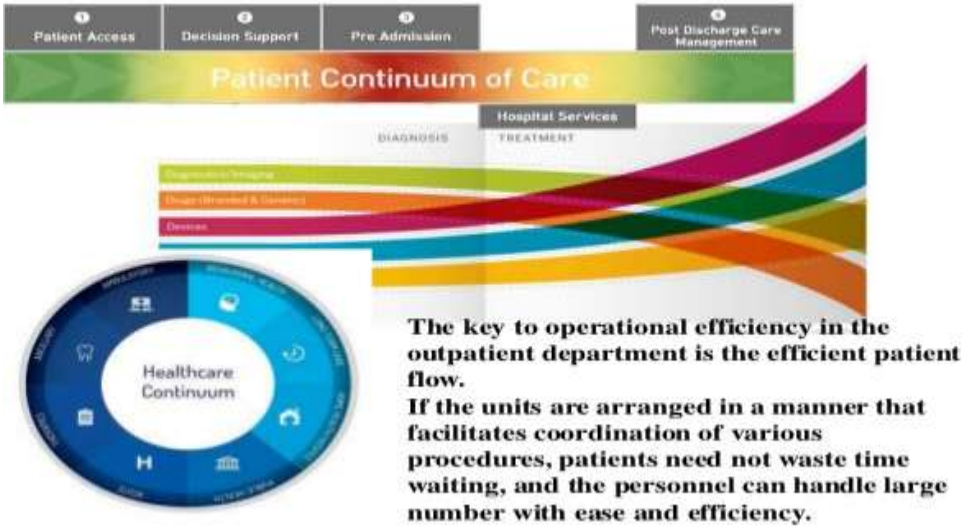
Daily OPD Attendance

- Usually 4 per In-patient bed or 10 per daily admission
- Rule of Thumb: 4 patients for every bed each day about 40% new and 60% old

The Design Aspect

Outpatient Department (OPD) is the 'shop-window'/ the face of the healthcare facility, meant for patients and attendants. Easy access with minimum steps or best no steps to climb and dedicated vehicular parking or if space is not available easily, valet parking is a must. The healthcare unit should be designed for the disabled. The designs should include buffer zone to keep outside dirt and noise away from the functioning of the department. At the main entry automatic door openings is advisable.

The design should be such that the patient in his or her first visit must be able to understand the complete building setup with locations for reception, admission, enquiry, and other front office units easily in sight. Circulation within the building must be open with lifts and stair strategically located. Based on the site plan, and access from the road, variations to designs will occur. Light plays an important role to guiding the patients through the initial spaces of the building. People like to get a view of the outside. This also helps the patient not to get disoriented and leads the patient through.



The key to operational efficiency in the outpatient department is the efficient patient flow.
If the units are arranged in a manner that facilitates coordination of various procedures, patients need not waste time waiting, and the personnel can handle large number with ease and efficiency.

Public areas in OPD may vary based on the space available, and function of the unit. If the OPD is attached to an inpatient unit also, you have a variety of services that such as a gift shop, flower shop, snack bar, book shop, etc. You would also require a communication centre, which would help in telephones, emergency networking, video conferencing, and other communication related issues.

A space for medical records would be necessary for maintaining patient records, test results, diagnosis, etc. With the advent of Electronic Medical Record systems, these spaces are becoming smaller and in some cases are even located outside the healthcare unit. In hospitals which has both in-patient and outpatient facilities, it would be ideal for the design to support the movement of doctors and staff to flow between the two departments with ease.

Besides the being patient centric in design, the emphasis is also for proper utilisation time of the doctors and clinicians time. Minimising travel distances for both the patient and the doctors is an important factor and this has lead to the OPD combing with other support systems like the procedure room, point of care testing systems, diagnostic services. The POC can contain equipment for blood sugar testing, and other laboratory testing.

Space allocation to various rooms in the OPD varies based on the usage and function. Typically consulting rooms need to be standardized with an average of 120 SFT of floor space. It is advisable to have clusters of consulting rooms where similar consulting can occur, waiting for the patients and need to close to the clusters or groups of consulting rooms. Clusters help in keeping nursing and medical staff close to the patient and to each other.

Due to the function, some consulting rooms such as Gynae/Obs, Ophthalmology, Dental, Ear, Nose & Throat need special and unique design. Other aspects of good room designs include, sound insulation, patient privacy (the design should ensure that when the patient is in consultation, they should have privacy from the waiting areas and corridors), lighting for careful examination, and even space for patient changing areas, if necessary.

Ample public toilets for women, men and the disabled are a must. The toilets for the disabled have their unique design features which would help wheelchair assisted patients to use.

The design should ensure that the inside of the building is free from the harsh exterior environment. Climate controlled designs must consider patient and staff comfort, energy efficiency, and operational costs. Air-conditioning should minimize transmission of airborne pathogens. Recirculate air where we can. Electrical designs should cater to lighting, power and emergency needs separately.

The aesthetics of the department is closely related to the image or brand of the health facility, and to the patient welfare. Therefore it plays an important marketing tool. Some of the considerations that are generally looked into are increased use of natural light, materials and textures. Proportion, scale, colour, and an eye for detail all play their important roles in making the building look and feel good. The public areas should be bright and have an open concept. In contrast to the large scales in the public areas, consulting rooms, and other rooms should have a homelike proportions. This little detail matters in the mind of the patient and it helps in getting

him better and faster. Good and clear signage makes the organisation self descriptive. As far as possible levels should be avoided and if necessary ramps with gentle slopes should be given.

With increased technology and new systems, coming into play all the time, architecture and interiors too change. It follows a simple rule, "When engineering ends, architecture and interiors starts". Key factors that govern the concepts here are patient demands, medical technology, market forces, society and neighborly and the population we cater to.

Functional Design

Space needs and clinical programs can be anticipated to change during the life of the building. In order to facilitate changes in function, minimize remodeling work, and to allow for greater interoperability in the use of Clinic spaces, the use of modular spaces and designs is encouraged. The following diagrams in this section illustrate some typical concepts for the development of basic Exam / Treatment (E/T) modules. Once the basic module is established, it may be repeated for larger, multiple module clinics.
The space program for each Module will include Core Spaces (including Reception/Control, Exam Rooms, Intake/Exit Interview, Nurse Triage, Treatment and Procedure Rooms, Patient Toilets, Nurse Station, Medication Room, Staff Toilet, Clean Supplies, Soiled Utility, and Conference and Consultation) and Support Spaces (including HACs and Clerical Offices). The number of exam rooms and modules is determined from mission, staffing and workload projections using the criteria and formulas. Typical E/T modules will have 1 0 to 1 9 exam rooms and support spaces. The diagrams in this Section depict the relationships of the Core and Support spaces in a typical E/T Module in the Outpatient Clinic. Specialty Clinics, such as Chemotherapy, Dermatology, Gastroenterology, etc., will require additional specialized treatment and support spaces as listed in the space program.
The most common space size in the Outpatient Clinic should be a unit of 1 20 net square feet (examination rooms, offices, and many support spaces). Corridors used by patients should be at least 6 feet in width.

Accordingly, the planning module used to develop the Guide Plates is based on a room of approximately 1 0 by 1 2 feet. Allowing for partition widths, six typical (or unit) rooms and a 6 foot wide corridor will fit in 31 '-3" to 32'-0" square grid. This is the module used in developing this Design Guide and is intended as a starting point for consideration during design. It is not intended to restrict the use of other suitable modules or structural grids. The A/E shall coordinate the final module with the structural system selected for the project.
Net and Departmental Gross Area
Net Area (Net Square Feet, NSF; or Net Square Meters, NSM) is the actual floor area in a room or functional area (finish to finish) that can be used by people, furnishings, or equipment. Department Gross Square Feet (DGSF) includes, in addition to the Net Area, partitions and circulation internal to the functional area or department. The net to department gross factor (NTDG factor) adopted by VA for Ambulatory Care is 1 .65. The 1 .65 factor anticipates that internal circulation must be added to connect functional areas and individual rooms.

Functional Relationships Matrix

The following diagram presents the proximity relationships of the various functional areas or spaces found in outpatient clinics in a matrix format.
Proximity Codes For Diagram

The degree of proximity that is desirable with other departments or areas that share a functional relationship with the Outpatient Clinic is indicated by a scale of 1 to 4 (1 representing the greatest level of adjacency). An "X" entered in the diagram represents a relationship where separation is desirable for the departments or areas in question.

Code Proximity Relationship

1 Very Strong: Adjacent

2 Strong: Close, same floor

3 Moderate: Convenient, different floor acceptable

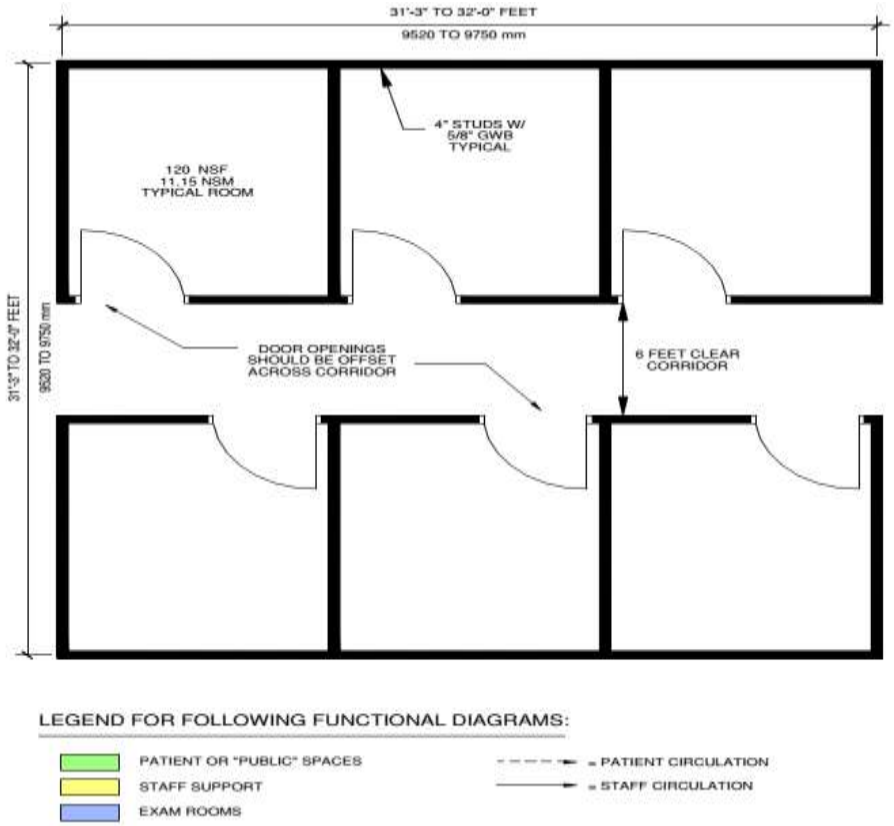
4 Weak: May be separated, limited traffic or communication necessary

X Separation required or desirable

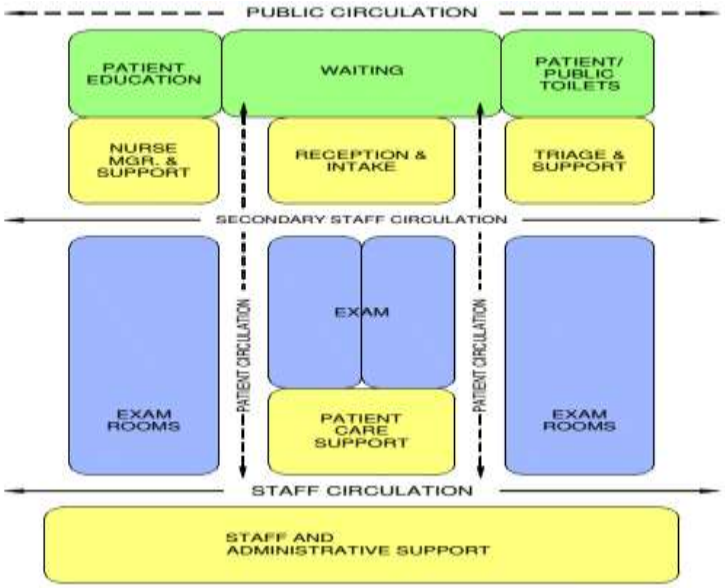
Functional Relationships Diagram

	Volunteer Service	Surgery Service	Supply, Processing, and Distribution	Service Organizations	Radiology Service	Pulmonary Medicine	Prosthetic and Sensory Aids Service	Police and Security Service	Physical Medicine and Rehabilitation Service	Pharmacy Service	Pathology and Laboratory	Outpatient Psychiatric Clinics	Medical Administration Service	Lockers, Toilets and Showers	Lobby	Eye Clinic	Environmental Management Service	Engineering Service	Endoscopy Suite	EEG Laboratory	Education Facilities	Dental Service	Clinic Management Suite	Cardiovascular Laboratories – Cardiology Clinic	Canteen	Audiology and Speech Pathology	Ambulatory Care (Exam / Treatment Modules)	Acquisition and Materiel Management Service
Acquisition and Materiel Management Services			2					3								3												-
Ambulatory Care	3	3	3	1	2	4	3	2	3	1			1		1	1				3		3	4	2	2	2	-	
Audiology and Speech Pathology					X		3		2	3	X	3	3		X			X		X		3			X	-		
Canteen	3	X			X			2			X	4	3												-			
Cardiovascular Laboratories - Cardiology Clinic	3	3	3		3	2	4											2		4			3	-				
Clinic Management Suite		4			4	3			4		4		4		3								-					
Dental Service			3				4			4			3				4	4				-						
Education Facilities													3								-							
EEG Laboratory	4	3	4			4					4									-								
Endoscopy Suite		2	2																-									
Engineering Service		X	3		3	2		3										-										
Environmental Management Service			3		3			3					3				-											
Eye Clinic			3		2		3			2						-												
Lobby	3	X		2			1	1		2		4			-													
Lockers, Toilets and Showers														-														
Medical Administration Service					2		2	2		2	3		-															
Outpatient Psychiatric Clinics								3				-																
Pathology and Laboratory Medicine	3				X						-																	
Pharmacy Service	3	3	3		2		3	2		-																		
Physical Medicine and Rehabilitation Service							2		-																			
Police and Security Service		3	3					-																				
Prosthetic and Sensory Aids Service		X					-																					
Pulmonary Medicine		4	4		3	-																						
Radiology Service		3			-																							
Service Organizations	2			-																								
Supply, Processing, and Distribution		1	-																									
Surgery Service		-																										
Volunteer Service	-																											

Planning Module



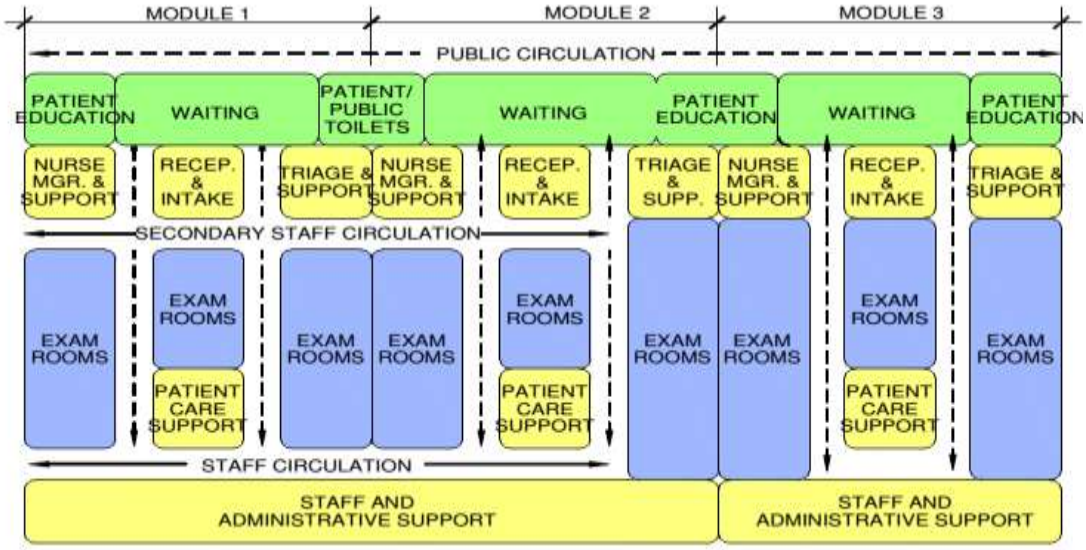
Clinics: Single Relationship Module



Typical Exam/Treatment Module is based on 1 0 to 1 9 exam rooms and support spaces. Rooms are arranged along double loaded corridors.

“Public” functions are located at the “front” of the module. Most staff offices and common support functions are located at the “back” of the module.
Patient access to the exam/treatment areas is controlled through the Reception and Triage functional areas.

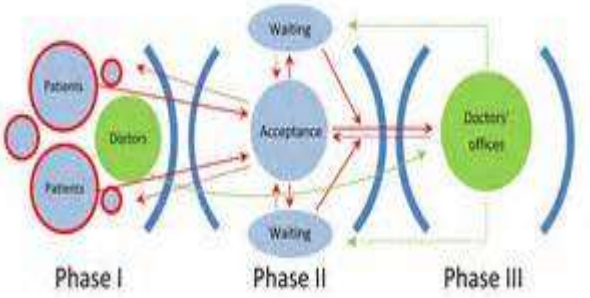
Multiple Module Relationship



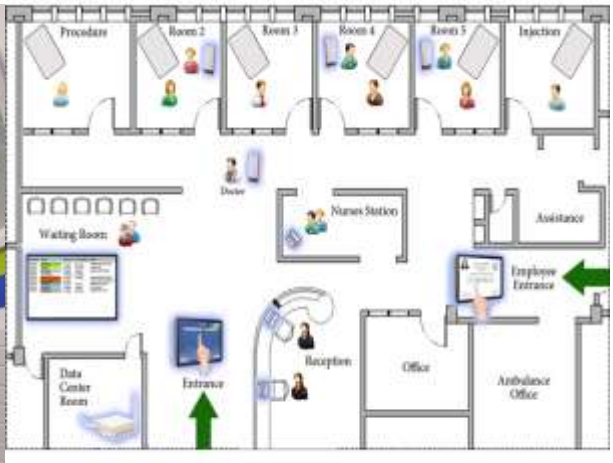
Typically Outpatient Clinics will have several Primary and Specialty Care modules. Exam/treatment modules may be arranged with common circulation as shown for Modules 1 and 2. This may provide planning and operational efficiencies from shared space or equipment (such as “overflow” into an adjacent module on busy clinic days); and can help maintain efficient staff and support circulation separate from public routes.
Some modules (specialty clinics in particular) may need to limit “through traffic” and should be kept distinct from adjunct modules as shown by the relationship between Modules 2 and 3.

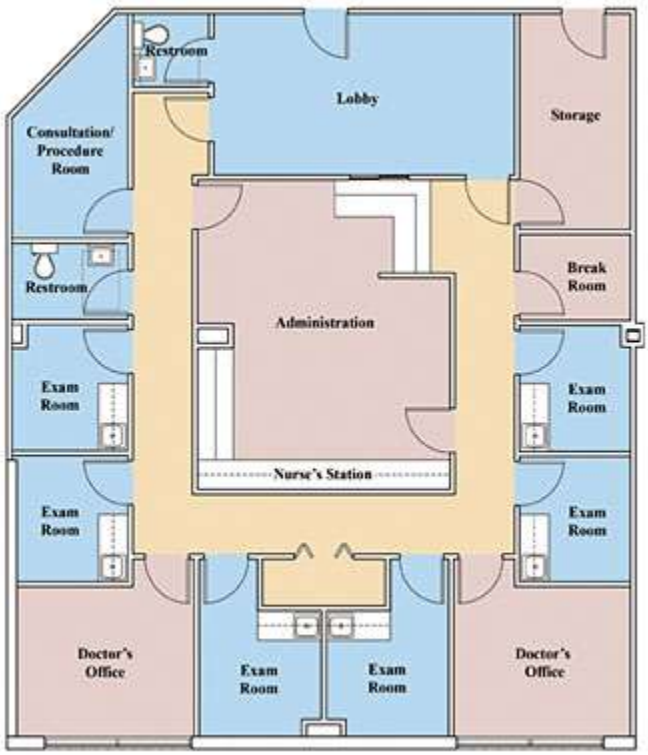
Current Trends

All outpatient facilities are alike in having no overnight patients. Otherwise, they can range from simple physicians' offices that provide primary care, to large, independent "hospitals without beds." Outpatient surgical facilities are now a common facility type, as the majority of surgical procedures may not require overnight hospitalization. An increasing number of community-level outpatient clinics are satellites of larger medical centers or systems, and are thus part of a complex that can emphasize continuity of care.


Waiting
Patients
Doctors
Patients
Acceptance
Doctors' offices
Waiting
Phase I
Phase II
Phase III


Outpatients
Outpatients


Outdoors
Procedure
Room 2
Room 3
Room 4
Room 5
Injection
Doctor
Nurses Station
Assistance
Waiting Room
Employee Entrance
Data Center Room
Entrance
Reception
Office
Ambulance Office


Restroom
Lobby
Storage
Consultation/
Procedure
Room
Restroom
Break
Room
Administration
Exam
Room
Exam
Room
Nurse's Station
Exam
Room
Exam
Room
Doctor's
Office
Exam
Room
Exam
Room
Doctor's
Office

Almost all hospitals already include some outpatient diagnostic and treatment spaces. Many outpatient construction projects are responses to hospitals' increased outpatient workloads. Existing outpatient facilities within hospitals are expanded, overhauled, and updated. Such a renovation can serve a number of important functions in addition to that of giving the hospital a new outpatient focus. It may create improved circulation patterns or it may replace obsolete clinical areas with state-of-the-art services for use by inpatients as well as outpatients. Light-filled lobbies can give a friendly new face to hospitals that had been dour and intimidating—a new image that is very valuable in today's competitive climate.

Building Attributes

Although outpatient facilities may vary greatly in size and in services offered, all should have certain common attributes:

Efficiency and Cost-Effectiveness

The layout of the clinic should:

- Promote staff efficiency by minimizing distance of necessary travel between frequently used spaces
- Make efficient use of space by locating support spaces so that they may be shared by adjacent functional areas, and by making prudent use of multi-purpose spaces
- Include all needed spaces, but no redundant ones. This requires careful pre-design programming.
- Group or combine functional areas with similar system requirements

Flexibility and Expandability

As medical needs, modes of treatment and workload will continue to change, outpatient facilities should:

- Follow modular concepts of space planning and layout
- Use established standard room sizes and plans as much as possible, rather than tight and highly specific ones
- Be served by modular, easily accessed, and easily modified mechanical and electrical systems
- Where size and program allow, be designed on a modular system basis
- Be open-ended, with well planned directions for future expansion

Fig: *Outpatient Clinic, VAMC Palo Alto, CA*

Cleanliness and Sanitation

Both sanitation and the appearance of it are important goals for outpatient facilities. They are promoted by:

- Appropriate, durable finishes for each functional space. Antimicrobial surfaces might be considered for appropriate locations
- Proper detailing of such features as doorframes, casework, and finish transitions to avoid dirt-catching and hard-to-clean crevices and joints
- Adequate and appropriately located housekeeping spaces
- Incorporating O&M practices that stress indoor environmental quality (IEQ)

Easy Visibility

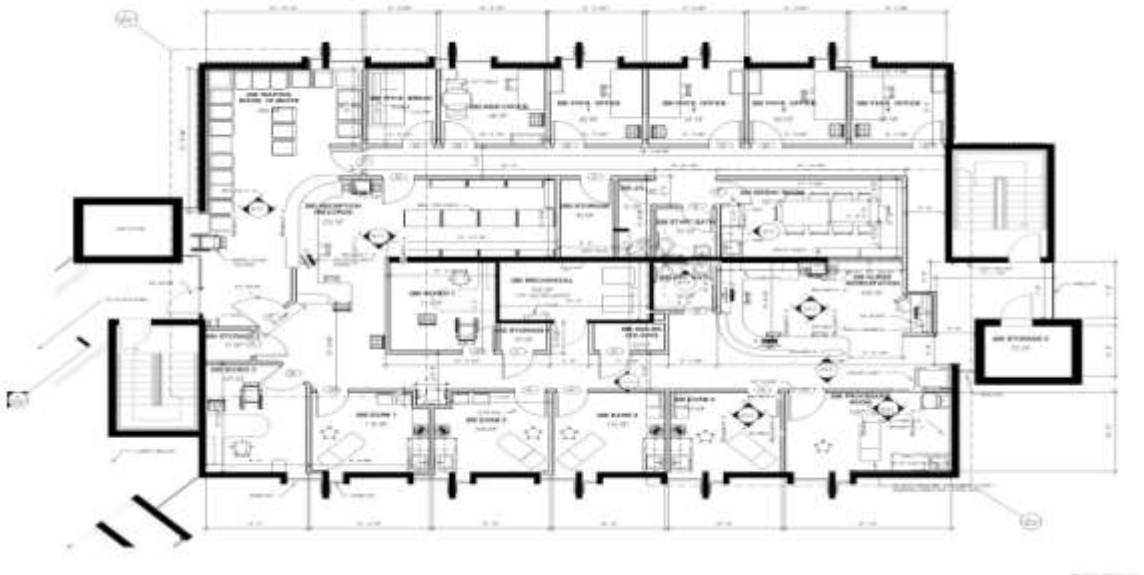
To encourage its use, the facility should be:

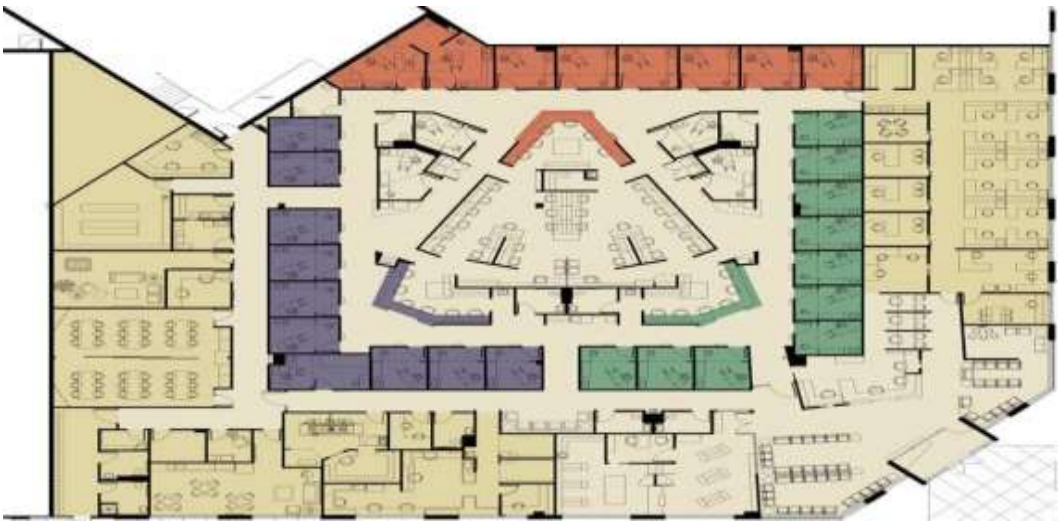
- Easy to find, clearly visible from the approach road, with good directional signage from nearby major roads
- Easy to recognize, with a welcoming image and clear, appropriately located directional signage
- Easy to enter, with visible, well-identified entrance, and a clear route from parking

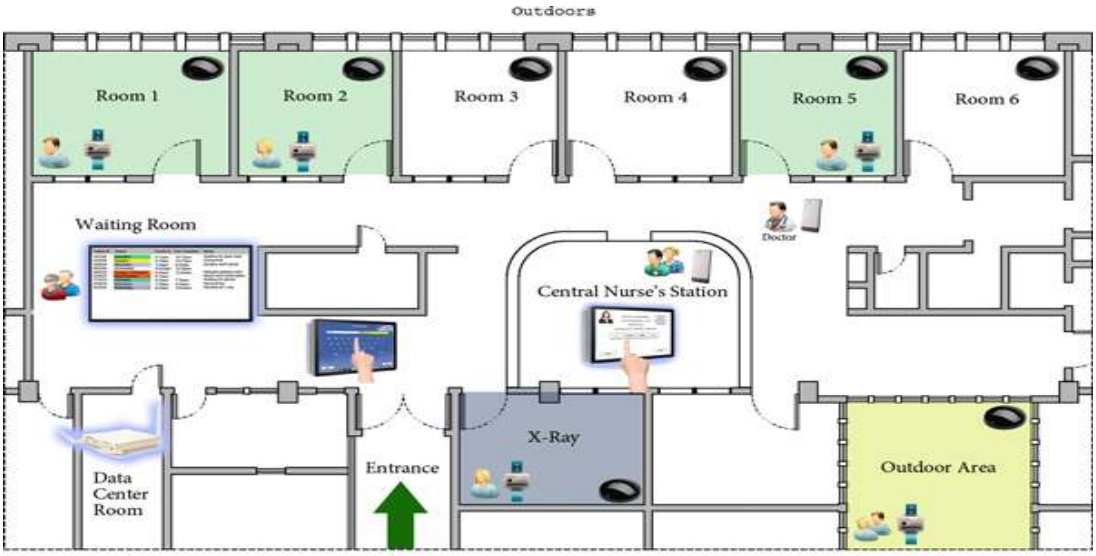
Accessibility

All areas, both inside and out, should:

- Comply with the minimum requirements of the State Disabilities Act and, if federally funded or owned, with the National Accessibility Standards
- Be easy to use by the many patients with temporary or permanent handicaps







Therapeutic Environment

Although the needs of outpatients are less intense than those of hospital inpatients, an individual's visit may still be very stressful. Every effort should be made to make the outpatient visit as unthreatening and comfortable as possible, and to make the patient's experience more like going to a doctor's office than to a hospital. This can be accomplished by:

- Using familiar and non-institutional materials with cheerful and varied colors and textures
- Opening up an inwardly directed environment with views of landscaped courtyards and other outdoor spaces, particularly from waiting spaces. Nature scenes may be provided if outdoor view is unavailable.
- Using cheerful and varied colors and textures, keeping in mind that some colors are inappropriate and can interfere with provider assessments of patient's pallor and skin

tones, disorient older or impaired patients, or agitate patients, staff, and particularly some psychiatric patients.
- Admitting ample natural light wherever feasible and using color-corrected lighting in interior spaces, which closely approximates natural daylight
- Promoting patient dignity and privacy by visual screening within exam rooms and sound insulation between exam and consultation rooms and other spaces
- Encouraging patient independence by a patient-orientated layout, with clear and uncomplicated patient routes, visual cues, and clear signage
- Providing quiet areas for meditation/spiritual renewal, such as, in larger facilities, quiet rooms, and meditation gardens
- Ensuring grades are flat enough to allow easy movement, and sidewalks and corridors are wide enough for two wheelchairs to pass easily
- Ensuring entrance areas are designed to accommodate patients with slower adaptation rates to dark and light; marking glass walls and doors to make their presence obvious

Aesthetics

Aesthetics is closely related to creating a therapeutic environment (homelike, attractive). Also, aesthetics is important to the clinic's public image and is thus an important marketing tool, both for patients and staff. Aesthetic considerations include:

- Increased use of natural light, natural materials, and textures
- Use of artwork
- Attention to detail, proportions, color, and scale
- Bright, open, generously scaled in public spaces
- Homelike and intimate scale in patient rooms and offices
- Signage that promotes optimal way-finding, satisfies the orientation needs of the first-time patient, allows easy navigation, and provides highly visible reference points immediately adjacent to each major entrance
- Use mechanical door openers to assist in entering and leaving the facility

Security and Safety

In addition to general safety concerns of all buildings, clinics have several particular security concerns:

- Protection of clinic property and assets, including drugs
- Protection of patients, including incapacitated patients and staff
- Violent or unstable patients need to be controlled safely
- Large, prominent, publicly-owned clinics may be potential terrorism targets

Sustainability

Clinics are public buildings that have an impact on the environment and economy of the surrounding community. They are major users of energy and water and produce large amounts of

waste. Because clinics place demands on community resources they are natural candidates for sustainable design.

Emerging Issues

- A continuing proliferation of specialized, one-service facilities: dialysis centers, cancer centers, surgery centers, heart centers, etc.
- A growing interest in more holistic, patient-centered treatment, which might include, among other things, the provision of a mini-medical/health care library and computer terminals, so patients can research their own conditions and treatments.

Relevant Codes and Standards

Code requirements for medical office buildings are much less restrictive than those for hospitals. Local building codes will largely govern. However, federal facilities on federal property generally need not follow local and state codes, but follow federal regulations.

Outpatient facilities operated under a hospital's license or requiring separate state licensing and accreditation will be governed by additional regulation.

State and local building codes are based on the model International Building Code (IBC). Since clinics treat patients who are reimbursed under Medicare, they must also meet federal standards, and to be accredited, they must meet standards of the Joint Commission on the Accreditation (JCI). Generally, the federal government and JCI refer to the National Fire Protection Association (NFPA) model fire codes, including Standards for Health Care Facilities (NFPA 99) and the Life Safety Code (NFPA 101).

Federal agencies that build and operate outpatient clinics have developed detailed standards for the programming, design, and construction of their facilities. Design Guides for planning hospital based ambulatory care clinics, community based outpatient clinics, satellite outpatient clinics, and ambulatory surgery clinics need to be followed.

Some radical trends in outpatient facility design

The outpatient facility construction projects are becoming increasingly complex as medical groups and hospital systems demand spaces that can keep up with their rapidly changing strategic and organizational requirements.

Outpatient facilities have become the darlings of the healthcare construction sector in recent years. By even the most conservative measure, spending on outpatient construction is expected to grow anywhere from 20-30% in the next decade. With emphasis on Ambulatory care, demand for outpatient care facilities is likely to accelerate.

Number of patients attending outpatient departments has been ever-increasing during the last more than two decades. This paradigm shift has been happening across the board, sweeping along academic medical centers, community hospitals, corporate hospitals, and not-for-profit providers alike. It is showing no sign of slowing, especially with advancements in care and changing reimbursement patterns. Outpatient facilities typically allow healthcare organizations and physician groups to deliver care at lower cost than can be done in inpatient environments. They are generally less expensive to design, build, operate, and maintain, which translates to higher profits for their owners.

Meeting Client Needs

- Expect demand for easily reconfigurable spaces in outpatient facilities to be on the rise.
- Be prepared to rethink the conventional wisdom about under floor air systems in healthcare facilities.
- Look forward to heightened scrutiny of facility quality and operational performance.
- Anticipate greater pressure from clients for you to deliver 'affordable elegance.'

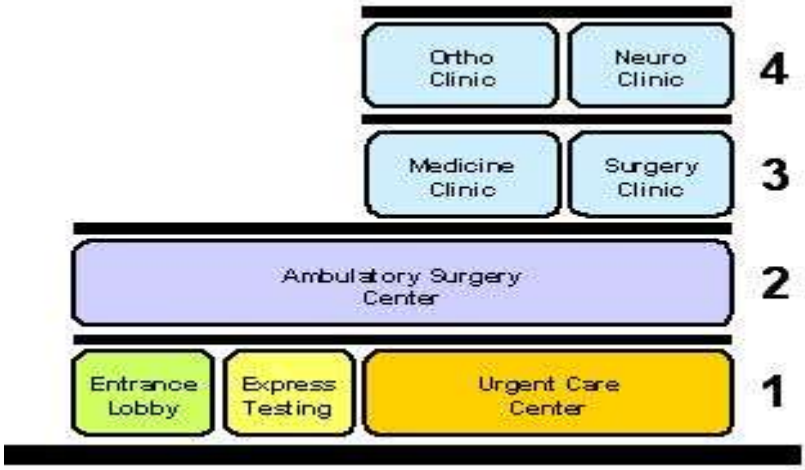
However, these kinds of projects are becoming increasingly difficult to execute, as healthcare clients see outpatient environments as a means not only to deliver better patient outcomes and experiences, but also as a way to provide flexibility to meet their own rapidly changing organizational needs and strategies.

At some health ambulatory centers, exam and procedure rooms are located at the center of the plan, rather than at the perimeter, to create a more reconfigurable environment. Interior exam rooms receive daylight through clerestory windows.

To reduce both costs and the noise, dust, and disruption associated with renovation work, while simultaneously enhancing operational efficiency, work environments, and patient experience,

Integrated Architecture is required to develop a highly flexible, reconfigurable outpatient facility model.

The optimal configuration is a 9x12-foot patient exam room. All other spaces become increments of the examination room module: a procedure room becomes one-and-a-half times the size of an exam room; a utility room becomes half the size of an exam room. With its open-plan configuration, the facility incorporates underlying modularity that allows patient rooms, workspaces, conference rooms, and other spaces to change in function, location, and dimension as needed, without the need for intense renovation.



Careful planning

Like traditional hospital buildings, ambulatory facilities require careful planning that matches the physical environment to the needs of the community as efficiently as possible. Eight of the leading ambulatory care design trends include:

Lean process improvement

Improving patient throughput is key to maximizing any health care organization's facility assets. Lean process improvement provides a number of tools to help people perform better and more efficiently. In the health care setting, this means increasing throughput while maintaining quality. By defining Lean operational parameters and utilizing Lean design and construction techniques, a hospital or health system can boost the inherent efficiencies of ambulatory care.

To establish a baseline for advancement, the first step of any process improvement project is to define the current state of operations. Industry trends, best practices, benchmarks and metrics are useful in defining the desired future state.

In developing a Lean facility design, it is important to focus initially on improving operations, apart from making any physical improvements. Once Lean processes are established, an organization can begin looking at how physical improvements might further enable operational improvements. Form should follow function, but function also follows form. Since the two

overlap, it is necessary to take an iterative approach that considers both. Cleaned up processes only go so far in a less-than-ideal space, and a cleaned up space gives process improvement an environment in which to flourish.

Simulation models and departmental mock-ups are helpful tools in achieving Lean designs. Static simulation involves a relatively simple spreadsheet model that demonstrates what happens when changes are made to throughput metrics and design. Dynamic simulations are more sophisticated, computer-based models with multiple variables, which can be used to begin refining processes and physical designs.

Departmental mock-ups, from early cardboard layouts to full-scale, fully fitted-out displays, allow staff to visualize and run actual process scenarios to determine the best design for the most efficient operational flow. Scenario testing lets staff try out design and workflow ideas before potentially costly mistakes are built into the facility.

Shared medical appointments

Also known as group visits, these gatherings address the health care needs of several people at once. This type of care can be efficient and effective for certain patient populations, such as obstetrics patients. It also has shown to be helpful in disease management, for conditions like diabetes. Patient education and wellness programs also can be accomplished in a group visit setting.

Most ambulatory environments are not currently set up to accommodate these types of visits. New ambulatory care designs should consider the need for group visit space within the facility, along with areas where caregivers and patients can interact.

The projected impact of group visits on patient throughput also should be taken into account. While these appointments involve multiple patients, they are typically longer than individual appointments. Generally individual appointments at the clinic last 15 to 30 minutes, compared with 90 minutes for shared medical appointments. Depending on a health care organization's situation, this may increase or decrease throughput. Space and staffing requirements should be calculated accordingly.

Telehealth services

Technological advances have made home care via e-visits and other telehealth solutions a viable component of outpatient care. Telehealth is the use of electronic means to provide health care to patients who are outside the health care setting. The technologies involved can range from a simple phone call or email exchange to videoconferencing, streaming media, remote monitoring and robotics.

E-visits, one aspect of telehealth, are really taking off. These virtual visits are a convenient means for an established patient to discuss a specific health care issue, such as a minor illness or well-controlled chronic condition, with a caregiver without the patient's having to leave home. Instead of going to see a doctor or nurse practitioner in person, the patient can exchange messages with the caregiver via a secure electronic communications portal. E-visits also are covered by some insurers.

There are two models for e-visits: synchronous, in which the physician and patient communicate directly with one another in real time; and asynchronous, in which the physician and patient can post messages for one another at different times.

The design implications of e-visits and other telehealth solutions depend on the level at which a health care organization plans to provide this type of service. Digital exam rooms with the

appropriate equipment, lighting and acoustics are essential for successful telehealth implementation. Design teams should consider the impact of telehealth services on patient throughput and the number of full- and part-time employees needed to manage these systems.

Hospital-employed physicians

With reimbursement models changing, physicians are seeing the benefit of joining larger groups. More and more, they are becoming employees of hospitals, working at hospital-based ambulatory clinics. Ambulatory care facilities for hospital-employed physicians generally include large areas for collaborative work because this type of practice emphasizes collaboration. The more standardized practices of hospital-employed physicians lend themselves well to modular clinic designs that make efficient use of space.

Flexibility for the future

Facility design represents a long-term investment for health care organizations. To make the most of this investment, it is essential to identify future care processes and then standardize the design as much as possible to enable the building to adapt to future needs that can be predicted and those that cannot. To help predict future needs, an organization first should attempt to recognize and correct current inefficiencies to streamline processes and make better use of space. This can maximize the organization's immediate space utilization and reduce the need for total space in the future. Studying how other groups are delivering care can provide a useful outside perspective on the possibilities for process and facility design.

Organizations should consider the types of patient visits they plan to offer and include appropriate exam rooms for each. If group or e-visits are projected to be part of the mix, the design should include areas that meet the needs of these services.

Benchmarks are valuable in determining current and future needs. Because some specialties have a higher patient throughput than others, the number of exam rooms per physician per specialty is a particularly worthwhile metric for ambulatory care design. The number of half-days a clinic meets is also important. Clinics that meet at least four half-days a week typically are provided with dedicated space. Surgical and general medical subspecialties often can share space, for example, with each meeting three days a week in the same clinic.

Standardized clinic modules designed to function efficiently for a variety of providers allow health care organizations to adapt if patient volumes shift from one specialty to another down the road.

Population-growth tracking

Health systems are recognizing the value of tracking population changes in their markets and facility design requests for proposals are beginning to include questions about how organizations' real estate strategies should anticipate population growth or movement.

Ambulatory care is like the heart and limbs of the continuum of care. Everyone pulses through ambulatory care — all ages and types of people from every part of a geographic area.

Combined urgent care centers and ambulatory clinics

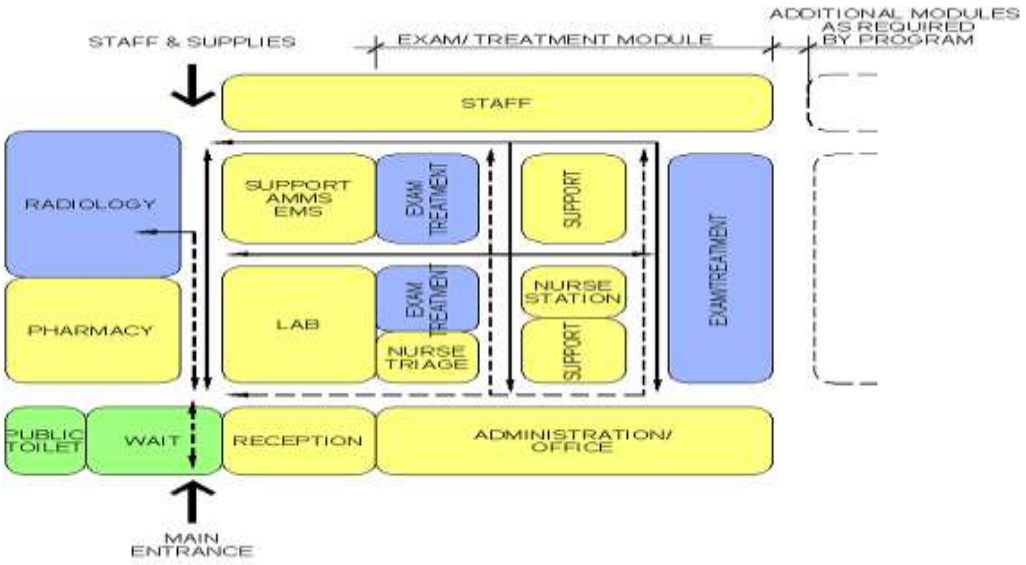
Urgent care centers serve unscheduled primary care needs — situations for which a patient cannot wait days or weeks for an appointment to see a caregiver, but that do not require emergency treatment. Health systems can gain several benefits by combining ambulatory and urgent care services in the same facility. The urgent care center can take the stress off the hospital emergency department (ED) by diverting nonemergency patients to a more appropriate care setting. Urgent care centers also present opportunities to bring more individuals into a health system. With the right design, an urgent care department can even be built to convert into an ED for a future satellite hospital.

Inpatient needs

Despite the recent shift from inpatient to outpatient care, organizations should not disregard the fact that an ambulatory facility may one day need to handle more acute patients. Ambulatory surgery centers already are moving toward accommodating higher-acuity outpatient surgeries, which require more of an inpatient mindset during design, especially regarding post-anesthesia care.

Community Based Outpatient Clinic (CBOC)

The functional areas included in the space program for a CBOC will vary with the medical program, workload projections, staffing, and the availability and capacity of existing services in the parent Medical Center. This Diagram illustrates the relationships of the functional areas in a typical Clinic which may include areas for Reception, Patient Care, Support, and Staff and Administration. When included in the medical program, CBOCs may be expanded to contain limited diagnostic functions (Laboratory and Radiology) and Pharmacy. Clearly identify the Main patient/public entry to the Clinic; reinforce the entry sequence with the design of site circulation systems. Staff entry and circulation should be separated from patient circulation if possible. Lab and Pharmacy can expect high traffic and should be located convenient to entry/waiting. Administration (“Business Office”) functions should be located near reception at the “front” of the Clinic. Most other staff offices and support functions can be grouped to the “back” of the Clinic.



Satellite Outpatient Clinic (OPC)

The functional areas included in the space program for a Satellite OPC will vary with the medical program, workload projections, and staffing. This diagram illustrates general conceptual relationships for the functional areas in a typical Clinic. The actual sizes of the functional areas and departments will vary with each project. Therefore, the design and planning for each Satellite OPC must be tailored to the medical and space programs approved for the clinic. All of the functional areas shown may not be included in each project.

The following diagram shows all functions on a single level. Depending on the program and site, this may be appropriate for some clinics. Two or more stories will generally be more appropriate for larger clinics and restricted sites.

Clearly identify the Main patient/public entry; reinforce the entry sequence with the design of site circulation systems. Staff entry and circulation should be separated from patient circulation if possible.

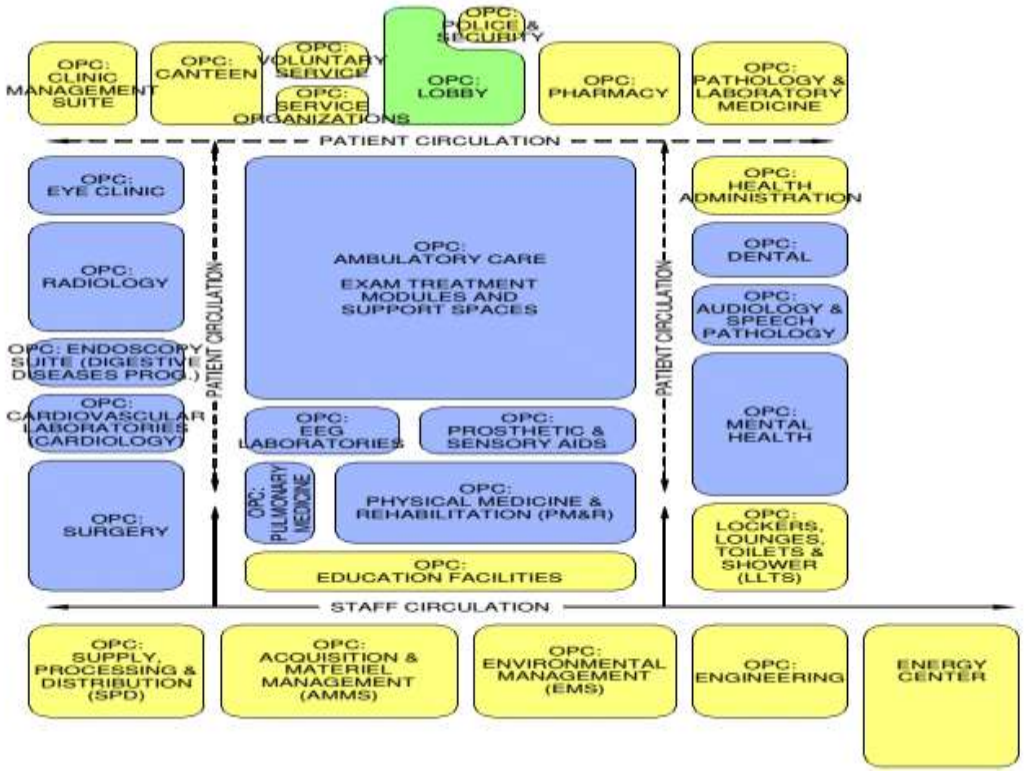
Individual entries may be appropriate for some specialty clinics or departments including Ambulatory Surgery and Mental Health Clinics.

Service and dock areas should be located away from patient and staff circulation.

In general, functions with the greatest workloads and those that can be expected to be used by most patients on each visit (such as Pharmacy and Canteen) should be located convenient to the main entry, or on the first floor in multi-story buildings.

Support functions can be grouped to the "back" of the clinic. Acquisition and Materiel Management (AMMS) requires loading dock access and has a strong adjacency with Supply, Processing and Distribution (SPD). Similarly, SPD has a very strong adjacency with Ambulatory Surgery. If SPD and Surgery are not on the same level, dedicated cart lifts (dumbwaiters) or service elevators should be provided as appropriate for the volume of clean and soiled materials, supplies, and equipment.

Larger buildings will usually require an Energy Center (or central plant) to accommodate the necessary building service equipment including boilers, chillers, electrical gear, and emergency generators. The Energy Center and Engineering spaces should be located near the service area and dock. This diagram is intended to represent the functional relationships in a typical clinic and **does not** indicate the computer room, electrical and telephone/data rooms, and other essential building service spaces that must be provided. Designers shall make appropriate provisions for building services in the planning of each clinic building.



Space Attributes

The Clinic/Health Unit space type should provide a sanitary and therapeutic environment in which patients can be treated by medical practitioners quickly and effectively. Typical features of clinic/health unit space types include the list of applicable design objectives elements as outlined below.

Accessible

- All areas should comply with the minimum requirements of the Americans with Disabilities Act (ADA) and, if federally funded or owned, with the GSA's ABA Accessibility Standards. For more information, see WBDG Accessible Branch and Provide Accessibility for Historic Buildings (historic facilities).

Functional / Operational

- Cleanliness and Sanitation: The cleanliness of a facility is not only related to a patient's medical recovery, but can also affect the perceived level of care. To maintain a sanitary environment, spaces should be easy to clean and maintain. Use durable finishes and sterile/antimicrobial surfaces as necessary.
- Occupancy: The occupancy classification for the Clinic/Health Unit space type is Business Occupancy B2, with sprinklered protected construction and GSA Acoustical Class C2.

Productive

- Efficiency and Flexibility: The layout of the Clinic/Health Unit should promote prompt and reliable medical attention. Relationship and flow diagrams created at the beginning of the design process will ensure a sensible programming of space. Office support spaces such as workrooms, file rooms, copier areas, coat storage, and lockers typically will be integrated into the clinic environment. Flexibility must also be a basic feature of any health care facility to keep it from rapid obsolescence in the face of changing needs and technologies.
- Acoustic and Visual Privacy: Various regulations address the security and privacy of "protected health information" (PHI). These regulations put new emphasis on acoustic and visual privacy, and may affect location and layout of workstations that handle medical records and other patient information-both paper and electronic-as well as patient accommodations. Flow diagrams created in the beginning of the design process should address controlled access areas.

Secure / Safe

- Emergency Backup Systems: Typically, this space type will require emergency battery backup for 25% of lighting. Refer to individual utility requirements for specific medical equipment.

Example Program

The following building program is representative of Clinic/Health Unit spaces.

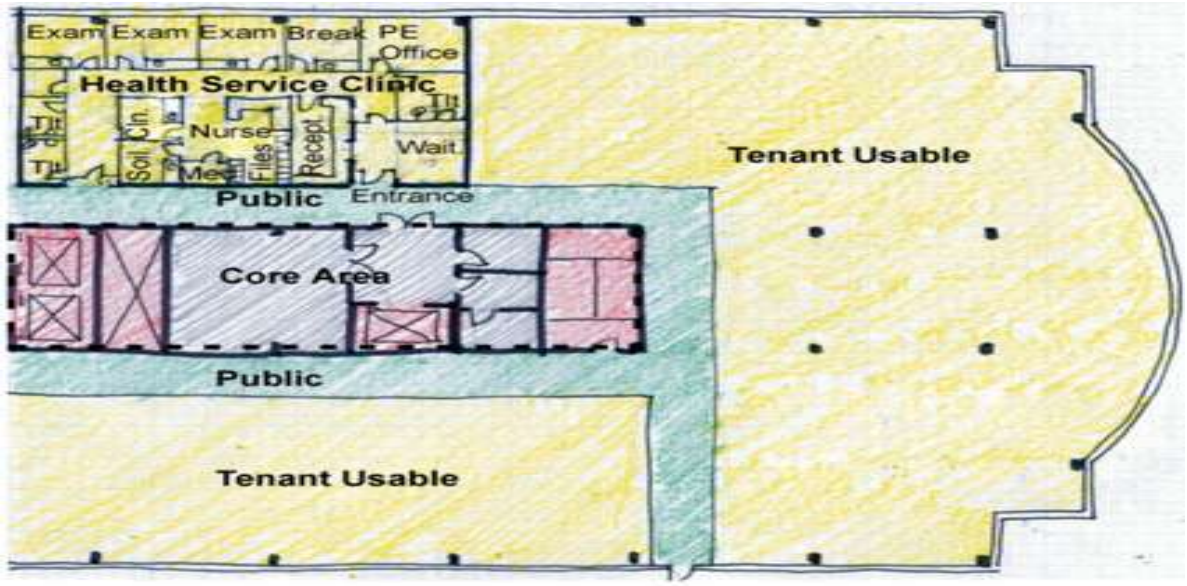
HEALTH UNIT

Description Tenant Occupiable Areas	Qty.	SF Each	Space Req'd.	Sum Actual SF	Tenant Usable Factor	Tenant USF
Entry Lobby				240		
Waiting	1	120	120			
Reception/Registration	1	60	60			
Payee Window	1	60	60			
General Patient Care				684		
Physician Office/Consult	1	120	120			
Exam Room	3	108	324			
Nurse Work Area	1	40	40			
Patient Toilets	1	60	60			
Clean/Supply Room	1	60	60			
Medications Storage	1	20	20			
Soiled Utility Room	1	60	60			
Medical Records				60		
Medical Records Files	1	60	60			

Staff Support Spaces				216		
Staff Toilet (Male)	1	60	60			
Staff Toilet (Female)	1	60	60			
Staff Break Room	1	60	60			
Housekeeping	1	36	36			
Tenant Suite			1,200	1,200	1.53	1,840
Tenant Usable Areas						1,840

Example Plans

The following diagram is representative of typical tenant plans.



Health Service Clinic Space Type

Outpatient Clinics

Permanent modular construction utilizes simultaneous off-site pre-fabrication with minimal site (and patient) disruption to accelerate the construction process. The result is an outpatient clinic that's up and running up to 50% faster, without compromising quality or design.

Outpatient clinics can be designed as standalone buildings or additions to existing medical facilities. Professional teams help to develop a cost-effective solution that promotes superior patient care, while blending with the existing aesthetics of neighboring buildings.

Modular Applications for Healthcare

Modular Construction Advantages

Modular construction projects ensure the clinic space will be fully functional faster than with conventional construction methods.

- Faster turnaround from plan approval to occupancy
- Continue operations during construction with temporary buildings
- Flexible design for fast and easy relocation or reconfiguration of buildings
- Attach directly to existing hospital facility
- Standard or custom specifications available

Outpatient clinics can be customized to serve a variety of layouts and functions such as patient exam rooms, laboratories, diagnostic imaging rooms, physical therapy areas, laundry facilities, waiting rooms, restrooms, reception areas and general administrative offices.

Efficiency in Outpatient Facilities Design

Making the most of a multi-tenant strategy

Healthcare delivery is changing. And the facilities in which care is delivered will change as well. Consolidation of providers, the need to improve outcomes and patient satisfaction and a focus on outcome-based medicine will all impact the outpatient facility of the future. The right facility design will be instrumental in healthcare economics and the quality of service.

The Economic Benefit
Reduction in lease cost of space

There are a growing number of outpatient facilities that demonstrate the shift from a multi-tenant building to one geared toward a single integrated user. Features seen in this type of consolidated practice building, or CPB, not seen in the traditional multi-tenant building include:

- Shared or consolidated waiting space
- Single check-in area for the entire facility
- Consolidated records, billing and back-office functions

The CPB can be a purpose-built building, or in many instances can be a re-purposed retail building that has become functionally obsolete. Coupled with the shift to electronic medical records, the CPB can improve coordination among providers, which may lead to an improved patient experience and outcome. The CPB model can also drive significant overhead savings. To illustrate the magnitude of savings, we examined a building with a multi-tenant approach. Using the same basic footprint, a single-occupant CPB layout was created in order to determine the magnitude of potential savings.

The primary impact to overhead savings would be through reduced square footage needs, with a secondary impact through a reduction in support staff.

Direct Facility Overhead Expense:

	Traditional Multi-Tenant MOB	CPB Model
Total Building Square Footage	29,128	31,382
Ancillary Services Area	6,483	5,472
Clinician Area	22,645	25,910
Number of Clinical Providers	12	21
Square Feet Per Provider	1,887	**1,234**

The square footage per provider is reduced by avoiding duplication of waiting area space, reception space and other back-office functions. Because there is effectively one tenant, there is no “common-area space” and the building becomes perfectly efficient.

Using a traditional estimate of 1,500 square feet per provider, the reduction in physical space needs is approximately 15,000 square feet.

Overhead Reduction Through Efficient Staffing
Staffing effectiveness can be a widely ranging variable, and taking a very conservative approach is prudent. For example, if you have a multi-tenant building with a total of seven separate concerns (outpatient practices and ancillary services) – each has a main entry door and waiting area. Each would require at least one check-in person. There would be five on-site office managers (the ancillary services portion is managed from off-site). Add to this seven billing managers, and at least 10 other support or administrative staff members for a total of 29 support staff members, not including nurses. In an integrated CPB approach, if one assumes that in this size of facility the number of non-nursing support staff can be reduced by 10, then the resulting savings can be conservatively stated. A significant savings is conservatively estimated using an entry-level base salary rather than a higher average, which would be more likely. Over a 10-year occupancy period, this equals an additional $2.7M.

Non-Economic Benefits
In addition to significant economic gains, a number of other benefits may be realized. Many of these will impact overall patient satisfaction, coordination of care and other drivers of future reimbursement.

Improvement in coordination of care
In a traditional multi-tenant building, the opportunities for collaboration or cross referral are limited. Often, a patient may be required to be sent to another building or floor for continued care. The processing of the patient into the system is compromised and can start all over again due to information technology incompatibility. In the integrated model, the sharing of information facilitates better throughput, faster service and a better patient experience. The impact of quality outcomes is felt and is improved as patients are seen by their provider and can walk "down the hall" for additional care.

Flexibility of facility
The CPB model has several benefits over the multi-tenant model in terms of flexibility and adaptation to changes. Layouts are designed so treatment rooms can be used for multiple specialties as the market demands. A standard physician practice module can be created based on patient-visit volumes and developed to facilitate future adjustments in space assignments. This enables the facility to respond to change and not affect the entire plan.

In a traditional model, when patient volumes change in a specific specialty, it means a practice doesn't need all the space they have or decides to move out because there is nowhere to expand. The traditional model is more susceptible to land locking tenants with no flexibility.

Using the CPB model, support spaces are not duplicated and can be shared by any practice. The support functions are oriented to the clinical space in a way that allows the space to flex and the support functions to stay in place.

Facility branding statement
With the consolidation of healthcare providers, the CPB approach provides a tremendous branding opportunity for health systems and multiple practices that have joined together and remain independent. Considering the above factors, the CPB facility may help providers create a

brand synonymous with comprehensive care at a lower cost. The brand can be used to establish a foothold in a community and enhance the patient's experience. Ease of access, presentation of the patient quickly upon entering the facility and clear wayfinding to centralized registration and patient intake functions will all enhance the brand.

Going Forward
There is no question that delivery and cost of healthcare is undergoing significant changes. The financial incentive will be to keep the population healthy rather than waiting to treat unhealthy patients. The CPB approach that moves care to a better coordinated, lower cost environment is a logical step in the future of outpatient care.

Looking ahead

Look into the future and see what the ambulatory facility might become, and then look at what the health care organization needs and can afford today.

By working with both these poles in mind, project teams can create facilities that will respond well to today's health care design trends as well as those to come.

- Healthcare relies on continuous operations that do not tolerate disruption
- Intense energy and water use
- Unique waste streams, such as chemicals
- Infection control requirements
- Indoor air quality requirements
- Stringent regulatory requirements
- Any new facility or expansion project differs significantly from business as usual, due to its unique, once in a life time character.

The healthcare industry is growing rapidly:

- Healthcare construction expected to increase
- Continued growth results from:
    - Aging facilities
    - Aging population (baby boomers)
    - New standards of care
    - Technological innovations
    - A favorable reimbursement and financing environment

Owners should understand that projects are realized in terms of a three dimensional space formed by the three axes: time, cost, and performance. The owner is heavily involved in establishing criteria, or boundaries, in the development of the initial scope of work, maximum budget allowed, and potentially the maximum length of time required for completion. Constantly monitoring and managing the trade off (over time) between performance and resources (time, cost) is a prime responsibility of the owner organization.

Easy access

Hospitals build a new generation of ambulatory care facilities

For many providers, ambulatory care facilities are the right buildings right now. Ambulatory care is taking on a much larger role. The role is becoming even larger as medical technology continues to advance. With the aid of a surgical robot, hysterectomies now can be performed through minimally invasive surgery, while hospitalization used to be required for even routine cataract removal. Inpatient procedures are becoming outpatient procedures and overnight stays are becoming hours in an observation unit.

Electronic health records, digital imaging, telemedicine, online patient portals and technologies for self-check-in or self-rooming allow for leaner designs and operations, enabling caregivers to serve patients in a variety of settings. The electronic health record has actually been huge in allowing us to switch to lesser and lesser acute venues. It has allowed to start building smaller and more convenient clinics. In an era of changing medical reimbursement and high patient expectations, providers are looking for facilities that are efficient to build and operate, convenient for patients and caregivers, and provide an environment for high-quality care.

Ease of construction

Efficient construction is one of the primary benefits of an ambulatory care facility. Less extensive building code and infrastructure requirements make ambulatory care facilities less expensive to build than acute care hospitals. In addition, ambulatory care facilities generally utilize a basic, repetitive module, making them simpler to construct than a hospital. There are fewer pieces to put together.

To promote collaboration among physicians and allied caregivers, the latest ambulatory care facility designs favor group work spaces over individual offices; this can result in a more efficient floor plan and use of building materials. With fewer walls, the clinics require less paint, cove base, doors, light switches, thermostats and so on. Because the design and construction process is simpler, the speed to market for ambulatory care facilities is much faster than that of acute care structures. The relatively small investment in time and money makes an ambulatory care facility an attractive way for health care organizations to expand into new markets.

Meeting needs

Ambulatory care facilities give providers the opportunity to meet patients where they are, instead of insisting that they meet the health care provider where we are. Convenience and accessibility are the first steps toward a good patient experience. Patients also benefit when caregivers communicate and collaborate.

The clinic modules are almost all identical, to give the flexibility in offering different specialties as future needs change. For example, a mental health module could be switched to a primary care module by swapping out the couch, rug and bookshelf for an exam table, a change that could occur in a matter of minutes.

Modular clinic design allows specialty services to share space and increase building utilization, Modular layouts let providers close off one portion of the facility while another remains open extended hours for urgent care. And they allow health systems to build up services over time.

Fig: Photo courtesy of Stantec

At the Ambulatory Practice of the Future, exam rooms are clustered around a multidisciplinary team work area to enhance operations by providing space for collaboration.

Future ambulatory care facilities may approach the archetype of the bedless hospital, with a variety of clinic modules connected to a surgical center, freestanding ED and 23-hour observation unit. By investing in ambulatory care, we're investing in the future.

Ambulatory care facilities run the gamut from small retail outlets to large multispecialty clinics, built on a medical campus or off-site. They range from primary care practices to surgical centers and freestanding emergency departments. They also inhabit a number of different structures, allowing health systems to expand the possibilities of what, and where, a health facility can be.

Cost considerations

The base construction cost for an ambulatory care facility is about $190 per square foot — depending on location — versus about $320 per square foot for a hospital. Spaces to support the most highly technical medical equipment and patient care are expensive to build.

Hospitals are institutional occupancy buildings with Type I fire and life safety requirements, because these structures house patients who cannot leave in an emergency without assistance. The facilities' rigorous structural packages, fireproofing and complex infrastructure systems require specialized knowledge from designers and contractors. Mechanical systems can account for 40 to 45 percent of the cost of a hospital. An ambulatory care facility generally can be built to business occupancy code.

Ambulatory Care Facilities

The ongoing evolution of healthcare delivery methods, technology, demographics and reimbursements is driving change in multiple directions. In response, healthcare organizations are developing efficient ways to improve patient services cost-effectively. With the adoption of

the Affordable Care Act, healthcare organizations are balancing changing reimbursement methods with the potential increase of patient volume as the medically uninsured become insured. This has prompted many organizations to reassess facility needs as they undertake master planning and facility utilization studies to determine the best way to deliver services and meet projected growth. The projected growth area points increasingly toward ambulatory care facilities, such as surgery centers, cancer centers, imaging centers, neighborhood-focused community clinics and medical office buildings.

Cost Benefits

Ambulatory surgery and cancer centers offer real cost benefits to healthcare organizations because building codes and infrastructure requirements are less restrictive than acute care hospitals, making outpatient facilities more affordable to construct and maintain, in addition to lower overhead costs. Similarly, community clinics, which are absorbing newly insured patients, are less expensive to build due to fewer code restrictions and less complex infrastructure. Additionally, considering the reduced schedule for design, permitting and construction, healthcare organizations have the ability to expand their market reach through expedited delivery.

Technology

While cost containment is driving much of the movement toward ambulatory care facilities, evolving technology is making it all possible. Advances in minimally invasive procedures capture a wider band of services that can be provided in the outpatient environment. Further, advanced technology is targeted to accommodate remote registration, increasing efficiency and faster access to caregivers.

Care Models

Accountable Care and preventive health initiatives are driving the growth of ambulatory care facilities. Rather than visiting a hospital or doctor only when needed, the healthcare industry is placing greater emphasis on preventive medicine, including community education, nutrition and health management.

Design Factors: Clinics

Community clinics are designed to accommodate multiple specialties, which lend themselves to shared clinical and support space and accommodate varied physician schedules. Multi-specialty clinics can become part of the community by providing family practice, urgent care, women's health and dental care, along with providing space for visiting professionals all in one facility.

Modular layouts and clinical space designed for flexibility promote efficient workflows. Many clinics omit private doctor offices for central pods where caregivers share space, with exam rooms radiating off the pod. Physicians and clinical staff can easily consult concerning patients in the open team-based environment. While the particular programming and layout may vary from clinic to clinic, the overall suite utilization is higher by removing private offices. This lends clinics to being right-sized to achieve higher utilization, thereby lowering operational costs and increasing revenue.

Patients should easily walk to the clinic from home or access public transportation—a major advantage to repurposing an existing neighborhood landmark on a busy retail strip. The layout emphasizes ease of use, in which efficient space planning within the two-story clinic directs patients between check-in on the ground level, destination exam rooms and consultation offices on the second floor, and back to check-out. The interior detailing emphasizes comfort and connection to natural light.

Design Factors: High-Acuity Facilities

Cancer centers, surgery centers and imaging centers, likewise, are designed to promote workflow efficiencies and provide a welcoming aesthetic image to the community. Still, sound planning and design accommodates patients' emotional well-being. The infusion department locates the infusion stations along the exterior wall so patients have access to natural light and views during treatment.

The medical oncology department locates the exam rooms along the exterior to take advantage of natural lighting and windows, enhancing the treatment space. The exam rooms serving the radiation and surgical oncology departments are located in the central core to accommodate flexing between departments, providing the ability to adjust to patient volumes. Physicians are grouped in a central core with direct access to all departments. Conference and consultation rooms also are located within this core to benefit physician and staff collaboration. Large windows, abundant daylight views, natural stone finishes and warm earth tones project a calming image in the main lobby.

No matter the program, ambulatory care facilities will continue to assume a larger role in the healthcare industry as technology, costs and preventive care determine how healthcare services are delivered. With a greater emphasis on patient outcomes, well-planned, well-designed ambulatory care facilities will play an integral role in community health.

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