



The Point of Care Ecosystem: Four Benefits of a Fully Connected Outpatient Experience

Point of Care Ecosystem Series Part One



This white paper from Midmark defines the outpatient point of care ecosystem and examines how the key components that comprise it—such as interpersonal communication, patient education, patient and family conveyance, vital signs acquisition, wait times, patient-caregiver interaction, and even data collection and documentation—have an impact on the patient experience.

This is the first white paper in the Midmark Point of Care Ecosystem Series. This series explains how new technology and connectivity promises to help organizations:

- Improve clinical standardization across a network of sites
- Realize greater efficiencies to contribute to better outcomes
- Enhance patient-caregiver interaction
- Design flexible care environments that can adapt to meet changing demands

Today's Disconnected Ecosystem

Healthcare organizations are looking for innovative solutions, new approaches, proven processes and best practices that mirror their increasing focus on the patient-caregiver experience and exceed the goals established in value-based care models. There is growing interest in anything that can enhance the patient and caregiver experience and improve the quality of ambulatory medical care.

Most healthcare organizations understand that the interaction between the patient and caregiver at the point of care is a foundational element of effective healthcare. However, many organizations fail to fully recognize how the entire point of care ecosystem, which goes beyond the interaction between patient and caregiver, has an effect on improving the overall experience, including clinical outcomes.

Traditionally, caregivers viewed a patient visit as everything that happened during the direct patient-caregiver interaction. While the interaction in the exam room is a focal point, the point of care

ecosystem should be considered as everything that happens within the practice or clinic, as well as a growing number of experiences that occur outside of the immediate physical environment. For example, each communication point between a health system and a patient has an impact on quality of care and outcomes. Figure 1 illustrates some of the processes, actions and factors that comprise this “rethought” point of care ecosystem.

As engaged healthcare organizations work to better understand the point of care ecosystem through the lens of a complex integrated system, they quickly realize just how disconnected some of these processes and components truly are.

Today's disconnected processes are barriers that prevent a well-coordinated patient experience and lead to inefficiencies, breakdowns and human error. This can have a significant impact on the diagnosis and treatment of a patient.

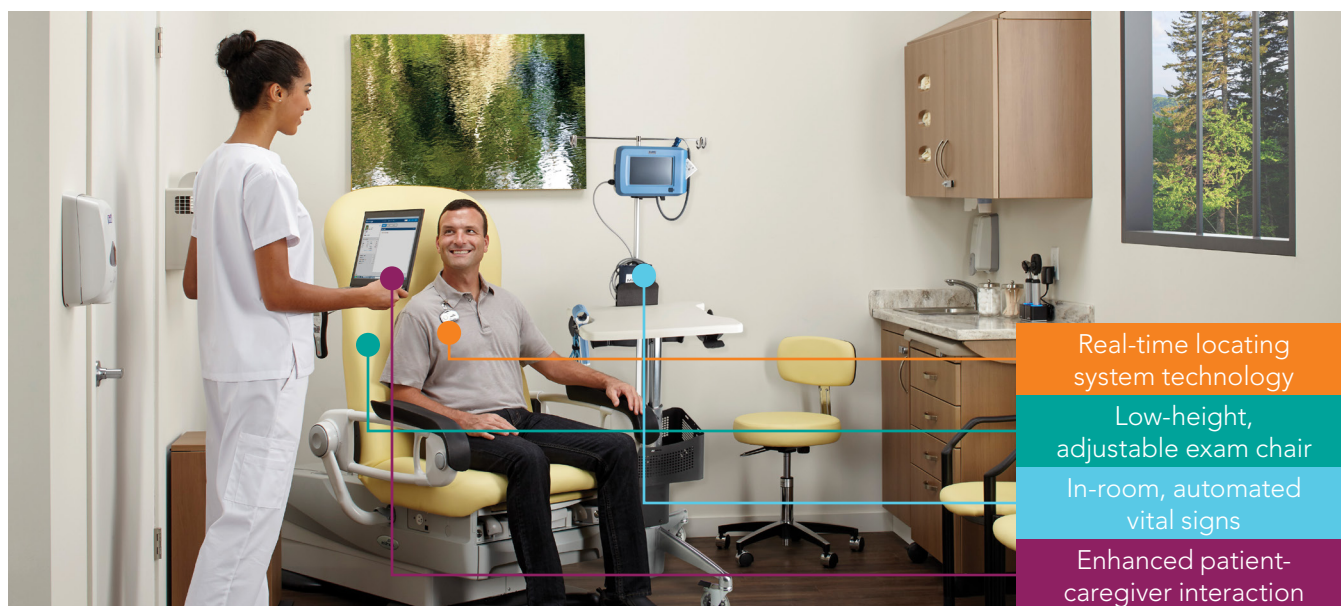


Figure 1. Patient-caregiver interactions, products and technologies in the exam room are all part of the point of care ecosystem. This image shows just a few of the elements that comprise this complex system.

The Seamless Patient Experience



By creating a fully connected ecosystem where processes, equipment and caregivers are integrated, healthcare organizations help ensure a seamless patient experience. A fully connected ecosystem can also provide a platform where organizations can consider and leverage new technologies, incorporating best practices to meet changing demands.

Following are four benefits of having a fully connected ecosystem at the point of care.

Greater Visibility

Often healthcare organizations find it difficult to determine exactly how their practices are performing and where opportunities exist for improvements or efficiency gains. However, new technologies and tools are helping bring visibility to existing work processes, providing the insight needed to make data-driven business decisions that will ultimately enhance patient care. As organizations gain a greater awareness of the entire ecosystem, they are in a better position to make additional optimizations.

For instance, real-time locating systems (RTLS), which have been used in hospitals for many years, are quickly becoming a key component of a connected point of care ecosystem in outpatient facilities. Forward-thinking healthcare organizations are using RTLS technology in combination with patient flow software to gain valuable insight into how a practice is performing, including patient wait times, patient-caregiver interaction times and the utilization of equipment and rooms.

This data-driven understanding of workflows provides in-the-moment situational awareness of the ecosystem, allowing healthcare professionals to proactively escalate responses to problem areas and monitor key performance indicators in real time (see Figure 2). Performance data can also be viewed historically for trending insights within a practice or to compare processes between multiple practices.

Provider	Patient	Current Location	Type	Appt. Time	Code	Appt. +	Ready	MA	Provider	SLOS	OLOS	Notes
Franklin, Marcy	Finch, Bill	Discharge						+	📞	00:07	01:00	
Franklin, Marcy	Erastus, Ellen	RM 1006						+	📞	00:10	00:44	
Franklin, Marcy	Rogers, Chad	RM 1007	N	10:15	15		YES	+		00:04	00:19	
Franklin, Marcy	Jacobs, Ian	RM 1005	N	10:30	45			+		00:02	00:05	
Johnson, Derek	Smith, John	RM 1011	E	10:15	15		YES	+		00:08	00:15	
Johnson, Derek	Clayton, Jan	RM 1001	N	10:30	30					00:01	00:03	
Lee, Hans	Grant, Wilber	Radiology	E	10:00	30			+	📞	00:05	00:29	
Lee, Hans	Ra...			10:15	30			+	PA	00:03	00:14	
Martin, David	Ev...				30		YES	+	!	00:10	00:59	MD hospital
Martin, David	Arun, Brad	Waiting	E	10:00	15	+ 00:30				00:29	00:29	MD hospital
Martin, David	Meyers, Cathy	Waiting	N	10:15	15	+ 00:15				00:14	00:14	MD hospital

Figure 2. RTLS, when paired with patient flow software, can provide in-the-moment situational awareness, helping to keep the patient visit on-time and on-track through automated communication.

Standardized Approach

The continuing consolidation of medical practices is occurring at such a pace that many organizations are finding it difficult to establish network-wide operational and clinical standards. While none of these organizations will discount the benefits of standardization, many health systems simply tolerate the variability in outpatient environments not realizing the costs associated with having little to no key performance metrics in place.

Standardization can help organizations develop clinical protocols that drive better outcomes. It can also create efficiencies and cost savings, as well as help eliminate the human variables that often increase the likelihood of errors and contribute to inaccurate diagnoses.

One area where this is most evident is blood pressure measurement, which continues to be one of the most inconsistently performed tests in a clinical environment.

In 2017, the American College of Cardiology and American Hospital Association published new guidelines for in-clinic blood pressure measurement.¹ Based on Midmark’s experience, many caregivers are not able to follow these guidelines due to process inconsistencies. This can result in data inaccuracies that make it challenging to properly diagnose and manage diseases such as hypertension and diabetes, where it is increasingly important to manage individual patient and patient population blood pressures.

¹ “New ACC/AHA High Blood Pressure Guidelines Lower Definition of Hypertension.” American College of Cardiology, ACC.org, 13 Nov. 2017.

A fully connected point of care ecosystem can help facilitate and ensure a level of standardization to minimize human variables and maximize consistency and data accuracy. Connected diagnostic devices used in conjunction with a connected exam chair that allows proper positioning of the patient to achieve an accurate reading allow caregivers to measure blood pressure more consistently through established electronic checklists. Then, patient data can be directly imported into electronic medical records (EMR) to help facilitate adherence to a health system’s clinical guidelines for proper technique in achieving a blood pressure reading.

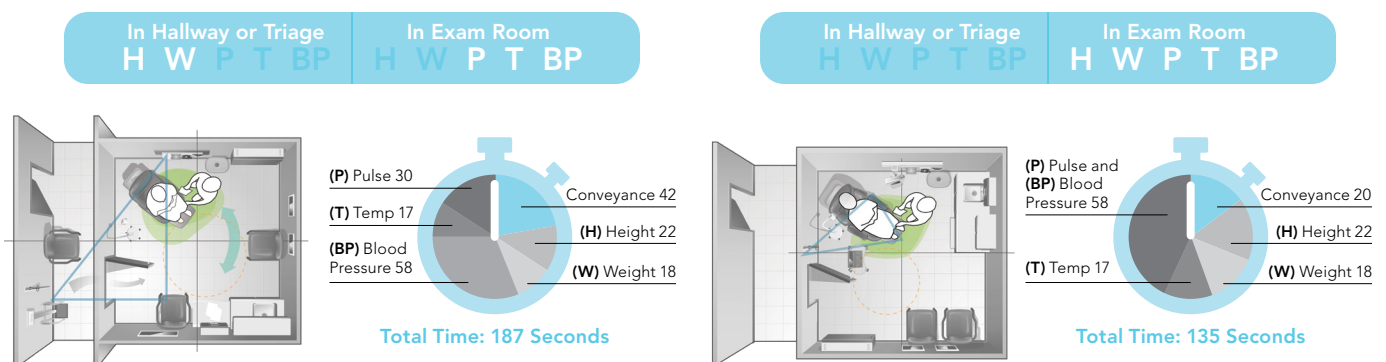
Greater Efficiency

A fully connected point of care ecosystem would allow caregivers to not only identify opportunities to realize efficiencies, but to also more easily take advantage of opportunities to accurately measure progress and success.

For example, one area where efficiency gains can be realized is vital signs acquisition. As the beginning of most patient-caregiver interactions, the vital signs process hasn’t changed significantly in the last 30 years. Typical processes still include multiple stations to capture base vital signs (height, weight, pulse, temperature and blood pressure), with some stations being semi-public spaces. These disconnected processes result in significant inefficiencies and lost patient and caregiver time.

Midmark examined 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 minor changes in workflow and design, such as collecting vital signs in the exam room and implementing automated vital signs connected directly to an EMR, could reduce conveyance and acquisition time by as much as 36 percent per patient (see Figure 3).



Traditional Vital Signs

The traditional workflow requires an average of 187 seconds from the time the patient is called in from the waiting area through vital signs acquisition.

Basic In-Room Vital Signs

The basic in-room workflow, when compared with the triage nook, saves 22 seconds in conveyance time by moving all vital signs acquisition into the exam room.

Figure 3. Caregivers can reduce each patient interaction by 69 seconds, by moving vital signs acquisition (such as patient height, weight, temperature, pulse, and blood pressure) into the exam room.

Enhanced Patient-Caregiver Interaction

Patient-caregiver interaction in the exam space is a foundational element in the continuum of care. Traditionally, the face-to-face exam was seen as the only significant interaction between the patient and the primary care provider. However, growing focus on population health is encouraging healthcare organizations to think in broader terms. With the advent of the patient-centered medical home, care is often delivered by care teams that can include providers, nurses, ancillary staff and care coordinators.

When viewed from the lens of a point of care ecosystem, the patient-caregiver interaction becomes every touch point that the patient has with the healthcare organization, including (but not limited to) face-to-face time in the exam room. For instance, consider the waiting room. While traditionally not viewed as part of the patient-caregiver interaction, the waiting room could potentially have a negative impact on patient experience—especially if the patient wait time is perceived to be too long or the room is not seen as being comfortable or inviting.

As workflow software continues to advance, healthcare organizations are gaining a better understanding of how rooms and equipment are being utilized and the amount of time patients and staff spend with specific processes. New technologies, such as RTLS, can tell healthcare organizations how much time a patient spent in the waiting room before being called to an examination, as well as providing visibility into the patient experience when they leave the waiting room and are taken to the exam room. Armed with this type of information, healthcare organizations can make decisions based on historical data to shorten wait times, or even eliminate the waiting room altogether. With RTLS, the status of exam rooms is always known, and patients can be immediately directed to an available room. This self-rooming workflow eliminates one of the most frustrating aspects of the patient experience while also freeing staff to focus on value-added activities.



The situational awareness brought about by RTLS enables healthcare staff to collectively deliver a true patient-centered experience at every encounter. Care teams can align their efforts to ensure the appropriate staff persons are serving the needs of patients at every turn. And with RTLS, team members, including coordinators can align their efforts in real time.



As health systems continue to focus on outpatient locations, a deeper understanding of the point of care ecosystem is necessary. Using new technology and data, clinical standardization across a network of sites will result in more efficient, effective and positive patient experiences. This will enable healthcare organizations to focus on the quality of care and outcomes, rather than simply the quantity of patients seen.

Additional white papers in the Midmark Point of Care Ecosystem Series focus more closely on specific benefits and key areas of the ecosystem, as well as the technology that is helping to make the connected point of care ecosystem a reality.

For more white papers from the Midmark Point of Care Ecosystem Series, visit:
A Solid Foundation for Value-Based Care: Blood Pressure Metric Version
Building Your Connected Point of Care Ecosystem



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