

Five Key Factors to an Effective Exam Room Design



In many ways, the exam room defines the patient-caregiver relationship and occupies a foundational place in the continuum of care. Regardless of the setting, whether it be urgent care, a large health network, a small private practice, a retail clinic or outside the four walls of the practice, the exam space is still the primary place where caregivers interact with patients.

As the healthcare industry continues to evolve and place renewed emphasis on patient-caregiver engagement and patient outcomes, healthcare organizations are placing more emphasis on ensuring they have effective exam rooms that increase efficiency and optimize workflow while raising the level of the quality of care provided.

When assessing the effectiveness of exam room design, there are certain factors to be considered. This white paper identifies five key factors that can help physicians, practice managers and practitioners identify opportunities to increase the effectiveness of the exam room and enhance patient-caregiver interaction.

Healthcare is Changing

As healthcare continues to evolve and further impact the exam space, it is even more challenging and vital to ensure an effective clinical environment that is conducive to the delivery of high quality care.

Healthcare Legislation

In 2010, the President of the United States signed into law the Affordable Care Act (ACA), which is designed to lower healthcare costs, provide more healthcare choices and enhance the quality of healthcare for Americans. While there is much debate on the merits and effects of this statute, most experts agree that it is increasing patient populations and changing healthcare in enormous ways, including the traditional payment and care models. The ACA places significant focus on primary care physicians as being the central resource for patients.

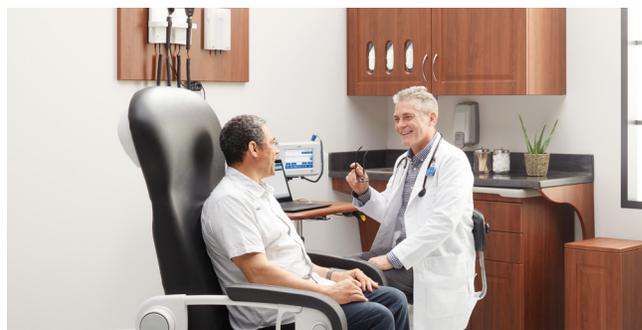
Evidence-Based Outcomes

One of the most significant forces impacting healthcare is the growing focus on evidence-based outcomes and a value-based approach that is intended to give more weight to the quality of care being provided rather than the number of patients seen. The federal government has been using its healthcare coverage programs to encourage providers to adopt this type of approach. For instance, mandated by the ACA, Medicare and Medicaid applied a value-based payment modifier to the physician fee schedule in 2015. The goal of these efforts is to improve the quality and efficiency of clinical care.

As a result of changing healthcare reimbursement, many healthcare organizations also are adopting a population health management (PHM) approach that aggregates data from a defined group of patients. Caregivers use the data to track and improve clinical outcomes within the group. This approach requires caregivers to engage with patients in new ways to help them make better lifestyle choices and manage chronic diseases—in some cases even outside the exam room.

Changing Patient Demographics

According to projections released by the [US Census Bureau](#) based on the [2010 Census](#), the US population is expected to continue to become older and more racially and ethnically diverse. The population age 65 and older is expected to more than double by 2060, from a 2012 high of 43.1 million to 92 million.¹ The segment of people 85 and older is projected to more than triple within the same timeframe. Based on the 2010 Census, the number of people in the United States with some form of disability is approximately 57 million, and the number with a severe disability is just over 38 million.² Currently 60 million, or 1 in 4, adults in the US live with a disability.³



The obesity percentage among US adults also continues to rise. Nearly 40 percent, almost half, of adults aged 20 and older in the US are obese.⁴ For many of these people, a visit to the doctor's office can be very stressful and receiving adequate care can be challenging due to accessibility issues.

New Technology Integration

The push for integrating new technology, such as electronic medical records (EMR), is driven not only by technological advances, but legislation. For instance, the Health Information Technology for Economic and Clinical Health Act (HITECH) authorized incentive payments through Medicare and Medicaid to clinicians and hospitals when they used EMRs privately and securely to achieve specified improvements in care delivery. While EMRs promise to improve caregivers' decisions and patient outcomes, they present a significant challenge in terms of integrating technology into healthcare environments not initially designed to incorporate technology and IT hardware.

Integrating technology can often result in a negative impact on existing paper-based workflows, patient-caregiver interaction and efficiency.

Five Factors of an Effective Exam Room Design

The benefits of implementing a patient-centered design approach in the clinical space can vary, depending on the facility. Each health system and their corresponding facilities have unique care paths that require an understanding of the expected outcomes, taking into consideration patient demographics, specialty, menu of services, etc. Following are a number of potential benefits that can be realized when this design approach is applied.

Healthcare organizations are continually looking for new approaches, best practices and proven processes to improve the clinical space, specifically at the point of care. These often become blueprints for existing and new facilities to ensure exam room efficiencies and quality of care throughout the organization.

When assessing existing exam rooms or designing a standardized blueprint, there are a few key factors healthcare professionals should consider to help ensure an effective exam room design. These factors play a crucial role in the clinical environment and gaining a better understanding of them will help guide caregivers in uncovering opportunities to improve efficiency and, ultimately, patient care.

The remainder of this white paper focuses on these five factors:

1. Patient Satisfaction
2. Ergonomics
3. Vital Signs Acquisition
4. Equipment
5. Exam Room Configuration



Patient Satisfaction

Customer satisfaction is not a new concept—industries such as retail and manufacturing place great emphasis on customer feedback and brand experience. However, until recently, this concept had been fairly absent in the healthcare industry.

During the last few years, patient satisfaction has become a main focal point of the healthcare industry. It has become a valuable tool in helping healthcare organizations determine and measure quality of care and a critical component of evidence-based outcomes. Patient satisfaction surveys can also help healthcare organizations identify opportunities to improve the clinical environment and demonstrate to their patients that they are very much focused on the quality of care.

Patient satisfaction and experience is key to ensuring an effective exam room design. For instance, caregivers can use patient satisfaction data to uncover opportunities for efficiency gains or determine whether implemented changes to increase efficiency have been successful or negatively impacted patient-caregiver interaction.

The US Agency for Healthcare Research and Quality has even initiated a program that develops and maintains surveys of patients' experiences with healthcare organizations. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) encourages patients to report on their experiences with healthcare services through the use of a family of standardized surveys. The intent is for caregivers to use the information to elevate the level of care provided and for patients to use the information when deciding on a physician or healthcare provider.

Ergonomics

Ergonomics plays a vital role in the exam room and should be an important component of any exam room configuration, training and equipment decisions. When it comes to clinical environments, ergonomic principles are just as important for patients as they are for physicians and staff.

The two most significant goals of these ergonomic principles are that exam rooms will be both more comfortable and safer for everyone. These two benefits alone can directly influence the quality and efficiency of patient-caregiver interaction during a visit.

For patients, the level of comfort can directly influence their anxiety level and help ease white coat syndrome. Meanwhile, physicians need to be comfortable in their environment in order to provide efficient patient care. For example, the inability to easily maneuver in the exam room can cause physicians to alter their work style over time, which can result in repetitive motion injuries. Simple comfort considerations in design and equipment can help physicians conduct a more thorough and accurate exam, increase patient satisfaction and reduce the likelihood of caregiver injury.

It is equally important that patients and caregivers both feel safe during the interaction. A safe environment is conducive to a pleasant, efficient experience for everyone. This is especially important as the average age of patients continues to rise. A growing number of patients may need assistance in accessing an exam table. Without the proper equipment (e.g., an accessible chair that lowers to a height of 17 to 19 inches), the burden falls on staff to lift or assist the patient. This creates a high potential for serious injury to one or both of the parties involved. At the very least, it could take significant effort and time to properly and safely get the patient into position.

When implemented correctly, ergonomic principles help caregivers achieve the highest levels of comfort and safety for patients, physicians and staff. The foundation for any effective exam room design is the level of comfort and safety it provides to staff and patients.

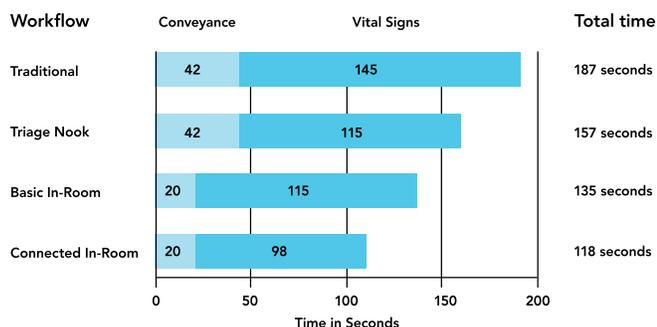
Vital Signs Acquisition

The acquisition of vital signs is the beginning of most patient-caregiver interactions. Vital signs assessment provides critical information relating to changes in patient health and plays an important role in a physician's treatment decisions. However, the vital signs process hasn't changed significantly in the last 30 years. Typical processes still include multiple stations to capture base vital signs (pulse, temperature and blood pressure) and height and weight, with some stations being semi-public spaces.

The integration of EMRs and automated vital signs devices (e.g., for blood pressure, temperature, pulse, SpO₂) when executed properly can have a positive impact on the overall quality of care. Caregivers can save time by reducing patient conveyance and eliminating the need for manual vital signs capture. Patient vital signs data is most often imported directly into the EMR, increasing efficiency and reducing the chance of manual transcription errors.

Midmark partnered with a research firm to examine potential workflow efficiencies during the acquisition of vital signs, as well as the interaction between patients and caregivers, in an effort to identify near- and long-term implications for efficiency. Care interaction was observed from the time the patient was called from the waiting room, through vital signs acquisition, to the time the patient was ready to see the physician. The average time was 5 minutes, 7 seconds.

Results of the [Midmark study](#) indicated that taking a number of steps, including moving vital signs into the exam room and implementing automated vital signs, could reduce conveyance and acquisition time by as much as 36 percent. Based on the research findings, Midmark created [vital signs workflow models](#) to provide a foundation for the integration of vital signs acquisition into a modern, efficient workflow. The research proves that there is an opportunity for caregivers to streamline efforts and increase efficiency within the vital signs acquisition process without sacrificing accuracy or patient satisfaction.



Workflow times (in seconds) are compared for conveyance and vital signs acquisition.

To learn more about these vital signs workflow models, visit: midmark.com/designmyspace

Equipment

Having the right type of equipment within the clinical environment can improve efficiency, comfort and safety, and enhance the delivery of care. For instance, the exam chair, which is the focal point of the outpatient facility, is evolving into a clinical hub where diagnostics, patient engagement and treatment intersect. Results can be gathered and seamlessly imported into the EMR. The right exam chair can also help facilities achieve better workflows.

With the average age of patients on the rise, it is more likely that patients will need assistance in accessing exam or procedure chairs. Accessible chairs can reduce the risk of distress and injury to patients who may have difficulty accessing fixed-height examination tables including those who are elderly, disabled, obese or pregnant. Therefore, it is important that a height-adjustable, accessible chair be a central fixture of any patient-centered design.

To provide the right access and comfort, chairs need to have the ability to lower to a height of 17 to 19 inches (according to the [US Access Board](#)), so patients are able to access the exam chair with little or no assistance whenever possible. This type of accessible chair can increase patient comfort, protect patient dignity and help ensure physicians conduct a more thorough and accurate exam, improving the overall patient experience and efficiency of the interaction. In certain situations, rotation built into the chair can be utilized as it allows caregivers to move patients for access to other treatment areas instead of requiring the devices or physicians to move.

Another important equipment consideration for effective exam room design is how digital data is used in the space, whether through EMR, diagnostic devices or decision support tools. The use of mobile workstations to create a flexible workspace inside the patient care zone can greatly enhance patient engagement.

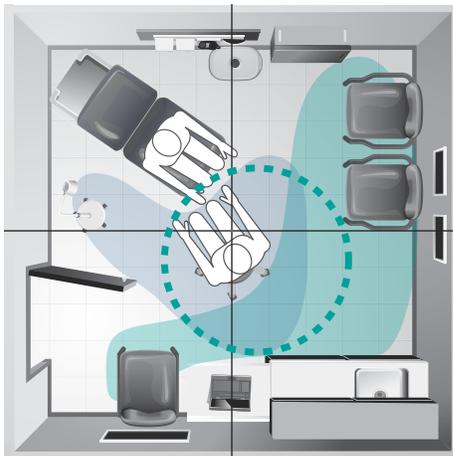
The use of mobile or wall-mounted workstations can also bring devices (desktops, laptops and tablets) within arm’s reach, decreasing the need for caregivers to move within the space and maximizing engagement with patients. All necessary data is accessible at the point of care and can be shared by caregivers. Patients are seated on a low-height exam chair throughout the entire visit. Digital and physical care interfaces are within the same work zone, and the movement of care providers is minimized as face-to-face contact with patients is maintained.

The bottom line is that before any equipment is brought into the patient care zone, the following question should be asked: How will it improve patient-caregiver interaction and help deliver efficient patient care that will lead to better patient outcomes? Depending on the answer, the equipment in question may not be right for the exam room.

Exam Room Configuration

Since the exam room is where the majority of patient-caregiver interaction occurs, it makes sense that the layout and configuration of this area can significantly impact the effectiveness of the clinical space. Many caregivers are embracing a patient-centered approach that designs the clinical work environment around the patient to increase efficiency and help lead to better patient outcomes. When implemented correctly, this design approach can offer efficiency gains and provide a number of benefits at the point of care for patients, physicians and staff.

When following a patient-centered approach, the size of the room needs to be large enough to comfortably accommodate the patient, physician and staff, and allow exams and procedures to be properly performed. The industry standard for an exam room is approximately 10 ft x 10 ft and provides a 60-inch diameter area to accommodate wheelchair turnaround for disabled patients, as recommended in guidelines of the [Americans with Disabilities Act \(ADA\)](#).



Barrier-Free Access: The center of the room is kept open to allow a 60-in wheelchair turning area and the transfer of the patient onto the exam chair. The distance from the door to the corner of the room (18 in) is needed for patient egress.

For many procedures and exams, the work of physicians and staff is usually concentrated around the head, middle and/or foot section of the chair, so access around the entire chair is critical. To facilitate this access, the exam or procedure chair should be positioned either in the middle of the room or at an angle, allowing physicians and staff full unencumbered access and the ability to work as much as possible in a neutral position without too much overreaching or twisting of the torso.

Adequate room space also will mean that physicians can easily move about while seated on a stool, minimizing any strain that might be caused by continually sitting and standing during an exam or procedure.

A significant component of the patient-centered design approach is the reengineering of the exam/procedure room to integrate consultation, counseling and treatment all within a seamlessly efficient atmosphere. The consultation and counseling zone should be designed around the idea of shared communication between caregivers, patients and guests. The zone can be created through an extended work surface as support for a large interactive display panel that can be shared between physician and patient. A large interactive screen makes information readily accessible, creating a more intimate dialogue between patients and caregivers and bringing needed educational information into the exam room.

In an effort to help healthcare executives and caregivers design their clinical spaces with a patient-centered approach, Midmark developed a number of workflow design options that help provide the right clinical work environment to effectively advance patient care and office efficiency.

To learn more about these workflow models, see the Midmark white paper "Rethink the Outpatient Clinical Space: Efficient Exam Room Design" and visit: midmark.com/designmyspace

Sources:

- ¹ <https://www.census.gov/prod/2014pubs/p25-1140.pdf>
- ² <https://www2.census.gov/library/publications/2012/demo/p70-131.pdf>
- ³ <https://www.cdc.gov/ncbddd/disabilityandhealth/infographic-disability-impacts-all.html#:~:text=61%20million%20adults%20in%20the,is%20highest%20in%20the%20South.>
- ⁴ <https://www.cdc.gov/nchs/fastats/obesity-overweight.htm>



Today's clinical spaces must help healthcare organizations meet the demand for high quality care while providing enough flexibility to meet challenges posed by new legislation, the push for evidence-based outcomes, changing patient demographics and the integration of new technologies.

Having an effective exam room design is a vital part of reaching that goal. Caregivers who understand how the combination of patient satisfaction, ergonomic principles, streamlined vital signs acquisition and the right equipment and room configuration can help improve the overall effectiveness of the clinical space will be in a better position to deliver efficient, high quality patient care with improved outcomes.



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