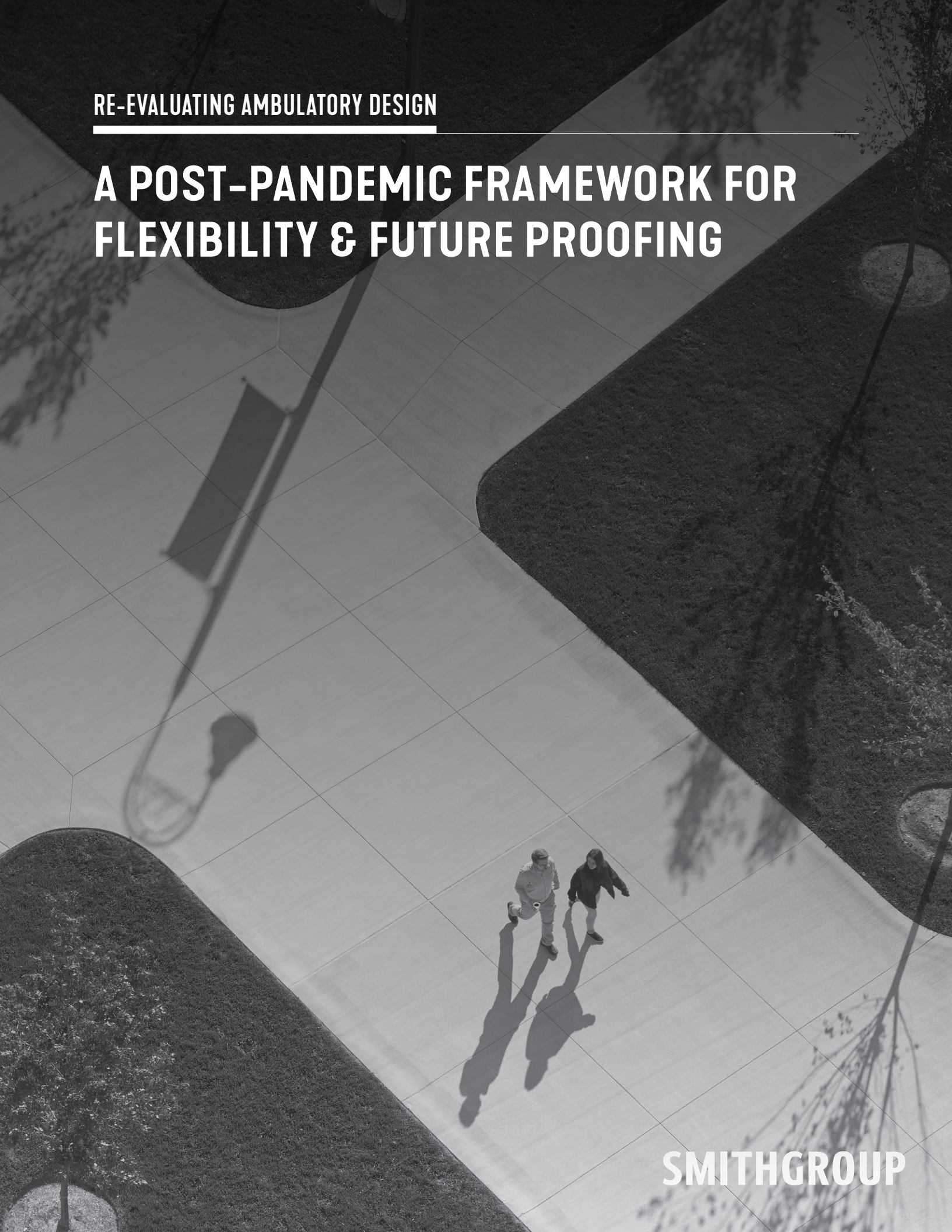
RE-EVALUATING AMBULATORY DESIGN

A POST-PANDEMIC FRAMEWORK FOR FLEXIBILITY & FUTURE PROOFING



SMITHGROUP

ROLE OF AMBULATORY CENTERS

During the ongoing lockdowns in the COVID-19 pandemic, most organizations have adapted to ensure that their work could continue. Many simply shifted existing processes to remote work settings, trying to match what had been done before the pandemic. This has worked well for most industries and processes—but healthcare delivery is different.

Ambulatory care services are typically decoupled from more intensive hospital functions to be closer to patient populations, providing convenience and improving access to care. Ambulatory care sites allow providers to provide preventive medical care as well as the diagnosis and treatment of non-acute and chronic conditions. They are a vital link in the continuum of care, tasked with improving overall population health.

When most ambulatory care and surgery centers shut down at the start of the COVID-19 pandemic, much of this care delivery was drastically reduced—with an equally drastic reduction in revenue. Elective procedures were canceled and primary care visits reduced, especially for immunocompromised patients (cancer, transplant, dialysis). In many cases, the nurses and medical professionals who work at these facilities have been furloughed or transferred to alternative testing or care sites.

The healthcare industry has embraced innovation and adapted quickly to the pandemic: one area of particular note is the accelerated adoption of telemedicine. But there is still the next challenge of what ambulatory care facilities must do to be ready and operable during the next surge in COVID cases, or other unforeseen pandemics. A surge in elective procedures is expected post-COVID, even as patients remain anxious about resuming visits to healthcare facilities. Ambulatory sites must respond in a way that makes patients feel comfortable returning to the 'new normal' of healthcare.

GOAL OF THE STUDY

Identify resilient design strategies that allow ambulatory care centers to remain open and operational during a future epidemic or pandemic. The study identifies two building capacity types: regular capacity and surge capacity.

VITAL LINK IN HEALTHCARE DELIVERY

Re-Evaluating Ambulatory Design

THE NEW NORMAL

In a post-COVID-19 world, healthcare systems are going to be challenged on multiple levels.

- Full adoption of telemedicine platforms
- Continued need for social distancing
- Segregated patient and staff flows
- Segregated treatment areas
- Greater need for screening and testing
- Flexible, intuitive signage and wayfinding
- PPE storage and distribution
- Enhanced MEP requirements
- Infection control strategies
- Use of technology & virtual care

VALUE ASSESSMENT

As health systems work to strengthen their capabilities and capacity to fight COVID-19, while keeping their patients and staff safe, our experts are working to achieve needed post-COVID flexibility as well as quantify future volume projections, test technologies, and deliver high-performing design solutions. We have categorized these ideas based on their value proposition for cost, design, and operations.

THE IMPACT OF TELEMEDICINE

- The successful adoption of telemedicine is a game-changer for the practice of medicine and the delivery of healthcare, affecting operations, delivery and design.
- Telemedicine is now being explored more intentionally as a long-term solution for improved patient access and reduced infection transmission.
- Patients and providers are more receptive to receiving and providing care in this online environment; recent surveys indicate that over 50% of patients will want continued access to televisits after the pandemic subsides due to its convenience and flexibility.
- Technology, process and facility operations need to work together to effectively integrate telemedicine into the care models.
- Government policy and insurance reimbursement will need to quickly evolve to ensure the success of this shift.
- Staff schedules may be significantly impacted while patient visits can be scheduled more efficiently (mornings for virtual visits and afternoons for live visits, or alternating virtual and live visit days).

FACILITY IMPACTSTHIS RAPID ADOPTION OF TELEMEDICINE HAS IMPACTS

1. Impact on patient volumes: more virtual visits and less in-person visits.
2. Conservative estimates based on studies show a reduction in facility square footage of up to 20%. A more strategic approach to planning and design will be needed to right-size facilities and limit overbuilding.
3. Impact to care models: with healthcare already facing a shortage of qualified providers, staff protection and care is critical to maintain operations and functionality. Reduced number of providers in areas that are surging can be offset by telehealth monitoring sites or virtual care centers.
4. Increased IT infrastructure is needed to support virtual tele-consults/e-visits via apps, emails, texts and messaging portals. Planning considerations for the future will hinge on certainty of reimbursement.

STUDY APPROACH

For this study, we convened an integrated group of planning, design, and engineering professionals. The goal was to compile knowledge and lessons learned and formulate concepts that can be applied as long-term design solutions for new construction and major remodeling efforts. The strategies include both process and facility modifications.

We understand there is no one size fits all or a magic bullet fix. We will continue to refine our approach and solutions. We will continue to research, innovate, and share our ideas and design solutions to support our clients' unique and evolving needs for the future.

STRATEGIES FOR THE NEW NORMAL

The strategies suggested are potential concepts and solutions. We present them as opportunities to start a conversation and to help frame decisions as the industry determines the path forward.

SEPARATE, SEPARATE, SEPARATE
Separate sick and well patient flows, care spaces, and staff flows and maintain functionality and critical adjacencies

CONVERTIBILITY
Any new and future designs should consider building in features that can facilitate easy convertibility.

RETHINK OPERATIONS
Efforts must integrate changes in policies and procedures, evolving clinical protocols, and facility modifications.

THE FUTURE IS TELEHEALTH
Design for flexible, multi-purpose rooms for use by physicians, specialists, consultation, and video visits.

SEPARATE, SEPARATE, SEPARATE

PATIENT, STAFF AND SUPPORT FLOWS ARE DEFINED & SEPARATED

Providers will need to consider all traffic coming on site, including patients, staff, and materials, to prevent and control the passage of pathogens into their facilities. Clearly demarcated and separated flows are critical to preventing future breakouts and spread. Signage systems can help with this, along with architectural design elements like color, spatial cues, and lighting. Service traffic should be separated from other traffic to ensure efficient deliveries with minimal time on site. Material/vendor entry should include a screening point to ensure delivery personnel meet protocols. Drive-through facilities can be established to allow patients to receive services without entering the building, such as pharmacy and lab.

SEPARATE ENTRIES FOR SICK AND WELL PATIENTS

Separate entries for symptomatic and well patients are critical, especially for immunocompromised patients and patients with chronic diseases who need frequent treatment and checkups. Well-patient entry to the clinic should be available only for pre-registered and screened patients. Staff entry with temperature screening and space for collecting and disbursement of required PPE is critical. Additional considerations include a larger vestibule with additional circulation space that allows for physical distancing, screening, and separate entry and exit points to provide a one-way flow of patients in and out of the facility.

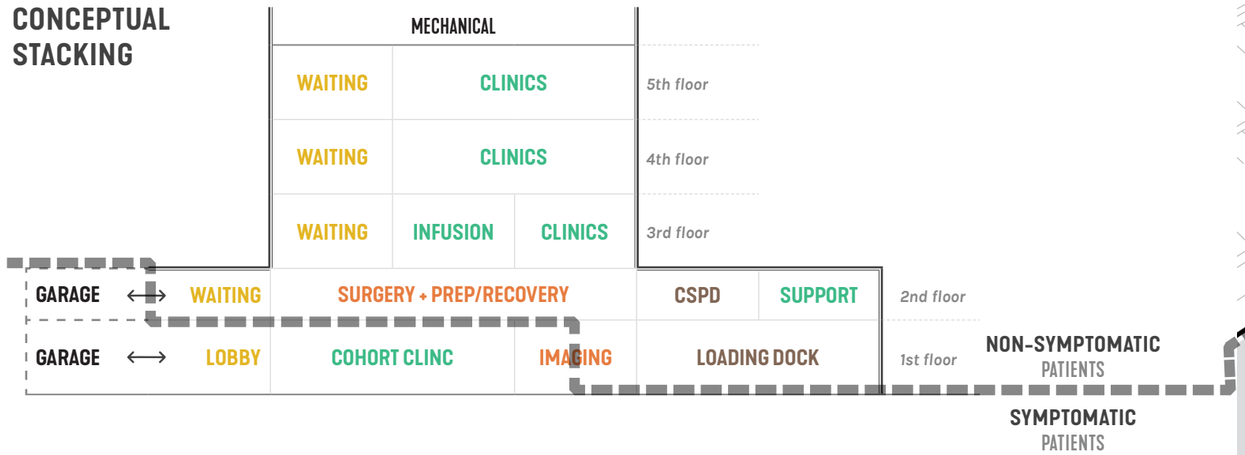
CONVERT DISCHARGE EXIT INTO EXITS/ENTRIES FOR PATIENTS PRESENTING WITH SYMPTOMS

Almost all ambulatory surgery centers have discharge exits that could be re-designed or converted to accommodate a quick path out for patients who present with symptoms or have had recent exposure. Wheelchair alcoves and valet stations can also be repurposed to safely accommodate staff for monitoring and temperature screening before patients approach non-clinical staff and other patients in the registration area.

TRIAGE AND TRANSFER OF SERIOUS PATIENTS TO ANOTHER FACILITY

Patient transfer for any patient needing hospitalization is directed through a separate door to avoid cross-traffic with incoming patients and staff. Ambulances need clear access to these exits. These exits may also need to be larger; a larger vestibule can be designed to accommodate additional functions and equipment, including space for discharge wheelchairs. This extra space may prove useful when additional screening spaces and circulation space for physical distancing are needed.

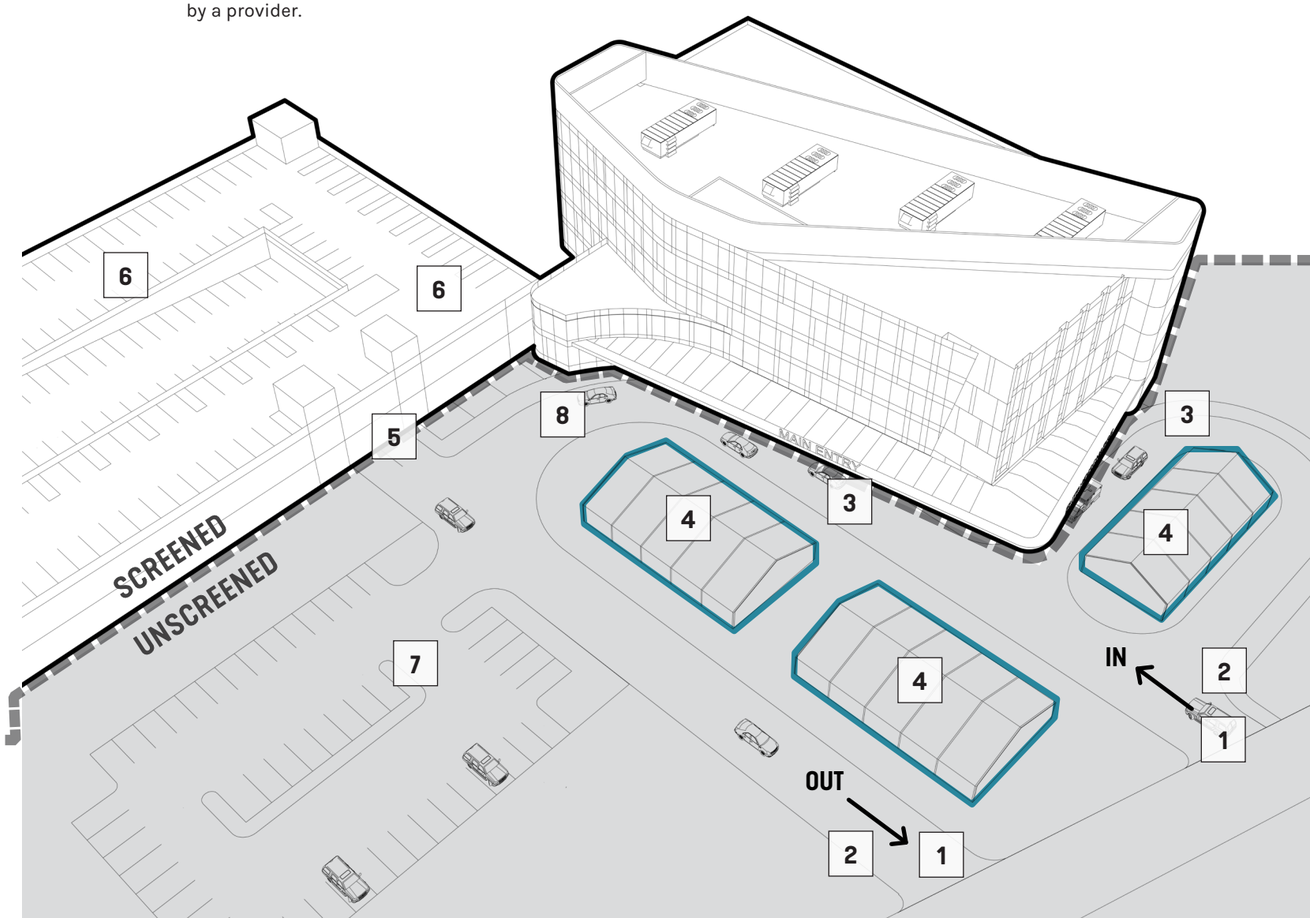
CONCEPTUAL STACKING



SITE & BUILDING ACCESS FEATURES

As existing ACC/MOBs start coming back online and fully operational, we understand the many ambiguities that will give rise to creative tactics for admitting patients. During a pandemic, healthcare organizations will need to pre-screen all patients before they arrive at and enter facilities.

1. A single point of entry and exit promotes one-way traffic flow on the site and reduces proximity, possible overlapping, and unintentional spread.
2. A temporary control point at site entry can be utilized to provide directions, PPE, or patient tracking devices, or mobile communications apps that allow patients to wait outside of clinic.
3. Space for queuing of vehicles after entering the site is critical.
4. Drive-thru testing sites can be identified and activated as needed. This can be used to avoid potentially infectious patients entering the building until screened by a provider.
5. Converting parking garages (if present) to serve as screening areas and external waiting areas can be an effective use of space.
6. We recommend numbered parking stalls to allow parking assignment if staff needs to meet a patient prior to entering the facility.
7. Utilizing the parking lot (if present) can help manage who and what is entering the facility during lockdown mode. The scale and the type of the facility will also impact what is possible.
8. Patients can be asked to wait in their vehicles until their appointment time to reduce congestion in waiting areas. Outdoor ‘cell phone lots’ also help with reducing congestion and controlling flow. For facilities where real estate is scarce or expensive, digital technology can help with virtual check-ins, drop-in visits, etc.



CONVERTIBILITY

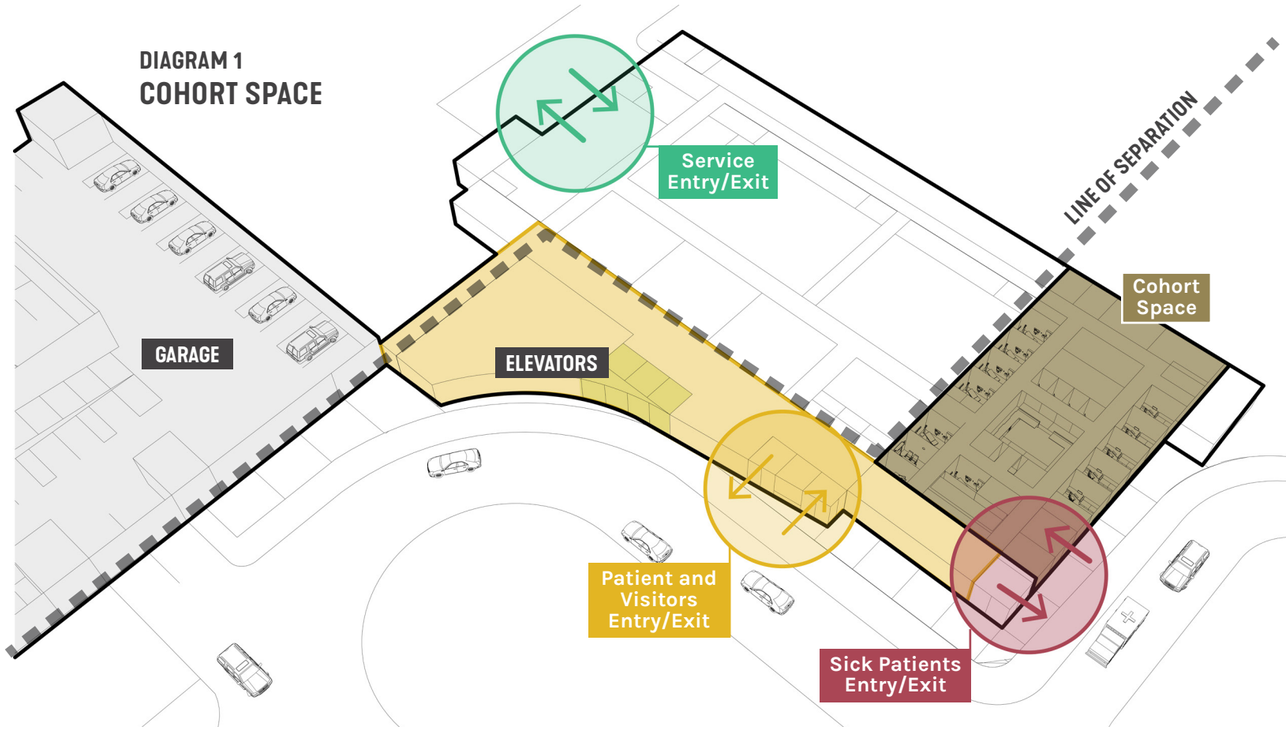
Prevention is better than cure. We design for the future but, because the future is unpredictable, we emphasize adaptability and resiliency. Ambulatory care facilities are inherently flexible: they are designed in modules, making it easy to compartmentalize or divide into zones based upon need and disease typologies.

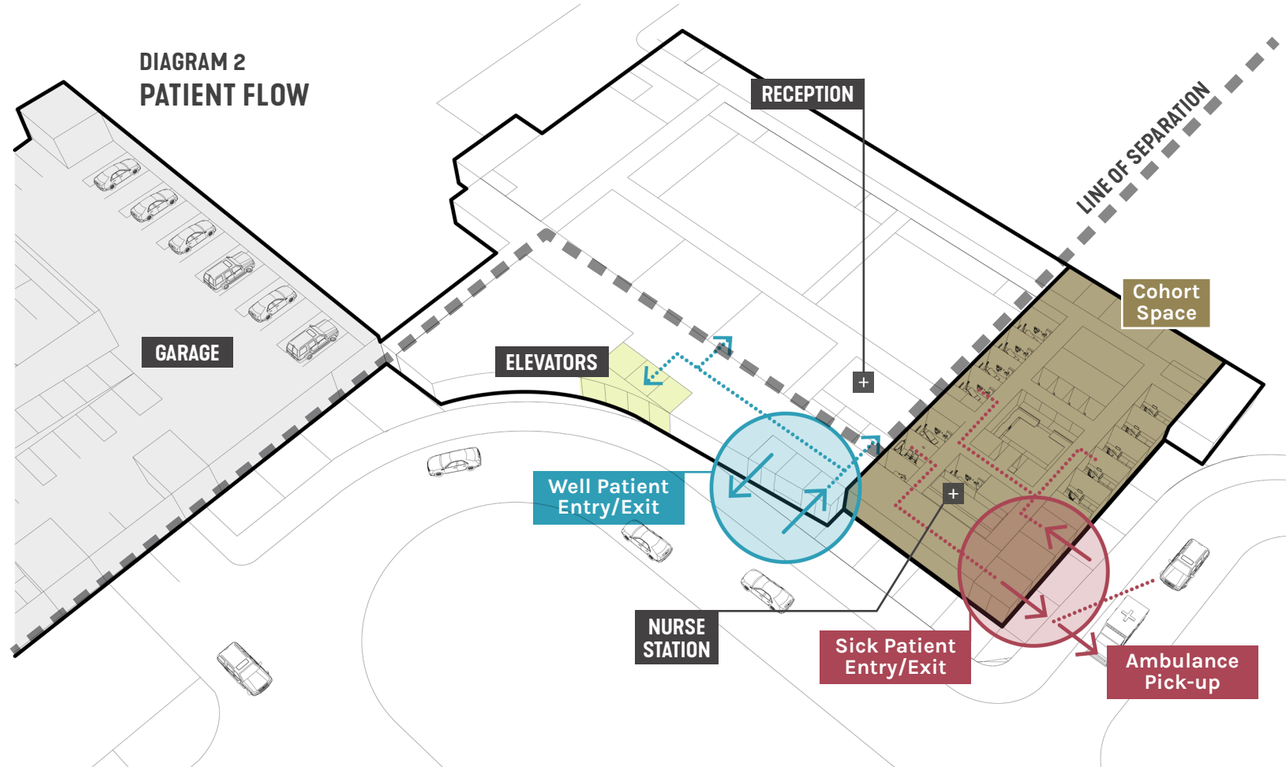
Our experts recommend a Cohort Clinic that can help compartmentalize and zone areas for treating infectious and compromised patients, providing an elevated level of care and protection. This unit can remain compartmentalized, or revert to a regular clinic during normal operations. We recommend such a unit as an early design consideration for all new buildings for the future; it is also possible to convert an existing clinic in an existing facility to prepare for future outbreaks.

Design considerations for a self-contained cohort space include accessibility, easy and separate entries and exits, clearly demarcated support spaces, clean and soiled utilities, and separate equipment. Also critical are the supply and ventilation requirements, which should be designed to isolate cohort compartments. An effective strategy would match air pressure to the level of disease spread risk: positive pressure for immunocompromised patients and negative pressure for highly infectious patients. Another critical consideration is designing for the provision of med gas supply and PPE supply and disposal areas.

RESILIENT DESIGN FEATURES THAT NEED TO BE CONSIDERED FOR SEPARATE COHORT UNITS:

- Easy access and exit for sick and symptomatic patients.
- Separate sick patient entry during surge times. This can alternate as a discharge lounge during regular clinic operations.
- Larger entry vestibule with separate, safe, socially distanced waiting for family who accompany patients.
- Quick, direct access from initial triage to treatment areas.
- Space for hold/transfer to acute care for severe patients.
- Proximity of main registration to unit to bring in patients who come in through well-patient entry and present symptoms.
- Separate staff circulation and capacity for social distancing during surge.
- PPE gowning space.
- Additional cleaning supplies storage.
- Med gas units designed into exam and treatment areas.
- Extra oxygen supply during surge times.
- Isolated unit with negative pressure exam rooms and ventilators.
- A separate MEP system for the cohort unit; or, as an alternate: convertibility options that can enable the whole building to switch into a negative pressure unit.





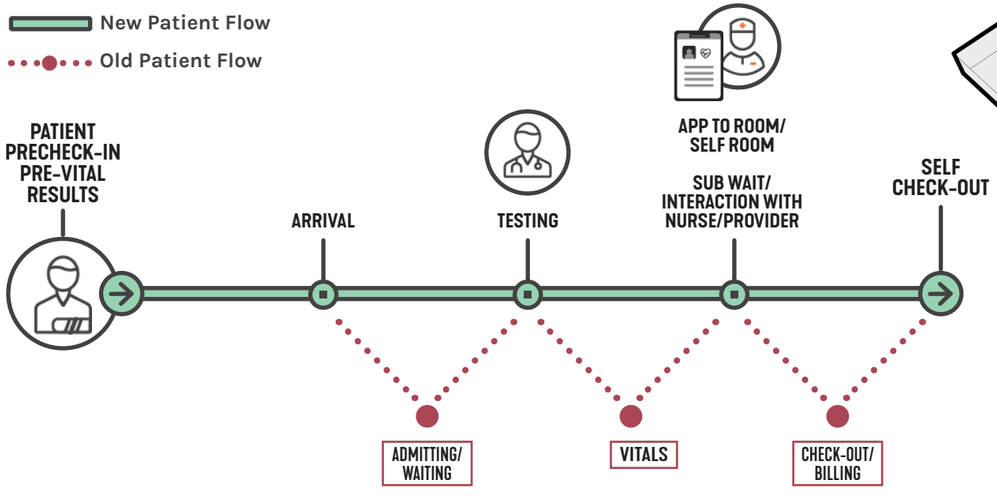
RETHINK OPERATIONS

Utilizing technology and simple design solutions can help support new patient, staff, and material pathways to assist with physical distancing and maintain a streamlined, continuous-forward movement through the facility, reducing the opportunity for cross-traffic and potential contamination.

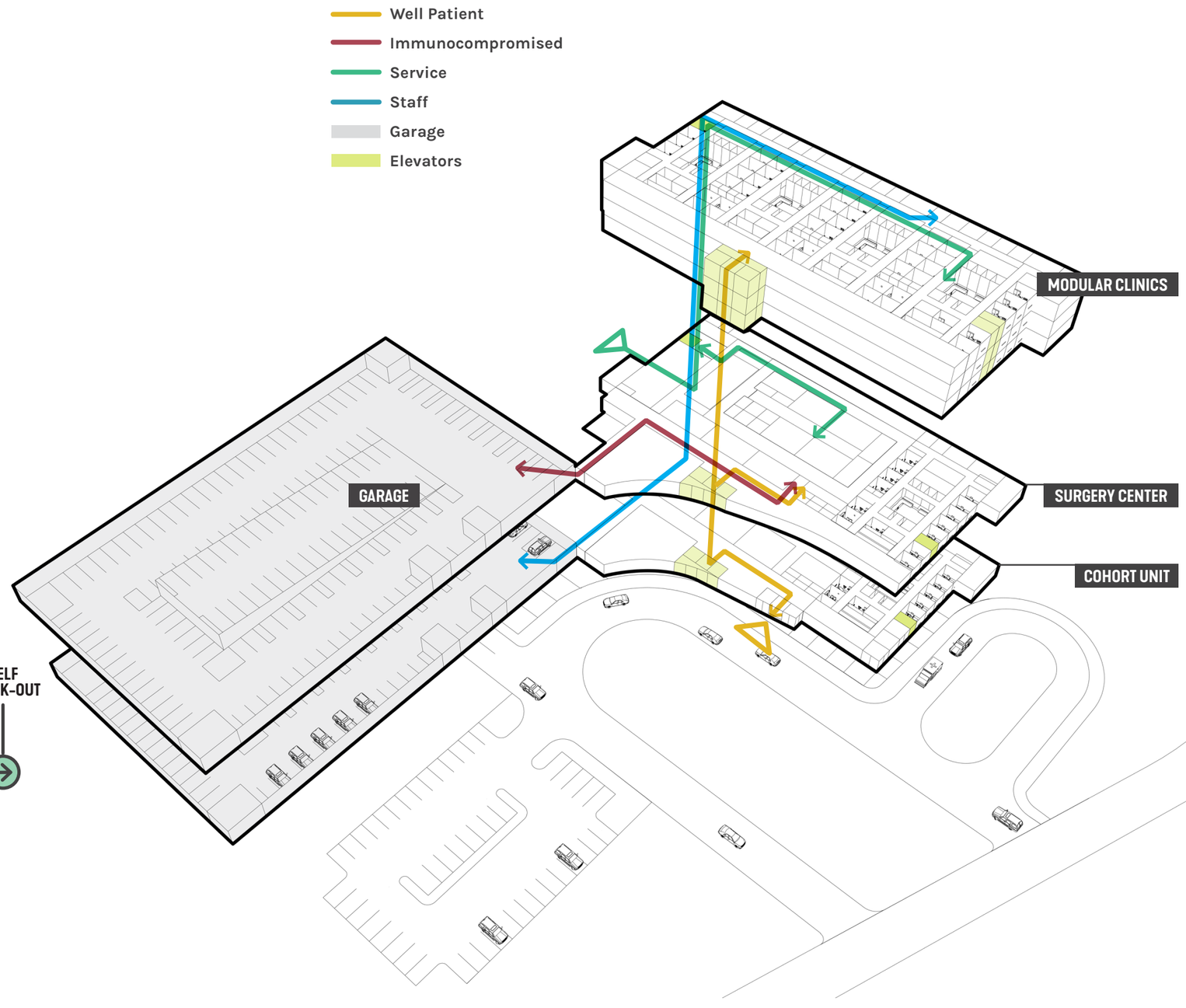
FUTURE PATIENT/STAFF AND SUPPORT PATHFINDING WILL BE INFLUENCED AND IMPACTED BY:

1. AI-enabled apps for entering symptoms and determining the ideal patient pathway.
2. Direct patient to the caregiver with first available appointment (patient navigator).
3. Direct patient to safest facility entry/path to service: limit going through long corridors and areas of possible contamination, strip mall portal concepts with clean corridors.
4. Identified pathways to separate well patients from sick patients.
5. Direct flow to reduce door-to-doc time and time spent in the facility.
6. Self-rooming options via app or information board/kiosk.

DIRECT FLOW TO REDUCE DOOR TO DOC TIMES



PATIENT/STAFF/SUPPLIES PATHWAYS TO CLINIC – NON SYMPTOMATIC PATIENTS FLOW DURING PANDEMIC



THE FUTURE IS TELEHEALTH

Empathy, human interaction, and healthcare go hand in hand. The nature of care delivery has been forever altered by the COVID-19 pandemic, with many changes to care team structures. We believe these changes are the mainstays of the future and are essential to consider when designing future facilities. A lot of these changes also cannot happen without proactive administrative updates and other operational changes. Changing operations must be accommodated by spatial changes.

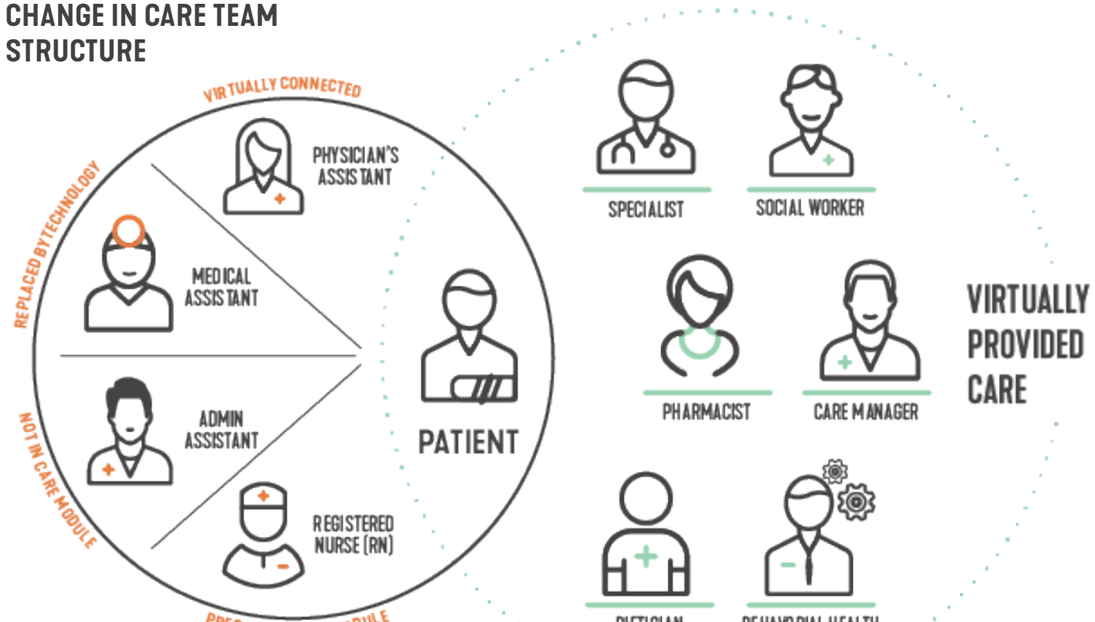
OPERATIONAL

1. Technology will enable digital scheduling and no-touch registration: allowing patients to complete paperwork from home via online portals or apps and eliminating the need for patients and staff to touch potentially contaminated clipboards, pens, and electronic devices at each medical visit. This impacts the number of FTEs needed for these processes. Age and patient's disease type complications will help with predicting whether any interaction is needed.
2. AI-dependent, dynamic tele-sign will need some training to understand and run smoothly. Staff flow and number must be adjusted with self-rooming and arrival detection through digital dashboards will become the new norm.
3. The way data is accessed and practices based on this data access were already changing, but this is now accelerated, with wearable download devices to transfer monitoring and diagnostic data directly to the patient electronic health record.

SPATIAL

1. With the advent and rapid adoption of self-monitoring wearables and diagnostic devices, consider establishing an off-stage safe hub for home and telehealth monitoring sites or virtual 'E-care' centers.
2. With all these changes and the risk that our caregivers now find themselves in every day, creating safe staff zones is imperative to reduce the risk of burnout as much as infection. Staff safety and off-stage respite zones can be designed to create caregiver environments enhanced with improved air quality solutions, distancing capacity, and reduced risk of contagion.
3. Spaces and integrated technology that support the adoption of robotics for no-touch dispensing, delivery and transfers, as well as cleaning and maintenance, are also going to be key design features for the future.

CHANGE IN CARE TEAM STRUCTURE



CHANGE IN SPACE REQUIREMENTS

- Potential reduction by 20% in the number of exam rooms as telemedicine becomes more prevalent and patient volumes reduce.
- Reduced space needs for check-in and vitals for staff and equipment once home kits and future technologies become more prevalent
- Increased storage space for PPE, Signage and cleaning supplies within the clinic zone. Allocate space for staff gowning either in staff lounges or near locker rooms. Staff might need to take breaks in shifts if increasing area staff break areas is not preferred.
- Increase size of team collaboration areas to accommodate space configurations that support social distancing requirements including private booths for teleconferencing. This could be balanced if more care staff not involved in direct patient care work virtually.
- Bigger vestibules or transition spaces at entries will help accommodate thermal cameras and testing stations.
- Increase in number of negative pressure or isolation exam rooms with ante rooms.
- Reduction in waiting area spaces that can be managed by adopting self rooming or other operational changes.
- Increased room turnover times due to more frequent room cleaning can be managed by adopting self rooming or other operational changes.
- Provide teleconferencing capabilities in staff offices in addition to exam rooms. Admin/clerical tasks can be accommodated in a staff suite or group work areas removed from the main clinical zone.

Re-Evaluating Ambulatory Design

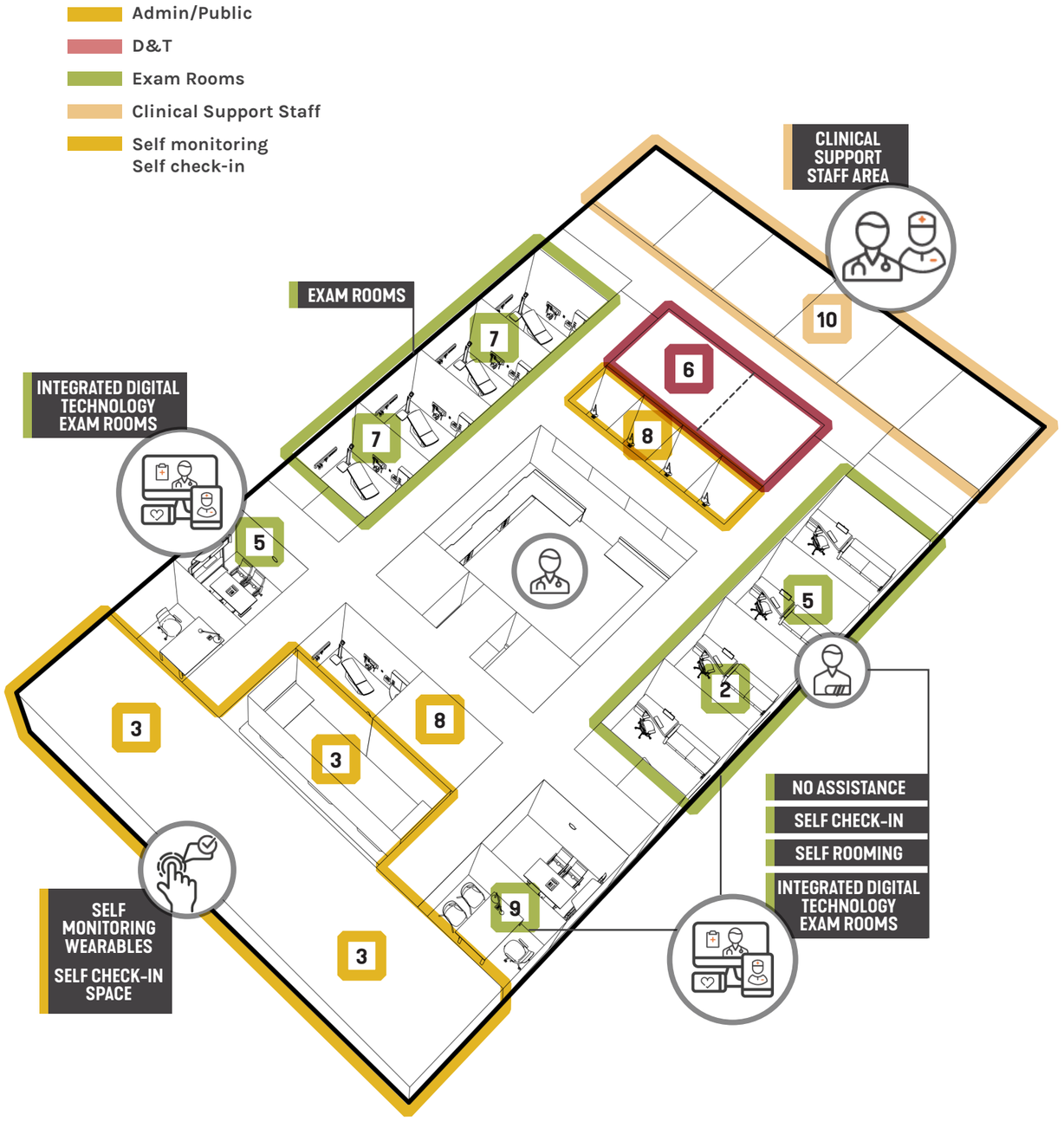
THE NEW MODULE

We understand that a pandemic mode will not be a constant future state. We believe that things will return to normal, but a new normal, based on multiple factors and their impacts.

Convertibility is the critical factor in the design of our clinic module for the 'new normal.' The module works as a typical clinic during normal times, but can be easily converted to accommodate future surges with a few operational changes.

1. No-touch patient facility solutions will become standard practice. The touchless concept necessitates environments and processes that will reduce or eliminate the need for patients and staff to physically contact furniture, fixtures, and devices.
2. Technology will also enable patients who require a face-to-face visit to self-room, eliminating time in the waiting room and the risk of infection through contaminated furniture and fixtures. This also reduces the need for waiting and reception space.
3. Self-monitoring wearables and self-check-in stations help reduce time spent in the environment, reducing space in the module. These areas can be utilized to provide additional and proximate storage for PPE and cleaning supplies and equipment.
4. New patient pathways to exam rooms are facilitated by a virtual care coordinator or a self-rooming app to identify the safest path to care with no waiting.
5. The exam room is integrated with digital technology, including teleconferencing and virtual health software to enable its conversion into a consulting room.
6. Enhanced convertibility features like demountable partitions can help to divide procedure rooms into smaller rooms or expand spaces based on needs.
7. During surges, the number of operating exam rooms or entire modules can be reduced or converted to telemedicine hubs. Rooms can also be alternated and coordinated with operations for enhanced cleaning procedures after every patient visit.
8. Increased number of booths for telemedicine and conferencing for providers.
9. Conversion of unutilized exam rooms during surge times to additional rooms for patient care staff. Non-care staff accommodated outside module or virtually.
10. Coordinated off-stage areas for staff: target zero-touch between patient visits, automatic doors, voice-controlled documentation, and tele-scribes.
11. The new module design provides automatic sensor controls for doors, lights, and other devices, eliminating the need for staff and patients to potentially cross-contaminate via the built environment.

LINEAR CLINIC MODULE
8 EXAM ROOMS



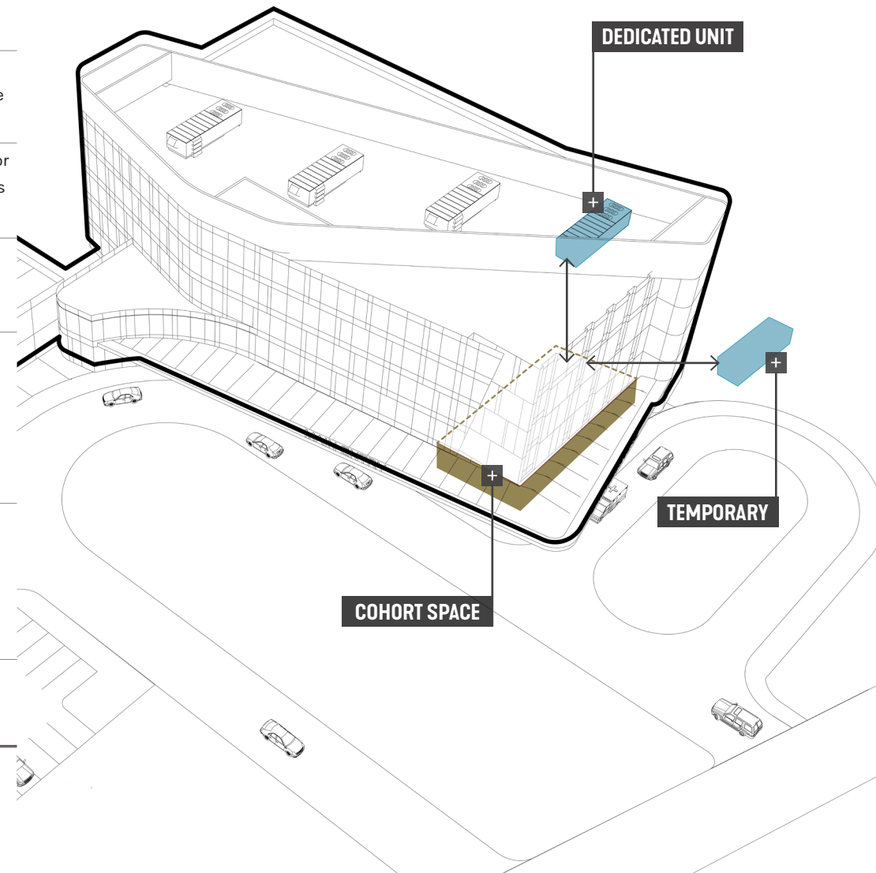
MEP CONSIDERATIONS & COST IMPLICATIONS

MEP OPTION	BENEFIT	CONVERTIBILITY	NEW CONSTRUCTION	PLANNED RENOVATION	UNPLANNED RENOVATION	OPERATING COST, EFFECTIVENESS
100% OA supply from a building DOAS unit or dedicated small unit, plus 100% exhaust to keep area under negative pressure	Negative pressure reduces in-space transfer, exhaust avoids duct transfer to other areas	N/A	Minimal added cost if already a DOAS-fed facility	Minimal added cost if already a DOAS facility	Ability to provide 100% exhaust is necessary	Essential
Dedicated high-plume (e.g., strobic air) 100% exhaust fan to maintain negative space pressure	Enhances exhaust dispersion (as part of an exhaust dispersion analysis)	Only if secondary exhaust/return path provided	Some added cost to include upfront	Duct path, roof opening, power planned for later addition	Doable but more costly, must evaluate dispersion	Highly recommended
Add HEPA filter housing upstream of dedicated exhaust fan	Helps prevent exhausted aerosols from reaching other (e.g., taller) building air intakes	Only if the HEPA filter is removed or bypassed	Some added cost to include upfront	Provide accessible location for filter, possibly under fan	Doable but more costly	Recommend with strobic type fan, & highly recommended if other fan type used
Include MERV-13 local filters on VRF, fan-coil, or chilled box units	Active in-space benefit: reduces concentration of aerosol droplet nuclei	Only if lower-grade filters are installed	Minimal added cost to include upfront	Procure fans & filter frame with ability to use MERV-13	May require fan or terminal replacement	Provides ASHRAE-recommended cost-effective local control
Include in-duct UV-C germicidal irradiation	Option for central VAV system service, providing 98% kill in supply air	Yes, by BAS control	Some added cost to include upfront	Plan power and locations	Determine locations, provide power, control	Optional cost add in lieu of or in addition to local MERV-13s
Include upper room UV-C germicidal irradiation units	Active in-space benefit: Cuts microorganism count	Yes, by BAS control, or circuit breaker	Some added cost to include upfront	Plan power and locations	Determine locations, provide power, control	Optional cost add for ASHRAE-endorsed in-room effect
Include humidification to maintain a 40%-60% RH optimum range (climate and building envelope permitting)	Active in-space benefits: Shorter aerosol spread, shorter longevity in air and on surfaces, helps prevent contagion, supports human immune responses	Yes, by BAS control	Some added cost if humidification is used already in facility	Higher cost, especially if the general facility is not humidified	High cost, especially if the general facility is not humidified	Optional cost add for multiple in-room benefits highly recommended by ASHRAE
Include bipolar ionization downstream of local fan-terminal units	Provides active in-space benefits: Deactivates micro-organisms & VOCS, improves filter capture through agglomeration	Yes, by BAS control, or circuit breaker	Some added cost to add upfront	Locations (e.g., discharge of local fan terminals), power	Determine locations, provide power, control	Optional cost add for multiple in-room benefits (not yet a mainstream approach)
Provide adequate oxygen/medical supply	Addresses the issue of "running out" of oxygen	N/A	Some added cost if done upfront	Plan infrastructure upfront	May require additional oxygen procurement	Highly recommended

At present, the evidence indicates that SARS-CoV-2 is an airborne virus. Several other diseases have also been proven to spread via airborne transmission, depending on factors such as air movement, heat and humidity.

HVAC design merits special attention in all healthcare facilities moving forward. These systems are the foundation for preventing and limiting the transmission of infectious diseases among patients, staff, and visitors.

There are several strategies that our engineering experts believe help to mitigate the spread of disease. Typically, HVAC systems account for 35%–40% of a healthcare facilities total construction cost. Making these decisions early on and building in the capacity is, in the long run, more economical; necessary retrofits can prove to be prohibitively expensive. We understand that some facilities must take some short-term measures to enhance air quality and improve safety during pandemics. The table outlines a mix of such long-term, short-term, and retrofit solutions.



FUTURE FOCUSED TO ANTICIPATE DESIGN CHALLENGES

We know that this pandemic will undoubtedly create long-term impacts to ambulatory operations, finances, and care delivery models. To survive, and thrive, will require a re-design and re-imagining of how to provide the services necessary to meet the mission in a sustainable manner. This will require innovating and establishing resilient operational structures that enable the delivery of healthcare in future models while maintaining a focus on the patient experience and quality of care delivered today.

Successfully navigating the new normal will require a holistic evaluation of interrelationships between patients, providers, processes, and the physical environment—with an added overlay of technology, regulatory and reimbursement policies, and financial realities. We are far enough into the pandemic to determine which strategies deployed during the immediate need have resulted in durable innovations that can be adopted for the long term.

In many cases, events in 2020 have forced an acceleration of investment in future facility design. This has provided an opportunity for the implementation of long-term, positive changes that can lead to more effective optimization of space, redirect focus on a more effective patient care experience, and maximize the value proposition for each provider.

The high-level strategies outlined here delineate the estimated level of mitigation, relative cost, and impact on operations and facility design.

We know each provider will arrive at your own unique solution that is consistent with your culture and priorities. Our goal in outlining these strategies is to start a dialogue and help you to develop your strategies for the future.

- NEGLIGIBLE
- SOMEWHAT EFFECTIVE
- EFFECTIVE
- LOW
- MODERATE
- HIGH

STRATEGY	DESIGN		COST	OPERATIONS	
	RESPONSIVNESS DURING SURGE	LONG TERM IMPACT TO FACILITY USAGE		RISK MITIGATION	IMPACT ON OPERATIONS
SEPARATE, SEPARATE, SEPARATE					
Create one-way flow for site access and circulation during surge	SOMEWHAT EFFECTIVE	NEGLIGIBLE	$	HIGH	LOW
Provide options for testing and drive through services	SOMEWHAT EFFECTIVE	NEGLIGIBLE	$	HIGH	LOW
Provide multiple building entries	EFFECTIVE	EFFECTIVE	$$	HIGH	HIGH
Provide larger vestibules that can accommodate distancing	EFFECTIVE	EFFECTIVE	$$	HIGH	MODERATE
Create separate cohort unit for patients during surge	EFFECTIVE	SOMEWHAT EFFECTIVE	$$$	HIGH	LOW
Create separate flows for symptomatic and well patients, staff and services during surge	EFFECTIVE	NEGLIGIBLE	$	HIGH	MODERATE
Provide separate MEP units	EFFECTIVE	EFFECTIVE	$$$$	HIGH	HIGH
Create and provide additional space for staff PPE storage, gowning and disposal	SOMEWHAT EFFECTIVE	NEGLIGIBLE	$-$$	HIGH	MODERATE
Increase or provide additional signage for better communication during surge	SOMEWHAT EFFECTIVE	NEGLIGIBLE	$	HIGH	LOW
CONVERTIBILITY					
Design spaces that can accommodate social distancing	EFFECTIVE	NEGLIGIBLE	$	HIGH	LOW
Design exam rooms that can flex as teleconference consulting and/or staff rooms	EFFECTIVE	SOMEWHAT EFFECTIVE	$$$	HIGH	HIGH
Increase number of staff cubicles designed to accommodate teleconferencing	SOMEWHAT EFFECTIVE	SOMEWHAT EFFECTIVE	$$	HIGH	HIGH
Design for increased MEP requirements – med gas at exam rooms, extra oxygen supply	EFFECTIVE	EFFECTIVE	$$$$	HIGH	HIGH
Design for increased MEP requirements – negative pressure at exam rooms	EFFECTIVE	EFFECTIVE	$$$$	HIGH	HIGH
Design for convertibility of primary/specialty clinic modules to cohort units/urgent care units	EFFECTIVE	SOMEWHAT EFFECTIVE	$$-$$$	HIGH	HIGH
Design for convertibility of ASC into a high-acuity surgical unit	EFFECTIVE	EFFECTIVE	$$-$$$	HIGH	HIGH
Provide separate MEP units (FOR???)	EFFECTIVE	EFFECTIVE	$$$$	HIGH	HIGH
Design for additional space for staff PPE storage, gowning and disposal	SOMEWHAT EFFECTIVE	NEGLIGIBLE	$-$$	HIGH	MODERATE
Design for access to additional storage space for supplies (more than just in time)	SOMEWHAT EFFECTIVE	NEGLIGIBLE	$$	HIGH	MODERATE
THE FUTURE IS TELEHEALTH					
Design for reduced in person visits	EFFECTIVE	EFFECTIVE	$$	LOW	HIGH
Design for reduced waiting and reception spaces	SOMEWHAT EFFECTIVE	NEGLIGIBLE	$	LOW	HIGH
Design for reduced number of exam rooms	EFFECTIVE	EFFECTIVE	$$	MODERATE	HIGH
Design for reduced number of patient care staff spaces	EFFECTIVE	EFFECTIVE	$$	MODERATE	HIGH
Design for increased IT infrastructure needs on-site	EFFECTIVE	EFFECTIVE	$-$$	MODERATE	HIGH
Design for increased teleconferencing capabilities and teaming spaces	EFFECTIVE	SOMEWHAT EFFECTIVE	$$-$$$	HIGH	HIGH
RETHINK OPERATIONS					
Account for reduced patient visits	NEGLIGIBLE	EFFECTIVE	$$	MODERATE	HIGH
Rethink operations around a leaner care team	SOMEWHAT EFFECTIVE	EFFECTIVE	$	MODERATE	HIGH
Strategize for extended clinic hours during surge	EFFECTIVE	NEGLIGIBLE	$	LOW	HIGH
Design for increased cleanability and impacts on scheduling and throughput	EFFECTIVE	NEGLIGIBLE	$$$	HIGH	HIGH
Consider training for patients to enable effective use of future technologies	NEGLIGIBLE	EFFECTIVE	$-$$	LOW	HIGH
Provide training for staff to enable effective use of future technologies	EFFECTIVE	EFFECTIVE	$-$$	LOW	HIGH

QUESTIONS FOR A BETTER FUTURE

What are the right decisions for your system?

What are your priorities?

How do you design resilient and flexible facilities for an unknown future?

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