



Doing more with data: How ambulatory monitoring is unlocking new care pathways

by Jon Kamerman

With populations growing and aging around the world, healthcare systems will have to care for an ever-increasing number of patients with complex needs.

Over the next ten years, hospitalizations are projected to increase by 11%.¹ As care teams work to grapple with the ever-increasing volume of patients and decreasing bedspace, they are also dealing with continued staffing shortages and high rates of overwhelm.² When combined, hospitals are facing an unprecedented strain on resources and clinicians.

This bottleneck around acute care is not sustainable, so we as an industry must identify and pursue new ways to extend care outside of the hospital for appropriate patients, without compromising on the quality of care. Finding solutions for these issues can seem challenging, but what if the answer is less complex than the problem itself?

Hospital-to-home is a relatively new and promising concept that is enabling appropriately selected patients to be discharged earlier and return to their homes to safely recover, aided by regular monitoring of their health through tech like wearable monitors, patches and implantable devices. We're already seeing these strategies positively impact outcomes for patients with certain cardiac conditions. So, how do we maintain this momentum and continue to improve patient care and clinical workflow – especially in other areas of healthcare beyond cardiology?

The answer lies in the way healthcare organizations manage patient data. By applying the latest monitoring technologies and analytics to the data health systems are already collecting in the hospital, healthcare leaders can identify new groups of patients that can be discharged earlier and continue their safe recovery more comfortably in their own homes. For healthcare

organizations, these ambulatory monitoring insights can instill further confidence in clinicians that care is being delivered safely and effectively within these new clinical pathways and ultimately, enable health systems to deliver better care at scale. However, these benefits are only possible if an organization's data collection and technological infrastructure is properly set up – with the patient at the center.

How cardiac ambulatory monitoring is changing the patient care pathway

Cardiac conditions are on the rise and are a key contributor to the steady increase in hospitalizations. By 2050, 61% of adults in the United States are expected to have cardiovascular disease.³ As cardiology departments explore ways to evolve care to manage this increase, remote monitoring insights have demonstrated that it's safe for patients with conditions like heart failure, stroke and AFib to go home earlier, while being safely monitored from afar as they live their lives.

Standardizing hospital-to-home programs for these cardiac conditions makes care pathways more efficient – reducing care costs and clinician workloads – while improving care quality and health outcomes. For example, a patient who has experienced a stroke could be sent home with a connected monitoring device to recover outside of the hospital in an environment where they are most comfortable. However, if an arrhythmia is detected, an urgent notification is sent to the patients' care teams so they can quickly make a diagnosis and bring the patient in for treatment, before their condition becomes critical.

The ambulatory monitoring data and technology enabling successful cardiology hospital-to-home programs today have laid the foundation for these learnings to be applied to new patient groups. As this model expands into new patient cohorts, for example, the early discharge of patient from the Emergency Department who might typically stay for hours for a simple evaluation of an arrhythmia, we have an opportunity to unlock the same improvements to clinical workflow and health outcomes, as well as reduced costs, on a much broader scale – critical benefits for health systems working to manage the growing demand for acute care.

The next frontier: Leveraging health system data to unlock hospital at home

Ambulatory monitoring is changing cardiac care for the better, but as healthcare looks to transition more care programs outside of the hospital, health systems must leverage their data more strategically, with analytics playing a key role in driving new care pathways. In a hospital-at-home model, once a patient is ready to be discharged, they will be transferred to an “at home unit” where specialized nurses will directly oversee their remote care, giving patients a much more personalized and efficient experience. Many hospitals today do not realize that the data they already collect holds insights that could change the way they care for patients for the better. With the combination of advanced monitoring technology and analytics, data can help providers confidently determine which patients could be sent home earlier, and how to safely proceed with their care plan outside of the hospital.

To build the technological infrastructure to support hospital-at-home, it is essential for health systems to structure their data around the patient. While a hospital admin-centric database may be tempting, this data only improves operational efficiency but is not high-quality enough to truly enhance outcomes for patients as care expands outside of the hospital walls. Organizing data with the patient at the center means devices and systems are set up to bring together all the insights on a patient’s health into a centralized location, making it much easier to track their condition whether they are in the hospital, at home, or out in their community.

Moreover, to fully harness health system data for strategic insights and drive new care pathways, patient information must be shareable across informatics platforms and monitoring technology into a simple, easy-to-read dashboard. This allows clinicians to view comprehensive analytics about their patient’s health, and make quick, informed decisions. By applying these insights to improve the care pathway for more patient groups, health systems can standardize hospital-at-home programs, and experience lasting benefits to clinical efficiency and health outcomes.

What’s next? Data’s role in shaping healthcare’s future

With the challenges health systems are facing today, the push toward earlier discharge and, eventually, the hospital-at-home model must be prioritized. To get there, health systems need to take a step back and ask themselves, “how can I do more with my data?” By structuring data around the patient, health systems can have confidence in their ability to reduce risk and improve patient health outcomes. Laying a foundation centered around patient safety and quality is key to healthcare’s ability to streamline today’s bottleneck around in-person care, and ultimately, deliver better results for clinicians and patients going forward.

About the author: Jon Kamerman is senior product manager for Enterprise ECG Platform at Philips.

1. <https://shmaabstracts.org/abstract/projected-u-s-hospital-bed-shortage-and-associated-excess-mortality-2024-2034/>
2. <https://bhw.hrsa.gov/sites/default/files/bureau-health-workforce/data-research/state-of-the-health-workforce-report-2023.pdf>
3. <https://newsroom.heart.org/news/population-shifts-risk-factors-may-triple-u-s-cardiovascular-disease-costs-by-2050>

