HEALTHCARE ORGANIZATIONS SHOULD CONSIDER THE POTENTIAL FOR “SOFTER” RETURNS WHEN DETERMINING WHETHER TO INVEST IN CLINICAL CARE TECHNOLOGY.

As the industry transitions from fee-for-service to value-based payment models, providers increasingly need technologies to help them achieve the Triple Aim: better population health, lower costs, and better patient experiences. With each new investment, it is critical to identify which technologies have the potential to deliver the most value over the short and long term.

But putting a dollar value on anticipated-and actual-ROI is a complex task. Clinical technologies affect a number of interrelated areas, including care quality, operational efficiency, and patient satisfaction. Noticeable improvements often are the result not of a single program or system, but of the interaction among people, processes, and potentially multiple applications.

As a result, many of the benefits generated by clinical technology are difficult to measure, with bottom-line numbers rarely reflecting the real value that is being delivered. It can be hard to quantify progress toward value-based care goals or to know how the technology will translate into increased payment or shared savings without an established baseline.

A broader framework is needed to better align ROI measures with value-based performance targets such as reducing readmissions, improving population health, enhancing the patient experience, and driving out waste. By taking a big-picture approach, healthcare organizations can more accurately determine the benefits a technology brings to providers, patients, and the surrounding community.
REDEFINING ROI: TAKING A BROADER PERSPECTIVE

Moving beyond traditional formulas for calculating clinical ROI requires a completely new outlook on technology selection and implementation. Long before a request for proposal is written, clinical and finance executives should take a step back and consider the mission and vision of the organization. They should analyze how technology can support new care models and determine what portion of their budget they can devote to these efforts.

For many organizations, this process means different purchasing decisions will be made with different criteria. Instead of choosing clinical systems based solely on price, functionality, ease of use, or speed of implementation, forward-looking executives should consider how technology can improve efficiency, eliminate duplicate tests, and promote more proactive, patient-centered care. They should answer questions such as:

- How will clinical workflow and efficiency be affected?
- How will leadership ensure workflow adjustments produce desired results across providers and clinicians?
- What new data will the organization be able to access?
- What new insights will the new systems provide?
- What impact can the technology be expected to have on patient outcomes?
- How will the technology enhance the patient experience?
- How will the technology enable the organization to improve population health efforts?

In addition to answering these questions, providers also should discuss assumptions that can aid ROI projections. For example, if one of the goals of new technology is to eliminate duplicate tests, a provider may want to assign a dollar value to each test in order to calculate potential savings. Based on a study published in 2010, the average cost of a duplicate test can range anywhere from $73 to $639.1 Putting a dollar value on each test can help providers establish a baseline for future comparisons. Likewise, primary care practices implementing real-time admission, discharge, and transfer (ADT) notifications may want to estimate how much their payment will increase as they begin utilizing transition-of-care CPT codes.

Answering the questions above makes it easier for healthcare organizations to choose the systems that are best-suited to address their unique needs. Because this approach gives executives a better understanding of exactly what objectives they hope to achieve, the process of tracking ROI becomes simpler as well.

CASE STUDY: COASTAL CONNECT HEALTH INFORMATION EXCHANGE

Coastal Connect Health Information Exchange (CCHIE), based in Wilmington, N.C., used that type of big-picture approach. A not-for-profit electronic information network covering more than 3.5 million patients, CCHIE connects 249 ambulatory practices, health departments, and federally qualified health centers to a role-based query application. This community health record combines data from 81 acute and ambulatory facilities. It gives participating providers from area hospitals and practices access to clinical documents— including lab and radiology results, transcriptions, and care summaries. Unaffiliated providers can gain access to the information in the community health record by connecting to the HIE.

Over the past three years, CCHIE has successfully deployed a number of clinical care technologies, including applications to enable electronic referrals from acute to ambulatory settings and real-time ADT notifications that are designed to help primary care physicians keep patients out of the emergency department (ED).

These technologies aim to:

- Improve efficiencies in patient care workflow
- Provide access to community-based health records at the point of care
- Reduce unnecessary tests and procedures
- Improve information flow from acute care to post-acute and long-term care
Although ROI typically is measured by weighing labor and system costs against any resulting cost savings, CCHIE took a different approach. Instead of focusing on quantifiable measures alone, CCHIE considered softer benefits along with bottom-line numbers. Such benefits range from enhancements in care quality and coordination to better physician engagement and improvements to the patient experience. For example CCHIE believes that helping physicians spend less time on the phone requesting care documents and more time on patient care can be just as valuable as actual savings.

The health exchange network has been able to deploy a wide range of functionality to all participants. Physicians can search for patient summaries, access community-based records, receive alerts of acute care events, confirm follow-up appointments, and receive lab and radiology results. Aside from strengthening care coordination, these efforts have allowed CCHIE to increase efficiencies, maintain financial sustainability, and better position its members for a value-based future.

**BEST PRACTICES FOR EVALUATING CLINICAL ROI**

Over the past few years, CCHIE has used five proven tactics for selecting, deploying, and evaluating clinical technologies.
Start with a needs assessment. The best way to meet physician needs is to understand the daily challenges they face. That’s why one of CCHIE's initial tactics was to conduct a needs assessment. This survey asked physicians what functionality would be most useful to them and how it could be deployed most effectively within the existing workflow.

After reviewing the results, CCHIE decided to focus its initial efforts on the electronic delivery of lab and radiology results, including direct integration into electronic health records (EHRs). Taking the time to poll physicians in advance allowed CCHIE to prioritize its implementation efforts and quickly meet this immediate need.

This tactic also helped to establish an informal baseline for future evaluations of the technology. By going back to the initial needs assessment, CCHIE can easily review documented examples of the bottlenecks and delays that occurred when paper- and phone-based processes were in use. By comparing the reports on these processes with more recent reports about the new electronic process, the organization can assess how workflow has improved over time.

Walk before you run. With the rapid pace of technological innovation, it can be tempting to move quickly when selecting and implementing clinical systems. But CCHIE recognized that technological changes require cultural changes as well.

Knowing that long-term success would depend on the willingness of community physicians to adopt new systems for accessing health information, CCHIE sought the opinions of more than 160 physicians from more than 100 practices in 11 counties during its initial needs assessment. The results revealed physicians were very interested in receiving real-time health information from hospitals and in sharing information with referring providers, but they were hesitant about contributing their own data to the system.

To allay the physicians’ concerns, CCHIE took a crawl-walk-run approach. It focused on delivering quick wins that would show community physicians the value of participation. For example, following the deployment of the community health record, participating practices no longer needed to call a hospital’s records department to request faxes of inpatient and ED information. Eliminating this step was a huge time saver for practices and allowed CCHIE to show the immediate benefits of the technology. The success of this effort helped to build trust and pave the way for future initiatives.

The slower pace of implementation also gave participants more time to budget for health information exchange (HIE) services. Integrations for the ambulatory EHR, for instance, were completed over a nine- to 18-month time span depending on vendor engagement and practice resources. This more gradual approach helped to ensure both affordability for the practices and long-term financial sustainability for the exchange.

Establish ROI metrics and measure them consistently.

In the absence of a standard set of metrics for evaluating clinical ROI, tracking any changes in revenue and operating costs that can be tied back to new systems is a good place to start. From there, providers can develop additional metrics that reflect organization-wide goals.

For example, CCHIE trends monthly utilization by practice and user of the role-based query application to identify super-users and opportunities for additional training or education for less frequent users. Another example is the electronic referral application that CCHIE implemented for a participating hospital to strengthen care coordination postdischarge. Since the application went live, 14 hospital discharge coordinators from seven inpatient floors have started using the tool to electronically schedule follow-up appointments for patients prior to discharge. To date, appointments have been made for 98 percent of patients who did not have a primary care physician.
The tool also decreased the time staff took to schedule follow-up appointments from 25 minutes via phone to six minutes via the electronic application. Automating and streamlining the referral process reduced call volume from hospitals to practices by 80 percent.

Along with these results, CCHIE factors in cost avoidance. New systems that enable data sharing with existing applications or that eliminate the need to upgrade or purchase additional technologies can have a significant impact on the bottom line. One hospital, for instance, says using CCHIE’s HIE tools helped it avoid having to buy a $26,000 application to facilitate communication between two of its systems.

Likewise, technologies that help to mitigate risk, improve compliance, or optimize payment by promoting more effective care transitions or supporting EHR meaningful use objectives can also add a great deal of value. CCHIE makes sure to account for such benefits as it evaluates ROI.

Create a feedback loop. To put quantifiable results into context, healthcare organizations must maintain an understanding of the real-world impact of technology by regularly communicating with providers. CCHIE continuously collects stories from the field to help monitor soft ROI, such as improvements in patient satisfaction or care coordination. A deployment team helps document such stories through videos and testimonials. In addition, surveys help to encourage an ongoing dialogue about the value gained from new systems.

Through these efforts, providers have numerous opportunities to share their experiences. For example, after receiving a notification from the new ADT alerting system, a primary care physician discovered that one of his patients was in the ED. He was able to intervene and schedule the patient for follow-up the next day, thereby avoiding a hospital admission.

In another example, ED staff were treating a patient with spinal cord injuries. The patient had received care at the hospital as well as other hospitals and practices in the area. By accessing the community health record application, the providers were able to capture a complete view of the patient’s history-including a copy of the neurologist’s discharge summary and recent medication changes. With access to all of this information, ED staff were able to quickly determine the most effective course of treatment, leading to positive outcomes for the patient.

Keep innovating and growing. ROI evaluation is a dynamic, ongoing process. By continuously looking for new opportunities to affect care quality, providers can maximize their IT investments and get a step closer to achieving the Triple Aim.

For CCHIE, joining forces with another regional exchange-Carolinas HealthCare Systems CareConnect-was one such opportunity. Together, the organizations established North Carolina’s first direct connection between HIEs. The connection gives CCHIE providers access to robust data across a 40-county footprint, allowing physicians to view lab, pathology, and radiology results along with cardiology reports, medication histories, and documents from hospital and ED visits. Physicians also can view a patient’s encounters across multiple facilities and create continuity-of-care documents.

CCHIE plans to keep innovating. Its next step is to present data from the HIE to local accountable care organizations (ACOs) to support their progress in a variety of core measures. Such insight is critical for helping ACOs reach their value-based goals.

EMBRACING THE SOFTER SIDE OF ROI

Not all technologies are created equal, and neither are the results they deliver. Finding those that generate the most value requires providers to take a more expansive view of ROI. By looking beyond financial returns to benefits such as improved care coordination and a better care experience, healthcare organizations can make better, more informed purchasing decisions and maximize their IT investments.