Watson Health

Creating workflow efficiency in cardiology

How smart data sharing and workflow solutions can help cardiologists

IBM

Introduction

Market forces within the healthcare sector have left many hospitals and health systems struggling to become more efficient. The growing volume of imaging data, waves of mergers and acquisitions, changing payment models, and the constant pressure to contain costs pose challenges to virtually every hospital service line, including cardiology. Yet in many cases, there's little to be done. A hospital administrator cannot change value-based care reimbursement models any more than a physician can control the growing number of images per study.

However, workflow inefficiencies are a notable exception. Since workflows can be unique to each department and each healthcare facility, tangible steps can be made to affect positive change. In this paper we explore some of the factors that complicate workflows in cardiology and practical ways to simplify them.

Cardiologists face a surplus of data

One of the primary challenges that cardiologists face stems from an environment where the number of patients — and amount of data — is bulging at the seams. By 2035, nearly half of the US population will likely have some form of cardiovascular disease (CVD), and total direct medical costs of CVD will more than double what they were in 2015, according to the American Heart Association.[1]

Making matters even more difficult is the rapid proliferation of data-producing technologies, each with its own data-management needs. According to a recent report, the US cardiovascular disease market exceeded $129 billion in 2015 and is expected to reach $146 billion by 2022.[2] The medical needs of patients are approaching an all-time high and that demand is driving the acquisition of new devices of all kinds, as well as new procedures and approaches to care.

By 2035, nearly half of the US population will likely have some form of cardiovascular disease.[1]

While cardiology teams have always had to cope with tremendous pressures around clinical management, this new surge of patients and technologies is beginning to push some to their limits. "Everyone is being asked to do more with less," noted Baron Kuehlewind, Clinical Pre-Sales Consultant for Cardiology at IBM Watson Health. "Physicians are taking on bigger and tougher caseloads, but they're also being asked to deal with data and reporting and all the related administrative tasks."

Mergers can create inefficiencies and data silos

Market forces within the healthcare sector, including changes to the ways in which providers are paid, have left some hospitals struggling to become more efficient. Payment reform, driven largely by Medicare, has pushed the industry toward value-based care models of reimbursement, which reward providers for controlling costs while also meeting specific quality metrics.

This increasingly competitive market has triggered a wave of consolidation. Mergers and acquisitions are now occurring at a pace unseen in years.[3] Other organizations are consolidating forces in other ways by joining accountable care organizations or collaborating through integrated delivery networks.[4,5] The goal of all this consolidation is the same: to create economies of scale that will allow organizations to remain profitable while providing their patients with the best possible care.

The problem for many healthcare organizations, and especially for those that have undergone consolidation, is that when separate systems, devices and workflows are brought together, it's hard to avoid creating silos and inefficiencies. "You wind up with clinical data locked away at different sites," Kuehlewind said. "If patient information at one specialty clinic is inaccessible to that patient's primary care provider, it becomes hard for that physician to make informed decisions, and that may impact the quality of care."

Workflow challenges unique to cardiology

The ability to share data is crucial in any healthcare setting, but it can be particularly challenging in cardiology. While every cardiology department is unique, most share these characteristics:

- Multiple catheterization, echocardiogram or vascular labs
- A near constant demand for new imaging studies
- Lengthy and often complicated workflows that include scheduling and registration, chart reviews and documentation, reporting and billing, and many other tasks

In a busy hospital with many modalities — and with cardiologists viewing studies from multiple workstations — the potential for time-consuming backlogs is high. Clinicians may be required to use multiple systems to bring up patient information and finalize reports, or they're trying to manage data from disparate locations. When time-strapped physicians have to dig through several different systems in order to find relevant data, there's a risk that information may inadvertantly be overlooked.

To address these issues, many organizations are trying to improve efficiencies by investing in new data management technologies. The biggest among these are electronic health record (EHR) systems, with EHR adoption among US providers now above 85 percent.[6] But many hospitals have found that EHRs by themselves can't handle their data management requirements. "EHRs don't process unstructured data well, and many are difficult to navigate," said Kuehlewind. "Physicians and their staff can find them frustrating to use."

With that in mind, a growing number of cardiovascular department leaders are looking to solutions that work with their EHRs to aid data collection and transfer. "They want systems that automatically integrate patient information across all cardiology modalities," he said. "The idea is to make data available anywhere and everywhere."

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Improving workflows through lean management

To address complex workflow situations, Kuehlewind consults with cardiology departments and introduces them to "lean" management principles that stress the importance of simplifying workflows. "Lean thinking focuses on eliminating waste and on optimizing the flow of products and services across the workplace environment," he said. In a cardiology setting, a lean approach might begin with taking a close look at departmental goals and processes and then asking how those processes can be improved. From there, potential solutions can be tested and expanded if they work well.

Among the many questions a cardiology team might ask to make their workflow leaner include:

- What subspecialties exist in our department, and what unique challenges do our specialists face?
- What are the various staff roles and challenges?
- What technologies or systems do we currently employ, and how well do they interface with one another?

"It's important to look at all aspects of the department's workflow," said Kuehlewind. "For example, when patient information moves from one specialist to the next, how does that hand-off take place, and how can it be improved?"

Technology solutions can help fix workflow challenges

The workflows in cardiology are unique because cardiology itself is unique, so any solution designed to improve efficiency should be tailored to that specific environment. Ideally, the system should include features such as a single point of access to cardiovascular records; a reporting platform that allows reports to be generated, reviewed and confirmed from multiple locations; and tools that allow physicians to view several imaging studies at once.

Several vendors offer systems designed to improve cardiology data management, but only one — Watson Health — consistently wins KLAS awards for its cardiology solutions, which have several features that help to optimize workflow efficiency.

Merge Cardio™, a Best in KLAS winner in cardiology for six consecutive years, is a centralized, web-enabled cardiovascular information system (CVIS) offering a single point of access to each patient's comprehensive cardiovascular record.* Merge Hemo™, a nine-time KLAS Category Leader in cardiology hemodynamics, is a cardiac cath lab documentation and patient-monitoring tool. Both systems allow providers to customize their own workflows and enable data to flow seamlessly between all stakeholders in the continuum of care.

In the evolving world of healthcare, providers must have access to tools and technologies that automate processes and tasks. Those who have it will find they can concentrate on doing what they've always done best: collaborating with their colleagues, making informed decisions and providing high quality care to every patient they see.

Learn how Watson Health cardiology solutions can help solve your workflow challenges by visiting ibm.com/watson-health/solutions/cardiology-solutions

About Watson Health Imaging

Watson Health Imaging, a segment of IBM Watson Health, is a leading provider of innovative cognitive computing, enterprise imaging and interoperability solutions that seek to advance healthcare. Its Merge branded enterprise imaging solutions facilitate the management, sharing and storage of billions of patient medical images.

With solutions that have been used by providers for more than 25 years, Watson Health Imaging is helping to reduce costs, improve efficiencies and enhance the quality of healthcare worldwide.

*Merge Cardio is not FDA cleared for diagnostic use on mobile devices.

Footnotes

1. Cardiovascular Disease: A costly burden for America. Projections through 2035. American Heart Association. 2017.
2. Cardiovascular disease market set to grow very slowly to $146.4B by 2022. Cardiovasc J Afr. 2016 Sep-Oct; 27(5): 293.
3. Examining the Impact of Health Care Consolidation. Statement before the Committee on Energy and Commerce Oversight and Investigations Subcommittee, U.S. House of Representatives, by Martin Gaynor. February 14, 2018.
4. Accountable Care Organizations in 2016: Private and Public-Sector Growth and Dispersion. Health Affairs. 2016.
5. The 25 largest integrated health systems. HealthExec. 2017.
6. Electronic Medical Records/Electronic Health Records (EMRs/EHRs). U.S. Centers for Disease Control and Prevention, National Center for Health Statistics. 2017.

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