



Design Solutions to Improve Healthcare Access and Outcomes:

ADELANTE HEALTHCARE MESA

A Case Study on Population Health at Adelante Healthcare, Mesa, AZ

INSIDE YOU WILL LEARN ABOUT:

How talking rooms can complement consultation-based care.

How workstation design can help balance a team-based care approach
and staff retention efforts.

How design can maximize the accessibility to transportation and community amenities.

This case study was created through funding from the Kresge Foundation.



High Impact Design Solutions To Improve Healthcare Access and Outcomes

Adelante Healthcare, Mesa, AZ

THE QUESTION

Can healthcare organizations use the built environment as a way to promote healthy living?

THE GOAL

To provide a high work efficiency to improve patient access and flow and to provide an excellent patient experience.

Background

Adelante Healthcare is a nonprofit Federally Qualified Health Center (FQHC) established in 1979. The center provides comprehensive preventive and primary care through its nine health centers located throughout the Maricopa County in Arizona and neighboring areas. With a mission to serve low-income, uninsured or underinsured populations, Adelante engages in a patient-centered medical home model of care to achieve population health objectives. About 75% of Adelante's patients live below 200% of the federal poverty level.

The Adelante Healthcare Mesa site is a standalone, newly constructed building located on the campus of a local career and technical school, close to the light rail station at Mesa, Arizona. Opened in 2012, it was one of the first facilities specifically designed to support patient-centered medical home (PCMH) model and population health by following the principles of evidence-based design (EBD). The one-story facility accommodates multiple clinical and community services in one location including internal medicine, family practice, pediatrics, ob-gyn, dental, pharmacy, laboratory, cafeteria, community meeting and education spaces, and women, infant and children (WIC) services. It was certified as LEED Platinum in interior design and LEED Gold in core and shell design.

Key Design and Operational Strategies

Adelante's top priority goals around population health include high work efficiency to improve patient access and flow as well as an excellent patient experience. Some of the key design features



supporting these population health goals include talking room design, pod design, decentralized team work spaces, geographical location and collocation of services, and healing environment elements.

Talking Room – Consultation-Based Care

Consultation is becoming an increasingly important component of care that promotes health, wellness, and proactive and preventive care in population health. Adelante adapted a talking room design concept that originated from the Mayo Clinic, whose model is to provide services more on consultation basis). This has since been implemented in two more facilities in the Adelante system.

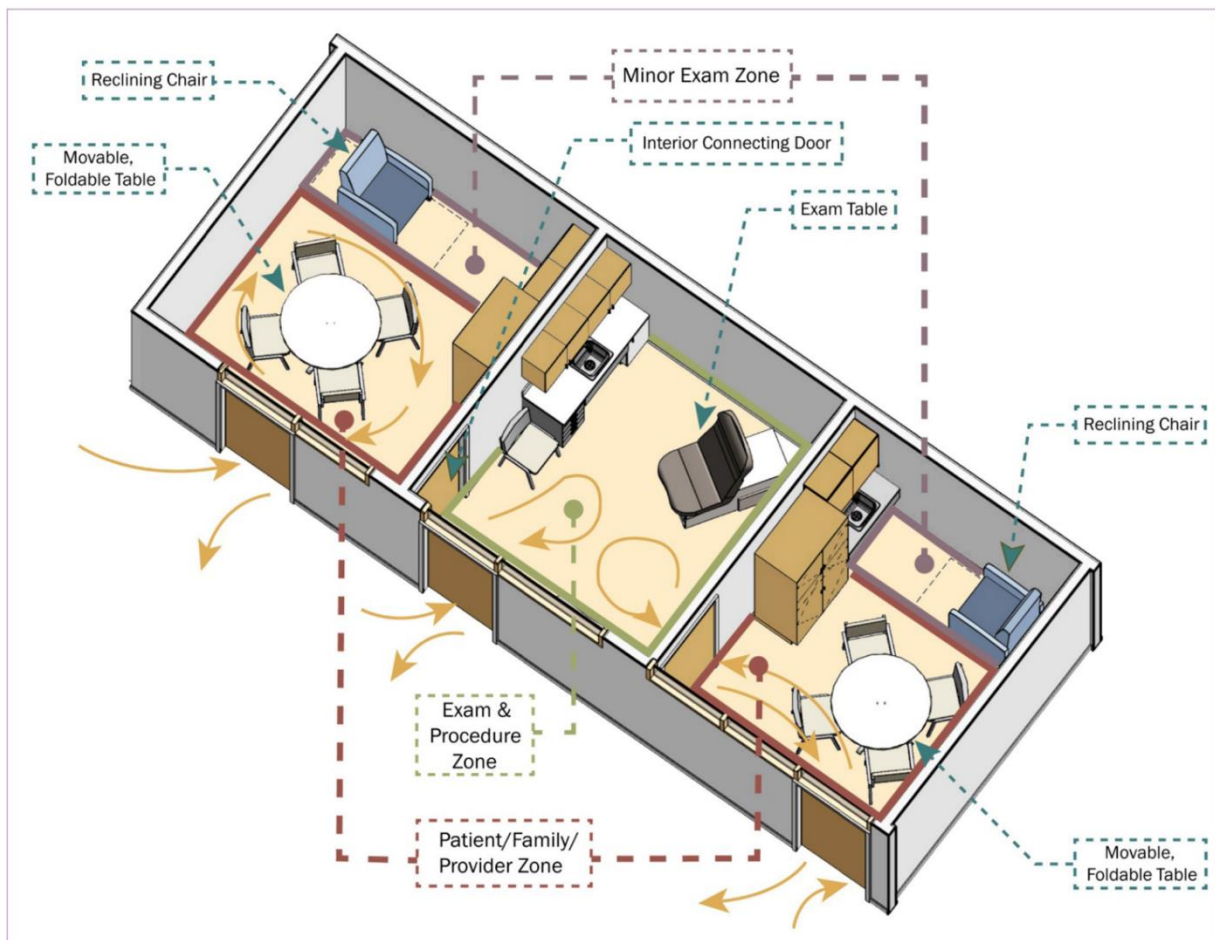


Figure 1: Adelante Healthcare Mesa Internal Medicine Talking-Exam Suite (Source: Adelante Healthcare)

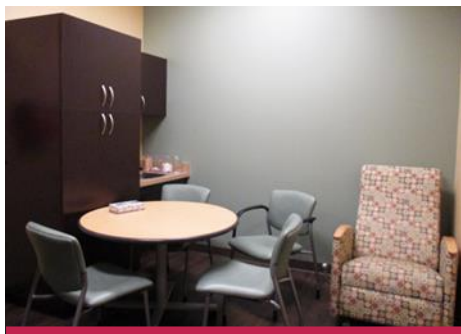


Figure 2: Talking Room

A talking room (Figure 2) is organized around a round table with seats and a recliner for provider, patient, and family to facilitate consultation. The atmosphere appears more residential: the exam table is removed to help reduce patient anxiety and enhance more relaxed face-to-face conversations. This design is thought to lead to better communication between providers and patients, and ultimately better health outcomes and higher satisfaction through patient engagement and activation.

A patient who needs no physical exam or only a minor exam without the need to lie down can stay in the talking room during the entire patient-provider interaction. When needed, the patient can be escorted by the provider into a nearby exam room to receive a more thorough check-up and then returned to the talking room for medication, immunization, follow-up, etc. The talking rooms are dispersed among exam rooms. A set of three groups of talking and exam rooms is assigned to each provider and located close to the provider's office. The ratio of talking-to-exam rooms varies depending on the specialty of care. At Adelante, the ratio is 2:1 for internal medicine, and 1:2 for other departments (e.g., family practice, pediatrics) due to a relatively higher demand of consultation for internal medicine. Staff reported that individual providers used the talking rooms differently, but overall the talking room design worked well in promoting patient-staff communication and improving patient experience.

Pod Design – Specialty Care Geared Toward Subpopulations

Pod design (Figure 3) is a key feature of the Mesa facility, which consists of four medical pods, one dental pod, and a pod for Women, Infants, and Children (WIC) with supporting spaces such as laboratory and pharmacy. Each color-coded pod is organized around the specialty of care for a particular patient subpopulation in the community (e.g., pediatrics for children, ob-gyn for women, and internal medicine for adults). The segregation of patient populations provides a level of comfort for patients who may not want to be with other populations (e.g. geriatric and pediatric). However, the openness co-location of services also creates awareness for the availability of additional preventive care and screening. The patient panel sizes vary significantly



depending on the specialties (e.g., 2,100 patients per provider for pediatrics, 1,800 patients per provider for family practice, 1,600 patients per provider for internal medicine) mainly due to the variation in visiting frequency. Each provider is expected to see two patients per hour.



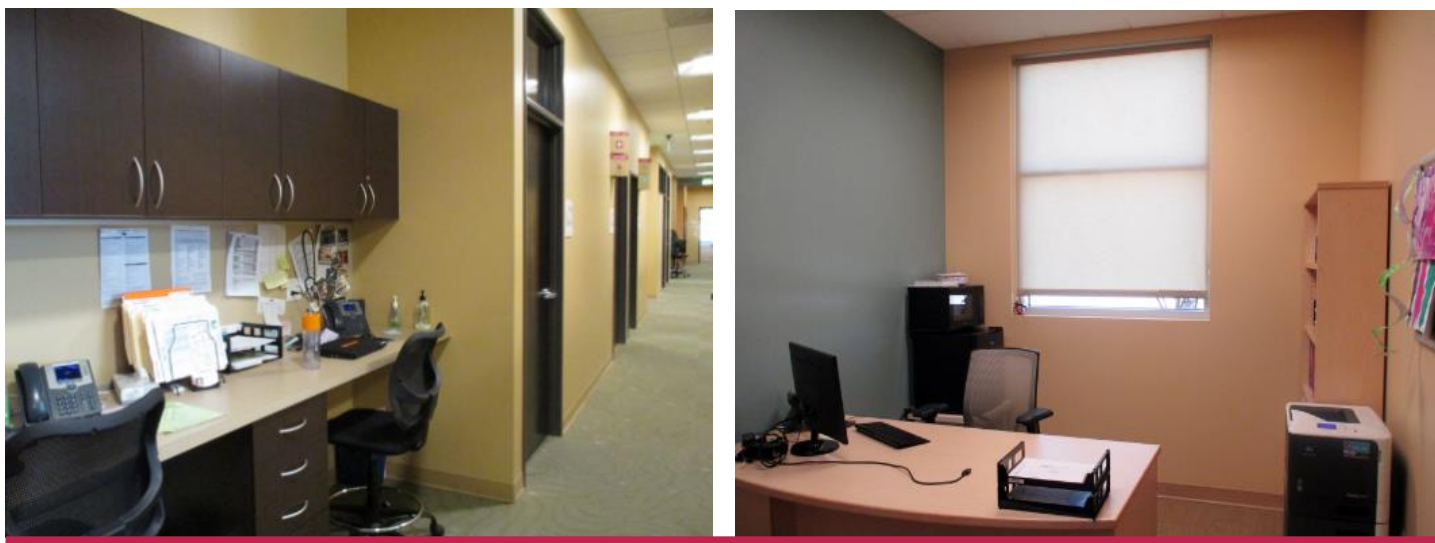
Figure 3: Adelante Healthcare Mesa Family Practice Pod Floor Plan (Source: Adelante Healthcare)

There are significant differences between pods in terms of environment to address the varied needs of care specialties. For example, the amount of consultation (i.e., talking) spaces is higher in internal medicine and WIC than in other pods. Another example is the orientation of exam table. In internal medicine, visual privacy is considered to be less critical than other pods such as ob-gyn. The exam table in an internal medicine exam room is placed in the back of the room facing hallway; in other pods, the exam table is angled away from hallway with door swing direction adding an additional layer of protection for visual privacy.



Decentralization – Balancing Team-Based Care and Staff Retention

The decentralized workstation design reflects a balance between a team-based care approach and staff retention efforts. Each patient is assigned to a clinical team that includes a provider with two medical assistants (MA). Each team occupies one provider office, one MA station with two seats, and three exam/talking rooms. Four pairs of provider offices and MA stations in each pod are decentralized so that each pair of provider office and MA station is located close to the assigned exam and talking rooms to facilitate patient care. The provider office and MA station in each pair (Figures 3 and 4) are also located close to each other to facilitate communication and teamwork.



Figures 3 & 4: MA Station (Left), Provider Station (Right)

Unlike many facilities, the site retained private offices for providers with the purpose of enhancing work efficiency and staff retention, the latter of which has been a challenge. The same set of exam and talking rooms as well as the corresponding MA station may be shared by different providers who work at the facility on a part-time basis. There is not a designated workstation in a pod for extended-care team members including behavioral health specialists, registered nurses, or health coaches. The extended team members are based in an office located outside of the pods and can be brought in as needed.



Figure 5: Interactive Positive Distractions in Pediatric Areas



Figure 6: Daylight in Central Hallway Leading to Color-Coded Pods.

The decentralized design is supported by an electronic communication system that notifies individual staff when and where they are needed for patient care. For staff, the computerized communication system works well in preventing potential glitches that could be encountered in a system that typically relies heavily on memory and visibility.

Healing Environment Elements – Patient Engagement

Many healing environment elements including artwork, daylight, age-appropriate toys, and interactive gaming devices are incorporated in the building design, especially in the public lobby, hallways, and waiting areas. In addition, noise is reduced through extensive use of carpets in hallways and other areas (Figure 6). An outdoor meditation area is provided just outside the ob-gyn pod for patient use. The healing elements not only contribute to patient stress reduction but also increase the attractiveness of the physical environment. They are considered a tool for attracting more insured patients who help balance the volumes of different patient groups and improve the organization's viability in providing quality care to underserved patients.



Figure 7: Lobby



Geographic Locations & Collocation of Services – Patient Access

The facility is located central to the communities it serves and close to public transportation and other community services, including a light rail station, a local shopping center, a community vocational school, and two hospitals. The building design provides two main entrances to the lobby – one facing parking and the other facing streets leading to the light rail station and a shopping center. The design maximizes the accessibility of the facility. Further, various clinical (e.g., clinical pods, pharmacy) and community services (e.g., a healthy food café, multi-purpose community meeting spaces) are collocated in the building to enable a one-stop “shopping” experience.

Healthy Environment – Healthy Behaviors

The facility design incorporates many design strategies to reduce the building’s impact on the environment and human health, such as energy- efficient mechanical and lighting systems, high quality sustainable building materials with low VOC generating components, green cleaning methods, sun-shading, and drought-tolerant plants. The facility also includes design features aimed at improving the physical activity level of patients. One example is a walking path surrounding the building with themed artwork (based on the story of the tortoise and the hare) and motivational signs.

Evaluation & Lessons Learned

Adelante routinely collects data around the performance of the facilities and applies the lessons learned in the development of new facilities. Example of outcomes include: patient and staff satisfaction, patient volume, operating revenue, room utilization, wait time, time with provider, number of extended care team encounters, chronic disease care, and preventive care screenings.

Several issues around the built environment were identified in the last evaluation. Adelante is actively applying the lessons learned to new construction of other sites. The issues include:



Figure 8: Motivational Signs and Walking Path Surrounding the Building

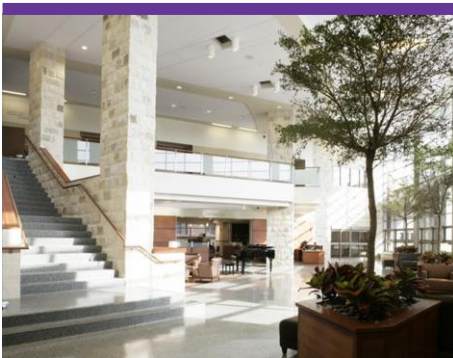


Figure 9: High Windows in the Lobby

- Acoustics - The partition walls between exam/talking rooms do not provide enough sound blocking capability to ensure speech privacy. Conversation in one room can easily be heard in the nearby spaces. This has caused concerns around privacy and the potential to hinder communication of sensitive information. Noise seems to be an issue mostly in the lobby that has hard flooring, rather than in areas that have carpets, including the main hallway.
- Afternoon sunlight can shine through the high windows in the lobby (Figure 9), causing visual discomfort at the registration/check-in desk.
- Staff reported lower work efficiency in pod layout with MA stations located far from pod entrance/front desk that prevent MA's having direct sightlines to pod entrance/front desk.
- Each pod has two patient waiting areas and two entrances with the reception desk in the middle. For new patients who are not aware which side of the pod their assigned provider is located, this design may cause confusion and inefficiency.
- The talking room appears crowded with cabinets, recliner, and a table with four seats. In future projects, the cabinet size will be reduced to make more room to allow barrier-free movement.
- Limited spaces are available for the extended team as the team grows.

Conclusion

The Mesa site is part of an evolution of facility investment at Adelante Healthcare that leverages design to support quality care in an underserved community. As a new facility, the project offered many opportunities for strategic thinking, especially in its location that is more closely tied to transportation and density of services. The new facility also allowed creativity and innovation that includes use of talking rooms to support both patient engagement/activation and staff efficiency. With a focus on patients, however, the organization maintains a concern for the staff who care for patients, testing ways to



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enhance and support team-based care in a patient-centered medical home.

The evidence-based design of this facility gives the organization the potential to achieve marked improvements in efficiency outcomes, all of which are key to population health. Routine data collection, performance evaluation, and a preventative approach to health sets Adelante apart. As a proactive approach to community health becomes increasingly popular, others can look to Adelante as an exemplar that continues to evolve in rapidly changing marketplace.

Project Facts

Organization: Adelante Healthcare

Facility: Adelante Healthcare Mesa

Address: 1705 W. Main Street, Mesa, AZ 85201

Service Area: Southeast of Phoenix, Arizona

Number of exam rooms and other procedure spaces:

- 28 exam rooms
- 20 talking rooms
- 4 procedure rooms
- 8 dental operatories

Patient visit volume: 200/day

Total building area: 42,508 SF

Certification: Joint Commission Primary Care Medical Home, Federally Qualified Health Center, LEED Gold/Platinum

Construction type: New Replacement

Year of construction/renovation completion: 2012

Design firm: JAIN MALKIN, INC., Cawley Architects